

Metals In Mount Isa



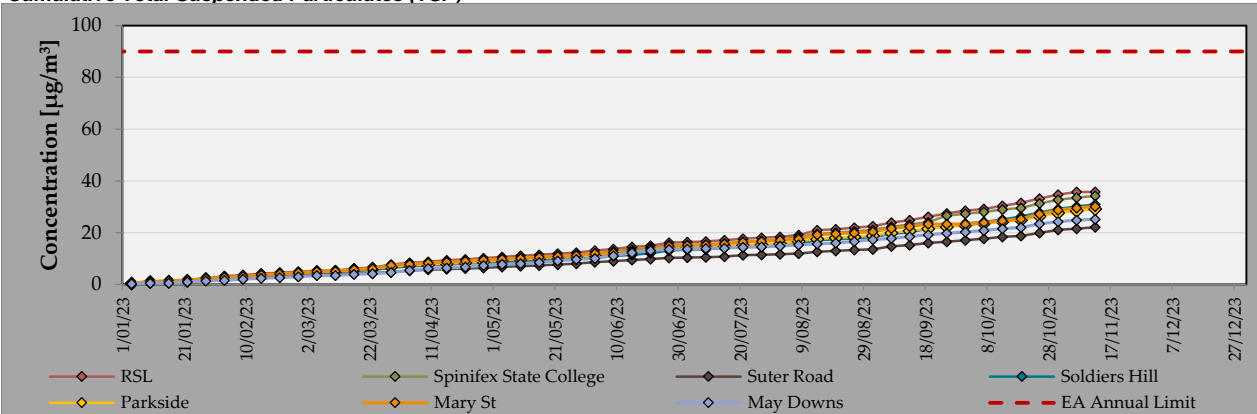
MOUNT ISA
MINES
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Airborne Dust and Metallic Particulates Concentrations

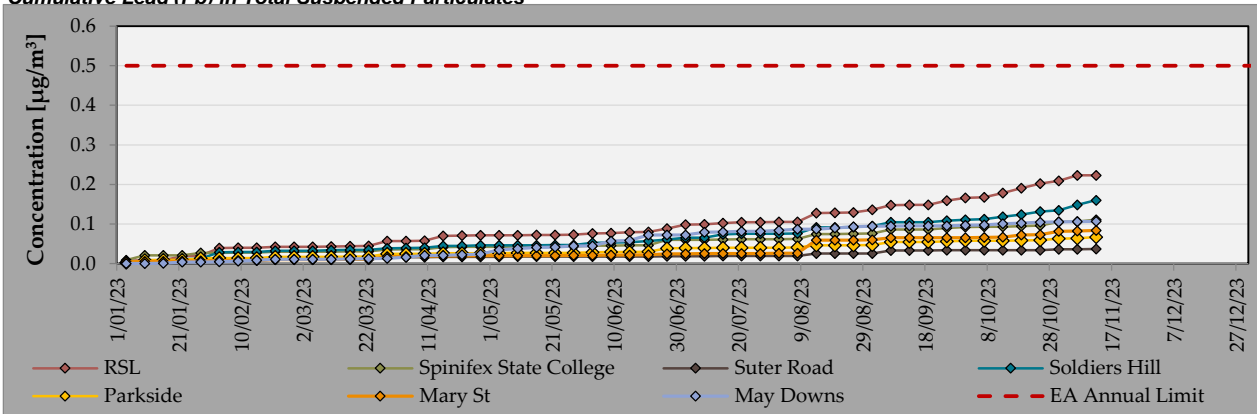
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Note for reading these tables: These results show HVAS site performance cumulative average reported over an annual period. The results track our performance towards meeting our Environmental Authority (EA) limit, which is indicated by the red line at the top of the graph.

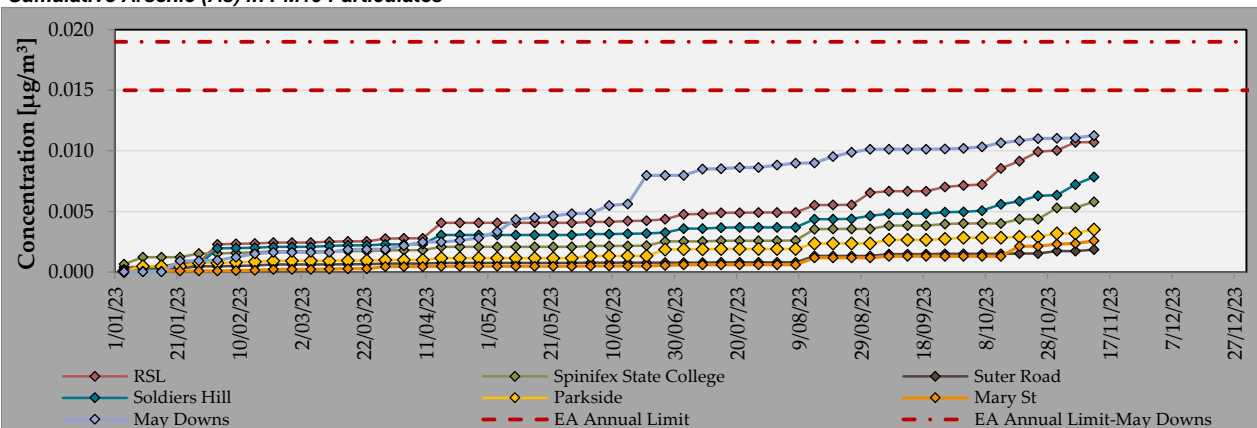
Cumulative Total Suspended Particulates (TSP)



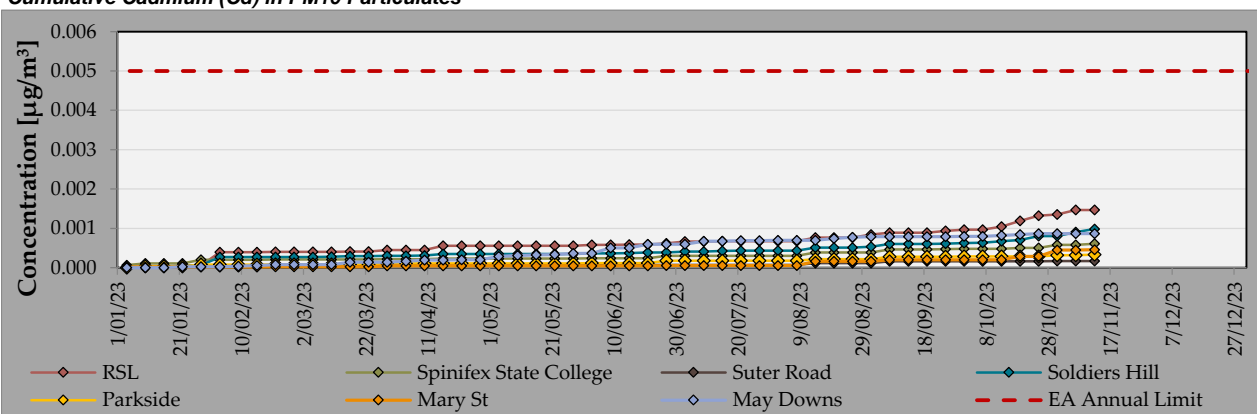
Cumulative Lead (Pb) in Total Suspended Particulates



Cumulative Arsenic (As) in PM10 Particulates



Cumulative Cadmium (Cd) in PM10 Particulates



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Last validated HVAS run day: 12/11/2023

Analytical Procedures

Total Suspended Particulate (TSP) and Particulate Matter - 10µm (PM10) air quality monitoring is undertaken using High Volume Air Samplers (HVAS). The HVAS units are operated once every six days for a 24-hour period from midnight to midnight (local standard time – UTC/GMT +10 hours) in accordance with AS/NZS 3580. Volume measurements are corrected to standard temperature and pressure (STP) conditions (0°C, 101.3 kPa). Filter papers are collected between runs and analysed by a NATA accredited laboratory. Analysis and validation of data may take up to four weeks from the scheduled run day.

METHOD	ANALYSING LABORATORY	NATA ACCREDITATION
In-house method SWI140522 - Sample Collection	Mount Isa Mines Analytical Laboratory	3978
AS/NZS 3580.9.3 (2015)	Mount Isa Mines Analytical Laboratory	3978
AS/NZS 3580.9.6 (2015)	Mount Isa Mines Analytical Laboratory	3978
In house method EA144 - Metals Analysis on Monitoring Filters	ALS Environmental	825

Calibration and Maintenance

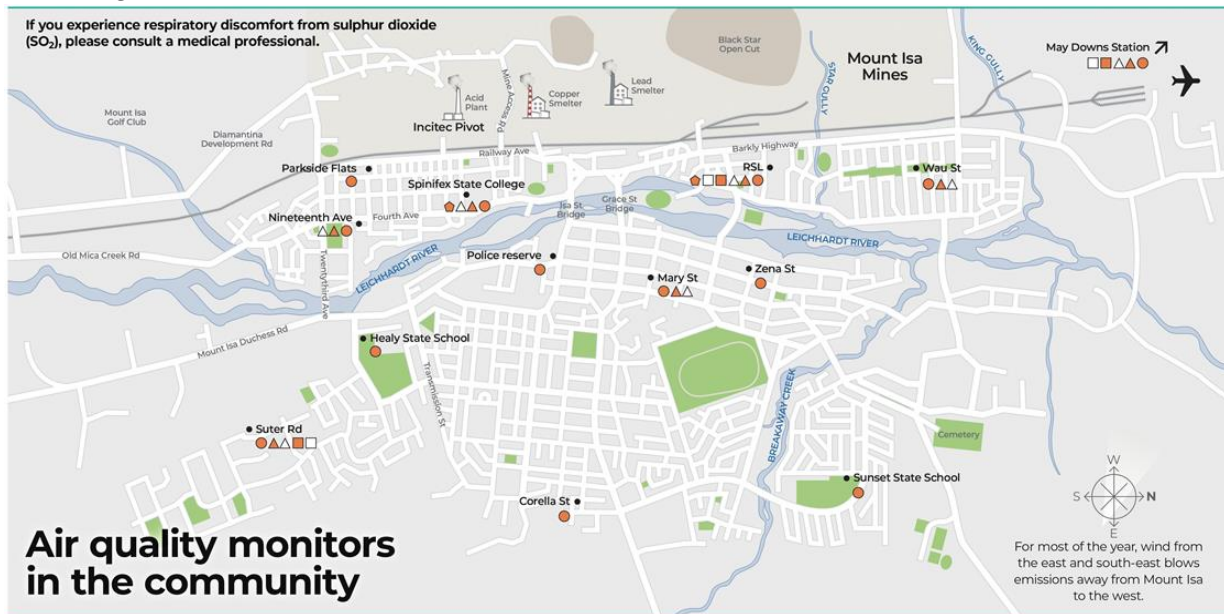
Calibration of the HVAS units is undertaken monthly, in accordance with relevant standards. The table below lists the tolerances used for calibration of the equipment used and the associated measurement uncertainty.

Equipment	Parameter	CALIBRATION TOLERANCE	UNCERTAINTY ¹
Ecotech HiVol 3000 - TSP PM10	Temperature	±1°C of reference meter ²	
	Pressure	±7.5 mmHg of reference meter ²	
	Pre-Calibration air flow	±10% of calculated value	
	Post-Calibration air flow	±1% of calculated value	±1%
	Time	N/A	Negligible
Cubis Analytical Balance - MSU224S-100-DU	Mass	Per NATA calibration report	±0.07mg

¹Taken from manufacturer specifications

²Reference meters are independently calibrated against a primary source every 6 months by HVAS Manufacturer (Ecotech)

Monitoring Locations



The most comprehensive air quality monitoring system of any Australian city

13 monitoring stations
>50 individual units
24/7 monitoring

Each resident is within approximately 1,200m of an air quality monitoring unit

Legend

- SO₂ Monitors
- ▲ High Volume Air Sampling monitors:
 - ▲ PM₁₀*
 - ▲ Total Suspended Particulates
- Dust monitors:
 - PM₁₀*
 - PM_{2.5}**
 - Xact metals monitor
- Roads
- Railway

How many monitors in the network?

Real-time SO ₂ monitoring stations	13
Passive SO ₂ monitoring stations [†]	6
High Volume Air Sampling monitors	14
Continuous dust monitors*	6
Dust deposition gauges [†] *	7
Xact metals monitor	2

* We have a number of monitors and gauges we can deploy at specific sites to monitor our performance and target improvements.

* Measures particulate matter 10 micrometres or less in diameter.

** Measures particulate matter 2.5 micrometres or less in diameter.

[†] Not displayed on map.