Long Term Sampling for Dioxins and Furans

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DURHAM REGION

Service Excellence for our Communities

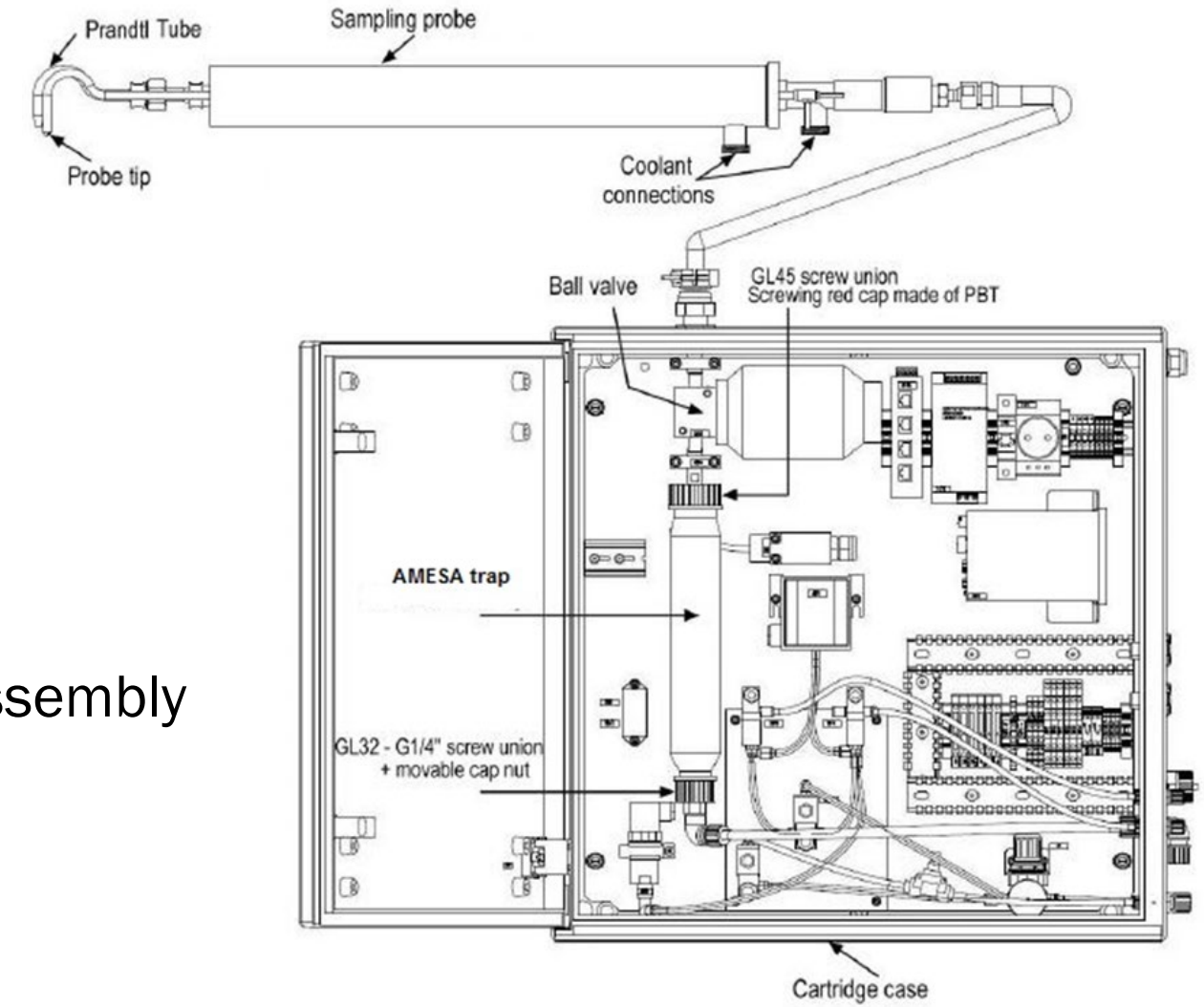
DYEC Monitoring

- Air Emissions Monitoring (CEM at stack)
- Annual Stack Tests and RATA
- Long Term Sampling for Dioxins and Furans AMESA)
- Ambient Air Monitoring (off-site): 3 stations plus one additional Council mandated station
- Groundwater and Surface Water Monitoring (on and off-site)
- Noise Monitoring (off-site)
- Odour Management and Mitigation Monitoring (on-site/off-site)
- Soils Monitoring (off-site)

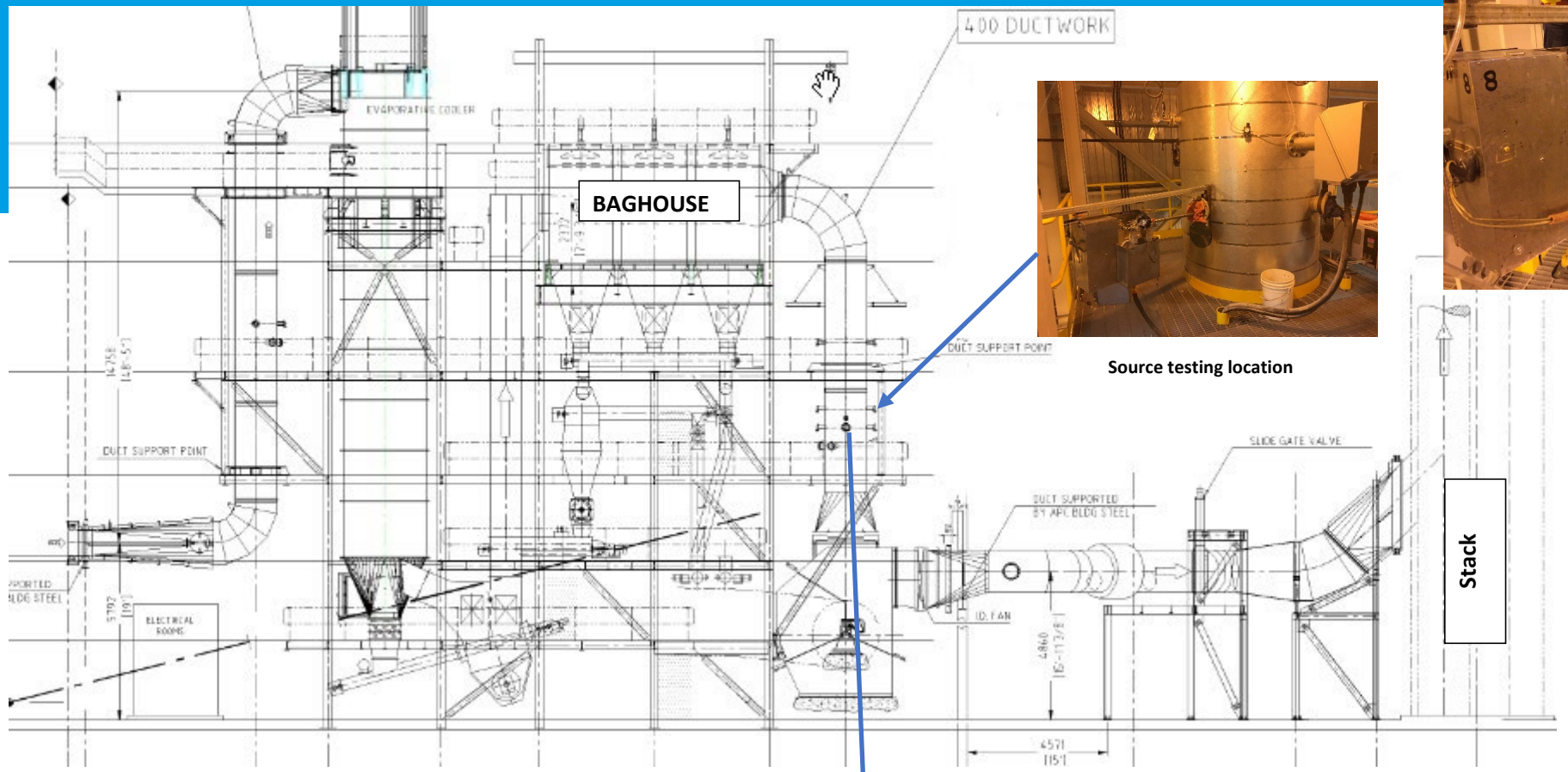
AMESA Process

- The AMESA system is used only for the purpose stated in the ECA i.e. Dioxins and Furans emissions trend analysis, evaluation of Air Pollution Control equipment performance as documented by ECA Condition 7. (3).
- AMESA collects sample over a ± 28 day period
- 30 days for Laboratory Analysis (ALS Labs; Burlington, Ontario)
- AMESA results are the average concentration in picograms per reference cubic meter (*p*g/RM^3) or parts per trillion
- Dioxins and Furans concentration is a Toxic Equivalent using 17 congeners: WHO or NATO formula

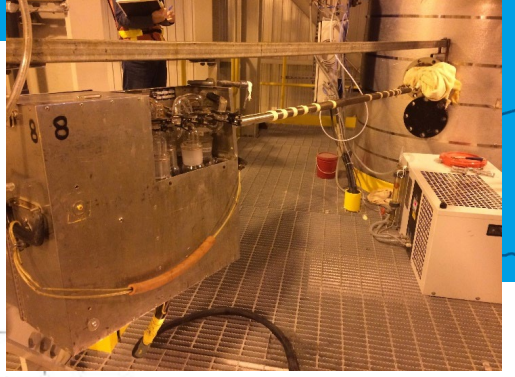
AMESA



AMESA Cartridge Case and Probe Assembly



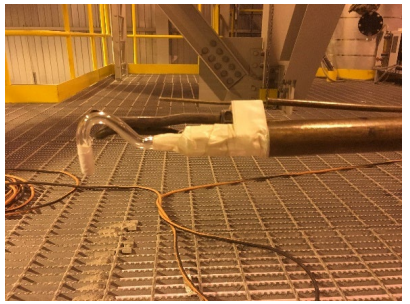
Source testing location



Source testing rail with impinger units

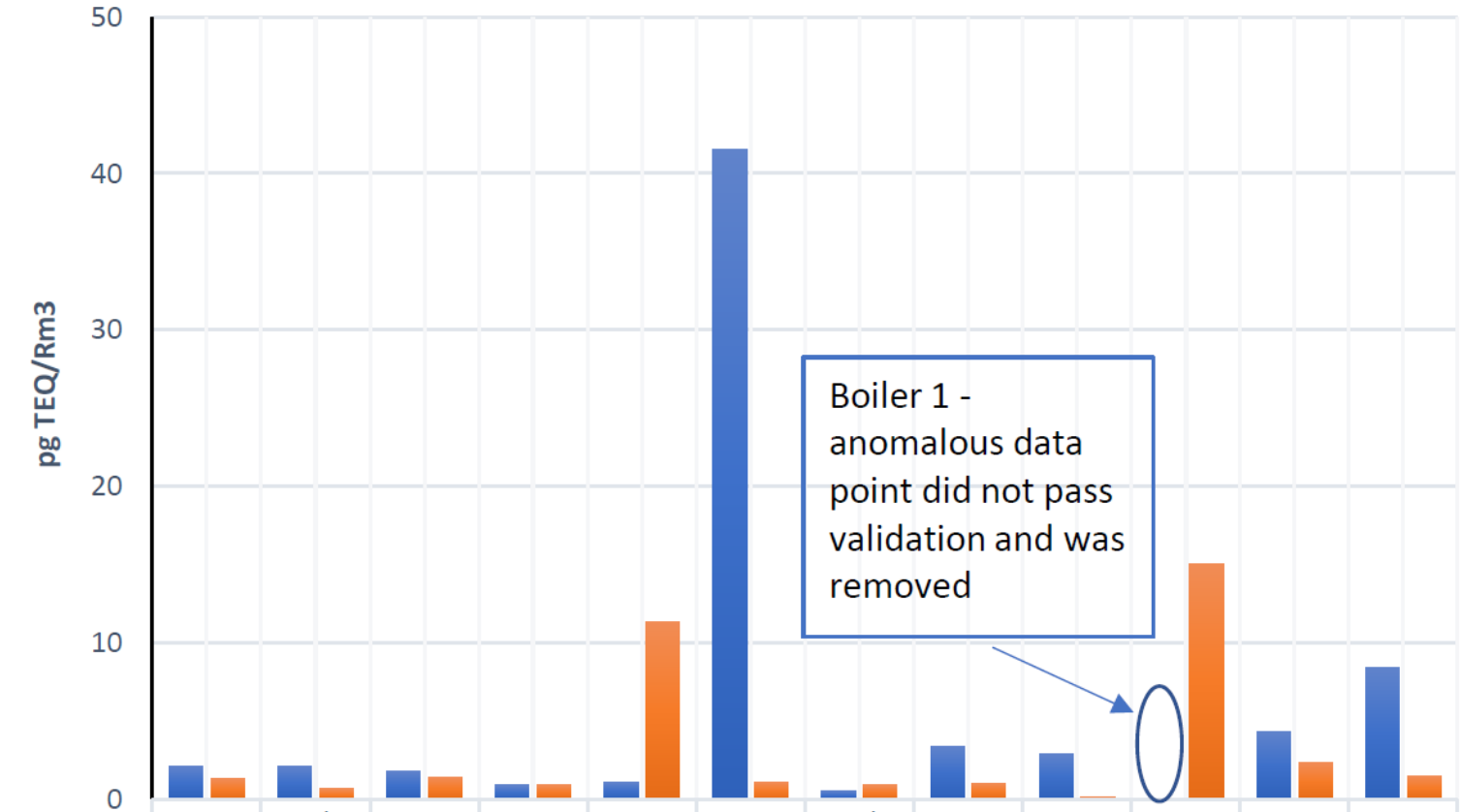
AMESA trap (contains XAD resin and spike)

Cartridge Case



Goose neck nozzle

2020: Boiler 1 and Boiler 2 Monthly AMESA Results



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Boiler 1	2.1	2.1	1.8	0.89	1.1	41.5	0.55	3.38	2.92		4.31	8.43
Boiler 2	1.3	0.65	1.4	0.91	11.3	1.1	0.88	1.02	0.092	15.0	2.30	1.5

Future Waste Flows

Reducing Waste Generation