Figure 1:
 Alternative Respirable Elemental Carbon Metrics Using CO (red), developed by the original investigators versus HP-CFM (blue), developed by Crump et al (2016)

Table 1:
Characteristics of the Mines in the Diesel Exhaust in Miners Study (DEMS)
(From Crump et al, 2016)

						All Years				1982 Activity	
						CO		Radon		CFM	Diesel
Mine	State	Ore	Ventilation	Year of First Diesel Use	Primary Mode of Operation	# Samples	% > LOD	# Samples	% > LOD	f^3/min (in thousands)	(Adj HP)
A	Missouri	Limestone	Natural	1947	Cv/H	248	70	37	84	–	6,862
B	New Mexico	Potash	Mechanical	1964	Cv/Con, Ct	447	62	18	44	250	892
D	New Mexico	Potash	Mechanical	1950	Cv/H, Cv/Con, Ct	323	54	61	39	360	2,326
J	New Mexico	Potash	Mechanical	1952	Cv/H, Cv/Con, Ct	178	52	13	38	240	1,421
E	Ohio	Salt	Mechanical	1959	Cv/H	207	66	39	70	233	2,804
G	Wyoming	Trona	Mechanical	1962	Cv/Con, Ct	276	50	17	24	450	638
H	Wyoming	Trona	Vlechanica	1967	Cv/Con, LW, Ct	2,361	39	40	15	950	1,110
I	Wyoming	Trona	Mechanical	1956	Cv/Con, Ct, LW	2,000	54	54	20	1,630	1,493
Total						6,040	50	279	42		

Notes: The above data were compiled from Stewart *et al.*(2010) and the substantial DEMS data files. Primary Mode of Operation: Cv/H, conventional with truck haulage; Cv/Con, conventional with conveyor belts; Ct, continuous with conveyor belts; and LW, long wall with conveyor belts. Specific data for ventilation rates and HP are shown for 1982 for illustrative purposes, as 1982 was the last year of effective exposure for workers, assuming a 15-year lag, as follow-up ended in 1997.

Table 2: Comparison of Conditional Original Logistic Regression Resulted (Silverman et al, 2012) with Results of Similar Analyses except based on New REC Estimates Defined Using HP and CFM (From Crump et al, 2016)

Analysis	Quartiles of average REC intensity, unlagged ($\mu g/m^3$)	Cases	Controls	OR (95% CI)	p_{trend}	Slope $(\mu g/m^3)^{-1}$ 95% CI
All Subjects						
Silverman et al. (2012)	0 to < 3	49	158	1.0 (referent)	0.001	0.00073[a]
	3 to < 72	50	228	0.74 (0.40 to 1.38)		(0.00028,0.0012)[a]
	72 to < 536	49	157	1.54 (0.74 to 3.20)		
	≥ 536	50	123	2.83 (1.28 to 6.26)		
REC estimates from Silverman et al. (2012) and "without radon" controls (Crump et al. 2015)	0 to < 3	49	158	1.0 (referent)	0.0006	0.00082
	3 to < 72	50	228	0.79 (0.41 to 1.52)		(0.00035,0.0013)
	72 to < 536	49	157	1.62 (0.75 to 3.49)		
	≥ 536	50	123	3.24 (1.40 to 7.55)		
HP-CFM REC estimates and "without radon" controls	0 to < 6.6	49	172	1.0 (referent)	0.06	0.00016
	6.6 to < 129	50	191	1.05 (0.58 to 1.93)		(-0.000012,0.0003)
	129 to < 891	49	168	1.60 (0.79 to 3.24)		
	≥ 891	50	135	2.37 (1.02 to 5.50)		
HP-CFM REC estimates and "with radon" controls	0 to < 6.6	49	172	1.0 (referent)	0.63	0.00005
	6.6 to < 129	50	191	1.02 (0.55 to 1.90)		(-0.00016,0.00026)
	129 to < 891	49	168	1.20 (0.56 to 2.56)		
	≥ 891	50	135	1.37 (0.5 to 3.77)		

Table 2: Comparison of Conditional Original Logistic Regression Resulted (Silverman et al, 2012) with Results of Similar Analyses except based on New REC Estimates Defined Using HP and CFM (From Crump et al, 2016)(cont)

	All Subjects Who Ever Worked Underground					
Silverman et al. (2012)	0 to < 81	29	92	1.0 (referent)	0.004	0.00065[a]
	81 to < 325	29	52	2.46 (1.01 to 6.01)		(0.00020,0.0011)[a]
	325 to < 878	29	69	2.41 (1.00 to 5.82)		
	≥ 878	29	51	5.10 (1.88 to 13.87)		
REC estimates from Silverman et al. (2012) and "without radon" controls (Crump et al. 2015)	0 to < 97	31	158	1.0 (referent)	0.01	0.00073
	97 to < 384	31	90	1.90 (0.78 to 4.63)		(0.00022,0.0012)
	384 to < 903	31	80	2.73 (1.08 to 6.88)		
	≥ 903	31	84	5.04 (1.77 to 14.30)		
HP-CFM REC estimates and "without radon" controls	0 to < 130	31	144	1.0 (referent)	0.16	0.00014
	130 to < 531	31	99	2.03 (0.83 to 4.96)		(-0.000062,0.0003
	531 to < 2149	31	99	3.45 (1.27 to 9.41)		
	≥ 2149	31	70	3.84 (1.07 to 13.74)		
HP-CFM REC estimates and "with radon" controls	0 to < 130	31	144	1.0 (referent)	0.69	0.00005
	130 to < 531	31	99	1.83 (0.73 to 4.61)		(-0.00020,0.00030
	531 to < 2149	31	99	2.47 (0.79 to 7.73)		
	≥ 2149	31	70	2.5 (0.49 to 12.79)		

Table 2: Comparison of Conditional Original Logistic Regression Resulted (Silverman et al, 2012) with Results of Similar Analyses except based on New REC Estimates Defined Using HP and CFM (From Crump et al, 2016)(cont)

All Subjects Who Only Worked Underground						
HP-CFM REC estimates and "without radon" controls	0 to < 106	14	26	1.0 (referent)	0.27	0.00024
	106 to < 410	15	28	1.89 (0.4 to 9.07)		(-0.000179,0.0
	410 to < 1486	14	17	3.15 (0.47 to 21.05)		
	≥ 1486	15	26	4.73 (0.58 to 38.84)		
HP-CFM REC estimates and "with radon" controls	0 to < 106	14	26	1.0 (referent)	0.36	0.00027
	106 to < 410	15	28	1.91 (0.38 to 9.75)		(-0.000316,0.0
	410 to < 1486	14	17	5.61 (0.61 to 51.33)		
	≥ 1486	15	26	9.39 (0.47 to 187.84)		

[a] Calculated by us after reproducing Silverman (2012) results.