Comparison of SIIL Sediment Results with the New Jersey Department of Environment (NJDEP) – Environment Screening Criteria (ESC)[1] and any other international standards

1. **Analysis of the results of sediment samples from the Kalangarai Odai on the eastern side of the Sterlite Unit, between the factory and Meelavittan village:**

S No	Parameter	Results (mg/kg)	Standards (Comparison with the New Jersey Department of Environment (NJDEP) – Environment Screening Criteria (ESC) for sediment quality [2] unless indicated otherwise by *) mg/kg	Number of times above limits
1.	Arsenic	46.1	6	7.68
2.	Cadmium	15.9	0.6	26.5
3.	Calcium	11658	NA	--
4.	Chromium	56.9	26	2.18
5.	Hexavalent Chromium	BDL	NA	--
6.	Copper	724	16	45.25
7.	Iron	28643	60*	477.3
8.	Lead	33.1	31	1.06
9.	Manganese	369	630	--
10.	Mercury	BDL	0.2	--
11.	Nickel	46.8	16	2.93
12.	PH @ 25^{o}C	7.56	NA	--
13.	Selenium	BDL	NA	--
14.	Sulphates	4900	NA	--
15.	Fluoride	30.7	NA	--
16.	Zinc	147	120	1.23

1 http://www.nj.gov/dep/srp/guidance/ecoscreening/esc_table.pdf

2 For sediment standards the Lowest Effects Level (LEL) for Fresh Water in the ESC has been used. The LELs indicate concentrations at which adverse benthic impact may begin to occur (level tolerated by most benthic organisms).

Comparison of SIIL Soil Results with the New Jersey Department of Environment (NJDEP) – Soil Screening Criteria (ESC)[3] and any other international standards

2. **Analysis of the results of soil sample taken from open land bordering Mr. Dharmaraj's house in Therku Veerapandiapuram:**

S No	Parameter	Results (mg/kg)	Standards (Comparison with the New Jersey Department of Environment (NJDEP) – Residential Direct Contact Soil Screening Criteria unless indicated otherwise by *) mg/kg	Number of times above limits
1.	Arsenic	532	20	26.6
2.	Cadmium	20.1	39	--
3.	Calcium	16754	--	--
4.	Chromium	66.4	12000	--
5.	Hexavalent Chromium	BDL	--	--
6.	Copper	6330	600	10.55
7.	Iron	335602	60*	5593.3
8.	Lead	752	400	1.88
9.	Manganese	359	--	--
10.	Mercury	BDL	14	--
11.	Nickel	187	250	--
12.	PH @ 25^{o}C	2.49	--	--
13.	Selenium	BDL	63	--
14.	Sulphates	5400	--	--
15.	Zinc	8328	1500	5.55

* Albertson, J. (February 2006) “The toxicity of iron, an essential element.” Veterinary Medicine, 82:86 http://www.aspcapro.org/mydocuments/zn-vetm0206_082-090.pdf

3 http://www.nj.gov/dep/srp/guidance/scc/