NYC 9/11 Public Portal Document

Prepared Exclusively For:

NYCDEP-Emergency Response & Tech Assmt.
96-05 Horace Harding Expressway
Corona , NY 11368
(718) 595-4650
MR. M. FAWZY, DIRECTOR

PEDNEAULT ASSOCIATES, INC.
1615 NINTH AVENUE, BOX 205, BOHEMIA, N.Y. 11716

LAB NUMBER: 01100592

PROJECT ID : WORLD TRADE CENTER- 5 Boro Sampling

DATE RECEIVED	RELEASE DATE	REPORT DATE
10/31/01	11/2/01	11/2/01

COLLECT DATE:	SAMPLE ID#:	MATRIX:	SAMPLE ORIGIN:
10/31/01 5:00 PM	01100592-001	AIR\GAS	BROADWAY AVE & 31st ST. , QUEENS

PARAMETER	METHOD	RESULT	UNITS
Aluminum (Al)	OSHA ID 121/125G	0.03	mg/m3
Antimony (Sb)	OSHA ID 121/125G	<0.01	mg/m3
Arsenic (As)	OSHA ID 121/125G	<0.01	mg/m3
Barium (Ba)	OSHA ID 121/125G	<0.01	mg/m3
Beryllium (Be)	OSHA ID 121/125G	<0.01	mg/m3
Cadmium (Cd)	OSHA ID 121/125G	<0.01	mg/m3
Calcium (Ca)	OSHA ID 121/125G	1.15	mg/m3
Chromium (Cr)	OSHA ID 121/125G	<0.01	mg/m3
Copper (Cu)	OSHA ID 121/125G	<0.01	mg/m3
Iron (Fe)	OSHA ID 121/125G	<0.01	mg/m3
Lead (Pb)	OSHA ID 121/125G	<0.01	mg/m3
Magnesium (Mg)	OSHA ID 121/125G	0.06	mg/m3
Manganese (Mn)	OSHA ID 121/125G	<0.01	mg/m3
Mercury (Hg)	OSHA ID 121/245.5	<0.01	mg/m3
Nickel (Ni)	OSHA ID 121/125G	<0.01	mg/m3
Potassium (K)	OSHA ID 121/125G	<0.01	mg/m3
Selenium (Se)	OSHA ID 121/125G	<0.01	mg/m3
Silver (Ag)	OSHA ID 121/125G	0.03	mg/m3
Sodium (Na)	OSHA ID 121/125G	<0.01	mg/m3
Thallium (Tl)	OSHA ID 121/125G	<0.01	mg/m3
Zinc (Zn)	OSHA ID 121/125G	0.04	mg/m3

John Pedneault
Lab Director

Reported results are reflective of TOTAL, Metals @ 2L per min/15 min run.

NYS ELAP #10224
MWBE #46075

SUPPLEMENTAL II

CITY_21MC100_002834918

NYC-WTC_000220514

NYC 9/11 Public Portal Document

PEDNEAULT ASSOCIATES, INC.
631-467-8477

NYCDEP - WTC
5-BORO SAMPLING
METALS IN AIR

CALCULATION FOR OSHA ID121/125G– METALS IN AIR VIA CASSETTE FILTER (37MM MILLIPORE) & MOBILE VACUUM PUMPS

A= Concentration of Analyte in sample solution (µg/ml) or (mg/L)
B=Concentration of Blank in sample solution (µg/ml) or (mg/L)
SSV= Sample Solution Volume ASSV= Analyte concentration x Sample Solution Volume
BSV=Blank Sample Volume BBSV=Blank concentration x Blank Sample Volume
RAB= Reagent Blank Concentration (µg/ml) or (mg/L)
RABSV= Reagent Blank Sample Volume
D= Dilution Factor (NONE)
NO GRAVIMETIC FACTORS
AV= Air Volume Sampled
AR=Analytical Result
ARR=Analytical Reportable Result in mg/m^3 (rounded off to 3-sigma)

$$AR = \frac{(A \times SSV) - (B \times BSV)}{AV}$$

For the Trip Blank Analytical Value:

$$AR = \frac{(B \times BSV) - (RAB \times RABSV)}{AV}$$

A (mg/L)	SSV (mL)	A x SSV = ASSV	B (mg/L)	BSV (mL)	B x BSV = BBSV	ASSV -BSSV = AR	AV Liters	AR/AV	ANALYTE	ARR mg/m^3
0.076	100	7.6	0.068	100	6.8	0.8	30	0.0266667	Aluminum- Al	0.03
0.236	100	23.6	0.419	100	41.9	-18.3	30	-0.61	Antimony-Sb	<0.01
0.074	100	7.4	0.128	100	12.8	-5.4	30	-0.18	Arsenic-As	<0.01
0.003	100	0.3	0.002	100	0.2	0.1	30	0.0033333	Barium-Ba	<0.01
0.001	100	0.1	0.003	100	0.3	-0.2	30	-0.0066667	Beryllium-Be	<0.01
0.004	100	0.4	0.005	100	0.5	-0.1	30	-0.0033333	Cadmium-Cd	<0.01
0.658	100	65.8	0.313	100	31.3	34.5	30	1.15	Calcium-Ca	1.15
0.015	100	1.5	0.016	100	1.6	-0.1	30	-0.0033333	Chromium-Cr	<0.01
0.035	100	3.5	0.047	100	4.7	-1.2	30	-0.04	Copper-Cu	<0.01
0.098	100	9.8	0.291	100	29.1	-19.3	30	-0.6433333	Iron-Fe	<0.01
0.028	100	2.8	0.044	100	4.4	-1.6	30	-0.0533333	Lead-Pb	<0.01
0.058	100	5.8	0.041	100	4.1	1.7	30	0.0566667	Magnesium-Mg	0.06
0.087	100	8.7	0.09	100	9	-0.3	30	-0.01	Manganese-Mn	<0.01
	100			100			30		Mercury-Hg	<0.01
0.001	100	0.1	0.002	100	0.2	-0.1	30	-0.0033333	Nickel-Nl	<0.01
0.219	100	21.9	0.272	100	27.2	-5.3	30	-0.1766667	Potassium-K	<0.01
0.091	100	9.1	0.14	100	14	-4.9	30	-0.1633333	Selenium-Se	<0.01
0.014	100	1.4	0.006	100	0.6	0.8	30	0.0266667	Silver-Ag	0.03
1.851	100	185.1	1.884	100	188.4	-3.3	30	-0.11	Sodium-Na	<0.01
-0.005	100	-0.5	-0.004	100	-0.4	-0.1	30	-0.0033333	Thallium-Tl	<0.01
0.039	100	3.9	0.028	100	2.8	1.1	30	0.0366667	Zinc-Zn	0.04

LAB ID #01100592-001

NYCDEP - BROADWAY & 31ST QUEENS

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CITY_21MC100_002834919

NYC-WTC_000220515

NYC 9/11 Public Portal Document

Prepared Exclusively For:

NYCDEP-Emergency Response & Tech Assmt.
96-05 Horace Harding Expressway
Corona , NY 11368
(718) 595-4650
MR. M. FAWZY, DIRECTOR

PEDNEAULT ASSOCIATES, INC.
1615 NINTH AVENUE, BOX 205, BOHEMIA, N.Y. 11716

LAB NUMBER: 01100592

PROJECT ID : WORLD TRADE CENTER- 5 Boro Sampling

DATE RECEIVED	RELEASE DATE	REPORT DATE
10/31/01	11/2/01	11/2/01

COLLECT DATE:	SAMPLE ID#:	MATRIX:	SAMPLE ORIGIN:
10/31/01 6:00 PM	01100592-002	AIR\GAS	138th St. & 3rd AVENUE, BRONX

PARAMETER	METHOD	RESULT	UNITS
Aluminum (Al)	OSHA ID 121/125G	<0.01	mg/m3
Antimony (Sb)	OSHA ID 121/125G	<0.01	mg/m3
Arsenic (As)	OSHA ID 121/125G	<0.01	mg/m3
Barium (Ba)	OSHA ID 121/125G	<0.01	mg/m3
Beryllium (Be)	OSHA ID 121/125G	<0.01	mg/m3
Cadmium (Cd)	OSHA ID 121/125G	<0.01	mg/m3
Calcium (Ca)	OSHA ID 121/125G	0.71	mg/m3
Chromium (Cr)	OSHA ID 121/125G	<0.01	mg/m3
Copper (Cu)	OSHA ID 121/125G	<0.01	mg/m3
Iron (Fe)	OSHA ID 121/125G	<0.01	mg/m3
Lead (Pb)	OSHA ID 121/125G	<0.01	mg/m3
Magnesium (Mg)	OSHA ID 121/125G	0.05	mg/m3
Manganese (Mn)	OSHA ID 121/125G	<0.01	mg/m3
Mercury (Hg)	OSHA ID 121/245.5	<0.01	mg/m3
Nickel (Ni)	OSHA ID 121/125G	<0.01	mg/m3
Potassium (K)	OSHA ID 121/125G	<0.01	mg/m3
Selenium (Se)	OSHA ID 121/125G	<0.01	mg/m3
Silver (Ag)	OSHA ID 121/125G	<0.01	mg/m3
Sodium (Na)	OSHA ID 121/125G	<0.01	mg/m3
Thallium (Tl)	OSHA ID 121/125G	<0.01	mg/m3
Zinc (Zn)	OSHA ID 121/125G	0.05	mg/m3

John Pedneault
Lab Director

Reported results are reflective of TOTAL, Metals @ 2L per min/15 min run.

NYS ELAP #10224
MWBE #46075

SUPPLEMENTAL II

CITY_21MC100_002834920

NYC-WTC_000220516

NYC 9/11 Public Portal Document

PEDNEAULT ASSOCIATES, INC.
631-467-8477

NYCDEP - WTC
5-BORO SAMPLING
METALS IN AIR

CALCULATION FOR OSHA ID121/125G-- METALS IN AIR VIA CASSETTE FILTER (37MM MILLIPORE) & MOBILE VACUUM PUMPS

A= Concentration of Analyte in sample solution (µg/ml) or (mg/L)
B=Concentration of Blank in sample solution (µg/ml) or (mg/L)
SSV= Sample Solution Volume ASSV= Analyte concentration x Sample Solution Volume
BSV=Blank Sample Volume BBSV=Blank concentration x Blank Sample Volume
RAB= Reagent Blank Concentration (µg/ml) or (mg/L)
RABSV= Reagent Blank Sample Volume
D= Dilution Factor (NONE)
NO GRAVIMETIC FACTORS
AV= Air Volume Sampled
AR=Analytical Result
ARR=Analytical Reportable Result in mg/m^3 (rounded off to 3-sigma)

$$AR = \frac{(A \times SSV) - (B \times BSV)}{AV}$$

For the Trip Blank Analytical Value:

$$AR = \frac{(B \times BSV) - (RAB \times RABSV)}{AV}$$

A (mg/L)	SSV (mL)	A x SSV = ASSV	B (mg/L)	BSV (mL)	B x BSV = BBSV	ASSV - BSSV = AR	AV Liters	AR/AV	ANALYTE	ARR mg/m^3
0.057	100	5.7	0.068	100	6.8	-1.1	30	-0.0366667	Aluminum- Al	**<0.01**
0.129	100	12.9	0.419	100	41.9	-29	30	-0.9666667	Antimony-Sb	**<0.01**
0.026	100	2.6	0.128	100	12.8	-10.2	30	-0.34	Arsenic-As	**<0.11**
0.003	100	0.3	0.002	100	0.2	0.1	30	0.0033333	Barium-Ba	**<0.01**
0	100	0	0.003	100	0.3	-0.3	30	-0.01	Beryllium-Be	**<0.01**
0.002	100	0.2	0.005	100	0.5	-0.3	30	-0.01	Cadmium-Cd	**<0.01**
0.526	100	52.6	0.313	100	31.3	21.3	30	0.71	Calcium-Ca	**0.71**
0.011	100	1.1	0.016	100	1.6	-0.5	30	-0.0166667	Chromium-Cr	**<0.01**
0.024	100	2.4	0.047	100	4.7	-2.3	30	-0.0766667	Copper-Cu	**<0.01**
0.07	100	7	0.291	100	29.1	-22.1	30	-0.7366667	Iron-Fe	**<0.01**
0.009	100	0.9	0.044	100	4.4	-3.5	30	-0.1166667	Lead-Pb	**<0.01**
0.056	100	5.6	0.041	100	4.1	1.5	30	0.05	Magnesium-Mg	**0.05**
0.072	100	7.2	0.09	100	9	-1.8	30	-0.06	Manganese-Mn	**<0.01**
	100			100			30		Mercury-Hg	**<0.01**
0.001	100	0.1	0.002	100	0.2	-0.1	30	-0.0033333	Nickel-NI	**<0.01**
0.158	100	15.8	0.272	100	27.2	-11.4	30	-0.38	Potassium-K	**<0.01**
0.034	100	3.4	0.14	100	14	-10.6	30	-0.3533333	Selenium-Se	**<0.01**
0.004	100	0.4	0.006	100	0.6	-0.2	30	-0.0066667	Silver-Ag	**<0.01**
1.448	100	144.8	1.884	100	188.4	-43.6	30	-1.4533333	Sodium-Na	**<0.01**
0	100	0	-0.004	100	-0.4	0.4	30	0.0133333	Thallium-Tl	**0.01**
0.042	100	4.2	0.028	100	2.8	1.4	30	0.0466667	Zinc-Zn	**0.05**

LAB ID #01100592-002

NYCDEP - 138TH & 3RD AVENUE BRONX

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CITY_21MC100_002834921

NYC-WTC_000220517

NYC 9/11 Public Portal Document

Prepared Exclusively For:

NYCDEP-Emergency Response & Tech Assmt.
96-05 Horace Harding Expressway
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(718) 595-4650
MR. M. FAWZY, DIRECTOR

PEDNEAULT ASSOCIATES, INC.
1615 NINTH AVENUE, BOX 205, BOHEMIA, N.Y. 11716

LAB NUMBER: 01100592

PROJECT ID : WORLD TRADE CENTER- 5 Boro Sampling

DATE RECEIVED	RELEASE DATE	REPORT DATE
10/31/01	11/2/01	11/2/01

COLLECT DATE:	SAMPLE ID#:	MATRIX:	SAMPLE ORIGIN:
10/31/01 6:25 PM	01100592-003	AIR\GAS	CENTRAL PARK N. & LENOX , MANHATTAN

PARAMETER	METHOD	RESULT	UNITS
Aluminum (Al)	OSHA ID 121/125G	<0.01	mg/m3
Antimony (Sb)	OSHA ID 121/125G	<0.01	mg/m3
Arsenic (As)	OSHA ID 121/125G	<0.01	mg/m3
Barium (Ba)	OSHA ID 121/125G	<0.01	mg/m3
Beryllium (Be)	OSHA ID 121/125G	<0.01	mg/m3
Cadmium (Cd)	OSHA ID 121/125G	<0.01	mg/m3
Calcium (Ca)	OSHA ID 121/125G	0.26	mg/m3
Chromium (Cr)	OSHA ID 121/125G	<0.01	mg/m3
Copper (Cu)	OSHA ID 121/125G	<0.01	mg/m3
Iron (Fe)	OSHA ID 121/125G	<0.01	mg/m3
Lead (Pb)	OSHA ID 121/125G	<0.01	mg/m3
Magnesium (Mg)	OSHA ID 121/125G	<0.01	mg/m3
Manganese (Mn)	OSHA ID 121/125G	<0.01	mg/m3
Mercury (Hg)	OSHA ID 121/245.5	<0.01	mg/m3
Nickel (Ni)	OSHA ID 121/125G	<0.01	mg/m3
Potassium (K)	OSHA ID 121/125G	<0.01	mg/m3
Selenium (Se)	OSHA ID 121/125G	<0.01	mg/m3
Silver (Ag)	OSHA ID 121/125G	<0.01	mg/m3
Sodium (Na)	OSHA ID 121/125G	<0.01	mg/m3
Thallium (Tl)	OSHA ID 121/125G	<0.01	mg/m3
Zinc (Zn)	OSHA ID 121/125G	0.01	mg/m3

John Pedneault
Lab Director

Reported results are reflective of TOTAL, Metals @ 2L per min/15 min run.

NYS ELAP #10224
MWBE #46075

SUPPLEMENTAL II

CITY_21MC100_002834922

NYC-WTC_000220518

NYC 9/11 Public Portal Document

PEDNEAULT ASSOCIATES, INC.
631-467-8477

NYCDEP - WTC
5-BORO SAMPLING
METALS IN AIR

CALCULATION FOR OSHA ID121/125G-- METALS IN AIR VIA CASSETTE FILTER (37MM MILLIPORE) & MOBILE VACUUM PUMPS

A= Concentration of Analyte in sample solution (µg/ml) or (mg/L)
B=Concentration of Blank in sample solution (µg/ml) or (mg/L)
SSV= Sample Solution Volume ASSV= Analyte concentration x Sample Solution Volume
BSV=Blank Sample Volume BBSV=Blank concentration x Blank Sample Volume
RAB= Reagent Blank Concentration (µg/ml) or (mg/L)
RABSV= Reagent Blank Sample Volume
D= Dilution Factor (NONE)
NO GRAVIMETIC FACTORS
AV= Air Volume Sampled
AR=Analytical Result
ARR=Analytical Reportable Result in mg/m^3 (rounded off to 3-sigma)

$$AR = \frac{(A \times SSV) - (B \times BSV)}{AV}$$

For the Trip Blank Analytical Value:

$$AR = \frac{(B \times BSV) - (RAB \times RABSV)}{AV}$$

A (mg/L)	SSV (mL)	A x SSV = ASSV	B (mg/L)	BSV (mL)	B x BSV = BBSV	ASSV-BSSV = AR	AV Liters	AR/AV =	ANALYTE	ARR mg/m³
0.006	100	0.6	0.068	100	6.8	-6.2	30	-0.2066667	Aluminum- Al	<0.01
0.118	100	11.8	0.419	100	41.9	-30.1	30	-1.0033333	Antimony-Sb	<0.01
0.049	100	4.9	0.128	100	12.8	-7.9	30	-0.2633333	Arsenic-As	<0.01
0.002	100	0.2	0.002	100	0.2	0	30	0	Barium-Ba	<0.01
0.001	100	0.1	0.003	100	0.3	-0.2	30	-0.0066667	Beryllium-Be	<0.01
0.002	100	0.2	0.005	100	0.5	-0.3	30	-0.01	Cadmium-Cd	<0.01
0.39	100	39	0.313	100	31.3	7.7	30	0.2566667	Calcium-Ca	0.26
0.008	100	0.8	0.016	100	1.6	-0.8	30	-0.0266667	Chromium-Cr	<0.01
0.022	100	2.2	0.047	100	4.7	-2.5	30	-0.0833333	Copper-Cu	<0.01
0.062	100	6.2	0.291	100	29.1	-22.9	30	-0.7633333	Iron-Fe	<0.01
0.01	100	1	0.044	100	4.4	-3.4	30	-0.1133333	Lead-Pb	<0.01
0.038	100	3.8	0.041	100	4.1	-0.3	30	-0.01	Magnesium-Mg	<0.01
0.069	100	6.9	0.09	100	9	-2.1	30	-0.07	Manganese-Mn	<0.01
	100			100			30		Mercury-Hg	<0.01
0.001	100	0.1	0.002	100	0.2	-0.1	30	-0.0033333	Nickel-NI	<0.01
0.171	100	17.1	0.272	100	27.2	-10.1	30	-0.3366667	Potassium-K	<0.01
0.088	100	8.8	0.14	100	14	-5.2	30	-0.1733333	Selenium-Se	<0.01
0.004	100	0.4	0.006	100	0.6	-0.2	30	-0.0066667	Silver-Ag	<0.01
1.327	100	132.7	1.884	100	188.4	-55.7	30	-1.8566667	Sodium-Na	<0.01
-0.002	100	-0.2	-0.004	100	-0.4	0.2	30	0.0066667	Thallium-Tl	<0.01
0.031	100	3.1	0.028	100	2.8	0.3	30	0.01	Zinc-Zn	0.01

LAB ID #01100592-003

NYCDEP - CENTRAL PK NO & LENOX-NYC

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CITY_21MC100_002834923

NYC 9/11 Public Portal Document

Prepared Exclusively For:

NYCDEP-Emergency Response & Tech Assmt.
96-05 Horace Harding Expressway
Corona , NY 11368
(718) 595-4650
MR. M. FAWZY, DIRECTOR

PEDNEAULT ASSOCIATES, INC.
1615 NINTH AVENUE, BOX 205, BOHEMIA, N.Y. 11716

LAB NUMBER: 01100592

PROJECT ID : WORLD TRADE CENTER- 5 Boro Sampling

DATE RECEIVED	RELEASE DATE	REPORT DATE
10/31/01	11/2/01	11/2/01

COLLECT DATE:	SAMPLE ID#:	MATRIX:	SAMPLE ORIGIN:
10/31/01 7:35 PM	01100592-004	AIR\GAS	BERRY ST. & NORTH 11th ST, BROOKLYN

PARAMETER	METHOD	RESULT	UNITS
Aluminum (Al)	OSHA ID 121/125G	0.03	mg/m3
Antimony (Sb)	OSHA ID 121/125G	<0.01	mg/m3
Arsenic (As)	OSHA ID 121/125G	<0.01	mg/m3
Barium (Ba)	OSHA ID 121/125G	<0.01	mg/m3
Beryllium (Be)	OSHA ID 121/125G	<0.01	mg/m3
Cadmium (Cd)	OSHA ID 121/125G	<0.01	mg/m3
Calcium (Ca)	OSHA ID 121/125G	1.19	mg/m3
Chromium (Cr)	OSHA ID 121/125G	<0.01	mg/m3
Copper (Cu)	OSHA ID 121/125G	<0.01	mg/m3
Iron (Fe)	OSHA ID 121/125G	<0.01	mg/m3
Lead (Pb)	OSHA ID 121/125G	<0.01	mg/m3
Magnesium (Mg)	OSHA ID 121/125G	0.04	mg/m3
Manganese (Mn)	OSHA ID 121/125G	<0.01	mg/m3
Mercury (Hg)	OSHA ID 121/245.5	<0.01	mg/m3
Nickel (Ni)	OSHA ID 121/125G	<0.01	mg/m3
Potassium (K)	OSHA ID 121/125G	<0.01	mg/m3
Selenium (Se)	OSHA ID 121/125G	<0.01	mg/m3
Silver (Ag)	OSHA ID 121/125G	<0.01	mg/m3
Sodium (Na)	OSHA ID 121/125G	<0.01	mg/m3
Thallium (Tl)	OSHA ID 121/125G	<0.01	mg/m3
Zinc (Zn)	OSHA ID 121/125G	0.04	mg/m3

John Pedneault
Lab Director

Reported results are reflective of TOTAL, Metals @ 2L per min/15 min run.

NYS ELAP #10224
MWBE #46075

SUPPLEMENTAL II

CITY_21MC100_002834924

NYC-WTC_000220520

NYC 9/11 Public Portal Document

PEDNEAULT ASSOCIATES, INC.
631-467-8477

NYCDEP - WTC
5-BORO SAMPLING
METALS IN AIR

CALCULATION FOR OSHA ID121/125G – METALS IN AIR VIA CASSETTE FILTER (37MM MILLIPORE) & MOBILE VACUUM PUMPS

A= Concentration of Analyte in sample solution (µg/ml) or (mg/L)
B=Concentration of Blank in sample solution (µg/ml) or (mg/L)
SSV= Sample Solution Volume ASSV= Analyte concentration x Sample Solution Volume
BSV=Blank Sample Volume BBSV=Blank concentration x Blank Sample Volume
RAB= Reagent Blank Concentration (µg/ml) or (mg/L)
RABSV= Reagent Blank Sample Volume
D= Dilution Factor (NONE)
NO GRAVIMETIC FACTORS
AV= Air Volume Sampled
AR=Analytical Result
ARR=Analytical Reportable Result in mg/m^3 (rounded off to 3-sigma)

$$AR = \frac{(A \times SSV) - (B \times BSV)}{AV}$$

For the Trip Blank Analytical Value:

$$AR = \frac{(B \times BSV) - (RAB \times RABSV)}{AV}$$

A (mg/L)	SSV (mL)	A x SSV = ASSV	B (mg/L)	BSV (mL)	B x BSV = BBSV	ASSV -BSSV = AR	AV Liters	AR/AV	ANALYTE	ARR mg/m^3
0.076	100	7.6	0.068	100	6.8	0.8	30	0.0266667	Aluminum- Al	0.03
0.102	100	10.2	0.419	100	41.9	-31.7	30	-1.0566667	Antimony-Sb	<0.01
0.024	100	2.4	0.128	100	12.8	-10.4	30	-0.3466667	Arsenic-As	<0.01
0.002	100	0.2	0.002	100	0.2	0	30	0	Barium-Ba	<0.01
0.001	100	0.1	0.003	100	0.3	-0.2	30	-0.0066667	Beryllium-Be	<0.01
0.001	100	0.1	0.005	100	0.5	-0.4	30	-0.0133333	Cadmium-Cd	<0.01
0.67	100	67	0.313	100	31.3	35.7	30	1.19	Calcium-Ca	1.19
0.01	100	1	0.016	100	1.6	-0.6	30	-0.02	Chromium-Cr	<0.01
0.02	100	2	0.047	100	4.7	-2.7	30	-0.09	Copper-Cu	<0.01
0.062	100	6.2	0.291	100	29.1	-22.9	30	-0.7633333	Iron-Fe	<0.01
0.007	100	0.7	0.044	100	4.4	-3.7	30	-0.1233333	Lead-Pb	<0.01
0.053	100	5.3	0.041	100	4.1	1.2	30	0.04	Magnesium-Mg	0.04
0.071	100	7.1	0.09	100	9	-1.9	30	-0.0633333	Manganese-Mn	<0.01
	100			100			30		Mercury-Hg	<0.01
0.003	100	0.3	0.002	100	0.2	0.1	30	0.0033333	Nickel-NI	<0.01
0.151	100	15.1	0.272	100	27.2	-12.1	30	-0.4033333	Potassium-K	<0.01
0.04	100	4	0.14	100	14	-10	30	-0.3333333	Selenium-Se	<0.01
0.003	100	0.3	0.006	100	0.6	-0.3	30	-0.01	Silver-Ag	<0.01
1.737	100	173.7	1.884	100	188.4	-14.7	30	-0.49	Sodium-Na	<0.01
-0.002	100	-0.2	-0.004	100	-0.4	0.2	30	0.0066667	Thallium-Tl	<0.01
0.04	100	4	0.028	100	2.8	1.2	30	0.04	Zinc-Zn	0.04

LAB ID #01100592-004

NYCDEP - BERRY & NORTH BROOKLYN

c:\IEM FILES\NYCDEP-HAZMAT\m01100592.xls

CITY_21MC100_002834925

NYC 9/11 Public Portal Document

Prepared Exclusively For:

NYCDEP-Emergency Response & Tech Assmt.
96-05 Horace Harding Expressway
Corona , NY 11368
(718) 595-4650
MR. M. FAWZY, DIRECTOR

PEDNEAULT ASSOCIATES, INC.
1615 NINTH AVENUE, BOX 205, BOHEMIA, N.Y. 11716

LAB NUMBER: 01100592

PROJECT ID : WORLD TRADE CENTER- 5 Boro Sampling

DATE RECEIVED		RELEASE DATE	REPORT DATE
10/31/01		11/2/01	11/2/01
COLLECT DATE:	**SAMPLE ID#:**	**MATRIX:**	**SAMPLE ORIGIN:**
10/31/01 8:00 PM	01100592-005	AIR\GAS	ATLANTIC AVE. & SMITH ST., BROOKLYN

PARAMETER	METHOD	RESULT	UNITS
Aluminum (Al)	OSHA ID 121/125G	0.08	mg/m3
Antimony (Sb)	OSHA ID 121/125G	<0.01	mg/m3
Arsenic (As)	OSHA ID 121/125G	<0.01	mg/m3
Barium (Ba)	OSHA ID 121/125G	<0.01	mg/m3
Beryllium (Be)	OSHA ID 121/125G	<0.01	mg/m3
Cadmium (Cd)	OSHA ID 121/125G	<0.01	mg/m3
Calcium (Ca)	OSHA ID 121/125G	0.69	mg/m3
Chromium (Cr)	OSHA ID 121/125G	<0.01	mg/m3
Copper (Cu)	OSHA ID 121/125G	<0.01	mg/m3
Iron (Fe)	OSHA ID 121/125G	<0.01	mg/m3
Lead (Pb)	OSHA ID 121/125G	<0.01	mg/m3
Magnesium (Mg)	OSHA ID 121/125G	0.03	mg/m3
Manganese (Mn)	OSHA ID 121/125G	0.03	mg/m3
Mercury (Hg)	OSHA ID 121/245.5	<0.01	mg/m3
Nickel (Ni)	OSHA ID 121/125G	<0.01	mg/m3
Potassium (K)	OSHA ID 121/125G	<0.01	mg/m3
Selenium (Se)	OSHA ID 121/125G	<0.01	mg/m3
Silver (Ag)	OSHA ID 121/125G	<0.01	mg/m3
Sodium (Na)	OSHA ID 121/125G	<0.01	mg/m3
Thallium (Tl)	OSHA ID 121/125G	<0.01	mg/m3
Zinc (Zn)	OSHA ID 121/125G	<0.01	mg/m3

John Pedneault
Lab Director

Reported results are reflective of TOTAL, Metals @ 2L per min/15 min run.

NYS ELAP #10224
MWBE #46075

SUPPLEMENTAL II

CITY_21MC100_002834926

NYC-WTC_000220522

NYC 9/11 Public Portal Document

PEDNEAULT ASSOCIATES, INC.
631-467-8477

NYCDEP - WTC
5-BORO SAMPLING
METALS IN AIR

CALCULATION FOR OSHA ID121/125G-- METALS IN AIR VIA CASSETTE FILTER (37MM MILLIPORE) & MOBILE VACUUM PUMPS

A= Concentration of Analyte in sample solution (µg/ml) or (mg/L)
B=Concentration of Blank in sample solution (µg/ml) or (mg/L)
SSV= Sample Solution Volume ASSV= Analyte concentration x Sample Solution Volume
BSV=Blank Sample Volume BBSV=Blank concentration x Blank Sample Volume
RAB= Reagent Blank Concentration (µg/ml) or (mg/L)
RABSV= Reagent Blank Sample Volume
D= Dilution Factor (NONE)
NO GRAVIMETIC FACTORS
AV= Air Volume Sampled
AR=Analytical Result
ARR=Analytical Reportable Result in mg/m^3 (rounded off to 3-sigma)

$$AR = \frac{(A \times SSV) - (B \times BSV)}{AV}$$

For the Trip Blank Analytical Value:

$$AR = \frac{(B \times BSV) - (RAB \times RABSV)}{AV}$$

A (mg/L)	SSV (mL)	A X SSV = ASSV	B (mg/L)	BSV (mL)	B X BSV = BBSV	ASSV-BSSV = AR	AV Liters	AR/AV	ANALYTE	ARR mg/m^3
0.092	100	9.2	0.068	100	6.8	2.4	30	0.08	Aluminum- Al	**0.08**
0.113	100	11.3	0.419	100	41.9	-30.6	30	-1.02	Antimony-Sb	**<0.01**
0.014	100	1.4	0.128	100	12.8	-11.4	30	-0.38	Arsenic-As	**<0.01**
0.002	100	0.2	0.002	100	0.2	0	30	0	Barium-Ba	**<0.01**
0.001	100	0.1	0.003	100	0.3	-0.2	30	-0.0066667	Beryllium-Be	**<0.01**
0.001	100	0.1	0.005	100	0.5	-0.4	30	-0.0133333	Cadmium-Cd	**<0.01**
0.519	100	51.9	0.313	100	31.3	20.6	30	0.6866667	Calcium-Ca	**0.69**
0.009	100	0.9	0.016	100	1.6	-0.7	30	-0.0233333	Chromium-Cr	**<0.01**
0.026	100	2.6	0.047	100	4.7	-2.1	30	-0.07	Copper-Cu	**<0.01**
0.065	100	6.5	0.291	100	29.1	-22.6	30	-0.7533333	Iron-Fe	**<0.01**
0.007	100	0.7	0.044	100	4.4	-3.7	30	-0.1233333	Lead-Pb	**<0.01**
0.051	100	5.1	0.041	100	4.1	1	30	0.0333333	Magnesium-Mg	**0.03**
0.099	100	9.9	0.09	100	9	0.9	30	0.03	Manganese-Mn	**0.03**
	100			100			30		Mercury-Hg	**<0.01**
0.001	100	0.1	0.002	100	0.2	-0.1	30	-0.0033333	Nickel-NI	**<0.01**
0.161	100	16.1	0.272	100	27.2	-11.1	30	-0.37	Potassium-K	**<0.01**
0.041	100	4.1	0.14	100	14	-9.9	30	-0.33	Selenium-Se	**<0.01**
0.003	100	0.3	0.006	100	0.6	-0.3	30	-0.01	Silver-Ag	**<0.01**
1.419	100	141.9	1.884	100	188.4	-46.5	30	-1.55	Sodium-Na	**<0.01**
-0.006	100	-0.6	-0.004	100	-0.4	-0.2	30	-0.0066667	Thallium-Tl	**<0.01**
0.029	100	2.9	0.028	100	2.8	0.1	30	0.0033333	Zinc-Zn	**<0.01**

LAB ID #01100592-005

NYCDEP -ATLANTIC AV & SMITH STR. BROOKLYN

CITY_21MC100_002834927

NYC 9/11 Public Portal Document

Prepared Exclusively For:

NYCDEP-Emergency Response & Tech Assmt.
96-05 Horace Harding Expressway
Corona , NY 11368
(718) 595-4650
MR. M. FAWZY, DIRECTOR

PEDNEAULT ASSOCIATES, INC.
1615 NINTH AVENUE, BOX 205, BOHEMIA, N.Y. 11716

LAB NUMBER: 01100592

PROJECT ID : WORLD TRADE CENTER- 5 Boro Sampling

DATE RECEIVED	RELEASE DATE	REPORT DATE
10/31/01	11/2/01	11/2/01

COLLECT DATE:	SAMPLE ID#:	MATRIX:	SAMPLE ORIGIN:
10/31/01 8:50 PM	01100592-006	AIR\GAS	BAY ST & VICTORY BLVD., STATEN ISLAND

PARAMETER	METHOD	RESULT	UNITS
Aluminum (Al)	OSHA ID 121/125G	0.03	mg/m3
Antimony (Sb)	OSHA ID 121/125G	<0.01	mg/m3
Arsenic (As)	OSHA ID 121/125G	<0.01	mg/m3
Barium (Ba)	OSHA ID 121/125G	<0.01	mg/m3
Beryllium (Be)	OSHA ID 121/125G	<0.01	mg/m3
Cadmium (Cd)	OSHA ID 121/125G	<0.01	mg/m3
Calcium (Ca)	OSHA ID 121/125G	1.33	mg/m3
Chromium (Cr)	OSHA ID 121/125G	<0.01	mg/m3
Copper (Cu)	OSHA ID 121/125G	<0.01	mg/m3
Iron (Fe)	OSHA ID 121/125G	<0.01	mg/m3
Lead (Pb)	OSHA ID 121/125G	<0.01	mg/m3
Magnesium (Mg)	OSHA ID 121/125G	0.09	mg/m3
Manganese (Mn)	OSHA ID 121/125G	<0.01	mg/m3
Mercury (Hg)	OSHA ID 121/245.5	<0.01	mg/m3
Nickel (Ni)	OSHA ID 121/125G	<0.01	mg/m3
Potassium (K)	OSHA ID 121/125G	<0.01	mg/m3
Selenium (Se)	OSHA ID 121/125G	<0.01	mg/m3
Silver (Ag)	OSHA ID 121/125G	<0.01	mg/m3
Sodium (Na)	OSHA ID 121/125G	<0.01	mg/m3
Thallium (Tl)	OSHA ID 121/125G	0.02	mg/m3
Zinc (Zn)	OSHA ID 121/125G	0.01	mg/m3

John Pedneault
Lab Director

Reported results are reflective of TOTAL, Metals @ 2L per min/15 min run.

NYS ELAP #10224
MWBE #46075

SUPPLEMENTAL II

CITY_21MC100_002834928

NYC-WTC_000220524

NYC 9/11 Public Portal Document

PEDNEAULT ASSOCIATES, INC.
631-467-8477

NYCDEP - WTC
5-BORO SAMPLING
METALS IN AIR

CALCULATION FOR OSHA ID121/125G-- METALS IN AIR VIA CASSETTE FILTER (37MM MILLIPORE) & MOBILE VACUUM PUMPS

A= Concentration of Analyte in sample solution (µg/ml) or (mg/L)
B=Concentration of Blank in sample solution (µg/ml) or (mg/L)
SSV= Sample Solution Volume ASSV= Analyte concentration x Sample Solution Volume
BSV=Blank Sample Volume BBSV=Blank concentration x Blank Sample Volume
RAB= Reagent Blank Concentration (µg/ml) or (mg/L)
RABSV= Reagent Blank Sample Volume
D= Dilution Factor (NONE)
NO GRAVIMETIC FACTORS
AV= Air Volume Sampled
AR=Analytical Result
ARR=Analytical Reportable Result in mg/m^3 (rounded off to 3-sigma)

$$AR = \frac{(A \times SSV) - (B \times BSV)}{AV}$$

For the Trip Blank Analytical Value:

$$AR = \frac{(B \times BSV) - (RAB \times RABSV)}{AV}$$

A (mg/L)	SSV (mL)	A x SSV = ASSV	B (mg/L)	BSV (mL)	B x BSV = BBSV	ASSV - BSSV = AR	AV Liters	AR/AV	ANALYTE	ARR mg/m^3
0.076	100	7.6	0.068	100	6.8	0.8	30	0.0266667	Aluminum- Al	0.03
0.07	100	7	0.419	100	41.9	-34.9	30	-1.1633333	Antimony-Sb	<0.01
0.002	100	0.2	0.128	100	12.8	-12.6	30	-0.42	Arsenic-As	<0.01
0.003	100	0.3	0.002	100	0.2	0.1	30	0.0033333	Barium-Ba	<0.01
0	100	0	0.003	100	0.3	-0.3	30	-0.01	Beryllium-Be	<0.01
0.001	100	0.1	0.005	100	0.5	-0.4	30	-0.0133333	Cadmium-Cd	<0.01
0.711	100	71.1	0.313	100	31.3	39.8	30	1.3266667	Calcium-Ca	1.33
0.009	100	0.9	0.016	100	1.6	-0.7	30	-0.0233333	Chromium-Cr	<0.01
0.024	100	2.4	0.047	100	4.7	-2.3	30	-0.0766667	Copper-Cu	<0.01
0.061	100	6.1	0.291	100	29.1	-23	30	-0.7666667	Iron-Fe	<0.01
0.008	100	0.8	0.044	100	4.4	-3.6	30	-0.12	Lead-Pb	<0.01
0.069	100	6.9	0.041	100	4.1	2.8	30	0.0933333	Magnesium-Mg	0.09
0.072	100	7.2	0.09	100	9	-1.8	30	-0.06	Manganese-Mn	<0.01
	100			100			30		Mercury-Hg	<0.01
0.001	100	0.1	0.002	100	0.2	-0.1	30	-0.0033333	Nickel-NI	<0.01
0.164	100	16.4	0.272	100	27.2	-10.8	30	-0.36	Potassium-K	<0.01
0.008	100	0.8	0.14	100	14	-13.2	30	-0.44	Selenium-Se	<0.01
0.002	100	0.2	0.006	100	0.6	-0.4	30	-0.0133333	Silver-Ag	<0.01
1.813	100	181.3	1.884	100	188.4	-7.1	30	-0.2366667	Sodium-Na	<0.01
0.001	100	0.1	-0.004	100	-0.4	0.5	30	0.0166667	Thallium-Tl	0.02
0.031	100	3.1	0.028	100	2.8	0.3	30	0.01	Zinc-Zn	0.01

LAB ID #01100592-006

NYCDEP - BAY STR & VICTORY BLVD. SI

CITY_21MC100_002834929

NYC 9/11 Public Portal Document

Prepared Exclusively For:
NYCDEP-Emergency Response & Tech Assmt.
96-05 Horace Harding Expressway
Corona , NY 11368
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MR. M. FAWZY, DIRECTOR

PEDNEAULT ASSOCIATES, INC.
1615 NINTH AVENUE, BOX 205, BOHEMIA, N.Y. 11716

LAB NUMBER: 01100592

PROJECT ID : WORLD TRADE CENTER- 5 Boro Sampling

DATE RECEIVED	RELEASE DATE	REPORT DATE
10/31/01	11/2/01	11/2/01

COLLECT DATE:	SAMPLE ID#:	MATRIX:	SAMPLE ORIGIN:
10/31/01 6:00 PM	01100592-007	AIR\GAS	DUP/138th St. & 3rd AVENUE, BRONX

PARAMETER	METHOD	RESULT	UNITS
Aluminum (Al)	OSHA ID 121/125G	<0.01	mg/m3
Antimony (Sb)	OSHA ID 121/125G	<0.01	mg/m3
Arsenic (As)	OSHA ID 121/125G	<0.01	mg/m3
Barium (Ba)	OSHA ID 121/125G	<0.01	mg/m3
Beryllium (Be)	OSHA ID 121/125G	<0.01	mg/m3
Cadmium (Cd)	OSHA ID 121/125G	0.02	mg/m3
Calcium (Ca)	OSHA ID 121/125G	0.35	mg/m3
Chromium (Cr)	OSHA ID 121/125G	<0.01	mg/m3
Copper (Cu)	OSHA ID 121/125G	<0.01	mg/m3
Iron (Fe)	OSHA ID 121/125G	<0.01	mg/m3
Lead (Pb)	OSHA ID 121/125G	<0.01	mg/m3
Magnesium (Mg)	OSHA ID 121/125G	<0.01	mg/m3
Manganese (Mn)	OSHA ID 121/125G	<0.01	mg/m3
Mercury (Hg)	OSHA ID 121/245.5	<0.01	mg/m3
Nickel (Ni)	OSHA ID 121/125G	<0.01	mg/m3
Potassium (K)	OSHA ID 121/125G	<0.01	mg/m3
Selenium (Se)	OSHA ID 121/125G	<0.01	mg/m3
Silver (Ag)	OSHA ID 121/125G	0.05	mg/m3
Sodium (Na)	OSHA ID 121/125G	<0.01	mg/m3
Thallium (Tl)	OSHA ID 121/125G	<0.01	mg/m3
Zinc (Zn)	OSHA ID 121/125G	<0.01	mg/m3

John Pedneault
Lab Director

Reported results are reflective of TOTAL, Metals @ 2L per min/15 min run.

NYS ELAP #10224
MWBE #46075

SUPPLEMENTAL II

CITY_21MC100_002834930

NYC-WTC_000220526

NYC 9/11 Public Portal Document

PEDNEAULT ASSOCIATES, INC.
631-467-8477

NYCDEP - WTC
5-BORO SAMPLING
METALS IN AIR

CALCULATION FOR OSHA ID121/125G-- METALS IN AIR VIA CASSETTE FILTER (37MM MILLIPORE) & MOBILE VACUUM PUMPS

A= Concentration of Analyte in sample solution (µg/ml) or (mg/L)
B=Concentration of Blank in sample solution (µg/ml) or (mg/L)
SSV= Sample Solution Volume ASSV= Analyte concentration x Sample Solution Volume
BSV=Blank Sample Volume BBSV=Blank concentration x Blank Sample Volume
RAB= Reagent Blank Concentration (µg/ml) or (mg/L)
RABSV= Reagent Blank Sample Volume
D= Dilution Factor (NONE)
NO GRAVIMETIC FACTORS TB= TRIP/FIELD BLANK
AV= Air Volume Sampled
AR=Analytical Result
ARR=Analytical Reportable Result in mg/m^3 (rounded off to 3-sigma)

$$AR = \frac{(A \times SSV) - (B \times BSV)}{AV}$$

For the Trip Blank Analytical Value:

$$AR = \frac{(B \times BSV) - (RAB \times RABSV)}{AV}$$

A (mg/L)	SSV (mL)	A x SSV = ASSV	B (mg/L)	BSV (mL)	B x BSV = BBSV	ASSV -BSSV = AR	AV Liters	AR/AV	ANALYTE	ARR mg/m^3
0.068	100	6.8	0.068	100	6.8	0	30	0	Aluminum- Al	**<0.01**
0.067	100	6.7	0.419	100	41.9	-35.2	30	-1.1733333	Antimony-Sb	**<0.01**
0.005	100	0.5	0.128	100	12.8	-12.3	30	-0.41	Arsenic-As	**<0.01**
0.001	100	0.1	0.002	100	0.2	-0.1	30	-0.0033333	Barium-Ba	**<0.01**
0	100	0	0.003	100	0.3	-0.3	30	-0.01	Beryllium-Be	**<0.01**
0.01	100	1	0.005	100	0.5	0.5	30	0.0166667	Cadmium-Cd	**0.02**
0.418	100	41.8	0.313	100	31.3	10.5	30	0.35	Calcium-Ca	**0.35**
0.008	100	0.8	0.016	100	1.6	-0.8	30	-0.0266667	Chromium-Cr	**<0.01**
0.031	100	3.1	0.047	100	4.7	-1.6	30	-0.0533333	Copper-Cu	**<0.01**
0.086	100	8.6	0.291	100	29.1	-20.5	30	-0.6833333	Iron-Fe	**<0.01**
0.006	100	0.6	0.044	100	4.4	-3.8	30	-0.1266667	Lead-Pb	**<0.01**
0.005	100	0.5	0.041	100	4.1	-3.6	30	-0.12	Magnesium-Mg	**<0.01**
0.069	100	6.9	0.09	100	9	-2.1	30	-0.07	Manganese-Mn	**<0.01**
	100			100			30		Mercury-Hg	**<0.01**
0	100	0	0.002	100	0.2	-0.2	30	-0.0066667	Nickel-NI	**<0.01**
0.144	100	14.4	0.272	100	27.2	-12.8	30	-0.4266667	Potassium-K	**<0.01**
0.011	100	1.1	0.14	100	14	-12.9	30	-0.43	Selenium-Se	**<0.01**
0.022	100	2.2	0.006	100	0.6	1.6	30	0.0533333	Silver-Ag	**0.05**
1.397	100	139.7	1.884	100	188.4	-48.7	30	-1.6233333	Sodium-Na	**<0.01**
-0.005	100	-0.5	-0.004	100	-0.4	-0.1	30	-0.0033333	Thallium-Tl	**<0.01**
0.027	100	2.7	0.028	100	2.8	-0.1	30	-0.0033333	Zinc-Zn	**<0.01**

LAB ID #01100592-007

NYCDEP - DUPLICATE OF #01100592-002

c:/JEM FILES/NYCDEP-HAZMAT/m01100592.xls

CITY_21MC100_002834931

NYC 9/11 Public Portal Document

Prepared Exclusively For:	*PEDNEAULT ASSOCIATES, INC.*
NYCDEP-Emergency Response & Tech Assmt.	*1615 NINTH AVENUE, BOX 205, BOHEMIA, N.Y. 11716*
96-05 Horace Harding Expressway	**LAB NUMBER:** 01100592
Corona , NY 11368	**PROJECT ID :** WORLD TRADE CENTER- 5 Boro Sampling
(718) 595-4650	
MR. M. FAWZY, DIRECTOR	

DATE RECEIVED	RELEASE DATE	REPORT DATE
10/31/01	11/2/01	11/2/01

COLLECT DATE:	SAMPLE ID#:	MATRIX:	SAMPLE ORIGIN:
10/31/01 5:00 PM	01100592-008	AIR\GAS	TRIP BLANKS

PARAMETER	METHOD	RESULT	UNITS
Aluminum (Al)	OSHA ID 121/125G	<0.01	mg/m3
Antimony (Sb)	OSHA ID 121/125G	0.39	mg/m3
Arsenic (As)	OSHA ID 121/125G	0.14	mg/m3
Barium (Ba)	OSHA ID 121/125G	<0.01	mg/m3
Beryllium (Be)	OSHA ID 121/125G	<0.01	mg/m3
Cadmium (Cd)	OSHA ID 121/125G	<0.01	mg/m3
Calcium (Ca)	OSHA ID 121/125G	<0.01	mg/m3
Chromium (Cr)	OSHA ID 121/125G	0.02	mg/m3
Copper (Cu)	OSHA ID 121/125G	0.04	mg/m3
Iron (Fe)	OSHA ID 121/125G	0.57	mg/m3
Lead (Pb)	OSHA ID 121/125G	0.03	mg/m3
Magnesium (Mg)	OSHA ID 121/125G	<0.01	mg/m3
Manganese (Mn)	OSHA ID 121/125G	0.03	mg/m3
Mercury (Hg)	OSHA ID 121/245.5	<0.01	mg/m3
Nickel (Ni)	OSHA ID 121/125G	<0.01	mg/m3
Potassium (K)	OSHA ID 121/125G	0.12	mg/m3
Selenium (Se)	OSHA ID 121/125G	<0.01	mg/m3
Silver (Ag)	OSHA ID 121/125G	<0.01	mg/m3
Sodium (Na)	OSHA ID 121/125G	<0.01	mg/m3
Thallium (Tl)	OSHA ID 121/125G	<0.01	mg/m3
Zinc (Zn)	OSHA ID 121/125G	<0.01	mg/m3

John Pedneault
Lab Director

Reported results are reflective of TOTAL, Metals @ 2L per min/15 min run.

NYS ELAP #10224
MWBE #46075

SUPPLEMENTAL II

CITY_21MC100_002834932

NYC-WTC_000220528

NYC 9/11 Public Portal Document

PEDNEAULT ASSOCIATES, INC.
631-467-8477

NYCDEP - WTC
5-BORO SAMPLING
METALS IN AIR

CALCULATION FOR OSHA ID121/125G-- METALS IN AIR VIA CASSETTE FILTER (37MM MILLIPORE) & MOBILE VACUUM PUMPS

A= Concentration of Analyte in sample solution (µg/ml) or (mg/L)
B=Concentration of Blank in sample solution (µg/ml) or (mg/L)
SSV= Sample Solution Volume ASSV= Analyte concentration x Sample Solution Volume
BSV=Blank Sample Volume BBSV=Blank concentration x Blank Sample Volume
RAB= Reagent Blank Concentration (µg/ml) or (mg/L)
RABSV= Reagent Blank Sample Volume
D= Dilution Factor (NONE)
NO GRAVIMETIC FACTORS TB= TRIP/FIELD BLANK
AV= Air Volume Sampled
AR=Analytical Result
ARR=Analytical Reportable Result in mg/m^3 (rounded off to 3-sigma)

$$AR = \frac{(A \times SSV) - (B \times BSV)}{AV}$$

For the Trip Blank Analytical Value:

$$AR = \frac{(B \times BSV) - (RAB \times RABSV)}{AV}$$

TB (mg/L)	BSV (mL)	TB x TBSV = BBSV	RAB (mg/L)	RABSV (mL)	RAB x RABBSV = RABBSV	TB-RAB = AR	AV Liters	AR/AV	ANALYTE	ARR mg/m^3
0.068	100	6.8	0.079	100	7.9	-1.1	30	-0.0366667	Aluminum- Al	**<0.01**
0.419	100	41.9	0.302	100	30.2	11.7	30	0.39	Antimony-Sb	**0.39**
0.128	100	12.8	0.086	100	8.6	4.2	30	0.14	Arsenic-As	**0.14**
0.002	100	0.2	0.002	100	0.2	0	30	0	Barium-Ba	**<0.01**
0.003	100	0.3	0.001	100	0.1	0.2	30	0.0066667	Beryllium-Be	**<0.01**
0.005	100	0.5	0.005	100	0.5	0	30	0	Cadmium-Cd	**<0.01**
0.313	100	31.3	0.618	100	61.8	-30.5	30	-1.0166667	Calcium-Ca	**<0.01**
0.016	100	1.6	0.009	100	0.9	0.7	30	0.0233333	Chromium-Cr	**0.02**
0.047	100	4.7	0.036	100	3.6	1.1	30	0.0366667	Copper-Cu	**0.04**
0.291	100	29.1	0.121	100	12.1	17	30	0.5666667	Iron-Fe	**0.57**
0.044	100	4.4	0.034	100	3.4	1	30	0.0333333	Lead-Pb	**0.03**
0.041	100	4.1	0.063	100	6.3	-2.2	30	-0.0733333	Magnesium-Mg	**<0.01**
0.09	100	9	0.08	100	8	1	30	0.0333333	Manganese-Mn	**0.03**
	100			100			30		Mercury-Hg	**<0.01**
0.002	100	0.2	0.001	100	0.1	0.1	30	0.0033333	Nickel-NI	**<0.01**
0.272	100	27.2	0.235	100	23.5	3.7	30	0.1233333	Potassium-K	**0.12**
0.14	100	14	0.142	100	14.2	-0.2	30	-0.0066667	Selenium-Se	**<0.01**
0.006	100	0.6	0.004	100	0.4	0.2	30	0.0066667	Silver-Ag	**<0.01**
1.884	100	188.4	2.301	100	230.1	-41.7	30	-1.39	Sodium-Na	**<0.01**
-0.004	100	-0.4	0.003	100	0.3	-0.7	30	-0.0233333	Thallium-Tl	**<0.01**
0.028	100	2.8	0.034	100	3.4	-0.6	30	-0.02	Zinc-Zn	**<0.01**

LAB ID #01100592-008

NYCDEP - TRIP/FIELD BLANK

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CITY_21MC100_002834933

NYC-WTC_000220529