*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:** 01090253

**PROJECT ID :** WORLD TRADE CENTER - 5 Boro Air Sampling

| DATE RECEIVED | | RELEASE DATE | REPORT DATE |
|---|---|---|---|
| 9/20/01 | | 9/21/01 | 9/21/01 |
| **COLLECT DATE:** | **SAMPLE ID#:** | **MATRIX:** | **SAMPLE ORIGIN:** |
| 9/19/01 7:10 PM | 01090253-001 | AIR\GAS | BROADWAY AVE & 31st ST. , QUEENS |

| PARAMETER | METHOD | RESULT | UNITS |
|---|---|---|---|
| Aluminum (Al) | OSHA ID121/125G | 2.75 | mg/m3 |
| Antimony (Sb) | OSHA ID121/125G | 0.26 | mg/m3 |
| Copper (Cu) | OSHA ID121/125G | 0.11 | mg/m3 |
| Arsenic (As) | OSHA ID121/125G | 0.11 | mg/m3 |
| Barium (Ba) | OSHA ID121/125G | <0.01 | mg/m3 |
| Beryllium (Be) | OSHA ID121/125G | <0.01 | mg/m3 |
| Cadmium (Cd) | OSHA ID121/125G | 0.02 | mg/m3 |
| Calcium (Ca) | OSHA ID121/125G | 0.19 | mg/m3 |
| Chromium (Cr) | OSHA ID121/125G | <0.01 | mg/m3 |
| Iron (Fe) | OSHA ID121/125G | 0.34 | mg/m3 |
| Lead (Pb) | OSHA ID121/125G | 0.13 | mg/m3 |
| Magnesium (Mg) | OSHA ID121/125G | 0.05 | mg/m3 |
| Manganese (Mn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Mercury (Hg) | OSHA ID 121/245.5 | <0.01 | mg/m3 |
| Nickel (Ni) | OSHA ID121/125G | <0.01 | mg/m3 |
| Potassium (K) | OSHA ID121/125G | 0.12 | mg/m3 |
| Selenium (Se) | OSHA ID121/125G | 0.25 | mg/m3 |
| Sodium (Na) | OSHA ID121/125G | 1.14 | mg/m3 |
| Thallium (Tl) | OSHA ID121/125G | 0.02 | mg/m3 |
| Zinc (Zn) | OSHA ID121/125G | 0.03 | mg/m3 |
| Silver (Ag) | OSHA ID121/125G | 0.14 | 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**

NYC-WTC_00022625

PEDNEAULT ASSOCIATES, INC.
631-467-8477



NYC 9/11 Public Portal Document

## 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 $mg/m^3$ |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.91 | 100 | 91 | 0.085 | 100 | 8.5 | 82.5 | 30 | 2.75 | Aluminum- Al | **2.75** |
| 0.064 | 100 | 6.4 | -0.013 | 100 | -1.3 | 7.7 | 30 | 0.2566667 | Antimony-Sb | **0.26** |
| 0.038 | 100 | 3.8 | 0.005 | 100 | 0.5 | 3.3 | 30 | 0.11 | Arsenic-As | **0.11** |
| 0.004 | 100 | 0.4 | 0.003 | 100 | 0.3 | 0.1 | 30 | 0.0033333 | Barium-Ba | **<0.01** |
| 0.001 | 100 | 0.1 | 0 | 100 | 0 | 0.1 | 30 | 0.0033333 | Beryllium-Be | **<0.01** |
| 0.006 | 100 | 0.6 | 0.001 | 100 | 0.1 | 0.5 | 30 | 0.0166667 | Cadmium-Cd | **0.02** |
| 0.813 | 100 | 81.3 | 0.755 | 100 | 75.5 | 5.8 | 30 | 0.1933333 | Calcium-Ca | **0.19** |
| 0.01 | 100 | 1 | 0.008 | 100 | 0.8 | 0.2 | 30 | 0.0066667 | Chromium-Cr | **<0.01** |
| 0.05 | 100 | 5 | 0.017 | 100 | 1.7 | 3.3 | 30 | 0.11 | Copper-Cu | **0.11** |
| 0.138 | 100 | 13.8 | 0.036 | 100 | 3.6 | 10.2 | 30 | 0.34 | Iron-Fe | **0.34** |
| 0.048 | 100 | 4.8 | 0.009 | 100 | 0.9 | 3.9 | 30 | 0.13 | Lead-Pb | **0.13** |
| 0.165 | 100 | 16.5 | 0.151 | 100 | 15.1 | 1.4 | 30 | 0.0466667 | Magnesium-Mg | **0.05** |
| 0.002 | 100 | 0.2 | 0.002 | 100 | 0.2 | 0 | 30 | 0 | 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** |
| 0.181 | 100 | 18.1 | 0.144 | 100 | 14.4 | 3.7 | 30 | 0.1233333 | Potassium-K | **0.12** |
| 0.075 | 100 | 7.5 | -0.001 | 100 | -0.1 | 7.6 | 30 | 0.2533333 | Selenium-Se | **0.25** |
| 0.048 | 100 | 4.8 | 0.007 | 100 | 0.7 | 4.1 | 30 | 0.1366667 | Silver-Ag | **0.14** |
| 2.15 | 100 | 215 | 1.808 | 100 | 180.8 | 34.2 | 30 | 1.14 | Sodium-Na | **1.14** |
| 0.014 | 100 | 1.4 | 0.009 | 100 | 0.9 | 0.5 | 30 | 0.0166667 | Thallium-Tl | **0.02** |
| 0.034 | 100 | 3.4 | 0.026 | 100 | 2.6 | 0.8 | 30 | 0.0266667 | Zinc-Zn | **0.03** |

**PED ID #01090253-001**

**NYCDEP - BROADWAY & 31ST QUEENS**



CITY_21MC100_00283610

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:** 01090253

**PROJECT ID :** WORLD TRADE CENTER - 5 Boro Air Sampling

| DATE RECEIVED | RELEASE DATE | REPORT DATE |
|---|---|---|
| 9/20/01 | 9/21/01 | 9/21/01 |

| COLLECT DATE: | SAMPLE ID#: | MATRIX: | SAMPLE ORIGIN: |
|---|---|---|---|
| 9/19/01 7:55 PM | 01090253-002 | AIR\GAS | 138th St. & 3rd AVENUE, BRONX |

| PARAMETER | METHOD | RESULT | UNITS |
|---|---|---|---|
| Aluminum (Al) | OSHA ID121/125G | 0.02 | mg/m3 |
| Antimony (Sb) | OSHA ID121/125G | 0.08 | mg/m3 |
| Copper (Cu) | OSHA ID121/125G | 0.02 | mg/m3 |
| Arsenic (As) | OSHA ID121/125G | <0.01 | mg/m3 |
| Barium (Ba) | OSHA ID121/125G | <0.01 | mg/m3 |
| Beryllium (Be) | OSHA ID121/125G | <0.01 | mg/m3 |
| Cadmium (Cd) | OSHA ID121/125G | <0.01 | mg/m3 |
| Calcium (Ca) | OSHA ID121/125G | 0.07 | mg/m3 |
| Chromium (Cr) | OSHA ID121/125G | <0.01 | mg/m3 |
| Iron (Fe) | OSHA ID121/125G | 0.09 | mg/m3 |
| Lead (Pb) | OSHA ID121/125G | <0.01 | mg/m3 |
| Magnesium (Mg) | OSHA ID121/125G | <0.01 | mg/m3 |
| Manganese (Mn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Mercury (Hg) | OSHA ID 121/245.5 | <0.01 | mg/m3 |
| Nickel (Ni) | OSHA ID121/125G | <0.01 | mg/m3 |
| Potassium (K) | OSHA ID121/125G | <0.01 | mg/m3 |
| Selenium (Se) | OSHA ID121/125G | 0.11 | mg/m3 |
| Sodium (Na) | OSHA ID121/125G | <0.01 | mg/m3 |
| Thallium (Tl) | OSHA ID121/125G | <0.01 | mg/m3 |
| Zinc (Zn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Silver (Ag) | OSHA ID121/125G | 0.02 | 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**

NYC-WTC_00022062

PEDNEAULT ASSOCIATES, INC.
631-467-8477



NYC 9/11 Public Portal Document

**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 $mg/m^3$ |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.09 | 100 | 9 | 0.085 | 100 | 8.5 | 0.5 | 30 | 0.0166667 | Aluminum- Al | **0.02** |
| 0.012 | 100 | 1.2 | -0.013 | 100 | -1.3 | 2.5 | 30 | 0.0833333 | Antimony-Sb | **0.08** |
| 0.004 | 100 | 0.4 | 0.005 | 100 | 0.5 | -0.1 | 30 | -0.0033333 | Arsenic-As | **<0.01** |
| 0.004 | 100 | 0.4 | 0.003 | 100 | 0.3 | 0.1 | 30 | 0.0033333 | Barium-Ba | **<0.01** |
| 0 | 100 | 0 | 0 | 100 | 0 | 0 | 30 | 0 | Beryllium-Be | **<0.01** |
| 0.002 | 100 | 0.2 | 0.001 | 100 | 0.1 | 0.1 | 30 | 0.0033333 | Cadmium-Cd | **<0.01** |
| 0.775 | 100 | 77.5 | 0.755 | 100 | 75.5 | 2 | 30 | 0.0666667 | Calcium-Ca | **0.07** |
| 0.009 | 100 | 0.9 | 0.008 | 100 | 0.8 | 0.1 | 30 | 0.0033333 | Chromium-Cr | **<0.01** |
| 0.022 | 100 | 2.2 | 0.017 | 100 | 1.7 | 0.5 | 30 | 0.0166667 | Copper-Cu | **0.02** |
| 0.064 | 100 | 6.4 | 0.036 | 100 | 3.6 | 2.8 | 30 | 0.0933333 | Iron-Fe | **0.09** |
| 0.011 | 100 | 1.1 | 0.009 | 100 | 0.9 | 0.2 | 30 | 0.0066667 | Lead-Pb | **<0.01** |
| 0.153 | 100 | 15.3 | 0.151 | 100 | 15.1 | 0.2 | 30 | 0.0066667 | Magnesium-Mg | **<0.01** |
| 0.002 | 100 | 0.2 | 0.002 | 100 | 0.2 | 0 | 30 | 0 | Manganese-Mn | **<0.01** |
| | 100 | | | 100 | | | 30 | | Mercury-Hg | **<0.01** |
| 0.002 | 100 | 0.2 | 0.002 | 100 | 0.2 | 0 | 30 | 0 | Nickel-NI | **<0.01** |
| 0.13 | 100 | 13 | 0.144 | 100 | 14.4 | -1.4 | 30 | -0.0466667 | Potassium-K | **<0.01** |
| 0.032 | 100 | 3.2 | -0.001 | 100 | -0.1 | 3.3 | 30 | 0.11 | Selenium-Se | **0.11** |
| 0.012 | 100 | 1.2 | 0.007 | 100 | 0.7 | 0.5 | 30 | 0.0166667 | Silver-Ag | **0.02** |
| 1.787 | 100 | 178.7 | 1.808 | 100 | 180.8 | -2.1 | 30 | -0.07 | Sodium-Na | **<0.01** |
| 0.008 | 100 | 0.8 | 0.009 | 100 | 0.9 | -0.1 | 30 | -0.0033333 | Thallium-Tl | **<0.01** |
| 0.028 | 100 | 2.8 | 0.026 | 100 | 2.6 | 0.2 | 30 | 0.0066667 | Zinc-Zn | **<0.01** |

**PED ID #01090253-002**

**NYCDEP - 138TH & 3RD AVENUE BRONX**

c:/JEM FILES/NYCDEP-HAZMAT/01090253.xls

CITY_21MC100_002836104

NYC 9/11 Public Portal Document

*Prepared Exclusively For:*

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**MR. M. FAWZY, DIRECTOR**

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

**LAB NUMBER:** 01090253

**PROJECT ID :** WORLD TRADE CENTER - 5 Boro Air Sampling

| DATE RECEIVED | RELEASE DATE | REPORT DATE |
|---|---|---|
| 9/20/01 | 9/21/01 | 9/21/01 |

| COLLECT DATE: | SAMPLE ID#: | MATRIX: | SAMPLE ORIGIN: |
|---|---|---|---|
| 9/19/01 8:25 PM | 01090253-003 | AIR\GAS | CENTAL PARK N. & LENOX , MANHATTAN |

| PARAMETER | METHOD | RESULT | UNITS |
|---|---|---|---|
| Aluminum (Al) | OSHA ID121/125G | 0.02 | mg/m3 |
| Antimony (Sb) | OSHA ID121/125G | 0.15 | mg/m3 |
| Copper (Cu) | OSHA ID121/125G | <0.01 | mg/m3 |
| Arsenic (As) | OSHA ID121/125G | 0.03 | mg/m3 |
| Barium (Ba) | OSHA ID121/125G | <0.01 | mg/m3 |
| Beryllium (Be) | OSHA ID121/125G | <0.01 | mg/m3 |
| Cadmium (Cd) | OSHA ID121/125G | <0.01 | mg/m3 |
| Calcium (Ca) | OSHA ID121/125G | <0.01 | mg/m3 |
| Chromium (Cr) | OSHA ID121/125G | 0.03 | mg/m3 |
| Iron (Fe) | OSHA ID121/125G | 0.06 | mg/m3 |
| Lead (Pb) | OSHA ID121/125G | 0.01 | mg/m3 |
| Magnesium (Mg) | OSHA ID121/125G | <0.01 | mg/m3 |
| Manganese (Mn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Mercury (Hg) | OSHA ID 121/245.5 | <0.01 | mg/m3 |
| Nickel (Ni) | OSHA ID121/125G | <0.01 | mg/m3 |
| Potassium (K) | OSHA ID121/125G | 0.02 | mg/m3 |
| Selenium (Se) | OSHA ID121/125G | 0.09 | mg/m3 |
| Sodium (Na) | OSHA ID121/125G | 0.33 | mg/m3 |
| Thallium (Tl) | OSHA ID121/125G | <0.01 | mg/m3 |
| Zinc (Zn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Silver (Ag) | OSHA ID121/125G | 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_002836105

NYC-WTC_000220628

NYC-WTC_000220629

PEDNEAULT ASSOCIATES, INC.
631-467-8477



NYC 9/11 Public Portal Document

## 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 | 0.085 | 100 | 8.5 | 0.7 | 30 | 0.0233333 | Aluminum- Al | **0.02** |
| 0.031 | 100 | 3.1 | -0.013 | 100 | -1.3 | 4.4 | 30 | 0.1466667 | Antimony-Sb | **0.15** |
| 0.014 | 100 | 1.4 | 0.005 | 100 | 0.5 | 0.9 | 30 | 0.03 | Arsenic-As | **0.03** |
| 0.003 | 100 | 0.3 | 0.003 | 100 | 0.3 | 0 | 30 | 0 | Barium-Ba | **<0.01** |
| 0.001 | 100 | 0.1 | 0 | 100 | 0 | 0.1 | 30 | 0.0033333 | Beryllium-Be | **<0.01** |
| 0.002 | 100 | 0.2 | 0.001 | 100 | 0.1 | 0.1 | 30 | 0.0033333 | Cadmium-Cd | **<0.01** |
| 0.736 | 100 | 73.6 | 0.755 | 100 | 75.5 | -1.9 | 30 | -0.0633333 | Calcium-Ca | **<0.01** |
| 0.007 | 100 | 0.7 | 0.008 | 100 | 0.8 | -0.1 | 30 | -0.0033333 | Chromium-Cr | **0.03** |
| 0.019 | 100 | 1.9 | 0.017 | 100 | 1.7 | 0.2 | 30 | 0.0066667 | Copper-Cu | **<0.01** |
| 0.053 | 100 | 5.3 | 0.036 | 100 | 3.6 | 1.7 | 30 | 0.0566667 | Iron-Fe | **0.06** |
| 0.013 | 100 | 1.3 | 0.009 | 100 | 0.9 | 0.4 | 30 | 0.0133333 | Lead-Pb | **0.01** |
| 0.147 | 100 | 14.7 | 0.151 | 100 | 15.1 | -0.4 | 30 | -0.0133333 | Magnesium-Mg | **<0.01** |
| 0.004 | 100 | 0.4 | 0.002 | 100 | 0.2 | 0.2 | 30 | 0.0066667 | 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** |
| 0.15 | 100 | 15 | 0.144 | 100 | 14.4 | 0.6 | 30 | 0.02 | Potassium-K | **0.02** |
| 0.027 | 100 | 2.7 | -0.001 | 100 | -0.1 | 2.8 | 30 | 0.0933333 | Selenium-Se | **0.09** |
| 0.011 | 100 | 1.1 | 0.007 | 100 | 0.7 | 0.4 | 30 | 0.0133333 | Silver-Ag | **0.01** |
| 1.907 | 100 | 190.7 | 1.808 | 100 | 180.8 | 9.9 | 30 | 0.33 | Sodium-Na | **0.33** |
| 0.01 | 100 | 1 | 0.009 | 100 | 0.9 | 0.1 | 30 | 0.0033333 | Thallium-Tl | **<0.01** |
| 0.028 | 100 | 2.8 | 0.026 | 100 | 2.6 | 0.2 | 30 | 0.0066667 | Zinc-Zn | **<0.01** |

**PED ID #01090253-003**

**NYCDEP - CENTRAL PK NO & LENOX-NYC**



CITY_21MC100_002836106

*Prepared Exclusively For:*

NYCDEP-Emergency Response & Tech Assmt.
96-05 Horace Harding Expressway
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***PEDNEAULT ASSOCIATES, INC.***
*1615 NINTH AVENUE, BOX 205, BOHEMIA, N.Y. 11716*

**LAB NUMBER:** 01090253

**PROJECT ID :** WORLD TRADE CENTER - 5 Boro Air Sampling

| DATE RECEIVED | RELEASE DATE | REPORT DATE |
|---|---|---|
| 9/20/01 | 9/21/01 | 9/21/01 |

| COLLECT DATE: | SAMPLE ID#: | MATRIX: | SAMPLE ORIGIN: |
|---|---|---|---|
| 9/19/01 9:20 PM | 01090253-004 | AIR\GAS | BERRY ST. & NORTH 11th ST, BROOKLYN |

| PARAMETER | METHOD | RESULT | UNITS |
|---|---|---|---|
| Aluminum (Al) | OSHA ID121/125G | 0.02 | mg/m3 |
| Antimony (Sb) | OSHA ID121/125G | 0.06 | mg/m3 |
| Arsenic (As) | OSHA ID121/125G | <0.01 | mg/m3 |
| Copper (Cu) | OSHA ID121/125G | 0.02 | mg/m3 |
| Barium (Ba) | OSHA ID121/125G | <0.01 | mg/m3 |
| Beryllium (Be) | OSHA ID121/125G | <0.01 | mg/m3 |
| Cadmium (Cd) | OSHA ID121/125G | <0.01 | mg/m3 |
| Calcium (Ca) | OSHA ID121/125G | <0.01 | mg/m3 |
| Chromium (Cr) | OSHA ID121/125G | <0.01 | mg/m3 |
| Iron (Fe) | OSHA ID121/125G | 0.08 | mg/m3 |
| Lead (Pb) | OSHA ID121/125G | <0.01 | mg/m3 |
| Magnesium (Mg) | OSHA ID121/125G | <0.01 | mg/m3 |
| Manganese (Mn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Mercury (Hg) | OSHA ID 121/245.5 | <0.01 | mg/m3 |
| Nickel (Ni) | OSHA ID121/125G | <0.01 | mg/m3 |
| Potassium (K) | OSHA ID121/125G | 0.07 | mg/m3 |
| Selenium (Se) | OSHA ID121/125G | 0.05 | mg/m3 |
| Sodium (Na) | OSHA ID121/125G | <0.01 | mg/m3 |
| Thallium (Tl) | OSHA ID121/125G | <0.01 | mg/m3 |
| Zinc (Zn) | OSHA ID121/125G | 0.01 | mg/m3 |
| Silver (Ag) | OSHA ID121/125G | 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**

NYC-WTC_00022063

PEDNEAULT ASSOCIATES, INC.
631-467-8477



NYC 9/11 Public Portal Document

**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 $mg/m^3$ |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.091 | 100 | 9.1 | 0.085 | 100 | 8.5 | 0.6 | 30 | 0.02 | Aluminum- Al | **0.02** |
| 0.006 | 100 | 0.6 | -0.013 | 100 | -1.3 | 1.9 | 30 | 0.0633333 | Antimony-Sb | **0.06** |
| 0.006 | 100 | 0.6 | 0.005 | 100 | 0.5 | 0.1 | 30 | 0.0033333 | Arsenic-As | **<0.01** |
| 0.003 | 100 | 0.3 | 0.003 | 100 | 0.3 | 0 | 30 | 0 | Barium-Ba | **<0.01** |
| 0.001 | 100 | 0.1 | 0 | 100 | 0 | 0.1 | 30 | 0.0033333 | Beryllium-Be | **<0.01** |
| 0.002 | 100 | 0.2 | 0.001 | 100 | 0.1 | 0.1 | 30 | 0.0033333 | Cadmium-Cd | **<0.01** |
| 0.706 | 100 | 70.6 | 0.755 | 100 | 75.5 | -4.9 | 30 | -0.1633333 | Calcium-Ca | **<0.01** |
| 0.008 | 100 | 0.8 | 0.008 | 100 | 0.8 | 0 | 30 | 0 | Chromium-Cr | **<0.01** |
| 0.023 | 100 | 2.3 | 0.017 | 100 | 1.7 | 0.6 | 30 | 0.02 | Copper-Cu | **0.02** |
| 0.061 | 100 | 6.1 | 0.036 | 100 | 3.6 | 2.5 | 30 | 0.0833333 | Iron-Fe | **0.08** |
| 0.011 | 100 | 1.1 | 0.009 | 100 | 0.9 | 0.2 | 30 | 0.0066667 | Lead-Pb | **<0.01** |
| 0.141 | 100 | 14.1 | 0.151 | 100 | 15.1 | -1 | 30 | -0.0333333 | Magnesium-Mg | **<0.01** |
| 0.002 | 100 | 0.2 | 0.002 | 100 | 0.2 | 0 | 30 | 0 | 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-Nl | **<0.01** |
| 0.164 | 100 | 16.4 | 0.144 | 100 | 14.4 | 2 | 30 | 0.0666667 | Potassium-K | **0.07** |
| 0.013 | 100 | 1.3 | -0.001 | 100 | -0.1 | 1.4 | 30 | 0.0466667 | Selenium-Se | **0.05** |
| 0.011 | 100 | 1.1 | 0.007 | 100 | 0.7 | 0.4 | 30 | 0.0133333 | Silver-Ag | **0.01** |
| 1.782 | 100 | 178.2 | 1.808 | 100 | 180.8 | -2.6 | 30 | -0.0866667 | Sodium-Na | **<0.01** |
| 0.009 | 100 | 0.9 | 0.009 | 100 | 0.9 | 0 | 30 | 0 | Thallium-Tl | **<0.01** |
| 0.03 | 100 | 3 | 0.026 | 100 | 2.6 | 0.4 | 30 | 0.0133333 | Zinc-Zn | **0.01** |

**PED ID #01090253-004**

**NYCDEP - BERRY & NORTH BROOKLYN**



CITY_21MC100_002836108

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:** 01090253

**PROJECT ID :** WORLD TRADE CENTER - 5 Boro Air Sampling

| DATE RECEIVED | RELEASE DATE | REPORT DATE |
|---|---|---|
| 9/20/01 | 9/21/01 | 9/21/01 |

| COLLECT DATE: | SAMPLE ID#: | MATRIX: | SAMPLE ORIGIN: |
|---|---|---|---|
| 9/19/01 9:55 PM | 01090253-005 | AIR\GAS | ATLANTIC AVE. & SMITH ST., BROOKLYN |

| PARAMETER | METHOD | RESULT | UNITS |
|---|---|---|---|
| Aluminum (Al) | OSHA ID121/125G | <0.01 | mg/m3 |
| Antimony (Sb) | OSHA ID121/125G | 0.03 | mg/m3 |
| Arsenic (As) | OSHA ID121/125G | <0.01 | mg/m3 |
| Copper (Cu) | OSHA ID121/125G | <0.01 | mg/m3 |
| Barium (Ba) | OSHA ID121/125G | <0.01 | mg/m3 |
| Beryllium (Be) | OSHA ID121/125G | <0.01 | mg/m3 |
| Cadmium (Cd) | OSHA ID121/125G | <0.01 | mg/m3 |
| Calcium (Ca) | OSHA ID121/125G | 0.07 | mg/m3 |
| Chromium (Cr) | OSHA ID121/125G | <0.01 | mg/m3 |
| Iron (Fe) | OSHA ID121/125G | 0.03 | mg/m3 |
| Lead (Pb) | OSHA ID121/125G | 0.03 | mg/m3 |
| Magnesium (Mg) | OSHA ID121/125G | 0.04 | mg/m3 |
| Manganese (Mn) | OSHA ID121/125G | 0.01 | mg/m3 |
| Mercury (Hg) | OSHA ID 121/245.5 | <0.01 | mg/m3 |
| Nickel (Ni) | OSHA ID121/125G | <0.01 | mg/m3 |
| Potassium (K) | OSHA ID121/125G | <0.01 | mg/m3 |
| Selenium (Se) | OSHA ID121/125G | 0.02 | mg/m3 |
| Sodium (Na) | OSHA ID121/125G | <0.01 | mg/m3 |
| Thallium (Tl) | OSHA ID121/125G | <0.01 | mg/m3 |
| Zinc (Zn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Silver (Ag) | OSHA ID121/125G | <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_002836109

NYC-WTC_000220632

NYC-WTC_00022063

PEDNEAULT ASSOCIATES, INC.
631-467-8477



NYC 9/11 Public Portal Document

**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$^3$ |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.087 | 100 | 8.7 | 0.085 | 100 | 8.5 | 0.2 | 30 | 0.0066667 | Aluminum- Al | **<0.01** |
| -0.005 | 100 | -0.5 | -0.013 | 100 | -1.3 | 0.8 | 30 | 0.0266667 | Antimony-Sb | **0.03** |
| 0.005 | 100 | 0.5 | 0.005 | 100 | 0.5 | 0 | 30 | 0 | Arsenic-As | **<0.01** |
| 0.004 | 100 | 0.4 | 0.003 | 100 | 0.3 | 0.1 | 30 | 0.0033333 | Barium-Ba | **<0.01** |
| 0 | 100 | 0 | 0 | 100 | 0 | 0 | 30 | 0 | Beryllium-Be | **<0.01** |
| 0.002 | 100 | 0.2 | 0.001 | 100 | 0.1 | 0.1 | 30 | 0.0033333 | Cadmium-Cd | **<0.01** |
| 0.776 | 100 | 77.6 | 0.755 | 100 | 75.5 | 2.1 | 30 | 0.07 | Calcium-Ca | **0.07** |
| 0.008 | 100 | 0.8 | 0.008 | 100 | 0.8 | 0 | 30 | 0 | Chromium-Cr | **<0.01** |
| 0.019 | 100 | 1.9 | 0.017 | 100 | 1.7 | 0.2 | 30 | 0.0066667 | Copper-Cu | **<0.01** |
| 0.046 | 100 | 4.6 | 0.036 | 100 | 3.6 | 1 | 30 | 0.0333333 | Iron-Fe | **0.03** |
| 0.01 | 100 | 1 | 0.009 | 100 | 0.9 | 0.1 | 30 | 0.0033333 | Lead-Pb | **0.03** |
| 0.163 | 100 | 16.3 | 0.151 | 100 | 15.1 | 1.2 | 30 | 0.04 | Magnesium-Mg | **0.04** |
| 0.002 | 100 | 0.2 | 0.002 | 100 | 0.2 | 0 | 30 | 0 | Manganese-Mn | **0.01** |
| | 100 | | | 100 | | | 30 | | Mercury-Hg | **<0.01** |
| 0.002 | 100 | 0.2 | 0.002 | 100 | 0.2 | 0 | 30 | 0 | Nickel-NI | **<0.01** |
| 0.138 | 100 | 13.8 | 0.144 | 100 | 14.4 | -0.6 | 30 | -0.02 | Potassium-K | **<0.01** |
| 0.006 | 100 | 0.6 | -0.001 | 100 | -0.1 | 0.7 | 30 | 0.0233333 | Selenium-Se | **0.02** |
| 0.009 | 100 | 0.9 | 0.007 | 100 | 0.7 | 0.2 | 30 | 0.0066667 | Silver-Ag | **<0.01** |
| 1.765 | 100 | 176.5 | 1.808 | 100 | 180.8 | -4.3 | 30 | -0.1433333 | Sodium-Na | **<0.01** |
| 0.008 | 100 | 0.8 | 0.009 | 100 | 0.9 | -0.1 | 30 | -0.0033333 | Thallium-Tl | **<0.01** |
| 0.023 | 100 | 2.3 | 0.026 | 100 | 2.6 | -0.3 | 30 | -0.01 | Zinc-Zn | **<0.01** |

**PED ID #01090253-005**

**NYCDEP -ATLANTIC AV & SMITH STR. BROOKLYN**



CITY_21MC100_002836110

| *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:** 01090253 |
| Corona , NY 11368 | **PROJECT ID :** WORLD TRADE CENTER - 5 Boro Air Sampling |
| (718) 595-4650 | |
| **MR. M. FAWZY, DIRECTOR** | |

| **DATE RECEIVED** | | **RELEASE DATE** | **REPORT DATE** |
|---|---|---|---|
| 9/20/01 | | 9/21/01 | 9/21/01 |
| **COLLECT DATE:** | **SAMPLE ID#:** | **MATRIX:** | **SAMPLE ORIGIN:** |
| 9/19/01 10:45 PM | 01090253-006 | AIR\GAS | BAY ST & VICTORY BLVD., STATEN ISLAND |

| PARAMETER | METHOD | RESULT | UNITS |
|---|---|---|---|
| Aluminum (Al) | OSHA ID121/125G | 0.06 | mg/m3 |
| Antimony (Sb) | OSHA ID121/125G | <0.01 | mg/m3 |
| Copper (Cu) | OSHA ID121/125G | <0.01 | mg/m3 |
| Arsenic (As) | OSHA ID121/125G | <0.01 | mg/m3 |
| Barium (Ba) | OSHA ID121/125G | <0.01 | mg/m3 |
| Beryllium (Be) | OSHA ID121/125G | <0.01 | mg/m3 |
| Cadmium (Cd) | OSHA ID121/125G | <0.01 | mg/m3 |
| Calcium (Ca) | OSHA ID121/125G | <0.01 | mg/m3 |
| Chromium (Cr) | OSHA ID121/125G | 0.08 | mg/m3 |
| Iron (Fe) | OSHA ID121/125G | 0.33 | mg/m3 |
| Lead (Pb) | OSHA ID121/125G | 0.01 | mg/m3 |
| Magnesium (Mg) | OSHA ID121/125G | <0.01 | mg/m3 |
| Manganese (Mn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Mercury (Hg) | OSHA ID 121/245.5 | <0.01 | mg/m3 |
| Nickel (Ni) | OSHA ID121/125G | 0.02 | mg/m3 |
| Potassium (K) | OSHA ID121/125G | 0.06 | mg/m3 |
| Selenium (Se) | OSHA ID121/125G | 0.04 | mg/m3 |
| Sodium (Na) | OSHA ID121/125G | <0.01 | mg/m3 |
| Thallium (Tl) | OSHA ID121/125G | <0.01 | mg/m3 |
| Zinc (Zn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Silver (Ag) | OSHA ID121/125G | <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**

NYC-WTC_000220635

PEDNEAULT ASSOCIATES, INC.
631-467-8477



NYC 9/11 Public Portal Document

## 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 $mg/m^3$ |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.103 | 100 | 10.3 | 0.085 | 100 | 8.5 | 1.8 | 30 | 0.06 | Aluminum- Al | **0.06** |
| -0.014 | 100 | -1.4 | -0.013 | 100 | -1.3 | -0.1 | 30 | -0.0033333 | Antimony-Sb | **<0.01** |
| 0.001 | 100 | 0.1 | 0.005 | 100 | 0.5 | -0.4 | 30 | -0.0133333 | Arsenic-As | **<0.01** |
| 0.003 | 100 | 0.3 | 0.003 | 100 | 0.3 | 0 | 30 | 0 | Barium-Ba | **<0.01** |
| 0 | 100 | 0 | 0 | 100 | 0 | 0 | 30 | 0 | Beryllium-Be | **<0.01** |
| 0.001 | 100 | 0.1 | 0.001 | 100 | 0.1 | 0 | 30 | 0 | Cadmium-Cd | **<0.01** |
| 0.683 | 100 | 68.3 | 0.755 | 100 | 75.5 | -7.2 | 30 | -0.24 | Calcium-Ca | **<0.01** |
| 0.031 | 100 | 3.1 | 0.008 | 100 | 0.8 | 2.3 | 30 | 0.0766667 | Chromium-Cr | **0.08** |
| 0.014 | 100 | 1.4 | 0.017 | 100 | 1.7 | -0.3 | 30 | -0.01 | Copper-Cu | **<0.01** |
| 0.136 | 100 | 13.6 | 0.036 | 100 | 3.6 | 10 | 30 | 0.3333333 | Iron-Fe | **0.33** |
| 0.013 | 100 | 1.3 | 0.009 | 100 | 0.9 | 0.4 | 30 | 0.0133333 | Lead-Pb | **0.01** |
| 0.153 | 100 | 15.3 | 0.151 | 100 | 15.1 | 0.2 | 30 | 0.0066667 | Magnesium-Mg | **<0.01** |
| 0.005 | 100 | 0.5 | 0.002 | 100 | 0.2 | 0.3 | 30 | 0.01 | Manganese-Mn | **<0.01** |
| | 100 | | | 100 | | | 30 | | Mercury-Hg | **<0.01** |
| 0.009 | 100 | 0.9 | 0.002 | 100 | 0.2 | 0.7 | 30 | 0.0233333 | Nickel-NI | **0.02** |
| 0.161 | 100 | 16.1 | 0.144 | 100 | 14.4 | 1.7 | 30 | 0.0566667 | Potassium-K | **0.06** |
| 0.01 | 100 | 1 | -0.001 | 100 | -0.1 | 1.1 | 30 | 0.0366667 | Selenium-Se | **0.04** |
| 0.006 | 100 | 0.6 | 0.007 | 100 | 0.7 | -0.1 | 30 | -0.0033333 | Silver-Ag | **<0.01** |
| 1.498 | 100 | 149.8 | 1.808 | 100 | 180.8 | -31 | 30 | -1.0333333 | Sodium-Na | **<0.01** |
| 0.009 | 100 | 0.9 | 0.009 | 100 | 0.9 | 0 | 30 | 0 | Thallium-Tl | **<0.01** |
| 0.023 | 100 | 2.3 | 0.026 | 100 | 2.6 | -0.3 | 30 | -0.01 | Zinc-Zn | **<0.01** |

**PED ID #01090253-006**

**NYCDEP - BAY STR & VICTORY BLVD. SI**



CITY_21MC100_002836112

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:** 01090253

**PROJECT ID :** WORLD TRADE CENTER - 5 Boro Air Sampling

| DATE RECEIVED | RELEASE DATE | REPORT DATE |
|---|---|---|
| 9/20/01 | 9/21/01 | 9/21/01 |

| COLLECT DATE: | SAMPLE ID#: | MATRIX: | SAMPLE ORIGIN: |
|---|---|---|---|
| 9/19/01 5:00 PM | 01090253-007 | AIR\GAS | TRIP BLANKS |

| PARAMETER | METHOD | RESULT | UNITS |
|---|---|---|---|
| Aluminum (Al) | OSHA ID121/125G | <0.01 | mg/m3 |
| Antimony (Sb) | OSHA ID121/125G | 0.01 | mg/m3 |
| Arsenic (As) | OSHA ID121/125G | <0.01 | mg/m3 |
| Copper (Cu) | OSHA ID121/125G | 0.02 | mg/m3 |
| Barium (Ba) | OSHA ID121/125G | <0.01 | mg/m3 |
| Beryllium (Be) | OSHA ID121/125G | <0.01 | mg/m3 |
| Cadmium (Cd) | OSHA ID121/125G | <0.01 | mg/m3 |
| Calcium (Ca) | OSHA ID121/125G | 1.31 | mg/m3 |
| Chromium (Cr) | OSHA ID121/125G | 0.02 | mg/m3 |
| Iron (Fe) | OSHA ID121/125G | <0.01 | mg/m3 |
| Lead (Pb) | OSHA ID121/125G | <0.01 | mg/m3 |
| Magnesium (Mg) | OSHA ID121/125G | 0.28 | mg/m3 |
| Manganese (Mn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Mercury (Hg) | OSHA ID 121/245.5 | <0.01 | mg/m3 |
| Nickel (Ni) | OSHA ID121/125G | <0.01 | mg/m3 |
| Potassium (K) | OSHA ID121/125G | 0.05 | mg/m3 |
| Selenium (Se) | OSHA ID121/125G | 0.03 | mg/m3 |
| Sodium (Na) | OSHA ID121/125G | 2.53 | mg/m3 |
| Thallium (Tl) | OSHA ID121/125G | 0.02 | mg/m3 |
| Zinc (Zn) | OSHA ID121/125G | <0.01 | mg/m3 |
| Silver (Ag) | OSHA ID121/125G | <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_002836113

NYC-WTC_000220636

NYC-WTC_00022637

PEDNEAULT ASSOCIATES, INC.
631-467-8477



NYC 9/11 Public Portal Document

## 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 $mg/m^3$ |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.085 | 100 | 8.5 | 0.324 | 100 | 32.4 | -23.9 | 30 | -0.7966667 | Aluminum- Al | **<0.01** |
| -0.013 | 100 | -1.3 | -0.017 | 100 | -1.7 | 0.4 | 30 | 0.0133333 | Antimony-Sb | **0.01** |
| 0.005 | 100 | 0.5 | 0.006 | 100 | 0.6 | -0.1 | 30 | -0.0033333 | 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 | 100 | 0 | 0 | 30 | 0 | Beryllium-Be | **<0.01** |
| 0.001 | 100 | 0.1 | 0.001 | 100 | 0.1 | 0 | 30 | 0 | Cadmium-Cd | **<0.01** |
| 0.755 | 100 | 75.5 | 0.362 | 100 | 36.2 | 39.3 | 30 | 1.31 | Calcium-Ca | **1.31** |
| 0.008 | 100 | 0.8 | 0.001 | 100 | 0.1 | 0.7 | 30 | 0.0233333 | Chromium-Cr | **0.02** |
| 0.017 | 100 | 1.7 | 0.01 | 100 | 1 | 0.7 | 30 | 0.0233333 | Copper-Cu | **0.02** |
| 0.036 | 100 | 3.6 | 0.317 | 100 | 31.7 | -28.1 | 30 | -0.9366667 | Iron-Fe | **<0.01** |
| 0.009 | 100 | 0.9 | 0.009 | 100 | 0.9 | 0 | 30 | 0 | Lead-Pb | **<0.01** |
| 0.151 | 100 | 15.1 | 0.066 | 100 | 6.6 | 8.5 | 30 | 0.2833333 | Magnesium-Mg | **0.28** |
| 0.002 | 100 | 0.2 | 0.004 | 100 | 0.4 | -0.2 | 30 | -0.0066667 | Manganese-Mn | **<0.01** |
| | 100 | | | 100 | | | 30 | | Mercury-Hg | **<0.01** |
| 0.002 | 100 | 0.2 | 0.004 | 100 | 0.4 | -0.2 | 30 | -0.0066667 | Nickel-NI | **<0.01** |
| 0.144 | 100 | 14.4 | 0.128 | 100 | 12.8 | 1.6 | 30 | 0.0533333 | Potassium-K | **0.05** |
| -0.001 | 100 | -0.1 | -0.011 | 100 | -1.1 | 1 | 30 | 0.0333333 | Selenium-Se | **0.03** |
| 0.007 | 100 | 0.7 | 0.005 | 100 | 0.5 | 0.2 | 30 | 0.0066667 | Silver-Ag | **<0.01** |
| 1.808 | 100 | 180.8 | 1.05 | 100 | 105 | 75.8 | 30 | 2.5266667 | Sodium-Na | **2.53** |
| 0.009 | 100 | 0.9 | 0.003 | 100 | 0.3 | 0.6 | 30 | 0.02 | Thallium-Tl | **0.02** |
| 0.026 | 100 | 2.6 | 0.031 | 100 | 3.1 | -0.5 | 30 | -0.0166667 | Zinc-Zn | **<0.01** |

**PED ID #01090253-007**

**NYCDEP - TRIP/FIELD BLANK**



CITY_21MC100_00283614