Review of Atomic Elements Found at the World Trade Center

Prepared for the September 28, 2016
9/11 Truth and Other Deep State Crimes Teleconference

Wayne H. Coste, PE
Truth Outreach, Inc.

Compiled from research done by many others

Table of Contents

- Background on need for this review
- USGS Element Analysis
- Comparison of element distributions
- Iron
- Tritium
- Questions

Review of Atomic Elements Found at the World Trade Center

BACKGROUND ON NEED FOR THIS REVIEW

Background

- Presence of various elements in the WTC debris viewed as “ominous”
- Nuclear hypothesis dominated by “elements that shouldn’t be there”
  - Jim Fetzer mentioned these “alarming statistics” during the August Teleconference
  - Barbara Honegger included these in the 9/11 Memorial Walking Tour

9/11 Memorial Walking Tour at YouTube Video: https://www.youtube.com/watch?v=2qir4RsNZCk at 1:03:40

Because there is important news the “free press” isn't telling you

Background

- Discussion will show that element concentrations at the WTC
  - Are within the range of expected concentrations
    - National and
    - Eastern United States
  - Exceedances by Strontium (fluorescent lights) and zinc (galvanized steel) are explainable
- Most ratios of these elements at the WTC can be expected to be found anywhere

Nuclear Hypothesis Dominated by Elements "That Shouldn't Be There"

***Barium and Strontium**: Neither of these elements should ever appear in building debris **in these quantities**. The levels never fall below 400ppm for Barium and they never drop below 700ppm for Strontium and reach over 3000ppm for both in the dust sample taken at Broadway and John Streets.*

***Thorium and Uranium**: These elements only exist in radioactive form. Thorium is a radioactive element formed from Uranium by decay. **It's very rare and should not be present in building rubble, ever**. So once again we have verifiable evidence that a nuclear fission event has taken place.*

Nuclear Hypothesis Dominated by Elements "That Shouldn't Be There"

***Lithium**: With the presence of lithium we have compelling evidence that this fission pathway of Uranium to Thorium and Helium, with subsequent decay of the Helium into Lithium has taken place.*

***Lanthanum:** Lanthanum is the next element in the disintegration pathway of the element Barium.*

***Yttrium**: The next decay element after Strontium, which further confirms the presence of Barium.*

***Chromium**: The presence of Chromium is one more "tell tale" signature of a nuclear detonation.*

Nuclear Hypothesis Dominated by Elements “That Shouldn’t Be There”

***Tritium**: A very rare element and should not be found at concentrations 55 times normal the basement of WTC-6 no less than 11 days after 9/11, which is another "tell tale" sign of nukes.*

USGS: Chemistry Table 1

- USGS Table 1 summarizes
  - Data for major elements
  - All trace elements analyzed
    - WTC dust
    - Beam coating samples
- Some elements (such as mercury and tin) were not analyzed in these samples

http://pubs.usgs.gov/of/2001/ofr-01-0429/chem1/WTCchemistrytable.html


Because there is important news the "free press" isn't telling you

USGS: Chemistry Table 1

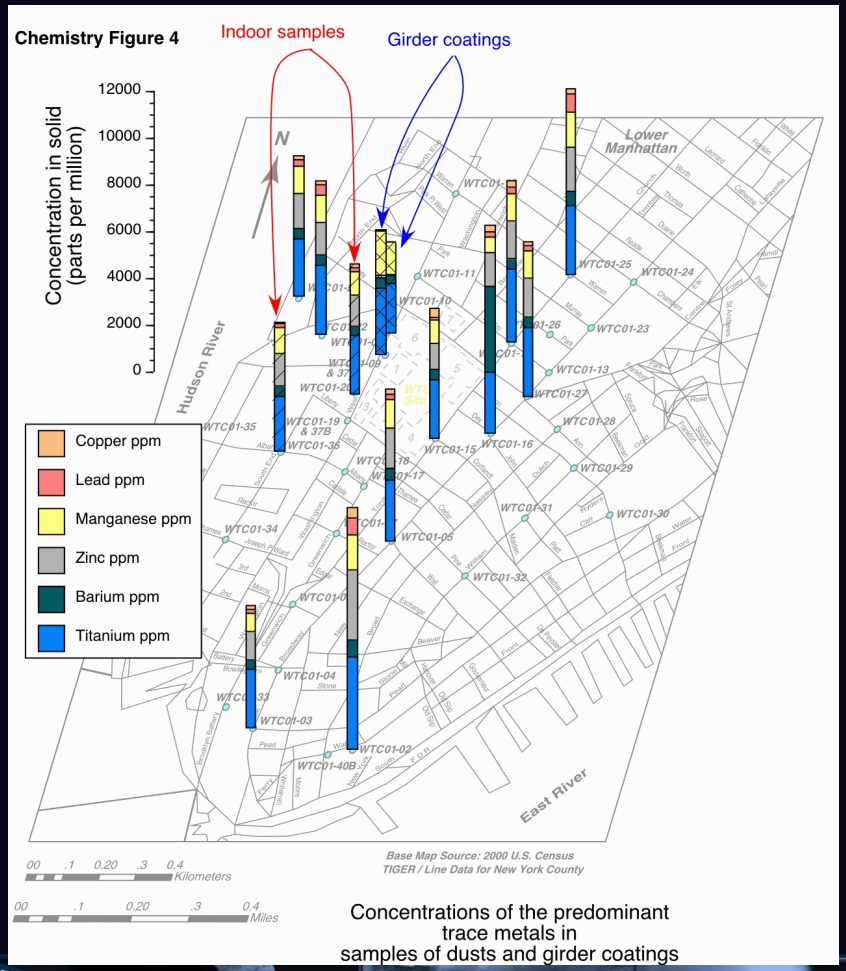
- Major elements are listed in percent concentration and trace elements are listed in parts per million concentration
  - One percent equals 10,000 parts per million

http://pubs.usgs.gov/of/2001/ofr-01-0429/chem1/WTCchemistrytable.html

Elements vs. Isotopes

- The USGS element analysis for lower Manhattan was for elements
- No attempt was made to identify isotopes of the identified elements

Geographic Location of Samples



Concentrations of the predominant trace metals in samples of dusts and girder coatings

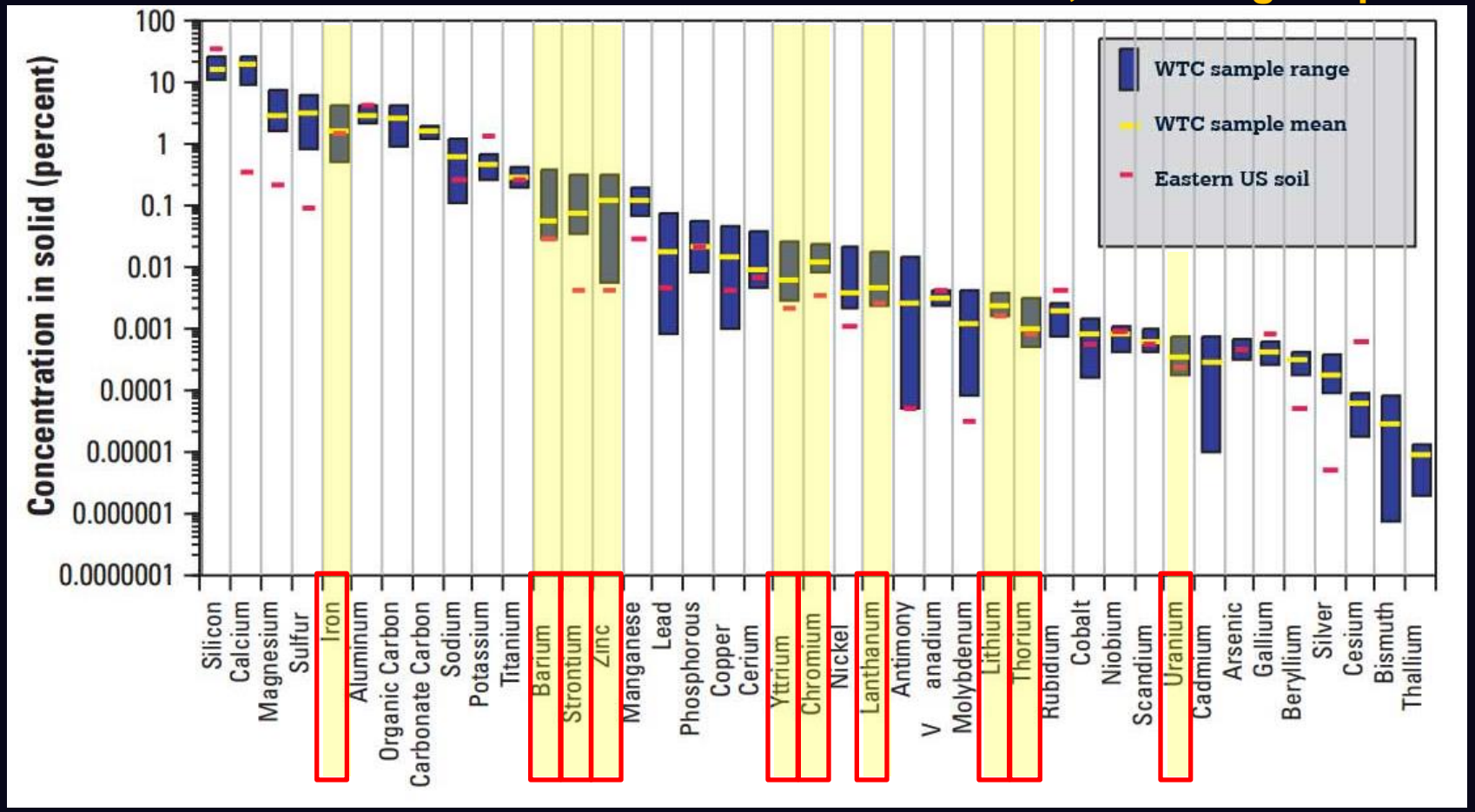
Diagram shows the location where 14 of the samples were obtained.

Source:

http://pubs.usgs.gov/of/2001/ofr-01-0429/chem1/WTCchemistrytable.html

USGS Element Analysis

Concentrations in Eastern US Soils is a "Geometric Mean," no range is provided



Review of Atomic Elements Found at the World Trade Center

USGS ELEMENT ANALYSIS

Comparison of Selected Elements WTC vs. Conterminous United States

- Comparison of elements suggest that samples from the WTC dust are very similar to those from the continental United States
- Elements found in comparable concentrations
  - Barium
  - Chromium
  - Lanthanum
  - Lithium
  - Strontium
  - Thorium
  - Uranium
  - Yttrium
  - Zinc
  - Iron

Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States

By HANSFORD T. SHACKLETTE *and* JOSEPHINE G. BOERNGEN

U.S. GEOLOGICAL SURVEY PROFESSIONAL PAPER 1270

An account of the concentrations of 50 chemical elements in samples of soils and other regoliths

Sources:

http://pubs.usgs.gov/pp/1270/pdf/PP1270_508.pdf

http://pubs.usgs.gov/of/2001/ofr-01-0429/chem1/WTCchemistrytable.html

Element Abundance in Soils: Page for Uranium

Shacklette and Boerngen present graphs of element distributions

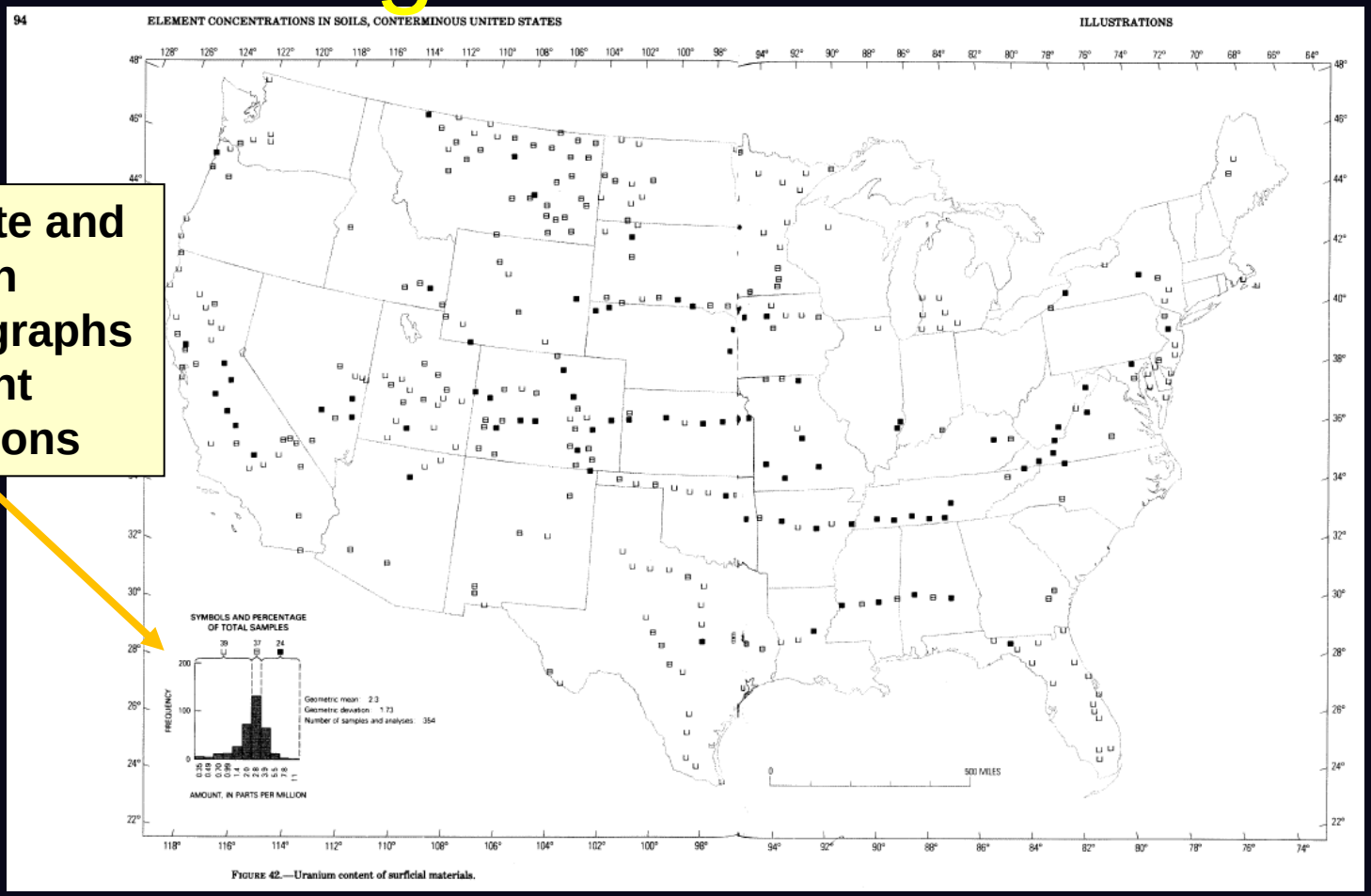


FIGURE 42.—Uranium content of surficial materials.

Review of Atomic Elements Found at the World Trade Center

COMPARISON OF ELEMENT DISTRIBUTIONS

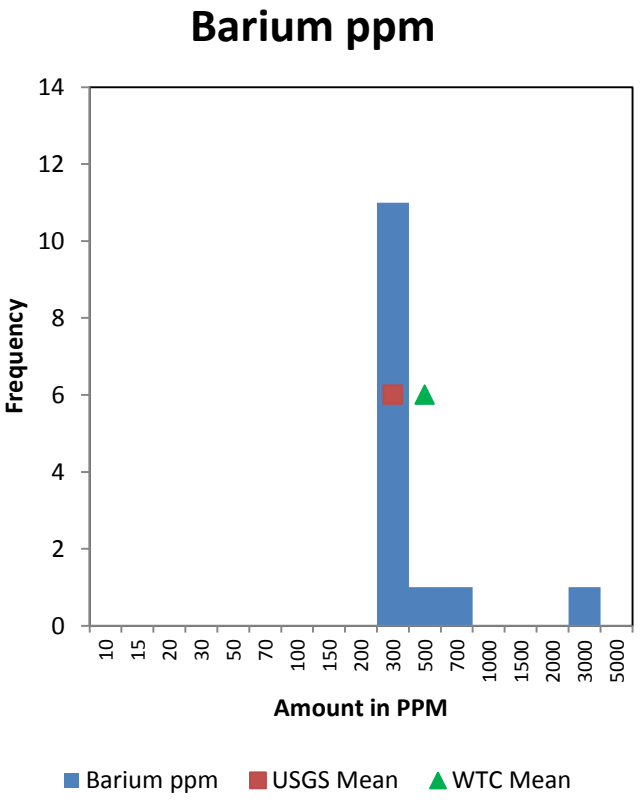
Comparison of Selected Elements WTC vs. Conterminous United States

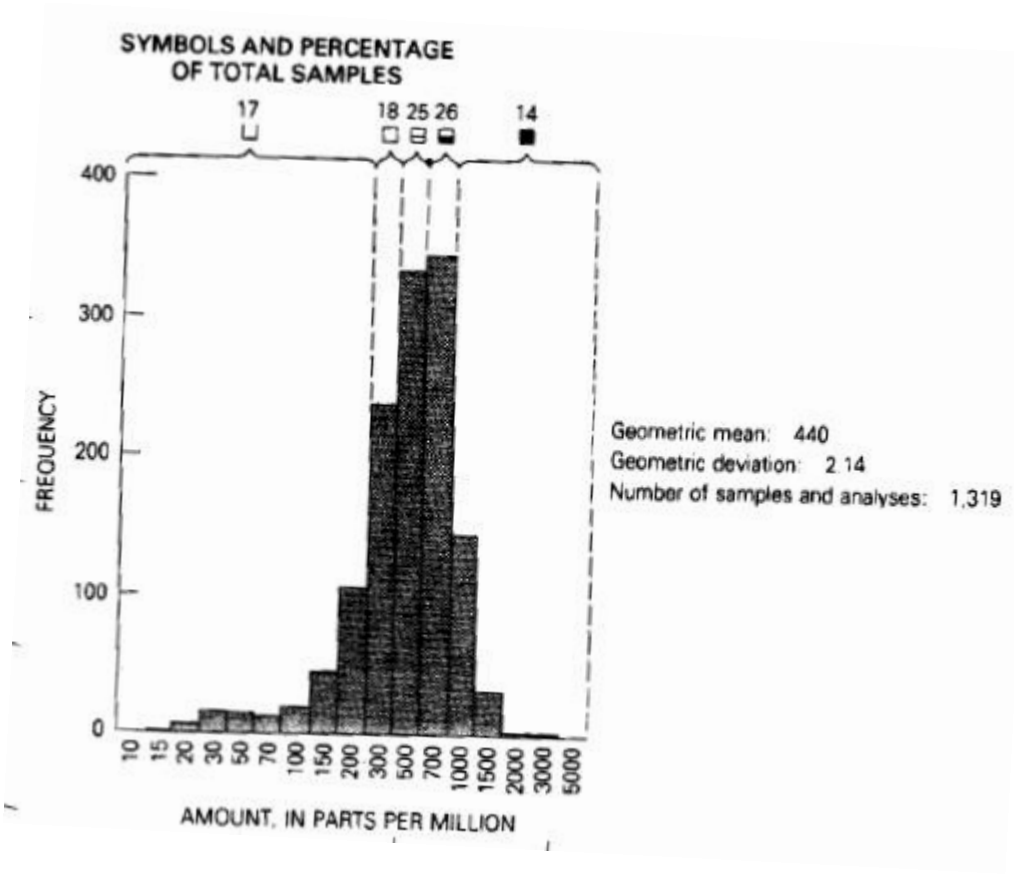
- Student's t-test not possible with available parameters
  - Shacklette and Boerngen used 'geometric mean' and 'geometric deviation'
  - No way to determine "confidence interval"
    - e.g. stating that that the WTC results come from the national distribution with a confidence of 'X'
- Graphical / visual comparison of distributions is next best alternative

Comparison of Selected Elements WTC vs. Conterminous United States

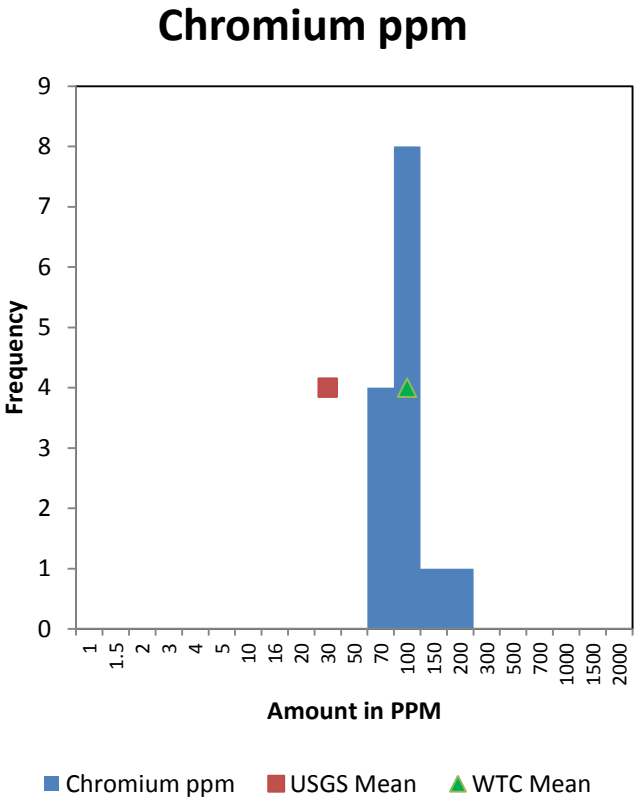
- Graphs show comparison of
  - WTC element analysis
  - 1984 U.S. Geological Survey Professional Paper 1270 by Shacklette and Boerngen
- WTC results put on same scale (in ppm) as the Shacklette and Boerngen graphs
  - Allows full distributions to be compared
  - Mean for both sources are shown

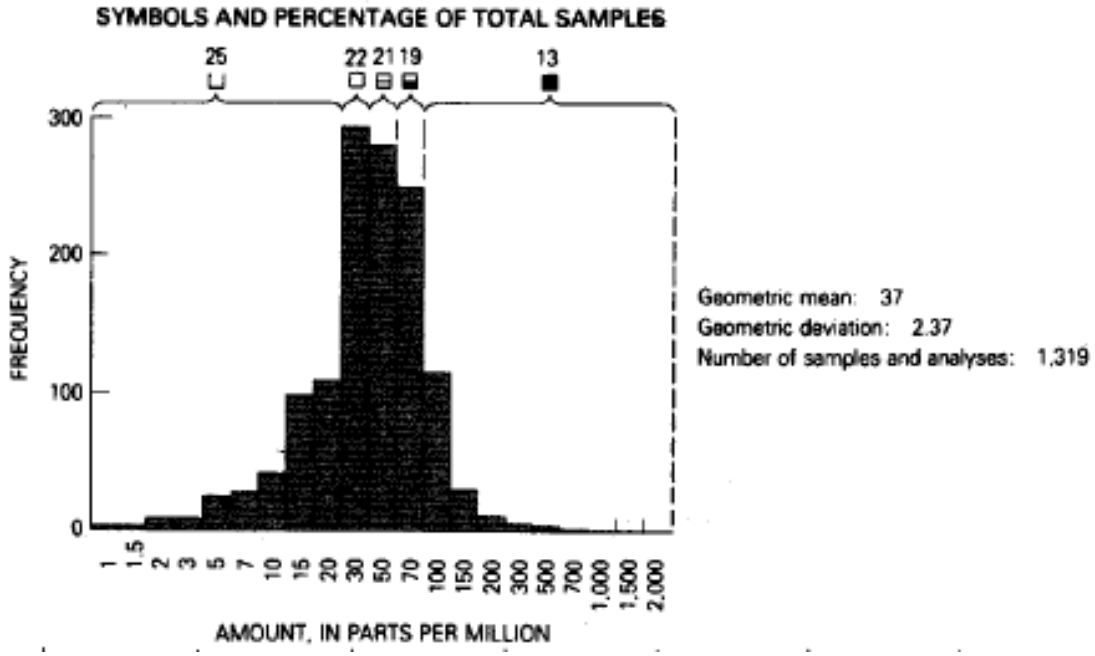
Barium ppm


Barium ppm
Frequency
14
12
10
8
6
4
2
0
10 15 20 30 50 70 100 150 200 300 500 700 1000 1500 2000 3000 5000
Amount in PPM
Barium ppm
USGS Mean
WTC Mean

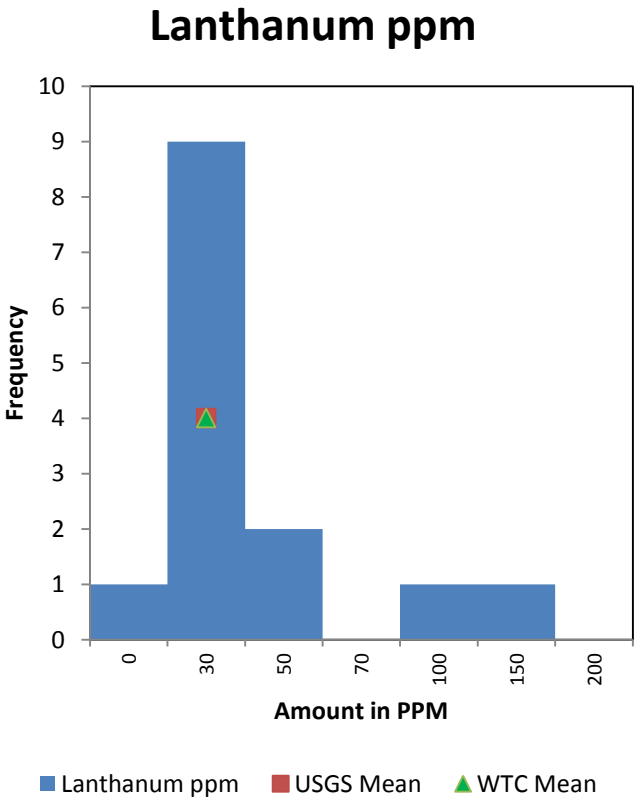

SYMBOLS AND PERCENTAGE OF TOTAL SAMPLES
17
18 25 26
14
FREQUENCY
400
300
200
100
0
10 15 20 30 50 70 100 150 200 300 500 700 1000 1500 2000 3000 5000
AMOUNT, IN PARTS PER MILLION
Geometric mean: 440
Geometric deviation: 2.14
Number of samples and analyses: 1,319

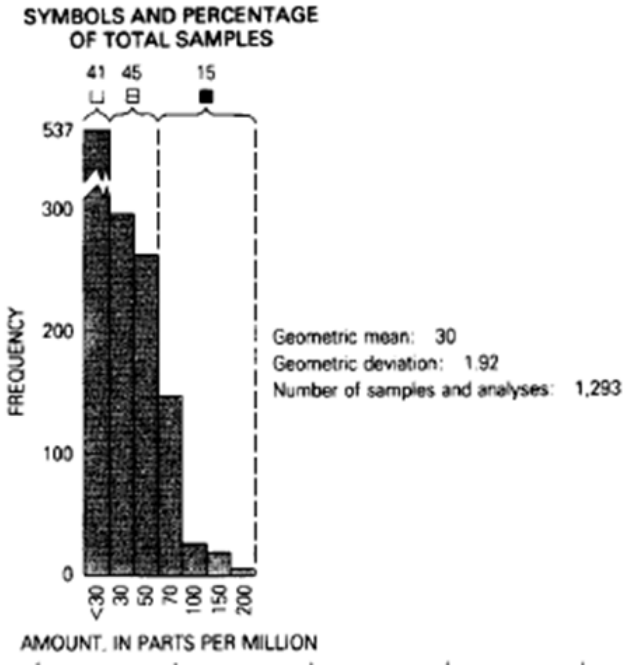
Chromium ppm



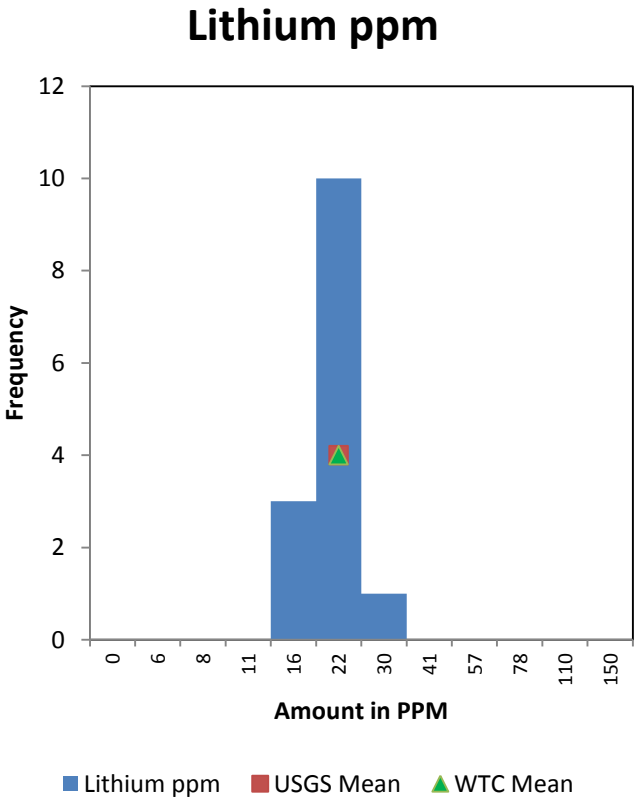


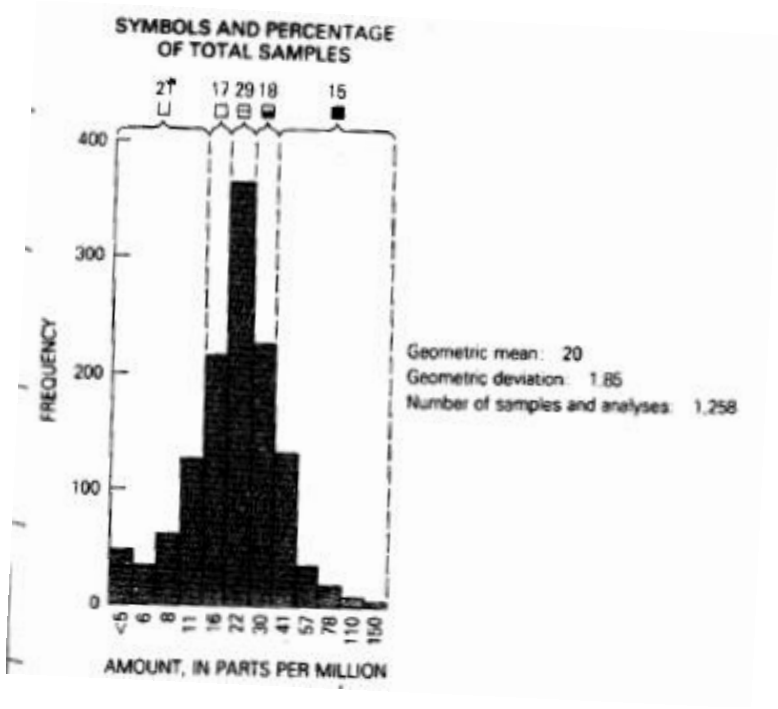
Lanthanum ppm



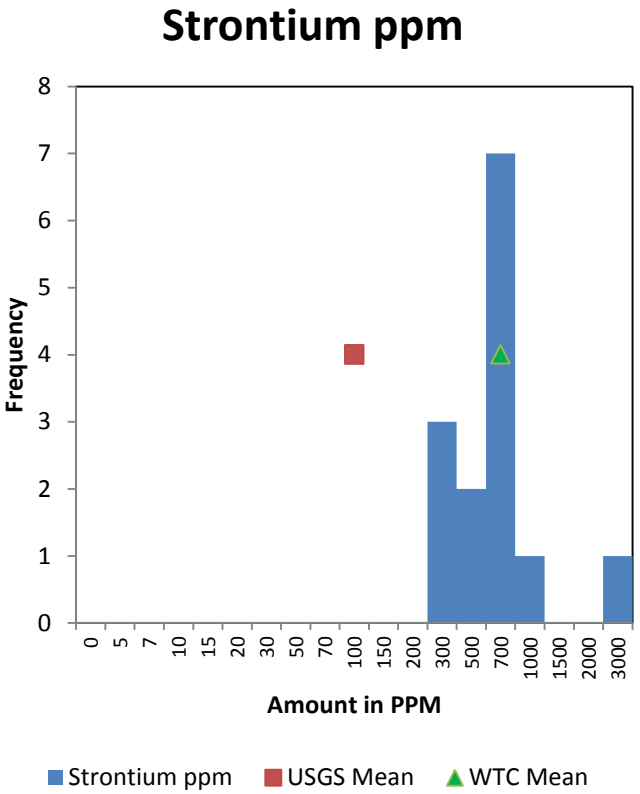


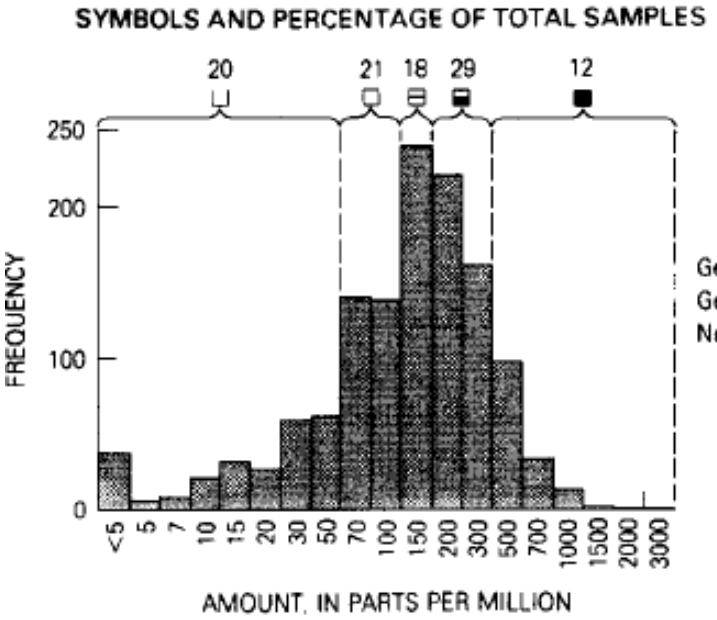
Lithium ppm


Lithium ppm
12
10
8
6
4
2
0
Frequency
0
6
8
11
16
22
30
41
57
78
110
150
Amount in PPM
Lithium ppm
USGS Mean
WTC Mean


SYMBOLS AND PERCENTAGE OF TOTAL SAMPLES
2
17 29 18
15
400
300
200
100
0
FREQUENCY
<5
6
8
11
16
22
30
41
57
78
110
150
AMOUNT, IN PARTS PER MILLION
Geometric mean: 20
Geometric deviation: 1.85
Number of samples and analyses: 1,258

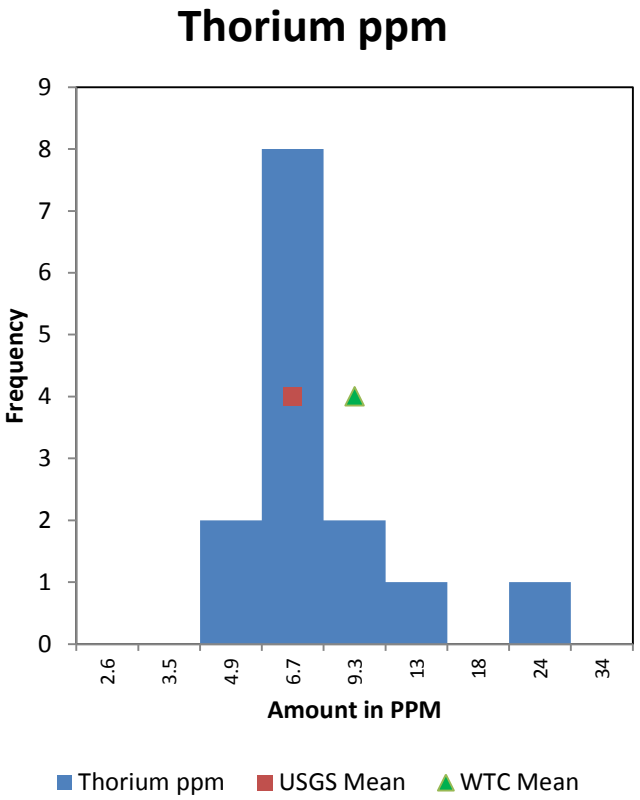
Strontium ppm

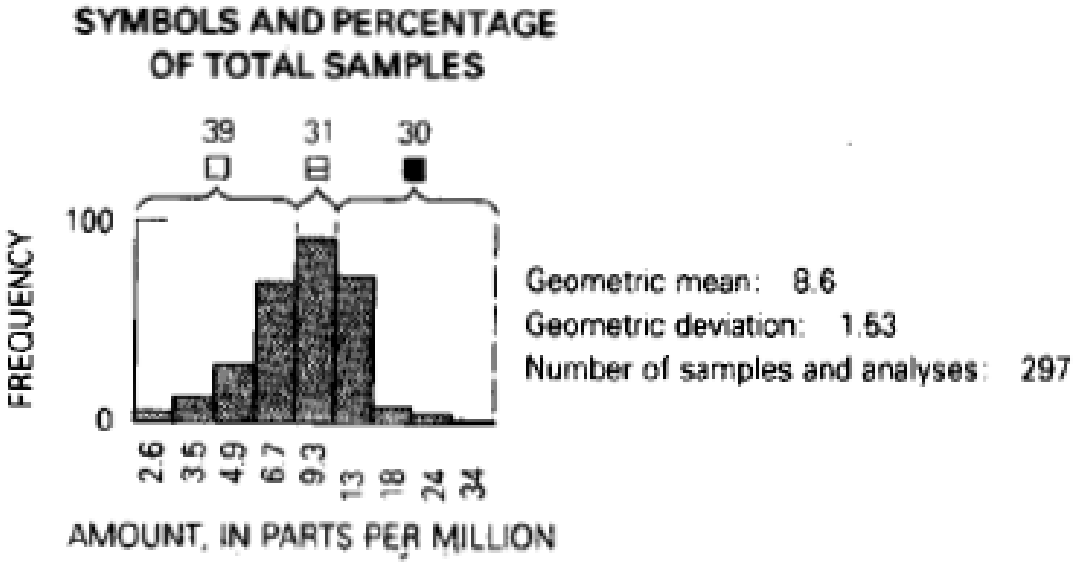




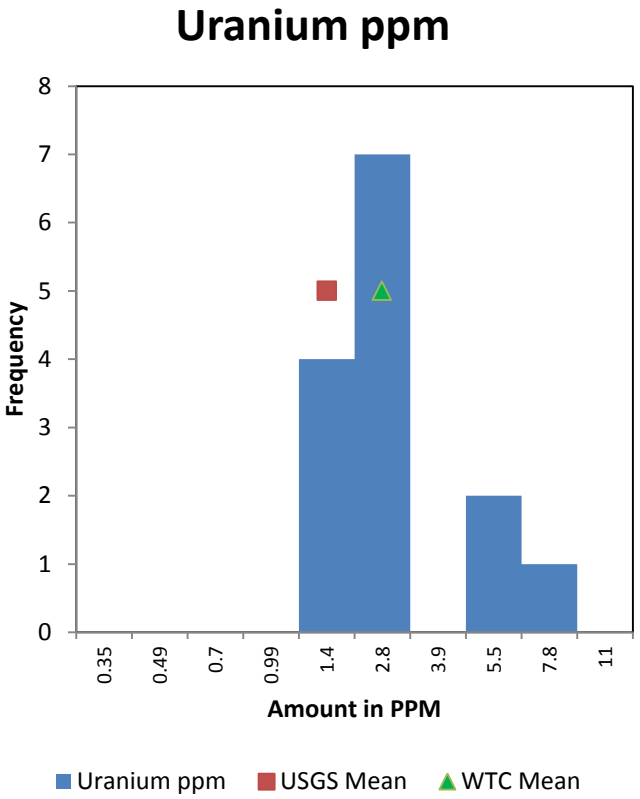
Geometric mean: 120
Geometric deviation: 3.30
Number of samples and analyses: 1,318

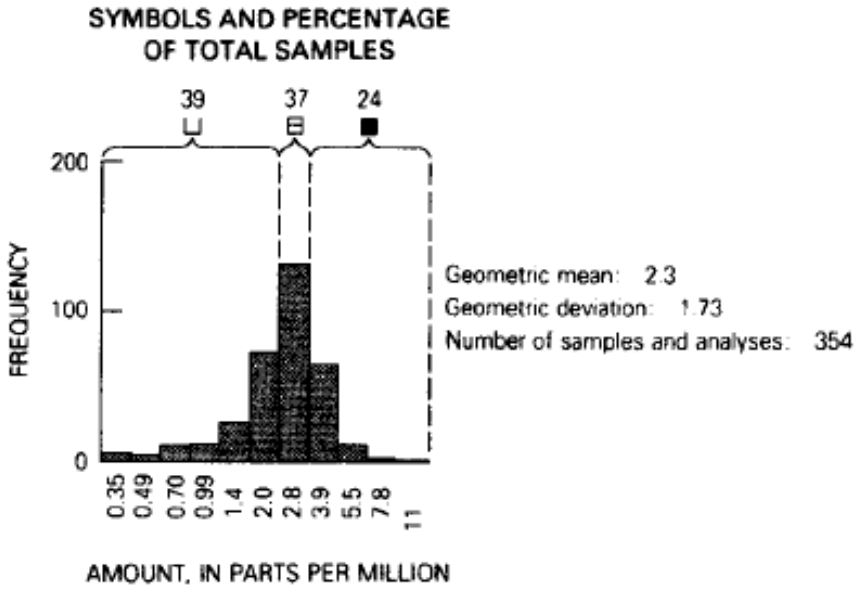
Thorium ppm


Thorium ppm
Frequency
0
1
2
3
4
5
6
7
8
9
2.6
3.5
4.9
6.7
9.3
13
18
24
34
Amount in PPM
Thorium ppm
USGS Mean
WTC Mean

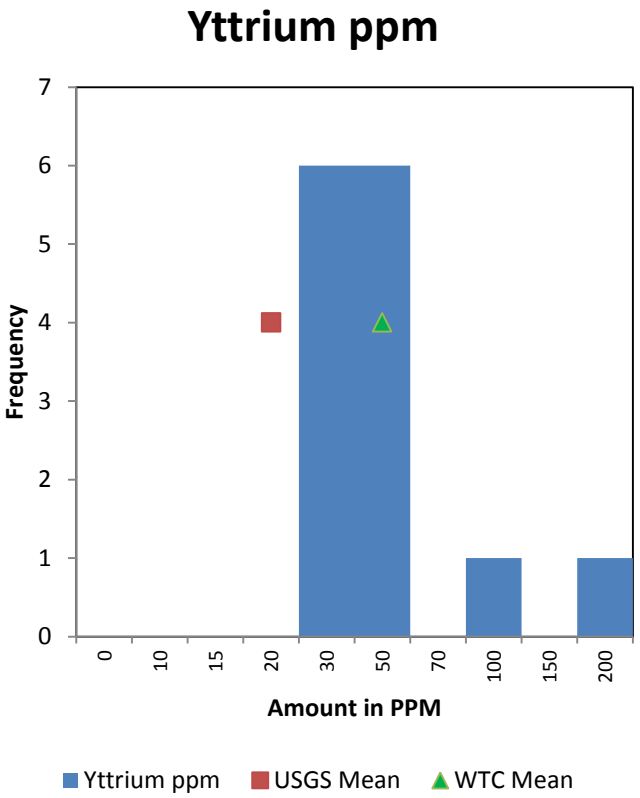

SYMBOLS AND PERCENTAGE OF TOTAL SAMPLES
39
31
30
100
0
FREQUENCY
2.6
3.5
4.9
6.7
9.3
13
18
24
34
AMOUNT, IN PARTS PER MILLION
Geometric mean: 8.6
Geometric deviation: 1.53
Number of samples and analyses: 297

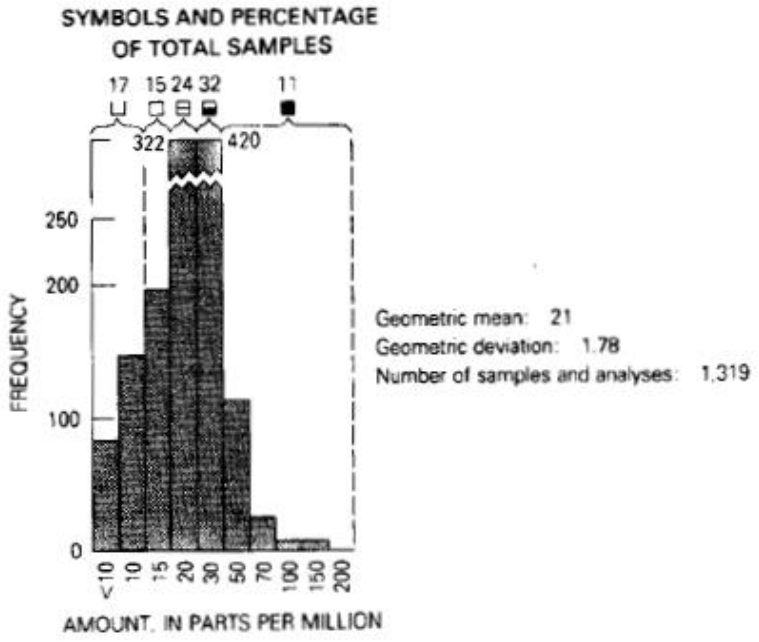
Uranium ppm


Uranium ppm
Frequency
0
1
2
3
4
5
6
7
8
0.35
0.49
0.7
0.99
1.4
2.8
3.9
5.5
7.8
11
Amount in PPM
Uranium ppm
USGS Mean
WTC Mean

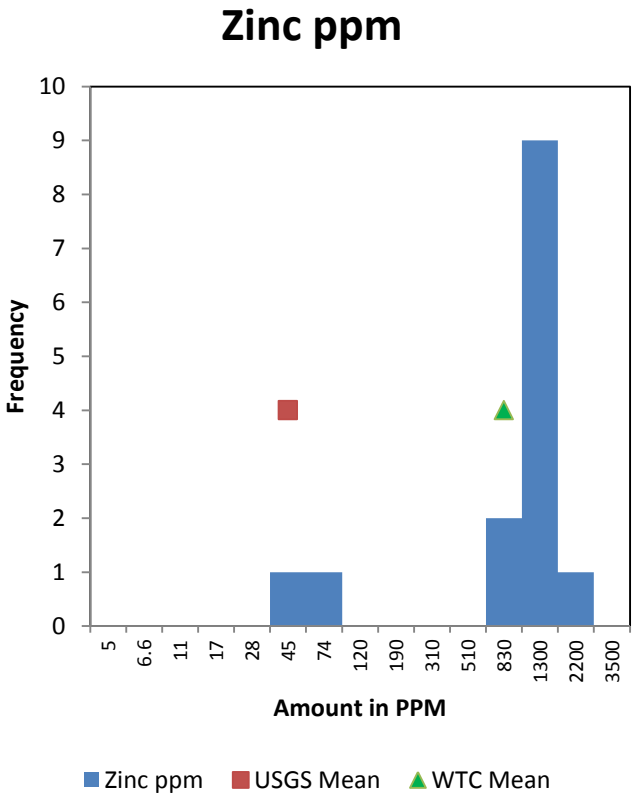

SYMBOLS AND PERCENTAGE OF TOTAL SAMPLES
39
37
24
FREQUENCY
200
100
0
0.35
0.49
0.70
0.99
1.4
2.0
2.8
3.9
5.5
7.8
11
AMOUNT, IN PARTS PER MILLION
Geometric mean: 2.3
Geometric deviation: 1.73
Number of samples and analyses: 354

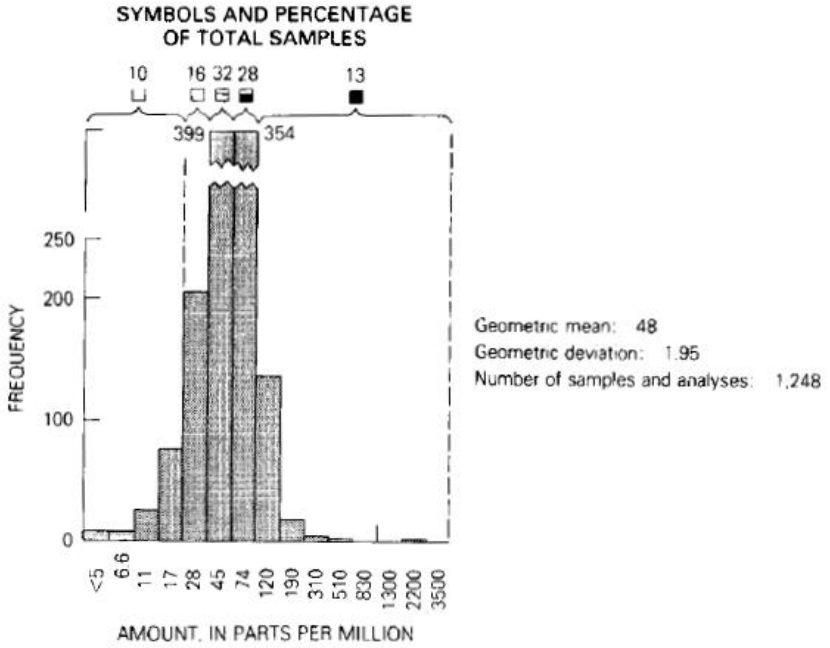
Yttrium ppm


Yttrium ppm
Frequency
0
1
2
3
4
5
6
7
0
10
15
20
30
50
70
100
150
200
Amount in PPM
Yttrium ppm
USGS Mean
WTC Mean


SYMBOLS AND PERCENTAGE OF TOTAL SAMPLES
17
15
24
32
11
322
420
FREQUENCY
250
200
100
0
<10
10
15
20
30
50
70
100
150
200
AMOUNT, IN PARTS PER MILLION
Geometric mean: 21
Geometric deviation: 1.78
Number of samples and analyses: 1,319

Zinc ppm

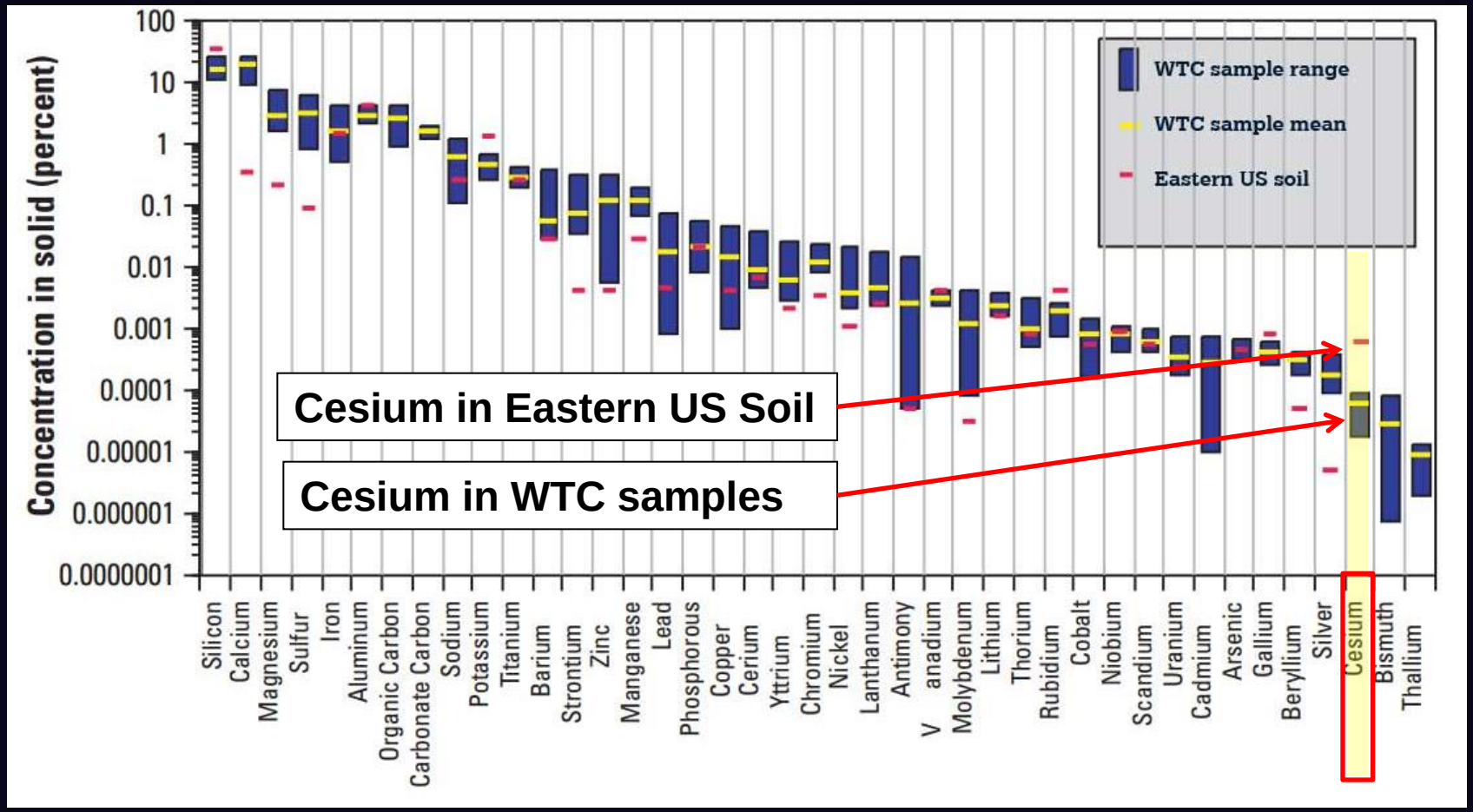

Zinc ppm
Frequency
10
9
8
7
6
5
4
3
2
1
0
5
6.6
11
17
28
45
74
120
190
310
510
830
1300
2200
3500
Amount in PPM
Zinc ppm
USGS Mean
WTC Mean


SYMBOLS AND PERCENTAGE OF TOTAL SAMPLES
10
16 32 28
13
399
354
250
200
100
0
FREQUENCY
<5
6.6
11
17
28
45
74
120
190
310
510
830
1300
2200
3500
AMOUNT, IN PARTS PER MILLION
Geometric mean: 48
Geometric deviation: 1.95
Number of samples and analyses: 1,248

Cesium

- Significantly lower concentration of cesium compared to Eastern U.S. soil samples
  - Cesium concentrations not documented in the Shacklette and Boerngen paper
- Cesium 137 would be present after a nuclear detonation
  - Cesium present is far lower than background
  - Contra indication to a nuclear detonation

Cesium


Concentration in solid (percent)
100
10
1
0.1
0.01
0.001
0.0001
0.00001
0.000001
0.0000001
WTC sample range
WTC sample mean
Eastern US soil
Cesium in Eastern US Soil
Cesium in WTC samples
Silicon
Calcium
Magnesium
Sulfur
Iron
Aluminum
Organic Carbon
Carbonate Carbon
Sodium
Potassium
Titanium
Barium
Strontium
Zinc
Manganese
Lead
Phosphorous
Copper
Cerium
Yttrium
Chromium
Nickel
Lanthanum
Antimony
Vanadium
Molybdenum
Lithium
Thorium
Rubidium
Cobalt
Niobium
Scandium
Uranium
Cadmium
Arsenic
Gallium
Beryllium
Silver
Cesium
Bismuth
Thallium

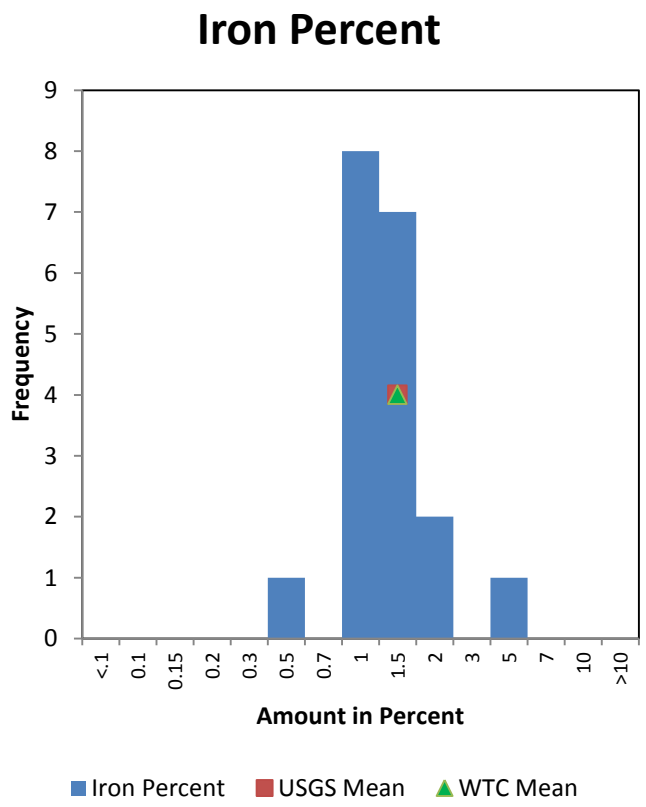
Review of Atomic Elements Found at the World Trade Center

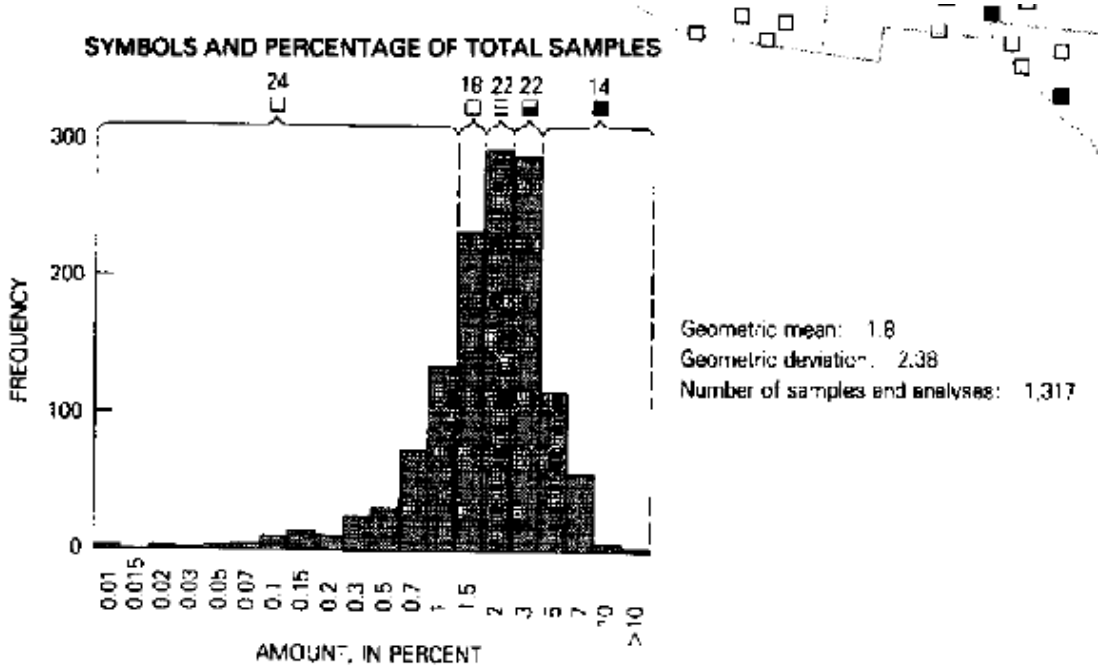
IRON

Iron Concentrations are Normal

- Some people suggested WTC steel “dustified”
  - No evidence for “dustification”
  - No steel observed to have partially dis-appeared
    - Some steel ends observed to have melted / eroded
    - Seen at small localized points
- “Dustitifed” steel would leave large concentrations of iron in the USGS samples
  - Iron in USGS WTC samples is consistent with distribution of iron in national samples

Iron percent





Review of Atomic Elements Found at the World Trade Center

TRITIUM

Reason for the Tritium Study

- Lawrence Berkeley National Laboratory wanted to investigate the release of tritium from manufactured devices
  - Tritium is manufactured for various purposes
  - Watch dials, exit signs, night-vision scopes
- Dozens of night vision scopes in WTC Complex

Recorded NY Tritium Levels

- WTC 6 sample was 3,530 pC per liter
- Excluding WTC 6 basement and sewer
  - Highest value was 210 pC per liter
  - From Brooklyn, Queens and Manhattan
  - Violent dispersion would have contaminated large areas – not just WTC 6 basement
- Even deep underground nuclear tests create very high levels at the surface

Source: Elevated tritium levels at the World Trade Center, LBNL et al, 5/14/2002

Tritium – Vermont Yankee

- In studies at Vermont Yankee Nuclear Plant studies 500 pC per liter is considered to be below measurement capability
- Vermont Yankee had reading of up to 453,000 pC per liter

Links:

http://pbadupws.nrc.gov/docs/ML1415/ML14157A132.pdf
http://dotearth.blogs.nytimes.com/2014/06/12/indian-points-tritium-problem-and-the-n-r-c-s-regulatory-problem/
http://healthvermont.gov/enviro/rad/yankee/documents/VY_tritium_gamma_lab_data_2011.pdf

Tritium - Indian Point

- The Indian Point Nuclear Plant upstream from Manhattan
  - Had tritium events in 2000, 2001, other years
  - Highest recorded tritium level was 600,000 pC per liter
  - While these tritium levels at Indian Point are indicative of a problem, they are over two orders of magnitude greater than the WTC 6 reading

Review of Atomic Elements Found at the World Trade Center

SOURCES OF STRONTIUM AND YTTRIUM AT THE WTC

Sources of Strontium

- Strontium is used in the manufacture of florescent lamps and manufacture of glass.
  - Significant number of fluorescent lights and panes of glass at the WTC
  - The USGS did optical spectrographic analysis
    - Determined concentration of strontium
      - But no information on isotopes
      - Isotope byproduct of nuclear fission is strontium-90
      - Half of strontium-90 decomposes to Yttrium in about **28 years**

Sources of Yttrium

- Slightly elevated levels of Yttrium present in the analysis of the WTC samples
  - Yttrium used in making phosphors, such as the red phosphors used in computer (CRT) monitors and in LEDs
  - Yttrium used in the production of electrodes, electrolytes, electronic filters, lasers various medical applications, etc.

Questions

?