

Comparison of Water sample results from sources around SILL, Tuticorin with the Indian and other Standards

1. Water taken from the Kalangarai Odai on the eastern side of the Sterlite Unit, between the factory and Meelavittan village.

S No.	Parameter	Results (mg/L)	Standards (Comparison with the <i>Permissible limits as per IS 10500, 1991 R. 1993 1st Rev. in the absence of alternate source, unless indicated otherwise by *)</i>	Number of times the results are above the limits
1.	Appearance	Turbid	NA	--
2.	Colour (Hazen Units)	<10	25	--
3.	Odour	Agreeable	Agreeable	--
4.	Turbidity (NTU)	1240	10	124
5.	Electrical Conductivity @ 25°C (Micromhos/cm)	7500	3 Micromhos/cm*	2500
6.	PH	7.46	6.5 – 8.5	--
7.	TDS	5100	2000	2.55
8.	Total Hardness	2337	600	3.895
9.	Calcium Hardness	1815	NA	--
10.	Magnesium Hardness	522	NA	--
11.	Magnesium	127	100	1.27
12.	Calcium	726	200	3.63
13.	Alkalinity	253	600 (unpleasant taste when above 200)	Unpleasant taste
14.	Chlorides	1003	1000	1.003
15.	Sulphates	2200	400	5.5
16.	Flourides	4.76	1.5	3.17
17.	Nitrates	24.5	45	--
18.	Manganese	0.23	0.3	--
19.	Copper	BDL	1.5	--
20.	Total Iron	2.43	1.0	2.43
21.	Residual Chlorine	BDL	0.2	--
22.	Lead	BDL	0.05	--
23.	Cadmium	BDL	0.01	--
24.	Nickel	BDL	NA	--
25.	Zinc	BDL	15	--
26.	Selenium	BDL	0.01	--
27.	Mercury	BDL	0.001	--
26.	Chromium	BDL	NA	--
27.	Chromium +6	BDL	0.05	--

2. Water taken from the well of Mr. Rajaguru located on the border of Therikuveerapandiapuram and Kumareddiyapuram about 300 mts west of the slag dump of the SIIL unit.

S No.	Parameter	Results (mg/L)	Standards (Comparison with the <i>Permissible limits as per IS 10500, 1991 R. 1993 1st Rev. in the absence of alternate source, unless indicated otherwise by *)</i>	Number of times the results are above the limits
1.	Appearance	Clear	NA	--
2.	Colour (Hazen Units)	15	25	--
3.	Odour	Agreeable	Agreeable	--
4.	Turbidity (NTU)	1	10	--
5.	Electrical Conductivity @ 25°C (Micromhos/cm)	11550	3 Micromhos/cm*	3850
6.	PH	7.97	6.5 – 8.5	--
7.	TDS	7854	2000	3.92
8.	Total Hardness	2328	600	3.88
9.	Calcium Hardness	1406	NA	--
10.	Magnesium Hardness	922	NA	--
11.	Magnesium	224	100	2.24
12.	Calcium	562	200	2.81
13.	Alkalinity	105	600 (unpleasant taste when above 200)	--
14.	Chlorides	1365	1000	1.365
15.	Sulphates	4200	400	10.5
16.	Flourides	6.47	1.5	4.31
17.	Nitrates	9.09	45	--
18.	Manganese	BDL	0.3	--
19.	Copper	BDL	1.5	--
20.	Total Iron	BDL	1.0	--
21.	Residual Chlorine	BDL	0.2	--
22.	Lead	BDL	0.05	--
23.	Cadmium	BDL	0.01	--
24.	Nickel	BDL	NA	--
25.	Zinc	BDL	15	--
26.	Selenium	BDL	0.01	--
27.	Mercury	BDL	0.001	--
26.	Chromium	BDL	NA	--
27.	Chromium +6	BDL	0.05	--

3. Water taken from the hand pump at the entrance of Theerikuveerapandian village on the western side of the SIIL Unit.

S No.	Parameter	Results (mg/L)	Standards (Comparison with the <i>Permissible limits as per IS 10500, 1991 R. 1993 1st Rev. in the absence of alternate source, unless indicated otherwise by *)</i>	Number of times the results are above the limits
1.	Appearance	Turbid	NA	--
2.	Colour (Hazen Units)	20	25	--
3.	Odour	Agreeable	Agreeable	--
4.	Turbidity (NTU)	40	10	4
5.	Electrical Conductivity @ 25°C (Micromhos/cm)	6920	3 Micromhos/cm*	2306.67
6.	PH	7.03	6.5 – 8.5	--
7.	TDS	4706	2000	2.35
8.	Total Hardness	1729	600	2.88
9.	Calcium Hardness	1036	NA	--
10.	Magnesium Hardness	693	NA	--
11.	Magnesium	168	100	1.68
12.	Calcium	414	200	2.07
13.	Alkalinity	468	600 (unpleasant taste when above 200)	Unpleasant taste
14.	Chlorides	533	1000	--
15.	Sulphates	2050	400	5.125
16.	Flourides	4.64	1.5	3.09
17.	Nitrates	302	45	6.71
18.	Manganese	0.124	0.3	--
19.	Copper	BDL	1.5	--
20.	Total Iron	3.45	1.0	3.45
21.	Residual Chlorine	BDL	0.2	--
22.	Lead	BDL	0.05	--
23.	Cadmium	BDL	0.01	--
24.	Nickel	BDL	NA	--
25.	Zinc	1.534	15	--
26.	Selenium	BDL	0.01	--
27.	Mercury	BDL	0.001	--
26.	Chromium	BDL	NA	--
27.	Chromium +6	BDL	0.05	--

* The United Nations Food and Agriculture publication "Water quality for Agriculture" establishing the guidelines for interpreting the effects of irrigation water on crops depending on the salinity of irrigation water.

<http://www.fao.org/docrep/003/t0234e/t0234e00.htm>