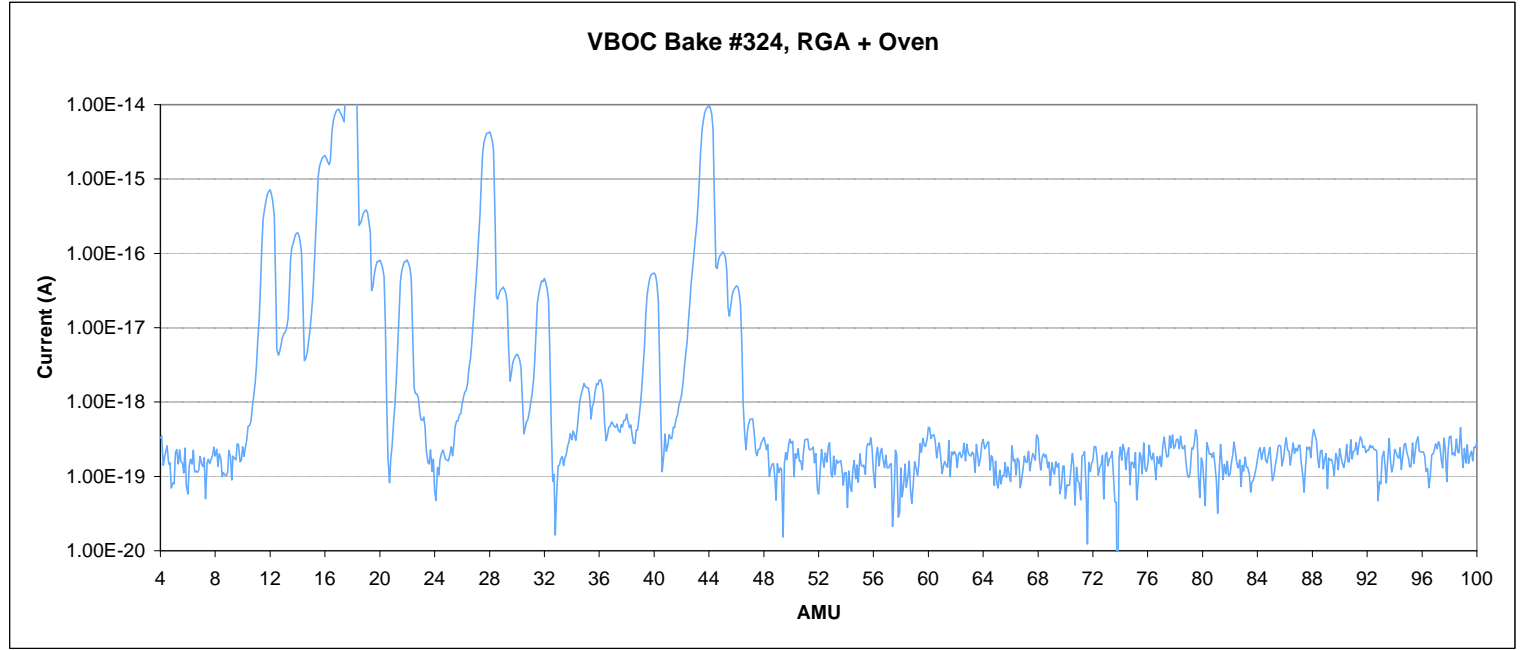


A-OSEM Assembly

Species	AMU	Outgassing Rate (Torr-L/s per AOSEM body)
H	2	#N/A
He	4	9.3E-13
C+	12	2.0E-09
N+, N2+	14	5.4E-10
water (O+)	16	5.8E-09
water (HO+)	17	2.5E-08
water (H2O+)	18	9.4E-08
CO2++	22	2.3E-10
N2	28	1.2E-08
O2	32	1.3E-10
Ar	40	1.5E-10
hydrocarbon	41	7.5E-13
hydrocarbon	43	4.2E-10
CO2	44	2.7E-08
hydrocarbon	53	2.8E-13
hydrocarbon	55	5.7E-13
hydrocarbon	57	3.7E-13
Sum HC		4.2E-10



Comparison of A-OSEM Related Outgassing Rates:

	AMU	Outgassing Rate (Torr-L/s/AOSEM)	Compare to: AOSEM Wound Heads (E1000374) 404 units	Compare to: Esd 480 material (E1000298) equivalent to ~25 A-OSEM heads	Compare to: AOSEM circuit bd + connector sub-assemblies (E1000376)
hydrogen (H2)	2	#N/A	3.7E-12	7.0E-12	3.9E-13
water (H2O) at 1000 hr	max of 16, 17, 18	9.4E-08	3.0E-14	2.7E-11	1.5E-12
air (N2)	28	1.2E-08	3.7E-13	5.6E-11	1.8E-11
CO2	44	2.7E-08	9.7E-15	4.6E-10	3.7E-12
hydrocarbons	sum of 41, 43, 53, 55, 57	4.2E-10	4.6E-15	1.5E-11	4.1E-13

N.B.: For the time being (at least) the outgassing rates from the RGA results reported in this document for the first 7 A-OSEM production units will be used in the aLIGO Residual Gas Estimate (E0900398)