Table S1. Primer sequences and gene regions analyzed

Gene	Primers	T (°C)	Amplicon (bp)	Analyzed sequence
APC	Forward - TTTTGTTTGTTGGGGATTG Reverse Biot.- CTCCAACACCTACCCCATTT Sequencing – GGGGTTTTGTGTTTTA Chromosome Loc.: chr5:112073325-112073635	55	311	TTGC/TGGAGTGC/TGGGTC /TGGGAAGC/TGGAG
MLH1	Forward - TTTAGGAGTGAAGGAGGT Reverse Biot. - CCCTATACCTAATCTATC Sequencing–GTTTTGAGTAGAGTTTTATTAGGGT Chromosome Loc: chr3:37034287-37034459	51	173	C/TGC/TGC/TGTTC/TGTC/T GTTC/TGTTATATATC/TGTT
LINE-1	Forward Biot - TAGGGAGTGTTAGATAGTGG Reverse - AACTCCCTAACCCCTTAC Sequencing – CAAATAAAACAATACCTC	58	120	G/ACCCTACTTCG/AACTC G/ACG/ACACG/AATAC
CDKN2A	Forward - GAGGGGTTGGTTGGTTATTAGA Reverse Biot - TACAAACCCTCTACCCACCTAAAT Sequencing – TGGTTATTAGAGGGTG Chromosome Loc.: chr9:21974659-21974920	65	262	GGGC/TGGATC/TGC/TGTG C/TGTTC/TGGC/TGGTTGC/ TGGAGA

T: temperature

Table S2. Levels of trace elements in blood of the construction workers in comparison to the control group

	Control (N=47)			Case (N=56)			
Analytes	**Mean (±SD)**	**Min**	**Max**	**Mean (±SD)**	**Min**	**Max**	**p-value**
Cu μg/L	1516 (247)	1019	2301	1274 (285)	778	2684	0.001
Zn μg/L	10514 (2501)	6145	16306	7884 (2050)	5093	14013	0.001
Cr μg/L	0.50 (1.35)	0.01	8.72	0.14 (0.37)	0.01	2.21	0.001
Vu μg/L	0.26 (0.21)	0.01	0.85	0.14 (0.09)	0.01	0.57	0.002
As μg/L	10.40 (10.93)	2.71	49.34	3.57 (1.15)	2.05	7.97	0.001
Pb μg/L	0.17 (0.57)	0.01	3.80	0.04 (0.12)	0.01	0.7	0.002
Cd μg/L	0.17 (0.57)	0.01	3.80	0.04 (0.12)	0.01	0.7	0.002
Se μg/L	89.49 (26.80)	60	173	64.13 (18.70)	45.11	142	0.001
Mn μg/L	3.02 (3)	0.01	10.70	0.81 (2.11)	0.01	12.40	0.001
Co μg/L	0.19 (0.32)	0.00	1.30	0.07 (0.22)	0.00	1.57	0.001
Ti μg/L	0.10 (0.14)	0.00	0.61	0.06 (0.12)	0.00	0.92	0.661

Mann-Whitney test was used for statistical analyses

Table S3. Characterization of PAHs found in PM (PM2.5) at the construction site

Polycyclic aromatic hydrocarbon (PAHs)	Sampling periods		
	Sampling I	Sampling II	Sampling III
	Concentration		
Acenaphthylene	0.05	0.08	0.03
Acenaphthene	0.23	0.62	0.03
Fluorene	0.08	0.24	0.03
Phenanthrene	0.25	0.51	0.1
Anthracene	0.06	0.18	0.03
Fluoranthene	0.13	0.28	0.07
Pyrene	0.19	0.33	0.1
Benzo[a]anthracene	0.04	0.11	0.04
Chrysene	0.06	0.12	0.04
Benzo[b]fluoranthene	0.05	0.08	0.05
Benzo[k]fluoranthene	0.02	0.04	0.03
Benzo[a]pyrene	0.05	0.06	0.04
Indeno[1,2,3-cd]pyrene	0.05	0.03	0.03
DBA	0.01	0.01	0.01
Benzoperylene	0.13	0.11	0.06
Coronene	0.03	0.01	0.02
Nitro-PAH			
1-Nitronaphthalene	0.23	-	-
1-Methyl-4-nitronaphthalene	-	-	-
2-Nitronaphthalene	0.11	-	-

2-Nitrobiphenyl	-	-	-
1-Methyl-5-nitronaphthalene	-	0.16	-
1-Methyl-6-nitronaphthalene	-	0.17	-
2-Methyl-4-nitronaphthalene	-	-	-
3-Nitrobiphenyl	-	-	-
4-Nitrobiphenyl	-	-	-
5-Nitroacenaphthene	-	-	-
2-Nitrofluorene	-	-	0.38
2-Nitrophenanthrene	-	-	0.14
3-Nitrophenanthrene	-	-	-
9-Nitrophenanthrene	-	-	-
2-Nitroanthracene	-	-	-
9-Nitroanthracene	-	-	-
2-Nitrofluoranthene	-	-	-
3-Nitrofluoranthene	-	-	-
1-Nitropyrene	0.87	0.38	0.25
2-Nitropyrene	-	-	-
4-Nitropyrene	-	-	-
7-Nitrobenzo[a]anthracene	0.55	0.64	0.47
6-Nitrocrisene	-	-	-
3-Nitrobenzanthrone	-	-	-
6-Nitrobenzo[a]pyrene	1.07	1.27	0.65
1-Nitrobenzo[e]pyrene	-	-	-

3-Nitrobenzo[e]pyrene	-	-	-
Benzoquinone	-	-	-
1,4 -Naphthoquinone	-	-	-
1,2 -Naphthoquinone	-	-	-
9,10 - Anthraquinone	-	0.12	0.05
9,10 -Phenanthraquinone	-	-	-

Table S4. Methylation level of the *MLH1* gene and the repetitive sequence *LINE-1*, analyzed with regard to exposure to occupational agents in the actual work environment.

Gene/occupational agent		Exposed workers			
		Nª	Mean ± SD	Median (IQR)	*p* value
MLH1					
Sand	Yes	15	3.62 ± 1.40	3.71 (0 - 5.55)	0.49
	No	40	3.96 ± 1.52	4.13 (0 - 8.47)	
Concrete	Yes	10	3.87 ± 0.89	3.90 (2.70 - 4.94)	0.80
	No	46	3.86 ± 1.58	3.95 (0 - 8.47)	
Wood	Yes	32	3.54 ± 1.70	3.38 (0 - 8.47)	0.02*
	No	23	4.35 ± 0.97	4.43 (2.22 - 6.16)	
Silica	Yes	36	3.85 ± 1.65	4.03 (0 - 8.47)	0.86
	No	20	3.90 ± 1.14	3.66 (2.22 - 6.16)	
Ultraviolet	Yes	7	3.31 ± 1.72	3.36 (0 - 5.28)	0.42
	No	49	3.94 ± 1.44	4.01 (0 - 8.47)	
LINE-1					
Sand	Yes	16	67.27(2.01)	66.51 (65.03 - 70.53)	0.15
	No	40	66.68(2.47)	65.68 (62.48 - 72.48)	
Concrete	Yes	10	67.22(2.30)	66.36 (65.15 - 70.61)	0.38

	No	47	66.75(2.35)	65.86 (62.48 - 72.48)	
Wood	Yes	33	67.34(2.60)	66.43 (62.48 - 72.48)	0.15
	No	23	66.19(1.75)	65.72 (63.70 - 70.62)	
Silica	Yes	37	67.21(2.35)	66.49 (62.48 - 72.48)	0.05*
	No	20	66.14(2.19)	65.54 (62.79 - 70.49)	
Ultraviolet	Yes	8	66.68(2.07)	65.56 (65.03 - 70.26)	0.81
	No	49	66.86(2.39)	66.00 (62.48 – 72.48)	

* Statistically significant

[a] Mann-Whitney tests