

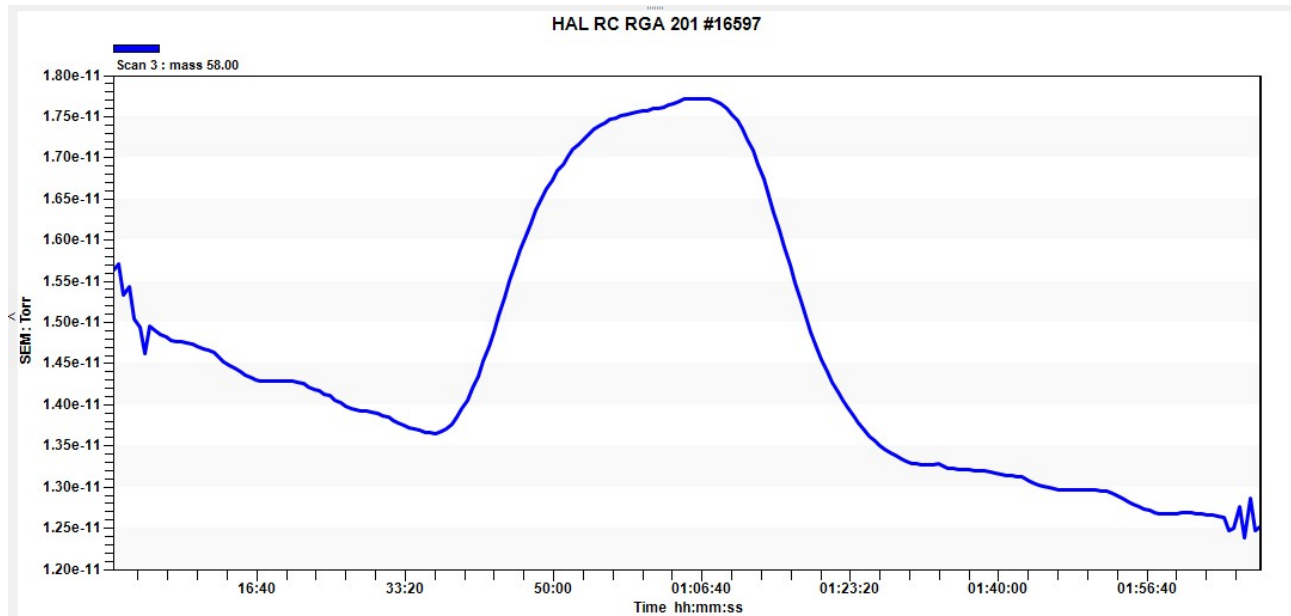
Gas Analysis | HPR-40 LACMI
Performance Data Sheet PDS-30010

Investigation of Detection Limit of Acetone using Large Area Circular Membrane Inlet

Acetone solution was prepared in water using the following dilutions:

	A	B	C		D
	Acetone	1ml A in 1600ml	1 ml B in 1600ml		1 ml C in 300ml
Conc (ppm)	1000000	625	0.39	Conc (ppb)	1.3
uM		10761	6.73	nM	22.4

Deionised water was analysed for 40 minutes before the cell began sampling from the 1.3ppb acetone solution. Flow was set to 6ml/min. Once a steady state was reached, deionised water was analysed. The mass 58 fragment for acetone was measured to avoid any influence of carbon dioxide at mass 43.



Response of 1.3ppb acetone, measured at mass 58, was $4e-12$. Background level noise in this range is $1e-13$, suggesting detection limits of approximately **330ppt**.