

Chettinad Cement Corporation Private Limited (Kallur Works & Mine)													
Sangem K & Kallur Villages, Kalaburagi District, Karnataka													
Ambiant Air Quality Monitoring- Consolidated Report (Apr '17 - Sep '17)													
S.No	Location	PM ₁₀ (µg/m ³)			PM _{2.5} (µg/m ³)			SO ₂ (µg/m ³)			NO _x (µg/m ³)		
		Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
1	ML Area	67.0	29.0	45.3	35.0	17.0	24.4	13.0	6.0	9.5	18.0	9.0	12.6
2	Miryan Village	65.0	27.0	43.0	35.0	17.0	24.3	13.0	6.0	9.7	18.0	10.0	13.0
3	Polkampalli Village	63.0	26.0	44.7	35.0	16.0	24.5	14.0	5.0	10.1	19.0	9.0	12.9
4	Bhaktampalli Village	60.0	29.0	42.6	32.0	15.0	22.8	13.0	7.0	10.1	18.0	9.0	13.0
5	Somalingdahalli Village	58.0	30.0	43.0	33.0	15.0	23.3	15.0	7.0	10.0	22.0	9.0	13.2
6	Kallur Village	60.0	30.0	43.8	31.0	17.0	23.5	14.0	6.0	9.9	18.0	10.0	13.4
7	Factory Area	67.0	26.0	43.1	36.0	15.0	24.4	12.0	6.0	9.3	18.0	9.0	12.3
Limit		100 µg/m ³			60 µg/m ³			80 µg/m ³			80 µg/m ³		

for Chettinad Cement Corporation Private Limited


C Janaradhana Reddy
Joint President (Works)



Chettinad Cement Corporation Private Limited (Kallur Works & Mine)								
Sangam K & Kallur Villages ,Kalaburagi District, Karnataka								
Noise Level Monitoring- Consolidated Report (Apr 17 to Sep '17)								
S.No	Location	UoM	Day			Night		
			L _{min}	L _{eq}	L _{max}	L _{min}	L _{eq}	L _{max}
Within the Premises								
1	Core Zone ML Area	dB(A)	41.0	57.4	64.0	35.0	43.6	51.0
2	Factory Area	dB(A)	40.5	61.0	68.0	36.0	49.3	53.0
Limit (L _{eq})		dB(A)	75			70		
S.No	Location	UoM	Day			Night		
			L _{min}	L _{eq}	L _{max}	L _{min}	L _{eq}	L _{max}
Outside the Premises								
1	Miryan Village	dB(A)	38.0	48.3	53.6	35.0	39.9	43.3
2	Polkampalli Village	dB(A)	37.8	48.4	52.8	34.3	37.7	42.0
3	Bhaktampalli Village	dB(A)	38.5	49.5	54.6	35.0	39.7	44.8
4	Somalingadhalli Village	dB(A)	37.5	46.7	52.0	34.2	37.6	43.4
5	Kallur Village	dB(A)	38.0	49.9	54.6	34.8	40.4	43.2
Limit (L _{eq})		dB(A)	55			45		

for Chettinad Cement Corporation Private Limited


C Janaradhana Reddy
 Joint President (Works)



Chettinad Cement Corporation Private Limited (Kallur Works & Mine)

Sangam K & Kallur Villages, Kalaburagi District, Karnataka

Ground Water Quality Monitoring Report(Apr '17 - Sep '17)

S. No	Parameter	UoM	GW 1		GW 2		GW 3		GW 4		GW 5		GW 6		Permissible Limits
			Apr '17	Aug '17	Apr '17	Aug '17	Apr '17	Aug '17	Apr '17	Aug '17	Apr '17	Aug '17	Apr '17	Aug '17	
i	Colour	Hazen Units	1	1	1	1	1	2	2	2	1	1	1	2	15
ii	Odour	—	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
iii	pH		7.22	7.54	7.60	7.89	7.08	7.28	7.40	7.40	7.56	8.10	7.32	7.48	6.5 - 8.5
iv	Taste		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
v	Turbidity	NTU	0.9	0.8	1.0	0.6	0.7	1.0	1.1	1.1	1.2	0.5	0.8	0.9	5
vi	Total Dissolved Solids	mg/l	590	450	754	340	520	640	770	880	1020	468	556	670	2000
vii	Aluminium as Al	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.2
viii	Ammonia as total Ammonia -N	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5
ix	Anionic Detergents (as MBAS)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.0
x	Barium as Ba	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.7
xi	Boron as B	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1
xii	Calcium as Ca	mg/l	108.0	80.0	124.0	54.0	96.0	148.0	144	180	132	50	76	72	200
xiii	Chloride as Cl	mg/l	68	28	160	20	30	90	195.0	180.0	210.0	57.5	45.0	105.0	1000
xiv	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.5
xv	Fluoride as F	mg/l	0.67	0.58	0.82	0.71	48.00	0.76	0.89	0.82	1.52	1.22	0.62	0.81	1.5
xvi	Residual, Free Chlorine,	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1
xvii	Iron as Fe	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.0
xviii	Magnesium as Mg	mg/l	46.2	30.0	51.0	24.0	41.0	31.6	58	19	60	25	32	61	100
xix	Manganese as Mn	mg/l	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.3
xx	Mineral Oil	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.5
xxi	Nitrates as NO ₃	mg/l	36.0	29.0	43.0	36.0	32.0	34.0	37	42	42	32	20	40	45
xxii	Phenolics (C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002
xxiii	Selenium as Se	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01
xxiv	Silver as Ag	mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.1
xxv	Sulphates as SO ₄	mg/l	28.0	25.0	52.6	12.7	14.8	24.7	80	72	46	74	66	42	400
xxvi	Sulphide as H ₂ S	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05
xxvii	Alkalinity as CaCO ₃	mg/l	410	345	390	245	440	420	140	470	490	260	400	430	600
xxviii	Total Hardness as CaCO ₃	mg/l	460	325	520	235	410	500	600	530	560	230	320	430	600
xxix	Zinc as Zn,	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	15
xxx	Cadmium as Cd	mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003
xxxi	Cyanide as CN	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05
xxxii	Lead as Pb	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01
xxxiii	Mercury as Hg	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001
xxxiv	Nickel as Ni	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
xxxv	Arsenic as As	mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.01
xxxvi	Chromium as Cr ⁶⁺	mg/l	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.05
xxxvii	Total Coliform	Mpn/100 ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	0
xxxviii	E-Coli	cfu/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	0

GW1 : Kallur Village Bore Well water

GW2 : Mirayan Village Bore Well Water

GW3 : Bhaktampalli Village Bore Well Water

GW4 : Polkempalli Village Bore Well Water

Pardhi Motakpalli Village Bore Well Water

GW6 : Somalingadahalli Village Bore Water

for Chettinad Cement Corporation Private Limited


C. Janaradhana Reddy
Joint President (Works)

Chettinad Cement Corporation Private Limited (Kallur Works & Mine)															
Sangem K & Kallur Villages, Kalaburagi District, Karnataka															
Surface Water Quality Monitoring Report (Apr '17 to Sep '17)															
S. No	Parameter	UoM	SW 1		SW 2		SW 3		SW 4		SW 5		SW 6		Permissible Limits
			Apr '17	Aug '17	Apr '17	Aug '17	Apr '17	Aug '17	Apr '17	Aug '17	Apr '17	Aug '17	Apr '17	Aug '17	
i.	pH	-	7.70	7.80	7.54	7.47	7.80	7.88	7.96	7.84	8.02	8.05	7.44	7.57	6.5 to 8.5
ii	Dissolved Oxygen (as O ₂)	mg/l	5.5	5.7	5.3	5.4	5.4	5.5	5.4	5.1	5.1	5.3	5.4	5.6	Min 4
iii	Biochemical Oxygen Demand (as O ₂),	mg/l	1.2	1.4	1.6	1.7	1.3	1.2	1.5	1.1	1.7	1.5	1.4	1.3	3
iv	Total Coliform	(mpn/100ml)	38	54	40	61	42	43	46	56	44	39	50	66	5000
v	Colour	(Hazen Units),	5	5	5	5	5	5	5	5	5	5	5	5	300
vi	Fluoride (as F)	mg/l	<0.1	<0.1	<0.1	<0.1	0.22	0.18	0.36	<0.1	0.30	<0.1	0.16	<0.1	1.5
vii	Cadmium (as Cd)	mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.01
viii	Chloride (as Cl),	mg/l	18.0	30.0	28.0	32.5	24.0	20.0	21.0	32.5	16.0	35.0	10.0	12.5	600
ix	Chromium (as Cr ⁺⁶)	mg/l	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.05
x	Cyanides (as CN),	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05
xi	Total Dissolved Solids	mg/l	300	360	370	358	240	240	292	450	260	438	196	230	1500
xii	Selenium (as Se)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.05
xiii	Sulphates as SO ₄	mg/l	2.4	11.4	5.0	21.0	16.0	9.6	13.2	19.7	15.0	18.0	2.8	7.5	400
xiv	Lead (as Pb)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1
xv	Copper (as Cu)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.5
xvi	Arsenic as As	mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.2
xvii	Iron (as Fe)	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	50
xviii	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005
xix	Zinc (as Zn)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	15
xx	Anionic detergents (as MBAS)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1
xxi	Oils and grease	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
xxii	Nitrates (as NO ₃)	mg/l	13.0	10.6	14.8	11.0	2.0	3.8	4.2	9.6	3.2	10.0	1.6	6.0	50
SW1 : Mullamari River Upstream Water SW4 : Kulwala Nallah Upstream Water SW2 : Mullamari River Downstream Water SW5 : Kulwala Nallah Downstream Water SW3 : Lingadahallli Reservoir Water, SW6 : Pond Water Near Miryan Village															

for Chettinad Cement Corporation Private Limited


C Janaradhana Reddy
 Joint President (Works)



Chettinad Cement Corporation Private Limited (Kallur Works)							
Sangam K Village ,Kalaburagi District, Karnataka State							
Stack Emission Monotoring- Consolidated Report (Apr '17 to Sep '17)							
S.No	Stack Connected to	Parameter	UoM	Norms	Max	Min	Avg
1	Raw/Kiln	Particulate Matter	mg/Nm ³	30	24.0	19.0	21.5
2	Cooler				27.0	18.0	22.3
3	Coal Mill				26.0	18.0	23.0
4	Cement Mill-1				24.0	18.0	22.0
5	Captive Power Plant - Boiler	Particulate Matter	mg/Nm ³	50	25.0	19.0	21.7

S.No	Stack Connected to	Parameter	UoM	Norms	Max	Min	Avg
1	Raw/Kiln	SO ₂	mg/Nm ³	100	22	16	19.2
2	Captive Power Plant- Boiler			600	455	208	354.7

S.No	Stack Connected to	Parameter	UoM	Norms	Max	Min	Avg
1	Raw/Kiln	NOx	mg/Nm ³	800	366	256	322.5
2	Captive Power Plant - Boiler			300	221	22	165.7

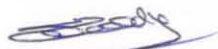
for Chettinad Cement Corporation Private Limited


C Janaradhana Reddy
 Joint President (Works)



Chettinad Cement Corporation Private Limited (Kallur Works)						
Sangam K Village ,Kalaburagi District , Karnataka						
Treated Industrial & Sewage Effluent Quality Monitoring - Consolidated Report (Apr '17 to Sep '17)						
A. Treated Industrial Effluent						
S No	Paramenter	UoM	Norms	Max	Min	Avg
1	PH	-	5.5 to 9.0	8.1	7.2	7.7
2	Suspended Solids	mg/litre	100	35.0	18.0	27.0
3	Total Dissolved Solids	mg/litre	2100	695.0	280.0	550.2
4	Chlorides	mg/litre	1000	180.0	70.0	132.7
5	Sulphates	mg/litre	1000	122.0	25.0	98.5
6	Dissolved Phospates(as P)	mg/litre	5	<0.05	<0.05	<0.05
B. Treated Sewage Effluent - Colony						
S No	Paramenter	UoM	Norms	Max	Min	Avg
1	Total Suspended Solids	mg/litre	30	26	4.55	11.1
2	BOD	mg/litre	20	18	4.8	13.0
C. Treated Sewage Effluent - Plant						
S No	Paramenter	UoM	Norms	Max	Min	Avg
1	Total Suspended Solids	mg/litre	30	11.0	3.1	6.4
2	BOD	mg/litre	20	18.0	2.3	11.4

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