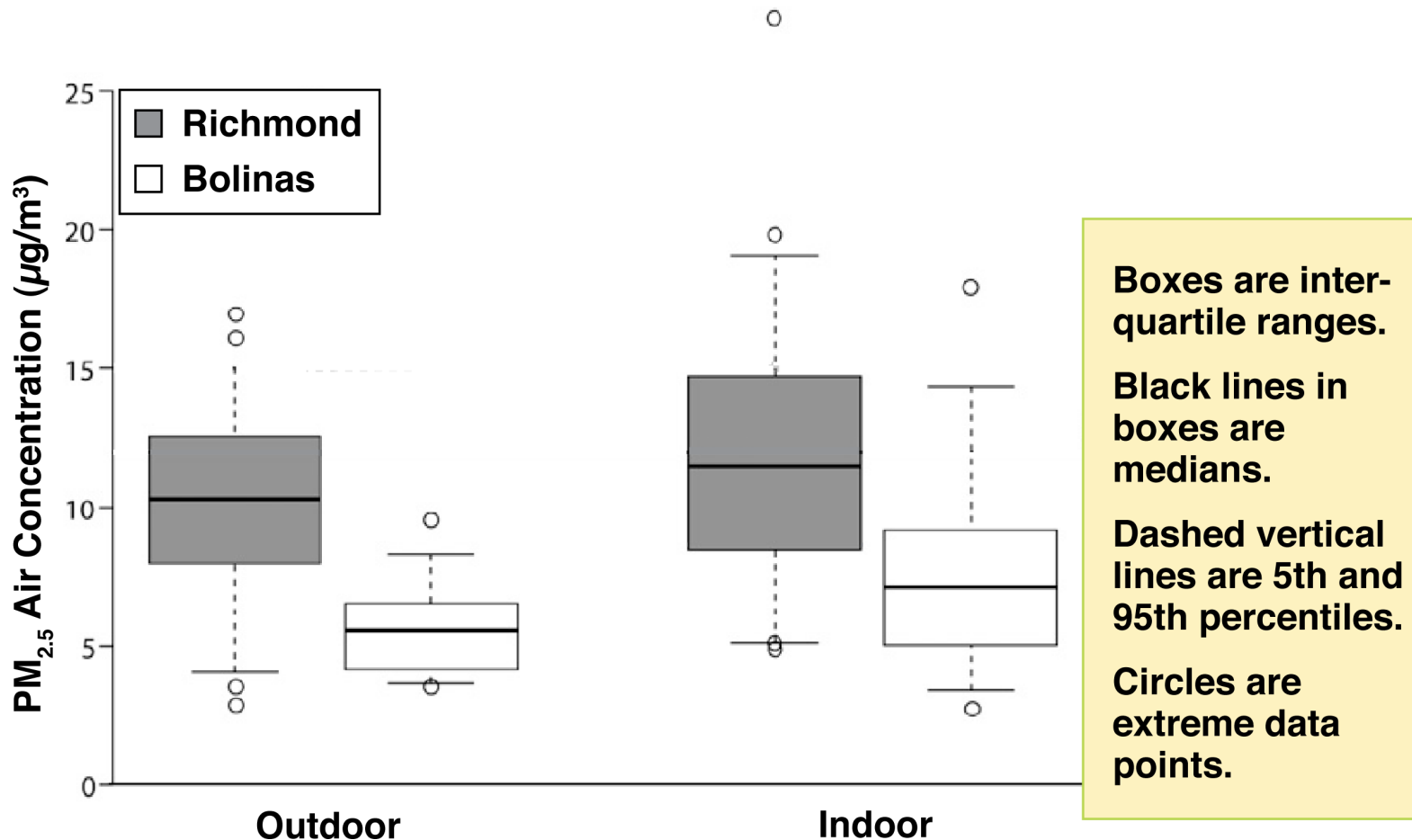


## **Air District Staff Report admission (page 14):**

**“None of the Bay Area refineries have overall mass emission limits that apply to the entire refinery”**

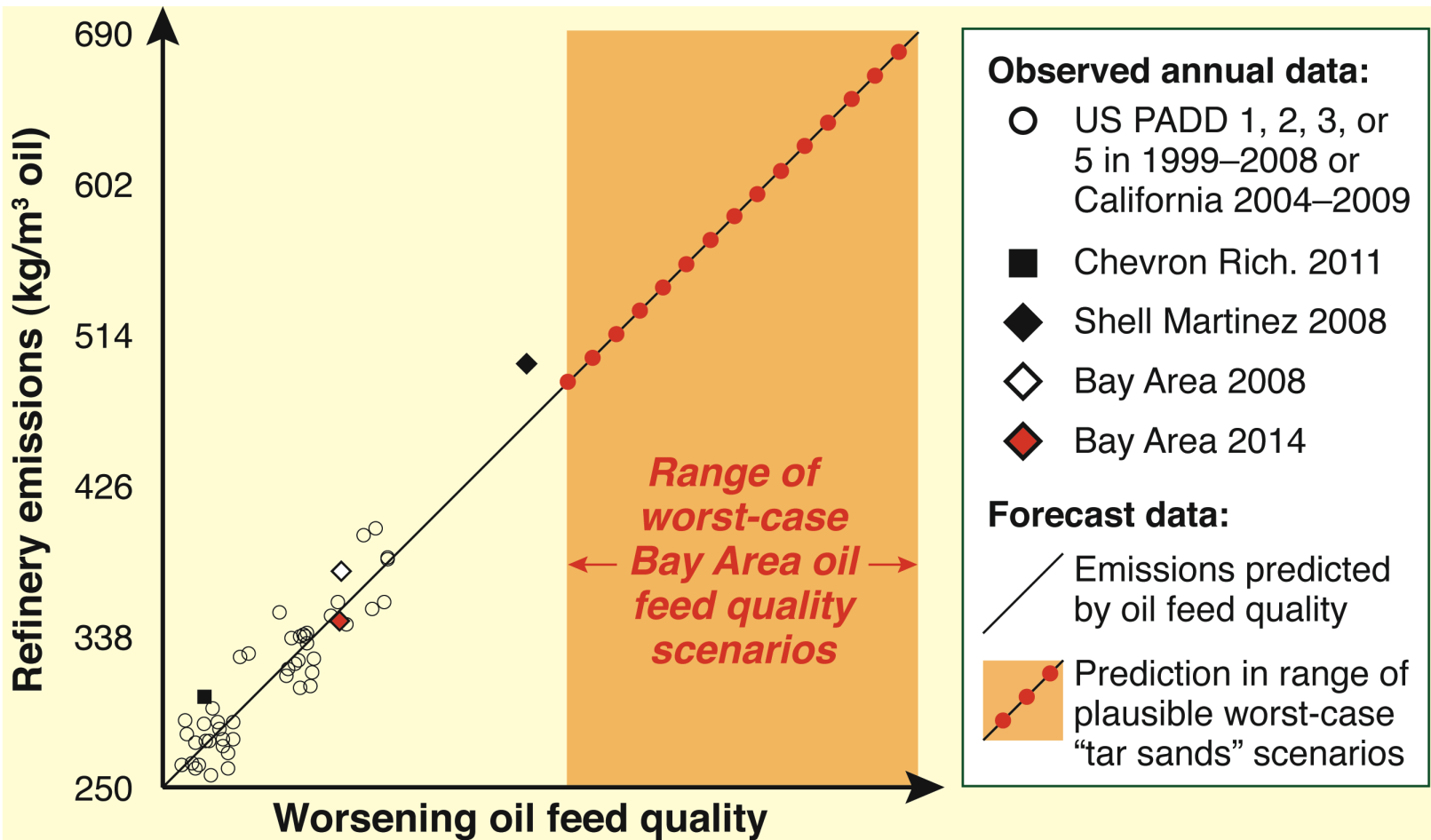
## **Air District Board direction to its staff in Resolution 2014–07:**

**Develop Rule 12-16 to prevent increases in refinery emissions for Board consideration by Spring of 2015**



**“Heavy oil combustion was a more prominent factor than traffic in differences between the 2 communities.”**

Data and quoted finding from Brody et al. (2009)



## Bay Area refinery combustion emissions could increase by 40–100 % in the worst-case high carbon oil scenarios

Data and forecasts from American Chemical Society DOI: 10.1021/es1019965 (Karras, 2010); Union of Concerned Scientists (Karras, 2011); and Communities for a Better Environment’s 2 December 2016 Technical Report to BAAQMD.

# Operating data confirm current capacity can be used under Rule 12-16

	Rule 12-16 limit (cap)	Annual operating data				
		2011	2012	2013	2014	2015
<b>CO<sub>2</sub>e (in megatons/yr)</b>						
Chevron Richmond	4.77	4.46	3.95	3.91	4.12	4.42
Phillips 66 Rodeo	1.61	1.50	1.32	1.36	1.28	1.32
Air Liquide Rodeo	0.95	0.64	0.77	0.88	0.82	0.82
Shell Martinez	4.56	4.26	4.06	4.19	3.97	4.13
Tesoro Golden Eagle	2.61	2.40	2.09	2.45	2.33	2.06
Air Products Martinez	0.29	0.26	0.22	0.27	0.25	0.20
Martinez Cogen LLP	0.45	0.42	0.41	0.39	0.41	0.40
Valero Benicia	3.15	2.64	2.94	2.74	2.71	2.84
<b>Bay Area crude capacity utilization</b>		<b>82%</b>	<b>86%</b>	<b>91%</b>	<b>98%</b>	<b>94%</b>

Emissions data from CARB; crude capacity utilization based on data reported by the CEC and EIA.