Environmental & Industrial Hygiene



Field Services... Laboratory Services... Training...

...Solutions

October 21, 2019

School District of Philadelphia Office of Environmental Management & Services 440 N. Broad Street Suite 373 Philadelphia, PA 19130

ATTENTION: Mr. Brian Joseph

REFERENCE: Dust Monitoring

Benjamin Franklin High School – ULCS #2010 550 North Broad Street, Philadelphia, PA Criterion's Project Number: **192440**

Dear Mr. Joseph,

On October 14, 15, 16, 17 and 18, 2019, Mr. Sam Oseroff of Criterion Laboratories, Inc. (Criterion) conducted particulate dust monitoring in and around various construction areas at Benjamin Franklin High School.

The dust monitoring was conducted using the Met One Aerocet-531S Mass Particle Counter/Dust Monitor. This monitor measures PM 1, PM 2.5, PM 7, PM 10 (respirable dust) and Total Dust. The results for this monitoring are attached to this report.

Current Federal Regulations

Occupational Safety and Health Administration (OSHA) has set a limit of 5 milligrams/cubic meter (mg/m³) for PM 10 (respirable dust) and 15 mg/m³ for Total Dust.

The American Conference of Governmental Industrial Hygienists (ACGIH) has set a threshold limit value (TLV) over an average 8 hour work day over a 40 hour work week of 10 mg/m³ for Total Dust.

The Environmental Protection Agency (EPA) sets a limit of 35 mg/m³ for PM 2.5 over a 24 hour period and 150 mg/m³ for PM 10 over a 24 hour period.

Baseline Levels

On September 21, 2019, baseline levels of various particulates were established while the school was empty of all students, staff and construction personnel. The highest baseline levels recorded outside the work area for PM 10 (respirable dust) and Total Dust plus 50% of this initial highest reading will be used to compare dust levels to the non-construction areas for the remainder of the project.

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If the PM 10 or the Total Dust level of dust is found to be higher than the following baseline levels, corrective action must be taken to prevent continued elevated dust levels.

The baseline level to be used for comparison is 0.277mg for PM 10 and 0.413 mg for Total Dust (TD).

Conclusion

The readings for PM10 and total dust collected on October 14, 2019 at 12.16 pm in the 1st floor Gym Hallway, the 12.30 pm reading in the 6th floor Stairwell B and the 12.34 pm reading in the 5th floor Stairwell B were found to be above the baseline level that had previously been established. At this time, the technician contacted the cleaning crew to mop and clean the hallway and the contractor repaired all loose critical barriers in the construction areas.

The readings for PM10 and total dust collected on October 18, 2019 at 6.37 am in the 1st floor elevator lobby and at 6.41 am in the 1st floor Gym Hallway were found to be above the baseline level that had previously been established. When Mr. Oseroff entered the two areas, he noticed that the negative air machines had been shut down and he immediately turned them on and continued the air sampling. All readings collected after this were found to be below the baseline level and within the OSHA ACGIH, EPA limits.

Should you have any questions or concerns, please feel free to contact me at (215) 244-1300, extension 1033.

Sincerely,

Ian Forster Project Manger

Attachment

Benjamin Franklin High School (UCLS# 2010)	Date of Sampling	10/14/19	Criterion Pro	ject Number	192440					
Location	Time	PM 1 (mg)	PM 2.5 (mg)	PM 7 (mg)	PM 10 (mg)	Total Dust (mg)		Comments		
1st floor elevator lobby	8:28	0.000	0.003	0.022	0.029	0.041				
1st floor gym hallway	8:33	0.001	0.005	0.031	0.050	0.078				
1st floor hallway by Room 102	8:36	0.001	0.004	0.010	0.012	0.014				
Stairwell B-6th floor	8:41	0.002	0.006	0.025	0.035	0.048				
Stairwell B- 5th floor	8:46	0.002	0.006	0.039	0.046	0.059				
5th floor elevator lobby	8:53	0.000	0.005	0.032	0.047	0.068				
5th floor hallway at Room 507	8:58	0.001	0.004	0.020	0.032	0.052				
Room 507	9:04	0.000	0.001	0.002	0.002	0.002				
5th floor hallway at Room 517	9:09	0.001	0.003	0.005	0.006	0.008				
Room 517	9:15	0.001	0.002	0.005	0.006	0.008				
Outdoors	9:33	0.002	0.005	0.008	0.009	0.009				
Hallway at Room 406	9:42	0.000	0.002	0.020	0.024	0.027				
1st floor elevator lobby	12:12	0.004	0.036	0.129	0.183	0.241				
1st floor gym hallway	12:16	0.004	0.030	0.152	0.397	0.689	Grinding in adjacent area			
1st floor hallway by Room 102	12:20	0.002	0.015	0.093	0.137	0.183				
Stairwell B-6th floor	12:30	0.000	0.001	0.145	0.189	0.479				
Stairwell B- 5th floor	12:34	0.001	0.013	0.167	0.229	0.477				
5th floor elevator lobby	12:39	0.000	0.005	0.040	0.068	0.105				
5th floor hallway at Room 507	12:43	0.000	0.004	0.018	0.026	0.032				
Room 507	12:46	0.000	0.001	0.002	0.003	0.008				
5th floor hallway at Room 517	12:51	0.000	0.001	0.004	0.007	0.011				
Room 517	12:54	0.000	0.000	0.002	0.003	0.004				
Hallway at Room 406	13:00	0.000	0.003	0.011	0.015	0.017				
1st floor elevator lobby	14:33	0.000	0.003	0.031	0.054	0.092				
1st floor gym hallway	14:39	0.000	0.003	0.019	0.027	0.037				
1st floor hallway by Room 102	14:43	0.000	0.002	0.011	0.210	0.030				
Stairwell B-6th floor	14:50	0.001	0.014	0.100	0.161	0.211				
Stairwell B- 5th floor	14:54	0.001	0.010	0.088	0.121	0.179				
5th floor elevator lobby	15:00	0.000	0.007	0.052	0.100	0.154				
5th floor hallway at 507	15:05	0.000	0.003	0.017	0.023	0.028				
Room 507	15:11	0.000	0.003	0.014	0.016	0.022				
5th floor hallway at Room 517	15:15	0.000	0.001	0.006	0.009	0.010				
Room 517	15:20	0.000	0.002	0.007	0.008	0.012				
Hallway at Room 406	15:27	0.000	0.000	0.003	0.003	0.004				1

Benjamin Franklin High School (UCLS# 2010)	Date of Sampling	10/15/19	Criterion Projec	ct Number	192440				
Location	Time	PM 1 (mg)	PM 2.5 (mg)	PM 7 (mg)	PM 10 (mg)	Total Dust (mg)		Comments	
1st floor elevator lobby	8:18	0.000	0.001	0.009	0.015	0.024			
1st floor gym hallway	8:23	0.000	0.002	0.018	0.024	0.035			
1st floor hallway by Room 102	8:28	0.000	0.002	0.013	0.020	0.033			
Stairwell B-6th floor	8:36	0.000	0.001	0.008	0.014	0.020			
Stairwell B- 5th floor	8:39	0.000	0.001	0.008	0.015	0.022			
5th floor elevator lobby	8:44	0.000	0.001	0.011	0.017	0.029			
5th floor hallway at Room 507	8:47	0.000	0.002	0.010	0.018	0.020			
Room 507	8:52	0.000	0.000	0.003	0.003	0.004			
5th floor hallway at 517	8:56	0.000	0.000	0.006	0.007	0.007			
Room 517	9:00	0.000	0.001	0.006	0.007	0.008			
Hallway at Room 406	9:05	0.000	0.002	0.010	0.013	0.015			
Outdoors	9:14	0.000	0.000	0.008	0.012	0.017			
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Benjamin Franklin High School (UCLS# 2010)	Date of Sampling	10/16	Criterion Project		192440	Tatal Dust (m.)		Camara		
Location	Time	PM 1 (mg)	PM 2.5 (mg)	PM 7 (mg)	PM 10 (mg)	Total Dust (mg)	1	Comment	is	$\overline{}$
Outdoors 1st floor elevator lobby	8:45	0.000	0.003	0.020 0.037	0.031 0.053	0.040 0.072				+
· · · · · · · · · · · · · · · · · · ·	8:24 8:29	0.000	0.003		0.053	0.072				+
1st floor gym hallway				0.033						_
1st floor hallway by Room 102	8:34	0.000	0.006	0.045	0.063	0.080				_
Stairwell B-6th floor	8:51	0.000	0.003	0.026	0.040	0.055				+
Stairwell B- 5th floor	8:55 9:00	0.000	0.003	0.026	0.035 0.028	0.047 0.043				+
5th floor elevator lobby	9:00	0.000	0.003	0.017	0.028	0.043				+-
5th floor hallway at Room 507 Room 507	9:04	0.000	0.003 0.001	0.020 0.019	0.030	0.039				+-
5th floor hallway at Room 517	9:08	0.000	0.001	0.019	0.020	0.020				+-
Room 517	9:13	0.000	0.003	0.016	0.023	0.033				+
4th floor hallway	9:17	0.000	0.003	0.013	0.017	0.021				+
1st floor elevator lobby	9:25	0.000	0.005	0.027	0.044	0.065				+
1st floor gym hallway	11:49	0.000	0.004	0.023	0.043	0.067				+
1st floor hallway by Room 102	11:54	0.000	0.002	0.022	0.102	0.147				+
Stairwell B-6th floor	12:00	0.001	0.009	0.038	0.102	0.147				+-
Stairwell B- 5th floor					0.053	0.079				+
	12:05	0.000	0.005	0.037						+
5th floor elevator lobby	12:09	0.000	0.005	0.040	0.061	0.093				-
5th floor hallway at Room 507	12:14	0.000	0.004	0.040	0.054	0.077				
Room 507	12:19	0.000	0.001	0.013	0.017	0.024				
5th floor hallway at Room 517	12:23	0.000	0.004	0.021	0.028	0.034				
Room 517	12:28	0.000	0.002	0.012	0.014	0.016				
4th floor hallway at Room 406	12:34	0.000	0.003	0.032	0.039	0.048				
1st floor elevator lobby	14:41	0.000	0.005	0.040	0.059	0.078				
1st floor gym hallway	14:45	0.000	0.005	0.036	0.065	0.105				1
1st floor hallway by Room 102	14:50	0.001	0.010	0.066	0.096	0.123				1
Stairwell B-6th floor	14:57	0.000	0.004	0.023	0.047	0.088				+
Stairwell B- 5th floor	15:00	0.000	0.005	0.024	0.051	0.093				+
5th floor elevator lobby	15:05	0.000	0.003	0.024	0.051	0.108				+
•			+	0.020	0.033	0.108				+
5th floor hallway at Room 507	15:10	0.000	0.005							+
Room 507	15:15	0.000	0.001	0.004	0.004	0.005				+
5th floor hallway at Room 517	15:19	0.000	0.005	0.022	0.029	0.033				_
Room 517	15:25	0.000	0.003	0.011	0.012	0.013				\perp
4th floor hallway at Room 406	15:29	0.000	0.002	0.028	0.037	0.044				

Benjamin Franklin High School (UCLS# 2010)	Date of Sampling	10/17	Criterion Projec	t Number	192440			
Location	Time	PM 1 (mg)	PM 2.5 (mg)	PM 7 (mg)	PM 10 (mg)	Total Dust (mg)	Comments	
Outdoors	7:27	0.000	0.000	0.003	0.004	0.007		
1st floor elevator lobby	7:35	0.000	0.002	0.058	0.079	0.111		
1st floor gym hallway	7:38	0.000	0.006	0.034	0.060	0.101		
1st floor hallway by Room 102	7:43	0.000	0.001	0.011	0.018	0.029		
Stairwell B-6th floor	7:49	0.000	0.001	0.008	0.008	0.073		
Stairwell B- 5th floor	7:53	0.000	0.000	0.025	0.048	0.085		
5th floor elevator lobby	7:58	0.000	0.006	0.075	0.124	0.194		
5th floor hallway at Room 507	8:03	0.001	0.014	0.083	0.161	0.274		
Room 507	8:09	0.000	0.002	0.010	0.016	0.022		
5th floor hallway at Room 517	8:14	0.000	0.003	0.026	0.037	0.051		
Room 517	8:19	0.000	0.002	0.019	0.027	0.039		
4th floor hallway at Room 406	8:25	0.000	0.002	0.013	0.020	0.030		

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Location	Time	PM 1 (mg)	PM 2.5 (mg)	PM 7 (mg)	PM 10 (mg)	Total Dust (mg)	Comments				
outdoors	11:06	0.001	0.004	0.007	0.009	0.014					
1st floor elevator lobby	6:37	0.006	0.074	0.550	0.702	0.811	not muc	n work ong	oing in area. fla	aps secure	e. 2 AFDs turned of
									restarted.	AFDs,	
1st floor gym hallway	6:41	0.002	0.051	0.290	0.368	0.447		2 AF	Ds turned off.	restarted	AFDs
1st floor entrance by Room 102	6:46	0.000	0.001	0.005	0.008	0.012					
Stairwell B-6th floor	6:54	0.000	0.004	0.035	0.052	0.050					
Stairwell B- 5th floor	6:58	0.000	0.003	0.014	0.029	0.072					
5th floor elevator lobby	7:03	0.000	0.012	0.061	0.074	0.090					
5th floor hallway at Room 507	7:07	0.000	0.009	0.017	0.044	0.061					
Room 507	7:11	0.000	0.001	0.007	0.008	0.015					
5th floor hallway at Room 517	7:15	0.000	0.003	0.008	0.012	0.019					
Room 518	7:20	0.000	0.001	0.004	0.007	0.010					
4th floor hallway at Room 406	7:25	0.000	0.004	0.012	0.015	0.018					
1st floor elevator lobby	10:02	0.000	0.000	0.160	0.200	0.029					
1st floor gym hallway	10:06	0.001	0.009	0.086	0.134	0.185					
1st floor entrance by Room 102	10:10	0.000	0.000	0.003	0.005	0.008					
Stairwell B-6th floor	10:18	0.000	0.005	0.071	0.150	0.240					
Stairwell B- 5th floor	10:24:00	0.000	0.007	0.097	0.160	0.223					
5th floor elevator lobby	10:29	0.000	0.001	0.022	0.038	0.060					
5th floor hallway at Room 507	10:34	0.000	0.003	0.024	0.048	0.085					
Room 507	10:38	0.000	0.000	0.001	0.002	0.003					
5th floor hallway at Room 517	10:43	0.000	0.002	0.025	0.034	0.043					
Room 518	10:48	0.000	0.001	0.011	0.013	0.024					
4th floor hallway at Room 406	10:55	0.000	0.003	0.031	0.049	0.087					
1st floor elevator lobby	13:02	0.000	0.003	0.029	0.042	0.059					
1st floor gym hallway	13:08	0.000	0.001	0.026	0.039	0.063					
1st floor entrance by Room 102	13:14	0.000	0.003	0.018	0.028	0.043					
Stairwell B-6th floor	13:22	0.000	0.002	0.016	0.028	0.045					
Stairwell B- 5th floor	13:27	0.000	0.002	0.016	0.047	0.061					
		0.000	+	0.030	0.047	0.159					
5th floor elevator lobby	13:32		0.016					-	 		
5th floor hallway at Room 507	13:37	0.000	0.004	0.050	0.072	0.096		-			
Room 507	13:41	0.000	0.002	0.014	0.028	0.054					
5th floor hallway at Room 517	13:47	0.000	0.000	0.005	0.007	0.009					
Room 518	13:51	0.000	0.000	0.005	0.008	0.015					
4th floor hallway at Room 406	14:00	0.000	0.002	0.025	0.040	0.066					