

**REPORT OF JOINT INSPECTION & MONITORING CARRIED-OUT IN STONE
CRUSHING UNITS & VILLAGES LOCATED IN TALUKA HAVALI, DISTRICT PUNE,
MAHARASHTRA**

**FOR SUBMISSION BEFORE
HON'BLE NATIONAL GREEN TRIBUNAL
WEST ZONE BECNH AT PUNE**

IN THE MATTER

WP 179/2015

UTTAMRAO VITHALRAO BHONDWE

VS

STATE OF MAHARASHTRA & ORS.

SUBMITTED BY

**CENTRAL POLLUTION CONTROL BOARD
&
MAHARASHTRA POLLUTION CONTROL BOARD**

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EXECUTIVE SUMMARY

In the matter, Uttamrao Vithalrao Bhondwe Vs State of Maharashtra & Ors. (Application No. 179 of 2015), Hon'ble NGT Pune bench vide order dated 26.09.2016 has directed both MPCB and CPCB to carryout joint monitoring of 56 Stone Crusher units and submit their report of joint inspection monitoring & cumulative Impact Assessment Study. Hon'ble NGT also ordered to jointly carryout ambient air quality monitoring in the nearby localities where the stone crusher units are situated and to also identify possible sources of air pollution in those localities.

In compliance of the said order of Hon'ble Tribunal joint exercise of inspection & monitoring in the stone crushing units & surrounding area has been carried out by CPCB and MPCB. A preliminary joint visit of the Wagholi, Bhavadi, Lonikand & Perne areas was carried out during 20-21 October, 2016 by a joint team of officials from CPCB & MPCB. The objective of the preliminary visit was to assess the works & resources required for joint inspection & monitoring of 56 stone crusher units and to identify locations for ambient air quality monitoring (AAQ) of the villages/residential areas. Team selected total five locations for ambient air quality monitoring. A detailed workplan was prepared by Zonal Office, CPCB and communicated to MPCB on 26.10.2016 through email. Considering the proximity with the area, support for monitoring & analysis of samples was proposed from the Regional Office of MPCB at Pune. Joint inspection and monitoring was started on 08th November, 2016 and halted same day due to some instrument related issues.

Subsequently, joint inspection and monitoring carried out by four teams covering 56 stone crushers units during 22nd-26th November, 2016. Each team covered 14 units for verification of compliance and various pollution control measures. Work zone monitoring was carried out by inspection teams in operational units for verification of compliance of limit prescribed for suspended particulate matter measured at a distance between 3 to 10 meters from any process equipment of a stone crushing unit. First round of 24-hourly ambient air quality monitoring at 05 identified locations was carried out during 22/11/2016 (afternoon) to 23/11/2016 (afternoon). Second round of ambient air quality monitoring was carried out during 23/11/2016 (evening) to 24/11/2016 (evening). The second round of ambient air quality monitoring mainly covered the non-operational period of stone crushers being day of weekly off. The ambient air quality was monitored for PM-10, PM-2.5, SO₂ and NO_x parameters considering stone crushers, stone quarries and vehicular pollution as common apparent sources of emissions in the area.

Villages Wagholi, Lonikand, Bhavadi and Perne are located towards north-east side of the Pune city. The residential development of Pune city has also reached up to Wagholi with several housing societies & high rise apartments in the area. Bhavadi & Lonikhand areas are scantily populated with scattered habitation/residential areas. The area surrounding the stone crushing unit of Perne does not have habitation in close proximity. The stone crushers are predominantly located in quarry area scattered mostly in Wagholi, Lonikand and Bhavadi villages. However, the Perne

village has only one unit out of 56 identified crusher units with nominal stone quarrying activity in the vicinity.

The potential sources of fugitive emissions in a stone crushing unit starts from blasting of stone metal from quarries, transportation of material through truck/ dumper, unloading stones to hopper, jaw crushers, conveyors, sieving screens, shaft impactors, material transfer of finer mesh size products on ground through free fall and material conveying trucks. Material stored in open area are also potential source of air pollution in the area.

Efforts has been made to correlate impact of stone crushing activity in the area of study by carrying out ambient air quality monitoring at five identified residential area locations in two rounds of 24 hours each. First round was carried out on working day (22nd -23rd November, 2016) of stone crusher units and second round was carried out on non-working (weekly off 23rd evening to 24th November, 2016 evening) day of stone crushers. Very few stone crushers also found operational during non-working day (weekly off) of the week. As envisaged from the prevailing conditions and activities in the area during preliminary survey, particulate matter concentration proved to be a cause of concern. Concentration of PM-10 and PM-2.5 found to be exceeding the 24 hourly standard limit at all five locations in both the rounds of monitoring. Decrease in PM-2.5 concentration observed on non-working day of stone crusher at four out of five locations namely Near Wagholi Lake, Ram Nagar (Lonikand), Pati no. 5 (Bhavadi) and Zila Panchayat School (Bhavadi). This reduction in PM-2.5 ranged from about 18% to 68%. Decrease in PM-10 concentration observed on non-working day of stone crusher at three locations namely Choryasalis Co-op Society-Wagholi, Ram Nagar (Lonikand), and Pati no. 5 (Bhavadi). Concentration values of SO₂ observed below detection limit at all five locations in both the rounds of ambient air quality monitoring. Concentration values of NO_x also found to be well within the 24 hourly average standard at all five locations in both the rounds of monitoring.

Besides stone crushers, heavy traffic movement on poor roads with loaded trucks & dumpers from quarries & crushers are main apparent source of air pollution in the area. Sporadically located a few hot-mix plants, ready-mix concrete plants and blasting in the quarries during evening hours were also recognizable sources of air pollution in the area. Lonikand area has 08 industrial units (other than stone crusher) out of which 03 are large scale units in red category. These are predominantly electrical, automobile & engineering components units. There is 01 hot mix plant located in Lonikand area. Besides, stone crushing units, Bhavadi area has 01 hot mix plant, 01 ready mix concrete plant and 01 light brick manufacturing unit. Phulgaon area is also quite close to Bhavadi & Lonikand and has 04 stone crushers and 11 other industrial units predominantly engaged in electrical, automobile and engineering components. There are 02 ready mix concrete plants in Wagholi area. There are abandoned or temporary crusher units observed with make-shift arrangement on road side with unattended heaps of dust and stone metal material having potential of air pollution in the area. Incidence of garbage burning also observed in remote location at quarry area. Diurnal variation in meteorological condition may also attract some impact of sources of pollution from Pune city located in south-west direction of the area.

It is wise & worth to mention here that additional efforts for water sprinkling on roads and operation of sprinklers & foggers by stone crusher units observed during ambient air quality monitoring & joint inspections exercise in the area which, was not observed during preliminary survey carried out during 20-21 October, 2016.

Out of 56 units visited, 01 unit found closed, 07 units were not operational during visit and remaining 48 units were found operational. Out of 48 operational units, 05 units found operational without valid consent from MPCB. Though most of the units found using ample amount of water as dust suppression measures for control at process, ground wetting, stored material but proper scientific designed foggers/ water sprinkling system for effective dust suppression at different source of emissions by utilizing optimum quantity of water is not provided. Such usage of water is not reflected against the permitted quantity in consent.

The Wind breaking wall provided by most of the units are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and at the same time material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall in most of the units. Gaps between the adjacent tin sheets used for breaking wall as well as bottom of the sheets observed in most of the units having potential for escape of dust.

Almost all the units reportedly have provided some sort of pucca road in the premises. However, the extent observed up to hardly few meters from the main gate in most of the units. Pucca roads are not visible or identifiable in many units because of deposition of mud and dust due to inadequate internal road cleaning mechanism.

Most of the units have started development of green belt along periphery and ramp by planting saplings of different varieties in recent times. Therefore, very scanty plantation of small size and spread observed in most of the units. In very few unit proper green belt with dense coverage was observed on certain sides.

Conveyors belts are found to be partially covered in most of the units. Significant gaps on the sides between cover and conveyor belt also observed in many units. Some units also used green synthetic cloth for covering opening on conveyor belt enclosures. Conveyor belt enclosures are not found satisfactory in most of the units.

Out of 56 listed units, work zone monitoring of suspended particulate matter was carried out in 47 operational units at a distance between 3 m to 10 m from any process equipment of respective stone crushing unit (remaining units being non operational, monitoring was not carried out). One unit was though found operational at the time of visit but monitoring could not be carried out because the unit was having limited raw material quantity for few minutes operations only. It is found that all the monitored units are not complying with the notified emission standard of $600 \mu\text{g}/\text{m}^3$. The monitored concentration of SPM varies from 770 (minimum) to 56,617 (maximum) $\mu\text{g}/\text{m}^3$.

Most of the units are not maintaining the records pertaining to material received, production, usage of power & water, green belt development, copy of consent etc. at site.

It has been recommended that necessary modifications may be done in the consent issued to the unit with reference to the name of the products with size & capacity in uniform manner. Incorporation of water consumption and notified limit of work zone ambient air quality limit for stone crusher is also recommended. Development of scientifically designed water sprinkling system with adequate hydraulic pressure and operational control for process, storage and ground wetting is required in most of the units. It is suggested that technically, the wind breaking wall should be higher than the free fall height of finished good discharge from the conveyor belts nodes if adequate arrangement of chute is not in place for discharging the material at lower height from conveyor. No gaps should exist in between and at the bottom of the wind breaking walls. Strong structural base and framing should be provided for wind breaking wall to withstands in strong wind conditions. All the units should have internal pucca roads for all the stretches in the premises where regular internal movement of the vehicles are desired. The cleaning mechanism of the internal road should be such that the black top or concrete top of the road should be recognizable. Scientific approach with respect to selection of species, spacing, location, direction and numbers are very important for green belt development. The green belt should be developed by units with adequate number of rows on periphery, keeping the sole objective of green belt in mind for stone crushers in particular.

All the conveyor belts should be covered from node to node points adequately without side gaps in enclosure and belts. Though, units are observed with one or the other pollution control measure aspect addressed in a way better than others, if not all aspects but all the units are required to take necessary measures for control of suspended particulate matter concentration in work zone within limit. All the workers should be provided with adequate personal protective equipment (PPEs) while on the job.

Besides above measures for enforcement and implementation in stone crushing units, concerned local authorities are required to make necessary fund allocation and execution of road development in these areas to minimise the dust pollution. All the trucks & dumpers carrying the crushed stones, sands and other building material from the area should have proper cover so that fugitive dust from loaded material can be entrapped at source itself. The local authorities should also take suitable measures to develop regular road cleaning mechanism. The regular wetting of roads may be considered as temporary measures to improve the air quality. Local gram panchayats have to be vigilant about the burning of solid waste in the area. Awareness programmes for stone crusher units, transporters, drivers and local stakeholders may be arranged from time to time.

1.0 INTRODUCTION

In the NGT matter (Application No. 179 of 2015) between Uttamrao Vithalrao Bhondwe Vs State of Maharashtra & Ors. Hon'ble NGT Pune bench vide order dated 26.09.2016 has directed both MPCB and CPCB to carryout joint monitoring of 56 Stone Crusher units located near Pune. The part of order reads as:

“...Respondent No.4-MPCB and Respondent Mo. 10-CPCB are directed to carry out joint inspection of all these units, monitor their performance and submit their report of joint inspection monitoring cumulative Impact Assessment Study, carried out before this Tribunal within two (2) months.

3. Respondent No.4-MPCB and Respondent Mo. 10-CPCB shall also jointly carryout ambient air quality monitoring in the nearby localities where the stone crusher units are situated. Particularly residential area and also identify possible sources of air pollution in those localities.

4. Respondent No.4-MPCB and Respondent Mo. 10-CPCB shall also carry out joint Cumulative impact assessment of these clusters of stone crusher in nearby localities.

5. Costs of such joint inspection, monitoring and cumulative assessment study shall be borne by the respective stone crusher units respectively...”

In compliance of the said order of Hon'ble Tribunal joint exercise of inspection & monitoring in the stone crushing units & surrounding area carried out by CPCB and MPCB. Details of action taken with observations & findings are given in subsequent paragraphs.

2.0 METHODOLOGY/APPROACH FOR JOINT INSPECTION& MONITORING

A preliminary joint visit of the Wagholi, Bhavadi, Lonikand & Perne areas was carried out during 20-21 October, 2016 by a joint team of following officials from CPCB & MPCB:

1. PrasoonGargava, Scientist 'D', CPCB, Zonal Office (West), Vadodara
2. Amit Thakkar, Scientist 'C', CPCB, Zonal Office (West), Vadodara
3. Manish Holkar, Sub-Regional Officer, MPCB, Mumbai
4. Bhagwan Maknikar, Field Officer, MPCB, Pune
5. Prakash Jadhav, Field Officer, MPCB, Pune

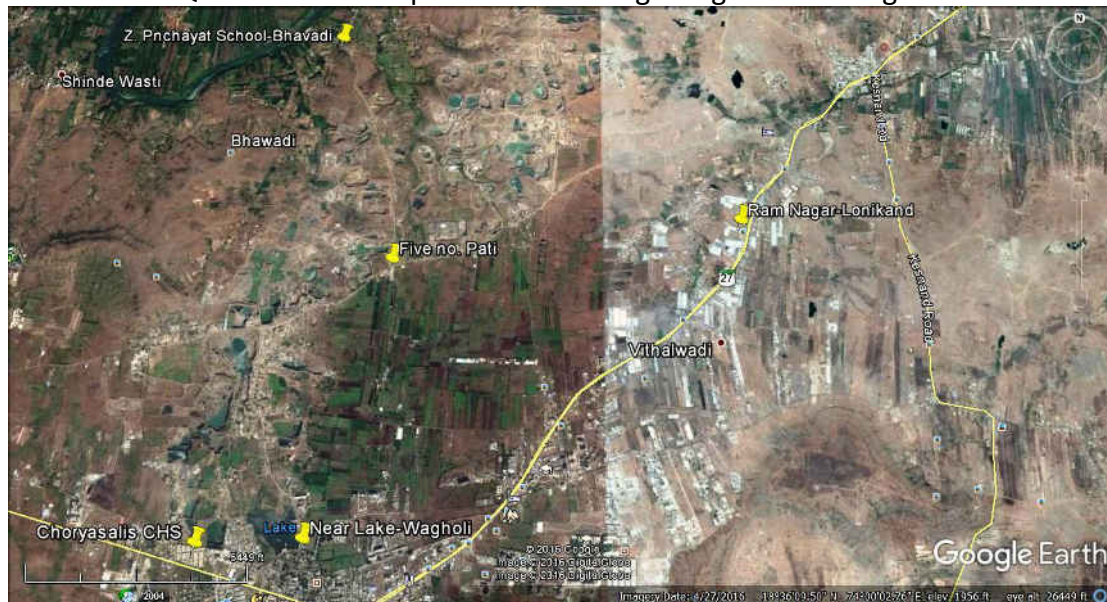
The objective of the preliminary visit was to assess the works & resources required for joint inspection & monitoring of 56 stone crusher units and ambient air quality monitoring (AAQ) of the villages/residential areas identified based on preliminary survey. The team visited Wagholi, Bhavadi & Lonikand areas on first day of visit i.e. 20.10.2016 and same areas again visited on second day i.e. 21.10.2016 along with Perne area. Besides identification of suitable locations for ambient air quality monitoring, the team also visited few stone crushing units on the way to see their

general setup & operations. The team also attempted to identify other probable sources of emissions in the area during visit.

The team selected the ambient air quality monitoring locations covering Wagholi, Bhavadi, and Lonikhand areas having potential sites of stone quarries & crushers with habitations in vicinity. It has been observed from google earth images also that relatively thick habitation with many upcoming new residential projects are present in south & south-west direction from the quarry & crushers of Wagholi, Bhavadi, Lonikhand areas. Team selected total five locations for ambient air quality monitoring. Two locations in close proximity with each other are identified in Wagholi area i.e. on south, south-west side of stone quarries considering comparatively dense residential development. One location is identified in Bhavadi at north-west direction from stone quarries & crushers. One location is identified near Lonikhand (near Pune-Ahmadnagar Highway; behind HP petrol pump) in east & north-east direction from quarries & crushers. One location is identified close to the center of the stone quarries & stone crushers area. Identified locations for AAQ are as below:

1. Choryasalis Housing Society, Wagholi
2. Matoshree Market, Near lake of Wagholi
3. Ram Nagar, Near Pune-A'Nagar Highway, Lonikhand
4. ZilaPanchayat School, Gram Panchayat, Bhavadi
5. Panch Number Pati(Five number) small habitation in Bhavadi.

Identified AAQ locations are depicted in following Google earth image:



It was understood during the preliminary survey that industrial power supply is not normally given to stone crusher units on Thursday and Thursday is considered as weekly off for all stone crusher units. Keeping this fact in mind, it was planned to carryout ambient air quality monitoring for 02 rounds of 24 hours covering working & non working days of stone crushing units so that some inference may be drawn with respect to cumulative impact of the stone crushing activity in the area.

Based on the observations & finding made by the team during preliminary visit, a detailed workplan was prepared by Zonal Office, CPCB and communicated to MPCB on 26.10.2016 through email. Considering the proximity with the area, support for monitoring & analysis of samples was proposed from the Regional Office of MPCB at Pune.

Formation of four joint teams of CPCB & MPCB was suggested to carryout parallel inspections & monitoring in stone crusher units. Each team was assigned 14 units to cover. Separate teams were suggested for ambient air quality monitoring at 05 identified locations for 02 rounds of 24 hours each.

Subsequent to the receipt of confirmation of preparedness from Regional Office, MPCB, Pune, the task of joint inspection & monitoring was started on 08/11/2016, after a brief discussion at Regional Office, Pune by all team members regarding work plan & approach. However due to some technical issues with monitoring equipments, the programme was halted on the same day. The arrangement for appropriate equipments took few days and the work started by teams again on 22/11/2016. The following joint teams of CPCB & MPCB officials carried out the task:

Teams for joint visits & monitoring in stone crusher units	
Prasoon Gargava, Sc.D, CPCB, ZOW Bhagwan Maknikar, FO, MPCB V. G. Nisal, FI, MPCB	Amit Thakkar, Sc.C, CPCB, ZOW Prakash Jadhav, FO, MPCB Dr Prabhakar Wawde, FO, MPCB
Dr Arvind Jha, Sc.D, CPCB, ZOW Manish Holkar, SRO, MPCB Mumbai Utkarsh Shingare, FO, MPCB	S.Pradeep Raj, Sc.C, CPCB, ZOW Sandeep Patil, FO, MPCB Sandeep Shinde, FO, MPCB
Team for Ambient Air Quality Monitoring at 05 locations	
Sh. Sushil Kumar, JRF, CPCB, ZOW Sh. Satyandra Kumar, JRF, CPCB, ZOW Dr.Arvind Dhapate, Field Officer, MPCB Sh. Suryakant Shinde, MPCB Sh. Indajeet Deshmukh, MPCB Mr. Ajay Khamkar, MPCB	

Joint inspection and monitoring carried out by teams covering 56 stone crushers units during 22nd-26th November, 2016. Each team covered 14 units for verification of compliance and various pollution control measures. Observations are recorded by respective teams on all relevant aspects in uniform manner for preparation of joint inspection reports of individual units in common format. Work zone monitoring was carried out by inspection teams in operational units for verification of compliance of limit prescribed for suspended particulate matter measured between 3 to 10 meters from any process equipment of a stone crushing unit. PEM-HVS model of Pollutech Instruments Pvt. Ltd was used for work zone monitoring of suspended particulate matter in stone crusher units. The standard limit of suspended particulate matter at a distance of 3 to 10 meter from any process equipment given 600 µg/m³ as notified under E(P)A notification G.S.R. 742(E) dated 30th August, 1990 & S. O. 8(E), dated

December 31, 1990 for stone crushers is referred for compliance verification besides verification of provisions of following pollution prevention measures:

- Dust containment cum suppression for the equipment
- Construction of wind breaking walls.
- Construction of the metalled roads within the premises.
- Regular cleaning and wetting of the ground within the premises.
- Growing of green belt along the periphery.



Model: PEM-HVS used for work zone monitoring in Stone Crusher units

First round of 24-hourly ambient air quality monitoring at five identified locations was carried out during 22/11/2016 (afternoon) to 23/11/2016 (afternoon). Second round of ambient air quality monitoring was carried out during 23/11/2016 (evening) to 24/11/2016 (evening). The second round of ambient air quality monitoring mainly covered the non-operational period of stone crushers being day of weekly off. The ambient air quality was monitored for PM-10, PM-2.5, SO₂ and NO_x parameters considering stone crushers, stone quarries and vehicular pollution as common apparent sources of emissions in the area. PEM-ADS 2.5/10 model of Pollutech Instruments Pvt. Ltd was used for ambient air quality monitoring.



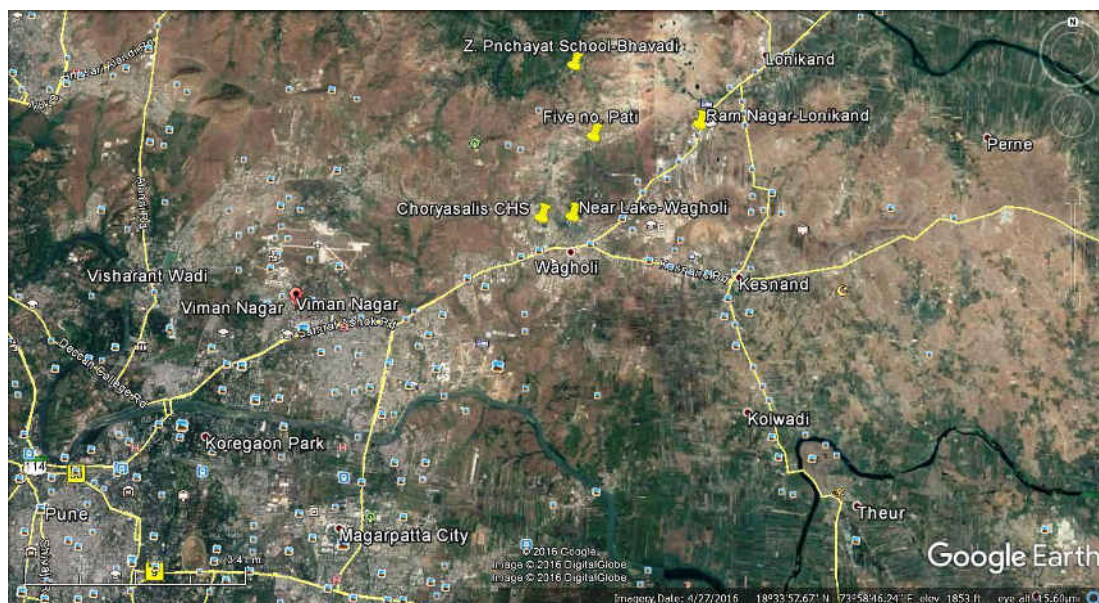
Sampler PEM-ADS 2.5/10 used for Ambient Air Quality monitoring

3.0 AREA PROFILE

Villages Wagholi, Lonikand, Bhavadi and Perne are located towards north-east side of the Pune city. The residential development of Pune city has also reached up to Wagholi with several housing societies & high rise apartments in the area. Bhavadi & Lonikhand areas are scantily populated with scattered habitation/residential areas.

The area surrounding the stone crushing unit of Perne does not have habitation in close proximity.

The relative locations of villages mentioned in above referred order of Hon'ble Tribunal & quarry/crushers with respect to each other and Pune city as well are depicted in following Google Earth image:



The stone crushers are predominantly located in quarry area scattered mostly in Wagholi, Lonikand and Bhavadi villages. However, the Perne village reportedly has only one unit out of 56 identified crusher units with nominal stone quarrying activity in the vicinity. As stated above, power supply is not available for stone crusher units on every Thursday due to weekly scheduled power cut. Therefore, Thursday considered as weekly off for all stone crushing units irrespective of the incidental availability of power. It is understood that all stone crushing units operate during 0600 hrs to 1800 hrs only. Units are not operated in night hours. The operational hours of the stone crushers are fixed by local gram panchayats.

All the products of the stone quarries and stone crushers are transported in large trucks/dumpers through roads passing from Lonikand and Wagholi areas to Pune for various housing/infrastructure projects. Perne village has connectivity with Pune through Pune – Ahmednagar highway. Roads of these villages are in very poor condition without bitumen paving and also having movement of heavy vehicles carrying stones/crushed sand & other related products causing re-suspension of road dust as well as emissions of dust from loaded material.



Heavy traffic movement of trucks/dumpers on road near Wagholi lake



High dust in suspension due to traffic and unpaved road in the area

The old quarries have caused many rainwater/natural water reservoirs in the areas. Water from these quarries is observed to be used by stone crushing units and also for washing activities. It is gathered that blasting is done in the live quarries during evening hours (between 1730 hrs to 1830 hrs) only.



Old Stone Quarries with rain water; serving as source of water to crushers

The area covering Wagholi, Lonikand and Bhavadi villages is also having a few hot mix plants (reportedly mostly non-operational) and some engineering units.

The stone crushing units are mostly observed without name display boards and without well defined boundary of their premises thus making it difficult to find out & identify units. Some of the units observed operational during the preliminary survey with high fugitive emissions without proper pollution control mechanism.



Undulating topography without proper roads and infrastructure has made access to the entire area very difficult.

4.0 ABOUT PROCESS & PLANT MACHINERY IN STONE CRUSHERS

4.1 Stone Crushing Process

Units are processing stone from queries for producing different grades of stone and crushed sand (40mm, 20mm, 10mm, crushed sand, stone dust etc.) using crushing, screening and shaping activities. The manufacturing activity broadly consists of raw material hopper, jaw crusher (to obtain stone of smaller sizes there are primary crushers (sizes termed as 24 x 12, 36 x 28 etc.), secondary crusher or cone crusher (sizes termed as 48 x 7, 40 x 8 etc.) based on opening dimension of jaw feeder, impactor for further grinding/shaping through Vertical Shaft Impactor (VSI) or Horizontal Shaft Impactor (HSI), Screen for separation of different grades of stone, open or hopper storage for products. Finished products are dispatched through trucks.

The schematic of plant equipment/machineries used in sequential manner is as given below:

Transportation of stone from nearby query in trucks/dumpers → Unloading in raw material Hopper of jaw crusher → Jaw crusher → Conveyor belt(s) → Screen → Conveyor belt → Secondary crusher → Conveyor → Vertical Shaft Impactor (VSI) Hopper → Conveyor → VSI → Conveyor → Vibrating Screen (s) → Conveyor belts → Different size of stones & crushed sand kept in open area or in hoppers (in few cases). The oversized stone metals from screen are separated and sent back for

crushing/VSI through hoppers. The numbers of steps involved may vary from unit to unit based on type of material used and types of products.

4.2 Potential Sources of Air Pollution from Stone Crushers

The potential sources of emissions in a stone crushing unit starts from blasting of stone metal from quarries, transportation of material through truck/ dumper, unloading stones to hopper, jaw crushers, conveyors, sieving screens, shaft impactors, material transfer of finer mesh size products on ground through free fall and material conveying trucks. Material stored in open area are also potential source of air pollution in the area.

4.3 Required Pollution Control Measures in Stone Crushers

Stone crushing units are required to ensure compliance of all conditions prescribed in the consent to operate issued by SPCB with adequate provisions besides following measures:

➤ **Dust containment cum suppression for the equipment**

Technically, all the crushing and sieving equipment should be properly enclosed within enclosures with proper approach ladders. The wet control system requires proper enclosure of machineries and scientific design of water jetting or sprinkling system as suggested in stone crusher guidelines of CPCB (Comprehensive Industry Document, Series: COINDS/78/2007-08).

➤ **Construction of wind breaking walls.**

The height of the walls should be at least half the height of discharge point of belt conveyors to the stockpiles with a proper provision for chute system for all conveyor belt nodes of discharge to contain the fugitive emission followed by localised water sprinkling arrangement. The height of stockpile should always be kept lower than the height of wind breaking wall. The walls can be erected radially with screen as center point.

➤ **Construction of the metalled roads within the premises.**

Internal pucca roads are required for the movement of trucks and vehicles with regular road cleaning & wetting mechanism to control suspension/resuspension of the dust particles in the air.

➤ **Regular cleaning and wetting of the ground within the premises.**

Regular cleaning mechanism of the premises with good network of fogging & sprinkling system supported with pipes with adequate hydraulic pressure and water consumption measuring arrangement are required in stone crushers. Due care of

crucial locations of material storage and vehicular movement path is required to be considered for designing the network.

➤ **Development of green belt along the periphery.**

A minimum of two row plantation at the spacing of 3 mtrs is required as green belt to serve as nearest sink for dust emissions from the stone crushers. The unit should maintain the record of plantations such as number of trees planted, date when planted, type of trees and rate of their growth annually. Plant species suitable for removal of particulate matter and gaseous pollutants differ in their morphological characteristics sizes and shapes of crowns peiodic phenomena like leaf-shedding, also contribute to plant efftciency for pollution abatement. Document published by CPCB titled "Guideleines for Developing Green Belts" PROBES/75/1999-2000 has details on this aspect.

5.0 OBSERVATIONS & FINDINGS

Observations regarding area as well as individual stone crusher units are collated based on inputs from teams of officials visited. Inspection & monitoring reports of 56 stone crusher units are enclosed as **Annexure-1** of this report. Extent of description of pollution control measures in units may vary from team to team but efforts are made to highlight the adequacy or inadequacy of major points of concern in all the reports. Further, the aspect wise common observations as well as recommendations are elaborated in this report, applicability of which may be further referred for individual units on case to case basis.

5.1 Ambient Air Quality & Potential Sources

Very dyanamic nature of ambient air quality due to significance of several influencing factores ranging from localised sources, scale of development, nature of activities in vicinity, topography of the area, meterological conditions etc makes it a complex phenomena to make precise inferences with limited study. Considering the time & resources available, efforts has been made to correlate impact of stone crushing activity in the area of study by carrying out ambient air quality monitoring at five identified residential area locations in two rounds of 24 hours each. First round was carried out on working day (22nd -23rd November, 2016) of stone crusher units and second round was carried out on non-working (weekly off 23rd evening to 24th November, 2016 evening) day of stone crushers. Very few stone crushers also found operational during non-working day (weekly off) of the week.

Four basic parameters namely PM-10, PM-2.5, SO₂ and NO_x are monitored at all five locations. As envisaged from the prevailing condtions and activities in the area during preliminary survey, particulate matter concentration proved to be a cause of concern. Concentration of PM-10 and PM-2.5 found to be exceeding the 24 hourly standadrld limit at all five locations in both the rounds of monitoring.

Decrease in PM-2.5 concentration observed on non-working day of stone crusher at four locations namely Near Wagholi Lake, Ram Nagar (Lonikand), Pati no. 5 (Bhavadi) and Zila Panchayat School (Bhavadi). This reduction in PM-2.5 ranged from about 18% to 68%. Increase in PM-2.5 concentration on non-working day of stone crusher observed only in Choryasalis Co-op Society, Wagholi.

Decrease in PM-10 concentration observed on non-working day of stone crusher at three locations namely Choryasalis Co-op Society-Wagholi, Ram Nagar (Lonikand), and Pati no. 5 (Bhavadi). No significant change is observed in PM-10 concentration at location of Zila Panchayat School of Bhavadi. Increase in PM-10 concentration on non-working day of stone crusher observed only at one location near lake in Wagholi. It is worth to mention that stored materials from quarries and crushers are transported through trucks and dumpers on non-working day of crushers also. Therefore, pollution due to vehicular movement as well as resuspension of road dust has been a regular phenomenon. The location near lake of Wagholi has dense habitation as compared to rest of the four locations where ambient air quality is monitored.

Concentration values of SO₂ observed below detection limit at all five locations in both the rounds of ambient air quality monitoring.

Concentration values of NO_x also found to be well within the 24 hourly average standard at all five locations in both the rounds of monitoring.

Ambient air quality monitoring results are depicted in tables below for all five locations for both the rounds of monitoring. Results are also presented with location of monitoring on google image in subsequent page.

Location: Choryasalis Co-Op. Society, Wagholi, Taluka Haveli District Pune				
Duration	PM-10	PM-2.5	SO₂	NO_x
Round-1 22/11/2016 to 23/11/2016	227.66 µg/m ³	65 µg/m ³	BDL	28 µg/m ³
Round-2 23/11/2016 to 24/11/2016	178.66 µg/m ³	131 µg/m ³	BDL	38.5 µg/m ³
24-hourly AAQ Standard	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³

Location: Matoshree Market, Near Lake, Wagholi, Taluka Haveli District Pune				
Duration	PM-10	PM-2.5	SO₂	NO_x
Round-1 22/11/2016 to 23/11/2016	225 µg/m ³	212 µg/m ³	BDL	31.33 µg/m ³
Round-2 23/11/2016 to 24/11/2016	324 µg/m ³	77 µg/m ³	BDL	34.33 µg/m ³
24-hourly AAQ Standard	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³
Location: Ram Nagar, Lonikand, Taluka Haveli District Pune				
Duration	PM-10	PM-2.5	SO₂	NO_x
Round-1 22/11/2016 to 23/11/2016	213 µg/m ³	403 µg/m ³	BDL	38.33 µg/m ³
Round-2	153.66 µg/m ³	126 µg/m ³	BDL	40.50 µg/m ³

23/11/2016 to 24/11/2016				
24-hourly AAQ Standard	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³

Location:Pati No. 05, Bhavadi, Taluka Haveli District Pune				
Duration	PM-10	PM-2.5	SO₂	NO_x
Round-1 22/11/2016 to 23/11/2016	136.33 µg/m ³	133 µg/m ³	BDL	22.66 µg/m ³
Round-2 23/11/2016 to 24/11/2016	115.66 µg/m ³	108 µg/m ³	BDL	17.83 µg/m ³
24-hourly AAQ Standard	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³

Location:Zila Panchayat School, Bhavadi, Taluka Haveli District Pune				
Duration	PM-10	PM-2.5	SO₂	NO_x
Round-1 22/11/2016 to 23/11/2016	220 µg/m ³	112 µg/m ³	BDL	19.50 µg/m ³
Round-2 23/11/2016 to 24/11/2016	222.33 µg/m ³	74 µg/m ³	BDL	22.33 µg/m ³
24-hourly AAQ Standard	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³

Besides stone crushers, heavy traffic movement on poor roads with loaded trucks & dumpers from quarries & crushers are main apparent source of air pollution in the area. Sporadically located few hot-mix plants, ready-mix concrete plants and blasting in the quarries during evening hours were also recognizable sources of air pollution in the area. Lonikand area has 08 industrial units (other than stone crusher) out of which 03 are large scale units in red category. These are predominantly electrical, automobile & engineering components units. There is 01 hot mix plant located in Lonikand area. Besides, stone crushing units, Bhavadi area has 01 hot mix plant, 01 ready mix concrete plant and 01 light brick manufacturing unit. Phulgaon area is also quite close to Bhavadi & Lonikand and has 04 stone crushers and 11 other industrial units predominantly engaged in electrical, automobile and engineering components. There are 02 ready mix concrete plants in Wagholi area. There are abandoned or temporary crusher units observed with make-shift arrangement on road sides with unattended heaps of dust and stone metal material having potential of air pollution in the area. Incidence of garbage burning also observed in remote location at quarry area. Diurnal variation in meteorological condition may also attract some impact of sources of pollution from Pune city located in south-west direction of the area.

Photographs depicting some of the potential sources of air pollution in the area are given in following Table:

	
<p>Abandoned small make-shift crushing arrangement on road side with heaps of dust</p>	<div data-bbox="983 633 1203 831">  </div> <p>Unit operational with very high fugitive emission in Phulgaon area (21/10/2016)</p>
	
<p>Open burning of solid waste also observed in the area .</p>	<p>Unpaved roads with heavy dust deposition in the area.</p>
	
<p>Balsting at queries generating dust plume</p>	<p>Balsting at queries generating dust plume</p>

It is wise & worth to mention here that additional efforts for water sprinkling on roads and operation of sprinklers & foggers by stone crusher units observed during ambient air quality monitoring & joint inspections exercise in the area. The application of

water for suppression of dust on road and significant usage of sprinklers & foggers was not observed during preliminary survey carried out during 20-21 October, 2016. Few photographs depicting such differences are given in following table.

	
<p>Road without water sprinkling (20/10/2016)</p>	<p>Road with water sprinkling (24/11/2016)</p>
	
<p>Unit without operation of water sprinklers (21/10/2016)</p>	<p>Unit with operational sprinklers (24/11/2016)</p>
	
<p>Dusty & dry roads without application of water during preliminary survey (20/10/2016)</p>	<p>Rampant water application on road during visits & monitoring. (23/11/2016)</p>

Location: Zila Panchayat School, Bhavadi, Taluka Haveli District Pune				
Duration	PM-10	PM-2.5	SO ₂	NO _x
Round-1 22/11/2016 to 23/11/2016	220 µg/m ³	112 µg/m ³	BDL	19.50 µg/m ³
Round-2 23/11/2016 to 24/11/2016	222.33 µg/m ³	74 µg/m ³	BDL	22.33 µg/m ³
24-hourly AAQ Standard	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³

Location: Pati No. 05, Bhavadi, Taluka Haveli District Pune				
Duration	PM-10	PM-2.5	SO ₂	NO _x
Round-1 22/11/2016 to 23/11/2016	136.33 µg/m ³	133 µg/m ³	BDL	22.66 µg/m ³
Round-2 23/11/2016 to 24/11/2016	115.66 µg/m ³	108 µg/m ³	BDL	17.83 µg/m ³
24-hourly AAQ Standard	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³

Location: Ram Nagar, Lonikand, Taluka Haveli Dist. Pune				
Duration	PM-10	PM-2.5	SO ₂	NO _x
Round-1 22/11/2016 to 23/11/2016	213 µg/m ³	403 µg/m ³	BDL	38.33 µg/m ³
Round-2 23/11/2016 to 24/11/2016	153.66 µg/m ³	126 µg/m ³	BDL	40.50 µg/m ³
24-hourly AAQ Standard	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³



Location: Choryasalis Co.Op. Society, Wagholi, Taluka Haveli District Pune				
Duration	PM-10	PM-2.5	SO ₂	NO _x
Round-1 22/11/2016 to 23/11/2016	227.66 µg/m ³	65 µg/m ³	BDL	28 µg/m ³
Round-2 23/11/2016 to 24/11/2016	178.66	131 µg/m ³	BDL	38.5 µg/m ³
24-hourly AAQ Standard	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³

Location: Matoshree Market, Near Lake, Wagholi, Taluka Haveli Dist. Pune				
Duration	PM-10	PM-2.5	SO ₂	NO _x
Round-1 22/11/2016 to 23/11/2016	225 µg/m ³	212 µg/m ³	BDL	31.33 µg/m ³
Round-2 23/11/2016 to 24/11/2016	324 µg/m ³	77 µg/m ³	BDL	34.33 µg/m ³
24-hourly AAQ Standard	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³

5.2 Aspect-wise Findings on Status of Measures Taken by Stone Crushers for Pollution Control

Aspect-wise specific findings and observations of individual units visited by teams are given in individual visit reports enclosed as **Annexure-1**. However, the aspect-wise common findings are discussed in following paragraph to give a broad perspective.

5.2.1 Consent Status

The Operational status and consent validity status of 56 units visited is given in **Annexure 2**. Out of 56 units visited, 01 unit found closed, 07 units were not operational during visit and remaining 48 units were found operational. Out of 48 operational units, 05 units found operational without valid consent from MPCB.

It has been observed that the units are having different approaches for representing their products & production capacities and thus such differences are appeared in the consents with respect to name of products & production capacities. 'Stone Crushing Activity' has been given under name of product head in some of the consents. However, in some cases Stone Metal or Stone Metal Aggregate are written as product name. Similarly, in case of small size product, different terms like stone dust or crushed sand or crushed dust are used in the consents. Types of products with specific mention of sizes like 20 mm, 10 mm aggregate etc are not given in the consents. Production capacities are also given in different terms like Brass/day or Brass/month or Brass/Annum. Brass is the term usually used in building & construction trade to measure quantity for known unit volume. Therefore, weight of different sizes of aggregates varies for per brass. There is a need of uniformity in giving product names with specific mention of sizes and their production capacity to stone crushers in consent.

The condition of standard permissible limit of $600 \mu\text{g}/\text{m}^3$ for Suspended Particulate Matters measured between 3m and 10 m from any process equipment of stone crushing unit is required to be incorporated in all consents issued to stone crusher units. The standard limit of suspended particulate matter at a distance of 3 to 10 meter from any process equipment given $600 \mu\text{g}/\text{m}^3$ is notified under E(P)A notification G.S.R. 742(E) dated 30th August, 1990 & S. O. 8(E), dated December 31, 1990 for stone crushers.

The consents issued to stone crusher units reflect only the domestic consumption of water. However, actual quantity required/used by stone crusher units is very high for various purposes like dust suppression/sprinklers/foggers/ green belt development.

5.2.2 Dust suppression and sprinkling arrangements for stored materials

Most of the units visited have provided wetting arrangements for stored material. Different arrangements like fixed sprinklers at the transfer point, movable sprinklers, fogger line, etc are provided by the units. The arrangement provided varies from unit to unit. However, proper scientific designed foggers/ water sprinkling system for effective dust suppression at different source of emissions by utilizing optimum quantity of water need to be incorporated.

It is commonly observed during visit that excessive water applications practiced by most of the units which in turn resulted in marshy condition in the premises of many units. The excess water has also resulted in the deposition of stone dust slurry even on the return of conveyor belt.

A few units produce very fine stone dust (Size 2 mm to 75 μ) and it is observed that such fine materials are mostly stored in open like other stone metal aggregates. As stone dust is very fine with high potential to cause re-suspension in air, proper closed arrangement for conveying, transporting and storage of such products need to be provided by such units.

5.2.3 Wind breaking walls

The Wind breaking wall provided by most of the units are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and at the same time material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. Technically, the wind breaking wall should be higher than the free fall height of finished good discharge from the conveyor belts nobs if adequate arrangement of chute is not in place for discharging the material at lower height from conveyor. However, adequate water sprinkling is required in both the cases. Gaps between the adjacent tin sheets used for wind breaking wall as well as bottom of the sheets observed in most of the units having potential for escape of dust. Damage to such wind breaking barriers due to high wind speed has been given as reason for keeping the space between the sheets. However, it can be addressed with strong base and framing along with thick plantation along the periphery.

5.2.4 Internal Pucca Road & Road Cleaning Mechanism/arrangement

Almost all the units reportedly have provided some sort of pucca road in the premises. However, the extent observed up to hardly few meters from the main gate in most of the units. Pucca roads are not visible or identifiable in many units because of deposition of mud and dust due to inadequate internal road cleaning mechanism. Water application is practiced for suppression of dust on internal roads by almost all the units.

5.2.5 Arrangement for water spraying and wetting of ground in the premises

Almost all the visited units have provided wetting arrangements for ground. Different arrangements are provided by different units like sprinklers along the wind breaking wall, movable sprinklers, overhead foggers network etc. The provision varies from unit to unit. However, proper scientific designed water sprinkling system with full operational control for effective dust suppression by utilizing optimum quantity of water need to be incorporated. Excessive use of water in sprinkler caused marshy condition in several units.

5.2.6 Green belt development

Most of the units have started development of green belt along periphery and ramp by planting saplings of different varieties in recent times. Therefore, very scanty

plantation of very small size and spread observed in most of the units. In very few unit proper green belt with dense coverage was observed on certain sides. The green belt development in all the units needs improvement. Scientific approach with respect to selection of species, spacing, location, direction and numbers are very important for green belt development.

5.2.7 Water sprinkling arrangement at crushing system

Most common sprinkling arrangements provided at the crushing system observed was pipe with holes (punctured pipes). VSI outlet are provided with sprinklers in many units. As the purpose of wetting/sprinkling is to arrest dust generated during crushing proper sprinklers as required based on the size of dust to get suppressed. Water sprinklers are also provided by most of the units on nodes of conveyor belts. Series of overhead foggers in crushing area also observed in many units.

5.2.8 Enclosures for conveyors belts

Most of the units have provided metallic sheet cover above the conveyor belts. The condition in terms of adequacy and gap between belt and cover varies from unit to unit. Conveyors belts are found to be partially covered in most of the units. Significant gaps on the sides between cover and conveyor belt are also observed in many units. Some units used green synthetic cloth for covering on conveyor belt enclosures. Conveyor belt enclosures are not found satisfactory in most of the units.

5.2.9 Fugitive emissions & compliance of work zone ambient air quality

Out of 56 listed units, work zone monitoring of suspended particulate matters was carried out in 47 operational units at a distance between 3 m to 10 m from any process equipment of respective stone crushing unit (remaining units being non operational, monitoring was not carried out). The unit wise monitoring results of concentration of SPM and its compliance with the standard is given in **Annexure 3**. It is found that all the monitored units are not complying with the notified emission standard of 600 $\mu\text{g}/\text{m}^3$. The monitored concentration of SPM varies between 770 (minimum) to 56,617 (maximum) $\mu\text{g}/\text{m}^3$.

5.2.10 Maintenance of Records

Most of the units are not maintaining the records pertaining to material received, production, usage of power & water, green belt development, copy of consent, etc. at site.

COMPARABLE PRACTICES WITH DIFFERENCE IN STONE CRUSHER UNITS

	
Wind breaking wall with and without gaps	
	
Conveyors with partial enclosures and proper enclosures	
	
Screen housing without proper enclosure & with proper enclosure	
	
Green belt with scanty plantation & with dense plantation	



Approach road katchha and RCC Packka Road



Jaw Crusher Main Hopper without tin shed and with tin shed from three sides and top

6.0 RECOMMENDATIONS

Aspect-wise specific recommendations of individual units visited by teams are given in individual visit reports enclosed as **Annexure-1**. However, the aspect-wise common recommendations are discussed in following paragraph to give a broad perspective for improvement in environmental management of stone crushing units and air quality of surrounding area as well. These recommendations may be technically viewed and applied for all the stone crusher units of the state for improvement.

6.1 Consent Management

All the units are required to maintain the copy of the consent issued by MPCB in the premises for reference at all the times. There is need to develop uniform approach & terminology for giving name of product types (say 20 mm, 10 mm, 5mm etc.) and their respective production capacity in same units (either per month or per annum or per day basis). MPCB may address this issue with due consideration of technical aspects.

The condition of standard permissible limit of $600 \mu\text{g}/\text{m}^3$ for Suspended Particulate Matters measured between 3 m and 10 m from any process equipment of stone crushing unit is required to be incorporated in all consents issued to stone crusher units. The standard limit of suspended particulate matter at a distance of 3 to 10 meter from any

process equipment given $600 \mu\text{g}/\text{m}^3$ is notified under E(P)A notification G.S.R. 742(E) dated 30th August, 1990 & S. O. 8(E), dated December 31, 1990 for stone crushers.

Actual consumption of water for sprinkling/fogging/wetting and green belt development is required to be incorporated in consents of all stone crusher units.

6.2 Dust suppression and sprinkling arrangements for stored materials

Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored and proper mechanical chute should be installed. The height of finished goods should be kept lower than the height of wind breaking walls. In the latter case, proper sprinkling arrangement should be provided all around the material heaps. The sprinkling system should have full operational control of location wise installed sprinklers and separate records should be maintained in this respect for optimal usage of water.

6.3 Wind breaking walls

Technically, the wind breaking wall should be higher than the free fall height of finished good discharge from the conveyor belts nods if adequate arrangement of chute is not in place for discharging the material at lower height from conveyor. However, adequate water sprinkling is required in both the cases. No gaps should exist in between and at the bottom of the wind breaking walls. Strong structural base and framing should be provided for wind breaking wall to withstand in strong wind conditions.

6.4 Internal Pucca Road & Road Cleaning Mechanism/arrangement

All the units should have internal pucca roads for all the stretches in the premises where regular internal movement of the vehicles are desired. The cleaning mechanism of the internal road should be such that the black top or concrete top of the road should be recognizable.

6.5 Arrangement for water spraying and wetting of ground in the premises

Proper scientific designed water sprinkling system with full operational control for effective dust suppression by utilizing optimum quantity of water need to be incorporated. Excessive usage of water and marshy conditions should be avoided by the units.

6.6 Green belt development

The green belt development in all the units needs improvement. Scientific approach with respect to selection of species, spacing, location, direction and numbers are very important for green belt development. The green belt should be developed by units with adequate number of rows on periphery, keeping the sole objective of green belt in mind for stone crushers in particular.

6.7 Dust suppression & Water sprinkling arrangement at crushing system

All the hoppers should be properly enclosed from three sides and roof should be provided along with water sprinkling arrangement. Technically, all the crushing and sieving (screens) equipment should be fully enclosed within enclosure with proper door arrangements and approach ladder and scientifically designed sprinklers should be provided all along the containment enclosure. The vibrating screen should be properly and completely enclosed except conveyor belt opening. The conveyor belt opening should be provided with rubber flap.

The dust sprinkling system for crushing system should have fixed pressure withstanding piping system and pressure measurement system with full operational control. The sprinkler & fogger network should be scientifically designed for crushing system for optimal usage of water. The dust should be consolidated at the nearest possible point of source and accordingly fogging or sprinkling system should be installed.

6.8 Enclosures for conveyors belts

All the conveyor belts should be covered from nod to nod points adequately without side gaps in enclosure and belts. Adequate rubber flap or fogger/sprinkler arrangement should be made at the nods of the conveyor belts to suppress the dust emission from material transfer.

6.9 Fugitive emissions & compliance of work zone ambient air quality

All the units are required to take all necessary measures for control of suspended particulate matter concentration in work zone. All the workers should be provided with adequate personal protective equipment (PPEs) while on the job.

6.10 Management of Ambient Air Quality in Residential Areas

Besides above measures for enforcement and implementation in stone crushing units, concerned local authorities are required to make necessary fund allocation and execution of pucca road development in these areas to minimise the dust pollution. All the trucks & dumpers carrying the crushed stones, sands and other building material from the area should have proper cover so that fugitive dust from loaded material can be entrapped at source itself. The local authorities should also take suitable measures to develop regular road cleaning mechanism. The regular wetting of roads may be considered as temporary measures to improve the air quality. Local gram panchayats have to be vigilant about the burning of solid waste in the area. Awareness programmes for stone crusher units, transporters, drivers and local stake holders may be arranged from time to time.

ANNEXURE 1

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Sairaj Stone Co. Gat No. 82/83, Village Bhavadi, Tal. Havali, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	No representative was present
3.	Date of visit	25.11.2016
4.	Operational status	Closed since last 6 month.
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W), Vadodara Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Not Available
8.	Consented Capacity Operating capacity	
9.		
10.	Product Types (Based on size)	No information available as the plant was not in operation and closed since last six month.
11.	Control Equipment/Measures Provided	
11.1	Dust suppression and sprinkling arrangements for stored materials	
11.2	Wind breaking walls	
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	
11.4	Arrangement for water spraying and wetting of ground in the premises	
11.5	Status of green belt along periphery of the unit	
11.6	Water sprinkling arrangement at crushing system	
11.7	Conveyor belt covered or not (if yes, condition)	
11.8	Condition of fugitive emission	
11.9	Fogging system at exit point for loaded carrier/trucks	

12.	Any chimney/stack with monitoring facility	
13.	Average power consumption per ton of crushing	
14.	Alternate arrangement for power	
15.	Source of water	
16.	Water storage capacity at site	
17.	Water consumption (mode of measurement)	
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	
20.	Observations: The unit was closed. The team has enquired about the unit representative. The unit representative (Sh. Deepak Gore: 09371021622) was contacted over phone and informed that the unit is now closed. The unit Sairaj Stone Co. (Owner Sh. Chandrant Birdoude) was taken by Sh. Deepak Gore and name was changed to M/s Shardha Stone Crusher. Thereafter the unit was closed. The information regarding change of ownership/name was not available with MPCB. Dismantling of crusher was observed during visit. The dismantled crusher was taken by Sh. Mahesh Kantilal Gondecha from Nagar was present during visit. Some photographs taken during the visit are enclosed as Annexure to this visit report.	
21.	Recommendations: Though the unit was closed and not operational during visit. However, the unit should submit in writing about the closing of operation to MPCB.	



Sharda Stone Crusher Co. (Former Sairaj Stone CO.) Gat No. 82/83, Vill Bhavadi



Dismantling of crusher

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Ganesh Stone Crusher Gat No. 586, A/P Lonikand Tal-Haveli, Dist. Pune.
2.	Industry representative; Tel./Fax/E-mail	Shri Dipak Hanumantrao Zurunge, Partner, Mobile: 09960687775
3.	Date of visit	25/11/2016
4.	Operational status	Closed since last one year. Power reportedly disconnected.
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Filed Officer, MPCB, Pune-2. V. G. Nisal, Field Inspector, MPCB, PCMC, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Not known.
8.	Consented Capacity Operating capacity	Not known.
9.	Process chart*	--
10.	Product Types (Based on size)	--
11.	Control Equipment/Measures Provided	--
11.1	Dust suppression and sprinkling arrangements for stored materials	--
11.2	Wind breaking walls	--
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	--
11.4	Arrangement for water spraying and wetting of ground in the premises	--
11.5	Status of green belt along periphery of the unit	--
11.6	Water sprinkling arrangement at crushing system	--
11.7	Conveyor belt covered or not (if yes, condition)	--
11.8	Condition of fugitive emission	--

11.9	Fogging system at exit point for loaded carrier/trucks	--
12.	Any chimney/stack with monitoring facility	--
13.	Average power consumption per ton of crushing	--
14.	Alternate arrangement for power	--
15.	Source of water	--
16.	Water storage capacity at site	--
17.	Water consumption (mode of measurement)	--
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	--
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	--
20.	Observations: The unit is located at N18°37'39.90" E074°00'42.80". The unit has not provided name board/sign board. The unit is not operational since last one year. Overhead fogger provided at entry/exit point. Proper housing (shed) provided for screen. Wind breaking walls are not adequate. No internal pucca road and green belt provided by the unit. Observed very scanty plantation on periphery.	
21.	Recommendations: - Unit should make all required provision for pollution control before restart.	



Overhead fogger at entry/exit point

Proper housing (shed) provided for screen.



Scanty plantation and inadequate wind breaking wall.

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Diamond Stone Industries Gat No. 399, A/P Perne Tal-Haveli, Dist. Pune.
2.	Industry representative; Tel./Fax/E-mail	Shri Sanjay S. Giri, Supervisor Mobile: 09730003121
3.	Date of visit	24/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Filed Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Metal 1000 Brass/A Crushed Sand 1000 Brass/A The unit was operational at normal average capacity.
9.	Process chart*	<pre> graph TD Hopper1[Hopper] --> Crusher[Crusher (02 + 01)] Crusher --> Conveyor1[Conveyor] Conveyor1 --> Screen1[Screen-1 (Over sized sent back to hopper)] Screen1 --> Conveyor2[Conveyor] Conveyor2 --> Hopper2[Hopper] Hopper2 --> Conveyor3[Conveyor] Conveyor3 --> VSI[VSI] VSI --> Conveyor4[Conveyor] Conveyor4 --> Screen2[Screen-2] Screen2 --> StoneMetal[20 mm stone metal] Screen2 --> CrushedSand[Crushed Sand] </pre>

10.	Product Types (Based on size)	20 mm, Crushed sand
11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Overhead foggers provided in process area but inadequate for stored material. Height of heaps observed to be higher than wind breaking wall and heaps were not covered with adequate sprinkling arrangement for suppression of dust.
11.2	Wind breaking walls	Provision of wind breaking wall is inadequate. Wind breaking wall is provided only on eastern side that too having height lesser than height of material transfer points from conveyor.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Concrete road provided at entry only and no pucca road for internal movement. No internal road cleaning system in place.
11.4	Arrangement for water spraying and wetting of ground in the premises	Fixed water sprinklers provided at 03 locations. No sprinkling system provided on the boundary (periphery).Overhead foggers provided in plant process area.
11.5	Status of green belt along periphery of the unit	Very scanty plantation done and can be termed as absence of green belt.
11.6	Water sprinkling arrangement at crushing system	Pipes provided for putting water before & after crusher, after screen-1 and before VSI.
11.7	Conveyor belt covered or not (if yes, condition)	Not covered properly and some of the conveyors are found without enclosure also.
11.8	Condition of fugitive emission	No significant fugitive emissions observed on the day of visit & monitoring i.e. 24/11/2016. However, significant fugitive emissions observed during random visit to the unit during preliminary survey on 21/10/2016.
11.9	Fogging system at exit point for loaded carrier/trucks	Fogging/overhead sprinklers are not provided at entry/exit point for suppression of dust on material loaded in trucks & dumpers.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	Reportedly 20000 to 22000 units/month. Records were not available in the unit during visit.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Own open well (Bawadi), Bore-well and rain water accumulated in old quarries located near the unit.
16.	Water storage capacity at site	Metallic tank of 14 KL and concrete tank of 60 KL.

17.	Water consumption (mode of measurement)	Not known.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Records not available at site.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Suspended particulate matter measured at a distance between 3 to 10 meter from main process equipment on north-west side. Suspended particulate matter concentration in work zone observed to be 6564.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°36'25.80" E074°02'19". The unit reportedly has approximate area of about 02 acre. ➤ The unit has provided name board/sign board inside the premises but not on the approach road for easy identification of the unit. ➤ The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. ➤ The unit has not provided foggers at entry/exit point to moist the loaded material in trucks/carriers. ➤ The sprinklers/foggers network is not appropriately designed and material stored in heaps is not adequately covered with such provision. ➤ Sprinklers are not provided on the periphery of the unit. ➤ Conveyors belts are not properly covered and some of the conveyor belts observed without cover during the visit. ➤ Sort of green belt is provided on west and south west side of the premises. Rests of the sides do not have greenbelt. ➤ Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. ➤ The screens provided by the unit are open from top and housing (shed) provided for screens are also not properly covered. ➤ The unit has done lot of plantation on nearby area but not in the form of a proper green belt. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. 	

	<ul style="list-style-type: none"> ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of overhead foggers at entry/exit point for suppression of dust on material loaded on trucks/dumpers. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the latter case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.



Conveyors without cover



Screen housing not covered properly.



Small stretch of wind breaking wall with scanty plantation as green belt.



Fixed sprinkler recently installed for wetting of ground inside the premises. No significant fugitive emissions as compared to the previous random visit of October, 2016 for preliminary survey.



Unit observed with very high fugitive emissions during preliminary survey on 21st October, 2016.

REPORT ON VISIT TO STONE CRUSHER UNIT

(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Kudale & Associates Gat No. 251/1, 7 & 10 Village Bhavadi Tal. Havali, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Uday Gaikwad, Mobile: 09923649792
3.	Date of visit	25/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W), Vadodara Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity	Stone Metal – 90 Brass/Month Reportedly operated at average capacity of 4-6 Brass/day (~ 80 Brass/Month with average 6 hours operation & 20 days working in a month)
	Operating capacity	
9.	Process chart	<pre> graph TD Crusher --> Screen Screen --> BackToCrusher[Stone Size > 20mm back to crusher] Screen --> TenMM[10 mm] Screen --> TwentyMM[20 mm] TenMM --> Dumper[Dumper feed to VSI Hopper] Dumper --> VSI[VSI] VSI --> Conveyor[Screen through Conveyor] Conveyor --> CrushedStone[Crushed Stone] </pre> <p>The unit has Crushers (20 x 10) : 02, VSI : 01, Screen : 02, Hopper : 05</p>

10.	Product Types (Based on size)	20 mm, 10 mm and 5mm (Crushed stone).
11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers are provided at end of transfer point.
11.2	Wind breaking walls	Provided tin sheets barrier of about 12 feet height in three sides of unit (East, North & West) South Side is query.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Asphalt road was provided reportedly but is now covered with dust. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system provided in addition to water sprinkling through tankers for ground wetting and approach road wetting.
11.5	Status of green belt along periphery of the unit	Green belt development observed very less only few scanty plantations were observed found inadequate.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are provided with cover however some portions of conveyor belt from crusher to VSI are not covered with sheets.
11.8	Condition of fugitive emission	During startup and from conveyor belt during operation
11.9	Fogging system at exit point for loaded carrier/trucks	Water sprinkler/Fogging systems are not provided at the entry/exit point of the unit.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	The unit was not having records of electricity bills at site.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit through tankers.
16.	Water storage capacity at site	Metallic cylindrical tank of about 10,000 liter capacity
17.	Water consumption (mode of measurement)	2 tankers/day (about 20000 liter per day). As informed, water is also used for sprinkling approach road of the unit from main road.

18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	The unit is maintaining the records of number of trucks dispatched. As per record from 12 th October, 2016 to 23 rd November, 2016 the unit has dispatched 37 trucks (about 3 brass each truck).
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Suspended particulate matter measured at a distance between 3 to 10 meter from main process equipment on downwind side. Suspended particulate matter concentration in work zone found to be 1665.0 µg/m ³ against notified limit of 600.0 µg/m ³ .
20.	Observations: <ul style="list-style-type: none"> • The unit is located at Longitude: 18°36'53"N & Latitude: 73°59'05" E • The unit has reported approximate area of about 4 Acres. • The unit has provided small name board/sign board at entrance for identification of the unit from approach road. However size of name board need to be bigger for proper identification. • All the products materials different size stone metals are stored openly within the premises. • The unit is maintaining the records of number of trucks dispatched with approximate quantity of 3 brass per truck. Proper records of production were not available with the unit. • The conveyor belts are not provided with proper covering. The unit has not provided fogging/sprinkling system at the entry and exit point for wetting the material to avoid fugitive emission during travel. • The Vibrating screen is provided with tin housing. However, condition of housing needs improvement. • The unit has made arrangements for water sprinkling for stored material & ground wetting. The source of water is from queries through tankers. Proper records of number of tankers are also not available with the unit. • Wind breaking wall provided are inadequate in terms of height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • Unit is storing all the finished products including crushed sand/fines in open. • Consent of the unit does not reflect the actual water consumption of the unit. • Workers are not using personal protective equipment for safety. • The unit has not provided green belt. Few scanty plants were observed 	

	<p>on certain sides.</p> <ul style="list-style-type: none"> Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit exceeds the concentration of SPM, The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of overhead foggers at entry/exit point for suppression of dust on material loaded on trucks/dumpers. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the latter case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.

Annexure 1(4)

	
<p>Small Name Board at the Entrance</p>	<p>Wind Breaking Walls at one of the side of Unit</p>
	
<p>Condition of Cover of conveyor belt</p>	<p>Condition of Vibrating Screen Housing</p>
	
<p>Sprinklers at conveyor</p>	<p>Condition of jaw crusher</p>

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Shri Sai Stone Industries. Gat No. 84, Village Bhavadi, Tal. Havali, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Baba Chavhan Mobile: 09922331496
3.	Date of visit	23/11/2016
4.	Operational status	Not Operational since last 1½ month. Only few labors were there at site.
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W) Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	CCA was not available at site. As informed, CCA was not valid and the unit has applied for renewal.
8.	Consented Capacity Operating capacity	Not Records available
9.	Process chart	<p style="text-align: center;">Crusher ↓ Screen ↓ Dumper feed to VSI Hopper ↓ VSI ↓ Screen through Conveyor ↓ Different Products</p> <p>The unit has Crushers (32 x 7): 01, (24 x 12): 02, VSI : 01, Screen : 02, Hopper : 01, Conveyor : 06</p>
10.	Product Types (Based on size)	20 mm, 10 mm, crushed stone
11.	Control Equipment/Measures Provided	Aspect-wise given below:

11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers are provided at the end of transfer point.
11.2	Wind breaking walls	Provision of wind breaking wall is inadequate. Wind breaking wall is provided only about 12 feet height in two sides of unit that too having height lesser than height of material transfer points from conveyor.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	RCC road is provided reportedly but not visible due to dust deposited on road. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system is provided for wetting ground. In addition to foggers and moveable sprinklers
11.5	Status of green belt along periphery of the unit	Plantation observed along the periphery with about 3 to 4 ft growth.
11.6	Water sprinkling arrangement at crushing system	Water jet (pipe with holes) is provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are provided with metallic cover.
11.8	Condition of fugitive emission	Not observed during visit as the unit was not in operation
11.9	Fogging system at exit point for loaded carrier/trucks	Yes provided.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	Not available with the unit representative
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit
16.	Water storage capacity at site	Storage tank 15,000 lt capacity.
17.	Water consumption (mode of measurement)	15,000 liter per day. No proper records/idea for consumption is available.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	No Records were available.
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitoring was carried not out as the unit was not operational.
20.	Observations: <ul style="list-style-type: none"> The unit is located at Longitude: 18⁰37'21"N & Latitude: 73⁰59'31" E. The unit was not operational during visit. 	

	<ul style="list-style-type: none"> • The unit has obtained consent from MPCB. The copy of consent was not available at site. • The unit has reported approximate area of about 1.0 Acres. • The unit has provided name board/sign board at entrance for identification of the unit from approach road. However, the name board was not hanged properly it was just kept near the gate. • Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • The vibrating screen provided with tin housing. • The source of water is from old queries. Proper records for the quantity of water uses are also not available with the unit. • The workers were not observed wearing the personal protective equipment (PPE). • Unit is storing all the finished products including crushed sand/fines in open. • Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. • Consent of the unit does not reflect the actual water consumption of the unit. • Few small plantations along the periphery observed. Presently not adequate green belt. • Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <p>Though the unit was not operational during visit. However, based on physical observations. The unit is required to take following steps/measures:</p> <ul style="list-style-type: none"> ➤ The unit should obtained valid consent from MPCB before resuming plant operations. ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to

	<p>keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect.</p> <ul style="list-style-type: none"> ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the latter case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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Entry & Exit Gate with fogger system



Wind breaking wall height, Green belt and condition of approach road



Crushed sand transfer point Vs height of WBW

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
12.	Name and location of the Unit	Formerly M/s. Golden Sand & Stone Pvt. Ltd. NOW name changed to M/s Motilal Dhoot Sand and Stone Pvt. Ltd. Gut No. 605 & 607, A/P Lonikand Tal-Haveli, Dist. Pune.
13.	Industry representative; Tel./Fax/E-mail	Shri Vikram Dhoot, Director Mobile: 09822448709
14.	Date of visit	22/11/2016
15.	Operational status	Operational
16.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Field Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC, Pune
17.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
18.	Consent status*	Valid up to 30/06/2019.
19.	Consented Capacity Operating capacity	Stone Aggregates & Sand – 200 Brass/D The unit operates at average capacity of 125 Brass/D for about 22 days in a month. The unit was operational during the visit.

20.	Process chart*	<pre> graph TD Hopper1[Hopper] --> PC[Primary Crusher] PC --> C1[Conveyor] C1 --> Tunnel[Tunnel] Tunnel --> C2[Conveyor] C2 --> CC[Cone Crusher] CC --> C3[Conveyor] C3 --> S1[Screen-1 (>22 mm returned to tunnel hopper)] S1 --> C4[Conveyor] C4 --> Hopper2[Hopper] Hopper2 --> C5[Conveyor] C5 --> VSC[Vertical shaft crusher] VSC --> S2[Screen-2] S2 --> 10mm[10 mm stone metal] S2 --> 20mm[20 mm stone metal] S2 --> CS[Crushed Sand] </pre>
21.	Product Types (Based on size)	20 mm, 10 mm, Crushed sand
22.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	04 movable and 21 fixed sprinklers are provided by the unit.
11.2	Wind breaking walls	Provided tin sheets barrier on north, north-east, east and north-west sides. Gaps observed between tin sheets. Provision of wind breaking wall is not proper.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Road at entrance is reportedly of asphalt but not visible due to dust deposition. Internal WBM road observed in the premises. No internal road cleaning system in place only excess water application in practiced to keep the premises wet for dust suppression.

11.4	Arrangement for water spraying and wetting of ground in the premises	04 movable and 21 fixed sprinklers are provided by the unit.
11.5	Status of green belt along periphery of the unit	Very scanty plantation done on most of the sides of the periphery and can be termed as absence of green belt.
11.6	Water sprinkling arrangement at crushing system	Sprinklers provided at conveyors and material transfer points for suppression of fugitive emissions from process.
11.7	Conveyor belt covered or not (if yes, condition)	Covered with tin sheets from top and with green synthetic cloth from sides. Certain portions of conveyor belts found without cover.
11.8	Condition of fugitive emission	No significant fugitive emissions observed during the visit.
11.9	Fogging system at exit point for loaded carrier/trucks	Overhead fogging system provided at entry/exit for suppression of dust from loaded materials in trucks/dumpers.
12.	Any chimney/stack with monitoring facility	No chimney/stack observed in the unit.
13.	Average power consumption per ton of crushing	Details not available with the unit representative during the visit.
14.	Alternate arrangement for power	No alternate power supply source.
15.	Source of water	Rain water accumulated in old quarries located near the unit.
16.	Water storage capacity at site	65 KL
17.	Water consumption (mode of measurement)	Reportedly 45 KLD. (Roughly based on no. of times storage tank is filled).
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	The unit only maintaining the records of product dispatched from the premises. Copy of the CCA was also available at site. No. of truck loads dispatched varies and depends on demand as well as availability of material. Average daily dispatch is about 17 to 25 truck load per day.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitored at between 3 to 10 meter distances from main process equipment on south-east side. Suspended particulate matter concentration in work zone observed to be 1713.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°38'02.80" E074°00'36.70". The unit reportedly has approximate area of about 05 acre. ➤ The name/sign board provided at entrance is of very small size and 	

	<p>difficult to recognize from approach road.</p> <ul style="list-style-type: none"> ➤ The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. ➤ The unit has provided foggers at entry/exit point to moist the loaded material in trucks/carriers. ➤ Excessive application of water inside the premises observed with usage of flexible pipes as well as through tankers during the visit. Sprinklers are provided on the periphery of the unit. ➤ Conveyors belts are having covers but also observed open at certain places. ➤ Scanty plantation done on the periphery which can not be termed as green belt. ➤ Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ The unit stopped feed to the primary crusher for about 15 minutes during visit to due to choking at feed to crusher. ➤ Unit is not maintaining the records pertaining to material processed, power consumption, water consumption and plantation at site. ➤ Housekeeping observed to be satisfactory. ➤ The screens provided by the unit are placed in tin sheets' housing and the said housing (shed) requires improvement in terms of proper enclosure. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from

	<p>higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape.</p> <ul style="list-style-type: none"> ➤ The sprinkling system should have full operational control of location wise installed sprinklers and separate records should be maintained in this respect for optimal usage of water. The unit should stop excessive application of water through tanker in the premises. ➤ The unit should ensure proper housekeeping and regular cleaning of premises with clear space for movement in process area. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the latter case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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Excessive application of water through tanker in the premises.



Overhead fogger provided at entry/exit point.



Conveyor belts partly open and partly covered with tin sheets & green cloth. Screen placed in tin sheet housing.



Scanty plantation for green belt & wind breaking walls with gaps.



Foggers operational in process area.

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Akash Stone Metal Gat No. 199, Village Bhavadi, Tal. Havali, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Sagar Gaikwad, Mobile: 09689927972
3.	Date of visit	23/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W), Vadodara Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	No record of CC&A was available at site as informed CC&A was valid up to 2014.
8.	Consented Capacity	Stone Metal 300 Brass/Month Stone dust 50 Brass/Month
	Operating capacity	Reportedly operated at average capacity of 30 Brass/day
9.	Process chart	<p style="text-align: center;">Crusher ↓ Screen ↓ Dumper feed to VSI Hopper ↓ VSI ↓ Screen through Conveyor ↓ Different Products</p> <p>The unit has Crushers (24 x 12) : 02, VSI : 01, Screen : 01, Hopper : 01, Conveyor : 11</p>

10.	Product Types (Based on size)	80 mm, 40 mm, 20 mm, 10 mm, 8 mm, 6mm and Crushed stone
11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers are provided at transfer points for wetting stored material. In addition loop of foggers from entry → crusher top → conveyor belt → VSI is provided.
11.2	Wind breaking walls	Provided tin sheets barrier of about 12 feet height in three sides of unit with gap of 7-8 in. The gap observed more in North side of unit. The height of WBW is less than the highest transfer point.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Reportedly Concrete road was provided but not visible due to dust deposited on road. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system provided with along the wind breaking wall in three directions. In addition moveable sprinklers are also provided.
11.5	Status of green belt along periphery of the unit	Green belt not observed, few scanty plants observed in south and North directions of the unit along the periphery.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	All the conveyor belts are not provided with metallic cover.
11.8	Condition of fugitive emission	Not observed, the unit has applied excess water which resulted in marshy approach road.
11.9	Fogging system at exit point for loaded carrier/trucks	Water Fogging system provided.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	Reportedly Monthly power consumption is about 15000 units
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit
16.	Water storage capacity at site	One tank of 12000 Lt is provided.
17.	Water consumption (mode of measurement)	As informed, about 6,000 liter per day. No proper records/idea for

		consumption is available.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Register with records for dispatch of truck was maintained by the unit. As per records the unit produced 426 Brass in the month of October 2016.
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Suspended particulate matter measured at a distance between 3 to 10 meter from main process equipment on downwind direction. Suspended particulate matter concentration in work zone observed to be 2292.0 µg/m³ against notified limit of 600 µg/m ³ .
20.	Observations: <ul style="list-style-type: none"> • The unit is located at Longitude: 18°37'05"N & Latitude: 73°59'49" E • The unit has reported approximate area of about 1.0 Acres. • The unit was operational without having valid CC&A for MPCB. As informed the unit has applied for renewal of CC&A on 13.04.2016. • The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. • As per dispatch records, in the month of October 2016 the unit produced 426 brass, which exceeds the quantity mentioned in the CC&A. • The unit has provided name board/sign board at entrance for identification of the unit from approach road. However, size of name board need to be bigger for proper identification. • All the Conveyor belts are not provided with metal sheet. • The unit has made arrangements for water sprinkling & ground wetting. The fogging system is also provided. • During visit excess sprinkling/wetting was observed making the ground marshy. • Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • The vibrating screen was provided with tin housing. • The source of water is from queries. Proper records of quantity of water usage are not available with the unit. • The workers were not observed wearing the personal protective equipment (PPE). • All the stone metals of different size produced are found stored in open ground. Materials were found spread below the conveyor belts. • The unit has provided fogging system at the entry and exit point for 	

	<p>wetting the material to avoid fugitive emission during travel.</p> <ul style="list-style-type: none"> • The unit has not provided green belt only few scanty plantation were observed along the periphery. • Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should obtained valid CC&A from MPCB for operation. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the latter case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.

Annexure 1(7)

	
<p>Condition of cover of conveyor belt</p>	<p>Entry exit gate with fogging system and name board.</p>
	
<p>Condition of approach road</p>	<p>Green Belt few scant plantation along one of the side.</p>
	
<p>WBW at North side of the unit</p>	<p>Fogger system provided by the unit</p>

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Degloorkar Stone Crusher Gat No. 202(P), A/P Bhavadi Tal-Haveli, Dist. Pune.
2.	Industry representative; Tel./Fax/E-mail	Shri Vivek Degloorkar, Director Mobile: 09822293336
3.	Date of visit	23/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Filed Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Metal 300 Brass/M Stone Dust 25 Brass/M The unit was operational at normal average capacity except for 20 minutes time during visit & monitoring when feed was stopped due to placing of water tanker near feed hopper.

9.	Process chart*	<pre> graph TD Hopper --> PrimaryCrusher[Primary Crusher] PrimaryCrusher --> Conveyor1[Conveyor] Conveyor1 --> Tunnel Tunnel --> Conveyor2[Conveyor] Conveyor2 --> SecondaryCrusher[Secondary Crusher] SecondaryCrusher --> Conveyor3[Conveyor] Conveyor3 --> Screen1[Screen-1 (>25 mm returned to tunnel hopper)] Screen1 --> Conveyor4[Conveyor] Conveyor4 --> Intermediate Intermediate --> Conveyor5[Conveyor] Conveyor5 --> VerticalShaftCrusher[Vertical shaft crusher] VerticalShaftCrusher --> Screen2[Screen-2] Screen2 --> 10mm[10 mm stone metal] Screen2 --> 20mm[20 mm stone metal] Screen2 --> CrushedSand[Crushed Sand] </pre>
10.	Product Types (Based on size)	20 mm, 10 mm, Crushed sand
11.	Control Equipments/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	14 Sprinklers, 4 Foggers and Flexible pipes are provided for dust suppression from stored material.
11.2	Wind breaking walls	Provided tin sheets barrier on north & north-east side. Gaps observed between tin sheets. Provision of wind breaking wall is not proper.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Internal pucca road not observed in the premises. No internal road cleaning system in place only excess water application is practiced to keep the premises wet for dust suppression.
11.4	Arrangement for water spraying and wetting of	Sprinkling system provided on the boundary (periphery). Unit also has fixed sprinklers, overhead

	ground in the premises	foggers and flexible pipes for ground wetting.
11.5	Status of green belt along periphery of the unit	Very scanty plantation done on the periphery and can be termed as absence of green belt.
11.6	Water sprinkling arrangement at crushing system	Foggers provided before primary crusher, before tunnel hopper, secondary crusher and VSI. Sprinklers provided after secondary crusher, screens and intermediate storage.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyors belts are covered with tin sheets.
11.8	Condition of fugitive emission	Slightly visible.
11.9	Fogging system at exit point for loaded carrier/trucks	Fogging/overhead sprinklers are provided at entry/exit point for suppression of dust on material loaded in trucks & dumpers.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	Details not available with the unit representative during the visit.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit.
16.	Water storage capacity at site	Storage tank of 10 KL.
17.	Water consumption (mode of measurement)	Reportedly 10 to 12 KL. (Roughly based on no. of times tank is filled).
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	The unit only maintaining the records of product dispatched from the premises. Copy of the CCA was also available at site. No. of truck loads dispatched varies and depends of demand as well as availability of material. Average daily dispatch is about 10 truck load per day. Each truck carries about 3 brass of product.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Measured at between 3 to 10 meter distances from main process equipments on south-east side. Suspended particulate matter concentration in work zone observed to be 2426.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°36'42" E074°59'58". The unit reportedly has approximate area of about 01 acre. ➤ The unit has provided name board/sign board inside the premises but not on the approach road for easy identification of the unit. ➤ The unit is not meeting the norms notified for concentration limit of 	

	<p>suspended particulate matter in work zone.</p> <ul style="list-style-type: none"> ➤ The unit has provided foggers at entry/exit point to moist the loaded material in trucks/carriers. ➤ Excessive application of water inside the premises observed with usage of flexible pipes as well as through tankers during the visit. Sprinklers are also provided on the periphery of the unit. ➤ Conveyors belts are having tin sheets covers. ➤ Scanty plantation done on the periphery which can not be termed as green belt as of now. ➤ Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. Though, the aspect is addressed to some extent as the material from the conveyor belt is transferred at lower height with chute type arrangement done with drum cuttings & metal sheets. ➤ The unit stopped feed to the primary crusher for about 20 minutes during visit to facilitate filling water storage tank from tanker. ➤ Housekeeping observed to be poor. ➤ Screens provided are covered from top as well as sides. Rubber curtains are used to cover screen sides. The screens provided by the unit are placed in tin sheets' housing. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Unit is maintaining the records of dispatch of material and consent copy at site. However, unit is not maintaining records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size outside the premises so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions are taken care and fugitive emissions do not escape. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crushed sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and

	<p>height of finished goods should be always kept lower than the height of wind breaking walls.</p> <ul style="list-style-type: none"> - The sprinkling system should have full operational control of location wise installed sprinklers and separate records should be maintained in this respect for optimal usage of water. The unit should optimize the usage of water to keep the premises & material moist and should stop excessive application of water through tanker. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping. ➤ All records with respect to production, usage of power & water, plantation etc. should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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Overhead Foggers at Entry/Exit point.



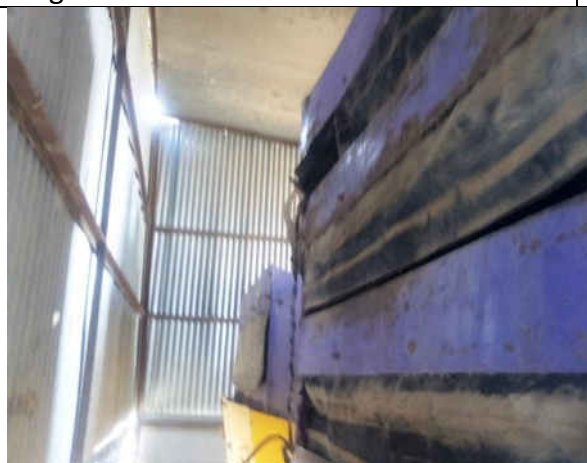
Cover provided on conveyor belts.



Wind breaking wall with scanty plantation for green belt.



Excessive application of water through tankers inside the unit.



Screen placed in tin sheet housing and sides properly covered with rubber curtains.



Ground wetting with flexible pipe.

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	Jay Tulja Bhawani Stone Crusher Gat No. 555, A/P Lonikand Tal-Haveli, Dist. Pune.
2.	Industry representative; Tel./Fax/E-mail	Shri Prashant Dalvi, Owner Mobile: 09730714227
3.	Date of visit	23/11/2016& 24/11/2016
4.	Operational status	<p>Not found operational on 23/11/2016 and reportedly non-operational since last two days because of some fault in the machinery required for raw material feed.</p> <p>The unit was found operational on 24/11/2016 while the team was having round of the area during ambient air quality monitoring on non-operation day of stone crusher i.e. Thursday (24/11/2016) due to weekly off of stone crushers. The unit stopped operation as soon as the team entered in the unit and quoted shortage of raw material as reason for the same.</p>
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Field Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Unit does not have valid consent & reported that applied for consent.
8.	Consented Capacity Operating capacity	<p>Not known.</p> <p>The unit operates at reported average capacity of 50 brass/D for about 18 days in a month.</p>

9.	Process chart*	<pre> graph TD Hopper --> Crusher Crusher --> Conveyor1[Conveyor] Conveyor1 --> Screen1[Screen-1] Screen1 --> Conveyor2[Conveyor] Conveyor2 --> VSI VSI --> Conveyor3[Conveyor] Conveyor3 --> Screen2[Screen-2] Screen2 --> 20mm[20 mm stone metal] Screen2 --> CrushedSand[Crushed Sand] </pre>
10.	Product Types (Based on size)	20 mm, Crushed sand
11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers and foggers provided by the unit but observed to be inadequate to serve the purpose.
11.2	Wind breaking walls	Provided tin sheets barrier on all sides height is found to be less than material transfer points. Moreover, gaps observed between tin sheets provided for wind breaking.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Small stretch of concrete road provided. No cleaning mechanism in place only wetting is used as measure for road cleaning. Plentiful dust deposition observed in internal path of vehicle movement.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinklers and foggers provided are not adequate as fugitive dust emissions observed during the revisit on 24/11/2016.
11.5	Status of green belt along periphery of the unit	Very scanty plantation done on most of the sides of the periphery and cannot be termed as green belt.
11.6	Water sprinkling arrangement at crushing system	Sprinklers, foggers and flexible pipes are provided at conveyors and material transfer points.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts for material transfers are covered with tin sheets. The conveyor belt carrying crushed

		sand having highest potential of fugitive emission is not covered with enclosure.
11.8	Condition of fugitive emission	Significant fugitive emission observed during the visit.
11.9	Fogging system at exit point for loaded carrier/trucks	Fogging/overhead sprinklers are provided at entry/exit point for suppression of dust on material loaded in trucks & dumpers.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	Details not available with the unit representative during the visit.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit.
16.	Water storage capacity at site	5 KL concrete tank.
17.	Water consumption (mode of measurement)	Reportedly 15 KLD (Roughly based on no. of times storage tank is filled).
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	The unit only maintaining the records of product dispatched from the premises. No. of truck loads dispatched varies and depends of demand as well as availability of material. Average daily dispatch is about 10 truck (03 Brass/Truck) load per day.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitoring could not be carried out on 23/11/2016 because the unit was not operational. Monitoring could not be carried out on 24/11/2016 because the unit stopped operation after entry of the team in the premises. Non availability of raw material was the reason quoted for the same.
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°37'22.30" E073°59'58.30". The unit reportedly has approximate area of about 0.50 acre. ➤ The unit has not provided name board/sign board of sufficient size at entrance for identification of the unit from approach road. ➤ The unit found operational on 24/11/2016 without valid consent from MPCB. ➤ The unit has provided foggers at entry/exit point to moist the loaded material in trucks/carriers. ➤ The sprinklers/foggers network is not appropriately designed and material stored in heaps is not adequately covered with such provision as significant fugitive emission observed during the visit. Sprinklers are not provided all along the periphery of the unit. ➤ Conveyors belts are having covers but also observed open at certain places. 	

	<ul style="list-style-type: none"> ➤ Scanty plantation done on the periphery which cannot be termed as green belt. ➤ Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Screen provided found to be open from top and housing/shed provided for screen also found to be open from sides. ➤ Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ The unit does not have regular road cleaning mechanism, instead spraying water. ➤ Housekeeping observed to be poor. ➤ Workers are not using personal protective equipment for safety. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should obtain consent to operate from MPCB. ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute and height of

	<p>finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to production, usage of power & water, plantation etc. should be maintained properly at site.
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<p>Significant fugitive dust emission from material transfer point because of lack of fogging/sprinkling system. Height of wind breaking wall is much less than material transfer point.</p>	<p>Scanty plantation in the name of green belt. Adequate sprinkling arrangement on periphery is absent.</p>
	
<p>Screen open from top and screen shed without proper cover.</p>	<p>No green belt on certain sides.</p>
	
<p>Conveyor belt provided partially open.</p>	

REPORT ON VISIT TO STONE CRUSHER UNITS AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Ashoka Enterprises, Gat No. 249/2, A/P-Wagholi, Ta.: Haveli, Dist.: Pune , Maharashtra
2)	Industry representative, Tel./ Fax/ e-mail	Shree Ashok Deokar Mobile: 9823096781
3)	Date of Visit	22.11.2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	<ul style="list-style-type: none"> • Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara • Shri Manish S. Holkar, SRO , Head Quarter Mumbai • Shri Utkarsh Shingare, FO, MPCB Regional Office, Pune
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	BO/JD(APC)/PN-28932-16/R/CC-9312 dt. 21.07.2016 valid upto 30.06.2019
8)	Consented Capacity Operating Capacity	Stone metal-800 Brass/ Month and Stone Dust-200 Brass/Month. 40-50 brass/ day different size of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper→ Jaw Crusher (2 Nos.)→ Conveyor belt→ Vibratory screen→greater than 30 mm size return to Jaw crusher hopper and less than 30 mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	30mm, 20 mm and 10 mm pebbles and crushed Sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers are fixed on top of conveyor belts at product free fall ends i.e. at nod (Photographs-1, Annexure-1). Movable water sprinklers are fixed on grounds and water sprinklers surrounds the equipment in peripheral manner using hanging PVC pipes and spay and sprinkling nozzles. These sprayer and sprinklers cover the openly stored finished products for wetting.
11.2	Wind breaking wall	Wind breaking wall is provided all along except the ramp side (Photographs-1, Annexure-1).

11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to grit and finished produced spread, it is difficult to state that the internal road is blacktopped or not. As informed that cleaning practice is manual sweeping.
11.4	Arrangement for water spraying and wetting of ground in the premises	Yes. Water sprinklers are provided within the premises.
11.5	Status of green belt along periphery of unit	Claimed 360 saplings planted but about 20 big plants and some new plantation observed along the boundary at certain places i.e. along wind breaking wall.
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet of jaw crusher was having water jet arrangement. Hopper of Jaw crusher was having manual water sprinkling using flexible pipe.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are partially uncovered at certain portions (Photograph-1, Annexure-1).
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Not provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In October 2016, 2386 units of electricity are consumed. However the electricity consumption per unit of product cannot be ascertained as the details of products was not available.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs
15)	Source of water	Purchasing from outside.
16)	Water storage capacity at site	12 KL in metal tank.
17)	Water Consumption (mode of measurement)	12 KL/day. Roughly based on tanker trips.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Records are not available except electricity bill for the month of October 2016.

19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured near jaw crusher which was 5-6 m from the monitoring equipment. The PM value was observed 1810 $\mu\text{g}/\text{m}^3$ which is exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations: <ul style="list-style-type: none"> • Due to large quantity of water sprinkling, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate emission during operation of jaw crushers is observed. • The unit has installed several sprinklers and few water spray systems using PVC piping network and domestic shower is installed at the junction of crushed material transfer from jaw crusher to conveyor belt. However, these arrangements are not appropriately designed and resulted in marshy condition at several places within the premises. Such sprinklers overuse the water and remain ineffective for crushers apart from reducing the efficiency of vibratory screens. • Wind breaking wall (WBW) is provided almost all along the boundary except ramp area but the height of finished product heaps was more than the height of wind breaking wall. There was gaps between the metal sheets of WBW (5 cms to 15 cms) and the height of WBW is not uniform. There was 2-3 feet gap at the bottom of WBW (Photograph-2, Annexure-1). In such situation, WBW may not solve the purpose of fugitive emission containment. Further, the product transfer point of conveyor (at nod) was also not equipped with chute to discharge the product on ground. • Vibratory screen was enclosed inside a shed but the metal sheets of shed is in dilapidated condition (Photograph-3, Annexure-1). • All the products are stored openly within the premises. • Only one row plantation has been done along the periphery of unit premises. • The workers were not observed wearing the personal protective equipment (PPE). • Materials were found spilled below the conveyor belts. • The consent of the unit permits a domestic water consumption of 0.5 m^3/day. However, the actual water consumption for sprinklers and spray is much more. • The unit has displayed a flex banner as sign board. 	
21)	Recommendations: <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crusher and vibratory screen) with proper door and window arrangements 	

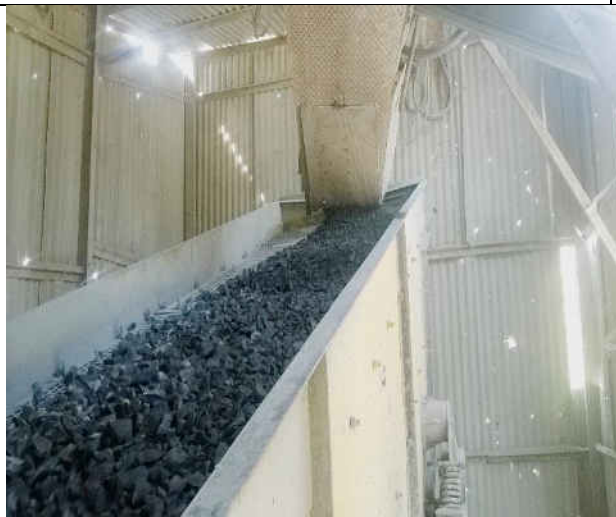
	<p>and all conveyor belts should be properly enclosed upto the nod of conveyor belts.</p> <ul style="list-style-type: none"> ➤ The sprinkling/ spraying system should be scientifically installed with full operational control of location wise installed sprinklers/ spraying system and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring boulders in the raw material hopper. ➤ The gap between sheets should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ Silo for all the product material should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other products should be openly stored and proper mechanical chute should be provided. The height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper water sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt development (with suitable plant species) should be done along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing a minimum of address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity to be used in sprinkling.
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Photograph-1. Sprinklers mounted on conveyor belt and partially covered conveyor belt.



Photograph-2. View of a portion of wind breaking wall showing gaps between sheets.



Photograph-3. Vibratory screen housed inside a shed where the metal sheets have several holes.



Photograph-4. Person working on Jaw crusher without PPE

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s Kasprs Buildmate Pvt. Ltd. Gat No. 157 B, Village Bhavadi, Tal. Havali, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Anoop Karwa, Mobile: 09860575696
3.	Date of visit	22/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W), Vadodara Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	CCA Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Dust free Sand : 40 Brass/day Reportedly operated at maximum capacity.
9.	Process chart	<p style="text-align: center;"> Hopper for feeding 6 mm to 100mm stone metal ↓ VSI ↓ Screen through Conveyor ↓ Stone dust </p> <p style="text-align: center;"> ↓ Bag Filter/ Dust Arrester ↓ Dust from bag house to 30 T storage silo </p> <p>The unit has Crushers (24 x 12) : 01, VSI : 01, Screen : 01, Hopper : 02, Conveyor : 07</p>
10.	Product Types (Based on size)	Stone dust 2mm to 75 μ size
11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers are provided at transfer points.
11.2	Wind breaking walls	The fine dust stored in open space

		and surrounded by WBW of 25 ft heights from North east and South Direction. One side of the periphery is provided with WBW of 14 ft height. However one side having common boundary with adjacent unit is not provided with WBW.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Reportedly, concrete road of about 100 ft from entry gate was provided but not visible due to dust deposited on road. Remaining approach road is katchha road. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system provided at wind breaking wall. Moveable sprinklers with house pipes arrangement are also provided.
11.5	Status of green belt along periphery of the unit	Green belt development observed along East and West direction along the periphery.
11.6	Water sprinkling arrangement at crushing system	Outlet of VSI is connected to dust arrester and bag house.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are partially covered with metallic cover.
11.8	Condition of fugitive emission	Fugitive emission observed from screen feed point and transfer point during free fall.
11.9	Fogging system at exit point for loaded carrier/trucks	Provided.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	Reportedly Monthly power consumption is about 11579 units in the month of October 2016
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit with pump of 5 HP.
16.	Water storage capacity at site	One tank of 5000 It is provided with pump of 2 HP.
17.	Water consumption (mode of measurement)	About 10,000 liter per day. No proper records/idea for consumption is available.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Records for material received and dispatched are maintained at site. As per record during October 2016 unit produced 867 brass of fine sand.

19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Suspended particulate matter measured at a distance between 3 to 10 meter from main process equipment on downwind direction. Suspended particulate matter concentration in work zone observed to be 21,105.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	<p>Observations:</p> <ul style="list-style-type: none"> • The unit is located at Longitude: 18°35'03"N & Latitude: 73°59'56" E • The unit has reported approximate area of about 1.0 Acres. • The unit has obtained CC&A from MPCB for production of dust free sand of 40 Brass/day. The Consent is valid till 30.06.2016. • It is observed from the records the unit has exceeded daily production many times from the consented capacity. • The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. • The unit has not provided name board/sign board at entrance for identification of the unit from approach road. • Conveyor belt are partially covered with metal sheet and curtain. However as the unit manufactured very fine stone dust the condition of cover was not adequate. • The unit has made arrangements for water sprinkling & ground wetting. During visit excess sprinkling/wetting was observed making the ground marshy. • The unit produces very fine stone dust and it is stored in open land like other stone metal. Though the transfer point and storage area is covered with 25 ft height from two sides but as the material is very fine and most probable to suspension in air. Such fine material need to store in silo. • The material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • The Wind breaking wall provided is inadequate in terms of gap, height. The common boundary with adjacent unit is not provided with the WBW. Also the height of wind breaking wall is not complementing the height at which material transfer is done. • The vibrating screen was provided with tin housing however the condition of housing was not adequate to arrest the dust emission. • The source of water is from queries. Proper records for the quantity of water use are not available with the unit. • During visit, huge dust emission from transfer point was observed as the sprinkler provided at the top of transfer line was not operational. As informed, due to pipeline breakdown suddenly. • The unit has provided bag house having about 90 bags and dust arrester. The dust collected from bag house is stored in a silo of capacity 30 T. During visit it was observed that about 150 T of dust collected from bag house is stored in open land is south direction. This dust is more 	

	<p>prominent for suspension in air as size is less than 100μ.</p> <ul style="list-style-type: none"> • No proper arrangement to exhaust air from bag house is observed. The unit needs to provide proper stack for exhaust air from bag house. • The workers were not observed wearing the personal protective equipment (PPE). • The consent of the unit permits only domestic water consumption. However, the actual consumption for sprinklers & misting system is much more and is not mentioned in the CC&A. • The unit has provided fogging system at the entry and exit point for wetting the material to avoid fugitive emission during travel. However as the unit produces very fine dust it should be transported in closed container/ pneumatic containers. • The unit has provided green belt along the periphery. • Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. ➤ Disposed of the stored dust collected from bag house and should not store such fine dust in open. ➤ Provide closed/ pneumatic containers for transport of materials. ➤ The unit should provide proper stack for exhaust of air from bag house. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises.

	<ul style="list-style-type: none"> ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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<p>Fugitive emission from main Process</p>	<p>Fogging system at the entry and exit gate</p>
	
<p>Fugitive emission during free fall of fine material from transfer point.</p>	<p>Dust generated from bag house stored back side of the unit.</p>
	
<p>Green belt at one of the side of the unit.</p>	<p>Wind breaking wall for storage of fine material</p>

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s Oriental Stone Metal Products Gat No. 187, Village Bhavadi, Tal. Haveli, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Sudhir S. Chougule, Mobile: 09822044302
3.	Date of visit	23/11/2016 and 25/11/2016
4.	Operational status	During visit on 23.11.2016 the unit was not operational. As informed, due to breakdown of Poclain machine and also power failure. Monitoring was carried out on 25.11.2016, as unit was operational.
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W) Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	CCA Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Metal 600 Brass/Month Stone dust 75 Brass/Month Reportedly operated at 20 - 25 Brass/day
9.	Process chart	<p style="text-align: center;"> Primary Crusher ↓ Secondary Crusher ↓ Screen ↓ Dumper feed to VSI Hopper ↓ VSI ↓ Screen through Conveyor ↓ Different Products </p> <p>The unit has Crushers (24x12) : 04, VSI : 02, Screen : 02, Hopper : 02, Conveyor : 06</p>
10.	Product Types (Based on size)	20 mm, 10 mm and stone dust

11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers are provided at the transfer point and along the conveyor belt. In addition fogging system from entry gate to screen and to back gate is also provided.
11.2	Wind breaking walls	Provided tin sheets barrier of about 12 to 15 feet height in three sides of unit. However 20 mm stone metal conveyor line and transfer point observed outside the WBW.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Asphalt road was provided reportedly but not visible due to dust deposited on road. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system provided in addition to fogger loop for wetting ground.
11.5	Status of green belt along periphery of the unit	Green belt development observed along the periphery. West side and south side having proper growth of trees and remaining sides having scanty plantation.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	02 conveyor belts (from screen to transfer point and from hopper to VSI) are not covered. Remaining conveyor belts are provided with metallic cover.
11.8	Condition of fugitive emission	Not observed
11.9	Fogging system at exit point for loaded carrier/trucks	Water Fogging system are provided.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	Reportedly Monthly power consumption is about 14000 units
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Bore well
16.	Water storage capacity at site	A tank of 5000 lt capacity is provided.
17.	Water consumption (mode of measurement)	About 5000 to 6000 lt/day. However proper mode of measurement and records were not available with the unit.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per	No records for production were available at site. Unit has later provided production records. As per

	day)	records unit has produced 625 brass in the month of October 2016.
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Suspended particulate matter measured at a distance between 3 to 10 meter from main process equipment at downwind direction. Suspended particulate matter concentration in work zone observed to be 6540.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> • The unit is located at Longitude: 18°36'49"N & Latitude: 73°59'35" E • The unit has reported approximate area of about 1 Acres. • The unit has not provided name board/sign board at entrance for identification of the unit from approach road. • The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. • The unit has obtained CC&A from MPCB and is valid up to 30.06.2016. • 02 conveyor belts (from screen to transfer point and from hopper to VSI) are not covered. Remaining conveyor belts are provided with metallic cover from top. • The unit has made arrangements for water sprinkling & ground wetting. The fogging system provided. • Wind breaking wall provided are inadequate in terms of spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. One transfer point and storage of 20mm stone metal was found outside the boundary/ WBW. • The screen was covered from top (by MS Sheet) and sides (by rubber pads) however, the vibrating screen was not provided with tin housing. • The source of water is from bore well. Proper records of quantity of water used are not available with the unit. • Materials were found spread below the conveyor belts. • The consent of the unit permits only domestic water consumption. However, the actual consumption for sprinklers & misting system is much more and is not mentioned in the CC&A. • The unit has provided fogging system at the entry and exit point for wetting the material to avoid fugitive emission during travel. • The unit has provided green belt along the periphery and along the ramp near primary crusher. • Unit is storing all the finished products including crushed sand/fines in 	

	<p>open.</p> <ul style="list-style-type: none"> • Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. • Consent of the unit does not reflect the actual water consumption of the unit. • Workers are not using personal protective equipment for safety. • Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of

	<p>premises.</p> <ul style="list-style-type: none"> ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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<p>Condition of cover of conveyor belt</p>	<p>Vibrating screen without tin housing and fogging system at entry/ exit</p>
	
<p>Green belt and condition of road</p>	<p>Water wetting system provided at crusher/VSI outlet</p>
	
<p>20 mm stone metal conveyor transfer point outside the WBW</p>	

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Manisha Construction Co. Gat No. 180 & 191, Village Bhavadi, Tal. Havali, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Anil Tukaram Mane Mobile: 09922931692
3.	Date of visit	23/11/2016
4.	Operational status	Not Operational since last 12 days. Only few labors were there at site. The team has contacted the site supervisor Sh.Anil over phone.
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W) Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	CCA valid up to 30.06.2016.
8.	Consented Capacity Operating capacity	Stone Metal: 400 Brass/Month Stone Dust: 50 Brass/Month Not in operation
9.	Process chart	<p style="text-align: center;">Crusher ↓ Hopper ↓ Cone Crusher ↓ Screen ↓ VSI ↓ Screen through Conveyor ↓ Different Products</p> <p>The unit has Crushers (24 x 12): 01, Cone Crusher: 02, VSI : 01, Screen : 03, Hopper : 04 (main hopper, VSI hopper, two cone hopper), Conveyor : 18</p>

10.	Product Types (Based on size)	20 mm, 10 mm, crushed stone
11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers are provided at the end of transfer point.
11.2	Wind breaking walls	Provided tin sheets barrier of about 12 feet height in three sides of unit.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Asphalt road is provided reportedly but not visible due to dust deposited on road. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system is provided for wetting ground. In addition to fogger loop and moveable sprinklers
11.5	Status of green belt along periphery of the unit	Plantation observed along the periphery with about 3 to 4 ft growth.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are provided with metallic cover. However two conveyor belts are not covered.
11.8	Condition of fugitive emission	Not observed during visit as the unit was not in operation
11.9	Fogging system at exit point for loaded carrier/trucks	Yes provided.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	Not available with the unit representative
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Bore well
16.	Water storage capacity at site	Storage tank 20,000 lt capacity.
17.	Water consumption (mode of measurement)	20,000 liter per day. No proper records/idea for consumption is available.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	No Records were available.
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitoring was carried not out as the unit was not operational.
20.	Observations:	

	<ul style="list-style-type: none"> • The unit is located at Longitude: 18⁰36'05"N & Latitude: 73⁰59'32" E. • The unit was not operational during visit. During visit few labors were there at site. The team contacted the site supervisor Sh. Anil Mane over phone. The supervisor reached site and provided the information. • The unit has obtained consent from MPCB. The consent is valid up to 30.06.2016. • The unit has reported approximate area of about 1.0 Acres. • The unit has not provided name board/sign board at entrance for identification of the unit from approach road. • Conveyor belt are provided with metal sheet from the top except two conveyor belts. • The unit has made arrangements for water sprinkling for ground wetting. The fogging system provided in the form of loop for wetting stored material. During visit though plant was not operation water sprinkling/wetting was observed. • Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • The vibrating screen provided with tin housing. • The source of water is from bore well. Proper records for the quantity of water uses are also not available with the unit. • The workers were not observed wearing the personal protective equipment (PPE). • Materials were found spread below the conveyor belts. • The consent of the unit permits only domestic water consumption. However, the actual consumption for sprinklers & misting system is much more and is not mentioned in the CC&A. • The unit has provided fogging system at the entry and exit point for wetting the material to avoid fugitive emission during travel. • Few small plantations along the periphery observed. • Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <p>Though the unit was not operational during visit. However, based on physical observations. The unit is required to take following steps/measures:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in

	<p>appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape.</p> <ul style="list-style-type: none"> ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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Vibrating Screen housing provided by the unit



Wind breaking wall height and condition of approach road



Green Belt few plantation at one of the side along periphery

REPORT ON VISIT TO STONE CRUSHER UNIT

(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Mauli stone Crusher Gat No. 224, Village Bhavadi, Tal. Havali, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Dhyaneshwar h. Tambe, Mobile: 09763287575
3.	Date of visit	25/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W) Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	CCA Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Metal 650 Brass/Month Stone dust 50 Brass/Month Reportedly operated at average capacity of 15-20 Brass/day
9.	Process chart	<p style="text-align: center;"> Primary Crusher ↓ Secondary Crusher ↓ Screen ↓ Dumper feed to VSI Hopper ↓ VSI ↓ Screen through Conveyor ↓ Different Products </p> <p>The unit has Crushers (24 x 12) : 01, VSI : 01, Screen : 01, Hopper : 02, Conveyor : 07</p>
10.	Product Types (Based on size)	20 mm and Crescent
11.	Control Equipment/Measures Provided	Aspect-wise given below:

11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers are provided at the transfer point. Movable Sprinklers are provided with pillar support at hips of stored material.
11.2	Wind breaking walls	Provided tin sheets barrier of about 12 feet height in three sides of unit (west to north and north to east and east to south) The unit shares common boundary with M/s Vigson Aggregates at one side.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Asphalt road was provided reportedly but not visible due to dust deposited on road. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Movable Sprinkling system provided with house pipes arrangement is provided. Fogger/Sprinkling system along the wind breaking wall is also provided for wetting ground.
11.5	Status of green belt along periphery of the unit	Green belt development observed along the periphery 10 to 15 ft growth observed.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	03 conveyor belts are partially covered and some conveyor belts are not provided with metallic cover.
11.8	Condition of fugitive emission	Not observed other than during startup
11.9	Fogging system at exit point for loaded carrier/trucks	Water Fogging system are provided.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	Reportedly Monthly power consumption is about 14000 units
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit
16.	Water storage capacity at site	One small tank is provided.
17.	Water consumption (mode of measurement)	1 tanker/day (about 10,000 liter per day). No proper records/idea for consumption is available.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	No records for production were available at site. Unit has processed 176 brass during November (till 26) 2016.
19.	Monitoring of SPM (Measured between 03 to 10 meter from	Suspended particulate matter measured at a distance between 3 to 10 meter from

	process equipment of stone crushing unit)	main process equipment on down wind direction. Suspended particulate matter concentration in work zone observed to be 1578.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	<p>Observations:</p> <ul style="list-style-type: none"> • The unit is located at Longitude: 18°36'22"N & Latitude: 73°59'03" E • The unit has reported approximate area of about 0.75 Acres. • The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. • The unit has provided small name board/sign board at entrance for identification of the unit from approach road. However, size of name board need to be bigger for proper identification. • Conveyor belt from screen to 20 mm and conveyor belt from screen to stone metal of size more than 20 mm are not provided with metal sheet. Remaining conveyor belt are partially covered and not found adequate. • The unit has made arrangements for water sprinkling & ground wetting. The fogging system provided observed in the form of drip irrigation with bigger droplets of water. • During visit excess sprinkling/wetting was observed making the ground marshy. • Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • The vibrating screen was not covered, the vibrating screen is provided with tin housing however the condition of housing was not adequate to arrest the dust emission. • The source of water is from queries through tankers. Proper records of number of tankers are also not available with the unit. • The workers were not observed wearing the personal protective equipment (PPE). • Materials were found spread below the conveyor belts. • The consent of the unit permits only domestic water consumption. However, the actual consumption for sprinklers & misting system is much more and is not mentioned in the CC&A. • As informed, the unit was not in operation in the month of September & October and resume production after Diwali. • The unit has provided fogging system at the entry and exit point for wetting the material to avoid fugitive emission during travel. • The unit has provided green belt along the periphery and along the ramp near primary crusher. • Unit is storing all the finished products including crushed sand/fines in 	

	<p>open.</p> <ul style="list-style-type: none"> • Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. • Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of overhead foggers at entry/exit point for suppression of dust on material loaded on trucks/dumpers. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.

	
<p>Condition of cover of conveyor belt</p>	<p>Conveyor belt without metallic sheet.</p>
	
<p>Vibrating Screen not provided with cover</p>	<p>Condition of tin housing.</p>
	
<p>Water sprinkling system at entry and exit gate</p>	

REPORT ON VISIT TO STONE CRUSHER UNIT

(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. R. D. Agarwal Gat No. 203, Village Bhavadi, Tal. Haveli, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Umesh Ruliram Bansal, Mobile: 09822833287
3.	Date of visit	08/11/2016 & 23/11/2016
4.	Operational status	Operational on 08/11/2016 and not operational on 23/11/2016
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W), Vadodara Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	CCA was not valid. As informed, the same is applied for renewal.
8.	Consented Capacity Operating capacity	Copy of CC&A was not available with the unit. As informed, CC&A was applied for renewal to MPCB.
9.	Process chart	<div style="text-align: center;"> <p>Crusher</p> <p>↓</p> <p>Screen</p> <p>↓</p> <p>Dumper feed to VSI Hopper</p> <p>↓</p> <p>VSI</p> <p>↓</p> <p>Screen through Conveyor</p> <p>↓</p> <p>Different Products</p> </div> <p>The unit has Crushers (24 x 12) : 02, VSI : 01, Screen : 01, Hopper : 01, Conveyor : 05</p>
10.	Product Types (Based on size)	20 mm and Crescent

11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Movable Sprinklers are provided at transfer points of crushed sand and 20 mm.
11.2	Wind breaking walls	Provided tin sheets barrier of about 10 to 12 feet height in two sides of unit with gap of 7-8 in. The height of sheet is lower than the highest transfer point.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Asphalt road was provided reportedly but not visible due to dust deposited on road. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Movable Sprinkling system provided with house pipes arrangement is provided.
11.5	Status of green belt along periphery of the unit	Green belt development observed along the periphery and along the ramp. Proper growth observed in ramp and entry side.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are provided with cover however conveyor belt from VSI to screen is partially covered.
11.8	Condition of fugitive emission	During truck loading with JCB as observed during visit on 08.11.2016. However, during visit on 23.11.2016 the plant was not in operation so no emission observed.
11.9	Fogging system at exit point for loaded carrier/trucks	Not provided.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	No information available at the site
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit
16.	Water storage capacity at site	Two tanks are provided

17.	Water consumption (mode of measurement)	about 15,000 liter per day. No proper records/idea for consumption is available.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	No records for production were available at site.
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitoring was carried out on 08.11.2016 however due to fault in machine the sampling was discarded. During visit on 23.11.2016 the unit was not in operation. As informed due to unavailability of raw material the unit is not in operation since last few days.
20.	Observations: <ul style="list-style-type: none"> • The unit was operational on 08.11.2016, however not in operation on 23.11.2016. As informed, the unit is not in operation since 20.11.2016 due to unavailability of raw material from quarry. • The CC&A was not available with the unit. As informed, the same was applied for renewal to MPCB. • The unit has reported approximate area of about 0.75 Acres. • The unit has not provided name board/sign board for identification of the unit from approach road. • Conveyors belts are not properly covered and some of the conveyor belts observed without cover during the visit. • During visit excess sprinkling/wetting was observed making the ground marshy. • The unit has made arrangements for water sprinkling & ground wetting. • Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • The vibrating screen is provided with tin housing. The hopper is also provided for tin housing from three sides and top. • The source of water is from queries. Proper records of number of tankers are also not available with the unit. • The workers were not observed wearing the personal protective equipment (PPE). • Materials were found spread below the conveyor belts and screen housing. • The unit has not provided fogging system at the entry and exit point for wetting the material to avoid fugitive emission during travel. • The unit has provided green belt along the periphery and along the 	

	<p>ramp near primary crusher. The green belt developed near ramp and entry gate was observed in good condition. The unit has done lot of plantation on nearby area but not in the form of a proper green belt.</p> <ul style="list-style-type: none"> Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <p>Though the unit was not operational during visit. However, based on physical observations;</p> <ul style="list-style-type: none"> ➤ The unit should obtained valid consent from MPCB. ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of overhead foggers at entry/exit point for suppression of dust on material loaded on trucks/dumpers. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit. ➤ Unit to keep all relevant records at site including consent issued by MPCB.



Green belt along the both side of entrance road



Green belt along ramp.



Condition of conveyer belt



Wind breaking wall at one of the side of the unit



Hopper provided with tin shed from all sides except one kept for feeding through JCB or Poclain

REPORT ON VISIT TO STONE CRUSHER UNIT

(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. MatruKrupa Stone Udyog Gat No. 361 Village Bhavadi Tal. Havali, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Rajaram Vitkar, Mobile: 09370657025 Shri Ashok Devkar 09823076781
3.	Date of visit	25/11/2016
4.	Operational status	Not Operational
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W) Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Metal – 550 Brass/Month Stone Dust – 50 Brass/Month Reportedly operated at average capacity of 45-50 Brass/day
9.	Process chart	<div style="text-align: center;"> <p>Primary Crusher</p> <p>↓</p> <p>Secondary Crusher</p> <p>↓</p> <p>Screen</p> <p>↓</p> <p>Dumper feed to VSI Hopper</p> <p>↓</p> <p>VSI</p> <p>↓</p> <p>Screen through Conveyor</p> <p>↓</p> <p>Different Products</p> </div> <p>The unit has Crushers (42 x 36) : 01, (36 x 8): 01, (24 x 12): 02, VSI : 01, Screen : 02, Hopper : 04</p>
10.	Product Types (Based on size)	20 mm, 10 mm, 5mm (Crushed stone)

		and fine sand.
11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers at transfer point and moveable Sprinklers are provided for wetting the stored material.
11.2	Wind breaking walls	Provided tin sheets barrier of about 16 feet height in three sides of unit (East, North & South) West Side is query. Height of wind breaking wall seems adequate.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	RCC road was provided from entry to hopper. Reported weekly manual cleaning is carried out. However remaining internal approach roads are kutcha road and covered with dust.
11.4	Arrangement for water spraying and wetting of ground in the premises	Moveable Sprinklers and fogger system in a loop from transfer point of 10 mm → transfer point of 20 mm → transfer point of crescent → hopper → VSI to Screen is provided.
11.5	Status of green belt along periphery of the unit	Green belt development around periphery of height about 25 ft was observed.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	Some portion of conveyor belts are not covered with sheets.
11.8	Condition of fugitive emission	Not observed as plant was not in operation.
11.9	Fogging system at exit point for loaded carrier/trucks	Water sprinkler/Fogging systems are provided at the entry/exit point of the unit.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	18,504 units in the month of October 2016. For average power consumption records of production was not provided by the unit.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit
16.	Water storage capacity at site	Metallic cylindrical tank of about 12000 liter capacity
17.	Water consumption (mode of measurement)	2 tankers/day (about 24,000 liter per day).

18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	No records for production was available at site.
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitoring was not carried out as the plant was not operation on the day of visit.
20.	Observations: <ul style="list-style-type: none"> • The unit is located at Longitude: 18⁰36'11"N & Latitude: 73⁰58'26" E • The unit has reported approximate area of about 1 Acres. • The unit has provided small name board/sign board at entrance for identification of the unit from approach road. • During visit, the unit was not operational. As informed, due to breakdown of main screen and mechanical work. As informed, the unit was not in operation since last 03 days. • As informed, the unit process 45 to 50 Brass for the production of different stone metals and stone sand. The average production considering the informed quantity and number of working days (20 days) the unit exceeds production as mentioned in the CC&A. • The unit has no records for production available at site. • It was observed that there is a hot mix plant which was not in operation. Reportedly Separate name and consent is taken from MPCB and the plant was closed since last 6 month due to directions from MPCB. • The conveyor belts are not provided with proper covering. Material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • Unit is storing all the finished products including crushed sand/fines in open. • Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. • Consent of the unit does not reflect the actual water consumption of the unit. • Workers are not using personal protective equipment for safety. • The unit also produces fine stone sand and stored in open area like other stone metal products. The storage of fines required proper arrangements with storage silos and enclosures. • The unit has made arrangements for water sprinkling & ground wetting. • The wind breaking wall provided found adequate in terms of height, spacing and direction. • The unit has provided green belt. • Some photographs taken during the visit are enclosed as Annexure to this visit report. 	
21.	Recommendations:	

	<p>Though the unit was not operational during visit. However, based on physical observations. The unit is required to take following steps/measures:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of overhead foggers at entry/exit point for suppression of dust on material loaded on trucks/dumpers. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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<p>Small Name board at Entry of the unit</p>	<p>Main entrance with name board. Fogger for loaded trucks</p>
	
<p>Wind breaking wall with green belt.</p>	<p>Ground wetting through sprinklers and fogger loop inside the premises.</p>
	
<p>Fogger provided by the unit</p>	<p>Green belt on one of the sides.</p>

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Pathway Corporation Gat. No. 229/2, A/p. Bhavadi Tal-Haveli, Dist. Pune Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Pradeep Reddy - Supervisor; Ph: 9371513063
3)	Date of Visit	26 th November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II Mr. Bagwan Maknikar, Field Officer, MPCB, SRO, Pune-II
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN-28941-16/R/CC-9440, dated: 20.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	1. Stone Metal – 550 Brass/ Month 2. Stone dust – 50 Brass/ Month It was informed that the unit is dispatching about 500-700 Brass per month.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is placed below.

	<p style="text-align: center;">Rocks/ Boulders purchased from Quarries</p> <pre> graph TD Input[Rocks/ Boulders purchased from Quarries] --> Hopper[Hopper] Hopper --> Crushers[Crushers (2 Nos.)] Crushers --> Conveyor1[Conveyor] Conveyor1 --> Screen1[Screen-1] Screen1 --> Conveyor2[Conveyor] Conveyor2 --> Screen2[Screen-2] Screen2 --> Conveyor3[Conveyor] Conveyor3 --> VSI[VSI] VSI --> Conveyor4[Conveyor] Screen1 --> C20[Conveyor] C20 --> P20[20mm stone] Screen1 --> C10[Conveyor] C10 --> P10[10mm stone] Screen1 --> CCS[Conveyor] CCS --> PCS[Crush sand] Screen1 -- Oversized materials --> C1[Conveyor] C1 --> Hopper Screen2 -- Oversized materials --> C2[Conveyor] C2 --> Hopper </pre>	
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20mm, 10mm, 6mm, Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	<p>The unit has provided Sprinkling system on top of the conveyor belts (unloading point/ product free fall ends) which sprinkles water on the material falling from the conveyors and on heaped materials.</p> <p>The unit is also having movable sprinklers which are being used to sprinkle on the stored heaps also.</p> <p>However, the provided sprinklers were found</p>

		inadequate. All the materials stored in heaps are not covered by the existing sprinklers.
11.2	Wind breaking wall	The unit has provided tin sheet barriers of about 16 feet height (which acts as wind breaking wall) along the boundary of the stone crushing area. The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	The unit has bitumen road from the main entrance to inside the premises. The road is slightly covered with dust & sand deposition. The sprinklers fixed on the tin sheet barriers (boundary wall) also provides sprinkling on the internal road.
11.4	Arrangement for water spraying and wetting of ground in the premises	The unit has provided three movable sprinklers in the premises. The movable sprinklers are used for sprinkling water on the ground. The sprinklers fixed on the tin sheet barriers (boundary wall) also provides sprinkling on the internal ground. The unit have provided sprinkling system (sprinklers fixed on PVC pipeline network running overhead) in the crushing area along the conveyor system which also provide wetting of ground. However, the provided sprinklers were found inadequate. The ground in the premises are not fully covered by the existing sprinklers.
11.5	Status of green belt along periphery of unit	Trees of varying heights ranging from 10 ft to 20 ft height are present inside the premises. Reportedly, around 600 trees have been planted by the unit. The greenery is present inside the premises near the storage heaps. Scanty plantation near the main entrance and boundary wall near entry.
11.6	Water sprinkling arrangement at crushing system	The unit has provided sprinklers near the crushing area and the unit has also provided sprinkling system on top of the conveyor belts which sprinkles water to the crushing system. The sprinkling system present in the crushing was

		found inadequate. Dust emission was observed from the main crusher during the monitoring.
11.7	Conveyor belt covered or not (if yes, Condition)	The conveyors belts are covered with tin sheet coverings. The provided covers are also installed leaving more gaps between the belts and the covers which give chances of fine sand spillages & dust emission from the moving conveyor belts. If few places, the covers were in damages condition. During monitoring, spillage of fine sand was observed from the moving conveyor belts.
11.8	Condition of fugitive emission	Emission was observed from the main crusher. Spillage of fine sand/ dust was also observed from the conveyor belts.
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry through which truck movement is being carried out.
12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	The industry has not provided any details about the electricity consumption. The production data, dispatch records of the product were also not provided by the unit to the visiting team.
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is using the rain water collected in their quarry located adjacent to their crushing unit. The water from the quarry is pumped and conveyed to storage tanks in the premises.
16)	Water storage capacity at site	The unit has provided four water storage tanks (2 cylindrical metal tanks of 12000 litres capacity each, 1 metal tank of 4000 litres capacity and 1 HDPE sintex tank of 2000liters capacity).
17)	Water Consumption (mode of measurement)	Reportedly, about 10000 liters of water is consumed per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	The unit is not maintaining any record at site. Even the delivery challan book was not made available to the visiting team.

19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	<p>PM was monitored at the location N18°36'10" E073°58'51" in the plant premises at a distance of about 5m from the main crusher.</p> <p>The monitoring result reveals that the concentration of PM is 4911 µg/m³ which is exceeding the norms of 600 µg/ m³ at a distance of 3 to 10 meter from the main process equipment.</p> <p>During monitoring emission was observed from the crusher, spillage of fine sand from the conveyor belts was also observed during the visit, which may be the reasons for higher values.</p>
20)	<p>Observations:</p> <ul style="list-style-type: none"> • During the visit/ monitoring, the main crusher was in operation and the VSI (Vertical Shaft Impact) crusher was not in operation reportedly since last three months. • The unit has installed a separate crusher system for the production of 40mm stone product consisting of Hopper → Conveyor → Crusher → Conveyor → product. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed sprinkling systems overhead around the conveyor system using PVC piping network and sprinkling arrangement is also installed on the tin sheet barriers (boundary wall). • During the visit, it was observed that the existing sprinkling system is inadequate. The materials stored in heaps are not wetted properly and the internal ground is also not covered by the existing sprinkling system. • The conveyor belts are not covered properly. The covers are fixed leaving more gaps between the belts and the covers and also found damaged in few places which results in carrying away of dust & fine sand by wind. During visit, fine dust/ sand was found spilling from the conveyor belts on the ground. • The unit has installed two screening system, One screening system for screening the materials from the main crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside a separate shed covered with tin sheets. • The unit has not provided the name board. • Photographs taken in the plant during the visit are given in Annexure. 	
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (mainly the crushers & hoppers) with proper door arrangements. ➤ All the conveyor belts should be properly enclosed upto the nod of 	

	<p>conveyor belts.</p> <ul style="list-style-type: none"> ➤ The gap between the conveyor cover and the belt should be either packed with tarpaulin or reduce the gap between the cover & belt. ➤ The gap between sheets in the wind barrier should be either packed with tarpaulin till the time of full growth of atleast two rows of plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ The sprinkling system should be scientifically installed with location wise full operational control and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring rocks/ boulders in the hopper. ➤ There should be adequate water spray on the heaps of material stored and on ground and on transfer point to avoid dust emission. ➤ Workers should be educated to use PPEs. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ Increase green belt at the main entrance. ➤ Provide name board at the main entrance. ➤ Maintenance of records/ data at site. ➤ Consent should be amended for the inclusion of water quantity to be used in sprinkling.
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Photograph: movable sprinklers for sprinkling on ground and on the stored material



Photograph: Internal road, tin sheet boundary wall with gaps and young trees



Photograph: sprinklers overhead system and covered screen house



Photograph: crushing area with inadequate sprinkling



Photograph: separate crusher for the 40mm stone product



Photograph: monitoring near the main crusher

REPORT ON VISIT TO STONE CRUSHER UNITS AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Rasika Stone Crusher, Gat No. 2492, A/P-Wagholi, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Pandurang Baban Gore. Mobile: 9767505252.
3)	Date of Visit	22.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	<ul style="list-style-type: none"> • Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara. • Shri Manish S. Holkar, SRO , Head Quarter Mumbai. • Shri Utkarsh Shingare, FO (PC), MPCB Regional Office, Pune.
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	BO/JD(APC)/EIC No. PN-28919-16/R/CC-9299 dt. 21.07.2016 valid upto 30.06.2019.
8)	Consented Capacity Operating Capacity	Stone Chips-900 Brass/ Month . 40-50 brass/ day different size of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper → Jaw Crusher → Conveyor belt → Vibratory screen → greater than 20 mm to Jaw crusher hopper and less than 20mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20 mm and 10 mm pebbles, 8 mm chips and crushed sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers are fixed on top of conveyor belt at material discharge end/ product free fall ends (Photographs-1, Annexure-1). Movable water sprinklers are also kept on ground. These sprinklers cover the openly stored finished products for wetting.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided all along except the ramp side (Photographs-2, Annexure-1).
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to grit and finished goods spread, it is difficult to state that the internal road is blacktopped or not. As informed that cleaning practice is manual sweeping.
11.4	Arrangement for water spraying and wetting of ground in the premises	Yes. Water sprinklers are provided within the premises.
11.5	Status of green belt along periphery of unit	Claimed 150-160 saplings planted which is observed along the boundary at certain places i.e. along wind breaking wall.
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet of jaw crusher was having water jet arrangement using flexible pipe. Hopper of Jaw crusher was having

		manual water sprinkling using flexible pipe.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts was mostly covered.
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Yes, Provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In May 2016, 3089 units of electricity are consumed. However the electricity consumption per unit of product cannot be ascertained as the details of products was not available.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs.
15)	Source of water	Purchase from outside.
16)	Water storage capacity at site	3.0 KL in metal tank and 1.5 KL in cemented tank.
17)	Water Consumption (mode of measurement)	10 KL/day. Roughly based on tanker trips.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Not available.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured near jaw crusher which are 5-6 m from the monitoring equipment. The PM value was observed 7528 $\mu\text{g}/\text{m}^3$ which is far exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations: <ol style="list-style-type: none"> 1. Due to large quantity of water sprinkling and spraying, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate matter emission during operation of jaw crushers is observed. 2. The unit has installed several sprinklers and few misting systems using PVC piping network and manual flexible pipe based water jetting at the junction of crushed material transfer from jaw crusher to conveyor belt. However, these arrangements are not appropriately designed which resulted in marshy condition at several places within the premises. Such sprinklers overuse water and remain ineffective for crushers apart from reducing the efficiency of vibratory screens. 3. WBW is provided almost all along the boundary except ramp area but the height of finished product heaps was more than the height of WBW. There was varying gaps between the metal sheets of WBW (15 cms-30 cms). At few places, the metal sheets was not observed in WBW frame. The foundation of WBW frame observed weak. There was 2-3 feet gap at the bottom of WBW (Photograph-2, Annexure-1). In such situation, WBW may not solve the purpose of fugitive emission containment. Further, 	

	<p>the product transfer point from conveyor (at nod) was also not equipped with chute to discharge the product.</p> <ol style="list-style-type: none"> 4. Vibratory screens were enclosed inside a shed but the shed was open at conveyor belt entry end and also not having rubber flap (Photograph-3, Annexure-1). 5. All the products are stored openly within the premises. 6. Only one row plantation has been done along the periphery of unit premises. 7. The workers were not observed wearing the personal protective equipment (PPE). 8. Materials were found spilled below the conveyor belts. 9. The consent of the unit permits a domestic water consumption of 0.3 m³/day. However, the actual consumption for sprinklers & misting system is much more. 10. The consent is showing stone chips as product, however the unit is also manufacturing crushed sand. 11. The unit has displayed a flex banner as sign board and the same was supported with bamboo columns (Photograph-4, Annexure-1).
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crushers and vibratory screen) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling and spraying systems should be scientifically designed with full operational control of location wise installed sprinklers/ spraying systems and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed water sprinkling arrangement. ➤ There should be adequate water sprinkling on the raw material before transferring boulders in the raw material hopper. ➤ Proper WBW with strong foundation to sustain wind should be provided all along the boundary. The gap between metal sheets of WBW should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between metal sheets. ➤ Silo for all the product material should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other products should be openly stored and proper mechanical chute should be installed. Height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity to be used in sprinkling and product details.

Annexure-1 (18)



Photograph-1. Sprinklers mounted on conveyor belt.



Photograph-2. A View of wind breaking wall, plantation and weaker frame of WBW.



Photograph-3. Vibratory screen enclosed inside a shed which is open at conveyor belt end.



Photograph-4. A view of flex banner as display board fixed on bamboo column.

REPORT ON VISIT TO STONE CRUSHER UNIT

(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Shree Siddhivinayak Stone Industries Gat No. 157/A, Village Bhavadi, Tal. Havali, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Ganesh Dilip Tambe Mobile: 09765373166
3.	Date of visit	23/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W), Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	CCA was valid up to 28.02.2015.
8.	Consented Capacity	Stone Metal: 750 Brass/Month Stone Dust: 750 Brass/Month Crushed Stone: 750 Brass/Month
	Operating capacity	Reportedly operated at full capacity
9.	Process chart	<p style="text-align: center;"> Primary Crusher ↓ Secondary Crusher ↓ Screen ↓ Dumper feed to VSI Hopper ↓ VSI ↓ Screen through Conveyor ↓ Different Products </p> <p>The unit has Crushers (36 x 48): 01, (42 x 8) : 02, VSI : 01, Screen : 02, Hopper : 03, Conveyor : 11</p>
10.	Product Types (Based on size)	20 mm, 10 mm, crushed stone

11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers are provided at the transfer point. Foggers loop are provided from crusher → screen → secondary crusher → VSI Hopper.
11.2	Wind breaking walls	Provided tin sheets barrier of about 12 feet height in three sides of unit with gap of 7-8 inch. WBW having height adequate as unit the located in the low lying area.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	RCC Concrete road is provided reportedly but not visible due to dust deposited on road. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Movable Sprinkling system provided with house pipes arrangement is provided. Fogger/Sprinkling system along the wind breaking wall is also provided for wetting ground.
11.5	Status of green belt along periphery of the unit	Green belt development observed along the periphery 10 to 15 ft growth observed.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are provided with metallic cover.
11.8	Condition of fugitive emission	Fugitive emission observed from return conveyor line.
11.9	Fogging system at exit point for loaded carrier/trucks	Yes provided.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	Reportedly Monthly power consumption is about 35,000 units
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit.
16.	Water storage capacity at site	Storage tank 10,000 lt capacity.
17.	Water consumption (mode of measurement)	About 10,000 to 15,000 liter per day. No proper records/idea for consumption is available.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Records for dispatch of material are maintained at site in a register. As per record submitted, the unit has dispatched 1176 brass in the month of

		October 2016.
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Suspended particulate matter measured at a distance between 3 to 10 meter from main process equipment on downwind direction. Suspended particulate matter concentration in work zone observed to be 18,550.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> • The unit is located at Longitude: 18°37'05''N & Latitude: 73°59'49'' E • The unit found operational without valid consent. As informed, the unit has applied for the renewal of consent to MPCB. It is informed that unit do not manufactured stone dust though mentioned in the consent. • The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. • The unit has reported approximate area of about 1.0 Acres. • The unit has provided small name board/sign board at entrance for identification of the unit from approach road. • Conveyor belt are provided with metal sheet from the top. Materials were found spread below the conveyor belts. • The unit has provided water sprinklers for stored material & ground wetting. The fogging system provided in the form of loop for wetting stored material. • During visit excess sprinkling/wetting was observed making the ground marshy. • Wind breaking wall provided are inadequate in terms of spacing. The material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • The vibrating screen provided is of dust free type having complete MS housing. The gaps are covered with rubber pads. The screen type is not commonly observed in other visited stone crusher units. As informed, the screen make is "ECOMAN Vibrating screen" having 50 HP attached motor. The vibrating screen is not provided with tin housing. • The source of water is from queries. Proper records for the quantity of water uses are also not available with the unit. • The workers were not observed wearing the personal protective equipment (PPE). • The consent of the unit permits only domestic water consumption. However, the actual consumption for sprinklers & misting system is much more and is not mentioned in the CC&A. • The condition of fugitive emission standard of 600 $\mu\text{g}/\text{m}^3$ is not mentioned in the CC&A. The unit exceeds the fugitive emission norms. • The unit has provided fogging system at the entry and exit point for wetting the material to avoid fugitive emission during travel. 	

	<ul style="list-style-type: none"> • The unit has not provided proper green belt. Few scanty plantation observed along the periphery. • Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should obtained valid consent from MPCB. ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.



Fogger line at Entry and Exit gate and view of unit



Vibrating Screen used by the unit



Excess water sprinkling make marshy approach road

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Vigsons Aggregates Gat No. 224, Wagholi Village Bhavadi Tal. Haveli, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Deepak kumar Vig, Owner, Mobile: 09226940515
3.	Date of visit	25/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W) Prakash Jadhav, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	CCA Valid up to 30/08/2018 however copy of CC&A was not available with the unit.
8.	Consented Capacity Operating capacity	Crushed Stone Metal :250 Brass/Month Crushed sand: 250 Brass/Month Reportedly operated at average capacity of 20 to 25 Brass/day
9.	Process chart	<p style="text-align: center;"> Primary Crusher ↓ Secondary Crusher ↓ Screen ↓ Dumper feed to VSI Hopper ↓ VSI ↓ Screen through Conveyor ↓ Different Products </p> <p>The unit has Crushers (36 x 20): 01, (24 x 12) : 02, VSI: 01, Screen: 02, Hopper: 02, conveyer belt: 13</p>
10.	Product Types (Based on size)	20 mm, 10mm, crushed sand

11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers are provided at transfer point. Movable Sprinklers are provided in addition fogging system from main hopper to screen house is provided.
11.2	Wind breaking walls	Provided tin sheets barrier of about 10 feet height from North to East, East to South and some portion from South to West. The unit shares common boundary with M/s Mauli Stone Crusher. Height of wind breaking wall is less than highest conveyor material transfer point.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Asphalt road was provided from entry to about 50 m length but not visible due to dust deposited on road. No mechanism for cleaning and sweeping of road was observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system and loop of foggers are provided for ground wetting.
11.5	Status of green belt along periphery of the unit	Two tier plantations are provided in one of the direction, which growth observed to 10 to 12 ft. However, very scanty plantation observed on the other sides.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at discharge point of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts provided cover with metallic sheets but condition was not adequate, observed partially covered.
11.8	Condition of fugitive emission	During startup and from conveyor belt return line.
11.9	Fogging system at exit point for loaded carrier/trucks	Water sprinkler/Fogging systems are provided at the entry/exit point of the unit.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	30986 units in month of October 2016
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit
16.	Water storage capacity at site	Two tank of 1000 LT and of 500 Lt

		capacity
17.	Water consumption (mode of measurement)	Nearly 5000 liter per day. No proper records for consumption of water is maintained.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Proper records for production were available at site. Unit has produced 272 brass of crushed sand, 93 brass of 20 mm metal stone and 59 brass of 10 mm stone metal during October 2016.
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Suspended particulate matter measured at a distance between 3 to 10 meter from main process equipment on down wind direction. Suspended particulate matter concentration in work zone observed to be 1636.0 µg/m³ against notified limit of 600 µg/m ³ .
20.	Observations: <ul style="list-style-type: none"> • The unit is located at Longitude: 18°36'20"N & Latitude: 73°59'04" E • The unit has reported approximate area of about 1 Acres. • The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. • The unit has provided small name board/sign board at entrance for identification of the unit from approach road. However, size of name board need to be bigger for proper identification. • Conveyor belt is provided with metallic sheet are partially covered and not found adequate. • The unit has provided water sprinklers for ground wetting. The fogging loop (from crushed sand transfer point to 10 mm to 20 mm to VSI) is provided for wetting of stored material. • During visit excess sprinkling/wetting was observed making the ground marshy. • Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • The vibrating screen was provided with tin housing however the condition of housing was not adequate to arrest the dust emission. • The source of water is from queries through pump. Proper records for the quantity of water are not maintained with the unit. • The workers were not observed wearing the personal protective equipment (PPE). • Materials were found spread below the conveyor belts and screen house. These fine materials are also prominent for fugitive emission. 	

	<ul style="list-style-type: none"> • The consent of the unit permits only domestic water consumption. However, the actual consumption for sprinklers & misting system is much more and is not mentioned in the CC&A. • The condition of fugitive emission standard of 600 µg/m³ is not mentioned in the CC&A. • The unit has provided fogging system at the entry and exit point for wetting the material to avoid fugitive emission during travel. • The unit has provided green belt along one side and small scanty plantation observed on other sides. Proper green belt need to develop and maintained by unit. • Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.

	
<p>Condition of screen housing and Materials spread below the conveyor belts and screen house</p>	<p>Main entrance with name board.</p>
	
<p>Condition of cover of conveyor belt</p>	<p>Green belt on one of the side</p>

REPORT ON VISIT TO STONE CRUSHER UNITSAS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Shreyas Stone Crusher, Gat No. 2494, A/P-Wagholi, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Nitin Jayram Bhaskar. Mobile: 9823237895.
3)	Date of Visit	25.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	1.Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara. 2.Shri Manish S. Holkar, SRO , Head Quarter Mumbai. 3.Shri Utkarsh Shingare, FO (PC), MPCB Regional Office, Pune.
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	BO/JD(APC)/UAN No. 10031-16/R/CC dt Nil valid upto 30.06.2019.
8)	Consented Capacity	Stone metal-300 Brass/ Month.
	Operating Capacity	15-20 brass/ day different size of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper → Jaw Crusher → Conveyor belt → Vibratory screen → greater than 20 mm to Jaw crusher hopper and less than 20mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20 mm and 10 mm pebbles, 8 mm chips and crushed Sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers and spraying nozzles are fixed on top of conveyor belt at material discharge end/ product free fall ends and peripheral to all the equipment (Photographs-1, Annexure-1). Flexible pies are also used for wetting of ground.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided all along the periphery except the ramp side, north east corner and south east corner (Photographs-2, Annexure-1).
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to grit and finished goods spread, it is difficult to state that the internal road is blacktopped or not. As informed that cleaning practice is manual sweeping.
11.4	Arrangement for water spraying and wetting of ground in the premises	Yes. Water sprinklers are provided within the premises.
11.5	Status of green belt along periphery of unit	Claimed 150-160 saplings planted which is observed along the boundary at certain places i.e. along WBW and along ramp (Photograph-3, Annexure-1).

11.6	Water sprinkling arrangement at crushing system	Yes. Inlet of jaw crusher was having water jet arrangement using domestic shower (Photograph-4, Annexure-1). Hopper of Jaw crusher was having manual water sprinkling using flexible pipe.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts was mostly covered (Photograph-1, Annexure-1).
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Not provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In September 2016, 2602 units of electricity is consumed. However the electricity consumption per unit of product cannot be ascertained as the details of products was not available.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs.
15)	Source of water	Purchase from outside.
16)	Water storage capacity at site	9.0 KL in metal tank and 0.5 KL in PVC tank.
17)	Water Consumption (mode of measurement)	5-6 KL/day. Roughly based on tanker trips.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Records were available for material dispatch.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured near jaw crusher which are 5-6 m from the monitoring equipment. The PM value was observed 15740 $\mu\text{g}/\text{m}^3$ which is exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations: <ul style="list-style-type: none"> Due to large quantity of water sprinkling, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate matter emission during operation of jaw crushers is observed. The unit has installed several sprinklers and few misting systems using PVC piping network and domestic shower water jetting at the junction of crushed material transfer from jaw crusher to conveyor belt. However, these arrangements are not appropriately designed and established and resulted in marshy condition at several places within the premises. Such sprinklers and spraying systems overuse the water and remain ineffective for crushers apart from reducing the efficiency of vibratory screens. WBW is provided almost all along the boundary except south east and north east 	

	<p>corner. Half of ramp approach road is also provided with WBW (Good practice). The height of finished product free-fall (discharge) was more than the height of WBW. Metal drum is used as chute for crushed sand conveyer belt (Photograph-5, Annexure-1-A good practice). There was varying gaps between the sheets of WBW (15 cms-30 cms). The foundation of WBW frame observed weak. There was 2-3 feet gap at the bottom of WBW (Photograph-2, Annexure-1). In such situation, WBW may not solve the purpose of fugitive emission containment. Further, the product transfer point from other product (except crush sand) conveyor belts (at nod) are not equipped with any chute to discharge the product.</p> <ul style="list-style-type: none"> • Vibratory screens were enclosed inside a shed but the shed was open at conveyor belt end (Photograph-6, Annexure-1). • All the products are stored openly within the premises. • Only one row plantation has been carried out along the periphery of unit premises. • The workers were not observed wearing the personal protective equipment (PPE). • Materials were found spread below the conveyor belts. • The consent of the unit permits a domestic water consumption of 0.5 m³/day and industrial cooling/ boiler purpose as 1.0 m³/day totalling to 1.5 m³/day. However, the actual consumption for sprinklers & misting system is much more. • The unit has displayed a flex banner as sign board and the same was hanged between two metal pipes.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crushers and vibratory screen) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling/ spraying systems should be scientifically designed with full operational control of location wise installed sprinklers and spraying systems and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed water sprinkling arrangement. ➤ There should be adequate water sprinkling on the raw material before transferring boulders in the raw material hopper. ➤ Proper WBW with strong foundation to sustain wind should be provided all along the boundary. The gaps between metal sheets of WBW should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ Silo for all the product material should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials should be openly stored and proper mechanical chute should be installed. Height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt (with suitable plant species) should be developed along the

	<p>periphery of premises and along the ramp.</p> <ul style="list-style-type: none"> ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for appropriate water quantity to be used for sprinkling instead of cooling/ boiling.
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Photograph-1. Sprinklers mounted on conveyor belts and peripheral to equipment and conveyor belt cover.



Photograph-2. A View of wind breaking wall, one row plantation and weaker frame of WBW.



Photograph-3. One row new plantation along WBW.



Photograph-4. A domestic shower as water sprinkler at outlet of jaw crusher.



Photograph-5. Metal drums used as chute at crush sand conveyor belt nod (A good practice).



Photograph-6. Vibratory Screen open from conveyor belt entry side.

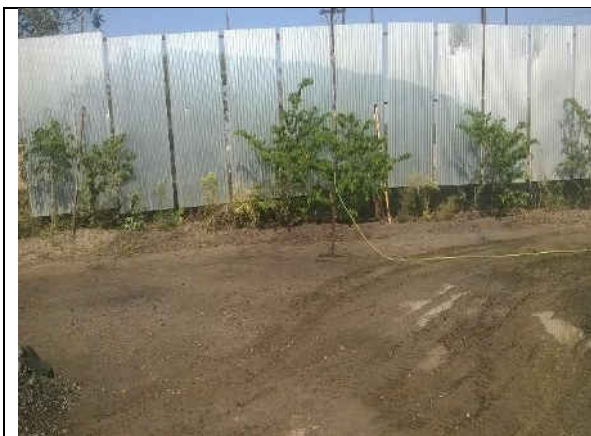
REPORT ON VISIT TO STONE CRUSHER UNITSAS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Vaishnavi Stone Crusher, Gat No. 112, Bhavdi Road, A/P-Wagholi, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Rohitdas Banaji Gore. Mobile: 8796934444.
3)	Date of Visit	23.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara. Shri Manish S. Holkar, SRO , Head Quarter Mumbai. Shri Utkarsh Shingare , FO(PC), MPCB Regional Office, Pune.
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	BO/JD(APC)/EIC No. PM-28920-16/R/CC-9314 dt. 21.07.2016 valid upto 30.06.2019.
8)	Consented Capacity Operating Capacity	Stone metal -300 Brass/ Month . About 20 brass/ day different size of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper→ Jaw Crushers (2 Nos.) → Conveyor belt→ Vibratory Screen No.1→Greater than 20 mm to raw material hopper and less than 20 mm to VSI hopper → VSI machine → Conveyor belts→ Vibratory Screen No.2 → conveyor belts→ 20 mm size as a product and greater than 6 mm size to VSI hopper and less than 6 mm size as crush sand using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20 mm pebbles and crushed sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers and spraying systems are fixed at the conveyor belts nod (product free fall ends) and along the peripheral areas of all equipment. These sprinklers cover the openly stored finished products for wetting.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided all along except the ramp side.
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to grit spread, it is difficult to state that the internal road is blacktopped or not. Unit representative shown photographs of internal black topped road made earlier.
11.4	Arrangement for water spraying and wetting of ground in the premises	Yes. Water sprinklers are provided within the premises. Movable temporary water sprinklers are also provided (Photographs-1, Annexure-1).

11.5	Status of green belt along periphery of unit	Claimed 175 saplings planted. 4-5 year old and new plantation observed inside the premises (Photograph-2, Annexure-1). Few saplings also planted along ramp.
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet of jaw crusher was having water jet arrangement using domestic shower. Hopper of primary jaw crusher was having water sprinkling using fixed sprinkler and flexible pipe.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are mostly covered but 2-3 feet junction near nod of conveyor belts are uncovered (Photograph-3, Annexure-1).
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Yes, provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In October 2016, 13348 units of electricity is consumed. However the electricity consumption per unit of product cannot be ascertained as the details of products was not available.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs.
15)	Source of water	Purchase from outside.
16)	Water storage capacity at site	5 KL MS tank kept on ramp.
17)	Water Consumption (mode of measurement)	5 KL/day (as informed). Based on Tank filling requirement.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Not available.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured near Jaw crusher (at 7-8 m distance). The PM value was observed 7358 $\mu\text{g}/\text{m}^3$ which is far exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment. During the monitoring, plant was operated at almost full capacity continuously.
20)	Observations: <ul style="list-style-type: none"> Due to large quantity of water sprinkling and spraying, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate matter emission during operation of VSI machine and jaw crushers is observed. The unit has installed several sprinklers and misting systems using PVC piping network. However, these arrangements are not appropriately designed which resulted in marshy condition at several places within the premises as well as outside 	

	<p>road. Such sprinkling arrangement overuse the water and remain ineffective for crushers and VSI machine apart from reducing the efficiency of vibratory screens. Jaw crusher return conveyor (from vibratory screen) and screen to VSI hopper conveyor belts donot have sprinklers.</p> <ul style="list-style-type: none"> • WBW is provided almost all along the boundary except ramp area but the height of finished product heap was more than the height of WBW. There was gaps between the metal sheets of WBW. In such situation, WBW may not solve the purpose of fugitive emission containment. Further, the product transfer point from conveyor (at nod) was also not equipped with chute to discharge the product. • Vibratory screens are enclosed inside a shed (Photograph-3, Annexure-1). Dusts and spillages observed inside the screen shed. The screen shed was not enclosed properly. • All the products are stored openly within the premises. • Plantation has been carried out along the periphery of unit premises and along the ramp (Photograph-2, Annexure-1). However two tier avenue greenbelt is not developed. • The workers were not observed wearing the personal protective equipment (PPE). • Materials were found spilled below the conveyor belts and at other place (Photograph-4, Annexure-1). • The consent of the unit permits a domestic water consumption of 0.36 m³/day. However, the actual consumption for sprinklers & misting system is much more. • The unit has displayed a flex banner as sign board.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling/ spraying system should be scientifically designed based on nature of emissions with full operational control of location wise installed sprinklers/ spraying systems and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed water sprinkling arrangement. The other hoppers having conveyor belt based loading should be properly enclosed from all sides with an acrylic window (for inspection/ viewing) and door arrangement (for maintenance). ➤ There should be adequate water sprinkling on the raw material before transferring boulders in the hopper. ➤ The gap between WBW sheets should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided with zigzag metal sheets to cover the gaps between sheets as full grown plant leaves gap for fugitive emission escape. The foundation and column for WBW should be strengthened. ➤ Silo for all the product material should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials should be openly stored and proper

	<p>mechanical chute should be installed. Height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper water sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ Green belt (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ Consent should be amended for water quantity to be used in sprinkling.
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Photograph-1. Movable temporary sprinkler for ground wetting. Gaps between WBW metal sheets and additional support for WBW column.



Photograph-2. Plantation along WBW.



Photograph-3. A view of conveyor belt cover and improperly fabricated vibratory screen shed.



Photograph-4. Spilled material below conveyor belt and water logging due to excess sprinkling of water.

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Yashraj Stone Metal Gat. No. 213, A/p. Bhavadi Tal-Haveli, Dist. Pune Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Vinod Devram Tambe - Partner; Ph: 9764442318
3)	Date of Visit	26 th November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/UAN No. 1296-16/R/CC-0072, dated: 26.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	3. Stone Metal – 1000 Brass/ Month 4. Stone Dust – 50 Brass/ Month The installed capacity is 50 Brass/ day and the reportedly, the unit is operating at a capacity of 25 to 30 Brass/ day.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is placed below:

	<p>Rocks/ Boulders from their Quarry brought through trucks</p> <pre> graph TD Input[Rocks/ Boulders from their Quarry brought through trucks] --> Hopper1[Hopper] Hopper1 --> Crushers[Crushers (2 Nos.) (Total capacity: 50 Brass/ day)] Crushers --> Conveyor1[Conveyor] Conveyor1 --> Screen1[Screen-1] Screen1 -- Oversized materials --> Conveyor2[Conveyor] Conveyor2 --> Hopper1 Screen1 --> Conveyor3[Conveyor] Conveyor3 --> Hopper2[Hopper] Hopper2 --> Conveyor4[Conveyor] Conveyor4 --> VSI[VSI] VSI --> Conveyor5[Conveyor] Conveyor5 --> Screen2[Screen-2] Screen2 -- Oversized materials --> Conveyor6[Conveyor] Conveyor6 --> Conveyor3 Screen2 --> Conveyor7[Conveyor] Screen2 --> Conveyor8[Conveyor] Conveyor7 --> CrushedSand[Crushed Sand] Conveyor8 --> 20mmStone[20mm stone] </pre>	
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20mm Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for	The unit has provided Sprinkling system on top of the conveyor belts (unloading point/

	stored materials	<p>product free fall ends) which sprinkles water on the material falling from the conveyors and on heaped materials.</p> <p>The unit is also having movable sprinklers which are being used to sprinkle on the stored heaps also.</p> <p>However, the sprinkling arrangements were found inadequate as the entire heaps were not covered for sprinkling and dust emission was observed from the stored heaps.</p>
11.2	Wind breaking wall	<p>The crushing unit is located in low lying area surrounded by natural rock mound of more than 60 feet height on all the sides.</p> <p>The natural rock mound acts as natural wind breaking wall.</p>
11.3	Internal Pucca road & road cleaning mechanism/arrangement	<p>The unit has bitumen road of about 900ft length from the main entrance to the main hopper.</p> <p>The road is slightly covered with dust & sand deposition.</p> <p>The unit is having movable sprinklers which are used for sprinkling water on internal roads.</p>
11.4	Arrangement for water spraying and wetting of ground in the premises	<p>The unit have provided fogging system (foggers fixed on PVC pipeline network running overhead) in the crushing area along the conveyor system which also provide wetting of ground.</p> <p>The unit has provided two fixed sprinklers in the crushing area.</p> <p>The movable sprinklers are also used for sprinkling water on the ground.</p>
11.5	Status of green belt along periphery of unit	<p>The unit has planted about 250 tree saplings; trees of varying height ranging from 2-5 m height are present along the periphery of the unit.</p>
11.6	Water sprinkling arrangement at crushing system	<p>The fogging system provided by the unit in the crushing area along the conveyor system does</p>

		<p>the wetting of crushing system.</p> <p>However, the provided sprinkling system was found inadequate. Dust emission was seen from the crusher.</p>
11.7	Conveyor belt covered or not (if yes, Condition)	<p>The conveyors belts are covered with tin sheet coverings.</p> <p>The provided covers are also installed leaving more gaps between the belts and the covers which give chances of fine sand spillages & dust emission from the moving conveyor belts.</p> <p>During monitoring, spillage of fine sand was observed from the moving conveyor belts.</p>
11.8	Condition of fugitive emission	<p>Emission was observed from the crusher.</p> <p>Spillage of fine sand/ dust was also observed from the conveyor belts.</p>
11.9	Fogging system at exit point for loaded carrier/ trucks	<p>The unit has provided fogging system at the main entry through which truck movement is being carried out.</p>
12)	Any chimney/ stack with monitoring facility	<p>Not available</p>
13)	Average Power consumption per ton of crushing	<p>The industry provided their electricity bill for the month of October 2016 to the visiting team. The team reviewed the electricity bill and observed that the industry has consumed 16746 units of electricity during the month of October 2016 and consumed 11370 units of electricity during the month of September 2016.</p> <p>Reportedly, the unit is procuring about 750 Brasses of material per month (ie., 30 Brass/ day x 25 days operation per month)</p> <p>As per the information provided by the unit, about 15-16 units are consumed per brass of material produced.</p> <p>The unit is maintaining the data of materials dispatched on daily basis. However, the actual production data records are not being maintained by the unit.</p>
14)	Alternate arrangement for power	<p>No alternate power supply.</p>

15)	Source of water	The unit is using the rain water collected in their quarry. The water from the quarry is pumped and conveyed to storage tanks for sprinkling.
16)	Water storage capacity at site	The unit has provided two HDPE Tanks (sintex tanks) of total 5000 ltrs storage capacity. (One tank of 3000 ltrs and another tank of 2000 ltrs)
17)	Water Consumption (mode of measurement)	Reportedly, about 10000 liters of water is consumed per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	<p>The unit is maintaining records like consent issued by MPCB & other communication from MPCB, log books, delivery challan book, etc.</p> <p>The copy of the consent issued by MPCB was made available to the visiting team.</p> <p>The unit is maintaining separate log books for material (raw material) brought from quarry and material dispatched. The log books & records were made available to the visiting team.</p> <p>The log book for the material brought from their quarry contains the details on daily basis. The log book for material dispatch contains the daily record of dispatch including the product size, type of material, quantity in brass, name of the party, vehicle no, delivery challan number.</p>
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	<p>PM was monitored at the location N18°36'32" E073°59'34" in the plant premises at a distance of about 5m from the main crusher.</p> <p>The monitoring result reveals that the concentration of PM is 8044 µg/m³ which is exceeding the norms of 600 µg/ m³ at a distance of 3 to 10 meter from the main process equipment.</p> <p>During monitoring emission was observed from the main crusher, emission was also observed from the material stored in heaps and spillage of fine sand from the conveyor</p>

		belts was also observed during the visit, which may be the reasons for higher values.
20)	<p>Observations:</p> <ul style="list-style-type: none"> • During the visit/ monitoring, the main crusher and the VSI (Vertical Shaft Impact) crusher were operational. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed fogger systems overhead around the conveyor system using PVC piping network and sprinkling arrangement is also installed near the crusher area. • However, these arrangements were found inadequate; few pockets on ground are not covered by the existing sprinklers. The materials stored in heaps were also not wetted completely due to inadequate sprinkling arrangement. Emission was observed from the stored material heaps. • The conveyor belts are not covered properly. The covers are fixed leaving more gaps between the belts and the covers which results in carrying away of dust & fine sand by wind. During visit, fine dust/ sand was found spilling from the conveyor belts on the ground. • The unit has installed two screening system, One screening system for screening the materials from the main crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside a common shed covered with tin sheets. • The unit has provided a name display on a flex banner at the main entrance of the plant. • Photographs taken in the plant during the visit are given in Annexure. 	
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (main hopper & crusher) with proper door arrangements. ➤ All the conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The gap between the conveyor cover and the belt should be either packed with tarpaulin or reduce the gap between the cover & belt. ➤ The sprinkling system should be scientifically installed with location wise full operational control and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring rocks/ boulders in the hopper and increase the sprinklings in the main crusher. The transfer point of material from the crusher to the conveyor should be provided with sprinkling arrangement. ➤ The crush sand storage should be done in silo and proper mechanical chute should be installed for material falling from the conveyor belt. 	

	<p>Increase the sprinkling on the material transfer ponts.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPEs. ➤ Increase the green belt in the periphery of premises. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ Consent should be amended for the inclusion of water quantity to be used in sprinkling.
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Photograph: The crushing area surrounded by natural mound



Photograph: fogger system overhead



Photograph: Fogger system on entry to crushing area



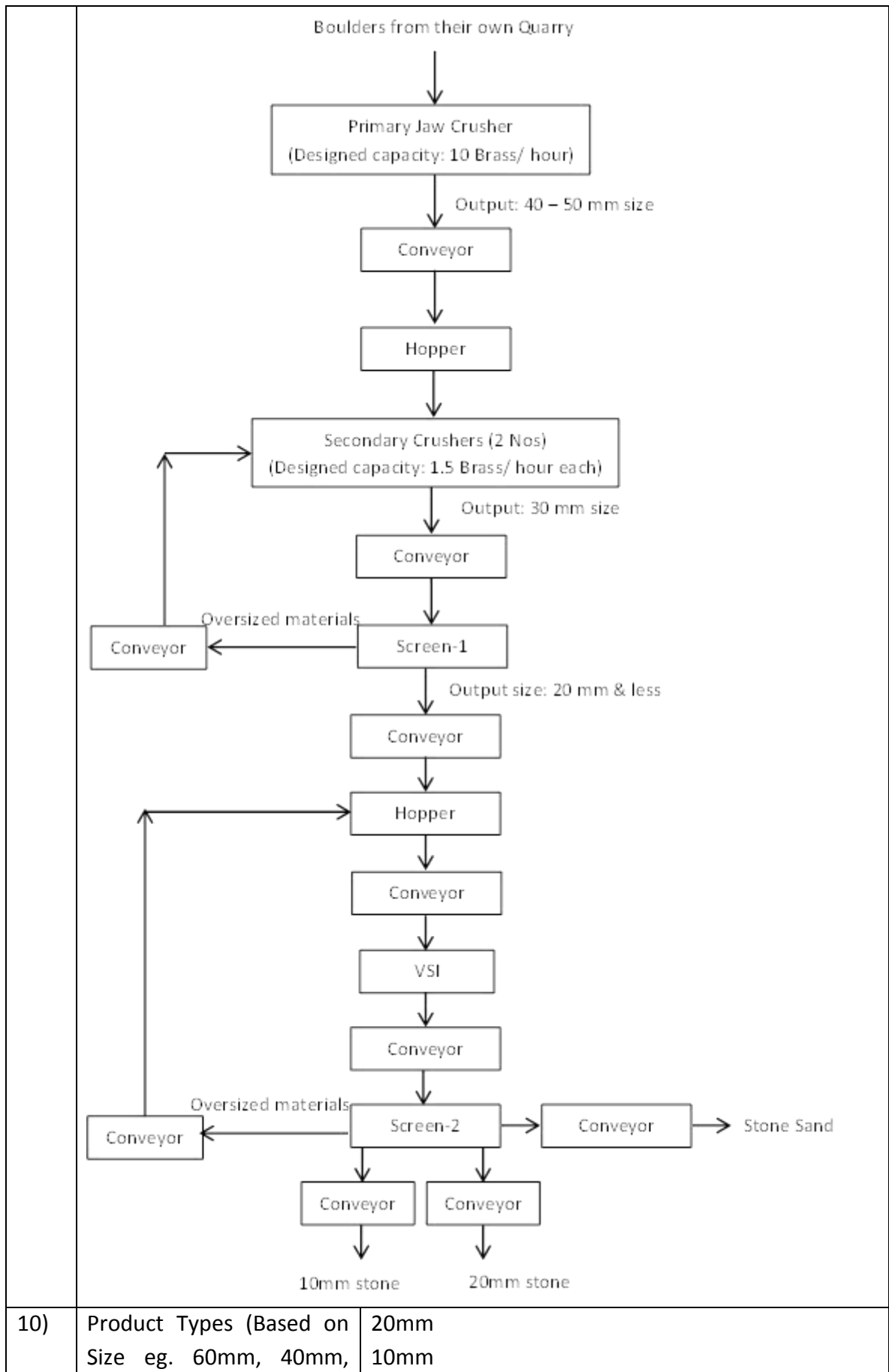
Photograph: condition of Conveyor belts



Photograph: Monitoring near crusher

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Shree Swami Samarth Stone Crusher Gat. No. 203, A/p. Bhavadi Tal-Haveli Dist. Pune, Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Vikas Undre – Proprietor; Ph: 9527429090/ 9765290900 Mr. Vijay Japtap – Supervisor; Ph: 9765550154
3)	Date of Visit	23 rd November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN-28903-16/R/CC-8680, dated: 01.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	5. Stone sand – 90 Brass/ Month 6. Stone Metal – 240 Brass/ Month Reportedly, the unit is presently operating at capacity to produce 90 Brass/ month of Stone Sand and about 75 Brass/month of Stone metal.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below:



	20mm, etc.)	Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	The unit has provided Sprinkling system on top of the conveyor belts (unloading point/ product free fall ends) and 3 movable rain guns for sprinkling/ spraying water on the heaps of stored materials.
11.2	Wind breaking wall	Provided tin sheets barrier of about 12 feet height along the periphery of the stone crushing area which acts as wind breaking wall. Height of wind breaking wall is less than highest conveyor material transfer point. The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	The unit has provided Bitumen road from the main entrance to the hopper of the main crusher. The provided 3 movable rain guns cover the spraying of water on the surface of internal roads also. The unit has provided sprinklers which are fixed on top of the wind breaking sheets around the boundary (periphery) which sprinkles water on the internal road along the boundary.
11.4	Arrangement for water spraying and wetting of ground in the premises	The Sprinkling system provided on top of the conveyor belts and the 3 movable rain guns and the sprinklers fixed on the wind breaking wall (tin sheets) caters the sprinkling/ spraying arrangements for wetting the ground in the premises.
11.5	Status of green belt along periphery of unit	Reportedly, around 300 tree saplings have been planted by the unit inside the area around the periphery. Young trees of about 3-4 m height are present at the east side of the plant. Grown-up Neem trees of around 5m height are found at the inside periphery at western side.

		Scanty greenery with young trees of about 1 m height scattered at the northern side boundary.
11.6	Water sprinkling arrangement at crushing system	The unit is pouring water through flexible hose pipe on the stones in the hopper of main jaw crusher during the visit. Water is sprayed through PVC pipeline on the material coming out of the jaw crusher to the conveyor.
11.7	Conveyor belt covered or not (if yes, Condition)	The conveyors belts are covered with tin sheets. The conveyor from the hopper to secondary crusher are covered with tin sheets which are installed with a gap of about 7-10 inch above the conveyor belts and other conveyor belts are provided with tin sheets covering with gap of about 4-5 inch from the conveyor belts.
11.8	Condition of fugitive emission	Not visible during the visit due to continuous sprinkling and wetting of grounds. Slight emission was observed from the main jaw crushers
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry through which truck movement is being carried out.
12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	The unit provided the electricity bill for the month of October 2016, which reveals that the power consumption for the month of October was 28000 units and paid Rs.187880/- towards the electricity charges (@Rs. 6.71 per unit). As per the record (dispatch log book) provided by the unit, the unit has dispatched 163 Brasses of material during the month of October 2016 and dispatched 86 Brass of material during the month of November (i.e., from 01.11.2016 up to 21.11.2016). Only the product dispatch details are being maintained by the unit and the actual monthly

		production data are not being maintained by the unit.
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is using the rain water collected in their old quarry which is located adjacent to the crushing plant. The water from the quarry is pumped and brought to the crushing area through pipeline.
16)	Water storage capacity at site	The unit has provided a metallic cylindrical tank (old oil tanker lorry) of 12000 ltr capacity at the site for water storage.
17)	Water Consumption (mode of measurement)	Reportedly, the tanks are filled four times in a day. Which means about 48000 Ltrs of water is consumed per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	The unit is maintaining only the records of product dispatched. The electricity bill for the month of October 2016 was only readily available with the unit.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	<p>PM was monitored at the location N18°36'36.50" E073°59'51" in the plant premises at a distance of about 5m from the main crusher & about 10m from the secondary crushers.</p> <p>The monitoring result reveals that the concentration of PM is 1121.0 µg/m³ which is exceeding the norms of 600 µg/ m³ at a distance of 3 to 10 meter from the main process equipment. Dust emission was observed from the main jaw crusher during the monitoring period</p>
20)	<p>Observations:</p> <ul style="list-style-type: none"> As informed the unit has a total 4.29 acres of land out of which the unit has set up crushing plant in an area of about 2.25 acres which is meant for crushing and storing of materials and the entire crushing plant area has been provided with the tin sheets barriers (wind breaking wall) along the periphery. The remaining area is the quarry from where the rocks are being brought to the crushing plant. During the visit/ monitoring, only one secondary crusher (out of 02 secondary crushers) was operational. The bearing in one of the secondary crusher has encountered some problem since last two days and the same was removed and sent for servicing and will take about 4-5 	

	<p>days for rectifying the problem in the bearing and reinstalling in the crusher. The main jaw crusher was operated only for few minutes during the monitoring period. It was informed that the crushing capacity of the main crusher is very high and the same shall be operated only few minutes in an hour till the hopper of the secondary crusher is filled.</p> <ul style="list-style-type: none"> • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed several sprinklers and few misting systems using PVC piping network and domestic shower is installed at the junction of crushed material transfer from jaw crusher to conveyor belt. However, these arrangements are not appropriately designed and established and resulted in marshy condition at several places within the premises. Such sprinklers overuse the water and remain ineffective for crushers apart from reducing the efficiency of vibratory screens. • Due to large quantity of water sprinkling, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate emission during operation of jaw crushers is observed. • Wind breaking wall (tin sheets) is provided all along the boundary but the heights of the heaps of the materials (product) are higher than the height of wind breaking wall. The tin sheets provided as the wind breaking wall are installed leaving 5-10cms gap between each sheets. • The unit has installed two screening system, One screening system for screening the materials from secondary crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside a common shed covered with tin sheets. • The unit has provided a proper name board display at the main entrance of the crushing plant. • The green belt is also scanty on certain sides. • Photographs taken in the plant during the visit are given in Annexure.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (Jaw crushers) with proper door arrangements. ➤ All the conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring in the hopper. ➤ The gap between sheets should be either packed with tarpaulin till the time of full growth of atleast two rows of plantation along the boundary

	<p>or provide zigzag metal sheets to cover the gaps between sheets.</p> <ul style="list-style-type: none"> ➤ The crush sand storage should be done in silo and other materials shall be openly stored and proper sprinkling arrangement to be provided all around the material heap. ➤ Chute should be installed for the material falling from the conveyor belts. ➤ The height of finished goods stored in heaps should be less than the height of wind breaking wall. ➤ Workers should be educated to use PPE during working near crushers. ➤ Increase the green belt (with suitable plant species) along the periphery of premises and along the ramp. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the production should be maintained properly at site. ➤ Consent should be amended for the inclusion of water quantity to be used in sprinkling.
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 <p>Photograph: Conveyor belts covered by tin sheets with gap between the belt and cover</p>	 <p>Photograph: Sprinkler on top of the conveyor and excess flooding near the stored material</p>
 <p>Photograph: Foggers at main entrance and name board</p>	 <p>Photograph: Internal road, tin sheet barriers with gap and condition of material heaps</p>
 <p>Photograph: The shed housing vibrating screens covered with tin sheets</p>	 <p>Photograph: Excess sprinkling on the ground near Vertical Shaft Impactor (VSI) area</p>

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Adesh Stone Crusher Gat. No. 232, A/p. Bhavadi Tal-Haveli, Dist. Pune Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Adesh Darekar - Manager; Ph: 9922022799
3)	Date of Visit	26 th November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II Mr. Bagwan Maknikar, Field Officer, MPCB, SRO, Pune-II
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN-28899-16/R/CC-8678, dated: 01.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	7. Dust Free Sand – 40 Brass/ Day 8. Ready plast material – 5 Brass/ Day 9. Fly ash Bricks – 5 Brass/ Day The unit is presently operating at 40-45 brass/ day capacity (about 20 Brass/ day of crush sand, 10 Brass/day of 20mm stone & 10 Brass/ day of 10mm stone). The unit has obtained for the production of fly ash bricks but it was informed that the unit is not presently involved in the manufacturing of fly ash bricks and brick manufacturing activity was not observed by the visiting team.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below:

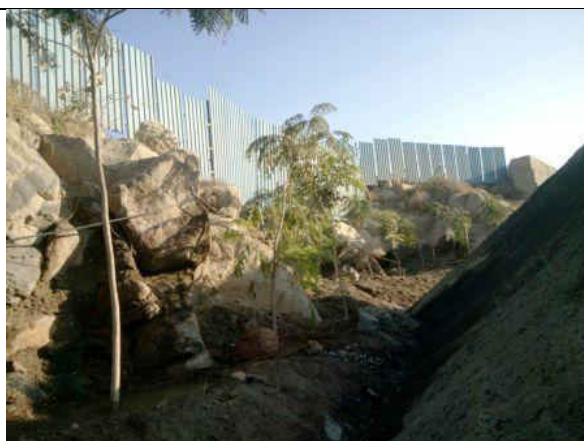
	<p style="text-align: center;">Rocks/ Boulders purchased from Quarries</p> <pre> graph TD Input[Rocks/ Boulders purchased from Quarries] --> Hopper1[Hopper] Hopper1 --> Crushers[Crushers (2 Nos.)] Crushers --> Conveyor1[Conveyor] Conveyor1 --> Screen1[Screen-1] Screen1 -- Oversized materials --> Conveyor2[Conveyor] Conveyor2 --> Hopper2[Hopper] Hopper2 --> Conveyor3[Conveyor] Conveyor3 --> VSI[VSI] VSI --> Conveyor4[Conveyor] Conveyor4 --> Screen2[Screen-2] Screen2 -- Oversized materials --> Conveyor5[Conveyor] Conveyor5 --> Conveyor3 Screen2 --> Conveyor6[Conveyor] Screen2 --> Conveyor7[Conveyor] Conveyor6 --> CrushedSand[Crushed Sand] Conveyor7 --> 20mmStone[20mm stone] </pre>	
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20mm 10mm Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements	The unit has provided Sprinkling system on top of the conveyor belts (unloading point/ product free

	for stored materials	fall ends) which sprinkles water on the material falling from the conveyors and on heaped materials. The unit is also having movable sprinklers which are being used to sprinkle on the stored heaps also. Also the unit is sprinkling water through flexible hose pipe manually on the stored material heaps. During visit, the unit has done excess sprinkling on the heaps and on the ground.
11.2	Wind breaking wall	The crushing unit is located in area where one side is covered by natural rock mound of about 20 feet height and remaining sides are provided tin sheet barriers (which acts as wind breaking wall) of about 12 feet height along the boundary of the stone crushing area. The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	The unit has bitumen road from the main entrance to inside the premises of about 150ft length. The road is slightly covered with dust & sand deposition. The unit is having movable sprinklers which are used for sprinkling water on internal roads.
11.4	Arrangement for water spraying and wetting of ground in the premises	The unit have provided fogging system (foggers fixed on PVC pipeline network running overhead) in the crushing area along the conveyor system which also provide wetting of ground. The unit has provided two movable sprinklers in the premises. The movable sprinklers are also used for sprinkling water on the ground. Also the unit is sprinkling water through flexible hose pipe manually on the ground.
11.5	Status of green belt along periphery of unit	Trees of varying heights ranging from 10 ft to 20 ft height are present along the periphery of the unit. One side of the boundary are provided with adequate greenery and back side boundary are having scanty plantation.
11.6	Water sprinkling arrangement at crushing system	The unit has provided sprinklers near the crushing area and the unit has also provided sprinkling system on top of the conveyor belts which sprinkles water to the crushing system. Very slight emission was observed from the main

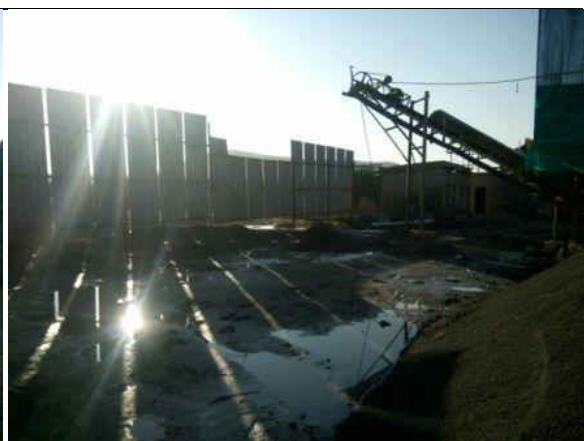
		crusher.
11.7	Conveyor belt covered or not (if yes, Condition)	<p>The conveyors belts are covered with tin sheet coverings.</p> <p>The provided covers are also installed leaving more gaps between the belts and the covers which give chances of fine sand spillages & dust emission from the moving conveyor belts. If few place, the covers were in damages condition.</p> <p>During monitoring, spillage of fine sand was observed from the moving conveyor belts.</p>
11.8	Condition of fugitive emission	<p>Slight emission was observed from the crusher. Spillage of fine sand/ dust was also observed from the conveyor belts.</p> <p>No emission was observed from the material stored in the heaps or material transfer points or from the screening section.</p>
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry through which truck movement is being carried out.
12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	<p>The industry provided their electricity bill for the month of October 2016 to the visiting team. The team reviewed the electricity bill and observed that the industry has consumed 36912 units of electricity during the month of October 2016 and consumed 35244 units of electricity during the month of September 2016 and consumed 33000 units of electricity during the month of August 2016.</p> <p>The production data, dispatch details of the product were not made available to the visiting team.</p>
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is using the rain water collected in a quarry located adjacent to their crushing unit. The water from the quarry is pumped and conveyed to storage tanks in the premises.
16)	Water storage capacity at site	The unit has provided a storage tank of 10000liters capacity.
17)	Water Consumption (mode of measurement)	Reportedly, about 25000 liters of water is consumed per day.

18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	<p>Only the consent copy issued by MPCB, inwards log book and monthly electricity bill was available at site.</p> <p>The details like material processes, material dispatched or other details were not made available to the visiting team.</p> <p>The copy of the consent issued by MPCB was made available to the visiting team.</p> <p>The unit provided a log book to the visiting team which contains the details of material (raw material) received by the unit and number of trucks (product) dispatched by the unit. However, only number of trucks received and number of trucks dispatched are being maintained in the provided log book and the actual quantity are not being maintained in the provided log book.</p> <p>It was informed that the log book containing the quantity of materials dispatched is being maintained at their office at Wagholi.</p>
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	<p>PM was monitored at the location N18°36'25" E073°58'53" in the plant premises at a distance of about 5m from the main crusher.</p> <p>The monitoring result reveals that the concentration of PM is 1238 µg/m³ which is exceeding the norms of 600 µg/ m³ at a distance of 3 to 10 meter from the main process equipment.</p> <p>During monitoring slight emission was observed from the crusher, spillage of fine sand form the conveyor belts was also observed during the visit, which may be the reasons for higher values.</p>
20)	<p>Observations:</p> <ul style="list-style-type: none"> • During the visit/ monitoring, the main crusher and the VSI (Vertical Shaft Impact) crusher were operational. • As informed the unit has setup the crushing plant in area of 0.5 acre land in which crushing activity and storing of materials is being carried out. It was informed that the land is taken by rent by the unit and the stones/ rock for crushing are being purchased from nearby quarries. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed sprinkling systems overhead around the conveyor system using PVC piping network and sprinkling arrangement is also 	

	<p>installed near the crusher area.</p> <ul style="list-style-type: none"> • During the visit, it was observed that the unit has done excess sprinkling on the ground and on the material heaps. Few pockets of ground was flooded and found marshy. • The conveyor belts are not covered properly. The covers are fixed leaving more gaps between the belts and the covers and also found damaged in few places which results in carrying away of dust & fine sand by wind. During visit, fine dust/ sand was found spilling from the conveyor belts on the ground. • The unit has installed two screening system, One screening system for screening the materials from the main crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside a common shed covered with tin sheets. • The unit has provided a name display at the main entrance of the plant. • Photographs taken in the plant during the visit are given in Annexure.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (mainly the crusher) with proper door arrangements. ➤ All the conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The gap between the conveyor cover and the belt should be either packed with tarpaulin or reduce the gap between the cover & belt. ➤ The sprinkling system should be scientifically installed with location wise full operational control and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be optimum water spray on the heaps of material stored and on ground and on transfer point to avoid flooding of water in the premises. ➤ Workers should be educated to use PPEs. ➤ Increase the green belt in the entire periphery of premises. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ Maintenance of records/ data at site. ➤ Consent should be amended for the inclusion of water quantity to be used in sprinkling.



Photograph: Metal sheet barriers and plantations



Photograph: flooding in premises due to excess sprinkling



Photograph: sprinkling of water on heaps & ground through flexible hose



Photograph: trees on one side of the unit and internal road covered with fine sand



Photograph: Foggers installed at main entry



Photograph: Condition of cover of the conveyor belt

REPORT ON VISIT TO STONE CRUSHER UNIT







(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Shree Ramchandra Stone Crusher Gat No. 590, A/P Lonikand, Tal-Haveli, Dist. Pune.
2.	Industry representative; Tel./Fax/E-mail	Shri Pandurang Dattatray Bhumkar Mobile: 09922449703
3.	Date of visit	22/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Filed Officer, MPCB V. G. Nisal, Field Inspector, MPCB
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Metal/Chips Crushing activity – 1250 Brass/M Crushed Dust - 50 Brass/M The unit was operational at normal capacity.
9.	Process chart*	<pre> graph TD Hopper --> Crusher Crusher --> Conveyor1[Conveyor] Conveyor1 --> ConeCrusher[Cone Crusher] ConeCrusher --> Conveyor2[Conveyor] Conveyor2 --> Screen1[Screen-1 (Over sized sent back to hopper)] Screen1 --> Conveyor3[Conveyor] Conveyor3 --> Hopper2[Hopper] Hopper2 --> Conveyor4[Conveyor] Conveyor4 --> VSI[VSI] VSI --> Conveyor5[Conveyor] Conveyor5 --> Screen2[Screen-2] Screen2 --> 10mm[10 mm stone metal] Screen2 --> 20mm[20 mm stone meta] Screen2 --> Sand[Crushed Sand] </pre>
10.	Product Types (Based on size)	20 mm, 10 mm and Crushed sand.

11.	Control Equipments/Measure s Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Material transfer points from conveyor to hopper and transfer point of finished product from conveyor are not equipped with sprinklers or foggers. Movable sprinklers provided with flexible pipelines.
11.2	Wind breaking walls	Tin sheets barriers are provided as wind breaking wall on N-E. Other sides are not adequately addressed with respect to wind breaking walls. No wind breaking wall and green belt is provided on west side but workshop located on the low lying area of the west side has lot plantation/trees. No wind breaking wall or green belt is provided on south side but one more unit namely Shree Ramchandra & Co. is located on this side without clear demarcation of the premises. Same was not found in operation
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	The unit has internal concrete road. Water application is practiced for suppression of dust.
11.4	Arrangement for water spraying and wetting of ground in the premises	Movable sprinklers with flexible pipelines.
11.5	Status of green belt along periphery of the unit	Plantation of about 3 m height is provided on S-E side. Scanty plantation is done on N-E side. Other sides are merely having plantation for green belt.
11.6	Water sprinkling arrangement at crushing system	Flexible pipes and sprinklers are provided at intermediate material transfer points of crushers, hoppers & screens. Final product transfer points of 10 mm and 20 mm aggregate do not have sprinkler or fogger.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are not adequately covered.
11.8	Condition of fugitive emission	Not significant.
11.9	Fogging system at exit point for loaded carrier/trucks	Fogging/overhead sprinklers are provided at entry/exit point for suppression of dust on material loaded in trucks & dumpers.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	Reportedly 32,000 units/month.

14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Old quarry.
16.	Water storage capacity at site	Storage tank of 12 KL.
17.	Water consumption (mode of measurement)	Reportedly about 12 KLD (Roughly based on no. of times the tanker is filled).
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Not available at site during visit.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitored at between 3 to 10 meter distances from main process equipment on north-west side. Suspended particulate matter concentration in work zone observed to be 1832.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°37'45.77" E074°00'44.63". The unit reportedly has approximate area of about 5.0 acre. ➤ The unit has not provided name/sign board at the entrance from the approach road for identification of the unit. ➤ The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. ➤ The unit has provided foggers at entry/exit point to moist the loaded material in trucks/carriers. ➤ The unit has trees on the periphery but has scope to improve green belt and further plantation on the sides where green belt is absent. ➤ Conveyors belts are not properly covered, as the gaps observed between belt & cover from sides. Enclosure to conveyor belt is missing at certain place. ➤ The unit has provided wind breaking walls with some gaps between the tin sheets and at bottom also. Gaps between the sheets are addressed at certain sides with additional row & plantation. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. ➤ The network of sprinklers and foggers not adequate. Product transfer points from conveyors observed without provision of sprinklers or foggers and thus material stored in heaps is not adequately covered with such provision. ➤ The screens provided by the unit are open from top and housing (shed) provided for screens also not properly covered. 	

	<ul style="list-style-type: none"> ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to production, usage of power & water, plantation etc. should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.

	
<p>Screen open from top and inadequate housing enclosure.</p>	<p>Improper & inadequate enclosure on conveyor belts.</p>
	
<p>Wind breaking wall with additional row on one of the sides to cover the gaps.</p>	<p>Wind breaking wall with gaps on one of the sides.</p>
	
<p>Material transfer point without sprinkler.</p>	<p>Another unit located on adjacent plot without clear demarcation of the premises.</p>

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Shri Sai Aggregate Processor Gat No. 577, A/P Lonikand Tal-Haveli, Dist. Pune.
2.	Industry representative; Tel./Fax/E-mail	Shri Hussain Jamadar Mobile: 07507733601 Shri Rajendra Singh, Supervisor Mobile: 09764425202
3.	Date of visit	25/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Filed Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC, Pune.
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Details not available.
8.	Consented Capacity Operating capacity	Details not available.

9.	Process chart*	<pre> graph TD H1[Hopper] --> PC[Primary Crusher] PC --> C1[Conveyo] C1 --> TH[Tunnel Hopper] TH --> CC[Cone Crusher] CC --> C2[Conveyor] C2 --> S1[Screen-1] S1 --> C3[Conveyor] C3 --> H2[Hopper] H2 --> C4[Conveyor] C4 --> V1[VSI] V1 --> C5[Conveyor] C5 --> S2[Screen-2] S2 --> S3[Screen] S2 --> P20[20 mm] S3 --> C6[Conveyor] C6 --> V2[VSI] V2 --> H3[Hopper] H3 --> C7[Conveyor] C7 --> S4[Screen] S4 --> MS1[10 mm stone metal] S4 --> MS2[08 mm stone metal] S4 --> CS1[Crushed Sand] </pre>
10.	Product Types (Based on size)	20 mm,10 mm, 08 mm and Crushed sand.
11.	Control Equipments/Measure s Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Foggers and sprinklers- 5 portable provided at final transfer points of products. Overhead foggers are also provided in the process area.
11.2	Wind breaking walls	Wind breaking walls are provided on the periphery but height is much less than the material transfer points from conveyor. Moreover, conveyors are not equipped with chute system to deliver the material at height lower than wind breaking walls.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangem	The unit has reportedly provided internal pucca road but is not visible due to deposition of dust, aggregates and mud.

	ent	
11.4	Arrangement for water spraying and wetting of ground in the premises	05 movable sprinklers are provided with flexible pipes. Overhead foggers provided in process area. Unit has also provided 30 sprinklers around the periphery.
11.5	Status of green belt along periphery of the unit	Unit has trees of height upto about 8 meters on west, South-west and south-east sides. However, north and east sides have scanty plantation for greenbelt where trees are yet to grow.
11.6	Water sprinkling arrangement at crushing system	Overhead foggers and sprinklers provided in process area. Foggers and sprinklers are provided at final material transfer points of conveyors.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are covered with due care.
11.8	Condition of fugitive emission	No significant fugitive emissions observed.
11.9	Fogging system at exit point for loaded carrier/trucks	Fogging/overhead sprinklers are provided at entry/exit point for suppression of dust on material loaded in trucks & dumpers.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	Details not available.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Old quarry.
16.	Water storage capacity at site	Storage tank of 36 KL.
17.	Water consumption (mode of measurement)	Details not available.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Not available at site during visit.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitored at between 3 to 10 meter distances from main process equipment on north-west side. Suspended particulate matter concentration in work zone observed to be 2838.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations:	

	<ul style="list-style-type: none"> ➤ The unit is located at N18°37'48" E073°59'58". The unit reportedly has approximate area of about 5.0 acre. ➤ The unit has provided name/sign board at the entrance from the approach road for identification of the unit. ➤ The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. ➤ The unit has provided foggers at entry/exit point to moist the loaded material in trucks/carriers. ➤ The unit has grown-up trees on the certain sides of periphery and has done plantation on certain sides where trees are yet to grow. ➤ Conveyors belts covered with due care to control the escape of dust. ➤ The unit has provided wind breaking walls with some gaps between the tin sheets. The height of wind breaking wall is less than the material transfer points from conveyors. Moreover, conveyors are not equipped with chute system to deliver the material at height lower than wind breaking walls. ➤ The network of sprinklers and foggers is provided in process area. Product transfer points from conveyors also observed with sprinklers and foggers. ➤ The screens provided by the unit are open from top and but housing (shed) provided for screens are covered from all sides with entire front opening. Front opening may also be covered partially. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. ➤ Housekeeping in the unit requires improvement. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. Provision of chute system at material transfer point from conveyor should be done if height of wind breaking wall is not raised further. ➤ The sprinkling system should be scientifically managed with full operational control of location wise installed sprinklers and separate

	<p>records should be maintained in this respect.</p> <ul style="list-style-type: none"> ➤ The unit should improve green belt with proper care of plantation done on leftover sides in scientific manner keeping the objective of the same in mind. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heaps. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to production, usage of power & water, plantation etc. should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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Conveyor belts covered and overhead foggers provided in process area.



Wind breaking wall with plantation on one of the sides for green belt development.



Green cover on one of the sides for dust entrapment.



Screen housing covered properly from all sides with front opening. Conveyor belt with enclosure.

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Santosh Stone Udyog Gat No. 556, A/P Lonikand Tal-Haveli, Dist. Pune.
2.	Industry representative; Tel./Fax/E-mail	Shri Dhyaneshwar Balasaheb Kand, Owner Mobile: 09767550721
3.	Date of visit	23/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Filed Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Crushing Activity 800 Brass/M Stone Dust 600 Brass/M The unit was operational at normal capacity. The unit operates at average capacity of 40 Brass/Day for about 22 days in a month.

9.	Process chart*	<pre> graph TD Hoppe --> Crusher Crusher --> Conveyo Conveyo --> Screen1["Screen-1 (Over sized sent back to Conveyor)"] Screen1 --> Hopper Hopper --> Conveyo2[Conveyor] Conveyo2 --> VSI VSI --> Conveyo3[Conveyor] Conveyo3 --> Screen2[Screen-2] Screen2 --> 10mm["10 mm stone metal"] Screen2 --> 20mm["20 mm stone metal"] Screen2 --> CrushedSand[Crushed Sand] </pre>
10.	Product Types (Based on size)	20 mm,10 mm and Crushed sand.
11.	Control Equipments/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Overhead foggers & sprinklers are provided.
11.2	Wind breaking walls	Tin sheets barriers are provided as wind breaking wall. Sheets observed with gaps in between as well as on bottom giving scope for escape of fugitive dust. No wind breaking wall provided on southern side.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	The unit reportedly has internal pucca road but not visible due to deposition of dust. Water application is practiced for suppression of dust.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinklers and foggers are provided for keeping the area moist & wet.
11.5	Status of green belt along periphery of the unit	Green belt provided in southern side with 5 to 6 m height of trees. South-western side (near ramp) has trees of 4 to 5 m height. Scanty plantation observed

		on northern side of the premises. However, no plantation observed on eastern side.
11.6	Water sprinkling arrangement at crushing system	Arrangement of pipe for application of water in place before & after crusher and before VSI feed conveyor. Sprinkler provided after screen-1. Overhead sprinklers/foggers provided over heaps of stored product for suppression of dust.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are not adequately covered. Belts found without cover at certain places and gaps on the sides also observed between belt & cover wherever provided.
11.8	Condition of fugitive emission	Not significant.
11.9	Fogging system at exit point for loaded carrier/trucks	Fogging/overhead sprinklers are provided at entry/exit point for suppression of dust on material loaded in trucks & dumpers.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	Not known.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Bawadi (Open-well).
16.	Water storage capacity at site	Storage tank of 12 KL.
17.	Water consumption (mode of measurement)	Reportedly about 12 KLD (Roughly based on no. of times tank is filled).
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Records of dispatch of material are maintained. Average daily dispatch of material is 8 to 10 trucks load.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitored at between 3 to 10 meter distances from main process equipment on north-west side. Suspended particulate matter concentration in work zone observed to be 3802.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°37'20.90" E074°00'10.40". The unit reportedly has approximate area of about 1.0 acre. ➤ The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. ➤ The sprinklers/foggers network is not appropriately designed with proper locational control. ➤ The unit has provided foggers at entry/exit point to moist the loaded 	

	<p>material in trucks/carriers.</p> <ul style="list-style-type: none"> ➤ The unit has trees on the periphery but has scope to improve green belt with further plantation on the sides, where green belt is absent. ➤ Conveyors belts are not properly covered, as the gaps observed between belt & cover from sides. Enclosure to conveyor belt is missing at certain place. ➤ The unit has provided wind breaking walls with some gaps between the tin sheets and at bottom also. Wind breaking wall provided are inadequate in terms of direction and spacing. Material transfer points from conveyor nods are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. ➤ The screens provided by the unit are open from top and housing (shed) provided for screens also not properly covered. ➤ Excessive application of water through tankers observed in the premises during the visit. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Unit is maintaining the records of material dispatched only at site. Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically designed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be

	<p>openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should ensure internal pucca road & improve upon housekeeping with regular cleaning of premises. ➤ Unit should maintain all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Consent should be amended for water quantity being used by the unit.
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Excessive application of water through tankers inside the premises.



Wind breaking wall & green belt plantation on northern side with overhead fogger on entry/exit point.



Screen open from top and housing partially covered.



Partial enclosure on conveyor belts and gaps between enclosure & conveyor belts.



Wind breaking wall with gaps between sheet and inadequate plntation on one of the sides.

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s Snehal Stone Crusher Gat No. 555, A/P Lonikand Tal-Haveli, Dist. Pune.
2.	Industry representative; Tel./Fax/E-mail	Shri Shrikant Gandhi Mobile: 07507733601 Shri Rajendra Singh, Supervisor Mobile: 09370147525
3.	Date of visit	23/11/2016
4.	Operational status	The unit was not operational at the time of visit but found operational in the afternoon when revisited.
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Filed Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity	Stone Metal – 400 Brass/M Stone Dust – 50 Brass/M
	Operating capacity	The unit was operational at normal average capacity during revisit.

9.	Process chart*	<pre> graph TD Hopper1[Hopper] --> Crusher[Crusher] Crusher --> Conveyor1[Conveyor] Conveyor1 --> Screen1[Screen-1] Screen1 --> Conveyor2[Conveyor] Conveyor2 --> Hopper2[Hopper] Hopper2 --> Conveyor3[Conveyor] Conveyor3 --> VSI[VSI] VSI --> Conveyor4[Conveyor] Conveyor4 --> Screen2[Screen-2] Screen2 --> 10mm[10 mm stone metal] Screen2 --> 20mm[20 mm stone metal] Screen2 --> Sand[<4 mm Crushed Sand] Screen2 --> 06mm[06 mm stone metal] </pre>
10.	Product Types (Based on size)	20 mm,10 mm, 06 mm and Crushed sand.
11.	Control Equipments/Measure s Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	04 overhead foggers and 08 sprinklers provided.
11.2	Wind breaking walls	Wind breaking walls are provided on the periphery but height is much less than the material transfer points from conveyor. Moreover, conveyors are not equipped with chute system to deliver the material at height lower than wind breaking walls.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	The unit has reportedly provided internal pucca road (partially concrete and partially tar road).
11.4	Arrangement for water spraying and wetting of ground in the premises	03 fixed sprinklers are provided. Overhead foggers provided in process area.
11.5	Status of green belt along periphery of the	Unit has done plantation on periphery but yet to grow in the form of green belt and can be termed as

	unit	absence of green belt as of now.
11.6	Water sprinkling arrangement at crushing system	Application of water through pipe at feed hopper and at conveyor belt after intermediate hopper. Fogger provided after crusher. Sprinklers provided after screens and at intermediate hopper. Overhead foggers and sprinklers provided in process area.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are covered with tin sheets.
11.8	Condition of fugitive emission	No significant fugitive emissions observed.
11.9	Fogging system at exit point for loaded carrier/trucks	Fogging/overhead sprinklers are provided at entry/exit point for suppression of dust on material loaded in trucks & dumpers.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	Details not available.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Old quarry.
16.	Water storage capacity at site	Concrete storage tank of 25 KL. 04 Sintex tanks of 02 KL each.
17.	Water consumption (mode of measurement)	50 KL/day (Roughly based on no. of times tanks are filled)
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Maintaining daily dispatch register only at site.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitored at between 3 to 10 meter distances from main process equipment on north-west side. Suspended particulate matter concentration in work zone observed to be 1838.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°37'10.54" E074°00'00.50". The unit reportedly has approximate area of about 1.5 acre. ➤ The unit has provided name/sign board at main entrance on approach road for easy identification of the unit. ➤ The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. 	

	<ul style="list-style-type: none"> ➤ The unit has provided foggers at entry/exit point to moist the loaded material in trucks/carriers. ➤ The unit has done plantation on the periphery for green belt development but trees are not yet grown as green belt. ➤ Conveyors belts covered with tin sheets to control the escape of dust/fines as fugitive emission. ➤ The unit has provided wind breaking walls all along the periphery with some gaps between the adjacent tin sheets. The height of wind breaking wall is less than the material transfer points from conveyors. Moreover, conveyors are not equipped with chute system to deliver the material at height lower than wind breaking walls. ➤ The network of sprinklers and foggers is provided in process area. Product transfer points from conveyors also observed equipped with sprinklers/foggers. ➤ The screens provided by the unit are open from top and housing (shed) provided for screens are also open from front side. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Unit is maintaining the records of material dispatched at site. Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. ➤ Housekeeping in the unit observed to be fair. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements. ➤ The unit should modify provision of wind breaking wall with covering of gaps. Provision of chute system at material transfer point from conveyor should be done if height of wind breaking wall is not raised further. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed

	<p>and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ All records with respect to production, usage of power & water, plantation etc. should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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Screen open from top and housing open from front.



Wind breaking wall and plantation on the periphery for green belt development.



Overhead foggers at material transfer points. Transfer point without chute system and having height more than wind breaking wall.
Covered screen housing on backside.



Fixed sprinklers in premises. Wind breaking wall and scanty plantation.

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Shivam Stone Cruhser Gat. No. 78, A/p- Bhavadi Tal-Haveli, Dist. Pune Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Rohidas Kand, Propreitor; Ph: 9850901112 e-mail: shivamstone2013@gmail.com
3)	Date of Visit	26 th November, 2016
4)	Operational Status	Operational (only VSI operational)
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN-28905-16/R/CC-8787, dated: 04.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	10. Stone Crushing activity – 20 Brass/ Day Reportedly, the installed capacity of the plant is 50 Brass/ day and the unit is operating at full design capacity. As per the despatch details provided by the unit, the unit has dispatched total 1301.265 Brass of materials during the month of October 2016. The despatch details provided by the unit are not matching the consented quantity. And the unit expressed their unawareness on the production quantity mentioned in their consent and informed that the same shall be amended/ modified as per actuals by requesting to MPCB.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below

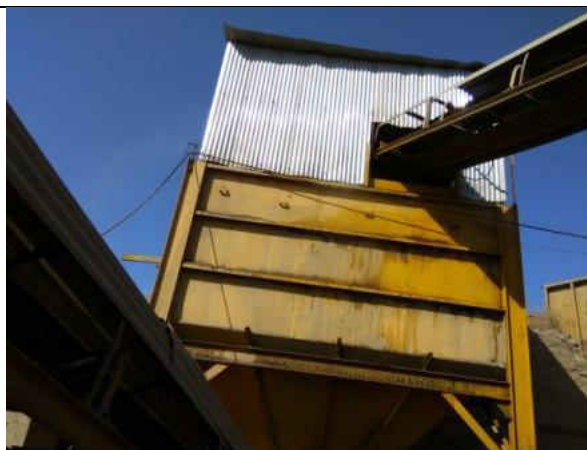
	<p>Boulders/rocks purchased of size less than</p> <pre> graph TD Input[Boulders/rocks purchased of size less than] --> Main[Main] Main --> Crushers[Crushers - 2 Nos. (1 working + 1 stand-by)] Crushers --> C1[Conveyor] C1 --> S1[Screen-1] S1 -- Oversized --> C2[Conveyo] C2 --> Main S1 --> C3[Conveyor] C3 --> H[Hopper] H --> VSI[VSI] VSI --> C4[Conveyor] C4 --> S2[Screen-2] S2 -- Oversized --> C5[Conveyo] C5 --> C3 S2 --> C6[Conveyor] C6 --> Crushed[Crushed] S2 --> C7[Convey] C7 --> P10[10mm] S2 --> C8[Convey] C8 --> P20[20mm] </pre>	
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20mm 10mm Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	<p>The unit has provided foggers fixed on PVC pipeline network running overhead around the conveyor belts.</p> <p>Sprinklers are also fixed at top of the conveyor belts (unloading point/ product free fall ends).</p> <p>The unit is having movable sprinklers, which is also used for sprinkling water on the heaps of stores materials.</p>

11.2	Wind breaking wall	<p>Provided tin sheets barrier of about 12 feet height along the periphery of the unit which acts as wind breaking wall.</p> <p>The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.</p>
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	The unit has provided concrete road of about 800ft length from the main entrance up to the main hopper The roads were slightly covered with dust deposition.
11.4	Arrangement for water spraying and wetting of ground in the premises	The sprinklers provided on top of the conveyor belts, foggeres fixed on PVC pipeline network running overhead around the conveyor belts and the sprinklers fixed along the wind breaking wall (tin sheets) covers the sprinkling/ spraying on the surrounding ground in the premises.
11.5	Status of green belt along periphery of unit	The unit has planted about 250 trees along the boundary. The trees are young and about 15-20ft height.
11.6	Water sprinkling arrangement at crushing system	<p>Water is being sprinkled in the hopper of crusher manually through flexible hose pipe.</p> <p>The unit have provided fogging system (foggers fixed on PVC pipeline network running overhead) in the entire plant area which covers the crushing area.</p>
11.7	Conveyor belt covered or not (if yes, Condition)	The conveyors belts are covered with tin sheets. However, the covers of all the conveyor belts are provided leaving a gap of 6-7 inches above the belts.
11.8	Condition of fugitive emission	No emissions were observed in the storage area & in the plant premises during the visit. The unit has done excessive sprinkling in the entire crushing area. Slight emission was observed in the VSI crusher and in the hopper and emission/ spillage was observed from the conveyor belts.
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry of the unit.
12)	Any chimney/ stack with	Not available

	monitoring facility	
13)	Average Power consumption per ton of crushing	<p>The unit provided the electricity bill for the month of October 2016 to the visiting team. The electricity bill reveals that the unit has consumed 32960 units of electricity during the month of October 2016 and the bill amount is Rs. 312010/- which includes the energy charges@ Rs.6.71/- per unit, demand charges, electricity duty & tax. The bill also reveals that the industry has consumed 30196 units of electricity during the month of September 2016, 32780 units of electricity during the month of August 2016.</p> <p>The unit also provided the log sheet containing the despatch details for the months of October 2016, which reveals that the unit has despatched total 1301.265 Brasses of material during the month of October, 2016. But the actual monthly production details are not being maintained by the unit.</p>
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is using the rain water collected in a quarry located adjacent to the crushing plant. The water from the quarry is pumped and conveyed to the crushing unit through pipeline for filling the storage tank at site and for direct sprinkling.
16)	Water storage capacity at site	The unit has provided a water storage tank of 12000 ltrs storage capacity in the site.
17)	Water Consumption (mode of measurement)	It was informed that the storage tank is filled four times a day, which means the unit is consuming about 48000 liters of water per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	<p>The unit is maintaining records like consent issued by MPCB & other communication from MPCB, logs books, delivery challan book, etc.</p> <p>The copy of the consent issued by MPCB, electricity bill for the month of October 2016, material dispatch details for the month of</p>

		October 2016 were made available to the visiting team.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	<p>PM was monitored at the location N18°37'24" E073°59'53" in the plant premises at a distance of about 4m from the VSI crusher.</p> <p>The monitoring result reveals that the concentration of PM is 2307 µg/m³ which is exceeding the norms of 600 µg/ m³ at a distance of 3 to 10 meter from the main process equipment.</p> <p>The high value may be due to the emission from the VSI crusher observed during the monitoring and from the hopper.</p>
20)	<p>Observations:</p> <ul style="list-style-type: none"> • The unit was formerly known as M/s. Mulik Gavane Associates. As informed the unit has set up crushing plant in an area of about 1.5 acres which is meant for crushing and storing of materials and the entire crushing plant area has been provided with the tin sheets barriers (wind breaking wall) along the periphery. • The unit is purchasing rock from quarries for their crushing activity. Only smaller size rocks are being purchased as the unit is equipped with two crushers (1 working + 1 stand-by) of feed size 24"x 12" followed by VSI crusher. • During the visit, the main crusher was not operational and only VSI was operational. The main crusher was not operational since 23.11.2016 due to the damage in the screen housing (a part in vibrating screen). The unit provided the gate pass prepared by the unit on 24.11.2016 for the material (screen housing) taken to M/s. B.S. Fabrication for repairing work. The unit also provided a copy of the quotation submitted by M/s. B. S. Fabrication dated: 24.11.2016 for the repairing work of screen house to the visiting team. The visiting team also checked the condition of screening system and found that the said part was not in place. • Since the vibrating screen was not operational and could not receive material from the crusher, the main crusher was also operated. However, the downstream process (VSI crushing) after the main screening can be operated if the feed material is available. Since the feed material for the VSI was available, VSI crusher was operational. Monitoring of Particulate Matter was carried out during the operation of VSI crusher. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed totally 14 sprinklers along the metal sheets boundary (wind breaking wall), on top of the conveyor belt and movable sprinklers. The unit has installed totally 250 foggers fixed on PVC 	

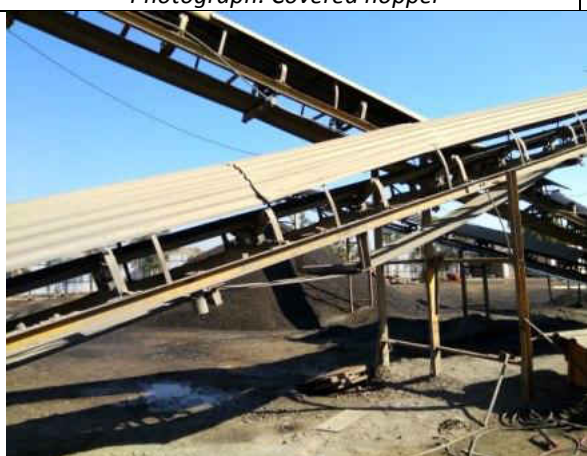
	<p>pipeline network which runs around the crushing area and along the conveyor belts and at the main entry gate.</p> <ul style="list-style-type: none"> • During monitoring, dust/ fine sand was found spilling from the conveyor belts on the ground. • Due to excess sprinkling on the ground and on the material heaps, dust emission was not found in the storage area/ from the material heaps but the entire area was flooded and marshy. However, slight dust emission was observed from the main jaw crusher. • Wind breaking wall (tin sheets) is provided all along the boundary. The tin sheets provided as the wind breaking wall are installed vertically leaving vertical gap of about 4-5 inches between each tin sheet. • The unit has installed two screening system, One screening system for screening the materials from crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside shed covered with tin sheets. During the visit, the primary screen which receives material from the secondary crushers was not operational. • The unit has provided a name board at the entrance of the unit. • Photographs taken in the plant during the visit are given in Annexure.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (mainly the VSI crusher which was only operational during the visit) to reduce the suspension of dust from these units. ➤ All the conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The sprinkling system should be scientifically installed with full location wise operational control. ➤ The unit should optimize the sprinkling system so as to reduce the excess sprinkling and flooding at few pockets in the premises. ➤ The gap between sheets in the wind breaking wall should be either packed with tarpaulin or provided by zigzag metal sheets to cover the gaps between sheets. ➤ The crush sand storage may be done in silo and all other materials shall be openly stored and proper mechanical chute should be installed for materials falling from conveyor belts. ➤ Optimum sprinkling arrangement to be provided for all the material heaps & on ground to avoid excessive sprinkling and flooding of area. ➤ Consent should be amended for water quantity to be used in sprinkling.



Photograph: Covered hopper



Photograph: sprinkler at top of conveyor belt



Photograph: Covers of conveyor belt with more gap



Photograph: sprinkler at top of conveyor belt & fogger system overhead



Photograph: marshy condition due to excess sprinkling, greenery along the boundary and tin sheet barrier with gaps



Photograph: fogger system overhead and flooded ground

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Saundarya stone industries Gat No. 157/B, A/P Village Bhavadi Tal. Havali, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Niminath Gangadhar Tambe, Mobile: 09226224003
3.	Date of visit	22/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W), Vadodara Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	CCA Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Metal and artificial sand– 240 Brass/Month Reportedly process stone at average capacity of 50 Brass/day
9.	Process chart*	<p style="text-align: center;"> Primary Crusher ↓ Secondary Crusher ↓ Screen ↓ Dumper feed to VSI Hopper ↓ VSI ↓ Screen through Conveyor ↓ Different Products </p> <p>The unit has Crushers (24 x 12) : 02, VSI : 01, Screen : 02, Hopper : 02, Conveyor : 07</p>

10.	Product Types (Based on size)	20 mm, 10mm and 4.5 mm (Crushed Stone)
11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Manual Sprinkling (reported 3 to 4 times a day). In addition, fogging system from main hopper to screen housing is also provided.
11.2	Wind breaking walls	Provided tin sheets barrier of about 12 feet height in three sides of unit (North to east and east to south). West side is query. Height of wind breaking wall is less than highest conveyor material transfer point. The gap between two sheets of wind breaking wall is about 7-8 inch.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Asphalt road was provided reportedly but not visible due to dust deposited on road. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system along the wind breaking wall and manual spraying, is provided for wetting ground.
11.5	Status of green belt along periphery of the unit	Green belt development observed along east side having proper height but only few scanty plantations observed other sides.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are covered with metallic sheets.
11.8	Condition of fugitive emission	During startup time.
11.9	Fogging system at exit point for loaded carrier/trucks	Water sprinkler/Fogging systems are provided at the entry/exit point of the unit.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	Reportedly about 50,000 units consumes per month.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit through tankers.
16.	Water storage capacity at site	Two storage tanks each of 12,000 Lt capacity

17.	Water consumption (mode of measurement)	3 tankers/day (about 12,000 liter per day) No proper records/idea for consumption is maintained.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	No records for production were available at site. The unit representative as later submitted production records for the month of October and November. Unit has processed 442 brass during October 2016 and 239 brass during November (till 21) 2016.
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Suspended particulate matter measured at a distance between 3 to 10 meter from main process equipment on down wind direction. Suspended particulate matter concentration in work zone observed to be 1992.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> • The unit is located at Longitude: 18⁰37'3"N & Latitude: 73⁰59'54" E • The unit has reported approximate area of about 1 Acres. • The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. • The unit has provided small name board/sign board at entrance for identification of the unit from approach road. • There are two separate stone crusher units of same owner with name Saundarya Stone Industries and Saundarya Crusher Industries located near to each other. As informed, separate consent is taken from MPCB. The unit visited is as per the name mentioned in the list of 56 units in the Order of Hon'ble NGT. • Proper records of production were not available at site. The unit later provided the production data. As per the data provided by the unit, the unit exceeds the production capacity as mentioned in the CC&A. • Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • The conveyor belts are provided with proper covering. • The unit has provided fogging system at the entry and exit point for wetting the material to avoid fugitive emission during travel. • Vibrating Screen is provided with tin housing. • The unit has made arrangements for water sprinkling & ground wetting 	

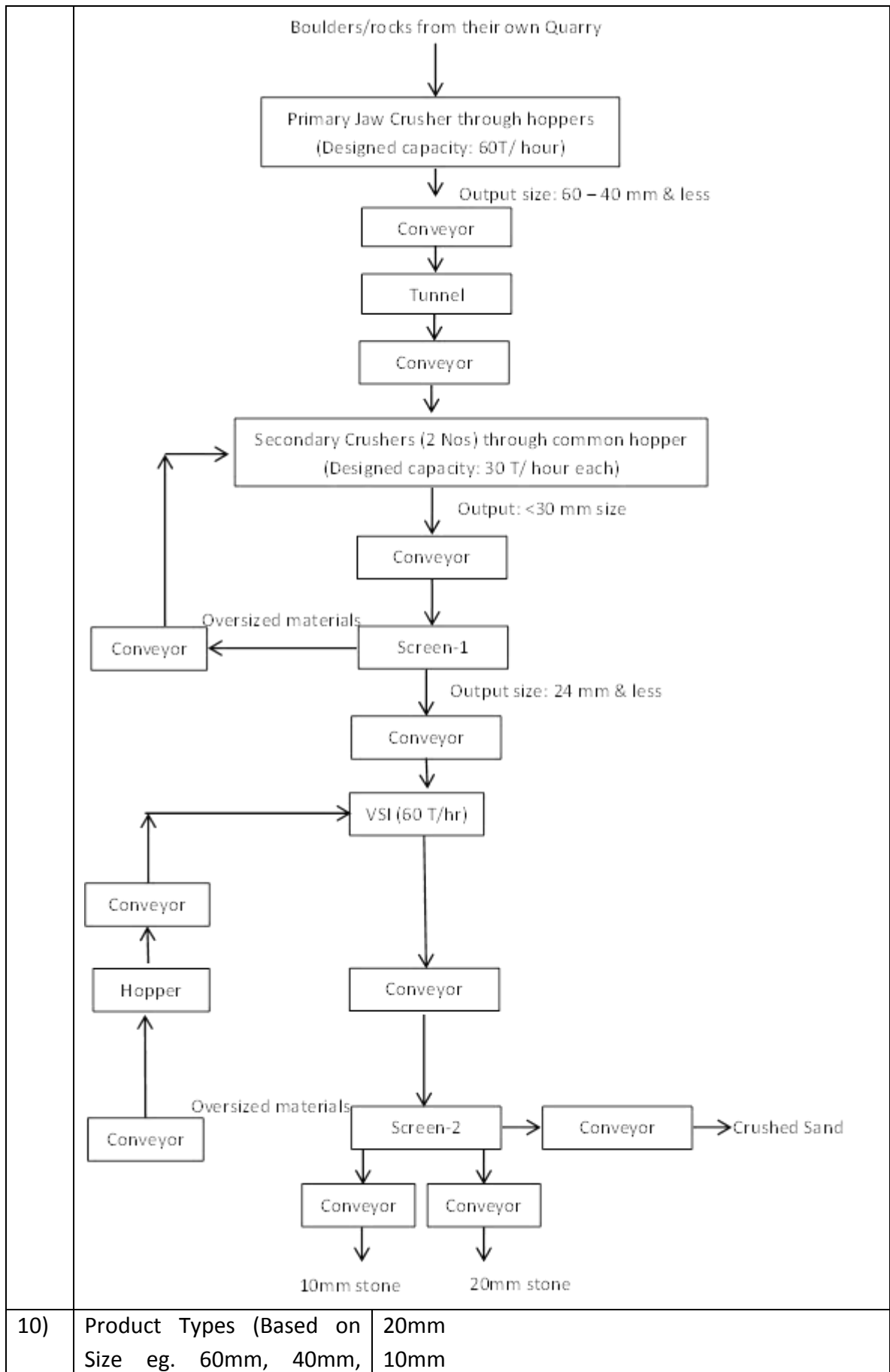
	<p>but height of wind breaking wall is not complementing the height at which material transfer is done.</p> <ul style="list-style-type: none"> • The source of water is from queries through tankers. Proper records of number of tankers are also not available with the unit. • The unit has not provided green belt. • During visit, it the unit has wetted the premises/ stone with excess water. The unit representative informed that this is their regular practice. However, during subsequent days of visit in the area, photograph of the condition of dust emission from the unit shows that the unit has sprayed excess water during visit of team. • Unit is storing all the finished products including crushed sand/fines in open. • Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. • Consent of the unit does not reflect the actual water consumption of the unit. • Workers are not using personal protective equipment for safety.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to

	<p>be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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<p>Fogger for loaded trucks provided at entry/exit point with Name board</p>	<p>Vibrating Screen with tin housing</p>
	
<p>Height of material transfer point from conveyor is more than wind breaking wall.</p>	<p>Green Belt at one of the side of the unit</p>
	
<p>Water storage tank of the unit.</p>	<p>Condition of dust emission during other day of visit (25.11.2016)</p>

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Premchand Crush Sand Co. Gat. No. 201, Vill- Bhavadi Tal-Haveli, Dist. Pune Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Siddharth Bhayani – Proprietor; Ph: 9822078226
3)	Date of Visit	23 rd November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN-28903-16/R/CC-8930, dated: 11.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	11. Stone Metal and Dust – 3000 Brass/ Month The unit is operating at full capacity.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below:



	20mm, etc.)	Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	<p>The unit has provided Sprinkling system along the conveyor belts and at top of the conveyor belts (unloading point/ product free fall ends).</p> <p>The unit has also provided fogger/ misting system using PVC piping network around the conveyor belts.</p>
11.2	Wind breaking wall	<p>Provided tin sheets barrier of about 10 feet height along the periphery of the unit which acts as wind breaking wall. Height of tin sheet barriers (wind breaking wall) is less than highest conveyor material transfer point.</p>
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	<p>The unit has provided Concrete road from the main road to the entrance of the crushing area.</p> <p>The unit has provided sprinklers alongside the wind breaking wall sheets around the boundary (periphery) which sprinkles water on the internal road near boundary.</p> <p>The unit is having a tanker lorry through which water is brought from their quarry and sprayed on the internal roads.</p>
11.4	Arrangement for water spraying and wetting of ground in the premises	<p>The Sprinkling system provided on top of the conveyor belts & fogger system around the conveyor belts and the sprinklers fixed along the wind breaking wall (tin sheets) covers the sprinkling/ spraying on the surrounding ground in the premises.</p> <p>The unit is using their tanker lorry for spraying of water on the surface & wetting of the ground in the premises.</p>
11.5	Status of green belt along periphery of unit	<p>Reportedly, around 200 tree saplings have been planted by the unit inside the area around the periphery.</p> <p>Trees of about 5-7 m height are present around the boundary.</p>
11.6	Water sprinkling	Hopper of Jaw crusher was having manual water

	arrangement at crushing system	sprinkling on the boulders/ rocks using flexible hose pipe. Water sprinklers are provided at transfer points of material from jaw crusher to the conveyor belt.
11.7	Conveyor belt covered or not (if yes, Condition)	The conveyors belts are covered with tin sheets. However, the cover of the conveyor belt from main jaw crusher to the screen house is provided at a gap of about 7-10 inch above the conveyor belts. Covers of other conveyor belts are provided with gap of about 4-5 inch above the conveyor belts.
11.8	Condition of fugitive emission	Slight emission was observed near the secondary crusher area and near the VSI (Vertical Shaft Impact) crusher.
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry.
12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	It was informed that about 26 to 27 Units of power is consumed per Brass of stone crushed.
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is using the rain water collected in their old quarry which is located adjacent to the crushing plant. The water from the quarry is transferred through tanker lorry to the crushing unit.
16)	Water storage capacity at site	The unit has provided a metallic cylindrical tank (old oil tanker lorry) of 12000 ltr capacity at the site for water storage.
17)	Water Consumption (mode of measurement)	Reportedly, 5 trips of tanker water are consumed per day. (2 trips of tanker brought to the crushing unit and filled in the storage tank provided at site and 3 trips of water are used for direct sprinkling on internal roads & ground inside the premises).
18)	Availability of records of	The unit is maintaining the records at site.

	receipt & dispatch of material at site (if yes, avg nos.)	
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	<p>PM was monitored at the location N18°36'58" E073°59'59" in the plant premises at a distance of about 5m from the main crusher & near the conveyor belt.</p> <p>The monitoring result reveals that the concentration of PM is 6044.0µg/m³ which is exceeding the norms of 600 µg/ m³ at a distance of 3 to 10 meter from the main process equipment</p>
20)	<p>Observations:</p> <ul style="list-style-type: none"> As informed the unit has a total 6 acres of land out of which the unit has set up crushing plant in an area of about 2 acres which is meant for crushing and storing of materials and the entire crushing plant area has been provided with the tin sheets barriers (wind breaking wall) along the periphery. The remaining area is the quarry from where the rocks are being brought to the crushing plant. During the visit/ monitoring, the main jaw crusher was not operational. The two secondary crushers and the VSI (Vertical Shaft Impact) crusher were operational. The unit has made arrangements for water sprinkling & ground wetting. The unit has installed several sprinklers and few misting systems using PVC piping network around the conveyor belts. However, these arrangements are not appropriately designed and established and resulted in marshy condition at few places within the premises. Such sprinklers overuse the water and also makes the conveyor belt wet resulting in sticking of materials on the belt surface and dropping of materials on the ground below the conveyor belt & around the crushing area. During visit, fine dust/ sand was found spilling from the conveyor belts on the ground. Due to large quantity of water sprinkling, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate emission observed from secondary crushers and from the VSI crusher and nearby area of VSI & secondary crushers. Wind breaking wall (tin sheets) is provided all along the boundary. The tin sheets provided as the wind breaking wall are installed leaving 5-10cms gap between each sheets. The unit has installed two screening system, One screening system for screening the materials from secondary crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside shed covered with tin sheets. 	

	<ul style="list-style-type: none"> • The unit has provided a proper name board display at the main entrance. • Photographs taken in the plant during the visit are given in Annexure.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (Secondary crushers & VSI crusher) with proper door arrangements. ➤ All the conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be optimum quantity of water & evenly sprayed on the raw material before transferring boulders in the hopper/ conveyor system/ ground, etc., as few pockets was found marshy due to excess sprinkling and few areas (in the secondary crusher & VSI) sprinkling was found inadequate. ➤ The gap between sheets in the wind breaking wall should be either packed with tarpaulin or provided by zigzag metal sheets to cover the gaps between sheets. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials should be openly stored and proper mechanical chute should be installed and height of finished goods should be atleast 2 feet less than the height of wind breaking wall. In the latter case, proper sprinkling arrangement to be provided all around the material heap. ➤ Consent should be amended for water quantity to be used in sprinkling.



Photograph: Monitoring of PM near the main crusher



Photograph: Excess sprinkling & marshy condition



Photograph: Overhead sprinkling system



Photograph: Gap between conveyor belt and the cover



Photograph: Green belt near the main boundary



Photograph: Lifting of water through tanker from quarry



Photograph: Gaps in Wind breaking tin sheets & no greenery



Photograph: Emission from the main crusher

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Robo Silicon Pvt Ltd. Gat No. 591, Village Lonikand, Taluka: Haveli, Dist: Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Nageshwar Rao, Manager Shri M. P. Singh, Mining Manager Mobile: 09552555141 / 9860738551
3.	Date of visit	01 st visit on 08/11/2016 & revisited on 25/11/2016 for work zone monitoring.
4.	Operational status	The unit was operational on 08/11/2016 but work zone monitoring could not be carried out due to some fault in High Volume Sampler. Unit found operational on 25/11/2016 also.
5.	Name of the official visiting the unit	Team visited on 08/11/2016: Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara S. Pradeep Raj, Scientist-C, CPCB, ZO (W), Vadodara J. A. Darwatkar, Field Inspector, MPCB, Pune-2 Team visited on 25/11/2016: Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Field Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Metal – 500 Brass/Month Stone Dust – 100 Brass/Month (Reportedly each brass is equivalent to about 4.8 ton). Reportedly operated at normal capacity.

9.	Process chart*	<pre> graph TD A[Primary Crusher] --> B[Conveyor] B --> C[Screen] C --> D[Conveyor] D --> E[Tunnel hopper] E --> F[Conveyor] F --> G[Cone Crusher] G --> H[Conveyor] H --> I[Vertical shaft Impactor] I --> J[Screen-2] J --> K[20 mm stone metal to 100 MT hopper] J --> L[20 mm stone metal to 100 MT hopper] J --> M[Sand to 100 MT hopper] </pre>
10.	Product Types (Based on size)	20 mm, 10 mm and crushed sand.
11.	Control Equipment/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers are provided on the periphery of the unit. Unit has also provided movable sprinklers 8 in numbers. 20 Foggers provided to the conveyors & for heaps of the material.
11.2	Wind breaking walls	Provided tin sheets barrier of about 10 feet height.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Pucca road provided from main gate to jaw crusher. Sprinklers are used for wetting besides cleaning of the road.
11.4	Arrangement for water spraying and wetting of ground in the premises	Movable sprinklers provided.
11.5	Status of green belt along periphery of the unit	Northern side has big trees of 5 to 8 meter height. Plantation done on other sides for green belt.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/foggers are provided at crusher & transfer points of material from conveyors.
11.	Conveyor belt covered	Covered with metallic sheets.

7	or not (if yes, condition)	
11.8	Condition of fugitive emission	Not visible during the visit.
11.9	Fogging system at exit point for loaded carrier/trucks	Provided water sprinkler system at the entry/exit point of the unit.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	Reportedly avg. 21000 Units/M
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Bore well & rain water accumulated in 03 nearby quarries. Water from quarries rarely used.
16.	Water storage capacity at site	Tank of 20000 liter capacity.
17.	Water consumption (mode of measurement)	Not measured by the unit. 20,000 Ltr/Day. (Roughly based on the no. of times tanker is filled.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	The unit is maintaining the records only for material dispatched in trucks.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitored on 25/11/2016 at between a distance between 3 to 10 meter from main process equipment on north-west side. Suspended particulate matter concentration in work zone observed to be 1876.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°37'41.80" E074°00'37.80". The unit has reported approximate area of about 04 acres. ➤ The unit has provided name board/sign board at entrance for identification of the unit from approach road. ➤ The unit was first visited on 08/11/2016 but monitoring could not be carried out due to some fault in the monitoring equipment. The unit was again visited on 25/11/2016 by the team and monitoring in work zone for suspended particulate matter carried out. ➤ The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. ➤ The unit is maintaining the records of material dispatched in trucks. ➤ The unit has made adequate arrangements for water sprinkling & ground wetting. ➤ The screen provided is covered and placed in housing but needs improvement. 	

	<ul style="list-style-type: none"> ➤ The unit also has hoppers/silos for storage of finished product which helps in containment of spreading of dust as well as fugitive emission. ➤ Wind breaking wall provided have some gaps between the adjacent sheets which are required to be covered. ➤ The products from the conveyor belt are transferred in silos/hoppers. However, at one place chute type arrangement is made for transfer of material on ground at lower height. ➤ Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report. ➤ Housekeeping in the unit found to be fairly good.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements. ➤ The unit should further improve green belt. ➤ The unit should cover the gaps between sheets provided as wind breaking wall. ➤ Unit should keep all relevant records at site including consent issued by MPCB. ➤ Improve the sprinkler/fogger network to further reduce the fugitive dust to achieve compliance with respect to SPM concentration in work zone. ➤ Workers should be educated to use PPE during working near crushers. ➤ Consent should be amended for water quantity being used by the unit.



Green belt & movable sprinklers provided in the premises.



Fogger provided at material transfer points.



Enclosures provided on conveyor belts.



Wind breaking wall and chute provided to drop the material from conveyor at height lower than wind breaking wall.



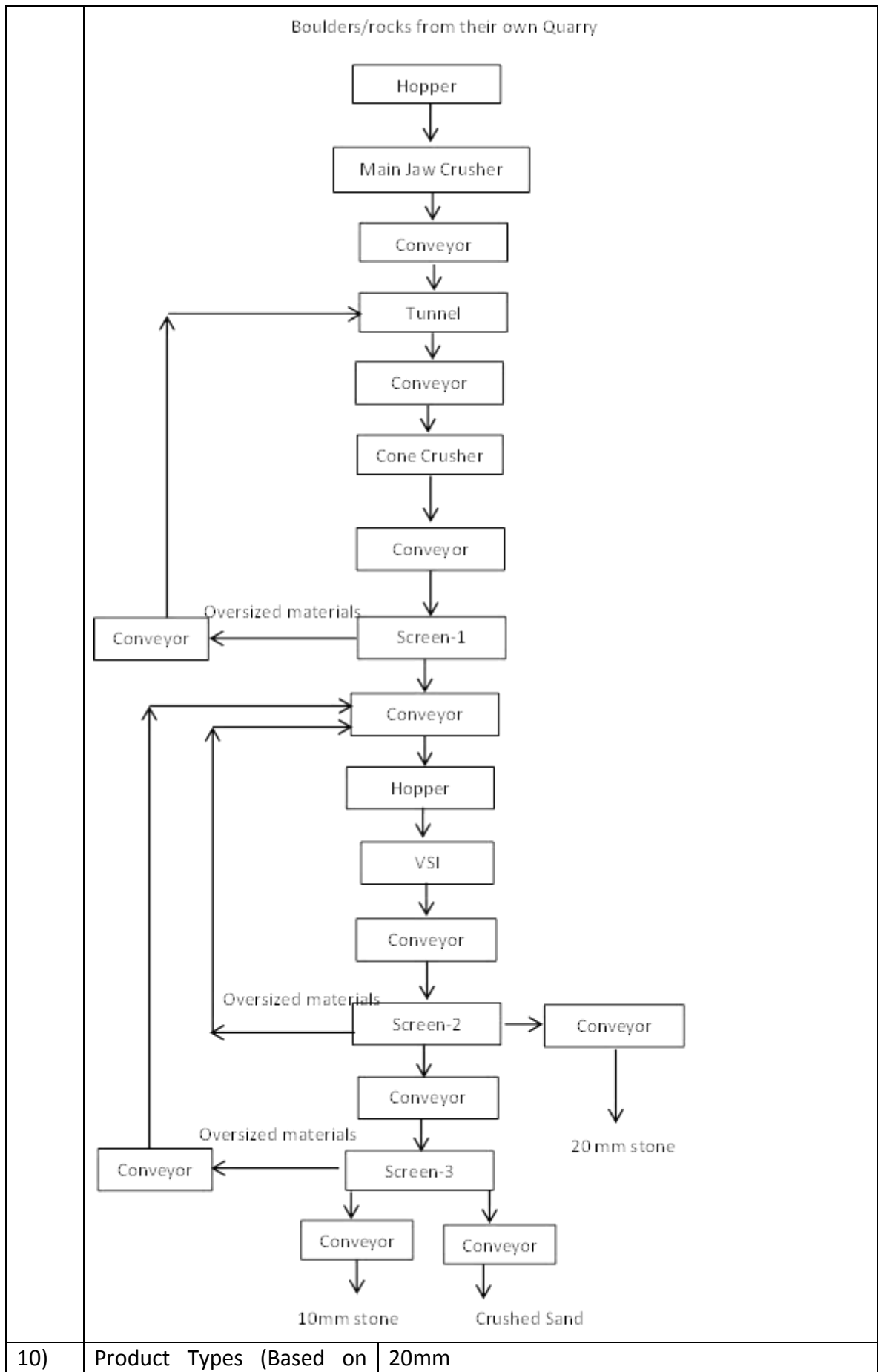
Hopper/Silos provided for product storage.



Entry/Exit point with name board and overhead foggers.

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Om Shri Sai Infra Gat. No. 70, A/p Bhavadi Tal-Haveli, Dist. Pune Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Sandeep Shukla – Supervisor; Ph: 9923783714 Mr. Appabeer – Supervisor; Ph: 8623060642
3)	Date of Visit	23 rd November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/O/CC-8853, dated: 05.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	<ul style="list-style-type: none"> Stone Crushing Activity – 1200 Brass/ Month Stone Dust – 600 Brass/ Month <p>The unit is operating at full installed capacity</p>
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below:.



	Size eg. 60mm, 40mm, 20mm, etc.)	10mm Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	<p>The unit has provided sprinklers fixed on PVC pipeline which runs overhead along the conveyor belts and around the crushing area. Sprinklers are also fixed/ provided at top of the conveyor belts (unloading point/ product free fall ends).</p> <p>During the visit/ monitoring it was observed that the unit has done very excessive sprinkling on the entire premises resulting in water logging, flooding and marshy condition in the entire premises.</p>
11.2	Wind breaking wall	<p>Provided tin sheets barrier of about 12 feet height along the periphery of the unit which acts as wind breaking wall.</p> <p>Height of tin sheet barriers (wind breaking wall) is less than highest conveyor material transfer point/ heap of stored materials.</p> <p>The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.</p>
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	<p>The unit has provided Bitumen road of about 250m length from the main entrance up to the crushing area.</p> <p>The unit have provided movable sprinklers by which the wetting of internal roads is being taken care.</p> <p>Most of the internal roads are covered with dust/ fine sand deposition.</p>
11.4	Arrangement for water spraying and wetting of ground in the premises	<p>The Sprinkling system provided on top of the conveyor belts, the sprinklers which are fixed on PVC pipeline network running overhead along the conveyors system and the movable sprinklers are used to spray/ sprinkle water on the ground.</p> <p>During monitoring, the unit has flooded the entire ground and the entire crushing area has become marshy.</p>

11.5	Status of green belt along periphery of unit	<p>The unit has planted trees around the boundary.</p> <p>Trees of about 20ft height are seen along the front boundary wall and inside the crushing area. Scanty plantation observed at the downward side/ back boundary side of the premises.</p>
11.6	Water sprinkling arrangement at crushing system	<p>Water is being poured through flexible hose pipe manually in the hopper of jaw crusher.</p> <p>The unit have provided sprinkling system (sprinklers fixed on PVC pipeline network running overhead) in the crushing area covering the crushers, conveyor system and the screen house.</p> <p>Emission was observed from the cone crusher and the VSI crusher.</p>
11.7	Conveyor belt covered or not (if yes, Condition)	<p>The conveyors belts are covered with tin sheets. However, the cover of the conveyor belts was found inadequate. In few places the covers were in damaged condition and the covers are fixed over the belts leaving more gaps between the belt and covers, which results in emission of dust/ fine sand particles from the moving belts.</p> <p>In few places the covers were in damaged condition.</p>
11.8	Condition of fugitive emission	<p>No emission was observed during the visit/ monitoring.</p> <p>The unit has flooded the entire premises with water and continuously water was poured in the jaw crusher during crushing. Sprinkling in the conveyor area was also continued during the entire monitored period.</p>
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry.
12)	Any chimney/ stack with	Not available

	monitoring facility	
13)	Average Power consumption per ton of crushing	<p>The unit showed the soft copy of their electricity bill for the month of September 2016 in their mobile, which reveals that the bill amount for the month of September 2016 is Rs.598399/-.</p> <p>The unit informed that during the month of September 2016, 1291.17 Brasses of materials was dispatch from the unit.</p> <p>Only the product dispatch detail was informed by the unit and the actual monthly production data are not being maintained by the unit.</p>
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is using the rain water collected in their quarry which is located adjacent to the crushing plant. The water from the quarry is pumped and conveyed through pipeline.
16)	Water storage capacity at site	The unit has provided 3 water storage tanks in the crushing area, the capacity of the tanks were not provided by the unit.
17)	Water Consumption (mode of measurement)	The unit informed that an average of 40000Ltrs of water is being used per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	<p>Only the consent copy was made available to the visiting team. The unit was hesitant to show any record to the visiting team. Even the delivery challan book which will be maintained at the site was also not made available to the visiting team.</p> <p>It was informed that the records are being maintained at their office at Wagholi.</p>
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM was monitored at the location N18°37'44.93" E73°59'53.70" in the plant premises at a distance of about 5m from the main crusher. Fine sand dust was found spilling from the conveyor belts during the monitoring period inspite of heavy sprinkling & wetting of the conveyor belts & material

		<p>coming out of crushers.</p> <p>The monitoring result reveals that the concentration of PM is 2279 $\mu\text{g}/\text{m}^3$ which is exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment</p>
20)	<p>Observations:</p> <ul style="list-style-type: none"> • During the visit/ monitoring, the main jaw crusher, secondary crusher and the VSI (Vertical Shaft Impact) crusher were operational. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed sprinklers on the metal boundary sheets and sprinkling/ fogging system fixed in PVC piping network overhead along the conveyor belts. • The sprinkling made on the conveyor belts makes the conveyor belt wet resulting in sticking of materials on the belt surface and carrying of material away without dropping in the vibrating screens which further stick to the surface of the belt and falls out on the ground when the belt turns downside during the circular movement of the belt. • During visit, fine dust/ sand was found spilling from the conveyor belts on the ground inspite of heavy sprinkling. Slight emission was found from the vibrating screens house. Emission was also observed from the cone crusher and the VSI crusher. • The movable sprinkler placed in the crushing area which was operational during the visit has made the entire area marshy due to excess sprinkling at same location. • Wind breaking wall (tin sheets) is provided all along the boundary. The tin sheets provided as the wind breaking wall are installed vertically leaving vertical gap of about 4-5 inches between each tin sheet. • The unit has installed three screening system, One screening system for screening the materials from cone crusher and another two screening system for screening the materials from the VSI (Vertical Shaft Impactor). All the screenings are housed inside common shed covered with tin sheets. The screen house is not covered fully & left opened on one side and dust emission was observed from the screen house. • The unit has provided a name board at the main entrance of the unit. • Photographs taken in the plant during the visit are given in Annexure. 	
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (vibrating screens, cone crusher & VSI crusher) with proper door arrangements or tarpaulin covers or mesh cloth covers to reduce the suspension of dust from these units. ➤ All the conveyor belts should be properly enclosed upto the nod of 	

	<p>conveyor belts.</p> <ul style="list-style-type: none"> ➤ The sprinkling system should be scientifically installed with full location wise operational control. ➤ The unit should optimize the sprinkling to avoid excess sprinkling at a particular pocket and reducing the wastage of water. ➤ The screen house should be completely covered so as to reduce the emission from the vibrating screens. ➤ The raw material hopper should be enclosed except one side for truck/dumper unloading and provided with fixed type water sprinkling arrangement. ➤ The gap between sheets in the wind breaking wall should be either packed with tarpaulin or provided by zigzag metal sheets to cover the gaps between sheets. ➤ Silo for the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. The crush sand storage should be done in silo and other materials shall be openly stored and proper sprinkling arrangement to be provided all around the material heap. ➤ Mechanical chute should be installed for the material falling from the conveyor belts and height of finished goods stored in heaps should be less than the height of wind breaking wall. ➤ Consent should be amended for water quantity to be used in sprinkling. ➤ The unit should be asked to maintain all the records at the site and should be made available to the visiting officials.
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Photograph: Plantation near the front boundary



Photograph: Conveyor without cover



Photograph: The condition of screen housing & conveyor cover



Photograph: The condition of screen housing & conveyor cover



Photograph: Marshy condition due to excess sprinkling & damaged condition of conveyor covers



Photograph: Marshy condition due to excess sprinkling

REPORT ON VISIT TO STONE CRUSHER UNIT

(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Om Sai Stone Crusher Gat No. 151 B, Village Bhavadi, Tal. Haveli, Dist Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Santosh M. Yadav Mobile: 07261971149
3.	Date of visit	23/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Amit Thakkar, Scientist-C, CPCB, ZO (W), Prakash Jadhav, Field Officer, MPCB, Pune Dr. Prabhakar Wawde, Field Officer, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	CCA valid up to 30.06.2016.
8.	Consented Capacity Operating capacity	Stone Metal: 40 Brass/Day Stone Dust: 10 Brass/Day Reportedly, Design capacity: 60 B/day Average Operating capacity : 50 B/day
9.	Process chart	<div style="text-align: center;"> <p>Crusher</p> <p>↓</p> <p>Screen</p> <p>↓</p> <p>Dumper feed to VSI Hopper</p> <p>↓</p> <p>VSI</p> <p>↓</p> <p>Screen through Conveyor</p> <p>↓</p> <p>Different Products</p> </div> <p>The unit has Crushers (24 x 12): 02, VSI : 01, Screen : 02, Hopper : 02, Conveyor : 07</p>
10.	Product Types (Based on size)	20 mm, crushed stone
11.	Control Equipment/Measures Provided	Aspect-wise given below:

11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers are provided at the end of transfer point. In addition fogger loop from main hopper to VSI hopper to Screen is provided.
11.2	Wind breaking walls	Provided tin sheets barrier of about 12 feet height in three sides of unit.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Asphalt road is provided reportedly but not visible due to dust deposited on road. No Cleaning Mechanism observed.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system along the wind breaking wall is provided for wetting ground. In addition to fogger loop and moveable sprinklers
11.5	Status of green belt along periphery of the unit	Plantation observed along the periphery with about 3 to 4 ft growth.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/ jet (pipes with holes) are provided at outlet of crushers and VSI Outlet.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are provided with metallic cover.
11.8	Condition of fugitive emission	Not observed during visit
11.9	Fogging system at exit point for loaded carrier/trucks	Yes provided.
12.	Any chimney/stack with monitoring facility	NA
13.	Average power consumption per ton of crushing	Reportedly Monthly power consumption is about 37,000 units
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit. Reportedly, a 7 HP pump is provided
16.	Water storage capacity at site	Storage tank 12,000 lt capacity.
17.	Water consumption (mode of measurement)	10,000 liter per day. No proper records/idea for consumption is available.
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Records for dispatch of material are maintained at site in a register. As informed, the unit has processed about 900 brass in the month of October 2016.
19.	Monitoring of SPM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Suspended particulate matter measured at a distance between 3 to 10 meter from main process equipment on down wind direction. Suspended particulate matter concentration in work zone observed to be 3483.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.

20.	<p>Observations:</p> <ul style="list-style-type: none"> • The unit is located at Longitude: 18⁰37'10"N & Latitude: 73⁰59'42" E • The unit found operational with valid consent. The consented capacity of production is 40 B/day. It was observed from the records that unit exceeds daily production during October 2016. • The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. • The unit has reported approximate area of about 1.5 Acres. • The unit has provided name board/sign board at entrance for identification of the unit from approach road. • Conveyor belt are provided with metal sheet from the top. • The unit has made arrangements for water sprinkling for ground wetting. The fogging system provided in the form of loop for wetting stored material. • During visit excess sprinkling/wetting was observed making the ground marshy. • Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. • The vibrating screen provided with tin housing from three side and top. One side was covered with curtain. This seems not adequate to arrest dust. • The source of water is from queries. Proper records for the quantity of water uses are also not available with the unit. • The workers were not observed wearing the personal protective equipment (PPE). • Materials were found spread below the conveyor belts. • The consent of the unit permits only domestic water consumption. However, the actual consumption for sprinklers & misting system is much more and is not mentioned in the CC&A. • The unit has provided fogging system at the entry and exit point for wetting the material to avoid fugitive emission during travel. • The unit has not provided green belt along the periphery. • Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window

	<p>arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts.</p> <ul style="list-style-type: none"> ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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Fogger line at Entry and Exit gate



Vibrating Screen housing provided by the unit



Wind breaking wall and condition of approach road

REPORT ON VISIT TO STONE CRUSHER UNITS AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Gurudatta Stone Crusher, Gat No. 127, A/P-Wagholi, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Sudama Sakharam Dalvi. Mobile: 9209977780.
3)	Date of Visit	25.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	<ul style="list-style-type: none"> • Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara. • Shri Manish S. Holkar, SRO , Head Quarter Mumbai. • Shri Utkarsh Shingare, FO (PC), MPCB Regional Office, Pune.
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	BO/JD(APC)/PN-28943-16/R/CC-9524 dt. 27.07.2016 valid upto 30.06.2019.
8)	Consented Capacity	Stone metal-2000 Brass/ Month and Crush sand-2000 Brass/Month.
	Operating Capacity	40-50 brass/ day different sizes of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper → Jaw Crusher (1 No.) → Conveyor belt → Vibrating screen → greater than 20 mm to Jaw crusher hopper and less than 20 mm to Screen → Conveyor belts → Less than 20mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20mm, 10 mm and 8 mm pebbles & crushed Sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers are fixed on top of conveyor belt at material discharge end/ product free fall ends (Photographs-1, Annexure-1). These sprinklers cover the openly stored finished products for wetting.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided almost all along (including a portion of jute curtain near vibratory screen) except partial area in eastern side and along the ramp (Photographs-1, Annexure-1).
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that entire internal road is black topped which was evident. However due to grit spread, it is difficult to state that the internal road near Jaw crusher to ramp approach is blacktopped or not. As informed that cleaning practice is manual sweeping.
11.4	Arrangement for water	Yes. Fixed and movable water sprinklers are provided

	spraying and wetting of ground in the premises	within the premises.
11.5	Status of green belt along periphery of unit	Claimed 150 saplings planted. Few big plants and some one year old plantation observed along the boundary at certain places i.e. along WBW and towards main road (Photograph-2, Annexure-1).
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet and outlet of jaw crusher was having manual flexible pipe water jet arrangement. Hopper of Jaw crusher was also having manual water sprinkling using flexible pipe.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are partially uncovered (Photograph-1, Annexure-1).
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Yes, provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In September 2016, 5929 units of electricity are consumed. The electricity consumption per unit of product cannot be ascertained as the details of products was not available.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs
15)	Source of water	Purchasing from outside.
16)	Water storage capacity at site	2 tanks of 2 KL capacity.
17)	Water Consumption (mode of measurement)	6 KL/day. Roughly based on tanker trips.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Records were not available except electricity bill for the month of October 2016.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured near jaw crusher which are 5-6 m from the monitoring equipment. The PM value was observed $7851 \mu\text{g}/\text{m}^3$ which is far exceeding the norms of $600 \mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations: <ol style="list-style-type: none"> 1. Due to large quantity of water sprinkling, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate matter emission during operation of jaw crusher and vibratory screen is observed. 2. The unit has installed several sprinklers and few misting systems using PVC piping network and manual water jetting arrangement is made at the junction of crushed material transfer from jaw crusher to conveyor belt. However, these arrangements 	

	<p>are not appropriately designed which resulted in marshy condition at several places within the premises and chocking of several sprinklers. Such water sprinklers/ spray systems overuse water and remain ineffective for crushers apart from reducing the efficiency of vibratory screen.</p> <ol style="list-style-type: none"> 3. WBW is provided almost all along the boundary. At a place near vibratory screen is provided with jute curtain. WBW is not provided at a location in eastern side and ramp area. Height of finished product heaps was more than the height of WBW. There was varying gaps between the sheets of WBW (5 cms to 15 cms). There was 2-3 feet gap at the bottom of WBW (Photograph-3, Annexure-1). This type of WBW may not solve the purpose of fugitive emission containment. Further, the product transfer point from conveyor (at nod) was also not equipped with chute to discharge the product. 4. Vibrating screens were covered from top and sides but shed is not provided (Photograph-1, Annexure-1). 5. All the products are stored openly within the premises. 6. Only one row plantation has been done along the periphery of unit premises. 7. The workers were not observed wearing the personal protective equipment (PPE). 8. Materials were found spread below the conveyor belts and conveyor belt cover are misaligned at some portions i.e. gap between conveyor belt and cover metal sheet (Photograph-4, Annexure-1). 9. The consent of the unit permits a domestic water consumption of 3.0 m³/day and industrial cooling and boiler consumption as 2.0 m³/day. However, the actual consumption for sprinklers & misting system is more. 10. The unit has displayed a flex banner as sign board.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crushers and vibratory screen) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The sprinkling system should be scientifically designed with full operational control of location wise installed sprinklers and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring boulders in the hopper. ➤ The Jute curtain in portion of WBW should be replaced with metal sheets and the gap between sheets should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. At some portion, older small metal sheets are used which reduces the height of WBW. ➤ Silo for all the products should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials should be openly stored and proper mechanical chute should be installed and height of finished goods should be atleast

	<p>2 feet less than the height of WBW. In the latter case, proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity to be used in sprinkling.
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Photograph-1. Sprinklers mounted at conveyor belt nodes, partially covered conveyor belt and vibratory screen.



Photograph-2. View of a portion of wind breaking wall showing gaps between sheets and plantation.



Photograph-3. Gap between and below metal sheet of WBW.



Photograph-4. Gap between conveyor belts and metal cover (jaw crusher to screen).

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	Laxmi Stone Crusher Gat No. 582, A/P Lonikand Tal-Haveli, Dist. Pune.
2.	Industry representative; Tel./Fax/E-mail	Shri Sharad Argade, Partner Mobile: 09921116969
3.	Date of visit	25/11/2016
4.	Operational status	Operational.
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Field Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30.06.2019.
8.	Consented Capacity Operating capacity	Stone crushing activity – 2000 Brass/M Crushed sand – 2000 Brass/M The unit operates at reported average capacity of 60 to 70 brass/D.
9.	Process chart*	<pre> graph TD A[Hopper] --> B[Secondary Crusher] B --> C[Conveyor] C --> D[Screen-1] D --> E[Hopper] E --> F[Conveyor] F --> G[VSI] G --> H[Conveyor] H --> I[Screen-2] I --> J[20 mm stone metal] I --> K[Crushed Sand] </pre>
10.	Product Types (Based on size)	20 mm, Crushed sand.
11.	Control Equipment/Measures	Aspect-wise given below:

	Provided	
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers and good network of foggers provided.
11.2	Wind breaking walls	Provided tin sheets barrier on sides but height is found to be less than material transfer points. Moreover, gaps observed between tin sheets provided for wind breaking.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Reported asphalt road inside the premises but not visible due to deposition of dust.
11.4	Arrangement for water spraying and wetting of ground in the premises	16 Sprinklers on periphery and good network of foggers provided.
11.5	Status of green belt along periphery of the unit	Very scanty plantation done on most of the sides of the periphery and cannot be termed as green belt. Plants are yet to grow.
11.6	Water sprinkling arrangement at crushing system	Flexible pipes are provided at conveyors and material transfer points.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are covered with tin sheets.
11.8	Condition of fugitive emission	No significant fugitive emissions observed.
11.9	Fogging system at exit point for loaded carrier/trucks	Fogging/overhead sprinklers are provided at entry/exit point for suppression of dust on material loaded in trucks & dumpers.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	450 to 500 units per day.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit.
16.	Water storage capacity at site	8 KL concrete tank.
17.	Water consumption (mode of measurement)	Reportedly 24 KLD (Roughly based on no. of times storage tank is filled).
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Not maintained at site.
19.	Monitoring of PM	Monitored at between 3 to 10 meter distances from

	(Measured between 03 to 10 meter from process equipment of stone crushing unit)	main process equipment on south-east side. Suspended particulate matter concentration in work zone observed to be 1160.0 µg/m ³ against notified limit of 600 µg/m ³ .
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°37'48.20" E074°00'14.10". The unit reportedly has approximate area of about 1.50 acre. ➤ The unit has not provided name board/sign board outside the premises at approach road for easy identification of the unit. ➤ The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. ➤ The unit has provided foggers at entry/exit point to moist the loaded material in trucks/carriers. ➤ Sprinklers on periphery & good network of foggers provided in the unit. ➤ Conveyors belts are covered. ➤ Scanty plantation done on the periphery which are yet to grow and existing plantation can not be termed as green belt. ➤ Wind breaking wall provided are inadequate in terms of spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. ➤ Screen provided is open from top but placed in covered housing/shed. ➤ The unit does not have regular road cleaning mechanism, instead spraying water. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report. ➤ Housekeeping observed to be fair. 	
21.	Recommendations: <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The sprinkling system should be scientifically managed with full operational 	

	<p>control of location wise installed sprinklers and separate records should be maintained in this respect.</p> <ul style="list-style-type: none"> ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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<p>Conveyors covered and screen placed in covered shed.</p>	<p>Network of overhead foggers provided to keep the stored material and surfaces moist.</p>
	
<p>Overhead fogger at exit point and wind breaking wall with scanty plantation for green belt.</p>	

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Dnyaneshwari Stone Company Gat. No. 169, A/p. Bhavadi Tal-Haveli Dist. Pune, Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Vijay Ramarao Satav – Proprietor; Ph: 9923353666
3)	Date of Visit	26 th November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN-28902-16/R/CC-8781, dated: 04.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	12. Stone Metal – 250 Brass/ Month 13. Crushed Sand – 250 Brass/ Month 14. Stone Chips – 250 Brass/ Month Reportedly, the unit is operating at full capacity.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below:

	<p style="text-align: center;">Boulders/rocks from their quarry through trucks</p> <pre> graph TD Input[Boulders/rocks from their quarry through trucks] --> MainHopper[Main hopper] MainHopper --> Crushers[Crushers] Crushers --> Conveyor1[Conveyor] Conveyor1 --> Screen1[Screen-1] Screen1 -- "Oversized materials" --> Conveyor2[Conveyor] Conveyor2 --> MainHopper Screen1 --> Conveyor3[Conveyor] Conveyor3 --> Hopper[Hopper] Hopper --> Conveyor4[Conveyor] Conveyor4 --> VSI[VSI] VSI --> Conveyor5[Conveyor] Conveyor5 --> Screen2[Screen-2] Screen2 -- "Oversized materials" --> Conveyor6[Conveyor] Conveyor6 --> Hopper Screen2 --> Conveyor7[Conveyor] Conveyor7 --> 10mmStone[10mm stone] Screen2 --> Conveyor8[Conveyor] Conveyor8 --> 20mmStone[20mm stone] 20mmStone --> Conveyor9[Conveyor] Conveyor9 --> CrushedSand[Crushed Sand] </pre>	
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20mm 10mm Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	The unit has provided movable sprinklers for sprinkling water on the heaped materials. The sprinkling system for the stored material was found inadequate.
11.2	Wind breaking wall	Provided tin sheet barriers of about 12 feet height

		<p>along the periphery of the stone crushing area which acts as wind breaking wall.</p> <p>Height of wind breaking wall is less than highest conveyor material transfer point.</p> <p>The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.</p>
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	<p>The unit has provided concrete road inside the premises. However, the roads are covered with dust and fine sand.</p> <p>The sprinklers fixed along the tin sheet barriers around the boundary provides sprinkling on the internal roads.</p>
11.4	Arrangement for water spraying and wetting of ground in the premises	<p>The sprinklers fixed on the tin sheet barriers around the boundary provides sprinkling on the ground in the premises. The movable sprinklers available in the unit are also used for wetting the ground inside the premises.</p> <p>The Sprinkling system provided on top of the conveyor belts and the sprinklers fixed on the wind breaking wall (tin sheets) caters the sprinkling/ spraying arrangements for wetting the ground in the premises.</p> <p>The unit have provided fogging system (foggers fixed on PVC pipeline network running overhead) in the crushing area along the conveyor system which also provide wetting of ground.</p>
11.5	Status of green belt along periphery of unit	<p>Reportedly, around 200 tree saplings have been planted by the unit inside the premises. Few grown up trees are found inside the plant premises and young trees of about 2-3 feet height are present scattered along the main boundary wall (metal sheet barrier).</p>
11.6	Water sprinkling arrangement at crushing system	<p>The unit is sprinkling water through flexible hose pipe in the main jaw crusher during the visit.</p> <p>The sprinkling system provided by the unit in the crushing area does the wetting of crushing system.</p>
11.7	Conveyor belt covered or not (if yes, Condition)	<p>The conveyors belts are covered with tin sheets.</p> <p>The covers provided for the conveyor belts are</p>

		installed leaving more gaps between the belts and the covers which give chances of fine sand spillage & dust emission from the moving conveyor belts.
11.8	Condition of fugitive emission	Slight emission was observed from the main jaw crusher, emission was also observed from the transfer points of the material.
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry through which truck movement is being carried out.
12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	<p>The industry provided the monthly electricity bill to the visiting team. The team reviewed the electricity bill and observed that the unit has consumed 29970 units of electricity during the month of October 2016 and consumed 36525 units of electricity during the month of September 2016.</p> <p>The unit is not maintaining the monthly production data. Only the despatch quantity is being maintained on daily basis.</p>
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is utilizing the rain water collected in a quarry located adjacent to the crushing plant.
16)	Water storage capacity at site	The unit has provided a tank of 12000 ltr capacity at the site for water storage.
17)	Water Consumption (mode of measurement)	Reportedly, about 18000 Ltrs of water is consumed per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	<p>The copy of the consent granted by MPCB is available at the site. The unit is maintaining log book which contains the daily record of dispatch including the product size, quantity, name of the party, vehicle no, delivery challan number.</p> <p>The unit is maintaining a separate log book for the daily diesel consumption in their vehicles (JCBs/ tractors, etc.)</p>
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	<p>PM was monitored at the location N18°37'1" E073°59'32" in the plant premises at a distance of about 6m from the main crusher.</p> <p>The monitoring result reveals that the concentration of PM is 3931 µg/m³ which is exceeding the norms of 600 µg/ m³ at a distance of</p>

		<p>3 to 10 meter from the main process equipment.</p> <p>During monitoring emission was observed from the main jaw crusher and from the transfer point in the conveyor system, emission was also observed from the heaps of stored material and spillage of fine sand from the conveyor belts was also observed during the visit, which may be the reasons for higher monitored values.</p>
20)	<p>Observations:</p> <ul style="list-style-type: none"> • As informed the unit has set up crushing plant in an area of about 3 acres land which is meant for crushing and storing of materials and the entire crushing plant area has been provided with the tin sheets barriers (wind breaking wall) along the periphery. The unit is having two separate manufacturing line of 375 Brass/ month capacity each. Both the manufacturing processes are identical and both are installed in the same premises. • The unit was earlier in the name of M/s. Om stone Metal, the present management has taken over possession of the plant and changed the name to M/s. Dnyaneshwari Stone Company. The new name has been reflected in the consent granted by MPCB. However, the electricity bill generated by Maharashtra State Electricity Distribution Co. Ltd. reflects the old name, i.e., the electricity bills are still being generated in the name of M/s. Om stone Metal. The unit has not made any request for the name change with the electricity department. • During the visit, one process line comprising of main crusher, secondary crusher and the VSI (Vertical Shaft Impact) crusher were operational, the second line comprising of the same set of machinery/ process was not operational due to the problem in the rotor bearing in the VSI crusher. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed sprinklers along the metal sheet boundary wall, sprinklers along the ramp and sprinklers in the conveyor belt below the cover of the conveyor belts. • The unit has also provided sprinkling system using PVC piping network near the crushing area. However, these arrangements were found inadequate and uneven. Few pockets were found marshy due to excess sprinkling and sprinkling found inadequate on the material heaps, in the crushing area and in transfer points. • The sprinkling made on the conveyor belts makes the conveyor belt wet resulting in sticking of materials on the belt surface and materials are carried away without dropping in the vibrating screens and carried out of the screen house area and when the belt circulate down the materials are dropped down on the ground below the conveyor belt & spillage observed around the crushing area. During visit, fine dust/ sand was found spilling from the conveyor belts on the ground. • Due to water sprinkling, fugitive emissions from vehicular movement and from ground are not observed within the premises during the visit. However particulate emission observed in the material transfer points and in the crushers. • Wind breaking wall (tin sheets) is provided all along the boundary but the heights of the heaps of the materials (product) are higher than the height of wind breaking wall. The tin sheets provided as the wind breaking wall are 	

	<p>installed leaving 4-5 inches gap vertically between each sheets.</p> <ul style="list-style-type: none"> • The unit has installed two screening system, One screening system for screening the materials from secondary crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside a common shed covered with tin sheets. • The unit has provided a name board display at the main entrance of the plant. • The green belt provided is scanty with small/ young trees near the boundary. • Photographs taken in the plant during the visit are given in Annexure.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (crushers/ hoppers) with proper door arrangements. ➤ All the conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The sprinkling system should be scientifically installed with location wise full operational control and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring rocks/ boulders in the hopper. ➤ The gap between sheets in the wind breaking wall should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ The crush sand storage should be done in silo and all other materials shall be openly stored and proper mechanical chute should be installed for the material falling from the conveyor belts. ➤ The height of finished good heaps should be less than the height of wind breaking wall. Proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ Increase the green belt along the periphery of premises. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ Consent should be amended for the inclusion of water quantity to be used in sprinkling.



Photograph: tin sheet barrier with gaps



Photograph: internal road covered with dust



Photograph: Fogger system at main entrance



Photograph: Water storage tank

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Mukta Enterprises Gat. No. 79-B, A/p. Bhavadi Tal-Haveli Dist. Pune, Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Santharam Bhopan Ghule - Proprietor; Ph: 9011983434 Mr. Rajendra Undre- upervisor; Ph: 9130068986
3)	Date of Visit	25 th November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN/R/CC-8779, dated: 04.07.2016 is Valid till 30.06.2016.
8)	Consented Capacity Operating Capacity	15. Stone Crushing Activity – 1200 Brass/ Month 16. Stone Dust – 50 Brass/ Month The unit is operating at full capacity.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below.

	<p style="text-align: center;">Rocks/ Boulders from their Quarry brought through trucks</p> <pre> graph TD Input[Rocks/ Boulders from their Quarry brought through trucks] --> Hopper1[Hopper] Hopper1 --> JawCrusher[Jaw Crusher] JawCrusher --> Conveyor1[Conveyor] Conveyor1 --> Screen1[Screen-1] Screen1 -- "Oversized materials" --> Conveyor2[Conveyor] Conveyor2 --> Hopper1 Screen1 --> Conveyor3[Conveyor] Conveyor3 --> Hopper2[Hopper] Hopper2 --> Conveyor4[Conveyor] Conveyor4 --> VSI[VSI] VSI --> Conveyor5[Conveyor] Conveyor5 --> Screen2[Screen-2] Screen2 -- "Oversized materials" --> Conveyor6[Conveyor] Conveyor6 --> Conveyor4 Screen2 --> Conveyor7[Conveyor] Conveyor7 --> Grit[Grit (8mm)] Screen2 --> Conveyor8[Conveyor] Conveyor8 --> 10mm[10mm stone] Screen2 --> Conveyor9[Conveyor] Conveyor9 --> 20mm[20mm stone] Screen2 --> Conveyor10[Conveyor] Conveyor10 --> StoneSand[Stone Sand] </pre>	
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20mm 10mm 8mm Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and	The unit has provided Sprinkling system on top

	sprinkling arrangements for stored materials	<p>of the conveyor belts (unloading point/product free fall ends) which sprinkles water on the material falling from the conveyors and on heaped materials.</p> <p>The unit is also having movable sprinklers which are being used to sprinkle on the stored heaps also.</p> <p>However, the sprinkling arrangement were found inadequate as the entire heaps were not covered for sprinkling and dust emission was observed from the stored heaps.</p>
11.2	Wind breaking wall	<p>Provided tin sheet barriers of about 12 feet height along the periphery which acts as wind breaking wall.</p> <p>Height of wind breaking wall is less than highest conveyor material transfer point.</p> <p>The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.</p>
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	<p>The unit has provided concrete patch of about 20 feet length at the main entrance of the premises.</p> <p>The unit has also provided a bitumen road of about 50 feet length inside the premises which is covered with dust and fine sand and not visible.</p> <p>The unit has provided sprinklers fixed along the wind breaking sheets around the boundary (periphery) & on top of the conveyor belt which covers the sprinkling of water on the internal road along the boundary.</p> <p>The unit also have movable sprinklers which are also used to sprinkle water on the internal road surface.</p>
11.4	Arrangement for water spraying and wetting of ground in the premises	<p>The unit have provided fogging system (foggers fixed on PVC pipeline network running overhead) in the crushing area along the conveyor system which also provide wetting of ground.</p>

		The movable sprinklers are also used for sprinkling water on the ground.
11.5	Status of green belt along periphery of unit	Young trees of about 1-3 m height are present along the boundary wall (metal sheet barrier) of the unit. The plantation is scanty.
11.6	Water sprinkling arrangement at crushing system	<p>The unit is pouring water through flexible hose pipe on the stones in the hopper of main jaw crusher during the visit.</p> <p>The fogging system provided by the unit in the crushing area along the conveyor system does the wetting of crushing system.</p> <p>The unit has provided a PVC pipeline fixed at the material transfer point from crusher outlet to the conveyor belt and sprinkling water on the materials through the PVC pipeline.</p>
11.7	Conveyor belt covered or not (if yes, Condition)	<p>The conveyors belts are covered with tin sheets.</p> <p>The covers provided for the conveyor belts are damaged at many places and few sections of the belts were left uncovered.</p> <p>The provided covers are also installed leaving more gaps between the belts and the covers which give chances of fine sand spillage & dust emission from the moving conveyor belts.</p>
11.8	Condition of fugitive emission	<p>Emission was observed from the screen house and from the heaps of material stored.</p> <p>Spillage was also observed from the conveyor belts.</p>
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry through which truck movement is being carried out.
12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	The power consumption details were not provided by the unit to the visiting team.
14)	Alternate arrangement for power	No alternate power supply.

15)	Source of water	The unit is using the rain water collected in their quarry located adjacent to the crushing plant. The water from the quarry is pumped and conveyed to the crushing unit through pipeline for filling the storage tank at site and for sprinkling.
16)	Water storage capacity at site	The unit has provided two metallic tanks of total storage capacity of 22000Ltrs (one tank of 12000 Ltrs and another tank of 10000Ltrs capacity) at the site for water storage.
17)	Water Consumption (mode of measurement)	Reportedly, the tanks are filled two times in a day. Which means about 44000 Ltrs of water is consumed per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	<p>The unit is maintaining records like consent issued by MPCB & other communication from MPCB, logs books, delivery challan book, fuel consumption details, etc.</p> <p>The copy of the consent issued by MPCB was made available to the visiting team.</p> <p>The unit is maintaining separate log books for material processed, material dispatched and fuel consumed. All the log books & records were made available to the visiting team.</p> <p>The log book for the material processed contains the details of material processed in their crushing plant; the data are being entered on weekly basis.</p> <p>The log book for material dispatch contains the daily record of dispatch including the product size, type of material, quantity in brass, name of the party, vehicle no, delivery challan number.</p> <p>The log book for fuel consumption contains the quantity of diesel consumed daily for their vehicles like JCB, Tractor, Truck etc.</p>
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone)	PM was monitored at the location N18°37'22" E073°59'44" in the plant premises at a distance of about 5m from the main crusher.

	crushing unit)	<p>The monitoring result reveals that the concentration of PM is 5346 $\mu\text{g}/\text{m}^3$ which is exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.</p> <p>During monitoring emission was observed from the screen house, emission was also observed from the material stored in heaps and spillage of fine sand form the conveyor belts was also observed during the visit, which may be the reasons for higher values.</p>
20)	<p>Observations:</p> <ul style="list-style-type: none"> • As informed the unit has set up crushing plant in an area of about 1 acres which is meant for crushing and storing of materials and the entire crushing plant area has been provided with the tin sheets barriers (wind breaking wall) along the periphery. The quarry of 4.75 acres area owned by the unit is located adjacent to the crushing plant from where the rocks/ boulders are brought to the crushing plant through trucks. • During the visit/ monitoring, the crusher and the VSI (Vertical Shaft Impact) crusher were operational. • The unit has provided covering for the secondary hopper using tin sheets. All the three sides & top are covered leaving only one side opened for feeding of materials through vehicle. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed sprinklers along the metal sheet boundary wall, sprinklers on top of the conveyor belt (at material unloading point/ product free fall end) and fogger systems around the conveyor system using PVC piping network and sprinkling arrangement is also installed at the junction of crushed material transferred from crusher hopper to conveyor belt. • However, these arrangements were found inadequate and uneven. Few pockets were found marshy due to excess sprinkling and few pockets on ground and on the material heaps sprinkling were found inadequate. Dust/ fine sand are being carried out even by slight wind. • The conveyor belts are not covered properly. The cover of the return conveyor belt carrying oversized material from the screen-1 to the main hopper is fully damaged and found in dilapidated condition. Other conveyor belts provided with covers are also found inadequate. The covers are fixed leaving more gaps between the belts and the covers which results in carrying away of dust & fine sand by wind. During visit, fine dust/ sand was found spilling from the conveyor belts on the ground. • The sprinkling was also found inadequate and uneven. Excessive 	

	<p>sprinkling was observed in few pockets and making marshy condition on ground in the premises. While few pockets were left dry without sprinkling. The materials stored in heaps were also not wetted completely due to inadequate sprinkling arrangement. Emission was observed from the stored material heaps. Dust was being carried out from the materials heaps by wind.</p> <ul style="list-style-type: none"> • Wind breaking wall (tin sheets) is provided all along the boundary but the heights of the heaps of the materials (product) are higher than the height of wind breaking wall. The tin sheets provided as the wind breaking wall are installed leaving 3-4 inches gap vertically between each sheets. • The unit has installed two screening system, One screening system for screening the materials from the main crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside a common shed covered with tin sheets. During visit, emission was observed from the screen house. • The unit has provided a proper name board display at the main entrance of the plant. • The green belt provided is scanty with small/ young trees. • Photographs taken in the plant during the visit are given in Annexure.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (screen house & main hopper) with proper door arrangements. ➤ All the conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The sprinkling system should be scientifically installed with location wise full operational control and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring rocks/ boulders in the hopper. ➤ The gap between sheets in the wind breaking walls should be either packed with tarpaulin till the time of full growth of atleast two rows of plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. The crush sand storage should be done in silo and all other materials can be openly stored and proper mechanical chute should be installed and height of finished goods should be atleast 2 feet less than the height of wind

	<p>breaking wall. In the latter case, proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ Increase the green belt (with suitable plant species) along the periphery of premises. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ Consent should be amended for the inclusion of water quantity to be used in sprinkling.
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Photograph: Fogger at main entrance



Photograph: Cover for secondary hopper



Photograph: Flooded ground due to excess sprinkling



Photograph: Marshy condition due to excess sprinkling



Photograph: Sprinkling arrangement for material from crusher to conveyor belt



Photograph: Water storage tank at site



Photograph: Green belt near main entrance



Photograph: tin sheet boundary wall with gaps



Photograph: Covers of the conveyor belt with more gap



Photograph: Sprinklers overhead near conveyors



Photograph: Material heaps without sprinkling



Photograph: Condition of conveyor belts

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Balaji Stone Crusher Gat. No. 198-B, Bhavadi Tal-Haveli, Dist. Pune Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Dattatray Tambe - Partner; Ph: 9527789494
3)	Date of Visit	26 th November, 2016
4)	Operational Status	Non-Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II Mr. Bagwan Maknikar, Field Officer, MPCB, SRO, Pune-II
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN-28904-16/R/CC-8788, dated: 04.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	17. Stone Sand – 3600 Ton / Month 18. Stone Metal – 2400 Ton/ Month The unit was not operational reportedly since last six months.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below

	<p style="text-align: center;">Rocks/ Boulders purchased from Quarries</p> <pre> graph TD Input[Rocks/ Boulders purchased from Quarries] --> Hopper1[Hopper] Hopper1 --> Crushers[Crushers (2 Nos.) (1 working + 1 stand-by)] Crushers --> Conveyor1[Conveyor] Conveyor1 --> Screen1[Screen-1] Screen1 -- Oversized materials --> Conveyor2[Conveyor] Conveyor2 --> Hopper2[Hopper] Hopper2 --> Conveyor3[Conveyor] Conveyor3 --> VSI[VSI] VSI --> Conveyor4[Conveyor] Conveyor4 --> Screen2[Screen-2] Screen2 -- Oversized materials --> Conveyor5[Conveyor] Conveyor5 --> Hopper2 Screen2 --> Conveyor6[Conveyor] Conveyor6 --> CrushedSand[Crushed Sand] Screen2 --> Conveyor7[Conveyor] Conveyor7 --> 10mm[10 mm stone] Screen2 --> Conveyor8[Conveyor] Conveyor8 --> 20mm[20mm stone] </pre>	
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20mm 10mm Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements	The unit has provided Sprinkling system on top of the conveyor belts (unloading point/ product free

	for stored materials	fall ends).
11.2	Wind breaking wall	The unit has provided tin sheet barriers of about 12 feet height (which acts as wind breaking wall) along the boundary of the unit. The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	The unit has bitumen road from the main entrance to hopper inside the premises of about 300 feet length.
11.4	Arrangement for water spraying and wetting of ground in the premises	The sprinklers fixed on the tin sheet barriers (boundary wall) will provide sprinkling on the internal ground. The unit have provided sprinkling system (sprinklers fixed on PVC pipeline network running overhead) in the crushing area along the conveyor system for the wetting of ground. However, the adequacy of the sprinkling system could not be assessed due to the non-operation of the plant.
11.5	Status of green belt along periphery of unit	Young trees of varying heights ranging from 3 ft to 5ft height are present inside the premises along the main boundary.
11.6	Water sprinkling arrangement at crushing system	The unit has provided sprinkling system on top of the conveyor belts for the sprinkling of water for crushing system.
11.7	Conveyor belt covered or not (if yes, Condition)	The conveyors belts are covered with tin sheet coverings.
11.8	Condition of fugitive emission	Plant was not operational and there was no material stored in the premises and hence no scope for any fugitive emission.
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry.

12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	The unit was not operational.
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is having an open well inside the premises which the unit intend to use.
16)	Water storage capacity at site	The unit has provided a water storage tank of 4000 litres in the premises.
17)	Water Consumption (mode of measurement)	--
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	The records are not available due to non-operation of the plant.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	Not monitored due to non-operational condition of the plant.
20)	<p>Observations:</p> <ul style="list-style-type: none"> • During the visit, the unit was not operational. It was informed that the unit has not paid the dues to the electricity department and hence the power supply was disconnected to the unit. Therefore, the plant was not operational since last six months. • As informed the unit has setup the crushing plant in 0.75 acre land in which crushing activity and storing of materials shall be carried out. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed sprinkling systems overhead around the conveyor system using PVC piping network and sprinkling arrangement is also installed on the tin sheet barriers (boundary wall). However, the adequacy of the installed sprinkling system could not be assessed due to the non-operational condition of the plant. • The unit has provided name board at the entrance. • Photographs taken in the plant during the visit are given in Annexure-2. 	
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ During operation, the unit should ensure adequate water spray on the raw material before transferring in the hopper. ➤ To provide adequate water sprinkling on the stored materials, on 	

	<p>ground and on material transfer points to reduce emission during the operation of the plant.</p> <ul style="list-style-type: none"> ➤ Regular and proper housekeeping should be practiced within the premises during operation of the plant. ➤ The gap between sheets in the wind barrier should be either packed with tarpaulin till the time of full growth of atleast two rows of plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets and to ensure the same before restarting of operation. ➤ Workers should be educated to use PPEs during operation of the plant. ➤ Increase green belt at the main entrance and around the periphery of the unit. ➤ Maintenance of records/ data at site after starting of operation. ➤ Consent should be amended for the inclusion of water quantity to be used in sprinkling.
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Photograph: the screen house covered with tin sheets (non-operational)



Photograph: Conveyor belts covered with tin sheets (non-operational)



Photograph: The vacant material storage area and covered secondary hopper (non-operational)



Photograph: the tin sheet barrier around the boundary which acts as wind breaking walls and small plantations

REPORT ON VISIT TO STONE CRUSHER UNITSAS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Om Jai Stone Crusher, Gat No. 2515, Wagholi, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Shailesh Uttam Jadhav. Mobile: 7057579292.
3)	Date of Visit	23.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	<ul style="list-style-type: none"> • Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara. • Shri Manish S. Holkar, SRO , Head Quarter Mumbai. • Shri Utkarsh Shingare , FO(PC), MPCB Regional Office, Pune.
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	BO/JD(APC)/EIC No. PN-28897-16/R/CC-8671 01.07.2016 valid upto 31.07.2017.
8)	Consented Capacity Operating Capacity	Stone metal, Aggregate crushing activity -1350 Brass/ Month. About 50 brass/ day different size of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	<p>Raw material Hopper → Jaw Crusher (first) → Conveyor belt → Vibratory Screen No.1 → Greater than 20 mm to secondary hopper and less than 20 mm to VSI hopper → VSI machine → Vibratory screen No.2 → Conveyor belts → Crush sand open storage.</p> <p>Secondary hopper → Jaw crusher No2 → Vibratory Screen No.2 → bigger than 20 mm to secondary crusher and less than 20 mm to conveyor belt → crush sand and 6-20 mm products using separate conveyor belt.</p>
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	6+ mm (6mm-20mm) pebbles and Crushed Sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers are fixed on conveyor belt nods, ground and flexible pipe water jetting at jaw crusher hopper and perforated pipe water jetting at the inlet of primary jaw crusher (Photographs-1, Annexure-1). These sprinklers cover the openly stored finished products for wetting.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided all along except south east, north east and southwest corner. A portion not having WBW except the stated corners was having jute curtains.
11.3	Internal Pucca road & road	Claimed that internal road is black topped. However due

	cleaning mechanism/ arrangement	to grit spread, it is difficult to state that the internal road is blacktopped or not.
11.4	Arrangement for water spraying and wetting of ground in the premises	Yes. Water sprinklers are provided within the premises.
11.5	Status of green belt along periphery of unit	Claimed more than 100 saplings planted. However, plantation is sporadic along the boundary and no plantation is carried out along the ramp.
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet of jaw crusher was having water jet arrangement using perforated pipes. Hopper of primary jaw crusher was having water sprinkling using flexible pipe.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are partially uncovered (Photograph-1, Annexure-1). One conveyor belt carrying crushed sand from vibratory screen and one conveyor belt from hopper to VSI were uncovered (Photograph-2, Annexure-1).
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Yes, provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In August 2016, 10430 units of electricity is consumed. However the electricity consumption per unit of product cannot be ascertained as the details of products were not available.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs.
15)	Source of water	Nearby mine quarry.
16)	Water storage capacity at site	15 KL PVC tank.
17)	Water Consumption (mode of measurement)	10-12 KL/day (as informed). Based on tank filling up requirement.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Not available.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured between Jaw crusher (at 7-8 m distance) and VSI. The PM value was observed 11628 $\mu\text{g}/\text{m}^3$ which is far exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations: <ol style="list-style-type: none"> 1. Due to large quantity of water sprinkling and spraying, fugitive emission from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate matter emission during 	

	<p>operation of VSI machine and jaw crushers is observed.</p> <ol style="list-style-type: none"> The unit has installed several garden sprinklers and misting systems using PVC piping network. However, these arrangements are not appropriately designed which resulted in marshy condition at several places within the premises as well as on outside road. Such sprinkling and spraying arrangement overuse water and remain ineffective for crushers and VSI machine apart from reducing the efficiency of vibratory screens. Jaw crusher return conveyor (from vibratory screen) and screen to VSI hopper conveyor belts were not equipped with sprinklers/ spray systems. WBW is provided almost all along the boundary except ramp area. The height of finished product heap was more than the height of WBW. There are locations on periphery where jute curtains are fixed and at a location, the metal sheet of WBW is detached from frame (Photograph-5 &6, Annexure-1). There was gaps between the sheets of WBW and 3-4 feet gap from the bottom. In such situation, WBW may not solve the purpose of fugitive emission containment. The product transfer point from conveyor (at nod) was also not equipped with chute to discharge the products. Vibratory screen is not enclosed properly within a shed (Photograph-3, Annexure-1). Significant dust is observed inside the shed. All the products are stored openly within the premises. Sporadic Plantation has been done along the periphery of unit premises and along the ramp. The workers were not observed wearing the personal protective equipment (PPE). Materials found spread below the conveyor belts and at other places (Photograph-4, Annexure-1). Housekeeping was poor leading to several big heaps of materials below conveyor belts. The consent of the unit permits a domestic water consumption of 0.3 m³/day. However, the actual consumption for sprinklers & misting system is much more. The unit has displayed a flex banner as sign board.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crusher, VSI machine and vibratory screen) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling and spraying system should be scientifically installed based on the nature of emissions with full operational control of location wise installed sprinklers and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. The other hoppers having conveyor belt based loading should be properly enclosed from all sides with an acrylic sheet in window (for inspection/ viewing) and door arrangement (for maintenance). ➤ There should be adequate water sprinkling on the raw material before transferring boulders in the hopper. ➤ The WBW should be provided all along the boundary with strong support. The gap between sheets should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag

	<p>metal sheets to cover the gaps between sheets.</p> <ul style="list-style-type: none"> ➤ Silo for all the product material should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, silo should be made for the crush sand storage and all other materials should be openly stored and proper mechanical chute should be installed. Height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Improve housekeeping within the premises. ➤ Consent should be amended for water quantity to be used in sprinkling and product name.
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<p>Photograph-1. Sprinklers fixed on conveyor belt nod and incomplete cover for conveyor belt.</p>	<p>Photograph-2. Uncovered VSI conveyor belt.</p>
	
<p>Photograph-3.Partial enclosure for screen.</p>	<p>Photograph-4. Spilled material near VSI and below conveyor belts.</p>
	
<p>Photograph-5. A jute curtain to complete WBW.</p>	<p>Photograph-6. Improper and poor foundation of metal sheets in WBW resulted in fallen sheets of metals.</p>

REPORT ON VISIT TO STONE CRUSHER UNITS AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Deepak Stones, Gat No. 1505, A/P-Wagholi, Ta.: Haveli, Dist.: Pune , Maharashtra
2)	Industry representative, Tel./ Fax/ e-mail	Shree Santosh Shridhar Kulkarni (Caretaker) Mobile: 9881068243/ 9822015365
3)	Date of Visit	25.11.2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	<ul style="list-style-type: none"> • Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara • Shri Manish S. Holkar, SRO , Head Quarter Mumbai • Shri Utkarsh Shingare, FO (PC), MPCB Regional Office, Pune
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	BO/JD(APC)/EIC No. PN-28950-16/R/CC-9565 dt. 30.07.2016 valid upto 30.06.2019.
8)	Consented Capacity Operating Capacity	Stone metal-30 Brass/ day About 25-30 brass/ day different sizes of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper→ Jaw Crusher (1 No.)→ Rubber bucket conveyor→ Supra (a small feeder)→ Drum screen→ greater than 20 mm to Jaw crusher hopper and less than 20mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20 mm and 10 mm pebbles & less than 6 mm as crushed sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers are fixed on top of conveyor belt at material discharge end/ product free fall ends i.e. nod. Movable water sprinklers are also used. These sprinklers cover the openly stored finished products for wetting.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided in eastern and northern sides. In southern side, elevated terrain exists and western side has 5-6 feet high hollow brick wall. Ramp does not have any plantation or WBW (Photographs-1, Annexure-1) .
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to thick grit spread, it is difficult to state that the internal road is blacktopped or not. But the road was clean and almost levelled. As informed that cleaning practice is manual sweeping.
11.4	Arrangement for water spraying and wetting of ground	Yes. Temporary movable water sprinklers are provided within the premises (Photograph-2, Annexure-1) .

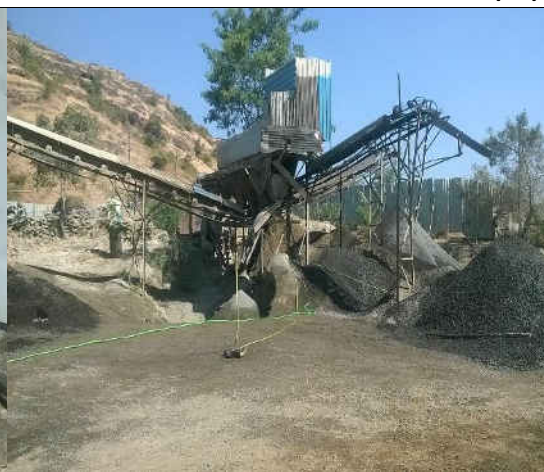
	in the premises	
11.5	Status of green belt along periphery of unit	Claimed about 200 saplings planted. About 20 big trees and some new plantation observed along the boundary at certain places i.e. along WBW (Photograph-1, Annexure-1).
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet of jaw crusher was having water jet arrangement by flexible pipe. Hopper of Jaw crusher was having manual water sprinkling using flexible pipe.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are mostly covered.
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Yes, provided (Photograph-3, Annexure-1).
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In August 2016 and October 2016, 2508 units and 1874 units respectively electricity is consumed. However the name of electricity bill was in the name of Shri Jagat Bihari Ferwant (old owner). The electricity consumption per unit of product cannot be ascertained as the details of products was not available at site.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs
15)	Source of water	Outside purchase
16)	Water storage capacity at site	8 KL in cemented tank and a 500 litre PVC tank.
17)	Water Consumption (mode of measurement)	As informed, 10 KL/day. Roughly based on purchased tanker capacity.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Records were not available.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured between jaw crusher and VSI machine which are 7-8 m from the monitoring equipment in downwind. The PM value was observed 28375 $\mu\text{g}/\text{m}^3$ which is far exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
	Observations: <ol style="list-style-type: none"> 1. Due to large quantity of water sprinkling, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate emission is observed from jaw crusher during operation. 2. The unit has installed several water sprinklers and few water spraying systems using 	

	<p>PVC piping network, few movable water sprinklers and domestic showers. However, these arrangements are not appropriately designed which resulted in marshy condition at several places within the premises especially below conveyor belts and in finished goods storage area. Such sprinkling and spraying arrangements overuse the water and remain ineffective for crushers apart from reducing the efficiency of drum screen.</p> <ol style="list-style-type: none"> 3. WBW is provided in eastern and northern sides but the height of material free fall from conveyor belt nod is more than the height of wind breaking wall. There also exists gap between metal sheets of WBW. In such situation, WBW may not solve the purpose of fugitive emission containment. Further, the product discharge point from conveyor belt (i.e. nod) was also not equipped with chute to control the fugitive emissions during discharge of the product. WBW was supported by bamboo column instead of strong foundation (Photograph-1, Annexure-1). 4. Drum screens were enclosed inside a shed but a portion of shed was dilapidated (Photograph-4, Annexure-1). 5. All the products are stored openly within the premises. 6. Only one row plantation has been done along the periphery of unit premises. 7. The workers were not observed wearing the personal protective equipment (PPE). 8. Materials were found spread below the conveyor belts. 9. The 8 Kl capacity tank decanted during 1.5 hour stay. Thus the water consumption for sprinkling may be more than 10KL/day. 10. The consent of the unit permits a domestic water consumption of 1.5 m³/day. Out of which 1.0 m³/day for boiler/ cooling which is apparently irrelevant for this unit. However, the actual consumption for sprinklers & spraying system is much more. 11. The unit has displayed a sign board having only name.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crushers and drum screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling and spraying systems should be scientifically designed with full operational control of location wise installed sprinklers/ spraying systems and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring boulders in the hopper. ➤ The gap existing in WBW between sheets should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. The WBW frame should be strengthen to sustain wind. ➤ Silo for all the products should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials should be openly stored and proper mechanical chute should be installed at conveyor belt nod and height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case,

	<p>proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt development (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity to be used in sprinkling.
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Photograph-1. WBW supported by bamboo column and one row new plantation at the spacing of 6-7 m.



Photograph-2. Temporary movable sprinkler and storage of materials.



Photograph-3. Water Sprinkling arrangement at gate.



Photograph-4. Dilapidated shed for drum screen and Supra.

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Akshay Suppliers, Gat No.555, Lonikand, Taluka: Haveli, Dist: Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Sambhaji Awaghade, Manager Mobile: 09552510212
3.	Date of visit	23/11/2016
4.	Operational status	The unit was not operational reportedly due to disconnection of power supply by MSEB due to non-payment of bill.
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwaan Maknikar, Filed Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Crushing Activity - 40 Brass/Day (Reportedly each brass is equivalent to about 4.3 ton) Not operational during the visit.

9.	Process chart*	<pre> graph TD Hopper --> PrimaryCrusher[Primary Crusher] PrimaryCrusher --> Conveyor1[Conveyor] Conveyor1 --> TunnelHopper[Tunnel Hopper] TunnelHopper --> Conveyor2[Conveyor] Conveyor2 --> ConeCrusher[Cone Crusher] ConeCrusher --> Conveyor3[Conveyor] Conveyor3 --> Screen1[Screen-1] Screen1 --> ConveyorHopper[Conveyor/Hopper] ConveyorHopper --> VerticalShaftCrusher[Vertical shaft crusher] VerticalShaftCrusher --> Screen2[Screen-2] Screen2 --> 10mm[10 mm stone metal] Screen2 --> 20mm[20 mm stone metal] Screen2 --> CrushedSand[Crushed Sand] </pre>
10.	Product Types (Based on size)	20 mm, 10mm and Crushed sand.
11.	Control Equipments/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Flexible pipes are provided before feed of primary crusher and before feed of cone crusher. Sprinklers are provided after Cone Crusher, VSI and screens to wet the material. No separate dust suppression/sprinkling arrangement provided for stored materials.
11.2	Wind breaking walls	Provided tin sheets barrier of about 10 feet height on east, west, north & south sides. Height of wind breaking wall is less than highest conveyor material transfer point. Gaps observed between tin sheets. Provision of wind breaking wall is not adequate.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Very small stretch of concrete road provided at entrance up to weigh bridge.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system provided on the boundary (periphery) only. No fixed or movable sprinklers provided separately to keep the ground moist for dust suppression.

11.5	Status of green belt along periphery of the unit	Very scanty plantation done on the periphery and can not be termed as green belt.
11.6	Water sprinkling arrangement at crushing system	Flexible punctured pipes to work as sprinkler provided before & after primary crusher and before cone crusher. Sprinklers are provided after cone crusher, after screen-1, before & after VSI.
11.7	Conveyor belt covered or not (if yes, condition)	Covered with sheets from top but have lot of gaps on the sides.
11.8	Condition of fugitive emission	Not visible during the visit. The unit was also not operating.
11.9	Fogging system at exit point for loaded carrier/trucks	Fogging/overhead sprinklers are not provided at entry/exit point for suppression of dust on material loaded in trucks & dumpers.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	Details not available with the unit representative during the visit.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit in Lonikand village.
16.	Water storage capacity at site	03 Sintex tanks of 5000 lit each and 01 MS tank of 1000 lit capacity.
17.	Water consumption (mode of measurement)	Reportedly 80000 lit. (Roughly based on no. of times tanks are filled).
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	No records available at site.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Not monitored as the unit was not operational.
20.	<p>➤ Observations:</p> <p>➤ The unit is located at N18°37'20.90" E074°00'03.20". The unit reportedly has approximate area of about 0.50 acre.</p> <p>➤ The unit was not operational due to disconnection of power supply on account of non-payment of bill.</p> <p>➤ The unit has not provided any name board/sign board at entrance for identification of the unit from approach road.</p> <p>➤ The unit has not provided foggers at entry/exit point to moist the loaded material in trucks/carriers.</p> <p>➤ The sprinklers/foggers network is not appropriately designed and material stored in heaps is not adequately covered with such provision.</p>	

	<ul style="list-style-type: none"> ➤ Inside road sweeping/cleaning, ground wetting arrangements are inadequate. ➤ Conveyors belts are inadequately covered having significant gaps sides. ➤ Scanty plantation done on the periphery which can not be termed as green belt. ➤ Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Housekeeping observed to be very poor as no space was available to walk in the process area. ➤ Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Installation of the plant & machinery is so congested that the regular cleaning & other movements is very difficult. ➤ Old machinery of the stone crusher units was also found adjacent to this unit. Same has to be removed immediately. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ Provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ Old abandoned machinery should be removed by the unit. ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of overhead foggers at entry/exit point for suppression of dust on material loaded on trucks/dumpers. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic

	<p>chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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<p>Poor housekeeping with no proper access in process area.</p>	<p>Inadequate wind breaking wall with scanty plantation in the name of green belt.</p>
	
<p>No overhead fogger at entry/exit of the unit for loaded trucks/carriers. Non-uniform & excessive water application by sprinklers at periphery.</p>	<p>Conveyor belts open from sides.</p>

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Ghule & Bhapkar Stone Crusher, Gat No.583, Lonikand, Taluka: Haveli, Dist: Pune
2.	Industry representative; Tel./Fax/E-mail	Shri Ganesh Bhapkar, Partner Mobile: 09823081215
3.	Date of visit	08/11/2016 & 2 nd visit on 25/11/2016
4.	Operational status	The unit was not operating on 08/11/2016 due to some fault in bearing of secondary crusher. Unit found operational on 25/11/2016.
5.	Name of the official visiting the unit	Team visited on 08/11/2016: Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara S. Pradeep Raj, Scientist-C, CPCB, ZO (W), Vadodara J. A. Darwatkar, Field Inspector, MPCB, Pune-2 Team visited on 25/11/2016: Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Field Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, PCMC, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Metal – 1800 Brass/Month Stone Dust – 100 Brass/Month (Reportedly each brass is equivalent to about 4.3 ton) Reportedly operated at average capacity of 50 TPH with average 5 hours operation.

9.	Process chart*	<pre> graph TD A[Primary Crusher] --> B[Conveyor] B --> C[Junction/Transfer Point] C --> D[Conveyor] D --> E[Secondary Crusher] E --> F[Conveyor] F --> G[Screen-1] G --> H[20 mm stone metal] G --> I[Conveyor/Hopper] I --> J[Vertical shaft crusher] J --> K[Screen-2] K --> L[10 mm stone metal] K --> M[Sand] </pre>
10.	Product Types (Based on size)	20 mm, 10 mm and 5mm.
11.	Control Equipments/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Sprinklers and foggers provided
11.2	Wind breaking walls	Provided tin sheets barrier of about 10 feet height. Height of wind breaking wall is less than highest conveyor material transfer point.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	Asphalt road was provided reportedly but is now covered with dust.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinkling system provided on the boundary (periphery) and 04 rain guns (big sprinklers) are provided for ground wetting.
11.5	Status of green belt along periphery of the unit	South-East side of the units has greenery and grown-up plant of more than 3 m height. North-West side of the unit has scattered scanty greenery with young trees of about 1 m height.
11.6	Water sprinkling arrangement at crushing system	Water sprinklers/foggers are provided at transfer points of material from conveyors. Unloading point from screens also has sprinkling system. Overhead foggers are also provided in the

		crushing system.
11.7	Conveyor belt covered or not (if yes, condition)	Covered with sheets but have significant opening/gaps on sides.
11.8	Condition of fugitive emission	No significant fugitive emissions observed.
11.9	Fogging system at exit point for loaded carrier/trucks	Provided water sprinkler system at the entry/exit point of the unit.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	2.3 units per ton (worked out from reported average 15000 units per month of power with 6 hours per day operation for average 22 days in a month @ 50 TPH)
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Rain water accumulated in old quarries located near the unit in Lonikand village.
16.	Water storage capacity at site	Metallic cylindrical tank of 15000 liter capacity.
17.	Water consumption (mode of measurement)	15000 to 20000 liter per day (Roughly based on no. of times tank of 15000 liter capacity filled).
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	The unit is maintaining the records of material dispatched in trucks. The nos. of trucks dispatched with product varies from season & market demand. The unit dispatched 23-27 trucks per day during months of February-March. However, only 12-14 trucks per day dispatched during April.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitored on 25/11/2016 at a location between 3 to 10 meter distances from main process equipments on south-east side. Suspended particulate matter concentration in work zone observed to be 770.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°37'39.39" E074°00'36.61". The unit has reported approximate area of about 20,000 square feet. ➤ The unit has provided name board/sign board for easy identification of the unit. ➤ The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. ➤ The unit has provided foggers at entry/exit point to moist the loaded material in trucks/carriers. ➤ Conveyors belts are covered but sides have space for escape of dust emissions. ➤ One abandoned quarry behind the crushing area of the unit has stored rain water & serving as source of water to the unit. ➤ The unit is maintaining the records of material dispatched in trucks. ➤ The unit has made adequate arrangements for water sprinkling & ground 	

	<p>wetting but height of wind breaking wall is not complementing the height at which material transfer is done.</p> <ul style="list-style-type: none"> ➤ The unit has developed trees on certain sides with grownup trees. However, plantation done on certain sides is yet to grow and scanty as of now. ➤ Wind breaking wall provided are inadequate in terms of direction, spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. ➤ The screens are open from top but placed in tin sheets housing with optimum opening. ➤ Housekeeping is observed to be poor. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls in appropriate directions without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ The sprinkling system should be scientifically managed with full operational control of location wise installed sprinklers to optimise water usage and separate records should be maintained in this respect. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ Consent should be amended for water quantity being used by the unit.

Annexure 1 (44)



Sprinklers provided on periphery



Main entrance with name board. Fogger for loaded trucks provided at entry/exit point.



Height of material transfer point from conveyer is more than wind breaking wall.



Ground wetting through sprinklers inside the premises.



Sprinklers at conveyor transfer points.



Scanty plantation for green belt on one of the sides.



Gaps in sides of conveyor belts. Screen placed in tin sheets housing/shed. Poor housekeeping.



Abandoned quarry as water source near unit.

REPORT ON VISIT TO STONE CRUSHER UNIT
(In compliance of Order of Hon'ble NGT, Pune in the matter 179/2015 (WZ))

S.No.	Item	Details and Observations
1.	Name and location of the Unit	M/s. Mauli Stone Crusher Gat No. 600, A/P Lonikand Tal-Haveli, Dist. Pune.
2.	Industry representative; Tel./Fax/E-mail	Shri Sandip Sakore, Partner Mobile: 09823555470, 09923282826
3.	Date of visit	25/11/2016
4.	Operational status	Operational
5.	Name of the official visiting the unit	Prasoon Gargava, Scientist-D, CPCB, ZO (W), Vadodara Bhagwan Maknikar, Filed Officer, MPCB, Pune-2 V. G. Nisal, Field Inspector, MPCB, Pune
6.	Purpose of visit	Verification of compliance status as per order passed by Hon'ble NGT, Pune in the matter 179/2015 (WZ)
7.	Consent status*	Valid up to 30/06/2019.
8.	Consented Capacity Operating capacity	Stone Metal 1500 Brass/M The unit was operational at normal capacity. The unit operates at average capacity of 30 to 40 Brass/D for about 24 days in a month.

9.	Process chart*	<pre> graph TD Hopper1[Hopper] --> Crusher[Crusher] Crusher --> Conveyor1[Conveyor] Conveyor1 --> Screen1[Screen-1 (Over sized sent back to hopper)] Screen1 --> Conveyor1 Screen1 --> Conveyor2[Conveyor] Conveyor2 --> Hopper2[Hopper] Hopper2 --> Conveyor3[Conveyor] Conveyor3 --> VSI[VSI] VSI --> Conveyor4[Conveyor] Conveyor4 --> Screen2[Screen-2] Screen2 --> 10mm[10 mm stone metal] Screen2 --> 20mm[20 mm stone metal] 10mm --> CrushedSand[Crushed Sand] 20mm --> CrushedSand </pre>
10.	Product Types (Based on size)	20 mm,10 mm and Crushed sand of 3.75 mm size.
11.	Control Equipments/Measures Provided	Aspect-wise given below:
11.1	Dust suppression and sprinkling arrangements for stored materials	Overhead foggers & sprinklers are provided in process area.
11.2	Wind breaking walls	Wind breaking walls are provided by the unit with some gaps between the tin sheets.
11.3	Internal Pucca Road & Road Cleaning Mechanism/arrangement	The unit reportedly has internal pucca road but not visible due to deposition of dust. No internal road cleaning system in place & water application is practiced for suppression of dust.
11.4	Arrangement for water spraying and wetting of ground in the premises	Sprinklers and foggers are provided for keeping the area moist & wet. Sprinklers and foggers were not operational at the time when team entered the premises but activated after some time.
11.5	Status of green belt along periphery of the unit	No green belt provided.
11.	Water sprinkling	Arrangement of pipe for application of water in place

6	arrangement at crushing system	before crusher, before VSI feed conveyor and after second stage screen for product.
11.7	Conveyor belt covered or not (if yes, condition)	Conveyor belts are covered.
11.8	Condition of fugitive emission	Significant fugitive emissions observed at Crusher & VSI. The unit activated sprinklers & foggers on arrival of team in the premises for inspection & monitoring.
11.9	Fogging system at exit point for loaded carrier/trucks	Fogging/overhead sprinklers are provided at entry/exit point for suppression of dust on material loaded in trucks & dumpers.
12.	Any chimney/stack with monitoring facility	No chimney/stack is present in the premises.
13.	Average power consumption per ton of crushing	Not known.
14.	Alternate arrangement for power	No alternate power supply.
15.	Source of water	Bore-well.
16.	Water storage capacity at site	Storage tank of 7 KL.
17.	Water consumption (mode of measurement)	Reportedly about 21 KL. (Roughly based on no. of times the storage tank is filled.)
18.	Availability of records of receipt & dispatch of material at site (if yes, average nos. of carriers moved per day)	Records not available at site.
19.	Monitoring of PM (Measured between 03 to 10 meter from process equipment of stone crushing unit)	Monitored at between 3 to 10 meter distances from main process equipment on north-west side. Suspended particulate matter concentration in work zone observed to be 3472.0 $\mu\text{g}/\text{m}^3$ against notified limit of 600 $\mu\text{g}/\text{m}^3$.
20.	Observations: <ul style="list-style-type: none"> ➤ The unit is located at N18°38'11.20" E074°00'27.50". The unit reportedly has approximate area of about 0.50 acre. ➤ The name/sign board provided at site office entrance is of very small size and difficult to recognize from approach road. ➤ The unit is not meeting the norms notified for concentration limit of suspended particulate matter in work zone. ➤ The unit has provided foggers at entry/exit point to moist the loaded material in trucks/carriers. ➤ The sprinklers/foggers network is not appropriately designed and material stored in heaps is not adequately covered with such provision. Sprinklers are provided on the periphery of the unit but were not operational when the team reached to the unit. 	

	<ul style="list-style-type: none"> ➤ Conveyors belts are covered with metallic sheets. ➤ The unit has not provided green belt. ➤ Wind breaking wall provided are inadequate in terms of spacing as well as height. The material from the conveyor belt is transferred at height higher than the height of wind breaking wall and material transfer points are not equipped with chute system to discharge material at height lower than the height of wind breaking wall. ➤ The screens provided by the unit are open from top and housing (shed) provided for screens are also not properly covered. ➤ Unit is storing all the finished products including crushed sand/fines in open. ➤ Unit is not maintaining all the records pertaining to material processed, production, power consumption, water consumption and plantation at site. ➤ Consent of the unit does not reflect the actual water consumption of the unit. ➤ Workers are not using personal protective equipment for safety. ➤ Some photographs taken during the visit are enclosed as Annexure to this visit report.
21.	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should make provision of name board/sign board of adequate size at main entrance so that unit can be identified from the approach road. ➤ The unit should take necessary measures to keep the concentration of suspended particulate matter in work zone within limits. ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The unit should make provision of proper wind breaking walls without gaps so that fugitive emissions from higher transfer points from conveyors and stored material are taken care and fugitive emissions do not escape. ➤ The unit should develop green belt in very scientific manner keeping the objective of the same in mind. ➤ Unit should make provision of good network of sprinklers/foggers to keep the premises as well as stored material moist for suppression of dust. The sprinkling system should be scientifically installed with full operational control of location wise installed sprinklers and separate records should be maintained in this respect. The unit should compulsorily operate the sprinkler/fogger system when plant is operational. ➤ The unit should ensure provision of internal pucca roads with regular cleaning mechanism. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials may be

	<p>openly stored with proper mechanical chute should be installed and height of finished goods should be kept lower than the height of wind breaking walls. In the later case, proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ The unit should improve upon housekeeping and regular cleaning of premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity being used by the unit.
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Overhead Sprinklers provided at the entry/exit point. Wind breaking wall with scanty plantation for green belt. Sprinklers on periphery not operational.



Cover provided on conveyor belts.



Screen Housing not properly covered.



Sprinklers/Foggers in the process area not operational when team reached to the premises.



Sprinklers/Foggers started during visit.

REPORT ON VISIT TO STONE CRUSHER UNITS AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Mauli Stone Crusher, Gat No. 551, Lonikand, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Sadanand Gaikwad. Mobile: 9850321111.
3)	Date of Visit	23.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	<ul style="list-style-type: none"> • Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara. • Shri Manish S. Holkar, SRO , Head Quarter Mumbai. • Shri Utkarsh Shingare , FO(PC), MPCB Regional Office, Pune.
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	BO/JD(APC)/EIC No. PN-28890-16/R/CC- Nil dt. 01.07.2016 valid upto 30.06.2019.
8)	Consented Capacity Operating Capacity	Stone metal Crushing activity -950 Brass/ Month and Crushed Dust-450 Brass/ Month. About 50 brass/ day different size of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper→ Main jaw Crusher→ Conveyor belt→ Cone crusher hopper→ Cone Crusher → Vibratory Screen No.1→Greater than 20 mm to Cone crusher hopper, 20 mm size as product and less than 20 mm to VSI hopper → VSI machine (2 Nos.)→ Conveyor belts→ Vibratory Screen No.2 → conveyor belts→ greater than 16 mm size to VSI hopper and less than 16 mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20 mm and 16 mm pebbles, 16- 4.75 mm grits and Crushed Sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers/ spraying systems are installed in peripheral manner to cover conveyor belts (Photographs-1, Annexure-1). Water sprinklers are also fixed at the conveyor belts nod (product free fall ends). Three fixed sprinklers are also provided on ground. These sprinklers cover the openly stored finished products for wetting.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided all along except the ramp side (Photographs-2, Annexure-1).
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that the internal road is black topped. However due to grit and finished goods spread, it is difficult to state that the internal road is blacktopped or not.
11.4	Arrangement for water	Yes. Water sprinklers are provided within the premises.

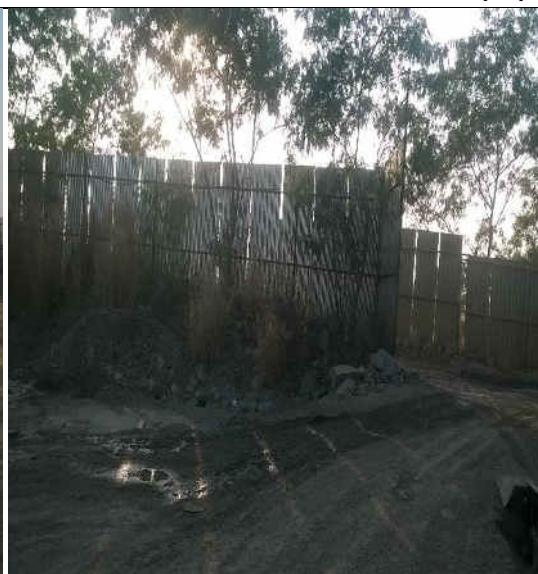
	spraying and wetting of ground in the premises	
11.5	Status of green belt along periphery of unit	Claimed more than 200 saplings planted. One year old plantation observed inside and outside one WBW (Photograph-2, Annexure-1). Few big plants along the road side and some saplings observed along the ramp.
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet of jaw crusher was having water jet arrangement using perforated metal pipes. Hopper of primary jaw crusher was having manual water sprinkling using flexible pipe. VSI and cone crusher output conveyor junctions are provided with water sprinkling system.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are mostly covered except a portion of cone crusher to VSI hopper and about half Conveyor belt from screen to VSI hopper.
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed. However during visit, water got exhausted for half an hour.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Yes, provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In August 2016, 10756 units of electricity is consumed. However the electricity consumption per unit of product cannot be precisely ascertained as the details of products was not available. However proper records maintenance is initiated at site since last 2 months.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs.
15)	Source of water	Nearby mine quarry.
16)	Water storage capacity at site	10 KL in PVC tank kept on ground.
17)	Water Consumption (mode of measurement)	20 KL/day based on tanker trips from mines.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Records were made available during the visit for inspections from October 2016 onwards.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured near Cone crusher (at 5-6 m distance) which is about 10-12 m from Jaw crusher. The PM value was observed 56617 $\mu\text{g}/\text{m}^3$ which is far exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations: 1. Due to large quantity of water sprinkling, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the	

	<p>premises during the visit. However particulate emission during operation of VSI machine and jaw crushers is observed.</p> <ol style="list-style-type: none"> 2. The unit has installed several garden sprinklers and misting systems using PVC piping network for all the equipment and perforated pipe water jetting for jaw crusher inlet. However, these arrangements are not appropriately designed which resulted in marshy condition at several places within the premises. Such sprinkling arrangement overuse the water and remain ineffective for jaw crusher, cone crusher and VSI machine apart from reducing the efficiency of vibratory screens. 3. WBW is provided almost all along the boundary except ramp area but the height of finished product heap was more than the height of WBW. There was gaps between the sheets of WBW. In such situation, WBW may not solve the purpose of fugitive emission containment. Further, the product transfer point from conveyor (at nod) was also not equipped with chute to discharge the product. 4. Vibrating screens were enclosed in a shed. 5. All the products are stored openly within the premises. 6. Plantation has been done along the periphery of unit premises but the required density of plants is not maintained. 7. The workers were not observed wearing the personal protective equipment (PPE). 8. Materials were found spread below the conveyor belts and at other place (Photograph-3, Annexure-1). 9. The consent of the unit permits a domestic water consumption of 0.24 m³/day. However, the actual consumption for sprinklers & misting system is much more. 10. The unit has displayed a flex banner as sign board. 11. During the monitoring, the sprinkling/ spraying water got exhausted twice and hence high particulate matter emission is observed (Photograph-4, Annexure-1).
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crusher, Cone crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling and spraying system should be scientifically designed based on the nature of emissions with full operational control of location wise installed sprinklers/ spraying system and related records should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. The other hoppers having conveyor belt based loading should be properly enclosed from all sides with an acrylic window (for inspection/ viewing) and door arrangement (for maintenance). ➤ There should be adequate water spray on the raw material before transferring boulders in the hopper. ➤ The gap between WBW metal sheets should be either packed with tarpaulin till the full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between the BMW metal sheets. ➤ Silo for all the products should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials should be openly stored and proper

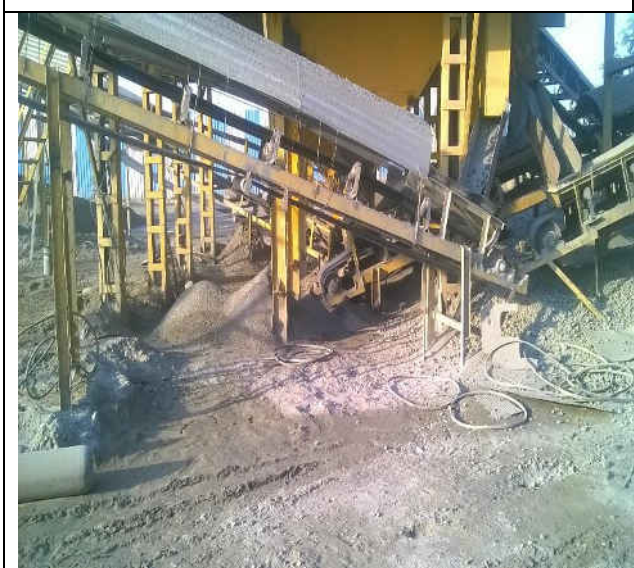
	<p>mechanical chute should be installed. Height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ Adequate water storage arrangement for dust consolidation should be maintained with provision of standby water storage. ➤ Consent should be amended for water quantity to be used in sprinkling and name of product.
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Photograph-1. Sprinklers fixed to cover periphery of all equipment.



Photograph-2. Wind breaking wall and one row plantation along one side.



Photograph-3. Dusts and materials spilled below conveyor belts.



Photograph-4. Emissions from operation of jaw crusher and cone crusher in absence of sprinkling.

REPORT ON VISIT TO STONE CRUSHER UNITS AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Radiant Constructions, Gat No. 561/1 and 562/1, A/P-Lonikand, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Vilash Vitthal Jadhav. Mobile: 9371010238.
3)	Date of Visit	24.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	<ul style="list-style-type: none"> • Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara. • Shri Manish S. Holkar, SRO , Head Quarter Mumbai. • Shri Utkarsh Shingare, FO (PC), MPCB Regional Office, Pune.
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	ROP/E-26/UB/CC/Pune/271/12 dt. 08.05.2012 valid upto 30.11.2017.
8)	Consented Capacity Operating Capacity	Stone metal-600 Brass/ Month and Stone Dust 50 Brass/ Month. About 25-30 brass/ day different size of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper→ Jaw Crusher (2 Nos.)→ Conveyor belts (2 No.)→ Vibratory Screen No.1→ greater than 20 mm size return to Jaw crusher hopper and less than 20mm size → VSI Hopper → VSI→ Vibratory Screen No.2→ greater than 20mm to VSI hopper and less than 20mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20 mm and 10 mm pebbles, 6 mm grit and crushed sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers and spraying systems are fixed on top of conveyor belt at material discharge end/ product free fall ends and peripherally along the conveyor belts (Photograph-1, Annexure-1). Fixed water sprinklers along the wind breaking walls (WBW) and movable water sprinklers are also kept for ground wetting. These sprinklers and spraying systems cover the openly stored finished products for wetting.
11.2	Wind breaking wall	WBW is provided except a portion near jaw crusher. In the north direction of unit, a hot mix plant (M/s Venture Asphalt Batch Mix Plant) exists thereafter WBW is provided. Ramp does not have any WBW.

11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to grit, it is difficult to state that the internal road is blacktopped or not. But the road was clean. As informed that cleaning practice is manual sweeping.
11.4	Arrangement for water spraying and wetting of ground in the premises	Yes. Water sprinklers are provided within the premises (Photograph-2, Annexure-1).
11.5	Status of green belt along periphery of unit	Claimed more than 200 saplings planted but about 10 big plants and some new plantation observed along the boundary at certain places i.e. along WBW. Plantation was not observed in few patches of WBW (Photograph-3, Annexure-1).
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet of jaw crusher was having water jet arrangement by flexible pipe. Hopper of Jaw crusher was having fixed water sprinklers.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are mostly covered except a patch of conveyor belts from VSI hopper to VSI (Photograph-1, Annexure-1).
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Yes, provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In October 2016 and 28124 units of electricity is consumed. However the electricity consumption per unit of product cannot be ascertained as the details of products was not available for that month at site.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs.
15)	Source of water	Mine quarry.
16)	Water storage capacity at site	Two PVC tanks of 2.0 KL capacity.
17)	Water Consumption (mode of measurement)	As informed, 20 KL/day. Roughly based on tank filling requirement.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Not available.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured near jaw crushers which was 7-8 m from the monitoring equipment. Only one Jaw crusher was operational during monitoring. The PM value was observed 1793 $\mu\text{g}/\text{m}^3$ which is exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.

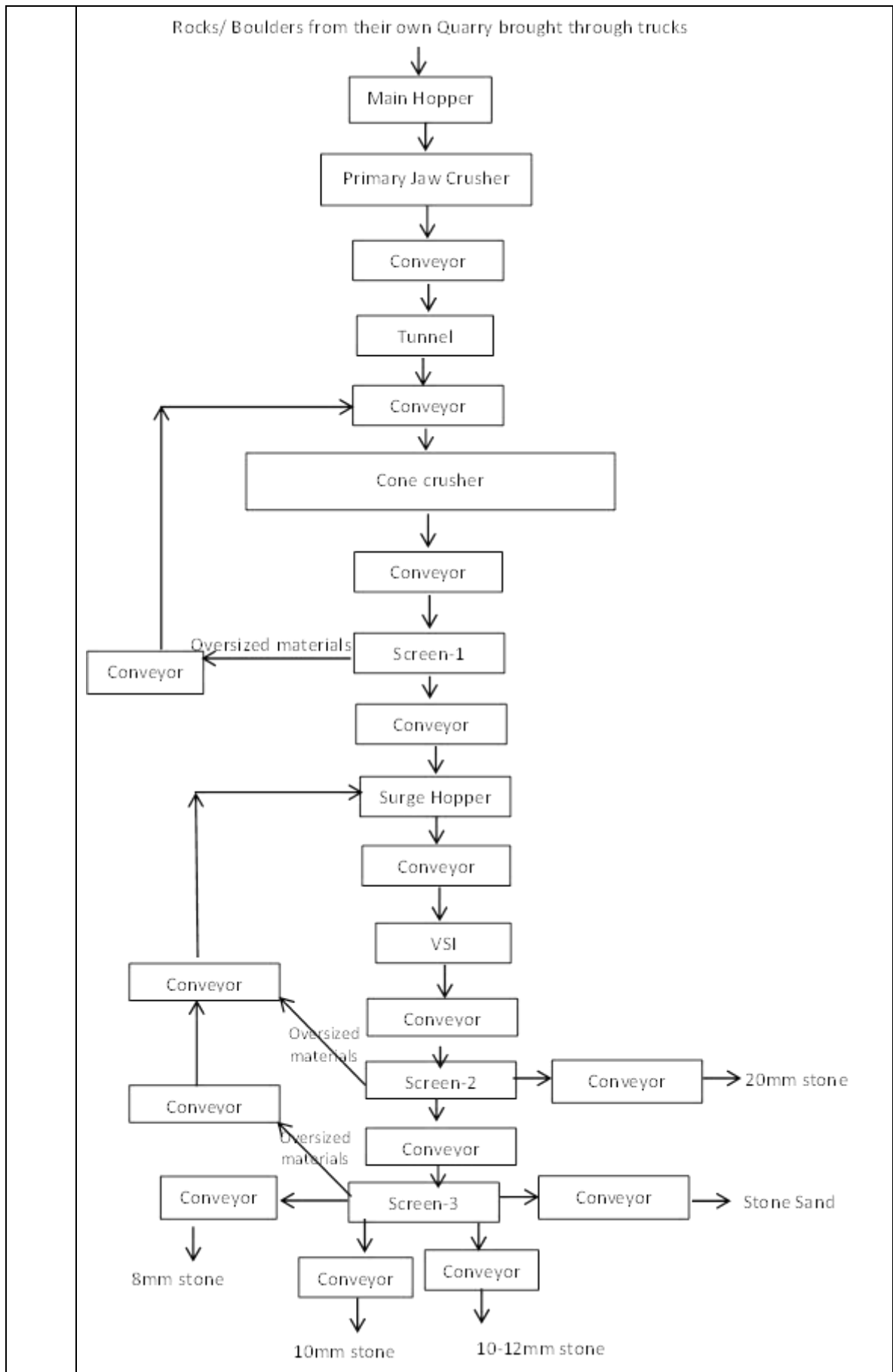
20)	<p>Observations:</p> <ol style="list-style-type: none"> 1. Due to large quantity of water sprinkling and spraying, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate matter emission is observed from jaw crusher during operation. 2. The unit has installed several water sprinklers and few misting systems using PVC piping network, few movable sprinklers and domestic showers. However, these arrangements are not appropriately designed which resulted in marshy condition at several places within the premises especially below conveyor belts and finished good storage area. Such sprinklers and spraying systems overuse the water and remain ineffective for crushers and VSI machine apart from reducing the efficiency of vibratory screens. 3. WBW is provided but the height of material free fall from conveyor belt nod is more than the height of wind breaking wall. There was gaps between metal sheets of WBW. In such situation, WBW may not solve the purpose of fugitive emission containment. Further, the product transfer point from conveyor (at nod) was not equipped with chute to discharge the product (Photograph-1, Annexure-1). 4. Vibratory screens was incompletely enclosed inside a shed (Photograph-4, Annexure-1). 5. VSI hopper was enclosed. 6. All the products are stored openly within the premises. 7. Only one row plantation has been done along the periphery of unit premises and plantation is not carried out along few portion of WBW. 8. The workers were not observed wearing the personal protective equipment (PPE). 9. Materials were found spread below the conveyor belts, below vibratory screens and other places. 10. The consent of the unit permits a domestic water consumption of 0.35 m³/day. However, the actual consumption for sprinklers & misting system is much more. 11. The unit has displayed a sign board having only name.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crusher, VSI and vibratory screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling and spraying system should be scientifically designed with full operational control of location wise installed sprinklers/ spraying system and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be adequate water sprinkling on the raw material before transferring boulders in the hopper. ➤ The gap between metal sheets sheets of WBW should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ Silo for all the products should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should

	<p>be done in silo and all other materials should be openly stored and proper mechanical chute should be installed. Height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should provide display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity to be used in sprinkling.
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<p>Photograph-1. Water sprinklers along conveyor belt, partially covered one conveyor belt and material spillage below conveyor belts.</p>	<p>Photograph-2. Water sprinklers along wind breaking wall.</p>
	
<p>Photograph-3.A portion of WBW where plantation is not carried out.</p>	<p>Photograph-4. Partially open vibratory screens.</p>

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Sai Stone Industries Gat. No. 76,77 A/p. Bhavadi Tal-Haveli Dist. Pune, Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Prakash Ghule - Partner; Ph: 9011073535 e-mail: saistoneindustries@gmail.com
3)	Date of Visit	25 th November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN-28891-16/R/CC-8672, dated: 01.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	19. Stone Crushing Activity – 650 Brass/ Month 20. Stone Dust – 50 Brass/ Month The unit is operating at full capacity.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below:



10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20mm 10mm 8mm Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	<p>The unit has provided Sprinkling system on top of the conveyor belts (unloading point/ product free fall ends) and also installed sprinklers near the heaps of stored materials. Total 56 sprinklers have been installed inside the plant premises.</p> <p>The unit also provided fogging system (foggers fixed on PVC pipeline network running overhead) above the heaps of stored materials.</p>
11.2	Wind breaking wall	<p>Provided tin sheet barriers (which acts as wind breaking wall) of about 12 feet height along the front boundary of the stone crushing area and another side is covered with natural rock mound of height varying from 25 feet to 40 feet. The rear side is rock mound of height more than 60 ft height where quarrying of rock is being carried out by the unit.</p> <p>The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.</p>
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	<p>The unit has provided concrete road from the main entrance into the crushing area of length of about 100 ft.</p> <p>During visit, the concrete road was covered with fine sand and not easily visible.</p> <p>The 56 sprinklers are fixed along the wind breaking sheets (tin sheets) along the front boundary (periphery) & on top of the conveyor belt and also fixed on ground provides sprinkling on the internal road.</p>
11.4	Arrangement for water spraying and wetting of ground in the premises	The Sprinkling system provided on top of the conveyor belts and the sprinklers fixed along the wind breaking wall (tin sheets) and the sprinklers fixed on ground caters the sprinkling/

		spraying arrangements for wetting the ground in the premises. The fogging system (foggers fixed on PVC pipeline network running overhead) along the conveyor system also provide wetting of ground.
11.5	Status of green belt along periphery of unit	Reportedly, around 200 tree saplings have been planted by the unit inside the area around the periphery. Young trees of about 1-2 m height are present along the front boundary wall (metal sheet barrier) of the unit. The plantation is scanty.
11.6	Water sprinkling arrangement at crushing system	The unit is pouring water through flexible hose pipe on the stones in the hopper of main jaw crusher during the visit. The fogging system (foggers fixed on PVC pipeline network running overhead) along the conveyors of the main crusher and also around the crusher provide sprinkling at the crushing system. However, the sprinkling arrangement for the main crusher found inadequate. Emission was observed from the main crusher.
11.7	Conveyor belt covered or not (if yes, Condition)	The conveyors belts are covered with tin sheets. Conveyor belts are also provision for side walk way till the top of the conveyor.
11.8	Condition of fugitive emission	Slight emission was observed from the main jaw crusher, emission was also observed from the main tunnel which receives material from the jaw crusher through the conveyor belt.
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry through which truck movement is being carried out.
12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	The industry provided the monthly electricity bill to the visiting team. The team reviewed the electricity bill and observed that the unit has consumed 1050100 units of electricity during the month of October 2016 (from 30.09.2016

		<p>up to 31.10.2016).</p> <p>The unit also provided the computerized record slip generated at their weigh bridge for the total material brought to the unit for crushing for the month of October 2016. The computerized slip reveals that 41079130 Kgs of materials were transferred to the unit for crushing for the period commencing from 01.10.2016 up to 31.10.2016.</p> <p>From the above data, it is calculated that about 25.56 units of electricity is consumed per ton of material crushed.</p>
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is purchasing water from nearby quarry. The rain water collected in a nearby quarry is being purchased by the unit at a cost of Rs.10000/- per month including the pumping cost. The water is pumped and conveyed to the unit through pipeline.
16)	Water storage capacity at site	The unit has provided two tanks (one tank of 20000 Ltrs storage capacity & another tank of 12000 Ltrs storage capacity) at the site for water storage.
17)	Water Consumption (mode of measurement)	Reportedly, about 30000ltrs of water is consumed per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	<p>The unit is maintaining the records at site.</p> <p>The unit is maintaining log book which contains the daily record of dispatch including the product size, quantity, name of the party, vehicle no, delivery challan number in the log book.</p> <p>During the visit, all the records were made available to the visiting team. The team randomly verified the details entered in the log book with the details in the delivery challan book and found inline.</p>
19)	Monitoring of PM (Measured	PM was monitored at the location

	<p>between 03 to 10 m from process equipment of stone crushing unit)</p>	<p>N18°37'27.88" E073°59'50.17" in the plant premises at a distance of about 5m from the main crusher.</p> <p>The monitoring result reveals that the concentration of PM is 2425 µg/m³ which is exceeding the norms of 600 µg/ m³ at a distance of 3 to 10 meter from the main process equipment.</p> <p>During monitoring emission was observed from the main jaw crusher, emission was also observed from the main tunnel which receives material from the jaw crusher through the conveyor belt, which may be the reasons for higher monitored values.</p>
20)	<p>Observations:</p> <ul style="list-style-type: none"> • The unit is newly established only a year back and all the machineries and equipment are new and well maintained. As informed the unit has setup the crushing plant in area of 80000 sq.ft. land in which crushing activity and storing of materials is being carried out. The unit owns a quarry of 10 acres area adjacent to crushing plant from where the rocks are being brought to the crushing plant. • During the visit/ monitoring, the main crusher, secondary crushers (Cone crusher) and the VSI (Vertical Shaft Impact) crusher were operational. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed sprinklers along the metal sheet boundary wall, sprinklers on top of the conveyor belt (at material unloading point/ product free fall end), sprinklers on ground and fogger systems around the conveyor system & above the material heaps using PVC piping network and sprinkling arrangement is installed at the junction of material transfer points at conveyors. • However, the sprinkling arrangement at the main crushing area was found inadequate. • Due to water sprinkling, fugitive emissions from vehicular movement and storage of materials are not observed within the premises during the visit. However particulate emission observed in the main crusher and in the tunnel which brings material from the jaw crusher through conveyors. • Wind breaking wall (tin sheets) is provided along the front boundary but the heights of the heaps of the materials (product) are higher than the height of wind breaking wall. The tin sheets provided as the wind breaking wall are installed leaving 3-4 inches gap vertically between each sheets. 	

	<ul style="list-style-type: none"> • The unit has installed three screening system, One screening system for screening the materials from secondary crusher and another two screening system for screening the materials from the VSI (Vertical Shaft Impactor) to obtain products of different sizes. The screenings are housed inside separate shed covered completely with tin sheets. The screen houses are provided with proper ladders with hand rails. • The conveyor belts are provided with side walkway with hand rails till the top end of the conveyor belts. • The unit has provided a proper name board display at the main entrance of the crushing plant. • The green belt provided is scanty with small/ young trees. • Photographs taken in the plant during the visit are given in Annexure.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (main crushers/ hoppers) with proper door arrangements. ➤ The unit should improve the sprinkling system in the crushing area ➤ The sprinkling system should be scientifically installed with location wise full operational control and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring rocks/ boulders in the hopper. ➤ The gap between sheets in the wind barrier should be either packed with tarpaulin till the time of full growth of atleast two rows of plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ The crush sand storage should be done in silo and height of finished goods should be atleast 2 feet less than the height of wind breaking wall. ➤ Increase the green belt (with suitable plant species) along the periphery of premises. ➤ Consent should be amended for the inclusion of water quantity to be used in sprinkling.



Photograph: Foggers at main entry



Photograph: Tin sheet barrier as boundary wall



Photograph: Fully covered screen house



Photograph: Covered hoppers



Photograph: Sprinklers in the premises



Photograph: Sprinkler near the material heaps

REPORT ON VISIT TO STONE CRUSHER UNITS AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	Shree Devram Stone Crusher, Gat No. 601, Lonikand, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Chetan Dattatrey Shashani. Mobile: 9922301177.
3)	Date of Visit	26.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara Shri Manish S. Holkar, SRO , Head Quarter Mumbai Shri Jagnath Darwatkar , FI, MPCB Regional Office, Pune
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	BO/JD(APC)/EIC No. PN-28893-16/O/cc-8676 dt. 01.07.2016 valid upto 30.06.2019.
8)	Consented Capacity Operating Capacity	Stone metal-900 Brass/ Month. 40-50 brass/ day different sizes of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper→ Main jaw Crusher→ Conveyor belt→ Another conveyor belt→ Secondary hopper→ 2 parallel jaw crushers→ Conveyor belt→ 1 st Vibrating screen→ greater than 28 mm to secondary hopper and less than 28 mm to VSI Hopper using conveyor belts→ Conveyor belts (2 Nos.)→ VSI machine→ conveyor belts→ 2 nd vibrating screen→ greater than 20 mm size to VSI hopper and less than 20 mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20 mm and 10 mm size pebbles, 8 mm size stone chips and Crushed Sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Garden water sprinklers are fixed on top of wind breaking walls support columns (Photographs-1, Annexure-1). Water sprinklers are also fixed at the conveyor belts (product free fall ends). These sprinklers covers the openly stored finished products for dust consolidation.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided all along except the ramp side (Photographs-1, Annexure-1).
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to muds, grit and finished goods spread, it is difficult to state that the internal road is blacktopped or not (Photograph-2, Annexure-1). As informed, the cleaning practice is manual sweeping.
11.4	Arrangement for water spraying and wetting of ground	Yes. Garden water sprinklers are provided within the premises.

	in the premises	
11.5	Status of green belt along periphery of unit	Claimed 210 saplings planted at the locations namely along WBW and along the ramp (Photograph-1, Annexure-1).
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet and outlet of jaw crushers were having water jet arrangement. Hopper of primary jaw crusher was having manual water sprinkling using flexible pipe. Secondary jaw crusher area was having a fixed perforated pipe and a domestic shower.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts (2 Nos) from VSI Hopper to VSI are not covered (Photograph-3, Annexure-1). Conveyor belts are partially uncovered at certain portions on other conveyors belts (Photograph-4, Annexure-1).
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Yes, provided. (Photograph-5, Annexure-1).
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In October 2016, 31780 units of electricity is consumed. However the electricity consumption per unit of product cannot be ascertained as the details of products was not available.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs.
15)	Source of water	Nearby mine quarry.
16)	Water storage capacity at site	10 KL in metal tank.
17)	Water Consumption (mode of measurement)	20 KL/day. Roughly based on storage tank filling and use.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Records are not kept at site but made available during the visit for the month of November 2016.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured between operational VSI and operational secondary jaw crusher which are 5-6 m from the monitoring equipment. The PM value was observed 9162 $\mu\text{g}/\text{m}^3$ which is far exceeding the norm of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations: <ol style="list-style-type: none"> 1. Due to large quantity of water sprinkling, fugitive emission from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate matter emission during operation of VSI machine and jaw crushers is observed. 	

	<ol style="list-style-type: none"> 2. The unit has installed several garden sprinklers and few misting systems using PVC piping network and domestic shower is installed at the junction of crushed material transfer from jaw crusher to conveyor belt. However, these arrangements are not appropriately designed which resulted in marshy condition at several places within the premises and drizzling type appearance within the premises. Such sprinklers overuse the water and remain ineffective for crushers and VSI machine apart from reducing the efficiency of vibratory screens. 3. WBW is provided almost all along the boundary except ramp area but the height of finished product heap was more than the height of wind breaking wall. There was gaps between the sheets of WBW and 2-3 feet gap at the bottom of WBW. In such situation, WBW may not solve the purpose of fugitive emission containment. Further, the product transfer point from conveyor (at nod) was also not equipped with chute to discharge the product. 4. Vibratory screens were enclosed inside a shed. However some portion of vibratory screen was outside the shed (Photograph-6, Annexure-1). 5. All the products are stored openly within the premises. 6. The hopper of secondary crusher is screened by metal sheet from prominent downwind side. 7. Only one row plantation was observed along the periphery of unit premises and along the half portion of ramp. 8. The workers were not observed wearing the personal protective equipment (PPE). 9. Material spillages were observed below the conveyor belts. 10. The consent of the unit permits a domestic water consumption of 0.85 m³/day. However, the actual consumption for sprinkling and spraying system is much more. 11. The unit has displayed a flex banner as sign board. 12. There was one brick manufacturing unit using the crush sand and mine quarry is situated within 100m distance from the premises.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling and spraying system should be scientifically designed with full operational control of location wise installed sprinklers and records pertaining to it should be maintained. ➤ The raw material hopper should be completely enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. The secondary hopper and VSI hopper having conveyor belt based loading should be properly enclosed from all sides with an acrylic window (for inspection/ viewing) and door arrangement (for maintenance). ➤ There should be adequate water sprinkling on the raw material before transferring boulders in the raw material hopper. ➤ The gap between WBW sheets should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation (with suitable plant species) along the boundary or provided by zigzag metal sheets to cover the gaps between sheets.

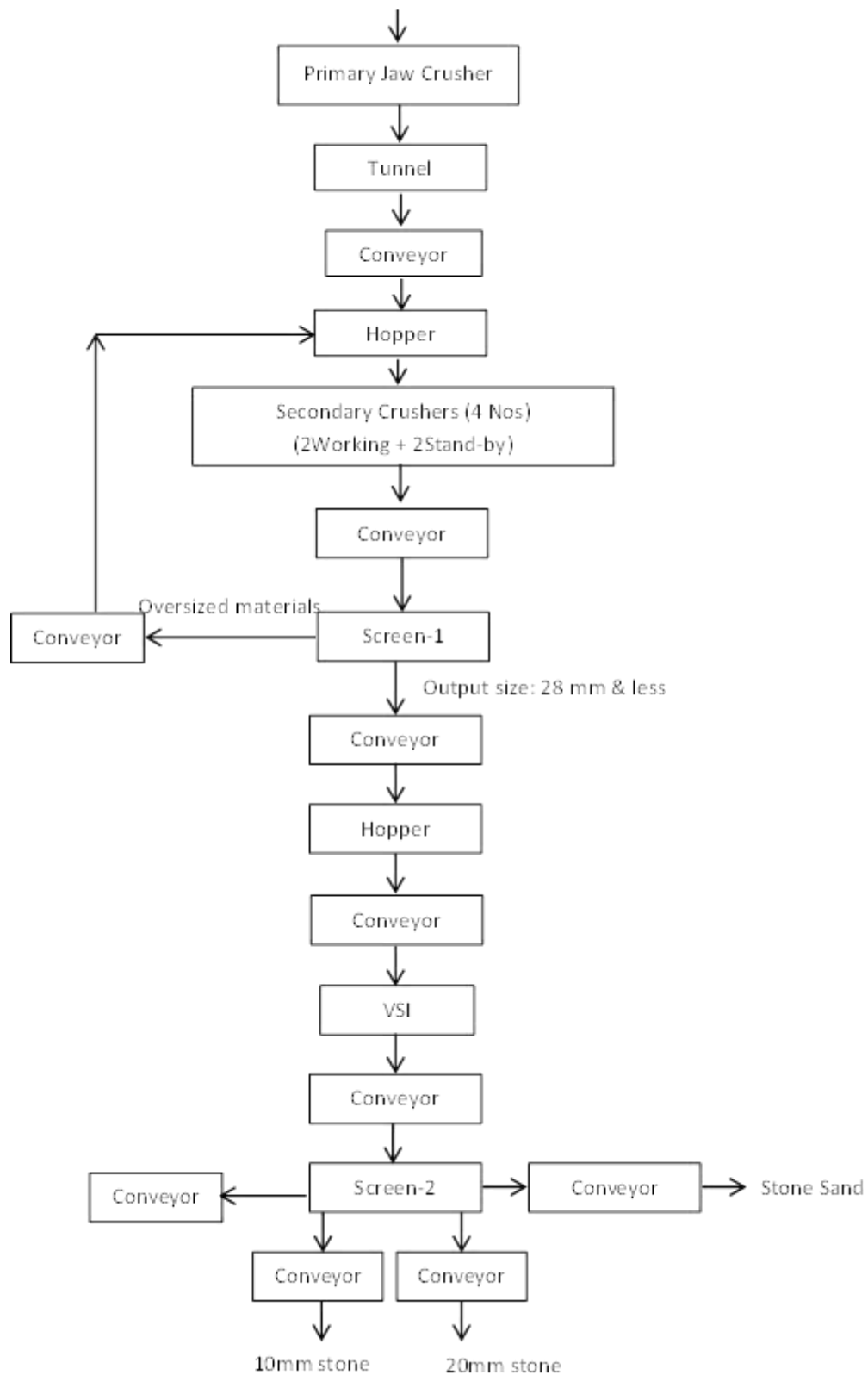
	<ul style="list-style-type: none"> ➤ Silo should be fabricated for all the products along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials should be openly stored and proper mechanical chute should be installed and height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper water sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity to be used in sprinkling.
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<p>Photograph-1. A view of sprinklers mounted on wind breaking wall column and plantation carried out.</p>	<p>Photograph-2. Crush sand spread and marshy condition of the internal road due to excessive usage of water.</p>
	
<p>Photograph-3.VSI conveyer belts are not covered and VSI hopper without rubber flap.</p>	<p>Photograph-4. Partially covered one of the conveyor belts.</p>
	
<p>Photograph-5. Water sprinklers at the exit gate.</p>	<p>Photograph-6. A portion of screen is outside the shed.</p>

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Vighnagarata Stone Product Gat. No. 71, A/p. Bhavadi Tal-Haveli, Dist. Pune, Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Sanjay Borkar – Proprietor; Ph: 9822112206 e-mail: vsilonikand@gmail.com
3)	Date of Visit	25 th November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN-28894-16/R/CC-8682, dated: 01.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	21. Stone Metal – 800 Brass/ Month 22. Crushed Sand – 1100 Brass/ Month Reportedly, the design capacity of the crushing unit is 100 Brass/ day and presently operating at a capacity of 60 Brass/ day.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team as below.

Rocks/ Boulders from their own Quarry brought through trucks



10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm,	20mm 10mm
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	etc.)	6mm Crushed sand (< 4.5mm)
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	The unit has provided Sprinkling system on top of the conveyor belts (unloading point/ product free fall ends) and movable sprinklers which sprinkles water on the heaped materials.
11.2	Wind breaking wall	Provided tin sheet barriers of about 12 feet height along the periphery of the stone crushing area which acts as wind breaking wall. Height of wind breaking wall is less than highest conveyor material transfer point. The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	The unit has provided concrete road of 15 ft width from the main entrance to inside of the premises up to 400 ft length and provided bitumen road of 50 ft length for internal approach. The provided total 20 sprinklers which are fixed on top of the wind breaking sheets around the boundary (periphery) & on top of the conveyor belt which covers the sprinkling of water on the internal road along the boundary.
11.4	Arrangement for water spraying and wetting of ground in the premises	The Sprinkling system provided on top of the conveyor belts and the sprinklers fixed on the wind breaking wall (tin sheets) caters the sprinkling/ spraying arrangements for wetting the ground in the premises. The unit have provided fogging system (foggers fixed on PVC pipeline network running overhead) in the crushing area along the conveyor system which also provide wetting of ground.
11.5	Status of green belt along periphery of unit	Reportedly, around 125 tree saplings have been planted by the unit inside the area around the periphery. Young trees of about 2-3 m height are present

		along the main boundary wall (metal sheet barrier) of the unit.
11.6	Water sprinkling arrangement at crushing system	The unit is pouring water through flexible hose pipe on the stones in the hopper of main jaw crusher during the visit. The fogging system provided by the unit in the crushing area along the conveyor system does the wetting of crushing system.
11.7	Conveyor belt covered or not (if yes, Condition)	The conveyors belts are covered with tin sheets. The covers provided for the conveyor belts are installed leaving more gaps between the belts and the covers which give chances of fine sand spillage & dust emission from the moving conveyor belts.
11.8	Condition of fugitive emission	Slight emission was observed from the main jaw crusher, emission was also observed from the main tunnel which receives material from the jaw crusher through the conveyor belt.
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry through which truck movement is being carried out.
12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	The industry showed the soft copy of the electricity bill for the month of October 2016, which reveals that the industry has consumed 42080 units of electricity during the month of October 2016. Only the product dispatch details are being maintained by the unit and the actual monthly production data are not being maintained by the unit. During the visit, log book containing the dispatch details from 16.11.2016 onwards was only provided to the visiting team.
14)	Alternate arrangement for	No alternate power supply.

	power	
15)	Source of water	The unit is lifting the rain water collected in some quarries located adjacent to the crushing plant. Also, the unit is purchasing water through tankers
16)	Water storage capacity at site	The unit has provided a metallic cylindrical tank (old oil tanker lorry) of 12000 ltr capacity at the site for water storage.
17)	Water Consumption (mode of measurement)	Reportedly, the tanks are filled four times in a day. Which means about 48000 Ltrs of water is consumed per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	<p>The copy of the consent granted by MPCB is available at the site. The unit is maintaining log book which contains the daily record of dispatch including the product size, quantity, name of the party, vehicle no, delivery challan number in the log book.</p> <p>During the visit, a new log book containing the details from 16.11.2016 onwards was made available to the visiting team. Earlier data/ old log book was not made available to the team.</p>
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	<p>PM was monitored at the location N18°37'39.24" E073°59'46.39" in the plant premises at a distance of about 6m from the main crusher.</p> <p>The monitoring result reveals that the concentration of PM is 2381 µg/m³ which is exceeding the norms of 600 µg/ m³ at a distance of 3 to 10 meter from the main process equipment.</p> <p>During monitoring emission was observed from the main jaw crusher, emission was also observed from the main tunnel which receives material from the jaw crusher through the conveyor belt and spillage of fine sand from the conveyor belts was also observed during the visit, which may be the reasons for higher monitored values.</p>
20)	Observations:	

	<ul style="list-style-type: none"> • During the visit/ monitoring, the main crusher, secondary crushers (2 crushers operational out of 04 secondary crushers) and the VSI (Vertical Shaft Impact) crusher was operational. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed sprinklers along the metal sheet boundary wall, sprinklers on top of the conveyor belt (at material unloading point/ product free fall end) and fogger systems around the conveyor system using PVC piping network and sprinkling arrangement is installed at the junction of crushed material transferred from crusher to conveyor belt. • However, these arrangements were found inadequate and uneven. Few pockets were found marshy due to excess sprinkling and few pockets on ground and on the material heaps sprinkling were found inadequate. • The sprinkling made on the conveyor belts makes the conveyor belt wet resulting in sticking of materials on the belt surface and materials are carried away without dropping in the vibrating screens and carried out of the screen house area and when the belt circulate down the materials are dropped down on the ground below the conveyor belt & around the crushing area. During visit, fine dust/ sand was found spilling from the conveyor belts on the ground. Dust emission was observed from the main tunnel which receives material from the main crusher through conveyor. • Due to water sprinkling, fugitive emissions from vehicular movement and storage of materials are not observed within the premises during the visit. However particulate emission observed in the main tunnel and material transfer points, especially in the main crusher to the tunnel. • Wind breaking wall (tin sheets) is provided all along the boundary but the heights of the heaps of the materials (product) are higher than the height of wind breaking wall. The tin sheets provided as the wind breaking wall are installed leaving 3-4 inches gap vertically between each sheets. • The unit has installed two screening system, One screening system for screening the materials from secondary crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside a common shed covered with tin sheets. • The unit has provided a proper name board display at the main entrance of the crushing plant. • The green belt provided is scanty with small/ young trees. • Photographs taken in the plant during the visit are given in Annexure.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (crushers/ hoppers) with proper door arrangements. ➤ All the conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The sprinkling system should be scientifically installed with location wise

	<p>full operational control and records pertaining to it should be maintained.</p> <ul style="list-style-type: none"> ➤ The raw material hopper should be enclosed except one side for truck/dumper unloading and provided with fixed type water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring rocks/ boulders in the hopper. ➤ The gap between sheets in the wind breaking wall should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials should be openly stored and proper mechanical chute should be installed and height of finished goods should be atleast 2 feet less than the height of wind breaking wall. In the latter case, proper sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ Increase the green belt (with suitable plant species) along the periphery of premises. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for the inclusion of water quantity to be used in sprinkling.
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Photograph: Green belt and concrete road and tin sheet boundary wall



Photograph: Conveyor without cover



Photograph: Sprinkling system at the boundary



Photograph: Sprinklers for stored material and closed screen house



Photograph: Water storage tank at site



Photograph: Covers of the conveyor belt fixed with more gaps

REPORT ON VISIT TO STONE CRUSHER UNITSAS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Nachiket Stone Crusher, Gat No. 564, Lonikand, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Pandurang Sadashiv Magar. Mobile: 9422314703.
3)	Date of Visit	24.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	4.Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara. 5.Shri Manish S. Holkar, SRO , Head Quarter Mumbai. 6.Shri Utkarsh Shingare , FO(PC), MPCB Regional Office, Pune.
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	BO/JD(APC)/O/CC- 8230 dt. 22.06.2016 valid upto 30.06.2019.
8)	Consented Capacity Operating Capacity	Stone metal Crushing activity -1500 Brass/ Month and Crushed Sand-1500 Brass/ Month. About 65 brass/ day different size of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper→ Jaw Crushers (3 Nos.) → Conveyor belt→ Vibratory Screen No.1→Greater than 20 mm to raw material hopper and less than 20 mm to VSI hopper → VSI machine → Conveyor belts→ Vibratory Screen No.2 → conveyor belts→ oversize to VSI hopper and less than 20mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20 mm and 14 mm pebbles and crushed sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers and water spray systems are fixed on top of wind breaking wall column towards main road portion (Photographs-1, Annexure-1). Water sprinklers are also fixed at the conveyor belts nod (product free fall ends) and along the peripheral areas of plant equipment except screen. Three fixed sprinklers are also provided on ground. These sprinklers cover the openly stored finished products for wetting.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided all along except the ramp side. There are two units in same premises. Jointly the WBW is constructed.
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to grit spread, it is difficult to state that the internal road is blacktopped or not.

11.4	Arrangement for water spraying and wetting of ground in the premises	Yes. Water sprinklers are provided within the premises.
11.5	Status of green belt along periphery of unit	Claimed more than 150 saplings planted. About one year old and new plantation observed inside the premises (apart from few big trees. Few saplings are also planted along ramp.
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet of jaw crusher was having water jet arrangement using domestic shower. Hopper of primary jaw crusher was having water sprinkling using flexible pipe and a sprinkler.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are mostly covered but 2-3 feet junction near nod of conveyor belts are uncovered (Photograph-2, Annexure-1).
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling and spraying, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Not provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In October 2016, 31494 units of electricity is consumed. However the electricity consumption per unit of product cannot be ascertained as the details of products was not available.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs.
15)	Source of water	Nearby mine quarry.
16)	Water storage capacity at site	2 KL x2 MS tank kept on ramp.
17)	Water Consumption (mode of measurement)	20-30 KL/day (as informed). Based on Tank filling.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Not available.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured near Jaw crusher (at 7-8 m distance). The PM value was observed 7052 $\mu\text{g}/\text{m}^3$ which is far exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations: <ol style="list-style-type: none"> 1. Due to large quantity of water sprinkling and spraying, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate matter emission during operation of VSI machine and jaw crushers is observed. 2. The unit has installed several sprinklers and misting systems using PVC piping 	

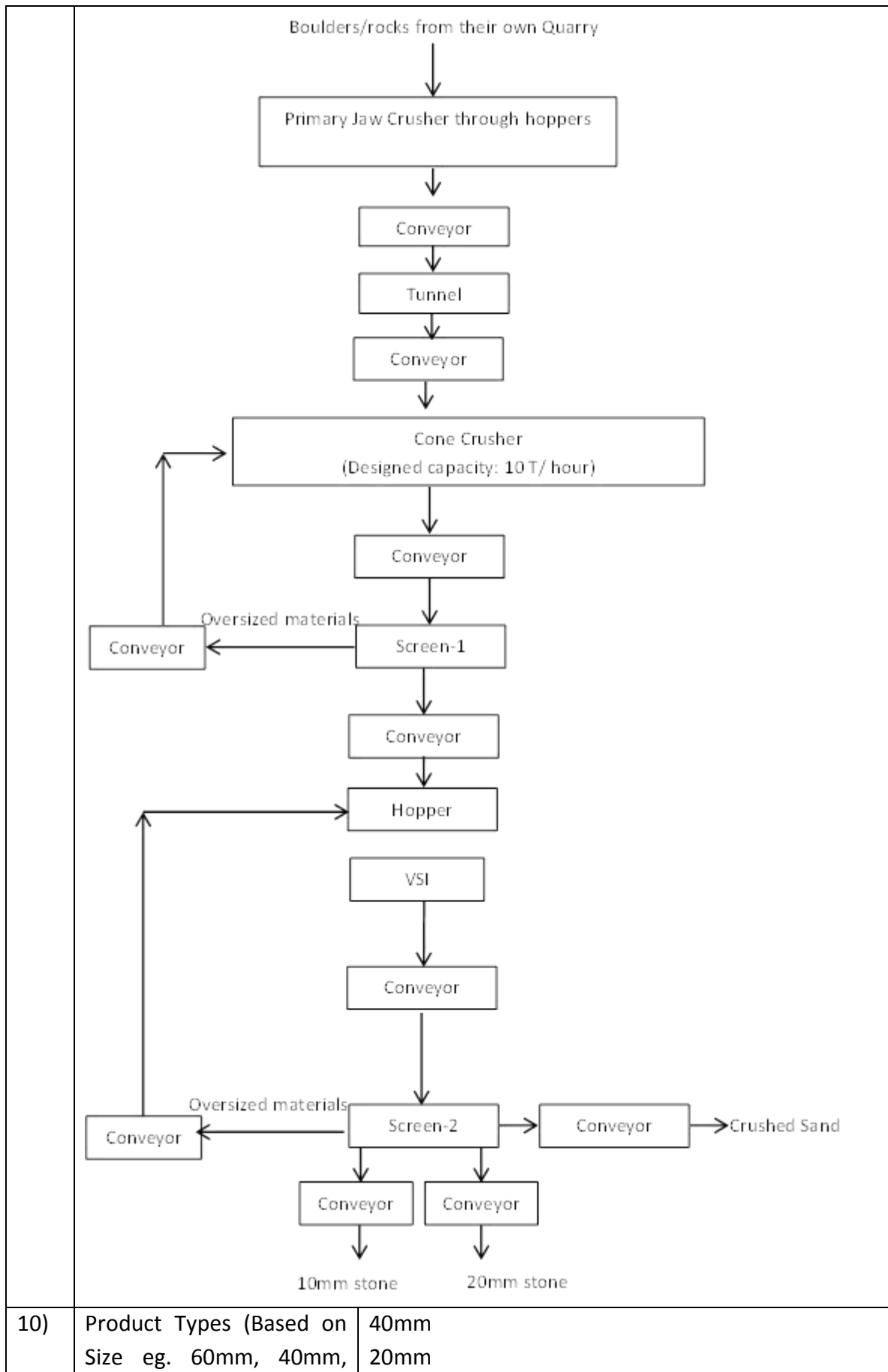
	<p>network. However, these arrangements are not appropriately designed and established and resulted in marshy condition at several places within the premises as well as outside road. Such sprinkling arrangement overuse the water and remain ineffective for crushers and VSI machine apart from reducing the efficiency of vibratory screens. Jaw crusher return conveyor (from vibratory screen) and screen to VSI hopper conveyor belts do not have sprinklers.</p> <ol style="list-style-type: none"> 3. WBW is provided almost all along the boundary except ramp area but the height of finished product heap was more than the height of WBW. The WBW near jaw crushers is very less than the jaw crusher hopper height which is about 10 m from the jaw crusher hopper. There was gaps between the sheets of WBW. In such situation, WBW may not solve the purpose of fugitive emission containment. Further, the product transfer point from conveyor (at nod) was also not equipped with chute to discharge the product. 4. Vibratory screens are enclosed inside a shed (Photograph-2, Annexure-1). However significant dust observed inside the shed. The screen shed was not fully enclosed. 5. All the products are stored openly within the premises. 6. Plantation has been carried out along the periphery of unit premises and along the ramp (Photograph-3, Annexure-1). 7. The workers were not observed wearing the personal protective equipment (PPE). 8. Materials were found spread below the conveyor belts and at other places (Photograph-4, Annexure-1). 9. The unit dumps its fine dust generated from the process in backyard mine quarry. 10. The consent of the unit permits a domestic water consumption of 2.0 m³/day. However, the actual consumption for sprinklers & misting system is much more. 11. The unit has displayed a flex banner as sign board.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling and spraying systems should be scientifically designed based on nature of emissions with full operational control of location wise installed sprinklers/ spraying system and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. The other hoppers having conveyor belt based loading should be properly enclosed from all sides with an acrylic window (for inspection/ viewing) and door arrangement (for maintenance). ➤ There should be adequate water sprinkling on the raw material before transferring boulders in the hopper. ➤ The height of WBW near jaw crusher should be increased. The gap between sheets should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation (with suitable species) along the boundary or provided with zigzag metal sheets to cover the gaps between sheets. ➤ Silo for all the products should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should

	<p>be done in silo and all other materials should be openly stored and proper mechanical chute should be installed. Height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ Consent should be amended for water quantity to be used in sprinkling and product name.
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<p>Photograph-1. Sprinklers fixed on wind breaking wall created marshy condition.</p>	<p>Photograph-2. A view of vibratory screen and conveyor belt enclosure.</p>
	
<p>Photograph-3.A view of plantation along ramp.</p>	<p>Photograph-4. Spilled material near VSI and below conveyor belts.</p>

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Shree Ganesh Stone Crusher Gat. No. 204, Vill- Bhavadi Tal-Haveli, Dist. Pune Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Balu Dinkar Kand – Supervisor; Ph: 9764365757
3)	Date of Visit	23 rd November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/EIC No. PN/R/CC-8849, dated: 05.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	23. Stone Metal – 300 Brass/ Month 24. Crushed Sand – 50 Brass/ Month As informed, the unit is presently producing 40 Brass/ day of crushed Sand and about 30 Brass/day of Stone metal, which is not matching with the capacity given in their Consent. The supervisor present at the plant during the visit showed his unawareness about the discrepancy in the production quantity mentioned in their consent and their actual production quantity.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below.



	20mm, etc.)	10mm Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	<p>The unit has provided foggers fixed on PVC pipeline which runs overhead along the conveyor belts.</p> <p>Sprinklers are also fixed/ provided at top of the conveyor belts (unloading point/ product free fall ends).</p> <p>The unit also has 4 movable sprinklers which are used for sprinkling water on the stored heaps & other areas.</p> <p>However, the provided sprinklers found inadequate as the existing sprinklers did not covered all the stored material heaps during the visit.</p>
11.2	Wind breaking wall	<p>Provided tin sheets barrier of about 12 feet height along the periphery of the unit which acts as wind breaking wall.</p> <p>Height of tin sheet barriers (wind breaking wall) is less than highest conveyor material transfer point/ heap of stored materials.</p> <p>The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet.</p>
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	<p>The unit has provided Bitumen road of about 300m length from the main entrance up to the main hopper inside the plant.</p> <p>The unit has provided/ installed 40 sprinklers fixed on top of the wind breaking wall sheets around the boundary (periphery) which sprinkles water on the internal roads also.</p>
11.4	Arrangement for water spraying and wetting of ground in the premises	<p>The Sprinkling system provided on top of the conveyor belts & fogger system around the conveyor belts and the sprinklers fixed on the wind breaking wall (tin sheets) covers the sprinkling/ spraying on the surrounding ground in the premises.</p> <p>It was observed that adequate sprinklers are</p>

		fixed on the South & East boundary wall (metal sheet wall). Whereas, on the northern boundary, sprinklers are fixed at more distance apart which did not cover some area along the northern boundary for sprinkling.
11.5	Status of green belt along periphery of unit	<p>The unit has planted trees around the boundary. The trees are young and about 2-3 m height.</p> <p>The trees are planted scantily along the northern boundary sheets and are very small.</p>
11.6	Water sprinkling arrangement at crushing system	<p>Water is being sprinkled in the hopper of jaw crusher manually through flexible hose pipe.</p> <p>The unit have provided fogging system (foggers fixed on PVC pipeline network running overhead) in the crushing area covering the main crusher, to the cone crusher (secondary crusher), screen-1, hopper of VSI, screen-2 and main tunnel.</p> <p>Water sprinklers are provided at transfer points of material from jaw crusher to the conveyor belt.</p> <p>The sprinkling/ fogging system at the crushing system found inadequate.</p>
11.7	Conveyor belt covered or not (if yes, Condition)	<p>The conveyors belts are covered with tin sheets. However, the cover of the conveyor belt from main jaw crusher to the screen house is provided at a gap of more than 12 inches above the conveyor belts.</p> <p>Covers of other conveyor belts are provided with gap of about 4-5 inch above the conveyor belts.</p> <p>In few places the conveyor belts were not covered properly/ fully and in few places the covers were in damaged condition.</p>
11.8	Condition of fugitive emission	Emission was observed from the main jaw crusher & cone crusher and from the screen area & from the stored heaps.

11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has provided fogging system at the main entry.
12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	The detail of the power consumption was not made available to the visiting team.
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is using the rain water collected in their old quarry which is located adjacent to the crushing plant. The water from the quarry is pumped through a 5HP motor and conveyed through pipeline.
16)	Water storage capacity at site	The unit has provided a water storage tank of 20000 ltrs storage capacity.
17)	Water Consumption (mode of measurement)	About 40000 ltrs/ day. It was informed that the storage tank (20000 ltr tank) present at the site is filled twice a day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	The records like consent copy, log book for material dispatch, log book for materials (rocks/ boulders) brought from quarry, delivery challan book are made available to the visiting team.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM was monitored at the location N18°36'57.60" E073°59'47.00" in the plant premises at a distance of about 5m from the main crusher & near the conveyor belt. Fine sand dust was found spilling from the conveyor belts during the monitoring period. The monitoring result reveals that the concentration of PM is 21344 µg/m ³ which is exceeding the norms of 600 µg/ m ³ at a distance of 3 to 10 meter from the main process equipment
20)	Observations: <ul style="list-style-type: none"> As informed the unit has a total 4.5 acres of land out of which the unit has set up crushing plant in an area of about 1.5 acres which is meant for 	

	<p>crushing and storing of materials and the entire crushing plant area has been provided with the tin sheets barriers (wind breaking wall) along the periphery. The remaining area is the quarry from where the rocks are being brought to the crushing plant.</p> <ul style="list-style-type: none"> • During the visit/ monitoring, the main jaw crusher, secondary crusher (Cone crusher) and the VSI (Vertical Shaft Impact) crusher were operational. The unit has started their crushing activities only during our visit and the sprinkling was also started only during the starting of the crushing activity. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed 40 sprinklers fixed with the metal boundary sheets and sprinkling/ fogging system fixed in PVC piping network overhead along the conveyor belts. However, these arrangements were found inadequate and uneven. The sprinkling made on the conveyor belts makes the conveyor belt wet resulting in sticking of materials on the belt surface and materials are carried out without dropping in the vibrating screens and carried out of the screen house area and when the belt circulate down the materials are dropped down on the ground below the conveyor belt & around the crushing area. During visit, fine dust/ sand was found spilling from the conveyor belts on the ground. • The existing 4 movable sprinklers are inadequate to cover the stored heaps, ground in the premises and the crushing area. • Due to inadequate sprinkling on the ground and on the material heaps, dust emission was found from the ground & from the material heaps. • Dust emission was also observed from the main jaw crusher, cone crusher and from the screen house. • Wind breaking wall (tin sheets) is provided all along the boundary. The tin sheets provided as the wind breaking wall are installed vertically leaving vertical gap of about 4-5 inches between each tin sheet. • The unit has installed two screening system, One screening system for screening the materials from cone crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside shed covered with tin sheets. The screen house-1 (which screens the material from the cone crusher) is not covered fully & left opened on one side and dust emission was found from the screen-1 • The unit has provided a name board at the main road which is about 750m away from the unit. • Photographs taken in the plant during the visit are given in Annexure.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (cone crusher & VSI crusher) with proper door arrangements or tarpaulin covers or mesh cloth covers to reduce the suspension of dust from these units. ➤ All the conveyor belts should be properly enclosed upto the nod of

	<p>conveyor belts.</p> <ul style="list-style-type: none"> ➤ The sprinkling system should be scientifically installed with full location wise operational control. ➤ The unit should increase the sprinkling capacity to cover the sprinkling on the ground and on the material heaps. ➤ The screen house should be completely covered so as to reduce the emission from the vibrating screens. ➤ The raw material hopper should be enclosed except one side for truck/dumper unloading and provided with fixed type water sprinkling arrangement. ➤ The gap between sheets in the wind breaking wall should be either packed with tarpaulin or provided by zigzag metal sheets to cover the gaps between sheets. ➤ The crush sand storage should be done in silo and other materials shall be openly stored and proper sprinkling arrangement to be provided all around the material heaps. ➤ Chute should be installed for the material falling from the conveyor belts. ➤ The height of finished goods stored in heaps should be less than the height of wind breaking wall. ➤ Consent should be amended for the production quantities as per their existing production. ➤ Improve the green belt along the periphery of the crushing area. ➤ Consent should be amended for water quantity to be used in sprinkling.
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Photograph: Emission from the crusher during monitoring



Photograph: Foggers line overhead along the conveyor lines



Photograph: Gaps in the tin sheet barriers and young trees



Photograph: Gaps in the tin sheet barriers and no/ scanty plantation on the northern boundary



Photograph: No sprinkling on the stored heaps/ no wetting on ground



Photograph: Screen housing not covered fully



Photograph: The heaps not covered by the present sprinkling system



Photograph: The falling of material in tunnel not covered by the existing sprinkling system



Photograph: Condition of covers of conveyor belts



Photograph: Condition of covers of conveyor belts



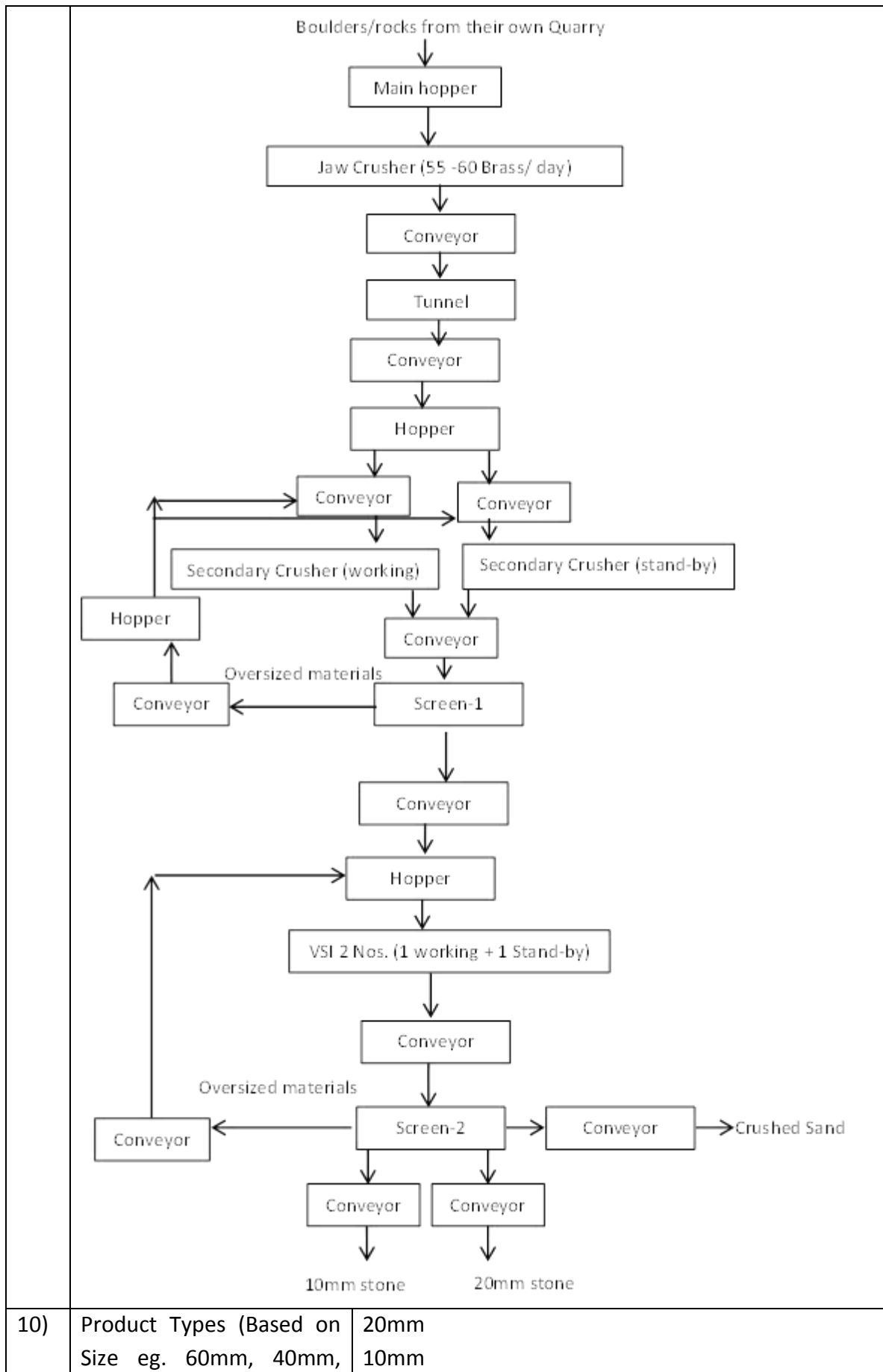
Photograph: Fogger line along the conveyor



Photograph: Fogger line on the main entry

REPORT ON VISIT TO STONE CRUSHER UNITS
AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s. Pratik Stone Crusher Gat. No. 157, Vill- Bhavadi Tal-Haveli, Dist. Pune Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Mr. Sunil Hargude - Proprietor; Ph: 9881736574
3)	Date of Visit	23 rd November, 2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	S. Pradeep Raj, Scientist-C, CPCB, ZO(W) Mr. Sandeep Shinde, Field Officer, MPCB, SRO, Pune-I Mr. Sandeep Patil, Field Officer, MPCB, SRO, Pune-II
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	The consent issued by MPCB vide no: BO/ JD (APC)/O/CC-8846, dated: 05.07.2016 is Valid till 30.06.2019.
8)	Consented Capacity Operating Capacity	25. Stone Crushing activity – 350 Brass/ Month 26. Stone Dust – 50 Brass/ Month Reportedly, the unit is operating at full capacity. As per the production data provided by the unit, the unit has produced 681 Brasses of crush sand, 113 Brasses of 10mm stone & 340 Brasses of 20mm Stone metal during the month of September, 2016. And produced 779 Brasses of crush sand, 130 Brasses of 10mm stone & 389 Brasses of 20mm Stone metal during the month of October, 2016. The production details provided by the unit are not matching the consented quantity.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	The process flow diagram prepared by the visiting team is given below:



	20mm, etc.)	Crushed sand
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	The unit has provided sprinklers fixed on PVC pipeline which runs overhead along the conveyor belts. Sprinklers are also fixed at top of the conveyor belts (unloading point/ product free fall ends).
11.2	Wind breaking wall	Provided tin sheets barrier of about 12 feet height along the periphery of the unit which acts as wind breaking wall. The tin sheets are fixed/ installed vertically leaving vertical gap of about 4-5 inches between each tin sheet. Height of wind breaking wall is less than highest point of the heaped materials.
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	The unit has provided concrete road of about 200ft length from the main entrance up to the main crusher and 150 ft concrete road from the ramp to the main hopper of the jaw crusher. The roads were slightly covered with dust deposition.
11.4	Arrangement for water spraying and wetting of ground in the premises	The Sprinkling system provided on top of the conveyor belts, sprinklers fixed on PVC pipeline network running overhead around the conveyor belts and the sprinklers fixed on the wind breaking wall (tin sheets) covers the sprinkling/ spraying on the surrounding ground in the premises.
11.5	Status of green belt along periphery of unit	The unit has planted trees around the boundary. The trees are young and about 1-3 m height. The trees are planted scantily along the boundary wall (tin sheet barriers) especially near the main entrance area.
11.6	Water sprinkling arrangement at crushing system	Water is being sprinkled in the hopper of jaw crusher manually through flexible hose pipe. The unit have provided sprinkler system (sprinklers fixed on PVC pipeline network

		running overhead) in the entire plant area which covers the crushing area.
11.7	Conveyor belt covered or not (if yes, Condition)	The conveyors belts are covered with tin sheets. However, the covers of all the conveyor belts are provided at a distance of about 1 feet gap above the belts, thereby giving more chance for spillage of materials/ dust emission from the conveyor belts.
11.8	Condition of fugitive emission	No emissions were observed in the storage area, screening & in the plant premises during the visit. The unit has done excessive sprinkling and flooded the entire crushing area. Slight emission was observed in the main jaw crusher and in the main hopper during unloading of rocks in the hoppers.
11.9	Fogging system at exit point for loaded carrier/ trucks	The unit has two entries and provided fogging system at both the entries.
12)	Any chimney/ stack with monitoring facility	Not available
13)	Average Power consumption per ton of crushing	<p>The unit provided the electricity bill for the month of October 2016 to the visiting team. The electricity bill reveals that the unit has consumed 5627 units of electricity during the month of October 2016 and the bill amount is Rs. 532184/- which includes the energy charges@ Rs.6.71/- per unit, demand charges, electricity duty & tax. The bill also reveals that the industry has consumed 38150 units of electricity during the month of September 2016, 55220 units of electricity during the month of August 2016.</p> <p>The unit also provided the production log sheets for the months of September & October 2016, which reveals that the unit has produced total 1134 Brasses of material (which includes 681 Brasses of crush sand, 113 Brasses of 10mm stone & 340 Brasses of 20mm Stone metal) during the month of September, 2016.</p>

		<p>And produced 1298 Brasses of materials (which 779 Brasses of crush sand, 130 Brasses of 10mm stone & 389 Brasses of 20mm Stone metal) during the month of October, 2016.</p> <p>Accordingly, it is calculated that about 33 to 43 units of electricity is consumed per Brass of material produced.</p>
14)	Alternate arrangement for power	No alternate power supply.
15)	Source of water	The unit is using the rain water collected in their quarry located adjacent to the crushing plant. The water from the quarry is pumped and conveyed to the crushing unit through pipeline for filling the storage tank at site and for direct sprinkling.
16)	Water storage capacity at site	<p>The unit has provided a water storage tank of 10000 ltrs storage capacity in the site.</p> <p>The water in the storage tank is being used only for sprinkling water in the crushers. The header line overhead which sprinkles along the conveyor belts and other sprinklers & foggers get the water directly from the quarry pumped through pipeline.</p>
17)	Water Consumption (mode of measurement)	It was informed that about 40000 liters of water is consumed per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	<p>The delivery challan book is being maintained at site and readily made available to the visiting team.</p> <p>The unit later provided the monthly data containing the details of production / sale details/ stock details for the month of September & October 2016, consent copy & copy of the electricity bill for the month of October 2016 to the visiting team.</p>
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone	PM was monitored at the location N18°37'80" E073°59'52" in the plant premises at a distance of about 4m from the main crusher.

	crushing unit)	<p>The monitoring result reveals that the concentration of PM is 9376 $\mu\text{g}/\text{m}^3$ which is exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.</p> <p>The high value may be due to the spillage of dust & fine sand from the conveyor belts and emission observed from the main jaw crusher</p>
20)	<p>Observations:</p> <ul style="list-style-type: none"> • The name of the unit as mentioned in the consent issued by MPCB is M/s .Pratik Stone Crusher, whereas the actual name of the unit is M/s .Pratik Stone Company, which is also reflected in the electricity bill generated by the Maharashtra State Electricity Distribution Co. Ltd. The unit has applied to MPCB for the correction of name in the consent & other records. • As informed the unit has set up crushing plant in an area of about 1 acres which is meant for crushing and storing of materials and the entire crushing plant area has been provided with the tin sheets barriers (wind breaking wall) along the periphery. The quarry owned by the unit is located adjacent to the crushing plant from where the rocks/ boulders are brought to the crushing plant through trucks. • During the visit/ monitoring, the main jaw crusher, one secondary crusher (out of two secondary crushers installed) and one VSI (out of two Vertical Shaft Impact crushers installed) crusher were operational. The unit usually operates one secondary crusher and one VSI at a time and the second machines are kept as stand-by. • The unit has made arrangements for water sprinkling & ground wetting. The unit has installed sprinklers fixed with the metal sheets (wind breaking wall) and sprinkling system fixed in PVC piping network overhead along the conveyor belts. • The excess sprinkling made on the conveyor belts makes the conveyor belt wet resulting in sticking of materials on the belt surface and being carried away without dropping in vibrating screens and resulting in falling of materials on the ground below the conveyor belt & around the crushing area. During visit, dust/ fine sand was found spilling from the conveyor belts on the ground. • Due to excess sprinkling on the ground and on the material heaps, dust emission was not found in the storage area/ from the material heaps but the entire area was flooded and marshy. However, slight dust emission was observed from the main jaw crusher. • Wind breaking wall (tin sheets) is provided all along the boundary. The tin sheets provided as the wind breaking wall are installed vertically leaving vertical gap of about 4-5 inches between each tin sheet. 	

	<ul style="list-style-type: none"> • The unit has installed two screening system, One screening system for screening the materials from secondary crusher and another screening system for screening the materials from the VSI (Vertical Shaft Impactor). Both the screenings are housed inside shed covered with tin sheets. • The unit has provided a name board at the entrance of the unit. • Photographs taken in the plant during the visit are given in Annexure.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating machineries (mainly jaw crusher & main hopper) with proper door arrangements or tarpaulin covers or mesh cloth covers to reduce the suspension of dust from these units. ➤ All the conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The sprinkling system should be scientifically installed with full location wise operational control. ➤ The unit should optimize the sprinkling system so as to reduce the excess sprinkling and flooding at few pockets in the premises. ➤ The screen house should be completely covered so as to reduce the emission from the vibrating screens. ➤ The raw material hopper should be enclosed except one side for truck/dumper unloading and provided with fixed type water sprinkling arrangement. ➤ The gap between sheets in the wind breaking wall should be either packed with tarpaulin or provided by zigzag metal sheets to cover the gaps between sheets. ➤ The crush sand storage should be done in silo and other materials shall be openly stored and proper sprinkling arrangement to be provided all around the material heaps. ➤ Telescopic Chute should be installed at the not of all the conveyor belts for the material falling from the conveyor belts. ➤ height of finished goods should be less than the height of wind breaking wall. ➤ Consent should be amended for water quantity to be used in sprinkling.



Photograph: Foggers installed at entry and flooding outside the entry



Photograph: Internal Concrete road covered with dust deposition



Photograph: Sprinkler fixed on top of conveyor belt



Photograph: Sprinklers fixed on PVC pipeline overhead



Photograph: Flooding due to excess sprinkling



Photograph: condition of internal concrete road



Photograph: Sprinklers on overhead pipeline and marshy condition of internal area



Photograph: The covers of conveyor belts fixed at huge gap above the belt

REPORT ON VISIT TO STONE CRUSHER UNITSAS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Prisha Stone Crusher, Gat No. 127, Wagholi, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Viral Vishnu Thakkar. Mobile: 9545793300.
3)	Date of Visit	25.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	7.Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara. 8.Shri Manish S. Holkar, SRO , Head Quarter Mumbai. 9.Shri Utkarsh Shingare , FO(PC), MPCB Regional Office, Pune.
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ)
7)	Consent Status	BO/JD(APC)/O/ CC- 8232 dt. 22.06.2016 valid upto 30.06.2019
8)	Consented Capacity Operating Capacity	Stone metal Crushing activity -1500 Brass/ Month and Stone Dust-300 Brass/ Month. About 50 brass/ day different size of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper→ Main jaw Crusher→ Conveyor belt→ Open storage on ground → Metallic retaining wall and feeder→ conveyor belt → 2 nd Hopper→ Jaw Crusher No.2→ Vibratory Screen No.1→Greater than 26 mm to Cone crusher hopper and less than 26 mm to VSI hopper →conveyor belt→ VSI machine → Conveyor belts→ Vibratory Screen No.2 → conveyor belt→ greater than 20 mm size to VSI hopper and less than 20mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20 mm and 10 mm pebbles and Crushed Sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers and spraying system are provided in peripheral manner to cover conveyor belts and other equipment (Photographs-1, Annexure-1). Water sprinklers are also fixed at the conveyor belts nod (product free fall ends). Three fixed sprinklers are also provided on ground. These sprinklers cover the openly stored finished products for wetting.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided all along the boundary except a portion in south-west corner due to common use of area by other adjacent unit (Photographs-2, Annexure-1).

11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to grit and finished goods spread, it is difficult to state that the internal road is blacktopped or not.
11.4	Arrangement for water spraying and wetting of ground in the premises	Yes. Water sprinklers are provided within the premises.
11.5	Status of green belt along periphery of unit	Claimed more than 375 saplings planted. Plantation was done along the internal road (a good practice), along boundary, towards main road side, etc. (Photograph-3, Annexure-1).
11.6	Water sprinkling arrangement at crushing system	Yes. Hopper of primary jaw crusher was having fixed water sprinklers. Inlet of second jaw crusher was having fixed water jet arrangement. VSI and cone crusher output conveyor junctions are provided with water sprinkling system. Primary jaw crusher was enclosed inside a shed (good practice).
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are mostly covered except a portion of Secondary jaw crusher to VSI hopper.
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Yes, provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In October 2016, 11825 units of electricity is consumed. However the electricity consumption per unit of product cannot be ascertained as the details of actual stone crushing data was not available.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs.
15)	Source of water	Nearby mine quarry.
16)	Water storage capacity at site	6KL and 3 KL in cemented tank.
17)	Water Consumption (mode of measurement)	About 10 KL/day, based on Tank filling per day.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Records were made available during the visit for inspections from October 2016 onwards pertaining of dispatch/ sale.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured near secondary Jaw crusher (at 5-6 m distance). The PM value was observed 21877 $\mu\text{g}/\text{m}^3$ which is far exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations:	

	<ol style="list-style-type: none"> 1. Due to large quantity of water sprinkling and spraying, fugitive emission from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate matter emission during operation of VSI machine and secondary jaw crushers is observed. The unit has enclosed the primary jaw crusher from almost all direction except an entry gate (good practice), however there was gaps between few metal sheets of the enclosure. 2. The unit has installed several garden sprinklers and misting systems using PVC piping network for crushers and conveyor belts. However, these arrangements are not appropriately designed which resulted in marshy condition at several places within the premises. Such water sprinkling and spraying arrangement overuse the water and remain ineffective for crushers and VSI machine apart from reducing the efficiency of vibratory screens. 3. WBW is provided almost all along the boundary but the height of finished product heap was more than the height of WBW. There was gaps between the sheets of WBW. In such situation, WBW may not solve the purpose of fugitive emission containment. Further, the product transfer point from conveyor belts (at nod) was also not equipped with chute to discharge the product. 4. All the hoppers are almost covered and provided with water sprinkling arrangement (Photograph-4, Annexure-1). However the conveyor belt entry portions are not provided with rubber flap. 5. Vibratory screens are enclosed, but the metal sheet of side wall of the enclosure was dilapidated from one side (Photograph-5, Annexure-1). 6. All the products materials (mostly crush sand) are stored openly within the premises in large quantity (Photograph-6, Annexure-1). This has potential to generate fugitive emissions. 7. Plantation has been carried along the periphery of unit premises and along internal road. 8. The workers were not observed wearing the personal protective equipment (PPE). 9. Materials were found spread below the conveyor belts and at other place. 10. The consent of the unit permits a domestic water consumption of 0.4 m³/day. However, the actual consumption for sprinklers & misting system is much more. 11. The unit has displayed a flex banner as sign board.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose all the dust generating equipment (2nd Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling/ spraying system should be scientifically installed based on nature of emissions with full operational control of location wise installed water sprinklers/ spraying systems and records pertaining to it should be maintained. ➤ The other hoppers having conveyor belt based loading should be properly enclosed from all sides with an acrylic window (for inspection/ viewing) and door arrangement (for maintenance) and rubber flap around conveyor belt opening. ➤ There should be adequate water spray on the raw material before transferring boulders in the hopper.

	<ul style="list-style-type: none"> ➤ The gap between the metal sheets of WBW should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ Silo for all the product material should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials should be openly stored and proper mechanical chute should be installed. Height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper water sprinkling arrangement to be provided all around the material heap. ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate 2 row green belt (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ The unit should dispose/ sale out large quantity of crush sand stored in the premises or alternate arrangement should be made to control fugitive emissions especially during night. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ Consent should be amended for water quantity to be used in sprinkling and name of product.
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<p>Photograph-1. Sprinklers fixed to cover periphery of all equipment and conveyor belts.</p>	<p>Photograph-2. A portion devoid of Wind breaking wall.</p>
	
<p>Photograph-3.A view of plantation along an internal road (Good practice).</p>	<p>Photograph-4. Raw material hopper enclosed in a shed and provided with sprinklers (good practice).</p>
	
<p>Photograph-5. Dilapidated metal sheets of vibratory screen cover.</p>	<p>Photograph-6. Large quantity of finished products openly stored in the premises.</p>







REPORT ON VISIT TO STONE CRUSHER UNITS AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	Shree Gurudatta Stone Crusher, Gat No. 598, Lonikand, Ta.: Haveli, Dist.: Pune , Maharashtra.
2)	Industry representative, Tel./ Fax/ e-mail	Shree Bhanudas Shankar Sakore. Mobile: 9763715790.
3)	Date of Visit	26.11.2016.
4)	Operational Status	Operational.
5)	Name of the Officials visiting the unit	10. Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara. 11. Shri Manish S. Holkar, SRO , Head Quarter Mumbai.
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	BO/JD(APC)/O/CC-8233 dt. 22.062016 valid upto 30.06.2019.
8)	Consented Capacity Operating Capacity	Stone crushing activity -700 Brass/ Month. 60-70 brass/ day different size of stones and crush sand.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper→ Main jaw Crusher→ Conveyor belt→ Secondary hopper→ 2 parallel jaw crushers→ Conveyor belt→ 1 st Vibrating screen→greater than 24 mm to secondary hopper and less than 24 mm to VSI Hopper using conveyor belts→ Conveyor belts (2 No.)→ VSI machine (2 Nos.) → conveyor belts→ 2 nd vibrating screen→ greater than 20 mm size to VSI hopper and less than 20mm size as different products using separate conveyor belts.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	20 mm and 10 mm pebbles and crushed sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers are fixed on top of wind breaking wall (WBW) support columns (Photographs-1, Annexure-1). Water sprinklers are also fixed at the conveyor belts (product free fall ends). These sprinklers cover the openly stored finished products for wetting.
11.2	Wind breaking wall	WBW is provided all along except the ramp side (Photographs-1, Annexure-1).
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to muds, grit and finished goods spread, it is difficult to state that the internal road is blacktopped or not. As informed, cleaning practice is manual sweeping.
11.4	Arrangement for water spraying and wetting of ground in the premises	Yes. Water sprinklers are provided within the premises and along WBW.
11.5	Status of green belt along	Claimed about 200 saplings planted but about 150

	periphery of unit	sapling at the locations namely along WBW and along the ramp (Photograph-2, Annexure-1). Plantation along ramp and other places has drip irrigation arrangement (good practice).
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet and outlet of jaw crusher was having water jet arrangement. Hopper of primary jaw crusher was having water sprinklers and manual water sprinkling using flexible pipe. Secondary jaw crusher area was having a fixed sprinkler.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are almost properly covered (Photograph-3, Annexure-1- Good practice) except a small portion of 10 mm material carrying conveyor belt.
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling and spraying, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Yes, provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	Not available at site.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs.
15)	Source of water	Nearby mine quarry.
16)	Water storage capacity at site	2 KL and 3 KL metal tanks.
17)	Water Consumption (mode of measurement)	10-12 KL/day. Roughly based on storage tank filling.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Not available.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured between operational VSI and operational secondary jaw crusher which are 5-6 m from the monitoring equipment. The PM value was observed 3021 $\mu\text{g}/\text{m}^3$ which is exceeding the norms of 600 $\mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations: <ul style="list-style-type: none"> Due to large quantity of water sprinkling (drizzling experience in entire premises), fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the premises during the visit. However particulate matter emission during operation of VSI machine and jaw crushers is observed. High water sprinkling resulted in chock-up of one of the VSI machine during the visit. The unit has installed several sprinklers and misting systems using PVC piping network and domestic shower is installed at the junction of crushed material 	

	<p>transfer from jaw crusher to conveyor belt. However, these arrangements are not appropriately designed and established and resulted in marshy condition at several places within the premises, drizzling type appearance within the premises and detrimental effect on VSI operation (due to over watering). Such sprinklers overuse the water and remain ineffective for crushers and impacts VSI machine operation apart from reducing the efficiency of vibratory screens.</p> <ul style="list-style-type: none"> • WBW is provided almost all along the boundary except ramp area but the height of finished product heap was more than the height of WW. There was gaps between the metal sheets of WBW and 2-3 feet gap at the bottom of WBW. In such situation, WBW may not solve the purpose of fugitive emission containment. Further, the product transfer point from conveyor (at nod) was also not equipped with chute to discharge the product. Secondary crusher hopper was overloaded (Photograph-4, Annexure-1). • The fugitive emission prone area of vibratory screens were enclosed inside a shed (Photograph-5, Annexure-1). However full enclosure is not provided. • All the products are stored openly within the premises. • The VSI hopper is properly enclosed except rubber flap at conveyor belt side. • Only one row plantation has been done along the periphery of unit premises and at a few locations, plantation is not done along boundary wall (Photograph-6, Annexure-1). • The workers were not observed wearing the personal protective equipment (PPE). • Materials were found spread below the conveyor belts. • The consent of the unit permits a domestic water consumption of 0.9 m³/day. However, the actual consumption for sprinklers & misting system is much more. • The unit has displayed sign board having name and gat number.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crusher, VSI machine and screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling and spraying systems should be scientifically installed with full operational control of location wise installed sprinklers and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed type water sprinkling arrangement. The secondary hopper and VSI hopper having conveyor belt based loading should be properly enclosed from all sides with an acrylic window (for inspection/ viewing) and door arrangement (for maintenance). ➤ There should be adequate water sprinkling on the raw material before transferring boulders in the raw material hopper. ➤ The gap between metal sheets of WBW should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ Silo for all the product material should be fabricated alongwith telescopic chute arrangement at the conveyor belt nod. Alternately, the crushed sand storage

	<p>should be done in silo and all other materials should be openly stored and proper mechanical chute should be installed. Height of finished goods should be atleast 2 feet less than the height of WBW. In the latter case, proper sprinkling arrangement to be provided all around the product heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt (with suitable plant species) should be developed along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity to be used in sprinkling and product name.
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<p>Photograph-1. Sprinklers mounted on wind breaking wall column.</p>	<p>Photograph-2. Plantation carried out along ramp supported by drip irrigation (Good practice).</p>
	
<p>Photograph-3. Properly covered conveyor belts (Good practice).</p>	<p>Photograph-4. Over-loaded secondary crusher (hazardous).</p>
	
<p>Photograph-5. Vibratory screens are not enclosed properly inside a shed.</p>	<p>Photograph-6. A portion of WBW devoid of plantation near vibratory screen.</p>

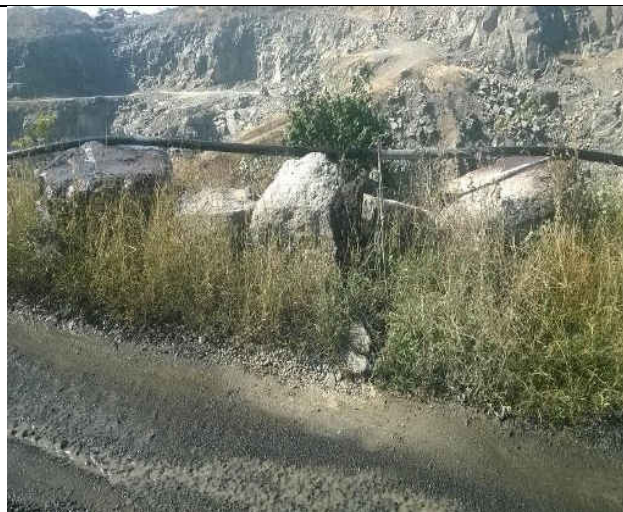
REPORT ON VISIT TO STONE CRUSHER UNITS AS PER ORDER OF HON'BLE NGT

S. No	ITEM	DETAILS
1)	Name and address of the Unit	M/s Shree Balaji Stone Crusher, Gat No. 600, A/P- Lonikand, Ta.: Haveli, Dist.: Pune , Maharashtra
2)	Industry representative, Tel./ Fax/ e-mail	Shree Rakesh Kand Mobile: 9673455055
3)	Date of Visit	26.11.2016
4)	Operational Status	Operational
5)	Name of the Officials visiting the unit	<ul style="list-style-type: none"> • Dr. Arvind Kumar Jha, CPCB ZO(W) Vadodara • Shri Manish S. Holkar, SRO , Head Quarter Mumbai • Shri Jagnath Darwatkar, FI, MPCB Regional Office, Pune
6)	Purpose of Visit	Hon'ble NGT matter 179/ 2015 (WZ).
7)	Consent Status	BO/JD(APC)/o/ CC-8231 dt. 22.06.2016 valid upto 30.06.2019.
8)	Consented Capacity Operating Capacity	Stone crushing activity-960 Brass/ Month About 40 brass/ day.
9)	Process Chart/ Flow Diagram Crushers (No. & Types) Screen etc.	Raw material Hopper→ Jaw Crusher (2 Nos.)→ Conveyor belt→ Vibrating screen→greater than 24 mm to Jaw crusher hopper and less than 24 mm to VSI Hopper→VSI (2 Nos.)→ Vibratory Screens→Conveyor belts → Less than 20mm size as different products using separate conveyor belts and more than 20 mm size to VSI hopper.
10)	Product Types (Based on Size eg. 60mm, 40mm, 20mm, etc.)	18mm, 16 mm and 10 mm pebbles and crushed Sand.
11)	Control Equipment provided:	
11.1	Dust suppression and sprinkling arrangements for stored materials	Water sprinklers are fixed on top of conveyor belts at material discharge end/ product free fall ends i.e. nod. Movable water sprinklers are also fixed on ground. These water sprinklers cover the openly stored material.
11.2	Wind breaking wall	Wind breaking wall (WBW) is provided in eastern and western sides. Ramp and a portion of northern and southern boundary are not provided with WBW (Photographs-1, Annexure-1). However 3 raw new saplings are planted on northern side and in south-east corner, electrical transformer is installed.
11.3	Internal Pucca road & road cleaning mechanism/ arrangement	Claimed that internal road is black topped. However due to grit, marshy land condition and finished goods spread, it is difficult to state that the internal road is blacktopped or not. As informed that cleaning practice is manual sweeping.
11.4	Arrangement for water	Yes. Water sprinklers are provided within the premises.

	spraying and wetting of ground in the premises	
11.5	Status of green belt along periphery of unit	Claimed 200 saplings planted but about 07 big plants and new plantation observed along the boundary at certain places i.e. along WBW and along the ramp. In northern side (not having WBW), three rows have been planted with saplings (Photograph-1, Annexure-1).
11.6	Water sprinkling arrangement at crushing system	Yes. Inlet of jaw crusher was having water jet arrangement using perforated metal pipes. Hopper of Jaw crusher was having manual water sprinkling using flexible pipe. Apart from this, sprinklers are provided at the ramp.
11.7	Conveyor belt covered or not (if yes, Condition)	Conveyor belts are partially uncovered at certain portions and at a few locations of conveyor belts, green tarpaulin sheets has been provided as cover (Photograph-2, Annexure-1). The VSI hopper to VSI conveyor belts were not having any cover (Photograph-3, Annexure-1).
11.8	Condition of fugitive emission	Due to large quantity of water sprinkling, significant fugitive emission is not observed.
11.9	Sprinkling system at exit point for loaded carrier/ trucks	Not provided.
12)	Any chimney/ stack with monitoring facility	There was no any chimney/stack.
13)	Average Power consumption per ton of crushing	In September 2016, 22840 units of electricity are consumed. However the electricity consumption per unit of product was not ascertained as the details of products was not available for that month at site.
14)	Alternate arrangement for power	No. The daily working hours is 6:00 hrs to 18:00 hrs
15)	Source of water	Own mine quarry
16)	Water storage capacity at site	7 KL in metal tank and a PVC tank.
17)	Water Consumption (mode of measurement)	15 KL/day. Roughly based on tank capacity.
18)	Availability of records of receipt & dispatch of material at site (if yes, avg nos.)	Records were available for last 2 months.
19)	Monitoring of PM (Measured between 03 to 10 m from process equipment of stone crushing unit)	PM is measured between jaw crusher and VSI machine which are 4-5 m from the monitoring equipment. The PM value was observed $6730 \mu\text{g}/\text{m}^3$ which is exceeding the norms of $600 \mu\text{g}/\text{m}^3$ at a distance of 3 to 10 meter from the main process equipment.
20)	Observations: 1. Due to large quantity of water sprinkling, fugitive emissions from material conveying, vehicular movement and storage of materials is not observed within the	

	<p>premises during the visit. However particulate emission is observed from jaw crushers and VSI machine during operation.</p> <ol style="list-style-type: none"> 2. The unit has installed several sprinklers and few spraying systems using PVC piping network, few fixed sprinklers and domestic showers. However, these arrangements are not appropriately designed which resulted in marshy condition at several places within the premises especially below conveyor belts and in finished good storage area. Such sprinklers/ spraying systems overuse water and remain ineffective for crushers apart from reducing the efficiency of vibratory screens. 3. WBW is provided in eastern and western sides but the height of two finished product heaps was more than the height of wind breaking wall. There also exists gap between metal sheets of WBW. Therefore, WBW is not provided all along the boundary. Further, the product discharge point of conveyor (at nod) was also not equipped with chute to discharge the product. However MS drums are used as chute in one conveyor system for material discharge (Photograph-4, Annexure-1) 4. Vibrating screens were housed inside a shed which was open from one side (conveyor side) having an open window in northern side (Photograph-1, Annexure-1). 5. All the finished products are stored openly within the premises. 6. Only one row plantation has been done along the periphery of unit premises except northern side. 7. The workers were not observed wearing the personal protective equipment (PPE). 8. Materials were found spread below the conveyor belts. 9. The consent of the unit permits a domestic water consumption of 0.4 m³/day. However, the actual consumption for sprinklers & misting system is much more. 10. The name of product is stated as stone crushing activity-960 Brass/ Month. 11. The unit has displayed a sign board having only location details.
21)	<p>Recommendations:</p> <ul style="list-style-type: none"> ➤ The unit should properly enclose the dust generating equipment (Jaw crushers, VSI and vibratory screens) with proper door and window arrangements and all conveyor belts should be properly enclosed upto the nod of conveyor belts. ➤ The water sprinkling/spraying systems should be scientifically designed with full operational control of location wise installed sprinklers/spraying systems and records pertaining to it should be maintained. ➤ The raw material hopper should be enclosed except one side for truck/ dumper unloading and provided with fixed water sprinkling arrangement. ➤ There should be adequate water spray on the raw material before transferring boulders in the hopper. ➤ The gap between sheets should be either packed with tarpaulin till the time of full growth of atleast two rows of avenue plantation (with suitable plant species) along the boundary or provided by zigzag metal sheets to cover the gaps between sheets. ➤ Silo for all the product material should be fabricated along with telescopic chute arrangement at the conveyor belt nod. Alternately, the crush sand storage should be done in silo and all other materials should be openly stored and proper mechanical chute should be installed. The height of finished goods should be maintained atleast 02 feet less than the height of WBW. In the latter case, proper

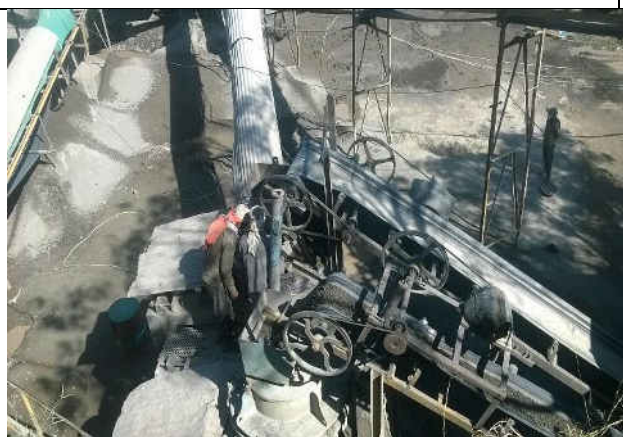
	<p>sprinkling arrangement to be provided all around the material heap.</p> <ul style="list-style-type: none"> ➤ Workers should be educated to use PPE during working near crushers. ➤ Adequate green belt development (with suitable plant species) should be done along the periphery of premises and along the ramp. ➤ The unit should display permanent display board showing a minimum of address, contact information, consent status and production capacity of unit at the entrance gate. ➤ Regular and proper housekeeping should be practiced within the premises. ➤ All records with respect to the unit should be maintained properly at site. ➤ Consent should be amended for water quantity to be used in sprinkling and name of product.
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Photograph-1. Northern side of unit is not having WBW.



Photograph-2. Covered conveyor belts and partially covered vibratory screens.



Photograph-3.Uncovered VSI screen



Photograph-4. MS drum used as chute. Product heap height is more than WBW.

ANNEXURE-2

OPERATIONAL STATUS & CONSENT VALIDITY STATUS

S. No.	Name of the unit	Date of visit	Operational Status	Consent validity status
1.	M/s. Sairaj Stone Co. Gat No.82/83,A/P-Bhavadi, Tal. Haveli, Dist: Pune	25/11/16	Closed	Not Known
2.	M/s. Ganesh Stone Crusher, Add: Gat No;- 586, A/P-Lonikand, Taluka-Haveli, Dist: Pune	25/11/2016	Not operational.	Unit does not have valid consent.
3.	Diamond Stone Industries, Gat No. 399, Perne, Taluka: Haveli, Dist:Pune	24/11/2016	Operational	Valid up to 30/06/2019.
4.	M/s. Kudale& Associates, Having office at: Gat No. 251/1/7, Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	Operational	Valid up to 30/06/2019.
5.	M/s. Shri Sai Stone Industries, Gat No.84, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	Not Operational	Not Known
6.	M/s. Golden Sand & Stone Pvt Ltd, Gat No.605,607, A/P: Lonikand, Taluka:Haveli, Dist: Pune	22/11/2016	Operational.	Valid up to 30/06/2019.
7.	M/s. Akash Stone Metal, Gat No.199, At Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	Operational	Unit does not have valid consent
8.	M/s. Deglookar Stone Crusher, Gat No. 202, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	Operational.	Valid up to 30/06/2019.
9.	M/s. Jai Tuljabhavani Stone Metal, Gat No. 555, Lonikand,Taluka: Haveli, Dist: Pune	23/11/2016 & 24/11/2016	Not operational on 23/11/2016. Operational for some time on 24/11/2016	Unit does not have valid consent
10.	M/s. Ashoka Enterprises, Gat No. 2497/2, Wagholi, Taluka: Haveli, Dist: Pune	22/11/2016	Operational	Valid up to 30/06/2019.
11.	M/s. KasprsBuildmate Pvt Ltd, Gat No:-157B, A/P- Bhavadi, Taluka: Haveli, Dist: Pune	22/11/2016	Operational	Valid up to 30/06/2019.
12.	M/s. Oriental Stone Metal Products, Gat	23/11/2016 & 25/11/2016	Not Operational on 23/11/2016 and	Valid up to 30/06/2019.

S. No.	Name of the unit	Date of visit	Operational Status	Consent validity status
	No.187, Bhavadi, Taluka: Haveli, Dist: Pune		Operational on 25/11/2016	
13.	M/s. Manisha Construction Gat No.180, 191, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	Not Operational	Valid up to 30/06/2019.
14.	M/s. Mauli Stone Crusher, Gat No. 224, Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	Operational	Valid up to 30/06/2019.
15.	M/s. RD Agarwal, Sv No.203, Bhavadi, Taluka: Haveli, Dist: Pune	08/11/2016 & 23/11/2016	Operational on 08/11/2016 and not operational on 23/11/2016	Unit does not have valid consent
16.	M/s. Matrukrupa Stone Udyog, Gat No.361, Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	Not Operational	Valid up to 30/06/2019.
17.	M/s. Pathway Corporation, Gat No. 229/2, Bhavadi, Taluka: Haveli, Dist: Pune	26/11/2016	Operational	Valid up to 30/06/2019.
18.	M/s. Rasika Stone Crusher, Gat No.2492, Wagholi, Taluka: Haveli, Dist: Pune	22/11/2016	Operational	Valid up to 30/06/2019.
19.	M/s. Shree Siddhivinayak Stone Industries, Gat No.157, A, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	Operational	Unit does not have valid consent
20.	M/s. Shri Vigsons Aggregates, Gat No.224, Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	Operational	Valid up to 30/08/2018.
21.	M/s. Shreyash Stone Crusher, Gat No.2494, Wagholi, Taluka: Haveli, Dist: Pune	25/11/2016	Operational	Valid up to 30/06/2019.
22.	M/s. Vaishnavi Stone Crusher, Gat No. 112, A/p., Taluka: Haveli, Dist: Pune	23/11/2016	Operational	Valid up to 30/06/2019.
23.	M/s. Yashraj Stone Metal, Gat No.213, Bhavadi, Taluka: Haveli, Dist: Pune	26/11/2016	Operational	Valid up to 30/06/2019.

S. No.	Name of the unit	Date of visit	Operational Status	Consent validity status
24.	M/s. Shri Swami Samarth Stone Crusher, Gat No. 203, A/p. Bhawadi, Taluka: Haveli, Dist: Pune	23/11/2016	Operational	Valid up to 30/06/2019.
25.	M/s. Adesh Stone Crusher, Gat No.232, A/p. Bhavadi, Taluka: Haveli, Dist: Pune	26/11/2016	Operational	Valid up to 30/06/2019.
26.	M/s. Shri Ramachandra Stone Crusher, Gat No. 590, A/p. Lonikand, Taluka: Haveli, Dist: Pune	22/11/2016	Operational.	Valid up to 30/06/2019.
27.	M/s. Shri Sai Aggregate Processors, Gat No.577, 57-A, Lonikand, Taluka: Haveli, Dist: Pune	25/11/2016	Operational	Details not available.
28.	M/s. Santosh Crusher, Gat No. 556, Lonikand, Taluka: Haveli, Dist: Pune	23/11/2016	Operational	Valid up to 30/06/2019.
29.	M/s. Snehal Stone Crusher, Gat No.555, A/p Lonikand, Taluka: Haveli, Dist: Pune	23/11/2016	Operational.	Valid up to 30/06/2019.
30.	M/s. Shivam Stone Crusher, Gat No.78, Bhavadi, Taluka: Haveli, Dist: Pune, (Formerly known as MulikGavane Associates)	26/11/2016	Operational	Valid up to 30/06/2019.
31.	M/s. Saundarya Stone Industries, Gat No.157-B, Bhavadi, Taluka: Haveli, Dist: Pune	22/11/2016	Operational	Valid up to 30/06/2019.
32.	M/s. Premchand Crush Sand, Co. Gat No.201, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/201	Operational	Valid up to 30/06/2019.
33.	M/s. Robo Silicon Pvt. Ltd. Gt No.591, A/p. Lonikand, Taluka: Haveli, Dist: Pune	25/11/2016	Operational	Valid up to 30/06/2019.
34.	Om Shri Sai Infra, Gat No.70, Ar. Bhawadi, Taluka: Haveli, Dist: Pune	23/11/2016	Operational	Valid up to 30/06/2019.
35.	M/s. Om Sai Stone Crusher, Gat No.157-B, A/p.,Bhavadi	23/11/2016	Operational	Valid up to 30/06/2019.

S. No.	Name of the unit	Date of visit	Operational Status	Consent validity status
	Taluka: Haveli, Dist: Pune			
36.	M/s. Grurudatta Stone Crusher, Gat 127, Wagholi, Pune	25/11/2016	Operational	Valid up to 30/06/2019.
37.	M/s. Laxmi Stone, Gat No.582-B, A/p., Lonikand Taluka: Haveli, Dist: Pune	25/11/2016	Operational	Valid up to 30/06/2019.
38.	M/s. Dnyaneshwari Stone Company, Gat No.169, Bawadi, Taluka: Haveli, Dist: Pune	26/11/2016	Operational	Valid up to 30/06/2019.
39.	M/s. Mukta Enterprises, Gat No.79-B, Bawadi, Taluka: Haveli, Dist: Pune	25/11/2016	Operational	Valid up to 30/06/2019.
40.	M/s. Balaji Stone Crusher, Gat No.198-B, At. Bhavadi, Taluka: Haveli, Dist: Pune (Gat No. 174 as per CCA)	26/11/2016	Not Operational	Valid up to 30/06/2019.
41.	M/s. Om Sai Stone Crusher, Gat No.2515B, A/p Wagholi, Taluka: Haveli, Dist: Pune	23/11/2016	Operational	Valid up to 31/07/2017.
42.	M/s. Deepak Stone, Gat No.1505, A/p Wagholi, Taluka: Haveli, Dist: Pune	25/11/2016	Operational	Valid up to 30/06/2019.
43.	M/s. Akshay Suppliers, Gat No.555, A/p.,Lonikand, Taluka: Haveli, Dist: Pune	23/11/2016	Not-operational	Valid up to 30/06/2019.
44.	M/s. Ghule&Bhapkar Stone Crusher, Gat No.583, Lonikand, Taluka: Haveli, Dist: Pune	08/11/2016 & 25/11/2016	Not operational on 08/11/2016. Operational on 25/11/2016.	Valid up to 30/06/2019.
45.	M/s. Mauli Stone Crusher, Gat No. 600 A/p. Lonikand, Taluka: Haveli, Dist: Pune	25/11/2016	Operational.	Valid up to 30/06/2019.
46.	M/s. Mauli Stone Crusher, Gat No. 551,552 A/p. Lonikand, Taluka: Haveli, Dist: Pune	23/11/2016	Operational.	Valid up to 30/06/2019.
47.	M/s. Radiant Constructions, Gat	24/11/2016	Operational.	Valid up to 30/11/2017.

S. No.	Name of the unit	Date of visit	Operational Status	Consent validity status
	No.561/1 562/1, A/p Lonikand, Taluka: Haveli, Dist: Pune			
48.	M/s. Sai Stone Industries, Gat No.76,77, Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	Operational.	Valid up to 30/06/2019.
49.	M/s. Shri Devram Stone Crusher, Gat No.601, A/p., Lonikand Taluka: Haveli, Dist: Pune	26/11/2016	Operational.	Valid up to 30/06/2019.
50.	M/s. Vignaharta Stone Products, Gat No.71, A/p. Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	Operational.	Valid up to 30/06/2019.
51.	M/s. Nachiket Stone Metal, Gat No.564, A/p., Lonikand, Taluka: Haveli, Dist: Pune	24/11/2016	Operational.	Valid up to 30/06/2019.
52.	M/s. Shree Ganesh Stone Crusher, Gat No. 204, A/p. Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	Operational.	Valid up to 30/06/2019.
53.	M/s. Pratik Stone, Gat No.157, A/p. Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	Operational.	Valid up to 30/06/2019.
54.	M/s. Prisha Stone, Gat No. 127, A/p Wagholi, Taluka: Haveli, Dist: Pune	25/11/2016	Operational.	Valid up to 30/06/2019.
55.	M/s. Shree Garudatta Stone Crusher, Gat No.598, A/p. Lonikand, Taluka: Haveli, Dist: Pune	26/11/2016	Operational.	Valid up to 30/06/2019.
56.	M/s. Shree Balaji Stone Crusher, Gat No.600, A/p., Lonikand, Taluka: Haveli, Dist: Pune	26/11/2016	Operational.	Valid up to 30/06/2019.

ANNEXURE-3

COMPLIANCE STATUS OF PRESCRIBED LIMIT FOR SPM CONCENTRATION IN WORK ZONE.

S. No.	Name of the unit	Date of visit	Concentration of SPM in work zone at a distance of 3 to 10 from process equipment	Compliance Status (Standard limit 600 $\mu\text{g}/\text{m}^3$)
1.	M/s. Sairaj Stone Co. Gat No.82/83,A/P-Bhavadi, Tal. Haveli, Dist: Pune	25/11/16	Not Monitored	--
2.	M/s. Ganesh Stone Crusher, Add: Gat No;- 586, A/P-Lonikand, Taluka-Haveli, Dist: Pune	25/11/2016	Not monitored.	--
3.	Diamond Stone Industries, Gat No. 399, Perne, Taluka: Haveli, Dist:Pune	24/11/2016	6564.0 $\mu\text{g}/\text{m}^3$	Not complied.
4.	M/s. Kudale& Associates, Having office at: Gat No. 251/1/7, Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	1665 $\mu\text{g}/\text{m}^3$	Not complied.
5.	M/s. Shri Sai Stone Industries, Gat No.84, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	Not Monitored	--
6.	M/s. Golden Sand & Stone Pvt Ltd, Gat No.605,607, A/P: Lonikand, Taluka:Haveli, Dist: Pune	22/11/2016	1713 $\mu\text{g}/\text{m}^3$	Not complied.
7.	M/s. Akash Stone Metal, Gat No.199, At Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	2292 $\mu\text{g}/\text{m}^3$	Not complied.
8.	M/s. Deglookar Stone Crusher, Gat No. 202, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	2426 $\mu\text{g}/\text{m}^3$	Not complied.
9.	M/s. Jai Tuljabhavani Stone Metal, Gat No. 555, Lonikand,Taluka: Haveli, Dist: Pune	23/11/2016 & 24/11/2016	Not monitored.	--
10.	M/s. Ashoka Enterprises, Gat No. 2497/2, Wagholi, Taluka: Haveli, Dist: Pune	22/11/2016	1810 $\mu\text{g}/\text{m}^3$	Not complied.
11.	M/s. KasprsBuildmate Pvt Ltd, Gat No:-157B, A/P- Bhavadi, Taluka:	22/11/2016	21105 $\mu\text{g}/\text{m}^3$	Not complied.

S. No.	Name of the unit	Date of visit	Concentration of SPM in work zone at a distance of 3 to 10 from process equipment	Compliance Status (Standard limit 600 $\mu\text{g}/\text{m}^3$)
	Haveli, Dist: Pune			
12.	M/s. Oriental Stone Metal Products, Gat No.187, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016 & 25/11/2016	6540 $\mu\text{g}/\text{m}^3$	Not complied.
13.	M/s. Manisha Construction Gat No.180, 191, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	Not Monitored	--
14.	M/s. Mauli Stone Crusher, Gat No. 224, Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	1578 $\mu\text{g}/\text{m}^3$	Not complied.
15.	M/s. RD Agarwal, Sv No.203, Bhavadi, Taluka: Haveli, Dist: Pune	08/11/2016 & 23/11/2016	Not Monitored	--
16.	M/s. Matrukrupa Stone Udyog, Gat No.361, Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	Not Monitored	--
17.	M/s. Pathway Corporation, Gat No. 229/2, Bhavadi, Taluka: Haveli, Dist: Pune	26/11/2016	4911 $\mu\text{g}/\text{m}^3$	Not complied.
18.	M/s. Rasika Stone Crusher, Gat No.2492, Wagholi, Taluka: Haveli, Dist: Pune	22/11/2016	7528 $\mu\text{g}/\text{m}^3$	Not complied.
19.	M/s. Shree Siddhivinayak Stone Industries, Gat No.157, A, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	18559 $\mu\text{g}/\text{m}^3$	Not complied.
20.	M/s. Shri Vigsons Aggregates, Gat No.224, Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	1636 $\mu\text{g}/\text{m}^3$	Not complied.
21.	M/s. Shreyash Stone Crusher, Gat No.2494, Wagholi, Taluka: Haveli, Dist: Pune	25/11/2016	15740 $\mu\text{g}/\text{m}^3$	Not complied.
22.	M/s. Vaishnavi Stone Crusher, Gat No. 112, A/p., Taluka: Haveli,	23/11/2016	7358 $\mu\text{g}/\text{m}^3$	Not complied.

S. No.	Name of the unit	Date of visit	Concentration of SPM in work zone at a distance of 3 to 10 from process equipment	Compliance Status (Standard limit 600 µg/m ³)
	Dist: Pune			
23.	M/s. Yashraj Stone Metal, Gat No.213, Bhavadi, Taluka: Haveli, Dist: Pune	26/11/2016	8044 µg/m ³	Not complied.
24.	M/s. Shri Swami Samarth Stone Crusher, Gat No. 203, A/p. Bhawadi, Taluka: Haveli, Dist: Pune	23/11/2016	1121 µg/m ³	Not complied.
25.	M/s. Adesh Stone Crusher, Gat No.232, A/p. Bhavadi, Taluka: Haveli, Dist: Pune	26/11/2016	1238 µg/m ³	Not complied.
26.	M/s. Shri Ramachandra Stone Crusher, Gat No. 590, A/p. Lonikand, Taluka: Haveli, Dist: Pune	22/11/2016	1832.0 µg/m ³	Not complied.
27.	M/s. Shri Sai Aggregate Processors, Gat No.577, 57-A, Lonikand, Taluka: Haveli, Dist: Pune	25/11/2016	2838.0 µg/m ³	Not complied.
28.	M/s. Santosh Crusher, Gat No. 556, Lonikand, Taluka: Haveli, Dist: Pune	23/11/2016	3802.0 µg/m ³	Not complied.
29.	M/s. Snehal Stone Crusher, Gat No.555, A/p Lonikand, Taluka: Haveli, Dist: Pune	23/11/2016	1838.0 µg/m ³	Not complied.
30.	M/s. Shivam Stone Crusher, Gat No.78, Bhavadi, Taluka: Haveli, Dist: Pune, (Formerly known as MulikGavane Associates)	26/11/2016	2307 µg/m ³	Not complied.
31.	M/s. Saundarya Stone Industries, Gat No.157-B, Bhavadi, Taluka: Haveli, Dist: Pune	22/11/2016	1992 µg/m ³	Not complied.
32.	M/s. Premchand Crush Sand, Co. Gat No.201, Bhavadi, Taluka: Haveli, Dist: Pune	23/11/201	6044 µg/m ³	Not complied.
33.	M/s. Robo Silicon Pvt. Ltd. Gt No.591, A/p. Lonikand, Taluka: Haveli, Dist: Pune	25/11/2016	1876.0 µg/m ³	Not complied.

S. No.	Name of the unit	Date of visit	Concentration of SPM in work zone at a distance of 3 to 10 from process equipment	Compliance Status (Standard limit 600 µg/m ³)
34.	Om Shri Sai Infra, Gat No.70, Ar. Bhawadi, Taluka: Haveli, Dist: Pune	23/11/2016	2279 µg/m ³	Not complied.
35.	M/s. Om Sai Stone Crusher, Gat No.157-B, A/p.,Bhavadi Taluka: Haveli, Dist: Pune	23/11/2016	3483 µg/m ³	Not complied.
36.	M/s. Grurudatta Stone Crusher, Gat 127, Wagholi, Pune	25/11/2016	7851 µg/m ³	Not complied.
37.	M/s. Laxmi Stone, Gat No.582-B, A/p., Lonikand Taluka: Haveli, Dist: Pune	25/11/2016	1160.0 µg/m ³	Not complied.
38.	M/s. Dnyaneshwari Stone Company, Gat No.169, Bawadi, Taluka: Haveli, Dist: Pune	26/11/2016	3931 µg/m ³	Not complied.
39.	M/s. Mukta Enterprises, Gat No.79-B, Bawadi, Taluka: Haveli, Dist: Pune	25/11/2016	5346 µg/m ³	Not complied.
40.	M/s. Balaji Stone Crusher, Gat No.198-B, At. Bhavadi, Taluka: Haveli, Dist: Pune	26/11/2016	Not Monitored	--
41.	M/s. Om Sai Stone Crusher, Gat No.2515B, A/p Wagholi, Taluka: Haveli, Dist: Pune	23/11/2016	11628 µg/m ³	Not complied.
42.	M/s. Deepak Stone, Gat No.1505, A/p Wagholi, Taluka: Haveli, Dist: Pune	25/11/2016	28375 µg/m ³	Not complied.
43.	M/s. Akshay Suppliers, Gat No.555, A/p.,Lonikand, Taluka: Haveli, Dist: Pune	23/11/2016	Not monitored.	--
44.	M/s. Ghule&Bhapkar Stone Crusher, Gat No.583, Lonikand, Taluka: Haveli, Dist: Pune	08/11/2016 & 25/11/2016	770 µg/m ³	Not complied.
45.	M/s. Mauli Stone Crusher, Gat No. 600 A/p. Lonikand, Taluka: Haveli, Dist: Pune	25/11/2016	3472 µg/m ³	Not complied.

S. No.	Name of the unit	Date of visit	Concentration of SPM in work zone at a distance of 3 to 10 from process equipment	Compliance Status (Standard limit 600 $\mu\text{g}/\text{m}^3$)
46.	M/s. Mauli Stone Crusher, Gat No. 551,552 A/p. Lonikand, Taluka: Haveli, Dist: Pune	23/11/2016	56617 $\mu\text{g}/\text{m}^3$	Not complied.
47.	M/s. Radient Constructions, Gat No.561/1 562/1, A/p Lonikand, Taluka: Haveli, Dist: Pune	24/11/2016	1793 $\mu\text{g}/\text{m}^3$	Not complied.
48.	M/s. Sai Stone Industries, Gat No.76,77, Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	2425 $\mu\text{g}/\text{m}^3$	Not complied.
49.	M/s. Shri Devram Stone Crusher, Gat No.601, A/p., Lonikand Taluka: Haveli, Dist: Pune	26/11/2016	9162 $\mu\text{g}/\text{m}^3$	Not complied.
50.	M/s. Vignaharta Stone Products, Gat No.71, A/p. Bhavadi, Taluka: Haveli, Dist: Pune	25/11/2016	2381 $\mu\text{g}/\text{m}^3$	Not complied.
51.	M/s. Nachiket Stone Metal, Gat No.564, A/p., Lonikand, Taluka: Haveli, Dist: Pune	24/11/2016	7052 $\mu\text{g}/\text{m}^3$	Not complied.
52.	M/s. Shree Ganesh Stone Crusher, Gat No. 204, A/p. Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	21344 $\mu\text{g}/\text{m}^3$	Not complied.
53.	M/s. Pratik Stone, Gat No.157, A/p. Bhavadi, Taluka: Haveli, Dist: Pune	23/11/2016	9376 $\mu\text{g}/\text{m}^3$	Not complied.
54.	M/s. Prisha Stone, Gat No. 127, A/p Wagholi, Taluka: Haveli, Dist: Pune	25/11/2016	21877 $\mu\text{g}/\text{m}^3$	Not complied.
55.	M/s. Shree Garudatta Stone Crusher, Gat No.598, A/p. Lonikand, Taluka: Haveli, Dist: Pune	26/11/2016	3021 $\mu\text{g}/\text{m}^3$	Not complied.
56.	M/s. Shree Balaji Stone Crusher, Gat No.600, A/p., Lonikand, Taluka: Haveli, Dist: Pune	26/11/2016	6730 $\mu\text{g}/\text{m}^3$	Not complied.