

newthink! cement! sugar! refractories! power!

DCBL/MOEF/ Return/18-19/24

Date: 11.11.2018.

To

Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (SEZ), I<sup>st</sup> and II<sup>nd</sup> Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai – 34

Dear Sir,

Sub: Furnishing the half yearly Environment Compliance Status – reg Ref: EC No: J-11015/64/2008-1A-11(m).

We are here with Furnishing the half yearly Compliance Status of our Nawabpet— Talamanchipatnam Limestone Mine of M/s Dalmia Cement (Bharat) Limited Chinnakomerla (V & P), Mylavaram (Mandal), Kadapa (Dt) From April-2018 to September-2018.

This is for your information and records please

Thanking you Yours faithfully

K.V. Suresh Reddy Manager (Mines)

# MoEF Clearance Conditions – Compliance Status Nawabpet-Talamanchipatnam Limestone Mines of M/s Dalmia Cement (Bharat) Ltd ECNo: J-11015/64/2008-1A-11(m).

#### A. SPECIFIC CONDITIONS:

S.No.	Specific conditions	Compliance status
i.	A comprehensive Conservation Plan for Wild Life shall be prepared and implemented in consultation with the Chief Wild Life Warden. Necessary fund for implementation of the same be separately allocated	No Wild Life Sanctuary/ Reserved Forest within the 10 km of project area.  There is no Schedule-I fauna found in the buffer zone.  Hence we requested Ministry to amend this point and exempt the condition.
ii.	Primary survey data of flora and fauna in the core and buffer zone and also authenticated list of the same shall be submitted to the Ministry within six months	The primary data of flora and fauna in the core and buffer zone is being conducted and submitted to your good office.
iii.	50m barrier no mining zones on both sides of the nallah (all along) shall be demarcated and the area shall be vegetated with thick native vegetation of different species	There is one seasonal nallah namely Aluguvagu along the southern boundary of the lease area, running west to east.  On one bank of this seasonal nalla is the mining lease and other bank is not belongs to the company.  Mining operations are not being carried out in the 50 m safety distance from the nallah A bund of height 6-7 m was made with the help of OB Soil as a demarcation.  Plantation work has been carried along the nalla in the Mining Lease.
iv.	Land-use pattern of the nearby villages shall be studied, including common property resources available for conversion into productive land. Action Plan for abatement and compensation for damage to agricultural land / common property land(i	No damage to the agricultural land common property land reported due to mining operations.

S.No.	Specific conditions	Compliance status
	any) in the nearby villages, due to mining	The Mining Operations are restricted to
	activity shall be submitted to the <i>Regional</i>	120.49 he currently. There are no changes
	Office of the Ministry within six months	in land use.
	annual status of implementation of the plan	The safety distance of 500m left as buffer
	and expenditure there on shall be reported	zone from the Nawabpet Village and no
	to the regional of the ministry	damage is happened to the land-use
		pattern of the nearby village.
V.		Socio Economic Survey has been conducted
	Need been a second of the second	By the management. To assess the needs of
	Need based assessment of the nearby villages shall be conducted to study the	the villagers and the identified needs are
	economic measures which can help in	fulfilled through our organization CSR activities.
	upliftment of poor section of society.	activities.
	Company shall provide separate budget for	As per the need based assessment the M/s
	community development activities and	DCBL has been conducted the many skill
	income generating programmes. This will be	development and community development
	in addition to vocational training for	programs. The details are attached
	individuals imparted to take up self-	separately in <b>Annexure-1</b>
	employment and jobs.	
vi.		Socio Economic Survey conducted through a
		third party and budget is allocated for
	Socio economic profile and rehabilitation	community development programme.
	action plan for families affected directly or	
	indirectly due to mining shall be prepared	An amount of Rs. 7.9 lakhs have been
	for immediate implementation before starting mining and shall be submitted	budgeted and being spends towards Social development through which 1687 members
	within six months to the regional office of	are being benefitted.
	the ministry	are being benefitted.
	the ministry	Since no families are affected due to their
		mining, rehabilitation does not arise
vii.		Complied
	Water to be supplied for drinking purposes	As part of CSR initiatives, we have installed
	shall be treated to meet the prescribed	RO plants for the surrounding 3 villages for drinking water and the source of water is
	standards. Monitoring of water quality for	being supplied by the Govt. for the
	drinking shall be undertaken on daily basis especially for fluoride & arsenic and records	adjoining villages. The water is also being
	maintained	tested for pot ability test in the government
		approved laboratories and kept the records.
		It is found the fluoride and arsenic is well

S.No.	Specific conditions	Compliance status
		within the prescribed norms.
Viii.	Transportation of lime stone ore to the cement plant shall be through closed conveyor belt system	All conveyor belt of length 3 km are installed for transportation of limestone to plant.  All belt conveyors are closed and Provided with dry fog system at transfer points to prevent fugitive emissions. The length of the conveyor is about 3km from mines crusher to the plant.
ix.	Rain Water Harvesting scheme shall be undertaken in consultation with the Regional Director, Central Ground Water Board and action plan for implementation of the scheme shall be submitted to the Regional Office of the Ministry, Central Ground Water Board and the state Govt. within six months	The rain water harvesting pit of capacity 4 lacks Cubic meter is made for collection of rain water which is used for ground water recharge. The rain water collected in Mine pit also pumped to water harvesting pit and also using for the plant process purposes. The rain water is also being harvested in the mine sump; nearly 7 lacks cubic meter capacity has been developed.  Hydrogeology and Rain water harvesting study has been carried out and report was approved by CGWB and recommendations were implemented.
X.	Water quality both for surface as well as ground water in the core zone shall be regularly monitored and records maintained. Water supplied for drinking shall be monitored on daily basis and records maintained. In case of contamination observed, measures for control and action taken shall be reported to <b>State Government</b> as well as the <b>Regional Office of the Ministry</b>	Regular monitoring of Surface and ground water is being carried out and records are maintained. No contamination has been observed till date.  However, in case any contamination is observed measures will be taken and will
xi.	Measures for prevention and control of soil erosion and management of silt shall be under taken protection of dumps against	20.15 lacks cum of OB material dumped in

S.No.	Specific conditions	Compliance status
	erosion shall carried out with geo textile matting or other suitable material and thick plantations of native trees and shrubs shall be carried out at the dumps slopes. Dumps shall be protected by retaining walls as there are eleven other mines which are contiguous to the subject mine, total silt load shall be assessed and measures for prevention and control of silt shall be submitted to the Regional office of the Ministry within six months.	The dump yards are being stabilized by putting the dry pitching along the dump yard.  The thick plantation on the top of the dump has been carried out to arrest the soil erosion. Detail measures adopted for stabilization of dump. Total Soil (OB: 20.15 lacks cum + Top Soil: 6.36 lacks cum = 26.51 lacks cum).
xii.	Trenches/garland drains shall be constructed at foot of dumps and coco filters installed at regular intervals to arrest silt from being carried to water bodies, adequate number of check dams and Gully plugs shall be constructed across seasonal /perennial nallahs flowing through the ML area and silts arrested .De-silting at regular intervals shall be carried out.	The garland drains are being provided at top of the workings and at all along the OB dump yards. The drains are connected to the pit bottom for segregation of the silt. The pure water is being used for plant process purpose.  The length of drain is around 2.5Km and width is around 2m.  The 50m safe barrier is being left all along the Alugu vagu Seasonal Nalla, the bund of 7-8m height has been provided and dry pitched all along the bund.
xiii.	Occupational health and safety measures for the worker including identification of work related health hazards. Training on malaria education, HIV and health effects on exposure to mineral dust etc shall be carried out the company shall engage a full time qualified doctor who is trained in occupational health periodic monitoring for exposure to reparable mineral dust on the workers shall be conducted and records maintained including health records of the workers shall be conducted and records maintained including health records of the workers. Awareness program for workers on impact of mining on their health and precautionary measures like use of personal	The required PPE is being provided to all the mines employees. The training is also being conducted at regular intervals by the qualified doctors for creating more awareness on malaria, HIV and health effects due to the mining operations.  Occupational health and safety measures are being taken and the company is having a full-fledged SHE policy and is being implemented by them. Initial medical examination conducted for all mines employees as per the standards specified in Form-0 and the medical reports are available in mines office and in dispensary. Dispensary provided with 4 beds with sufficient staff and infrastructure located in

S.No.	Specific conditions	Compliance status
	equipment's etc shall be carried out	colony. Free medical treatment, free
	periodically review of impact of various	medicines and free ambulance facility is
	health measures under taken (at interval of	being given to all employees and
	five years of less) shall be conducted	surrounding villagers.
	followed by flow of action wherever	
	required	3
xiv.	Action taken report on issues raised and commitments made during public hearing shall be submitted to the regional office of the ministry and the state Govt. within six months after mining operation begins	The main issues are provision of employment, education and health facilities for local people.  The DCBL management has provided the employment for 150 local people. The full-fledged dispensary has been provided and extends the medical facilities to the local people with free of cost.
XV.	Dust fall measurements shall be periodically carried out including particle size analysis in work zone area. Result shall be submitted to the regional office of the ministry and state Govt.	& Dust Collector with cyclone type DCB filters arranged in drill Machine to suppress
xvi.	Top soil/solid waste shall be stocked properly with proper slope and with adequate safe guards for prevention of erosion and shall be used for back filling for reclamations and rehabilitation of mined our area	Nearly 6.36 lac cum of top soil stored on the dump yards (28.2He).
xvii.	Over burden shall be stocked at earmarked	
	dump site(s) only and shall not be kep active for long period the maximum heigh	a landar is being stocked as montioned

S.No.	Specific conditions	Compliance status
	of the dump shall not exceed 30m, each stage shall preferably be of 10m and overall slope of the dump shall not exceed 28°. The OB dumps shall be back filled. The OB dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining compliance status shall be submitted to the ministry of Environment and Forest on six monthly basis	in Approved Mining plan & Mining Scheme and EIA/EMP and is being vegetated with suitable native species to prevent erosion.
xviii.	Garland drains shall be constructed to arrest silt and sediment flow from soil and mineral dumps the water so collected shall be utilized for watering the mine area, roads green belt development etc. The drains shall be regularly de silted particularly after monsoon and maintained properly. Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and for waste dump and sump capacity shall be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material sedimentation pits shall be constructed at corners of the garland drains and de-silted at regular intervals.	Complied  Garland drains are made and the water is channelized to the mine pit, Check dams are also made in certain places, water is not allowed to move out of their mine lease.
xix.	Slope of the mining bench and ultimate pit limit shall be as per the mining scheme as approved by the Indian Bureau of mines	The slope of mining bench is being maintained at 80° from the vertical and the ultimate pit limit is 24m.
XX.	Drilling and blasting shall be conducted by using dust extractors /wet drilling	Drilling: The drilling is being conducted with the help of latest ROC L6 drill machine, provided with wet drilling facility and dry collection system for effective dust controlling.  Blasting: The deep hole blasting is being conducted by systematic and scientific

S.No.	Specific conditions	Compliance status
		manner approved by the DGMS. The blasting time is 1.30pm to 2.00pm and it is displayed at various places. The secondary blasting and its impacts have been completely eliminated by using the rock breaker. The each and every blast ground vibration and noise is being monitored for minimizing the vibration and noise.
xxi.	Green belt development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO / Agriculture Department. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation.  Plantation shall be raised in 86.55 ha around the ML area, haul roads. OB dump sites etc.  The density of the trees shall be not less than 2500 plants per ha.  The company shall involve local people with the help of self-help group for plantation programme. Further the company shall practice poly culture plantation instead of monoculture of plant species. Details of year wise afforestation programme including rehabilitation of mined out area shall be submitted to the Ministry within six months.	Plantation done in the restored areas such as in back filled pits, office and site premises, besides mine road and around waste dumps. Permanent pipe line is provided for watering and they have necessary maintenance crew with water tanker for plantation works.  Till date, plantation has been done over an area 26.8 ha.  We have planted nearly 80784 no's saplings starting from 2008. Density of trees 3014 plants/ha is being maintained.  The neem plantation is being done in consultation with local DFO/Agriculture Dpt. Local Species are selected as desired and as recommended by them.
xxii.	Prior permission from the competent authority shall be obtained for extraction of ground water, if any.	Obtained permission for abstraction of ground water from Central ground water Authority vide Ref No: 21-4(16) /SR JCGWA /2008-840 dated 19-06-2008.
xxiii.	Vehicles used for transportation of ores and other mining operation shall have valid permissions as prescribed under central motor vehicle Rules, 1989 and its amendments. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of ores.	All vehicles plying in the mine are well maintained as per the OEM standards. The vehicles are being tested by the RTO approved agency and found that the emission levels are within the permissible limit. The vehicles are not over loaded. The

S.No.	Specific conditions	Compliance status
	Transporting of ores shall be done covered	transportation from mines to plant is being
	with a tarpaulin or other suitable enclosures	done by closed belt conveyor system.
	so that no— dust particles/ fine matters	
	escape during the course of transportation.	
	No overloading of ores for transportation	
	shall be undertaken	
4		
xxiv.		Noted for Compliance and Agreed Upon
	A final mine closure plan, along with details	
	of Corpus Fund, shall be submitted to the	A final Mine Closure Plan, along with Corpus
	Regional Office of the Ministry of	Fund will be submitted to the Regional
	Environment & Forest.	office of the MOE&F, 5 years in advance of
		final closure for approval.

#### **B. GENERAL CONDITIONS:-**

S.No.	General conditions	Compliance status
i.	No change in mining technology and scope of working shall be made without prior approval of the regional office of the Ministry of Environment & Forests.	Noted for Compliance  There will not be any change made in technology and scope of working without prior approval of the ministry
ii.	No change in the calendar plan including excavation ,quantum of mineral ore and waste shall be made	Being maintained as per the approved Mining plan & scheme.
iii.	Conservation measures for protection of flora and fauna in the core & buffer zone shall be drawn up in consultation with the local forest and wildlife department	The flora and fauna study of core zone and buffer zone has been conducted by the 3 <sup>rd</sup> party.
iv.	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for RPM ,SPM.So2 ,Nox monitoring Location of the station should be decided based on the meteorological data topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State	Monitoring stations are fixed as per the guidance of the SPCB and being monitored regularly. One station established in core zone and 4 stations provided in buffer zone.

S.No.	General conditions	Compliance status
	pollution control Board.	
V.	Data on ambient air quality (RSPM, SPM, So2, Nox) should be regularly submitted to the ministry including its Regional office located at Bangalore and the State Pollution Control Board /Central Pollution Control Board once Six months.	<b>Being submitted regularly</b> . Data on ambient air quality (RSPM, SPM, SO <sub>2</sub> , NOx) attached as <b>Annexure-2</b>
vi.	Fugitive dust emissions from all the sources shall be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points shall be provided and properly maintained.	Complied  Covered belt conveyor is being used for transportation of limestone to plant. Dry Fog system has been installed at conveyor belt to arrest the fugitive emission. Effective Water Mist System during drilling & Dust Collector with cyclone type DCB filters arranged in drill Machine to suppress the dust. Water Tanker provided to suppress the dust over haulage road and loading points.
vii.	Measures shall be taken for control of noise levels below 85 dBA in the work environment workers engaged in operations of HEMM, etc. shall be provided with ear plugs /muffs.	Complied  The noise levels are being maintained within the prescribed limits and all the necessary PPEs provided to the workmen. The all HEMM provided with AC cabins for dust and noise proof for operators.
viii.	Industrial waste water (workshop and waste water from the mine) should be properly collected treated so as to conform to the standards prescribed under GSR 422 ( E ) dated 19 <sup>th</sup> May,1993 and 31 <sup>ST</sup> December, 1993 or as amended from time to time .Oil and grease trap shall be installed before discharge of workshop effluents.	work shop is being collected in sock pit and separated the oil & water. The filtered water is being used for the plantation. The top layer of oil is being separated.

S.No.	General conditions	Compliance status
ix.	Personnel working in dusty areas shall be provided with protective respiratory devices	Complied
	and they shall also be imparted adequate training and information on safety and health aspects.	We have provided protective respiratory devices and adequate training and information on safety and health aspects are provided to our workers.
		Occupational health surveillance program of the workers is being undertaken periodically to observe any contractions due to exposure to dust.
X.	A separate Environmental Management cell	Complied
	with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the Organization.	Environment Management cell has been set up and is functioning under the control of a Senior Executive reporting directly to Unit Head.
xi.	The project authorities shall inform to the	Complied
	Regional Office of the Ministry located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	The land development work had started on 24 <sup>th</sup> July 2008.
		The date of financial closure of the project is 25 <sup>th</sup> August 2008
		The production started from 10.12.2008
xii.	The funds earmarked for environmental protection measures shall be kept in	Complied and agrees to comply  EMP costs are being kept in separate
	separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to the Ministry and its	account and are not diverted for any other purposes.
	Regional Office located at Bangalore.	An amount of Rs. 15 Lakhs have been spent towards environmental protection.
xiii.	The project authorities shall inform the	Complied
	Regional Office of the Ministry located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	The land development work had started on 24 <sup>th</sup> July 2008.
		The date of financial closure of the project is 25 <sup>th</sup> August 2008
		The production started from 10.12.2008
xiv.	The Regional office of the Ministry, Bangalore shall monitor compliance of the	Noted for Compliance

S.No.	General conditions	Compliance status
	stipulated conditions. The project authorities shall extend full cooperation to the officer (s) of the Regional Office by	Full cooperation being extended as and when the officers visit the project site.
	furnishing the requisite data /information /monitoring reports.	
XV.	A copy of clearance letter will be marked to concerned panchayat /local NGO, if any ,from whom suggestion /representation has been received white processing the proposal	Complied
xvi.	State Pollution Control Board shall display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office /Tehsildar's office for 30 days.	Complied
xvii.	The project authorities shall advertise at least in two local newspapers widely circulated one of which shall be in the vernacular language of the locality concerned within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the state Pollution Control Board and also at web site of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> and a copy of the same shall be forwarded to the Regional Office of the Ministry located Bangalore.	Complied  Public notice has been published in Eenadu (Local) and Deccan Chronicle (English). Copies have already been submitted along with earlier compliance. The date of publication is on 25.04.2008.

Annexure-1

#### The CSR Expenditure details of M/s Dalmia Cement (Bharat) Ltd, Chinnakomerla, Kadapa- Dist, AP.

Year	Activity Head	Expenses up to sept'18 (Rs)		
	Soil & Water Conservation	Rs: 11,12,772.00		
2018-19	Social Development	Rs: 15,89,230.00		
	Program me Execution	Rs: 2,56,463.00		
	Total Rupees	Rs: 29,58,465.00		

mexure



newthink! cement! sugar! refractories! power!

Date: 05.10.2018.

DCBL/APSPCB / EMR /Return/18-19/34

To

Additional Principal Chief Conservator of Forests (C),

Ministry of Environment, Forest and Climate Change,

Regional Office (SEZ),

I<sup>st</sup> and II<sup>nd</sup> Floor, Handloom Export Promotion Council,

34, Cathedral Garden Road, Nungambakkam, Chennai - 34

Dear Sir,

Sub: submission of Environmental Monitoring reports – reg EC No: J-11015/64/2008-1A-11(m).

We are here with enclosed the Quarterly Return of Environmental Monitoring report in respect of our Nawabpet- Talamanchipatnam Limestone Mines of M/s Dalmia Cement (Bharat) Limited for the quarter ending on 30th September- 2018.

This is for your information and records please

Thanking you Yours faithfully

Dalmia Cement (Bharat) Limited

## Nawabpet – Talamanchipatnam LimeStone Mine, M/S Dalmia Cement (Rharat) Ltd. Kadana-516434

M/ S Dalmia Cement (Bharat) Ltd, Kadapa-516434. EC No: J-11015/64/2008-1A-11(m).

Period: July- 2018 to September-2018.

Ambient Air Quality Data -1

(Core & Buffer Zone)

		(	· me are a a and a more sure a	1 00 )			
Station no	Date of monitoring	Total duration of monitoring (in hrs.)	Average flow rate (m³/min)	PM10 concent ration (µg/m³)	PM2.5 concentr ation (μg/m³)	Sulphur dioxide concentra tion (µg/m³)	Oxides of Nitrogen concentratio n (µg/m³)
Haul Road	16.07.2018	24	1.20	61	24	15	19
Drilling point	16.07.2018	24	1.22	65	29	17	22
Loading point	02.07.2018	24	1.17	59	23	14	21
Unloading point	02.07.2018	24	1.21	66	27	15	20
Haul Road	16.08.2018	24	1.21	58	22	14	18
Drilling point	16.08.2018	24	1.20	62	26	16	20
Loading point	01.08.2018	24	1.19	56	21	16	22
Unloading point	01.08.2018	24	1.23	61	25	14	21
Haul Road	10.09.2018	24	1.23	58	26	15	19
Drilling point	10.09.2018	24	1.21	65	28	17	21
Loading point	10.09.2018	24	1.17	59	23	17	20
Unloading point	10.09.2018	24	1.21	63	27	15	23
Mines office	11.09.2018	24	1.19	64	26	15	21
Nawabpeta	12.09.2018	24	1.22	64	27	16	23
Thalaanchipatnam	12.09.2018	24	1.20	61	25	15	20
Madhavapuram	11.09.2018	24	1.20	64	27	15	20

CKERECE,

MAWABPET - TALAMANCHIPATNAM LIMESTONE WINE

M/8. DALRA CEMENT (BHARAT) LTD.
CHINNAKUSHALA (FOST & VIL.)
MYLAVARAM (MOL.) KADAPA (OIST.)
PIN 516 434. ANDHRA PRADESH

Nawabpet – Talamanchipatnam LimeStone Mine, M/S Dalmia Cement (Bharat) Ltd, Kadapa-516434.

EC No: J-11015/64/2008-1A-11(m).

### Period: July- 2018 to September-2018.

Ambient Noise Quality Data -2

SI. no	Station name	Date of monitoring	Type of area (Industrial/ commercial/ residential/ silence zone)	Levels in dB(A)	Remarks
1	Mines office	02.07.2018	Industrial	70.8	
2	Loading point	02.07.2018	Industrial	71.5	
3	Unloading point	02.07.2018	Industrial	70.3	
4	Drilling point	02.07.2018	Industrial	71.2	
5	Haul road	02.07.2018	Industrial	69.7	
6	Mines office	01.08.2018	Industrial	70.2	
7	Loading point	01.08.2018	Industrial	71.1	
8	Unloading point	01.08.2018	Industrial	70.5	
9	Drilling point	01.08.2018	Industrial	71.6	
10	Haul road	01.08.2018	Industrial	69.4	
11	Mines office	10.09.2018	Industrial	70.8	
12	Loading point	10.09.2018	Industrial	71.5	
13	Unloading point	10.09.2018	Industrial	70.9	
14	Drilling point	10.09.2018	Industrial	71.2	
15	Haul road	10.09.2018	Industrial	69.8	

MAWABPET - TALAMANCHIPATNAM
LIMESTORY MINE

M/s. DALVA CEMENT (SHARAT) LTD. CHINNARUSAERLA (FOST & VIL.) MYLAVARAM (MDL.) KADAPA (DIST.) PIN 516 434. ANDHRA PRADECU

## Nawabpet - Talamanchipatnam LimeStone Mine,

M/S Dalmia Cement (Bharat) Ltd, Kadapa-516434.

EC No: J-11015/64/2008-1A-11(m).

# Period: July- 2018 to September-2018.

Water Analysis Data-3

S.N	Parameters	Talamanchip	Dugganapa	Nawabpet	Chinnakomerla	* *
0		atnam	1		Cimilakomeria	Madhavap ram
	Date of collection	10.09.2018	10.09.2018	10.09.2018	10.09.2018	10.09.2018
	Date of Analysis	11.09.2018	11.09.2018	11.09.2018	11.09.2018	11.09.201
1	Colour	Colourless	Colourless	Colourless	Colourless	Colourless
2	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	Agreeable	Agreeable	Agreeable	Agreeable	
4	PH	7.33	7.63	7.42	7.41	Agreeable
5	E.C(Micro ohms/cm)	571	646			7.62
6	Total Dissolved solids			689	691	689
7	Total hardness as Ca CO <sub>3</sub>	418	462	485	490	485
8		88	169	177	91	126
2-1212000000000000000000000000000000000	Turbidity (NTU)	0.19	0.74	0.45	1.19	0.22
9	Total alkalinity CaCO <sub>3</sub>	153	147	155	188	163
10	Phenophthalein alkalinity as Ca CO <sub>3</sub>	NIL	NIL	NIL	NIL	NIL
11	Calcium as Ca	68	89	83	67	90
12	Magnesium as Mg	29	37	31	28	31
13	Sodium as Na	38	35	52	31	***************************************
14	Potassium as K	1.5	2.3	2.5	3.0	32
15	Chloride as Cl	72	94	119		0.76
16	Sulphates as SO <sub>4</sub>	31	38	46	120	69
17	Nitrates as NO <sub>3</sub>	4.2			2.7	21
18	Carbonates as CO <sub>3</sub>		1.9	2.1	2.2	1.5
19	Bicarbonates as HCO <sub>3</sub>	NIL	NIL	NIL	NIL	NIL
20	Iron as Fe	126	178	214	185	173
		0.67	1.26	0.23	1,23	0.92
21	Fluoride as F	0.73	0.38	0.50	0.72	0.65

NAWABPET - TALAMANCHIPATNAM

M/s. DALS CEMENT (GHARAT) LTD CHIPMANASAREALA (FOST & VIL.) ). MYLAVARAM (MOL.) KADAPA (DIST.)