

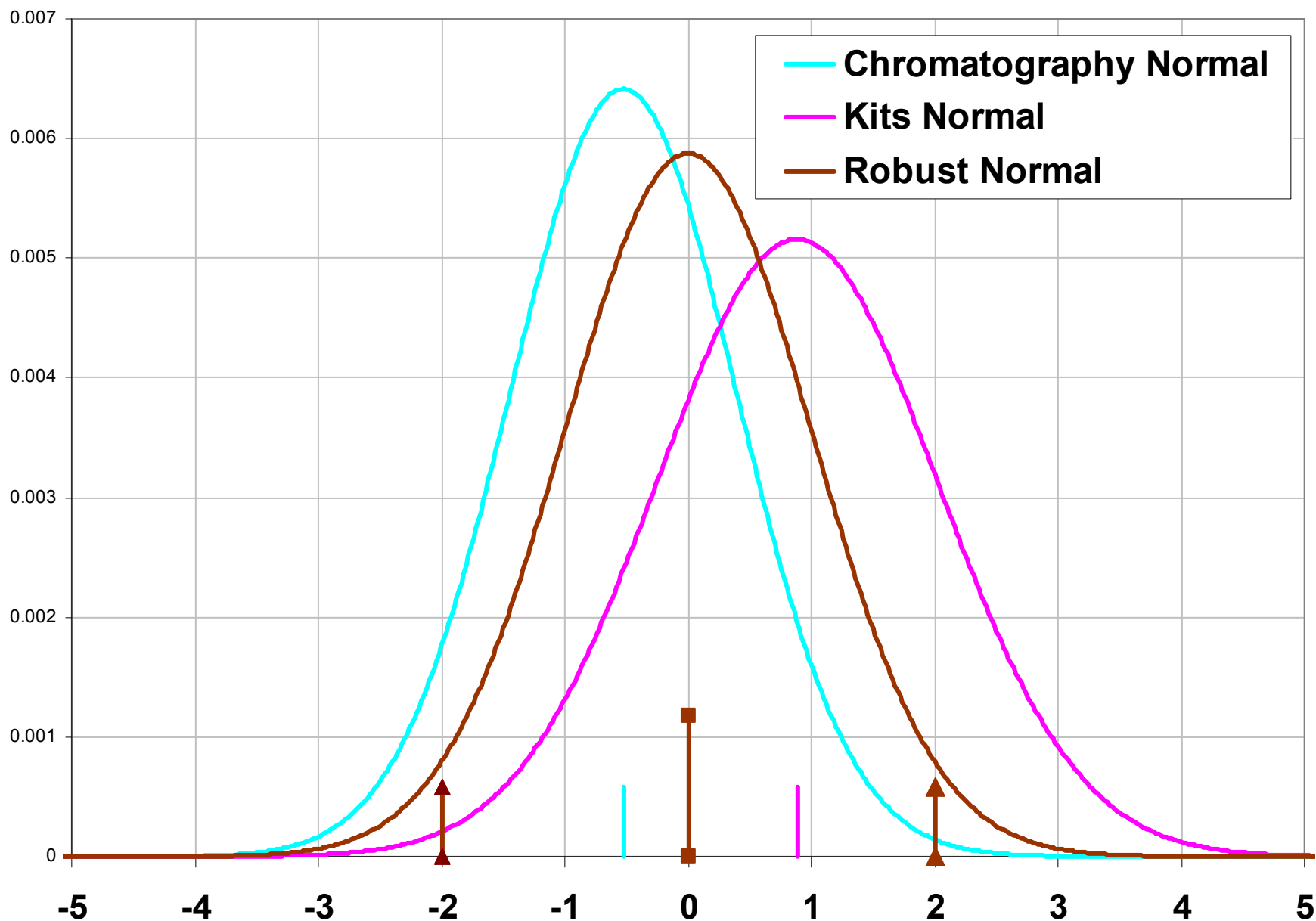
Mycotoxins

“Of Kits and Chromatography”

The Methods

Kits	Chromatography
Charm ROSA	TLC
Neogen Veratox	Vicam
r-Biopharm Ridascreen	GC-ECD
Romer AgraQuant	GC-MS
	LC
	LC post-col photochem der. FI
	LC-FI
	LC-FI OPA der.
	LC-FI, AOCS
	LC-FI, ISO
	LC-MS
	LC-MS/MS
	LC-PCD FI
	LC-PCD PB/PB electrochem der FI

Separating Kits from Chromatography



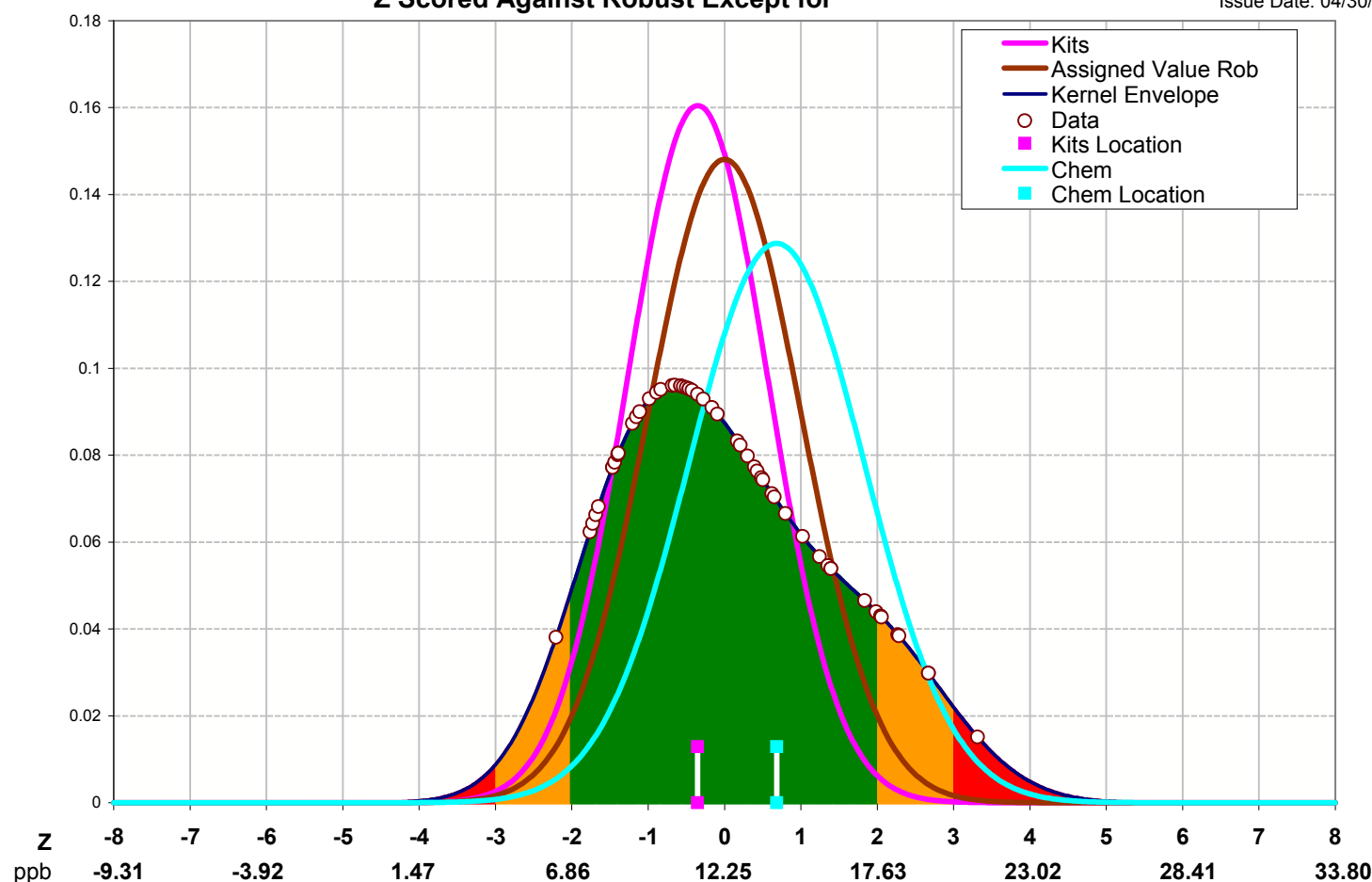
TOTAL AFLATOXIN CHARTS

Total Aflatoxin (ppb) Code: 600 - In Sample # 201561, Dairy Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 04/30/2015



Rob AV Curve 12.25 (ppb) \pm 2.69 (ppb)
 Chem Curve 14.08 (ppb) \pm 3.10 (ppb)
 Kits Curve 11.30 (ppb) \pm 2.49 (ppb)

Participating Labs 25

Methods Used 10
 Kernel Bandwidth 2.02 (ppb)
 Number of Non-Detects 0
 Number of Detects 54

Unique LOD's at:

18 Kits
 9 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 75.4%
 Chem overlapping with Kits 91.5%

Code	# Dup. Tests	kits = 1	Method
600.98	2	1	Other Rapid Test Kit
600.01	11	1	Neogen Veratox Aflatoxin
600.07	1	1	Romer AgraQuant Total Afl 1-20ppb
600.02	1	1	Neogen Veratox Aflatoxin HS
600.21	4	0	LC-PCD FI
600.12	1	1	r-Biopharm Ridascreen FAST Afl
600.24	2	0	LC-MS/MS
600.14	1	0	Vicam Aflatest
600.13	2	1	r-Biopharm Ridascreen FAST Afl SC
600.20	2	0	LC

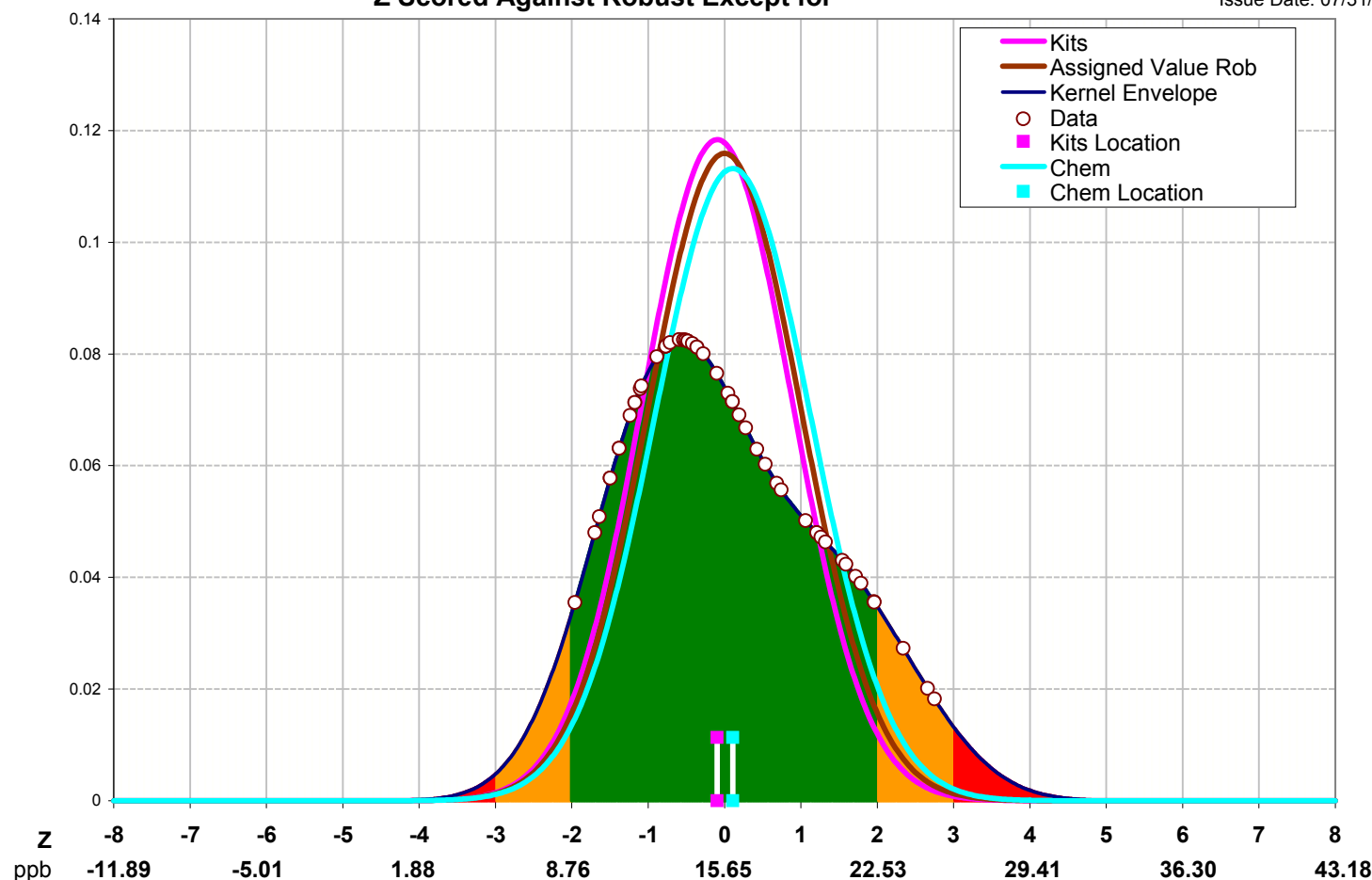
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Aflatoxin (ppb) Code: 600 - In Sample # 201562, Poultry Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 07/31/2015



Rob AV Curve 15.65 (ppb) \pm 3.44 (ppb)
 Chem Curve 16.02 (ppb) \pm 3.52 (ppb)
 Kits Curve 15.32 (ppb) \pm 3.37 (ppb)
 Participating Labs 23

Methods Used 10
 Kernel Bandwidth 2.58 (ppb)
 Number of Non-Detects 0
 Number of Detects 52

Unique LOD's at:

16 Kits
 10 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 93.9%
 Chem overlapping with Kits 95.9%

Code	# Dup. Tests	kits = 1	Method
600.14	2	0	Vicam Aflatest
600.98	2	1	Other Rapid Test Kit
600.21	3	0	LC-PCD FI
600.01	9	1	Neogen Veratox Aflatoxin
600.22	1	0	Vicam Aflatest, LC-FI
600.12	2	1	r-Biopharm Ridascreen FAST Afl
600.02	1	1	Neogen Veratox Aflatoxin HS
600.20	3	0	LC
600.13	2	1	r-Biopharm Ridascreen FAST Afl SC
600.24	1	0	LC-MS/MS

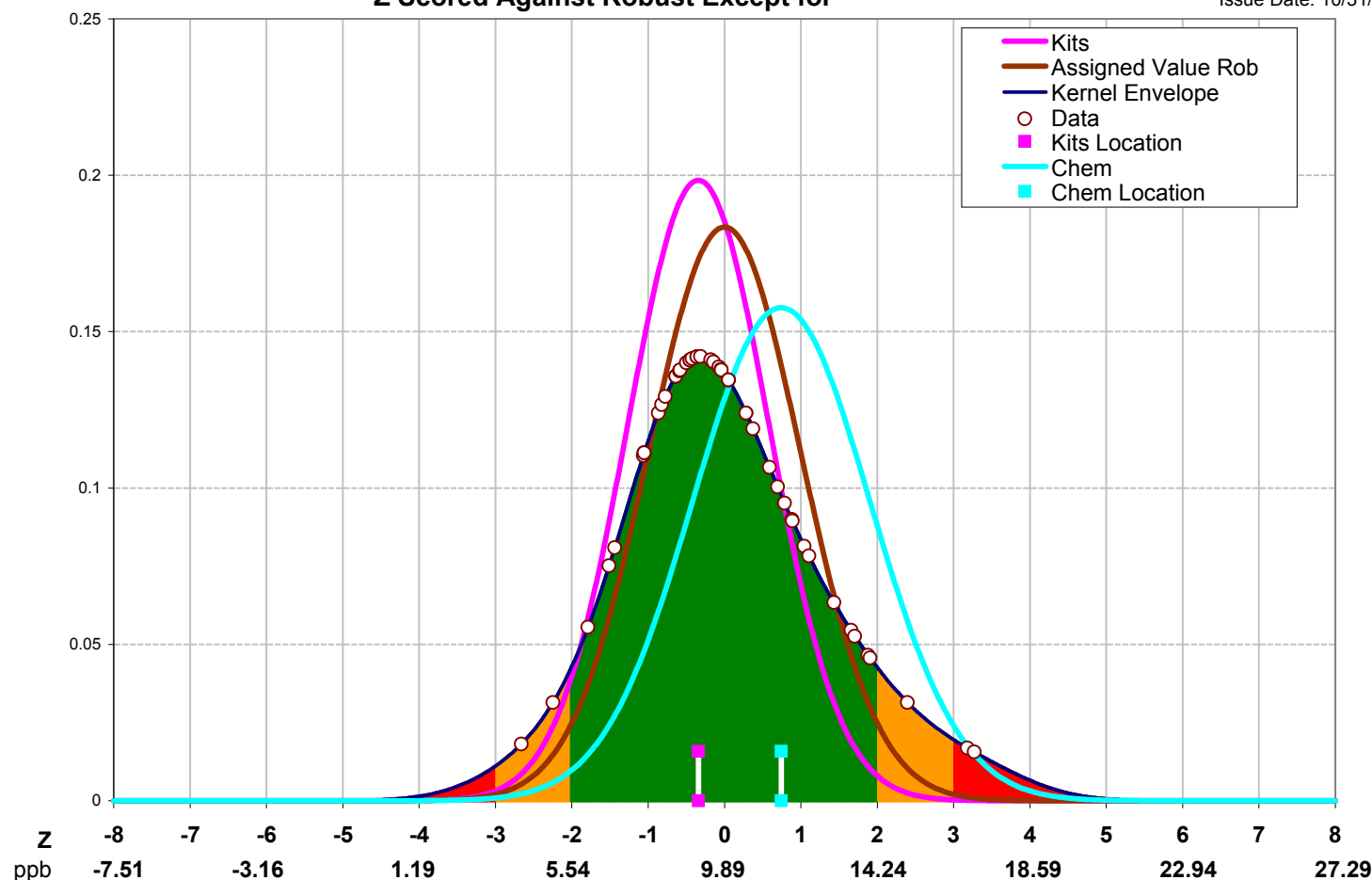
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Aflatoxin (ppb) Code: 600 - In Sample # 201563, Equine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 10/31/2015



Rob AV Curve 9.89 (ppb) \pm 2.17 (ppb)
Chem Curve 11.50 (ppb) \pm 2.53 (ppb)
Kits Curve 9.14 (ppb) \pm 2.01 (ppb)
Participating Labs 21

Methods Used 9
 Kernel Bandwidth 1.63 (ppb)
 Number of Non-Detects 0
 Number of Detects 50

Unique LOD's at:
16 Kits
9 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 73.8%
 Chem overlapping with Kits 91.0%

Code	# Dup. Tests	kits = 1	Method
600.12	1	1	r-Biopharm Ridascreen FAST Afl
600.01	10	1	Neogen Veratox Aflatoxin
600.02	1	1	Neogen Veratox Aflatoxin HS
600.21	3	0	LC-PCD FI
600.98	2	1	Other Rapid Test Kit
600.20	3	0	LC
600.14	2	0	Vicam Aflatest
600.13	2	1	r-Biopharm Ridascreen FAST Afl SC
600.24	1	0	LC-MS/MS

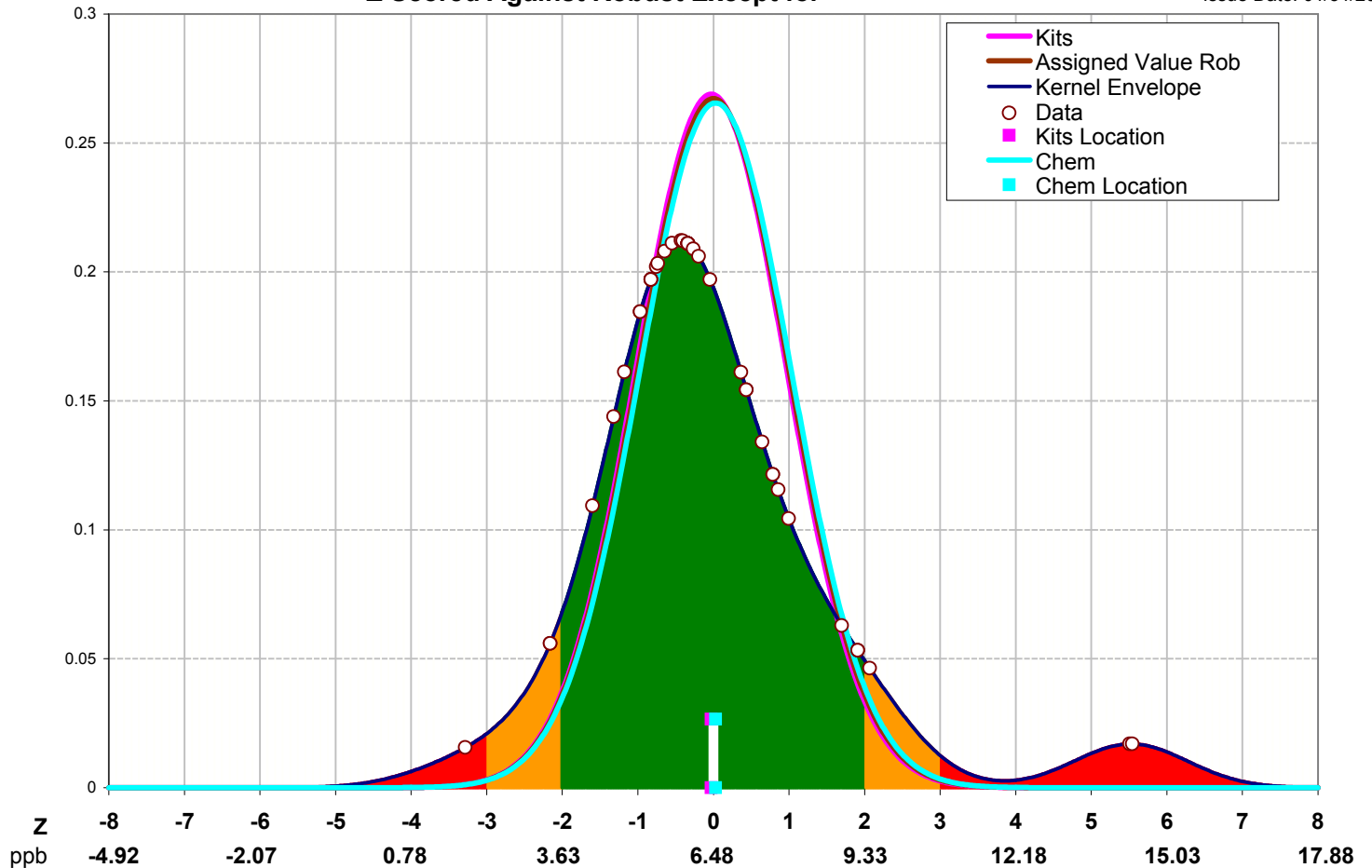
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Aflatoxin (ppb) Code: 600 - In Sample # 201564, Pet Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 01/31/2016



Rob AV Curve 6.48 (ppb) \pm 1.43 (ppb)
 Chem Curve 6.52 (ppb) \pm 1.43 (ppb)
 Kits Curve 6.44 (ppb) \pm 1.42 (ppb)

Participating Labs 21

Methods Used 9
 Kernel Bandwidth 1.07 (ppb)
 Number of Non-Detects 2
 Number of Detects 44

Unique LOD's at: 5 (ppb)

15 Kits
 7 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 95.1%
 Chem overlapping with Kits 95.7%

Code	# Dup. Tests	kits = 1	Method
600.01	10	1	Neogen Veratox Aflatoxin
600.02	1	1	Neogen Veratox Aflatoxin HS
600.98	2	1	Other Rapid Test Kit
600.22	1	0	Vicam Aflatest, LC-FI
600.21	3	0	LC-PCD FI
600.14	1	0	Vicam Aflatest
600.20	2	0	LC
600.13	2	1	r-Biopharm Ridascreen FAST Afl SC
600.12	1	1	r-Biopharm Ridascreen FAST Afl

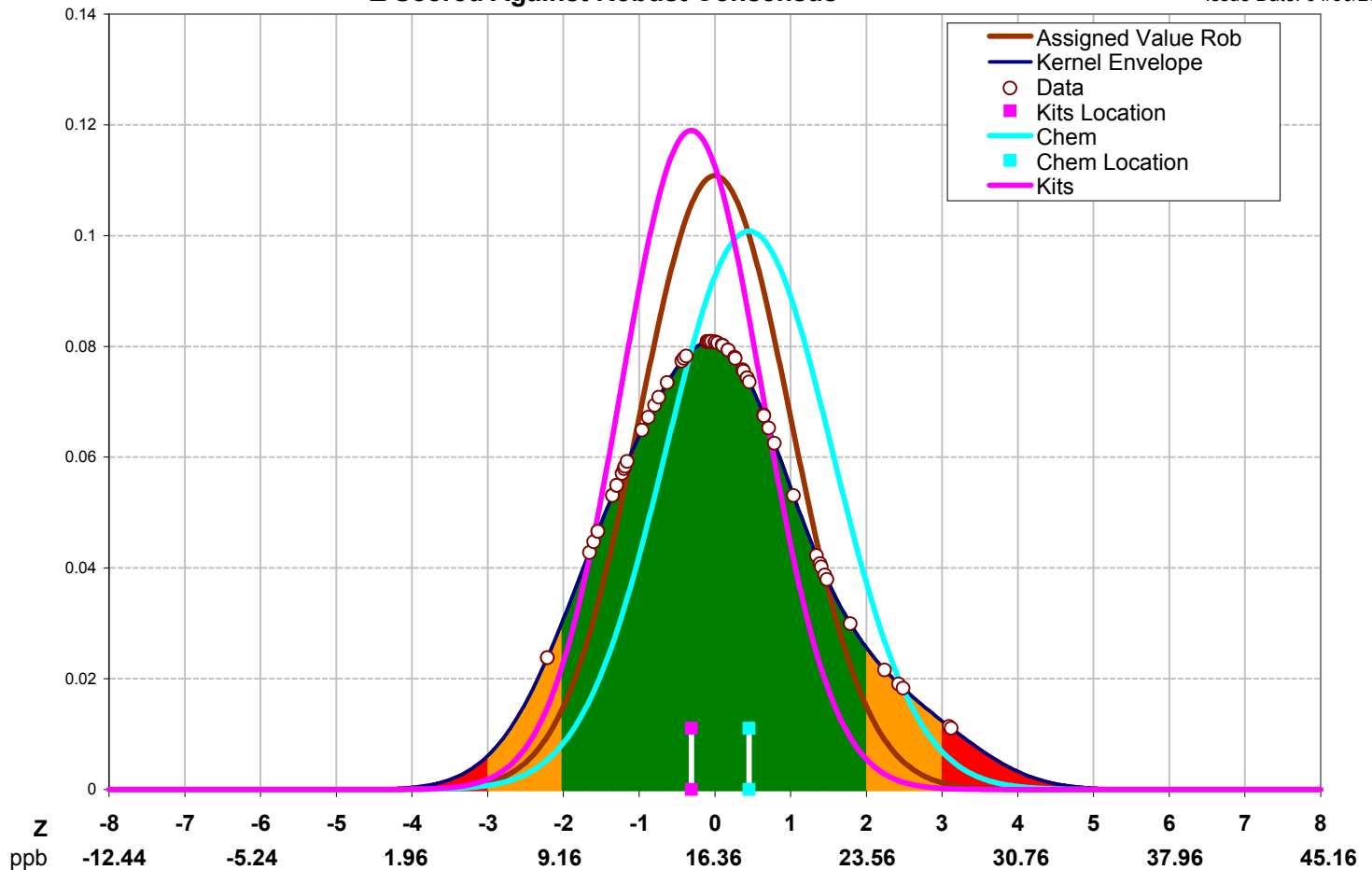
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Aflatoxin (ppb) Code: 600 - In Sample # 201661, Beef Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 04/30/2016



Rob AV Curve 16.36 (ppb) \pm 3.60 (ppb)
 Chem Curve 17.99 (ppb) \pm 3.96 (ppb)
 Kits Curve 15.24 (ppb) \pm 3.35 (ppb)

Participating Labs 26

Methods Used 10
 Kernel Bandwidth 2.70 (ppb)
 Number of Non-Detects 0
 Number of Detects 60

Unique LOD's at:

17 Kits
 13 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 83.3%
 Chem overlapping with Kits 93.8%

Code	# Dup. Tests	kits = 1	Method
600.14	2	0	Vicam Aflatest
600.24	3	0	LC-MS/MS
600.02	1	1	Neogen Veratox Aflatoxin HS
600.01	10	1	Neogen Veratox Aflatoxin
600.21	4	0	LC-PCD FI
600.12	2	1	r-Biopharm Ridascreen FAST Afl
600.20	4	0	LC
600.98	1	1	Other Rapid Test Kit
600.13	2	1	r-Biopharm Ridascreen FAST Afl SC
600.08	1	1	Romer AgraQuant Total Afl 4-40ppb

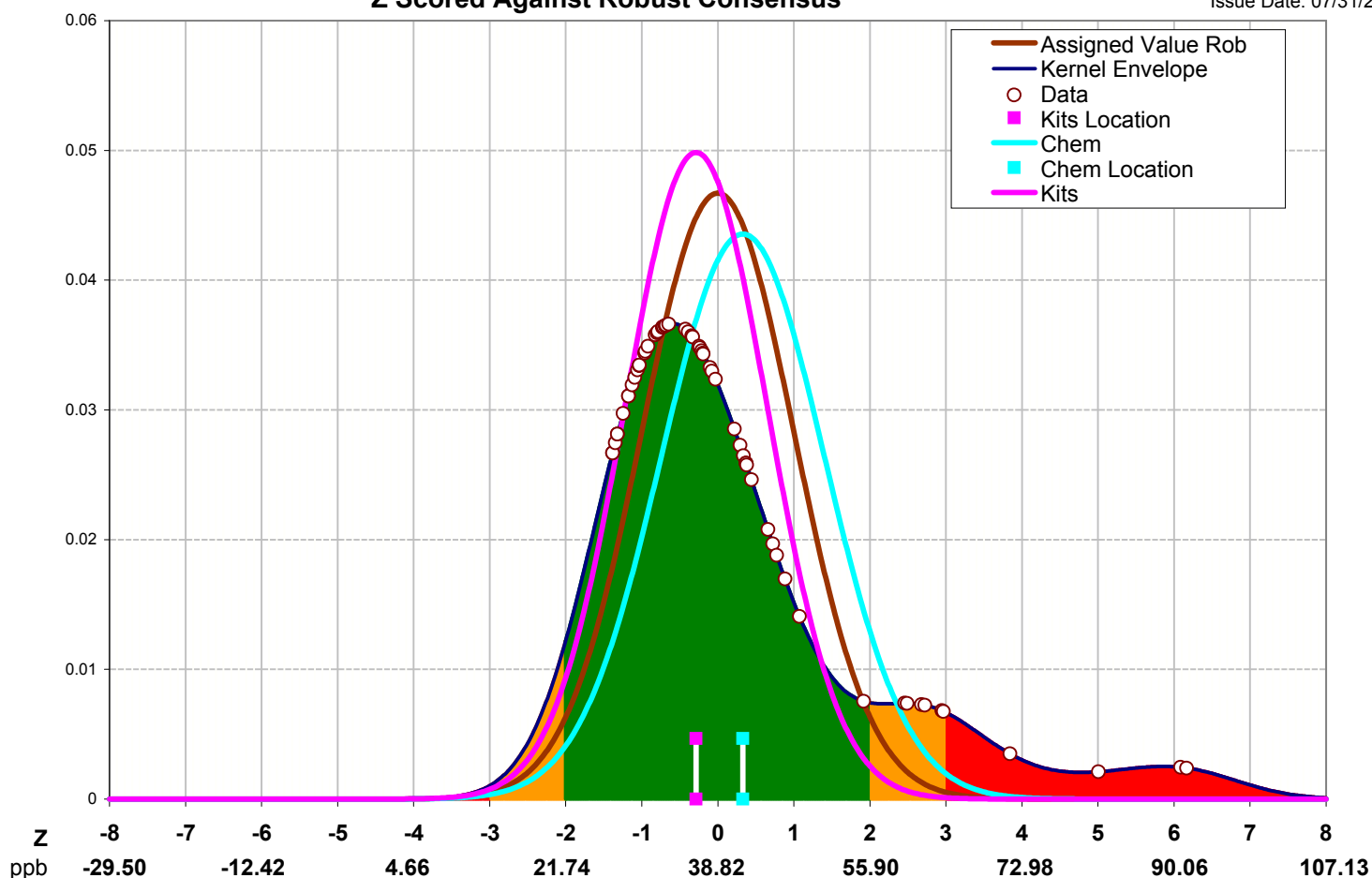
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Aflatoxin (ppb) Code: 600 - In Sample # 201662, Equine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 07/31/2016



Rob AV Curve 38.82 (ppb) \pm 8.54 (ppb)
Chem Curve 41.63 (ppb) \pm 9.16 (ppb)
Kits Curve 36.38 (ppb) \pm 8.00 (ppb)
Participating Labs 27

Methods Used 9
 Kernel Bandwidth 6.40 (ppb)
 Number of Non-Detects 0
 Number of Detects 60

Unique LOD's at:
16 Kits
14 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 87.0%
 Chem overlapping with Kits 94.7%

Code	# Dup. Tests	kits = 1	Method
600.01	10	1	Neogen Veratox Aflatoxin
600.14	2	0	Vicam Aflatest
600.24	3	0	LC-MS/MS
600.21	4	0	LC-PCD FI
600.98	1	1	Other Rapid Test Kit
600.12	2	1	r-Biopharm Ridascreen FAST Afl
600.20	5	0	LC
600.08	1	1	Romer AgraQuant Total Afl 4-40ppb
600.13	2	1	r-Biopharm Ridascreen FAST Afl SC

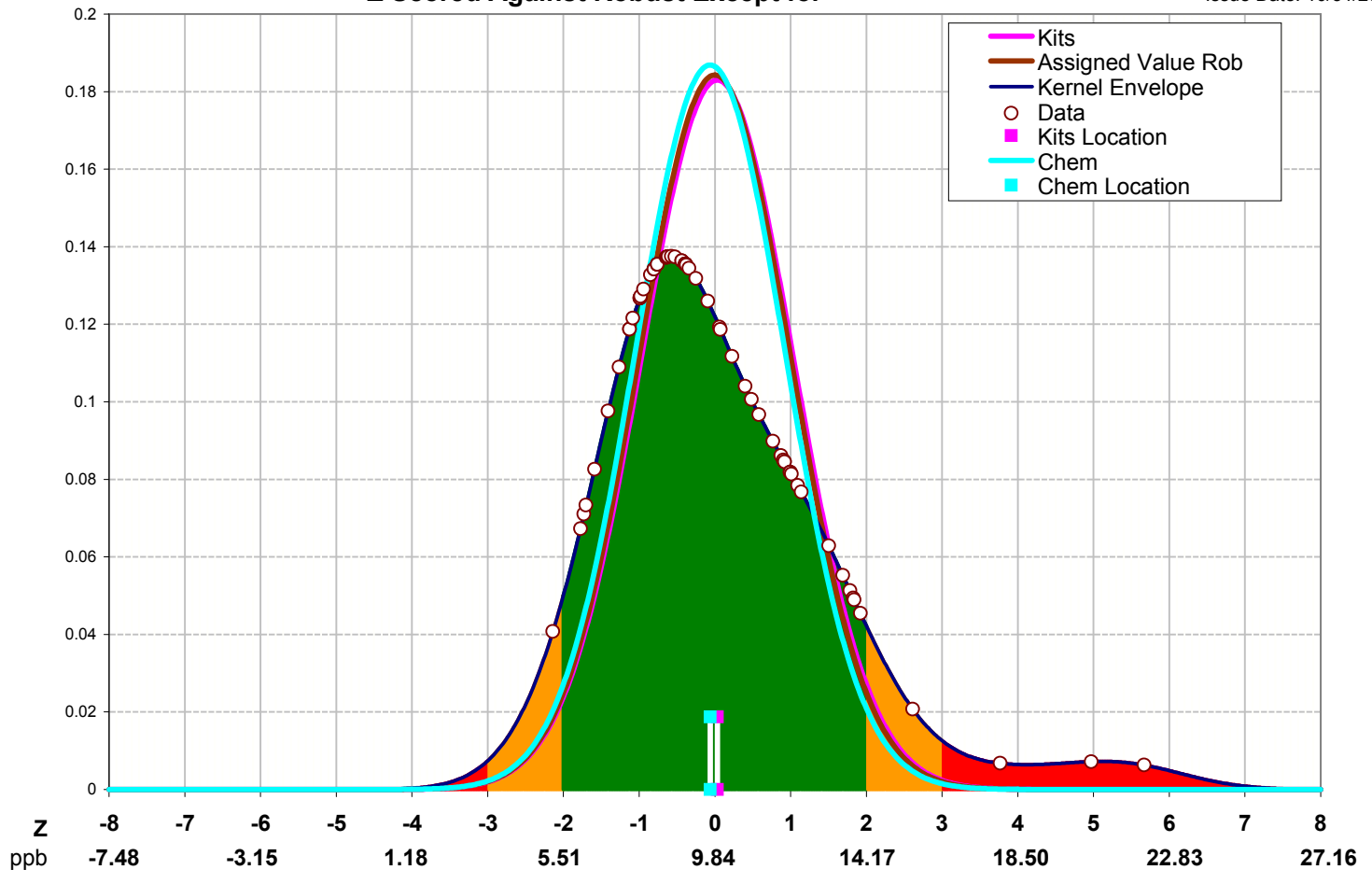
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Aflatoxin (ppb) Code: 600 - In Sample # 201663, Poultry Feed, Medicated

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 10/31/2016



Rob AV Curve 9.84 (ppb) \pm 2.16 (ppb)
Chem Curve 9.70 (ppb) \pm 2.13 (ppb)
Kits Curve 9.91 (ppb) \pm 2.18 (ppb)
Participating Labs 29

Methods Used 12
 Kernel Bandwidth 1.62 (ppb)
 Number of Non-Detects 0
 Number of Detects 66

Unique LOD's at:
 18.50
 22.83
 27.16

20 Kits
13 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 95.8%
 Chem overlapping with Kits 94.9%

Code	# Dup. Tests	kits = 1	Method
600.24	3	0	LC-MS/MS
600.12	2	1	r-Biopharm Ridascreen FAST Afl
600.01	11	1	Neogen Veratox Aflatoxin
600.21	5	0	LC-PCD FI
600.98	1	1	Other Rapid Test Kit
600.11	1	1	r-Biopharm Ridascreen Afl total
600.20	3	0	LC
600.14	2	0	Vicam Aflatest
600.07	1	1	Romer AgraQuant Total Afl 1-20ppb
600.04	1	1	Charm ROSA Fast 5 Aflatoxin Quant
600.13	2	1	r-Biopharm Ridascreen FAST Afl SC
600.08	1	1	Romer AgraQuant Total Afl 4-40ppb

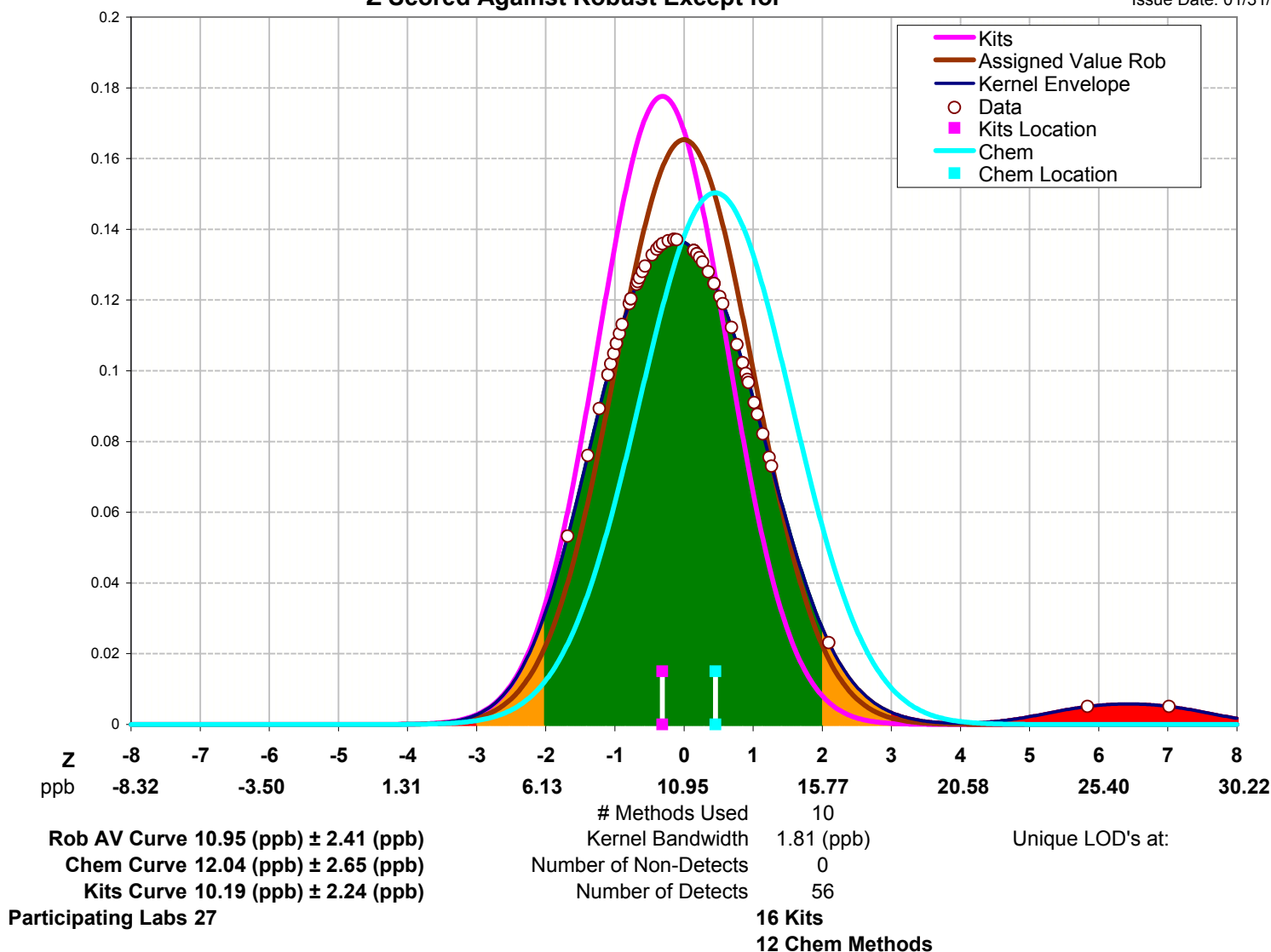
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Aflatoxin (ppb) Code: 600 - In Sample # 201664, Dog Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 01/31/2017



Code	# Dup. Tests	kits = 1	Method
600.12	1	1	r-Biopharm Ridascreen FAST Afl
600.01	11	1	Neogen Veratox Aflatoxin
600.22	1	0	Vicam Aflatest, LC-FI
600.98	2	1	Other Rapid Test Kit
600.21	5	0	LC-PCD FI
600.24	3	0	LC-MS/MS
600.20	2	0	LC
600.14	1	0	Vicam Aflatest
600.13	1	1	r-Biopharm Ridascreen FAST Afl SC
600.08	1	1	Romer AgraQuant Total Afl 4-40ppb

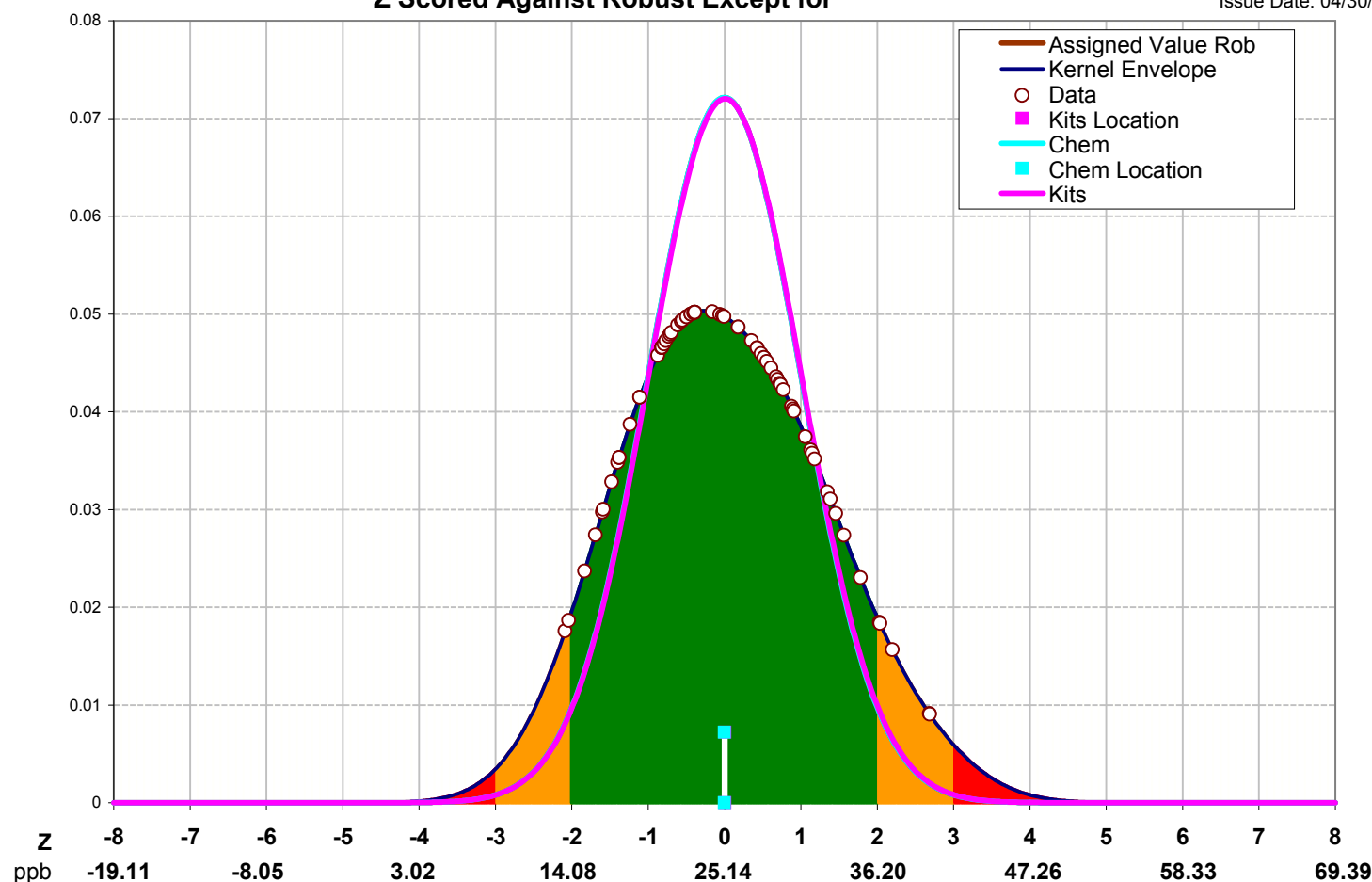
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Aflatoxin (ppb) Code: 600 - In Sample # 201761, Swine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 04/30/2017



Rob AV Curve 25.14 (ppb) \pm 5.53 (ppb)
Chem Curve 25.13 (ppb) \pm 5.53 (ppb)
Kits Curve 25.18 (ppb) \pm 5.54 (ppb)
Participating Labs 30

Methods Used 12
 Kernel Bandwidth 4.15 (ppb)
 Number of Non-Detects 0
 Number of Detects 70

Unique LOD's at:
24 Kits
11 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 95.5%
 Chem overlapping with Kits 95.4%

Code	# Dup. Tests	kits = 1	Method
600.12	3	1	r-Biopharm Ridascreen FAST Afl
600.13	3	1	r-Biopharm Ridascreen FAST Afl SC
600.10	1	0	TLC
600.98	2	1	Other Rapid Test Kit
600.21	3	0	LC-PCD FI
600.14	1	0	Vicam Aflatest
600.20	4	0	LC
600.01	11	1	Neogen Veratox Aflatoxin
600.08	2	1	Romer AgraQuant Total Afl 4-40ppb
600.07	1	1	Romer AgraQuant Total Afl 1-20ppb
600.04	2	1	Charm ROSA Fast 5 Aflatoxin Quant
600.24	2	0	LC-MS/MS

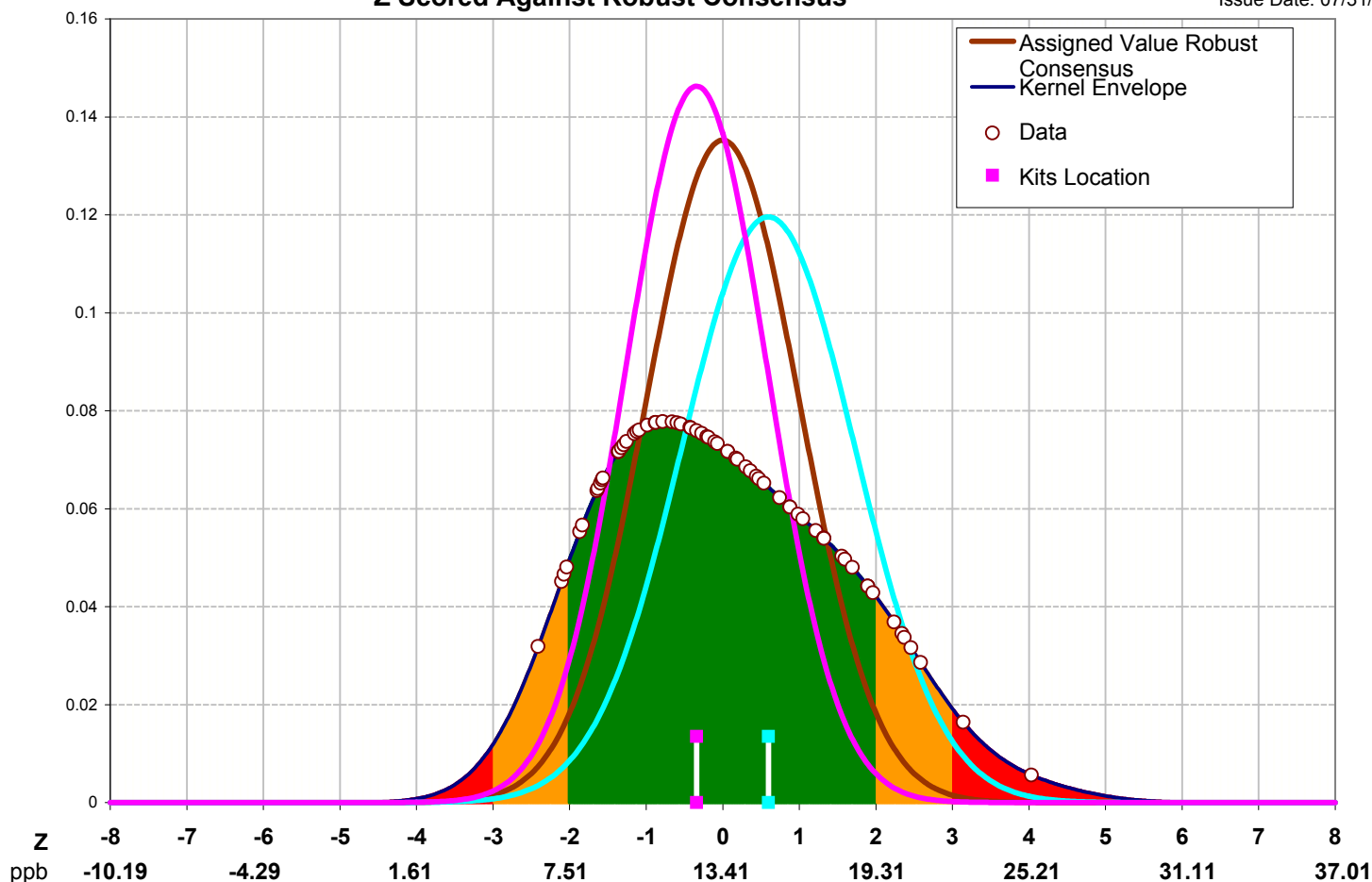
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Aflatoxin (ppb) Code: 600 - In Sample # 201762, Dairy Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 07/31/2017



Consensus AV Curve 13.41 (ppb) \pm 2.95 (ppb)

Chromatography Curve 15.17 (ppb) \pm 3.34 (ppb)

Kits Curve 12.40 (ppb) \pm 2.73 (ppb)

Participating Labs 32

Methods Used 9
Kernel Bandwidth 2.21 (ppb)
Number of Non-Detects 0
Number of Detects 66

Unique LOD's at:

20 Kits
13 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chromatography 78.3%

Chromatography overlapping with Kits 92.4%

Code	# Dup. Tests	kits = 1	Method
600.12	2	1	r-Biopharm Ridascreen FAST Afl
600.14	1	0	Vicam Aflatest
600.01	12	1	Neogen Veratox Aflatoxin
600.98	3	1	Other Rapid Test Kit
600.24	4	0	LC-MS/MS
600.13	2	1	r-Biopharm Ridascreen FAST Afl SC
600.21	4	0	LC-PCD FI
600.20	4	0	LC
600.04	1	1	Charm ROSA Fast 5 Aflatoxin Quant

Note: Chart Z (X axis) refers to Assigned Value Robust Consensus

Total Aflatoxin, Code 600

**Horwitz Expanded
Uncertainty**

**Do the Assigned
Values fall within
the Uncertainty**

Sample	# Kits	# Chrom.	-2 σ	+2 σ	Kits	Chrom.
201561	18	9	6.9	17.6	OK	OK
201562	16	10	8.8	22.5	OK	OK
201563	16	9	5.5	14.2	OK	OK
201564	16	7	3.6	9.3	OK	OK
201661	17	13	9.2	23.6	OK	OK
201662	16	14	21.7	55.9	OK	OK
201663	20	13	5.5	14.2	OK	OK
201664	16	12	6.1	15.8	OK	OK
201761	24	11	14.1	36.2	OK	OK
201762	20	13	7.5	19.3	OK	OK

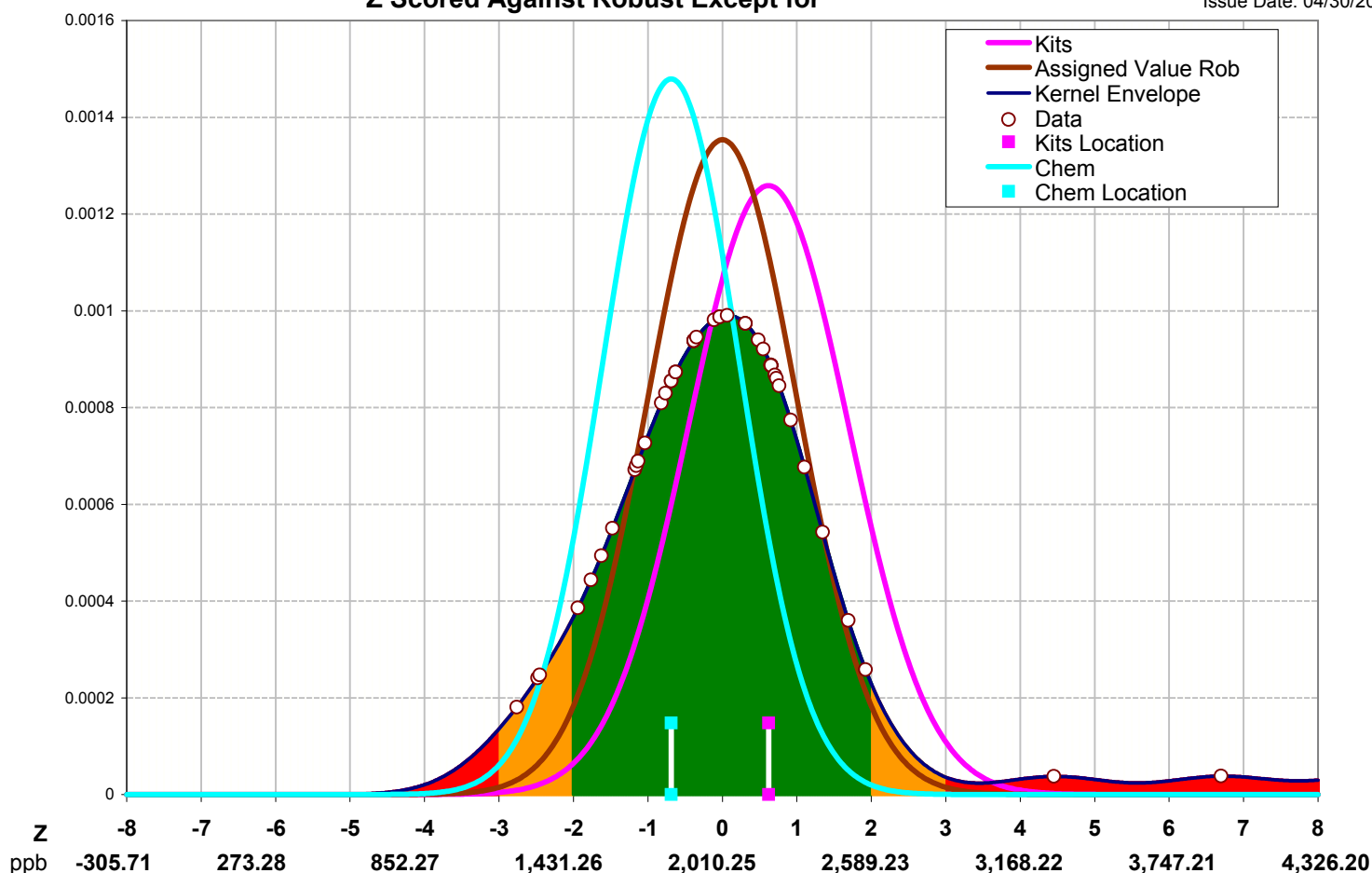
DON CHARTS

Deoxynivalenol (ppb) Code: 610 - In Sample # 201561, Dairy Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 04/30/2015



Rob AV Curve 2,010.25 (ppb) \pm 289.49 (ppb)
Chem Curve 1,810.96 (ppb) \pm 264.93 (ppb)
Kits Curve 2,189.91 (ppb) \pm 311.33 (ppb)
Participating Labs 29

Methods Used 10
 Kernel Bandwidth 217.12 (ppb)
 Number of Non-Detects 0
 Number of Detects 50

Unique LOD's at:
14 Kits
11 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 82.1%
 Chem overlapping with Kits 68.4%

Code	# Dup. Tests	kits = 1	Method
610.01	11	1	Neogen Veratox for DON
610.05	1	1	Romer AgraQuant DON
610.99	1	0	Miscellaneous
610.23	6	0	LC-MS/MS
610.20	4	0	LC
610.06	1	1	r-Biopharm Ridascreen DON
610.25	1	0	GC-MS
610.07	3	1	r-Biopharm Ridascreen FAST DON
610.08	1	1	r-Biopharm Ridascreen FAST DON SC
610.98	1	1	Other Rapid Test Kit

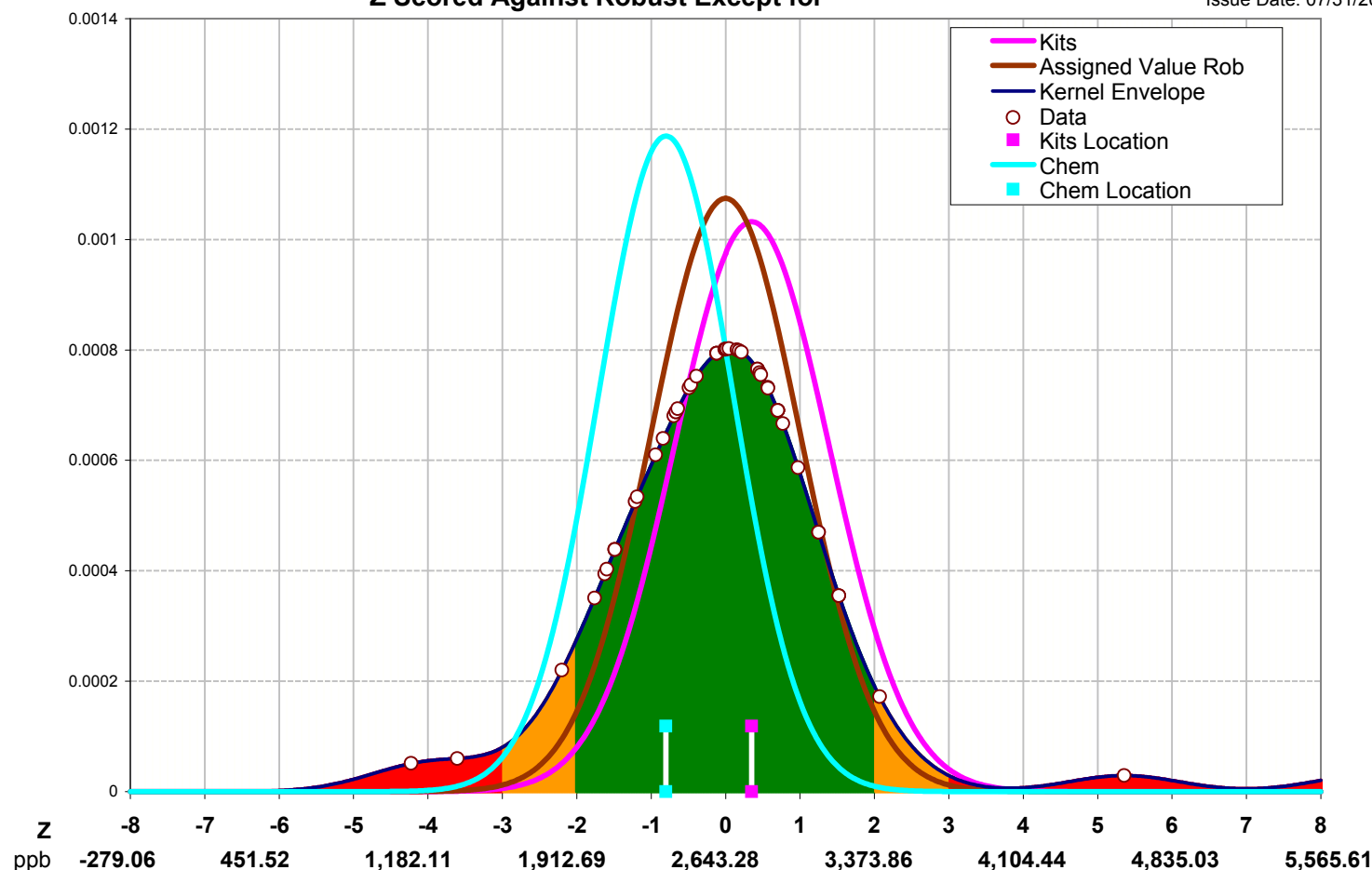
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Deoxynivalenol (ppb) Code: 610 - In Sample # 201562, Poultry Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 07/31/2015



Rob AV Curve 2,643.28 (ppb) \pm 365.29 (ppb)
 Chem Curve 2,350.26 (ppb) \pm 330.59 (ppb)
 Kits Curve 2,771.93 (ppb) \pm 380.34 (ppb)

Participating Labs 25

Methods Used 9
 Kernel Bandwidth 273.97 (ppb)
 Number of Non-Detects 0
 Number of Detects 50

Unique LOD's at:

16 Kits
 9 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 84.7%
 Chem overlapping with Kits 73.3%

Code	# Dup. Tests	kits = 1	Method
610.98	2	1	Other Rapid Test Kit
610.23	5	0	LC-MS/MS
610.20	2	0	LC
610.07	3	1	r-Biopharm Ridascreen FAST DON
610.25	1	0	GC-MS
610.01	10	1	Neogen Veratox for DON
610.06	1	1	r-Biopharm Ridascreen DON
610.08	1	1	r-Biopharm Ridascreen FAST DON SC
610.99	1	0	Miscellaneous

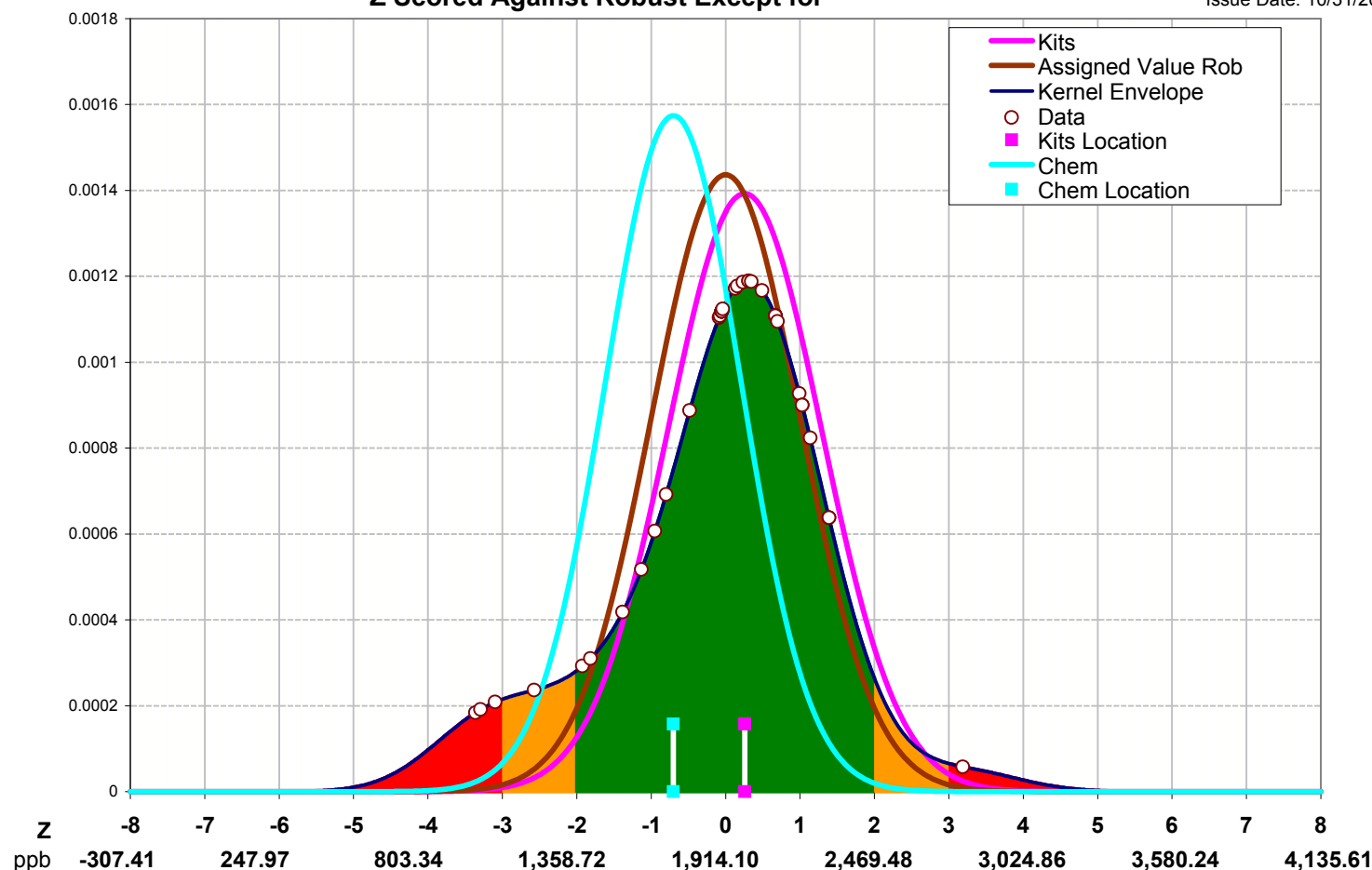
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Deoxynivalenol (ppb) Code: 610 - In Sample # 201563, Equine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 10/31/2015



Rob AV Curve 1,914.10 (ppb) \pm 277.69 (ppb)
 Chem Curve 1,719.00 (ppb) \pm 253.45 (ppb)
 Kits Curve 1,985.58 (ppb) \pm 286.47 (ppb)

Participating Labs 23

Methods Used 9
 Kernel Bandwidth 208.27 (ppb)
 Number of Non-Detects 0
 Number of Detects 40

Unique LOD's at:

13 Kits
 7 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 88.6%
 Chem overlapping with Kits 79.6%

Code	# Dup. Tests	kits = 1	Method
610.01	11	1	Neogen Veratox for DON
610.98	2	1	Other Rapid Test Kit
610.20	2	0	LC
610.23	3	0	LC-MS/MS
610.07	2	1	r-Biopharm Ridascreen FAST DON
610.25	1	0	GC-MS
610.06	1	1	r-Biopharm Ridascreen DON
610.08	1	1	r-Biopharm Ridascreen FAST DON SC
610.99	1	0	Miscellaneous

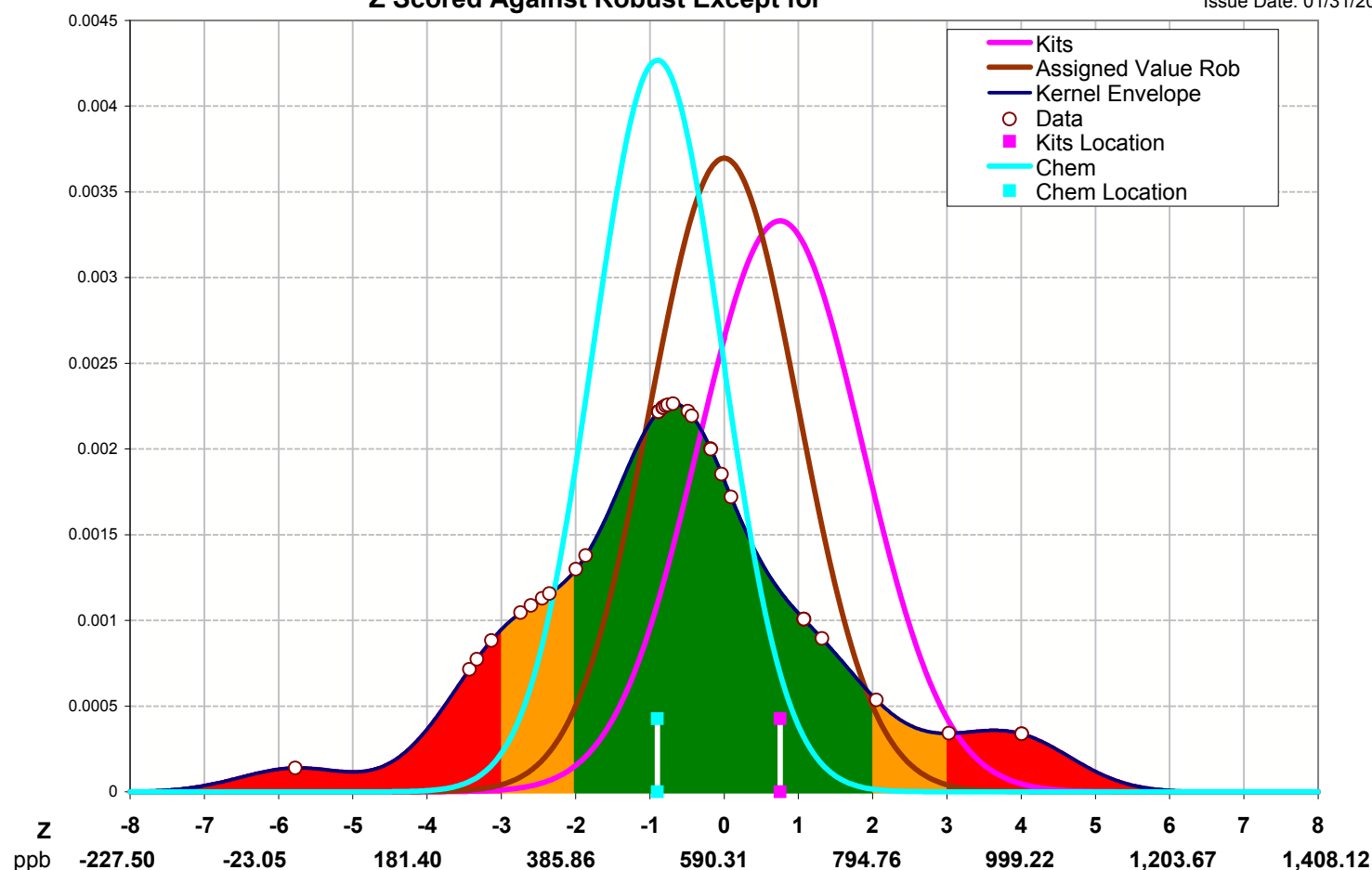
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Deoxynivalenol (ppb) Code: 610 - In Sample # 201564, Pet Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 01/31/2016



Rob AV Curve 590.31 (ppb) \pm 102.23 (ppb)
Chem Curve 498.51 (ppb) \pm 88.55 (ppb)
Kits Curve 667.41 (ppb) \pm 113.46 (ppb)
Participating Labs 22

Methods Used 8
 Kernel Bandwidth 76.67 (ppb)
 Number of Non-Detects 4
 Number of Detects 38

Unique LOD's at: 0.1 (ppb)
 240 (ppb)
 500 (ppb)

12 Kits
6 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 74.4%
 Chem overlapping with Kits 52.8%

Code	# Dup. Tests	kits = 1	Method
610.01	10	1	Neogen Veratox for DON
610.98	2	1	Other Rapid Test Kit
610.07	2	1	r-Biopharm Ridascreen FAST DON
610.23	4	0	LC-MS/MS
610.20	2	0	LC
610.08	1	1	r-Biopharm Ridascreen FAST DON SC
610.99	1	0	Miscellaneous
610.06	1	1	r-Biopharm Ridascreen DON

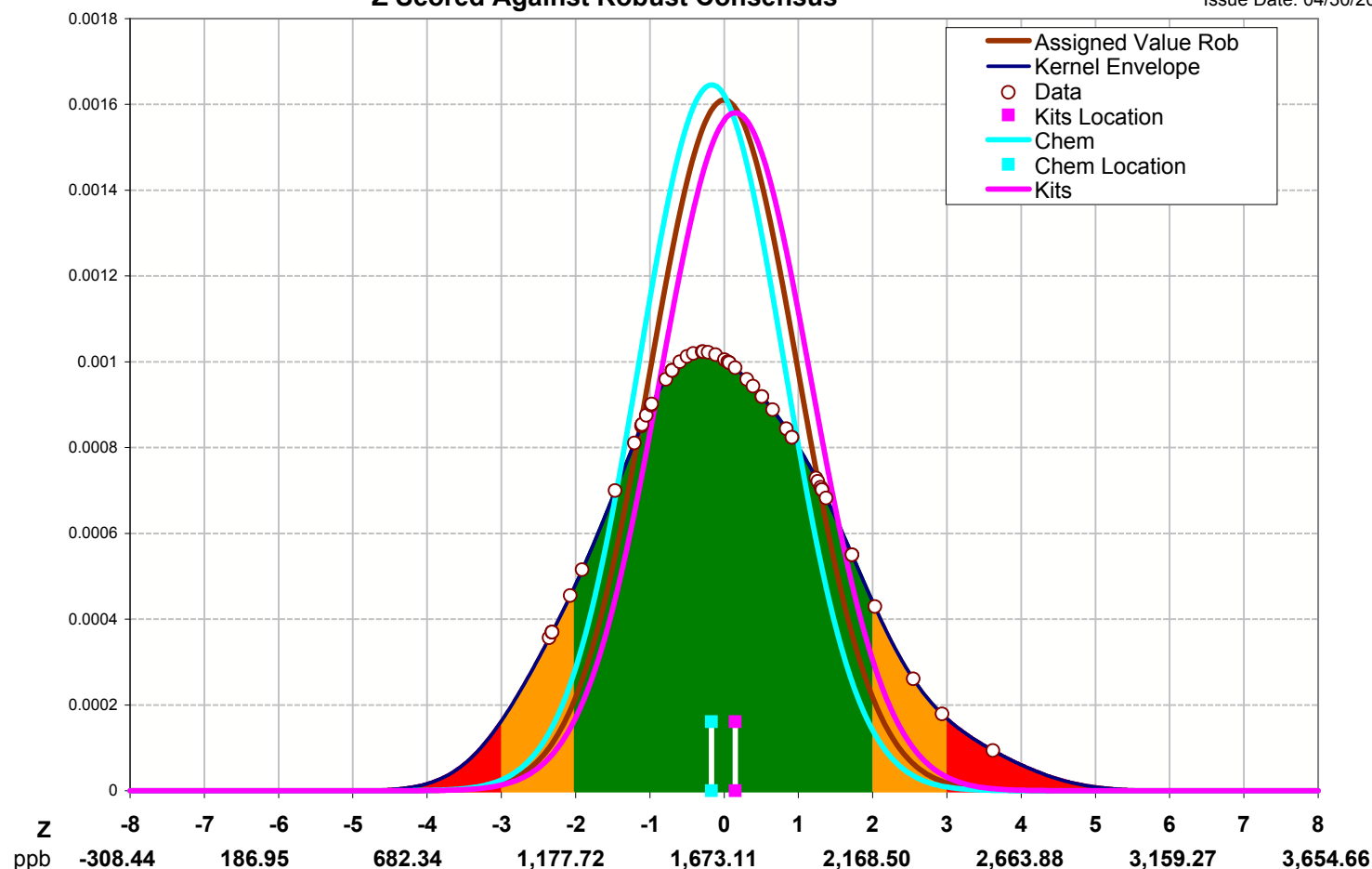
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Deoxynivalenol (ppb) Code: 610 - In Sample # 201661, Beef Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 04/30/2016



Rob AV Curve 1,673.11 (ppb) \pm 247.69 (ppb)
 Chem Curve 1,631.29 (ppb) \pm 242.42 (ppb)
 Kits Curve 1,710.69 (ppb) \pm 252.41 (ppb)

Participating Labs 28

Methods Used 9
 Kernel Bandwidth 185.77 (ppb)
 Number of Non-Detects 0
 Number of Detects 52

Unique LOD's at:
 13 Kits
 13 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 95.2%
 Chem overlapping with Kits 93.3%

Code	# Dup. Tests	kits = 1	Method
610.20	5	0	LC
610.01	9	1	Neogen Veratox for DON
610.23	7	0	LC-MS/MS
610.07	3	1	r-Biopharm Ridascreen FAST DON
610.06	1	1	r-Biopharm Ridascreen DON
610.25	1	0	GC-MS
610.21	1	0	LC-FI
610.08	1	1	r-Biopharm Ridascreen FAST DON SC
610.98	1	1	Other Rapid Test Kit

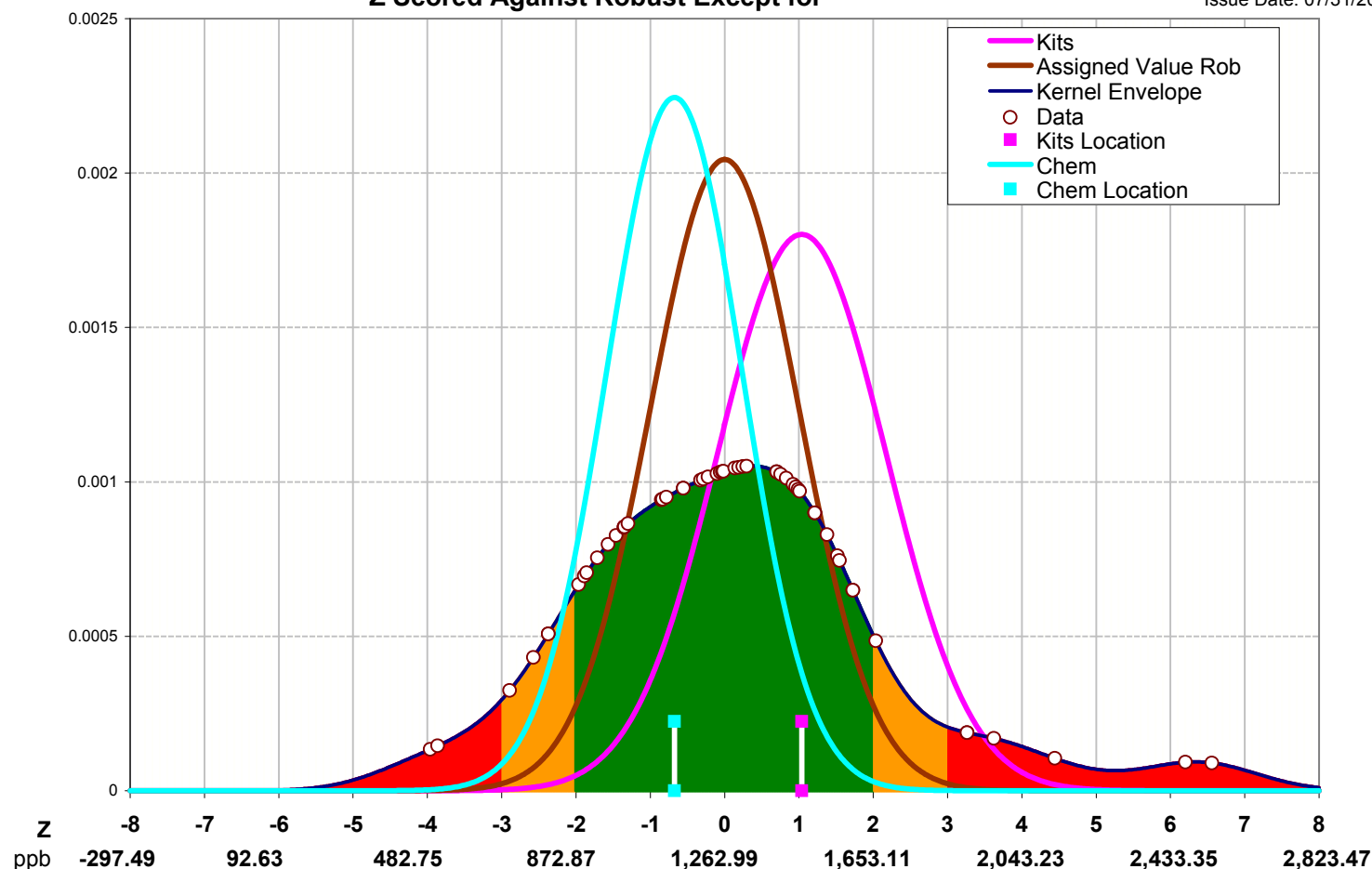
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Deoxynivalenol (ppb) Code: 610 - In Sample # 201662, Equine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 07/31/2016



Rob AV Curve 1,262.99 (ppb) ± 195.06 (ppb)
Chem Curve 1,131.17 (ppb) ± 177.62 (ppb)
Kits Curve 1,465.55 (ppb) ± 221.33 (ppb)
Participating Labs 31

Methods Used 9
 Kernel Bandwidth 146.30 (ppb)
 Number of Non-Detects 0
 Number of Detects 58

Unique LOD's at:
12 Kits
17 Chem Methods

Proportion Overlapping in Z = ± 2 Zone
 Kits overlapping with Chem 72.9%
 Chem overlapping with Kits 53.7%

Code	# Dup. Tests	kits = 1	Method
610.06	1	1	r-Biopharm Ridascreen DON
610.98	1	1	Other Rapid Test Kit
610.01	9	1	Neogen Veratox for DON
610.23	9	0	LC-MS/MS
610.25	1	0	GC-MS
610.20	6	0	LC
610.09	1	0	Vicam DON-V
610.07	3	1	r-Biopharm Ridascreen FAST DON
610.08	1	1	r-Biopharm Ridascreen FAST DON SC

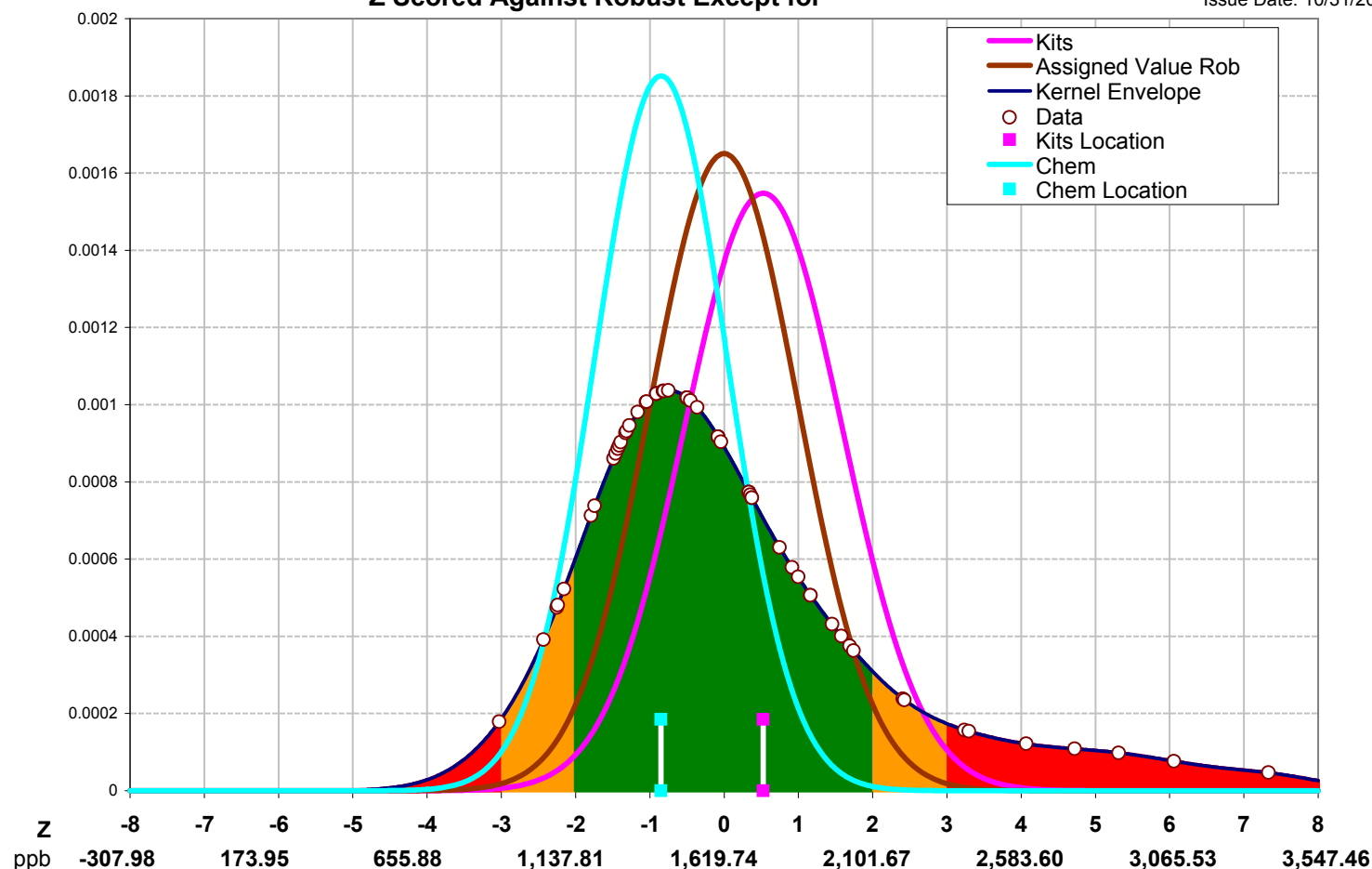
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Deoxynivalenol (ppb) Code: 610 - In Sample # 201663, Poultry Feed, Medicated

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 10/31/2016



Rob AV Curve 1,619.74 (ppb) \pm 240.97 (ppb)
Chem Curve 1,414.67 (ppb) \pm 214.79 (ppb)
Kits Curve 1,746.84 (ppb) \pm 256.94 (ppb)
Participating Labs 31

Methods Used 12
 Kernel Bandwidth 180.72 (ppb)
 Number of Non-Detects 0
 Number of Detects 60

Unique LOD's at:
17 Kits
13 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 80.1%
 Chem overlapping with Kits 64.6%

Code	# Dup. Tests	kits = 1	Method
610.01	11	1	Neogen Veratox for DON
610.06	2	1	r-Biopharm Ridascreen DON
610.23	7	0	LC-MS/MS
610.20	3	0	LC
610.07	3	1	r-Biopharm Ridascreen FAST DON
610.04	1	1	Charm ROSA Fast 5 DON Quant
610.98	1	1	Other Rapid Test Kit
610.25	1	0	GC-MS
610.09	1	0	Vicam DON-V
610.05	1	1	Romer AgraQuant DON
610.08	1	1	r-Biopharm Ridascreen FAST DON SC
610.21	1	0	LC-FI

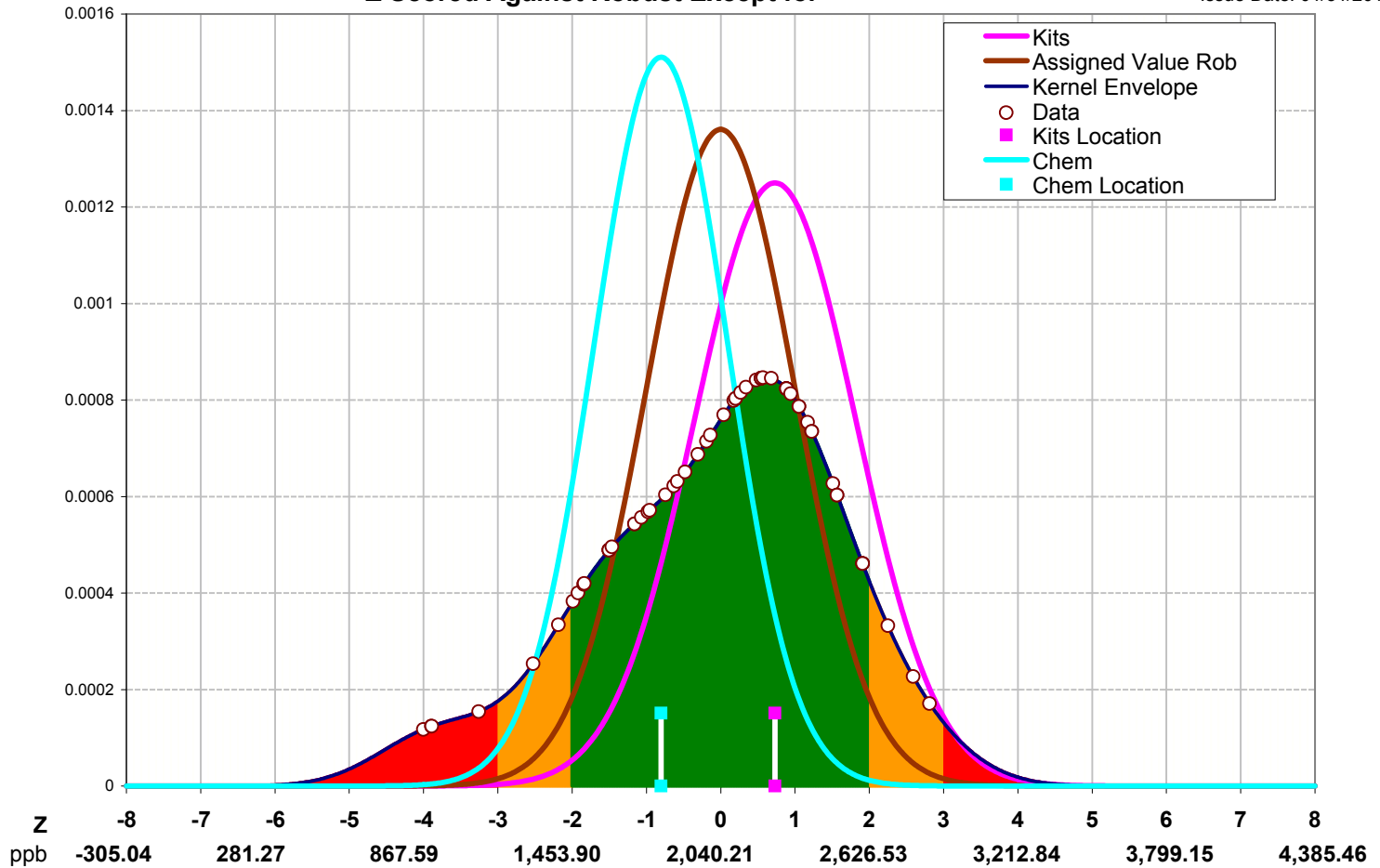
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Deoxynivalenol (ppb) Code: 610 - In Sample # 201664, Dog Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 01/31/2017



Rob AV Curve 2,040.21 (ppb) \pm 293.16 (ppb)
Chem Curve 1,804.62 (ppb) \pm 264.14 (ppb)
Kits Curve 2,254.82 (ppb) \pm 319.15 (ppb)
Participating Labs 29

Methods Used 7
 Kernel Bandwidth 219.87 (ppb)
 Number of Non-Detects 0
 Number of Detects 60
 Unique LOD's at:
16 Kits
14 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 76.2%
 Chem overlapping with Kits 59.6%

Code	# Dup. Tests	kits = 1	Method
610.01	12	1	Neogen Veratox for DON
610.23	9	0	LC-MS/MS
610.98	2	1	Other Rapid Test Kit
610.20	4	0	LC
610.06	1	1	r-Biopharm Ridascreen DON
610.09	1	0	Vicam DON-V
610.07	2	1	r-Biopharm Ridascreen FAST DON

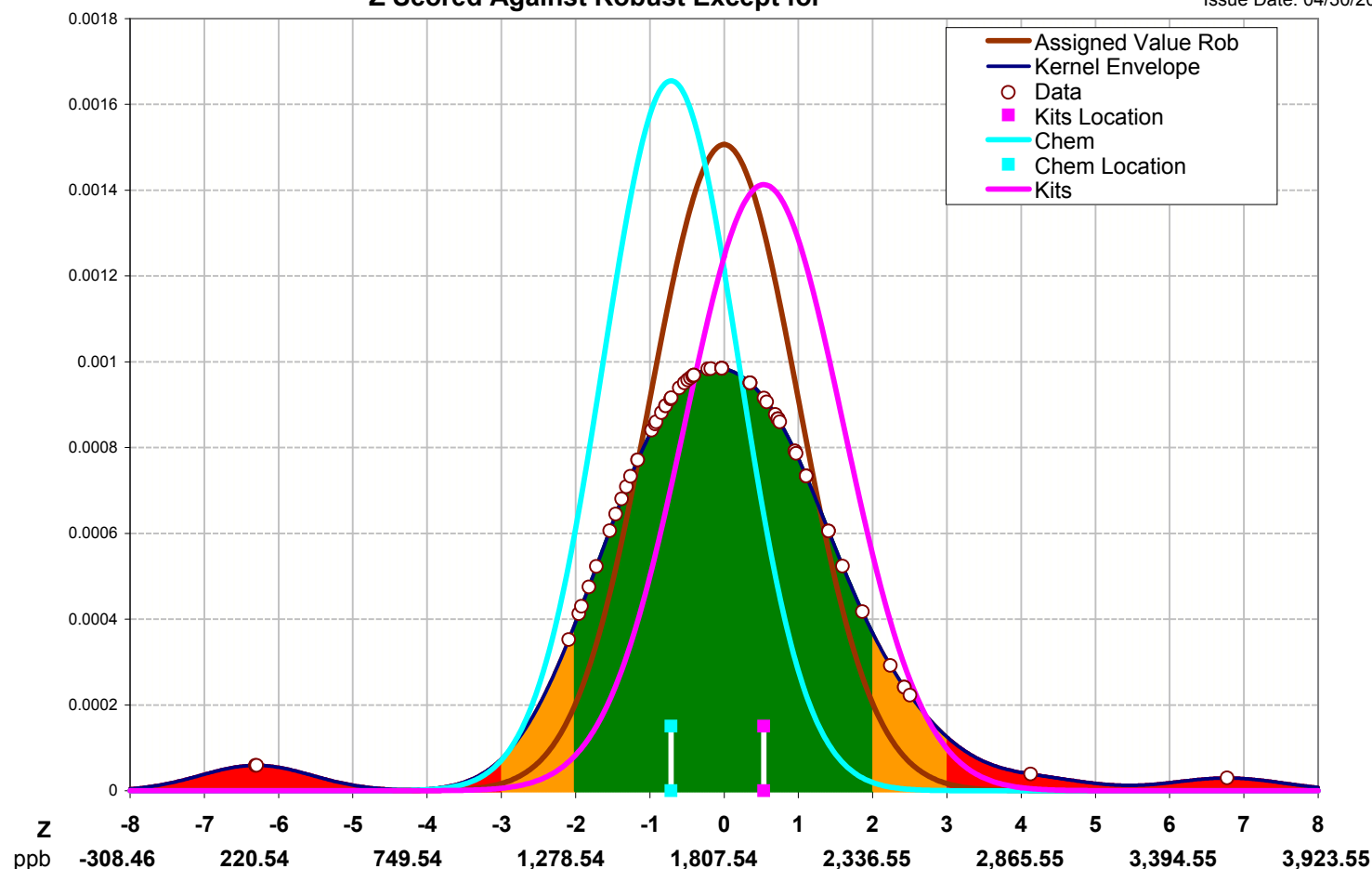
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Deoxynivalenol (ppb) Code: 610 - In Sample # 201761, Swine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 04/30/2017



Rob AV Curve 1,807.54 (ppb) \pm 264.50 (ppb)
Chem Curve 1,618.22 (ppb) \pm 240.77 (ppb)
Kits Curve 1,949.41 (ppb) \pm 282.03 (ppb)
Participating Labs 35

Methods Used 12
 Kernel Bandwidth 198.38 (ppb)
 Number of Non-Detects 0
 Number of Detects 68

Unique LOD's at:
21 Kits
13 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 83.3%
 Chem overlapping with Kits 70.1%

Code	# Dup. Tests	kits = 1	Method
610.03	1	1	Charm ROSA DON Quant
610.06	1	1	r-Biopharm Ridascreen DON
610.23	7	0	LC-MS/MS
610.01	11	1	Neogen Veratox for DON
610.07	4	1	r-Biopharm Ridascreen FAST DON
610.98	1	1	Other Rapid Test Kit
610.08	2	1	r-Biopharm Ridascreen FAST DON SC
610.20	5	0	LC
610.09	1	0	Vicam DON-V
610.25	1	0	GC-MS
610.04	2	1	Charm ROSA Fast 5 DON Quant
610.05	2	1	Romer AgraQuant DON

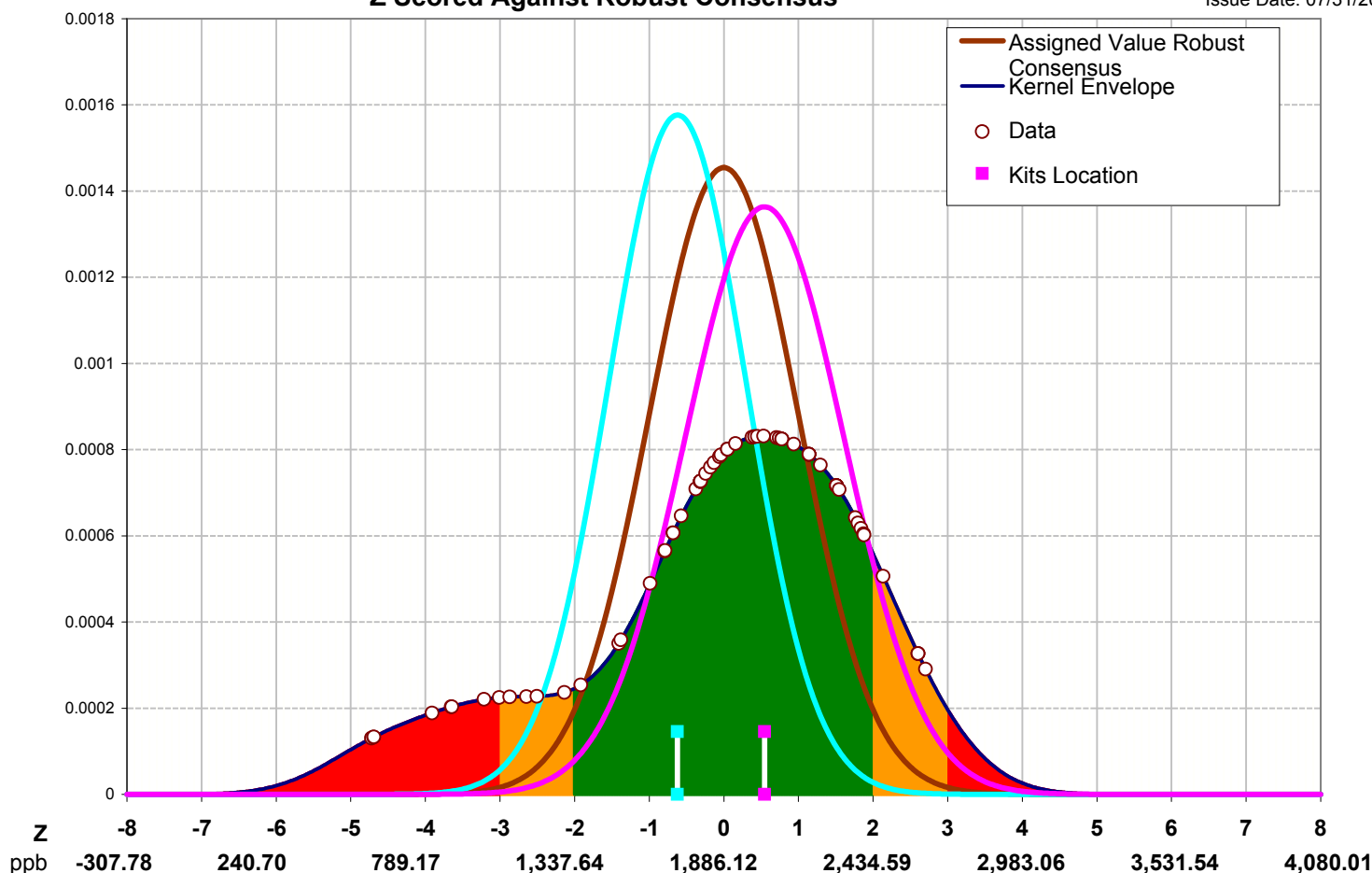
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Deoxynivalenol (ppb) Code: 610 - In Sample # 201762, Dairy Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 07/31/2017



Consensus AV Curve 1,886.12 (ppb) \pm 274.24 (ppb)
 Chromatography Curve 1,715.83 (ppb) \pm 253.06 (ppb)
 Kits Curve 2,035.60 (ppb) \pm 292.59 (ppb)
 Participating Labs 35

Methods Used 10
 Kernel Bandwidth 205.68 (ppb)
 Number of Non-Detects 0
 Number of Detects 68

Unique LOD's at:

17 Kits
 17 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chromatography 85.3%
 Chromatography overlapping with Kits 73.6%

Code	# Dup. Tests	kits = 1	Method
610.98	2	1	Other Rapid Test Kit
610.07	5	1	r-Biopharm Ridascreen FAST DON
610.99	1	0	Miscellaneous
610.23	10	0	LC-MS/MS
610.20	5	0	LC
610.04	1	1	Charm ROSA Fast 5 DON Quant
610.01	11	1	Neogen Veratox for DON
610.25	1	0	GC-MS
610.08	1	1	r-Biopharm Ridascreen FAST DON SC
610.09	1	0	Vicam DON-V

Note: Chart Z (X axis) refers to Assigned Value Robust Consensus

Deoxynivalenol, Code 610

**Horwitz Expanded
Uncertainty**

**Do the Assigned
Values fall within
the Uncertainty**

Sample	# Kits	# Chrom.	-2 σ	+2 σ	Kits	Chrom.
201561	18	12	1,431	2,589	OK	OK
201562	17	9	1,913	3,374	OK	OK
201563	17	7	1,359	2,469	OK	OK
201564	16	7	386	795	OK	OK
201661	15	14	1,178	2,168	OK	OK
201662	15	17	873	1,653	OK	OK
201663	20	13	1,138	2,102	OK	OK
201664	17	14	1,454	2,627	OK	OK
201761	24	14	1,279	2,337	OK	OK
201762	20	18	1,338	2,435	OK	OK

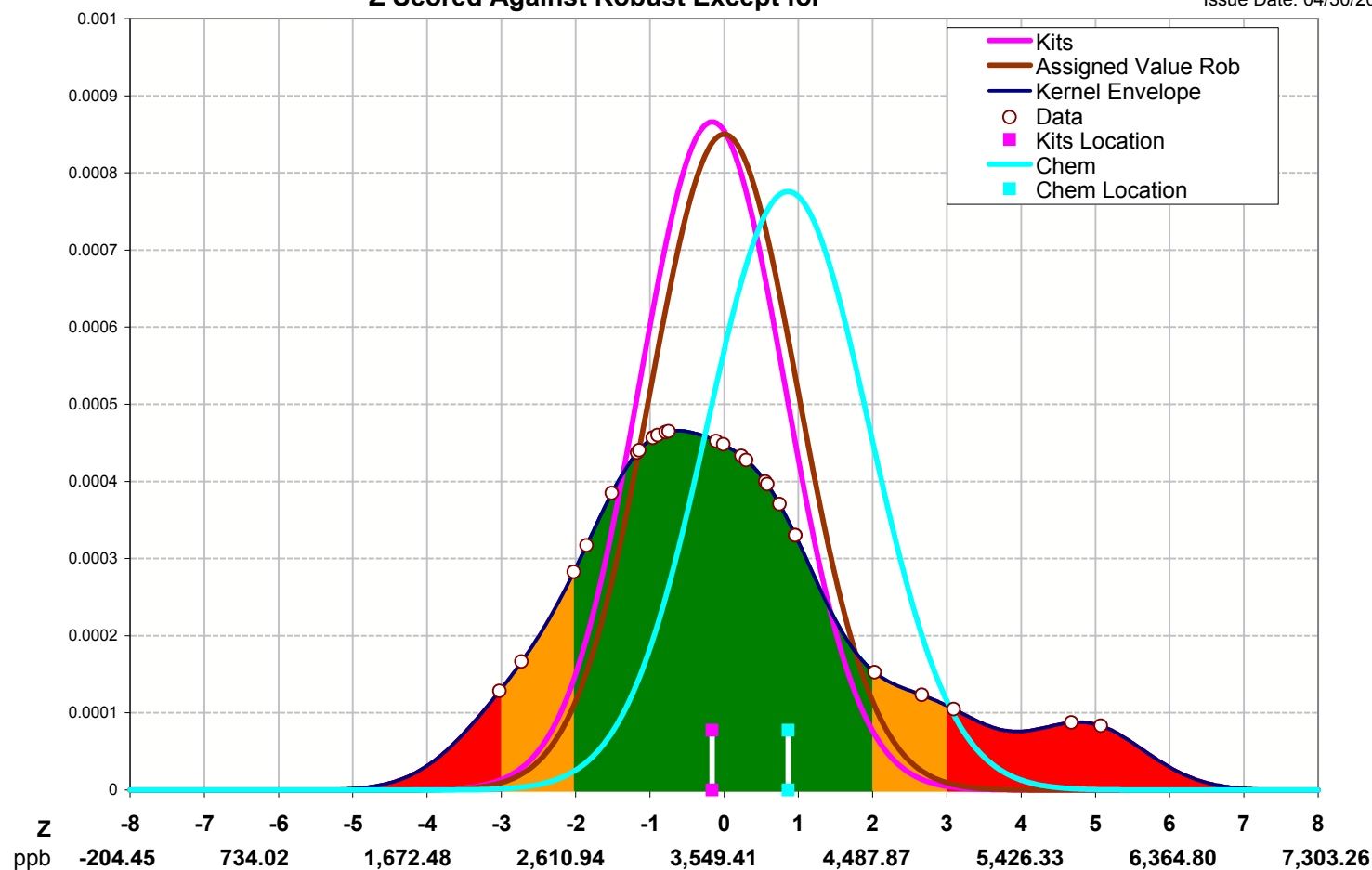
FUMONISIN CHARTS

Total Fumonisin (ppb) Code: 620 - In Sample # 201561, Dairy Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 04/30/2015



Rob AV Curve 3,549.41 (ppb) ± 469.23 (ppb)
Chem Curve 3,953.25 (ppb) ± 514.21 (ppb)
Kits Curve 3,473.17 (ppb) ± 460.66 (ppb)
Participating Labs 16

Methods Used 8
 Kernel Bandwidth 351.92 (ppb)
 Number of Non-Detects 0
 Number of Detects 26

Unique LOD's at:
9 Kits
4 Chem Methods

Proportion Overlapping in Z = ± 2 Zone

Kits overlapping with Chem 80.1%
 Chem overlapping with Kits 88.3%

Code	# Dup. Tests	kits = 1	Method
620.21	2	0	LC-FI OPA der.
620.20	2	0	LC
620.01	4	1	Neogen Veratox Fumonisin
620.02	2	1	Neogen Veratox Fumonisin 5/10
620.09	4	1	r-Biopharm Ridascreen FAST FUM
620.08	1	1	r-Biopharm Ridascreen Fumonisin
620.11	1	0	Vicam Fumonitest
620.23	1	0	LC-MS/MS

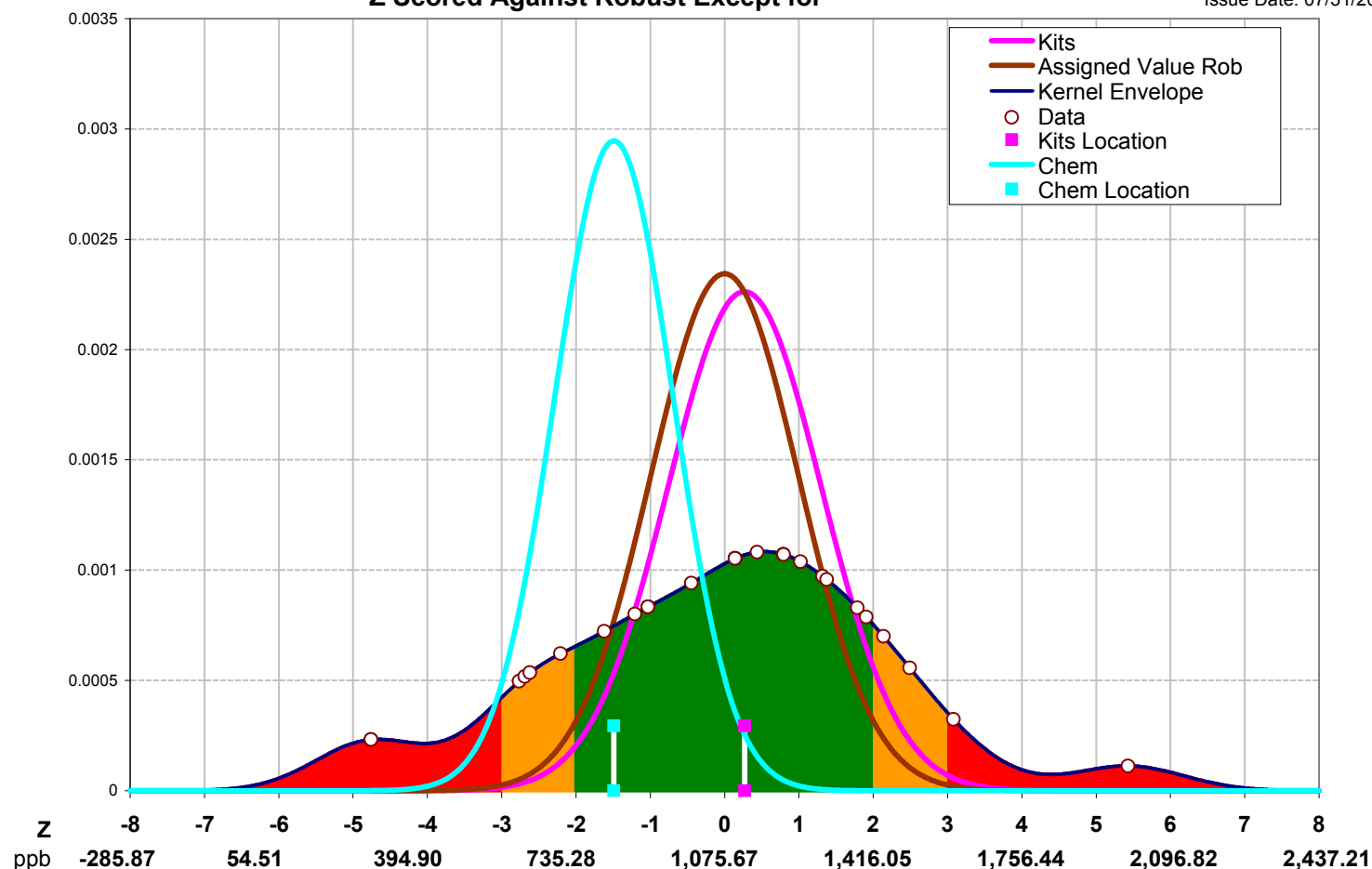
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Fumonisin (ppb) Code: 620 - In Sample # 201562, Poultry Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 07/31/2015



Rob AV Curve 1,075.67 (ppb) \pm 170.19 (ppb)
 Chem Curve 822.00 (ppb) \pm 135.43 (ppb)
 Kits Curve 1,121.55 (ppb) \pm 176.34 (ppb)

Participating Labs 15

Methods Used 6
 Kernel Bandwidth 127.64 (ppb)
 Number of Non-Detects 2
 Number of Detects 28

Unique LOD's at: 2000 (ppb)

11 Kits
 3 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 65.3%
 Chem overlapping with Kits 43.5%

Code	# Dup. Tests	kits = 1	Method
620.21	1	0	LC-FI OPA der.
620.09	4	1	r-Biopharm Ridascreen FAST FUM
620.01	5	1	Neogen Veratox Fumonisin
620.11	2	0	Vicam Fumonitest
620.02	2	1	Neogen Veratox Fumonisin 5/10
620.20	1	0	LC

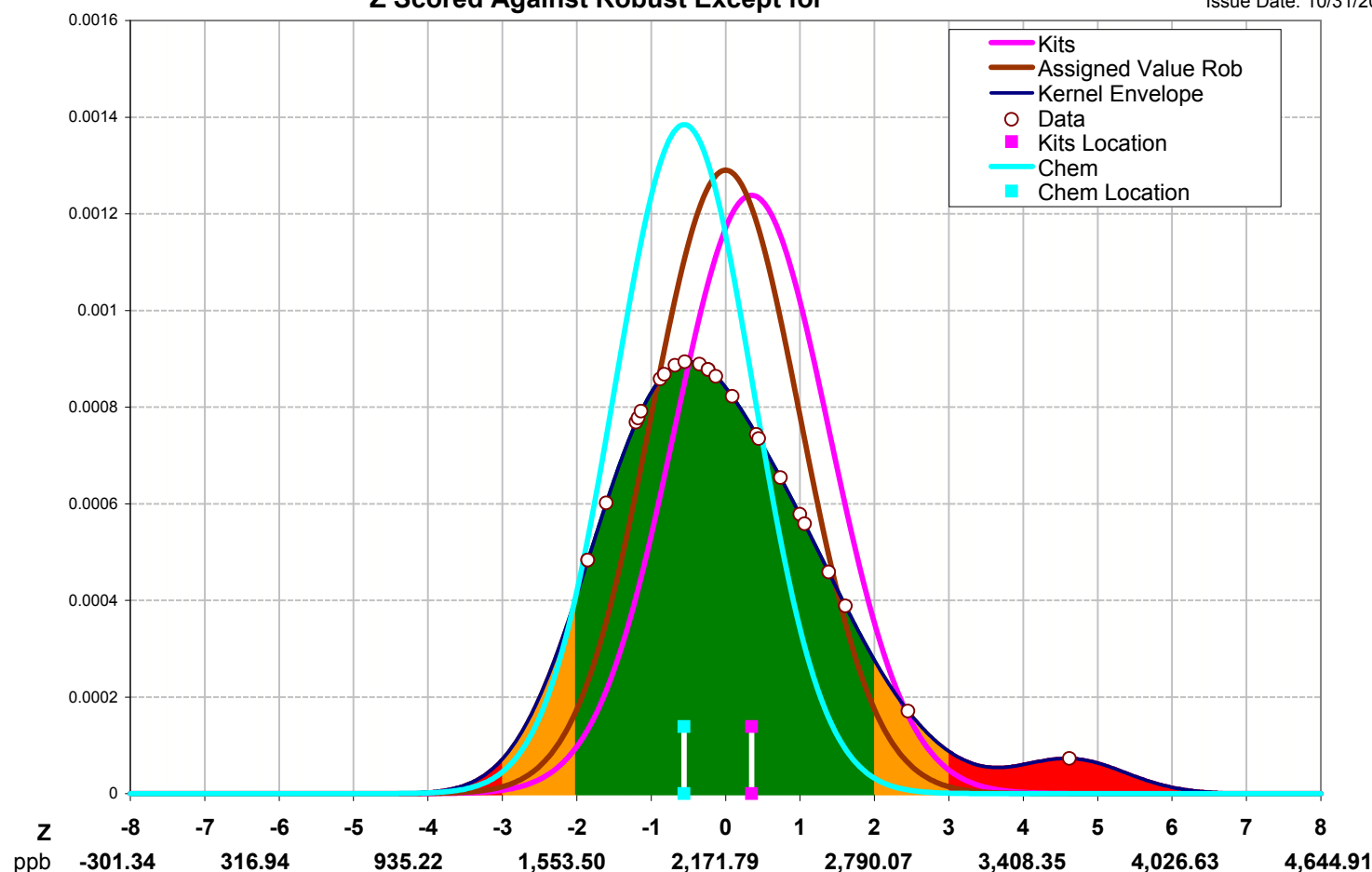
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Fumonisin (ppb) Code: 620 - In Sample # 201563, Equine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 10/31/2015



Rob AV Curve 2,171.79 (ppb) ± 309.14 (ppb)
Chem Curve 1,999.14 (ppb) ± 288.13 (ppb)
Kits Curve 2,280.00 (ppb) ± 322.18 (ppb)
Participating Labs 15

Methods Used 6
 Kernel Bandwidth 231.86 (ppb)
 Number of Non-Detects 0
 Number of Detects 24

Unique LOD's at:
8 Kits
4 Chem Methods

Proportion Overlapping in Z = ± 2 Zone

Kits overlapping with Chem 89.6%
 Chem overlapping with Kits 81.7%

Code	# Dup. Tests	kits = 1	Method
620.09	4	1	r-Biopharm Ridascreen FAST FUM
620.01	5	1	Neogen Veratox Fumonisin
620.02	3	1	Neogen Veratox Fumonisin 5/10
620.11	1	0	Vicam Fumonitest
620.21	2	0	LC-FI OPA der.
620.23	1	0	LC-MS/MS

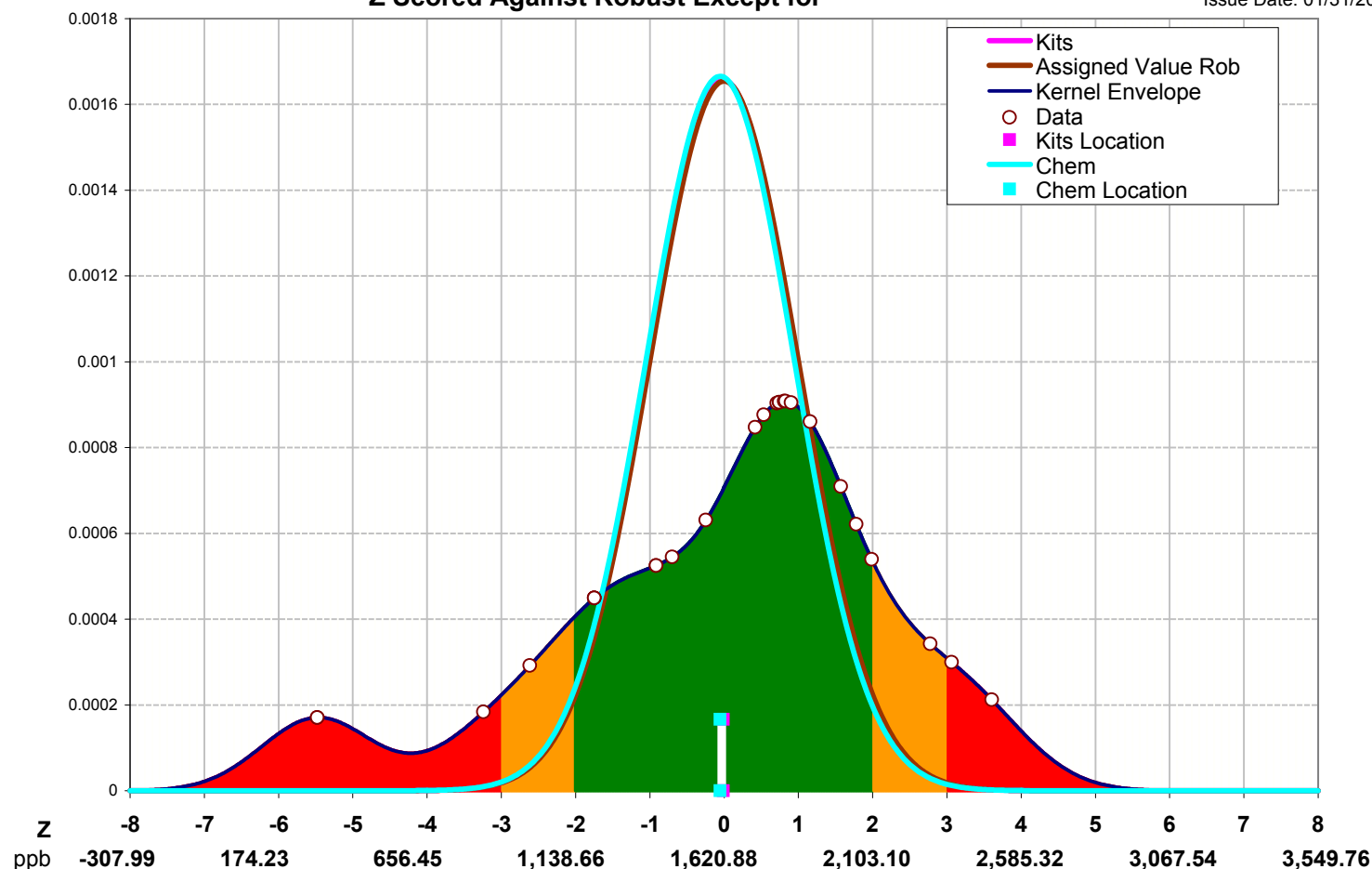
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Fumonisin (ppb) Code: 620 - In Sample # 201564, Pet Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 01/31/2016



Rob AV Curve 1,620.88 (ppb) \pm 241.11 (ppb)
 Chem Curve 1,608.17 (ppb) \pm 239.50 (ppb)
 Kits Curve 1,618.56 (ppb) \pm 240.82 (ppb)

Participating Labs 14

Methods Used 6
 Kernel Bandwidth 180.83 (ppb)
 Number of Non-Detects 2
 Number of Detects 26

Unique LOD's at: 2000 (ppb)

11 Kits
 2 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 95.5%
 Chem overlapping with Kits 95.3%

Code	# Dup. Tests	kits = 1	Method
620.02	3	1	Neogen Veratox Fumonisin 5/10
620.98	1	1	Other Rapid Test Kit
620.01	4	1	Neogen Veratox Fumonisin
620.21	2	0	LC-FI OPA der.
620.09	4	1	r-Biopharm Ridascreen FAST FUM
620.20	1	0	LC

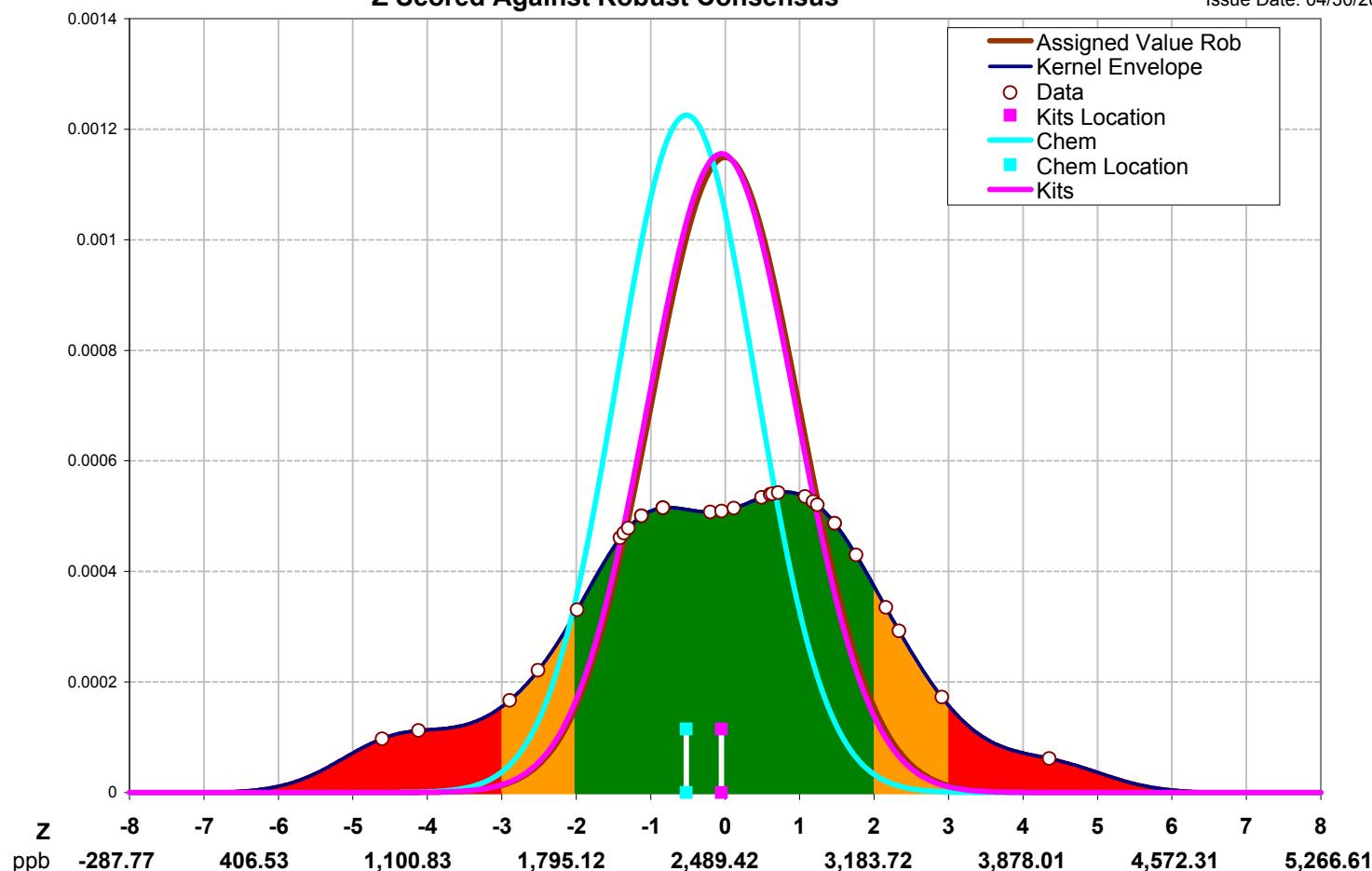
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Fumonisin (ppb) Code: 620 - In Sample # 201661, Beef Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 04/30/2016



Rob AV Curve 2,489.42 (ppb) \pm 347.15 (ppb)
 Chem Curve 2,308.16 (ppb) \pm 325.55 (ppb)
 Kits Curve 2,472.51 (ppb) \pm 345.14 (ppb)

Participating Labs 17

Methods Used 6
 Kernel Bandwidth 260.36 (ppb)
 Number of Non-Detects 0
 Number of Detects 30

Unique LOD's at:
 10 Kits
 5 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 94.3%
 Chem overlapping with Kits 91.2%

Code	# Dup. Tests	kits = 1	Method
620.23	3	0	LC-MS/MS
620.02	2	1	Neogen Veratox Fumonisin 5/10
620.09	5	1	r-Biopharm Ridascreen FAST FUM
620.01	4	1	Neogen Veratox Fumonisin
620.11	1	0	Vicam Fumonitest
620.21	2	0	LC-FI OPA der.

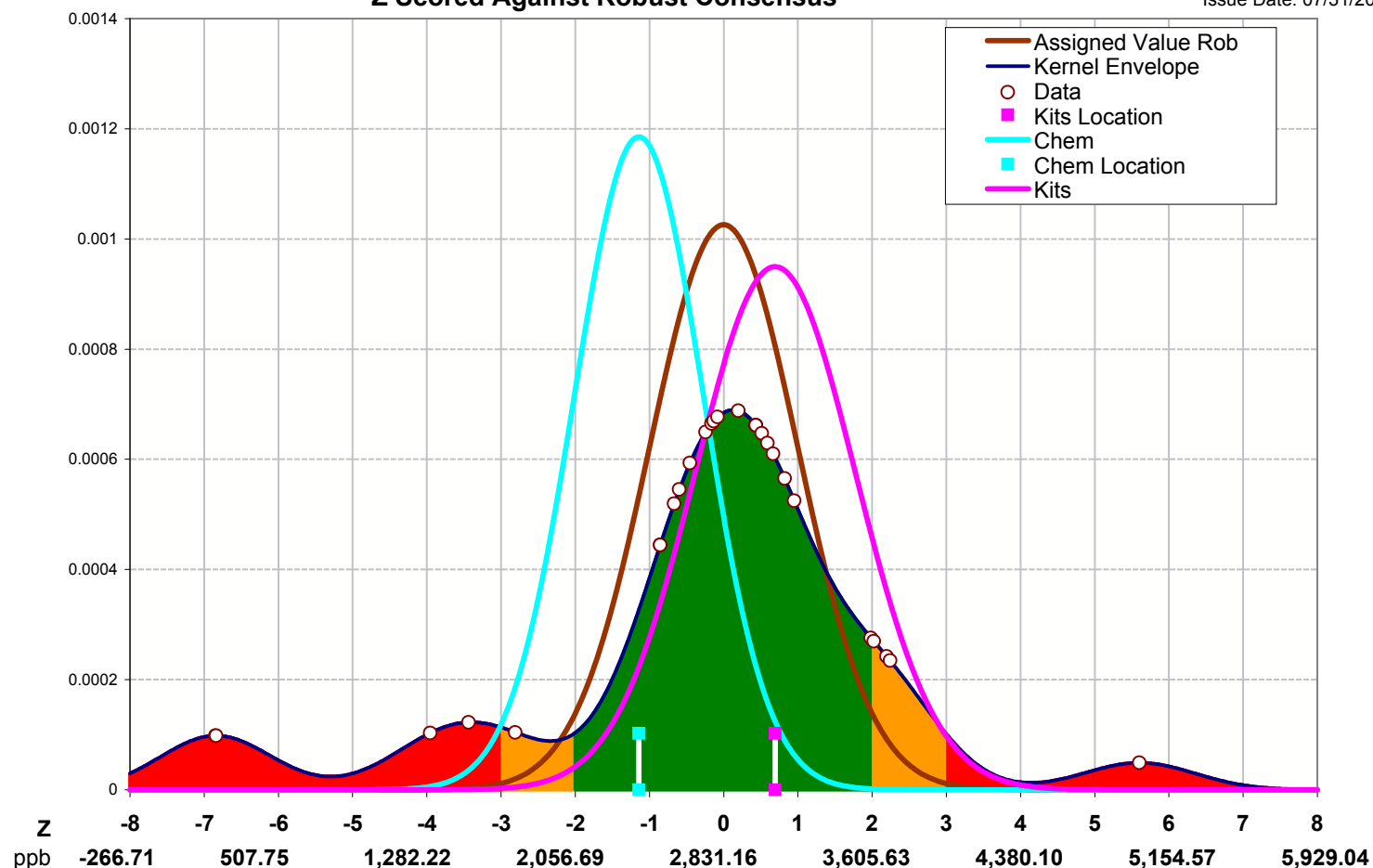
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Fumonisin (ppb) Code: 620 - In Sample # 201662, Equine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 07/31/2016



Rob AV Curve 2,831.16 (ppb) \pm 387.23 (ppb)
 Chem Curve 2,388.60 (ppb) \pm 335.17 (ppb)
 Kits Curve 3,100.20 (ppb) \pm 418.28 (ppb)

Participating Labs 18

Methods Used 8
 Kernel Bandwidth 290.43 (ppb)
 Number of Non-Detects 2
 Number of Detects 28

Unique LOD's at: 200 (ppb)

6 Kits
 8 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 64.5%
 Chem overlapping with Kits 46.0%

Code	# Dup. Tests	kits = 1	Method
620.02	2	1	Neogen Veratox Fumonisin 5/10
620.09	3	1	r-Biopharm Ridascreen FAST FUM
620.21	2	0	LC-FI OPA der.
620.20	1	0	LC
620.23	3	0	LC-MS/MS
620.11	2	0	Vicam Fumonitest
620.01	4	1	Neogen Veratox Fumonisin
620.99	1	0	Miscellaneous

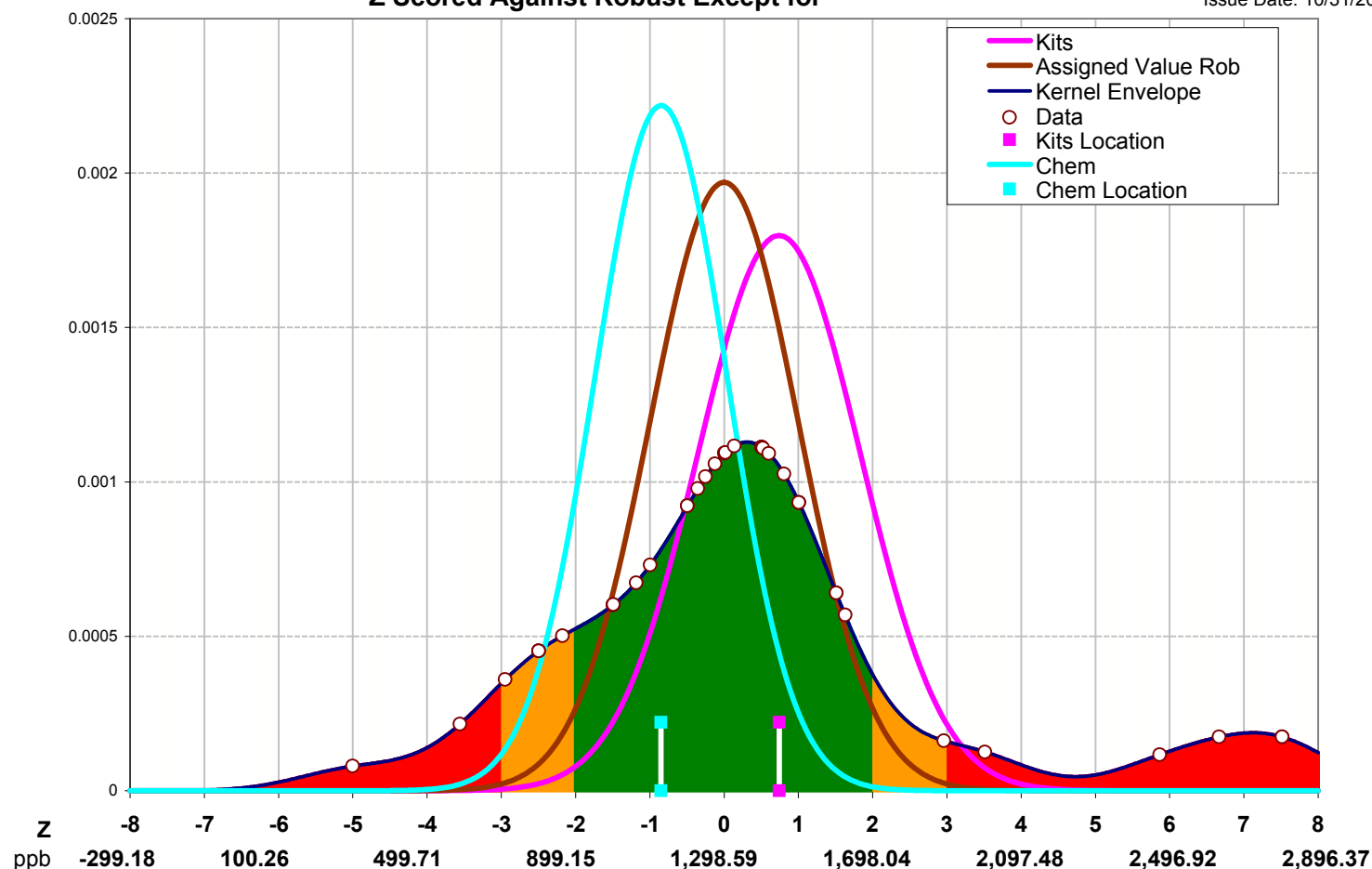
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Fumonisin (ppb) Code: 620 - In Sample # 201663, Poultry Feed, Medicated

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 10/31/2016



Methods Used 9

Kernel Bandwidth 149.79 (ppb)

Unique LOD's at:

Number of Non-Detects 0

Number of Detects 40

Rob AV Curve 1,298.59 (ppb) \pm 199.72 (ppb)

Chem Curve 1,129.04 (ppb) \pm 177.34 (ppb)

Kits Curve 1,446.50 (ppb) \pm 218.89 (ppb)

Participating Labs 21

12 Kits

8 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 75.1%

Chem overlapping with Kits 56.6%

Code	# Dup. Tests	kits = 1	Method
620.02	2	1	Neogen Veratox Fumonisin 5/10
620.08	1	1	r-Biopharm Ridascreen Fumonisin
620.01	6	1	Neogen Veratox Fumonisin
620.21	3	0	LC-FI OPA der.
620.09	4	1	r-Biopharm Ridascreen FAST FUM
620.11	2	0	Vicam Fumonitest
620.23	3	0	LC-MS/MS
620.07	1	1	Romer AgraQuant Total Fumonisin
620.04	1	1	Charm ROSA Fast 5 FUMQ

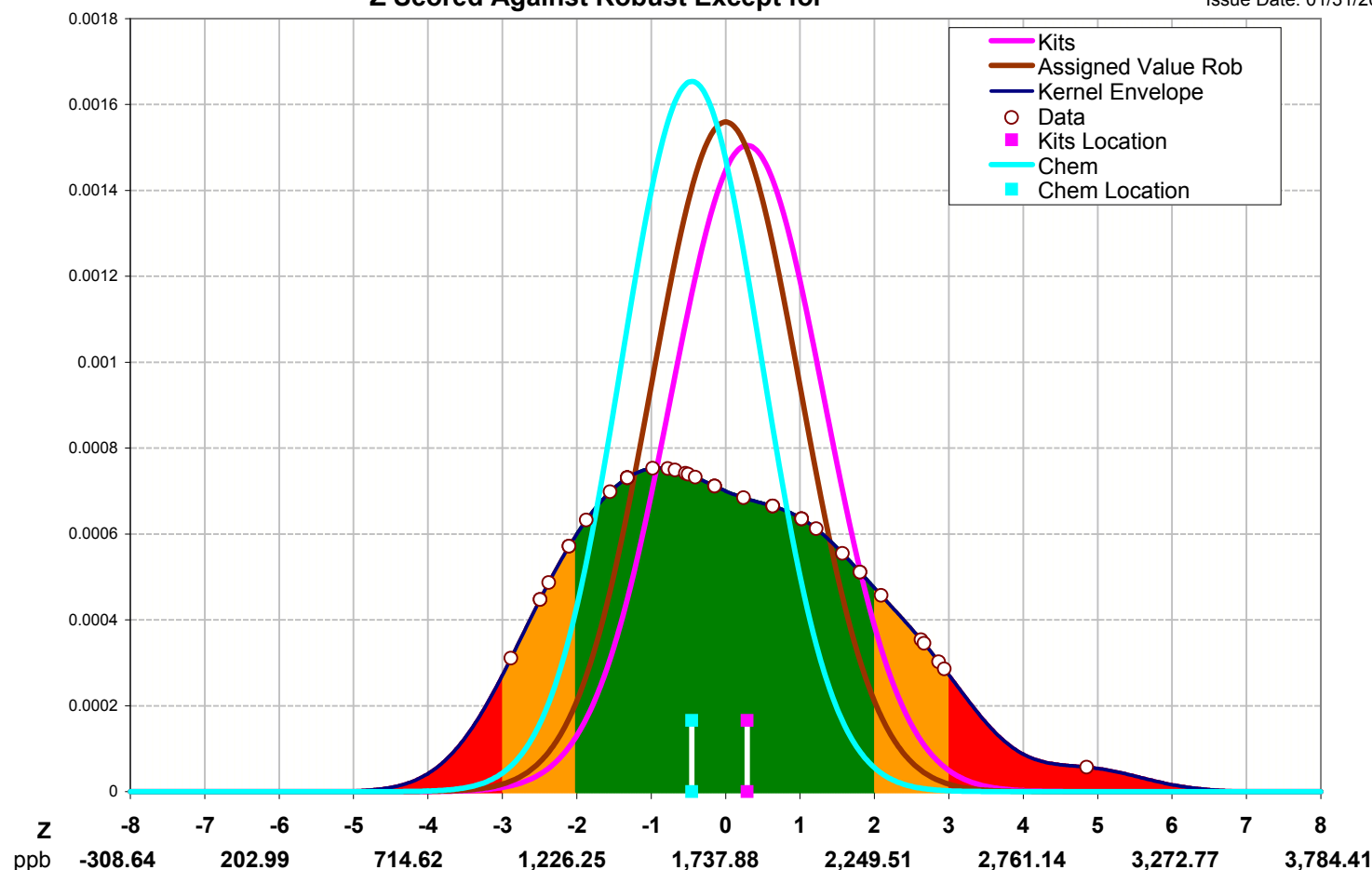
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Fumonisin (ppb) Code: 620 - In Sample # 201664, Dog Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 01/31/2017



Rob AV Curve 1,737.88 (ppb) \pm 255.82 (ppb)
Chem Curve 1,621.67 (ppb) \pm 241.21 (ppb)
Kits Curve 1,812.42 (ppb) \pm 265.11 (ppb)
Participating Labs 19

Methods Used 7
 Kernel Bandwidth 191.86 (ppb)
 Number of Non-Detects 0
 Number of Detects 40

Unique LOD's at:
12 Kits
8 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 91.9%
 Chem overlapping with Kits 85.9%

Code	# Dup. Tests	kits = 1	Method
620.11	2	0	Vicam Fumonitest
620.21	3	0	LC-FI OPA der.
620.09	2	1	r-Biopharm Ridascreen FAST FUM
620.01	7	1	Neogen Veratox Fumonisin
620.98	1	1	Other Rapid Test Kit
620.02	2	1	Neogen Veratox Fumonisin 5/10
620.23	3	0	LC-MS/MS

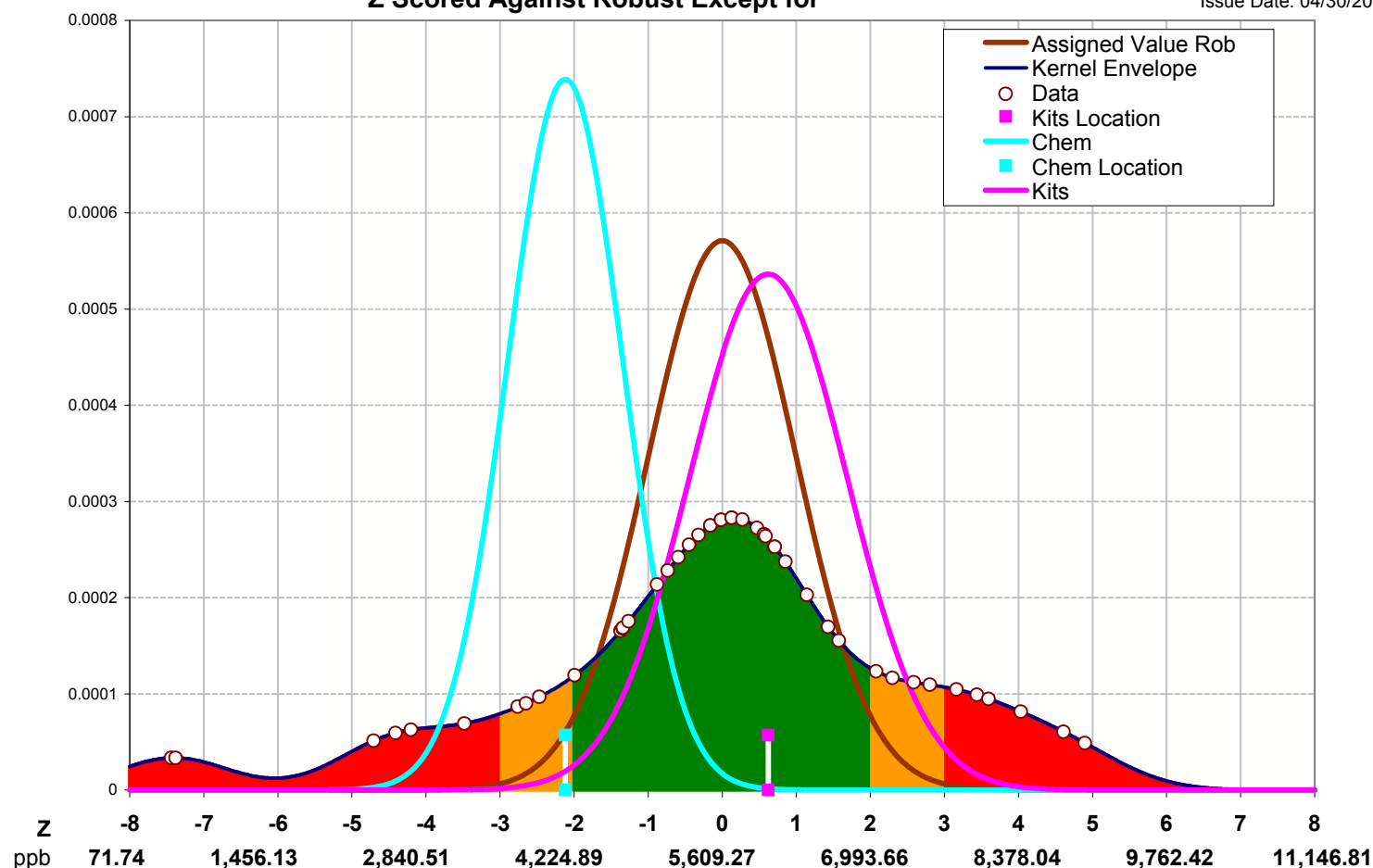
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Fumonisin (ppb) Code: 620 - In Sample # 201761, Swine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 04/30/2017



Rob AV Curve 5,609.27 (ppb) \pm 692.19 (ppb)
Chem Curve 4,142.50 (ppb) \pm 535.05 (ppb)
Kits Curve 6,039.91 (ppb) \pm 737.08 (ppb)
Participating Labs 25

Methods Used 9
 Kernel Bandwidth 519.14 (ppb)
 Number of Non-Detects 0
 Number of Detects 46
 Unique LOD's at:

18 Kits
5 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem **21.4%**
 Chem overlapping with Kits **13.1%**

Code	# Dup. Tests	kits = 1	Method
620.05	1	1	Charm ROSA FUMQ MeOH
620.09	6	1	r-Biopharm Ridascreen FAST FUM
620.01	8	1	Neogen Veratox Fumonisin
620.02	2	1	Neogen Veratox Fumonisin 5/10
620.21	3	0	LC-FI OPA der.
620.11	2	0	Vicam Fumonitest
620.04	2	1	Charm ROSA Fast 5 FUMQ
620.07	2	1	Romer AgraQuant Total Fumonisin
620.98	1	1	Other Rapid Test Kit

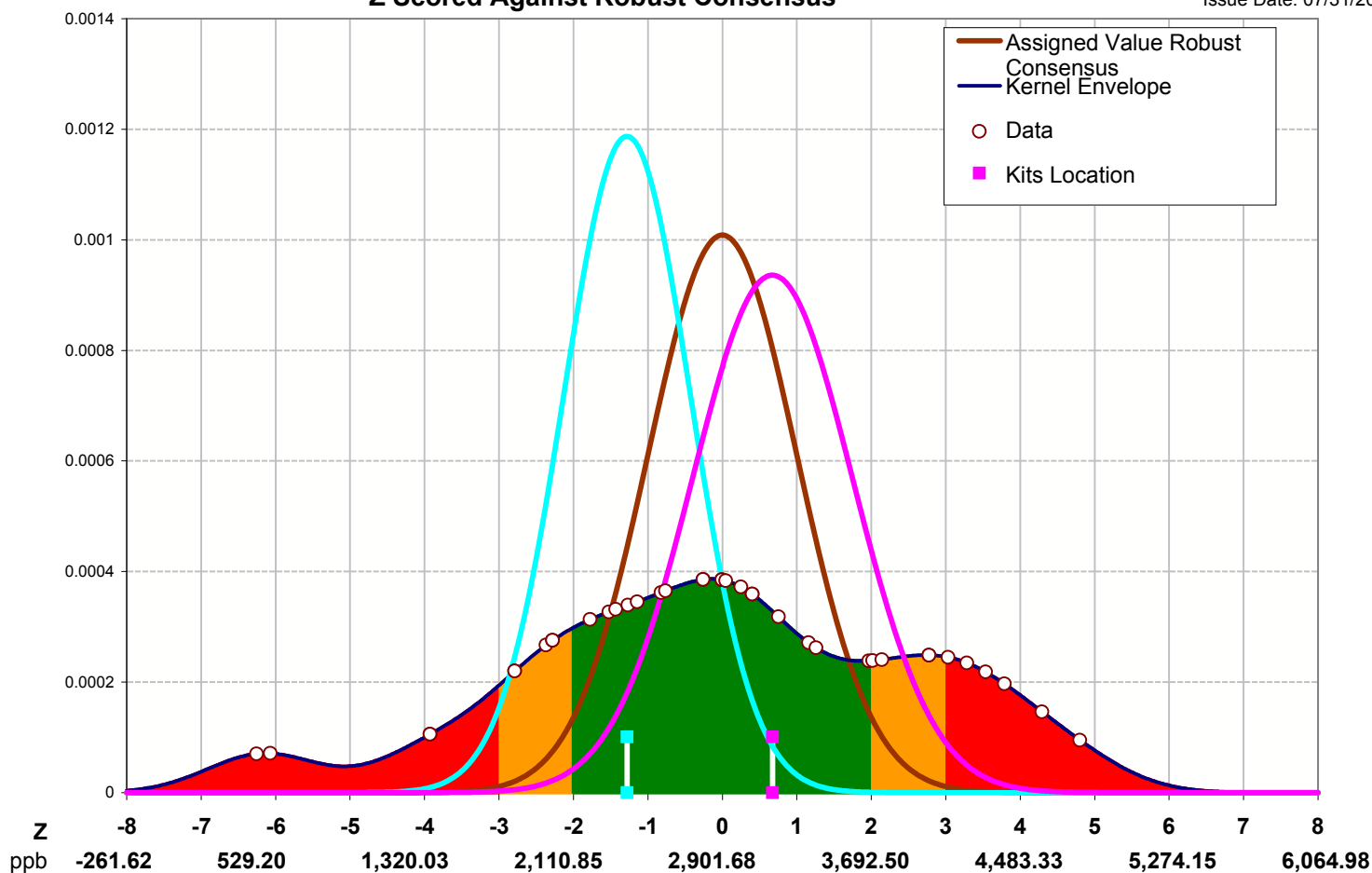
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Total Fumonisin (ppb) Code: 620 - In Sample # 201762, Dairy Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 07/31/2017



Consensus AV Curve 2,901.68 (ppb) \pm 395.41 (ppb)

Chromatography Curve 2,395.21 (ppb) \pm 335.96 (ppb)

Kits Curve 3,167.75 (ppb) \pm 426.01 (ppb)

Participating Labs 20

Methods Used 9
Kernel Bandwidth 296.56 (ppb)
Number of Non-Detects 0
Number of Detects 38

Unique LOD's at:

12 Kits

7 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chromatography 59.4%

Chromatography overlapping with Kits 40.6%

Code	# Dup. Tests	kits = 1	Method
620.09	3	1	r-Biopharm Ridascreen FAST FUM
620.21	2	0	LC-FI OPA der.
620.08	1	1	r-Biopharm Ridascreen Fumonisin
620.11	2	0	Vicam Fumonitest
620.23	2	0	LC-MS/MS
620.02	1	1	Neogen Veratox Fumonisin 5/10
620.01	7	1	Neogen Veratox Fumonisin
620.04	1	1	Charm ROSA Fast 5 FUMQ
620.20	1	0	LC

Note: Chart Z (X axis) refers to Assigned Value Robust Consensus

Total Fumonisin, Code 620

**Horwitz Expanded
Uncertainty**

**Do the Assigned
Values fall within
the Uncertainty**

Sample	Kits	Chrom.	$-\sigma$	$+\sigma$	Kits	Chrom.
201561	11	6	2,611	4,488	OK	OK
201562	11	4	735	1,416	OK	OK
201563	12	4	1,554	2,790	OK	OK
201564	12	3	1,139	2,103	OK	OK
201661	11	6	1,795	3,184	OK	OK
201662	9	9	2,057	3,606	OK	OK
201663	15	8	899	1,698	OK	OK
201664	12	8	1,226	2,250	OK	OK
201761	22	5	4,225	6,994	OK	Fail
201762	13	7	2,111	3,693	OK	OK

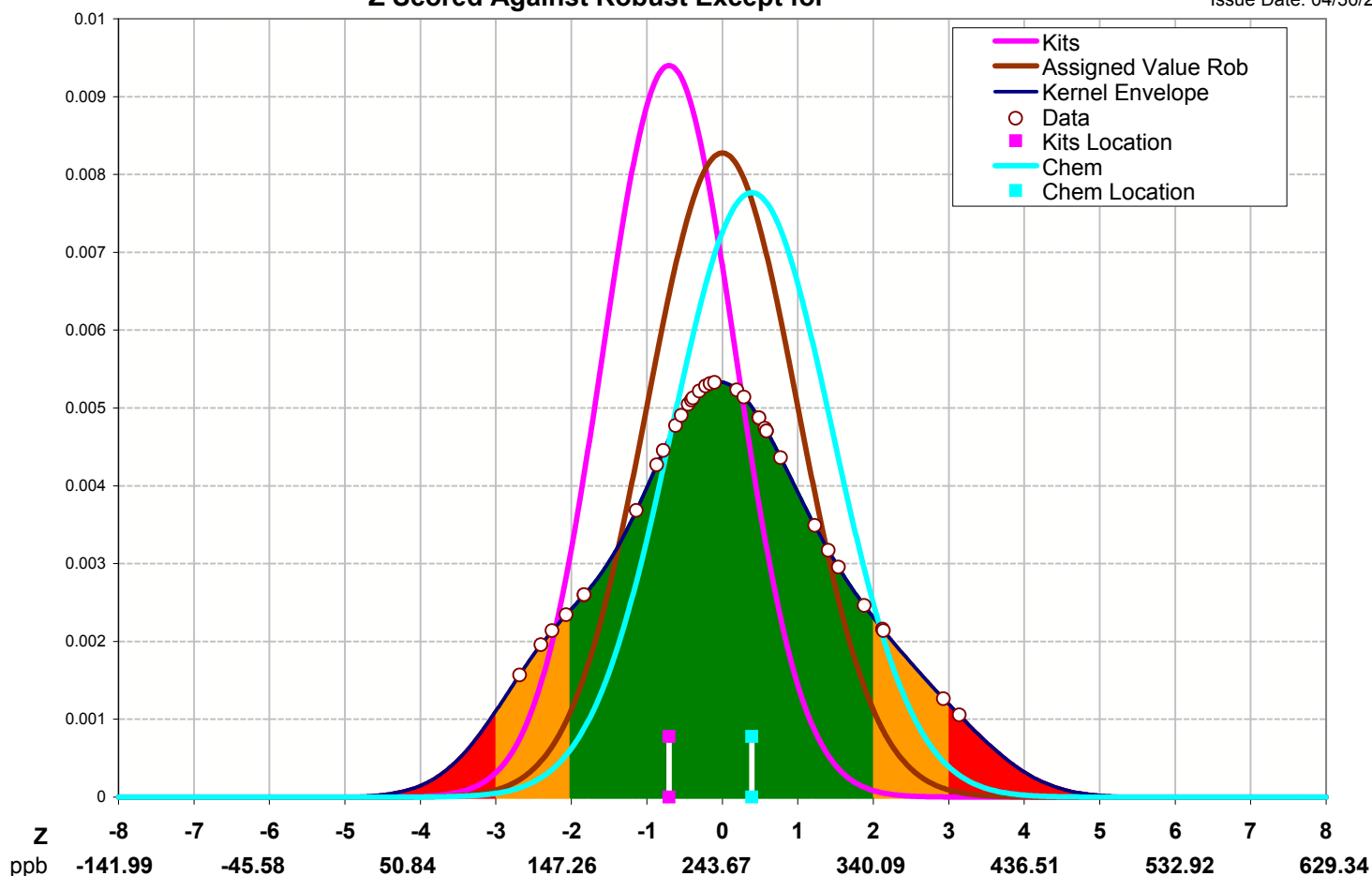
OCHRATOXIN CHARTS

Ochratoxin A (ppb) Code: 630 - In Sample # 201561, Dairy Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 04/30/2015



Rob AV Curve 243.67 (ppb) \pm 48.21 (ppb)
Chem Curve 262.60 (ppb) \pm 51.37 (ppb)
Kits Curve 209.71 (ppb) \pm 42.44 (ppb)

Methods Used 5
 Kernel Bandwidth 36.16 (ppb)
 Number of Non-Detects 0
 Number of Detects 34

Unique LOD's at:
 6 Kits
 11 Chem Methods

Participating Labs 14

Proportion Overlapping in Z = \pm 2 Zone
 Kits overlapping with Chem 73.0%
 Chem overlapping with Kits 88.0%

Code	# Dup. Tests	kits = 1	Method
630.01	4	1	Neogen Veratox Ochratoxin
630.05	2	1	r-Biopharm Ridascreen FAST Och A
630.23	7	0	LC-MS/MS
630.21	1	0	LC-PCD FI
630.20	3	0	LC

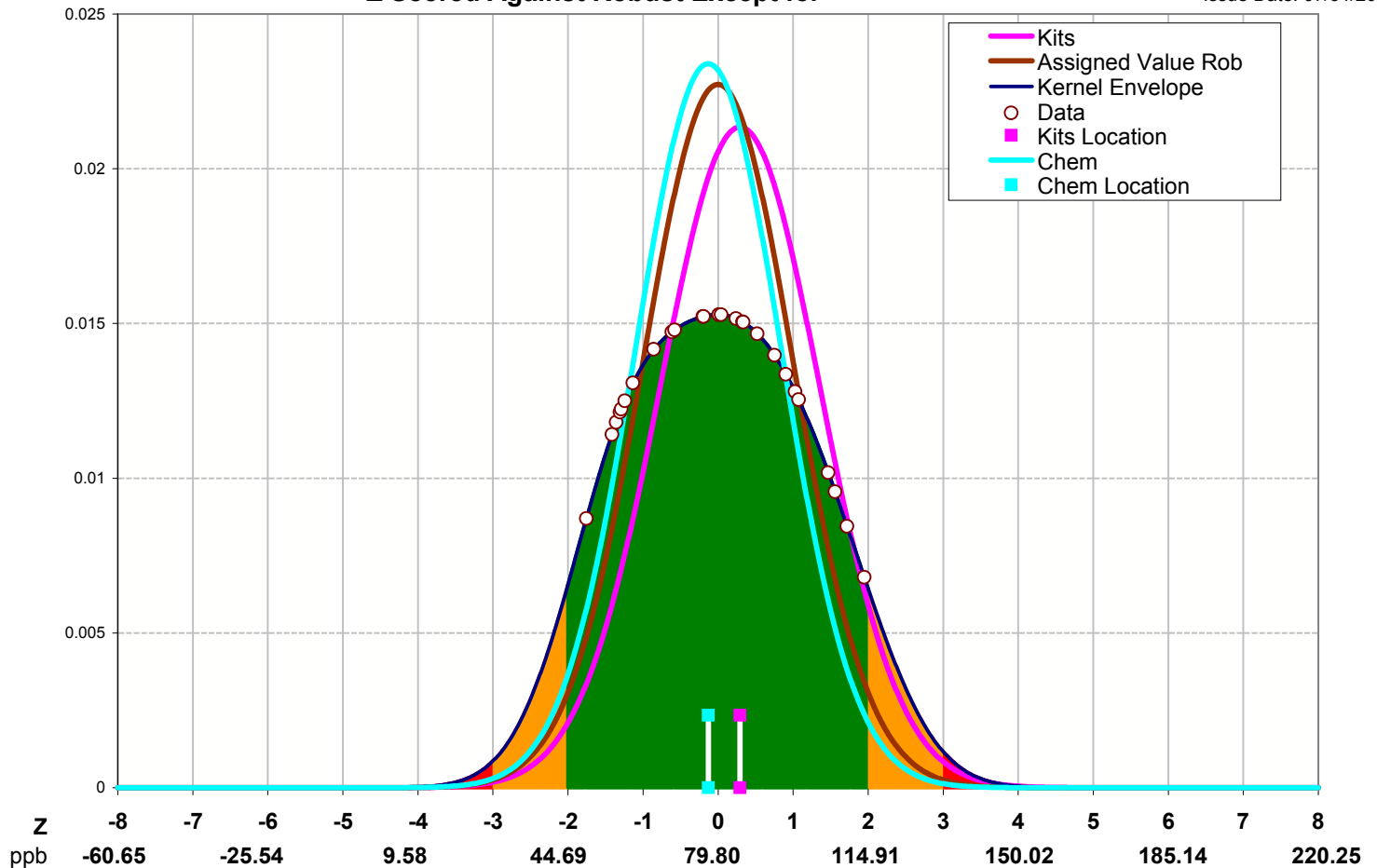
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Ochratoxin A (ppb) Code: 630 - In Sample # 201562, Poultry Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 07/31/2015



Rob AV Curve 79.80 (ppb) \pm 17.56 (ppb)
 Chem Curve 77.51 (ppb) \pm 17.05 (ppb)
 Kits Curve 84.94 (ppb) \pm 18.69 (ppb)
 Participating Labs 12

Methods Used 5
 Kernel Bandwidth 13.17 (ppb)
 Number of Non-Detects 0
 Number of Detects 26

Unique LOD's at:
 4 Kits
 9 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 95.6%
 Chem overlapping with Kits 91.0%

Code	# Dup. Tests	kits = 1	Method
630.01	3	1	Neogen Veratox Ochratoxin
630.06	1	0	Vicam OchraTest
630.23	5	0	LC-MS/MS
630.20	3	0	LC
630.05	1	1	r-Biopharm Ridascreen FAST Och A

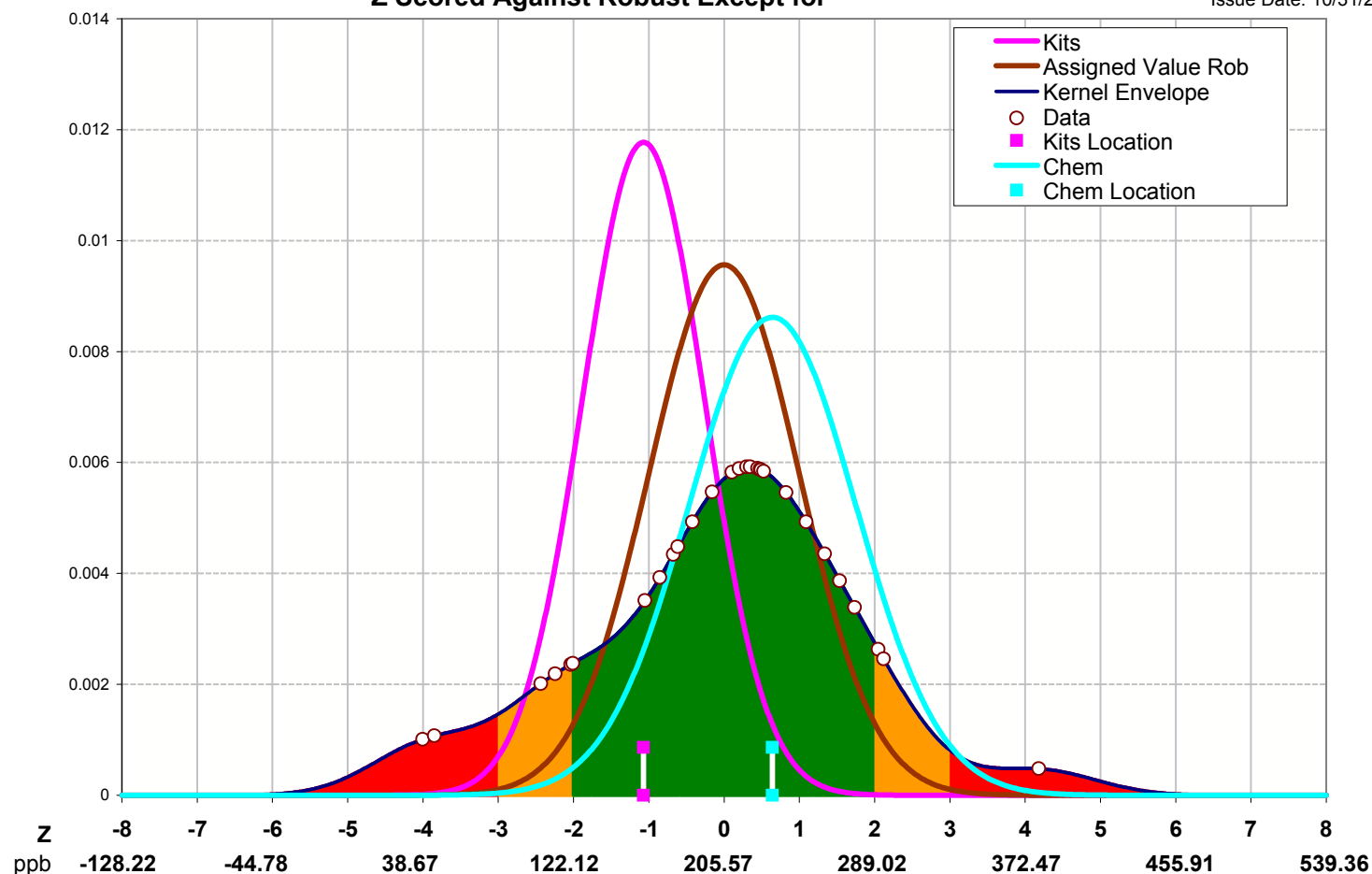
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Ochratoxin A (ppb) Code: 630 - In Sample # 201563, Equine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 10/31/2015



Rob AV Curve 205.57 (ppb) \pm 41.72 (ppb)
Chem Curve 232.36 (ppb) \pm 46.30 (ppb)
Kits Curve 160.92 (ppb) \pm 33.89 (ppb)

Methods Used 6
 Kernel Bandwidth 31.29 (ppb)
 Number of Non-Detects 0
 Number of Detects 28

Unique LOD's at:
 6 Kits
 8 Chem Methods

Participating Labs 12

Proportion Overlapping in Z = \pm 2 Zone
 Kits overlapping with Chem 46.7%
 Chem overlapping with Kits 73.4%

Code	# Dup. Tests	kits = 1	Method
630.01	5	1	Neogen Veratox Ochratoxin
630.05	1	1	r-Biopharm Ridascreen FAST Och A
630.06	1	0	Vicam OchraTest
630.23	4	0	LC-MS/MS
630.20	2	0	LC
630.21	1	0	LC-PCD FI

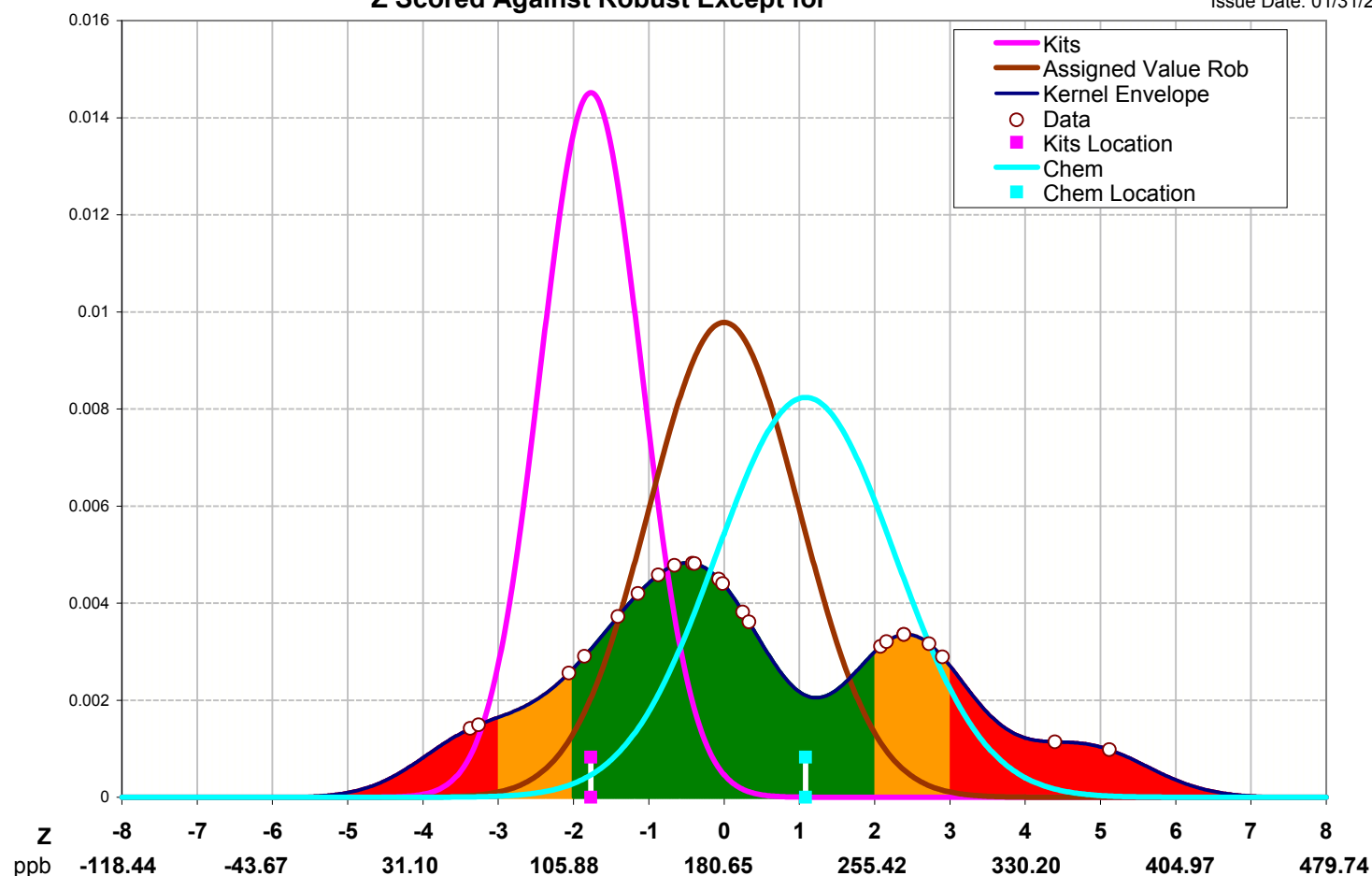
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Ochratoxin A (ppb) Code: 630 - In Sample # 201564, Pet Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 01/31/2016



Rob AV Curve 180.65 (ppb) \pm 37.39 (ppb)
 Chem Curve 221.16 (ppb) \pm 44.40 (ppb)
 Kits Curve 114.53 (ppb) \pm 25.20 (ppb)

Participating Labs 10

Methods Used 6
 Kernel Bandwidth 28.04 (ppb)
 Number of Non-Detects 0
 Number of Detects 24

Unique LOD's at:
 4 Kits
 8 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 10.2%
 Chem overlapping with Kits 23.9%

Code	# Dup. Tests	kits = 1	Method
630.01	3	1	Neogen Veratox Ochratoxin
630.05	1	1	r-Biopharm Ridascreeen FAST Och A
630.21	1	0	LC-PCD FI
630.23	4	0	LC-MS/MS
630.06	1	0	Vicam OchraTest
630.20	2	0	LC

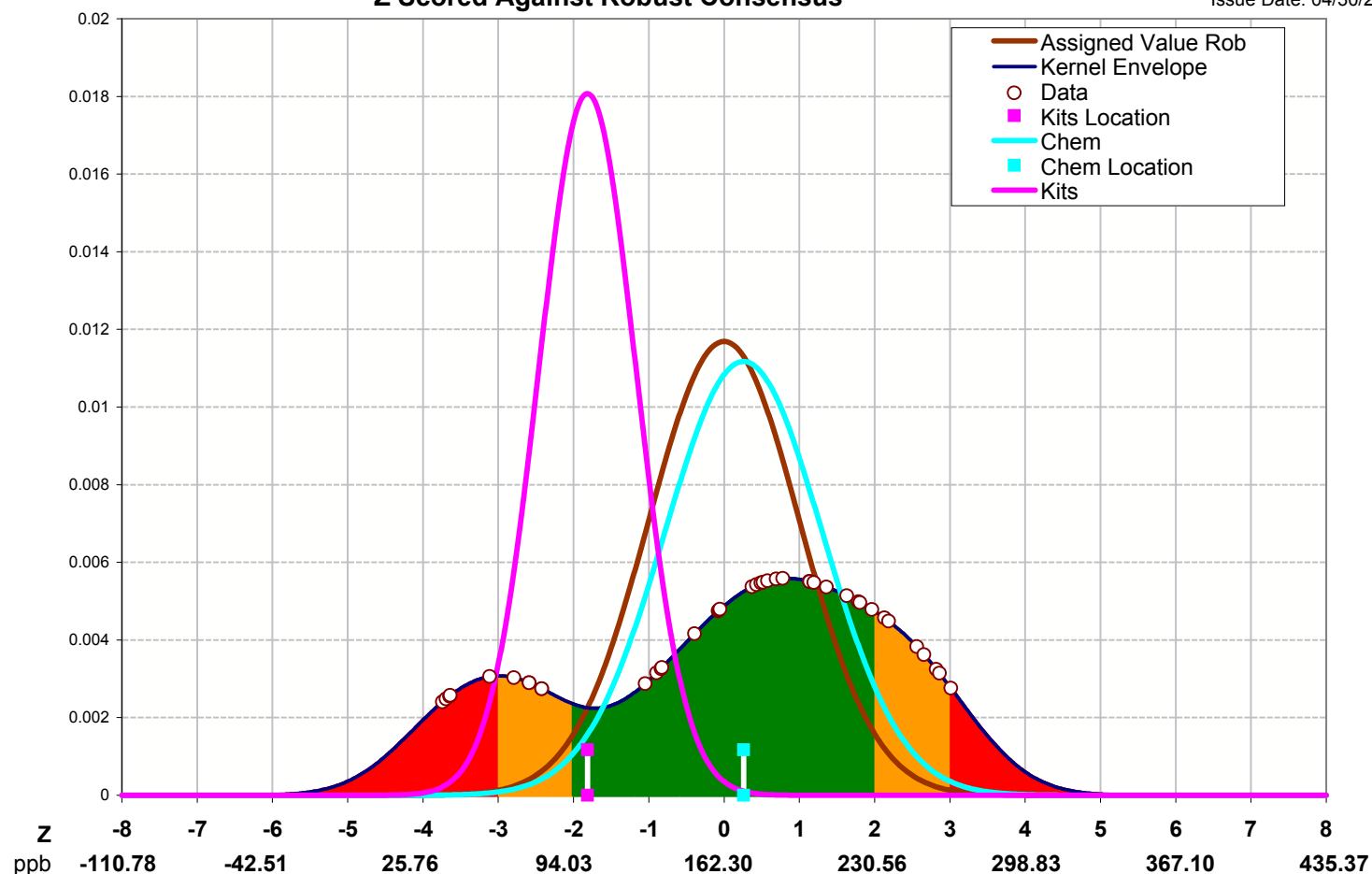
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Ochratoxin A (ppb) Code: 630 - In Sample # 201661, Beef Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 04/30/2016



Rob AV Curve 162.30 (ppb) \pm 34.13 (ppb)
Chem Curve 171.13 (ppb) \pm 35.71 (ppb)
Kits Curve 100.34 (ppb) \pm 22.08 (ppb)
Participating Labs 18

Methods Used 6
 Kernel Bandwidth 25.60 (ppb)
 Number of Non-Detects 2
 Number of Detects 40

Unique LOD's at: 2 (ppb)
4 Kits
16 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem **22.7%**
 Chem overlapping with Kits **51.1%**

Code	# Dup. Tests	kits = 1	Method
630.20	6	0	LC
630.01	3	1	Neogen Veratox Ochratoxin
630.06	2	0	Vicam OchraTest
630.23	7	0	LC-MS/MS
630.05	2	1	r-Biopharm Ridascreen FAST Och A
630.21	1	0	LC-PCD FI

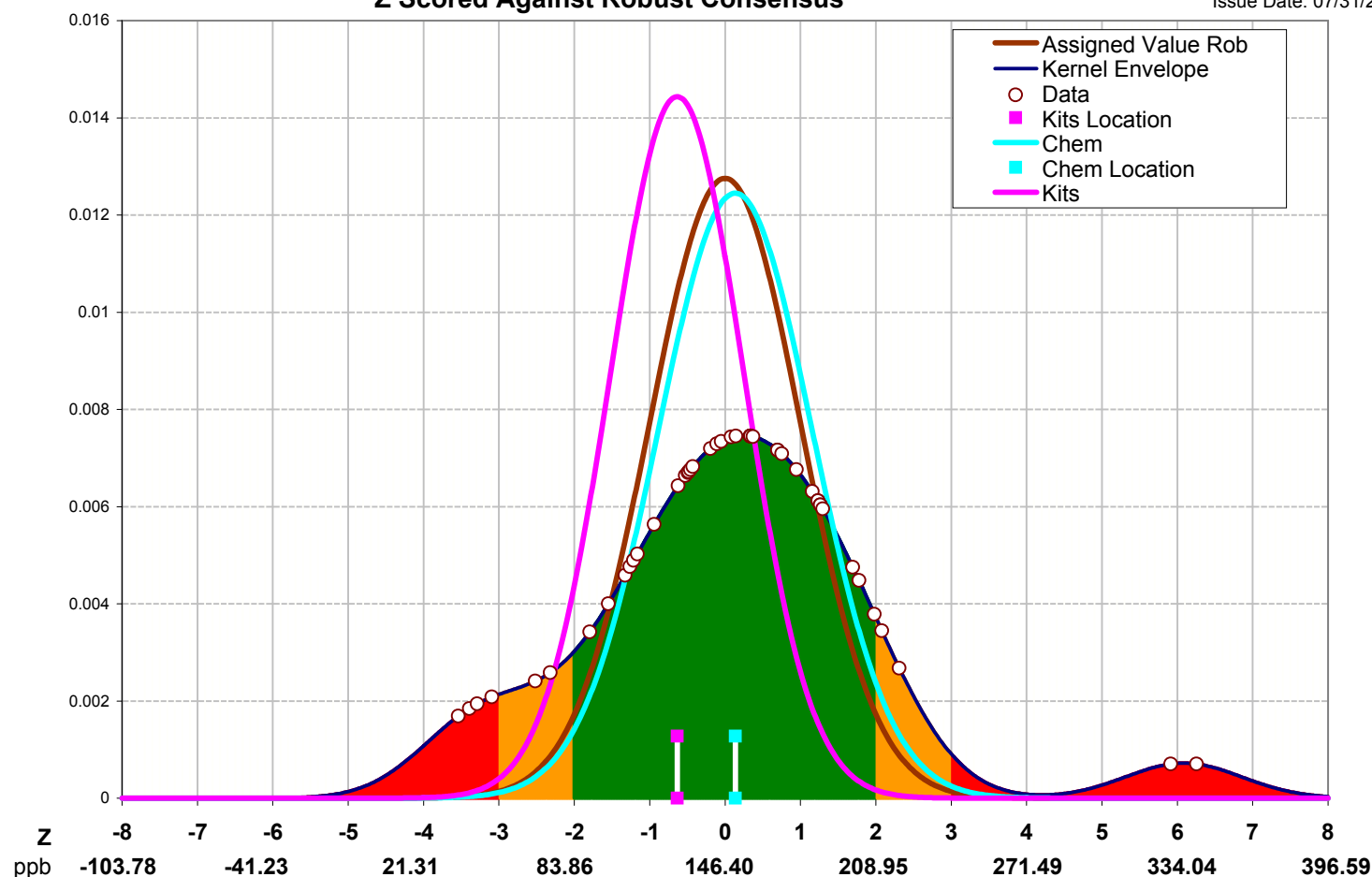
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Ochratoxin A (ppb) Code: 630 - In Sample # 201662, Equine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 07/31/2016



Rob AV Curve 146.40 (ppb) \pm 31.27 (ppb)
Chem Curve 150.63 (ppb) \pm 32.04 (ppb)
Kits Curve 126.55 (ppb) \pm 27.63 (ppb)

Methods Used 5
 Kernel Bandwidth 23.45 (ppb)
 Number of Non-Detects 0
 Number of Detects 46

Unique LOD's at:
 6 Kits
 17 Chem Methods

Participating Labs 20

Proportion Overlapping in Z = \pm 2 Zone
 Kits overlapping with Chem 82.8%
 Chem overlapping with Kits 92.5%

Code	# Dup. Tests	kits = 1	Method
630.01	4	1	Neogen Veratox Ochratoxin
630.06	2	0	Vicam OchraTest
630.23	9	0	LC-MS/MS
630.20	6	0	LC
630.05	2	1	r-Biopharm Ridascreen FAST Och A

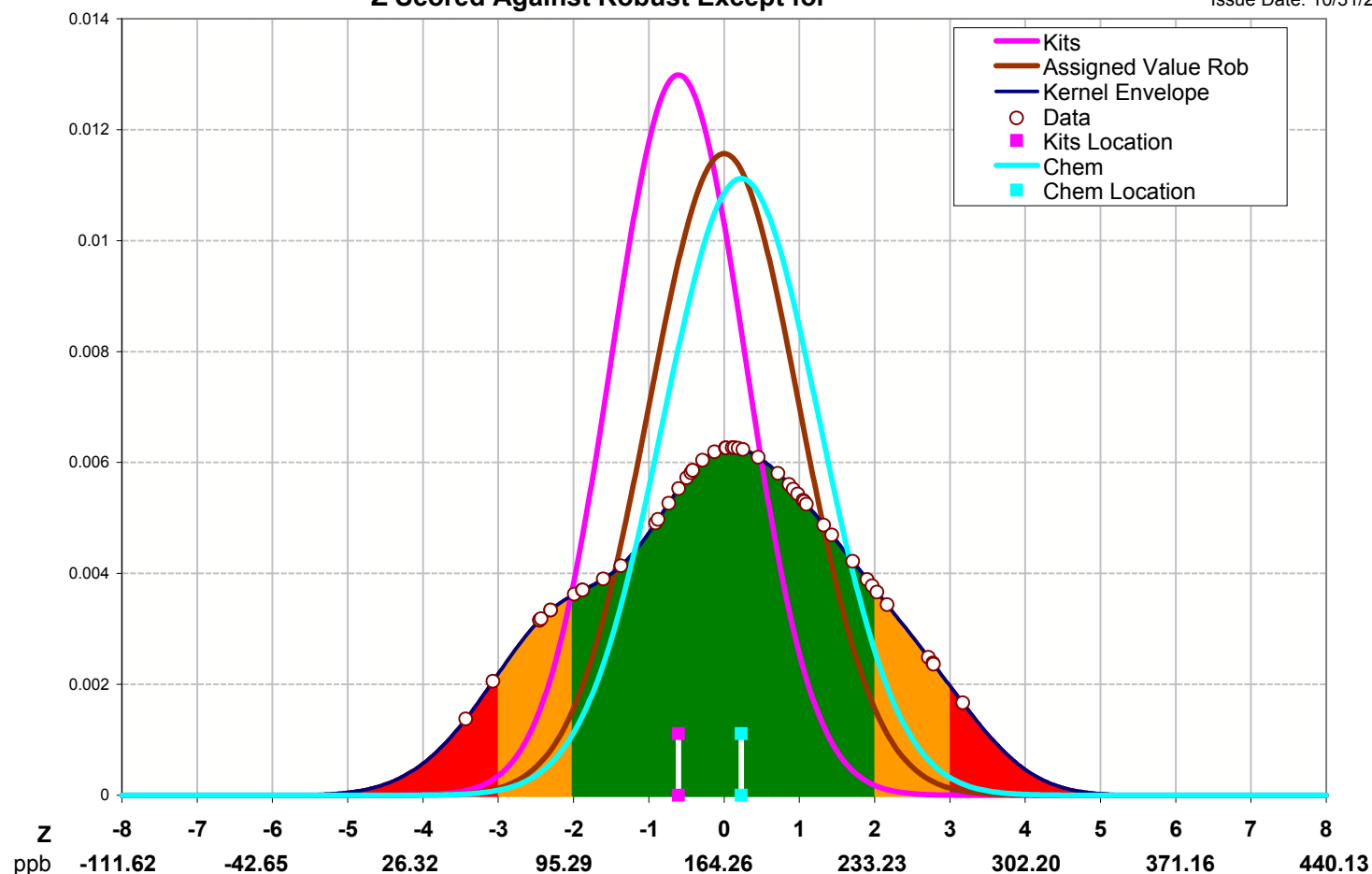
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Ochratoxin A (ppb) Code: 630 - In Sample # 201663, Poultry Feed, Medicated

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 10/31/2016



Rob AV Curve 164.26 (ppb) \pm 34.48 (ppb)
Chem Curve 172.10 (ppb) \pm 35.88 (ppb)
Kits Curve 143.35 (ppb) \pm 30.72 (ppb)
Participating Labs 19

Methods Used 8
 Kernel Bandwidth 25.86 (ppb)
 Number of Non-Detects 0
 Number of Detects 48

Unique LOD's at:
 8 Kits
 16 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 81.3%
 Chem overlapping with Kits 91.9%

Code	# Dup. Tests	kits = 1	Method
630.01	4	1	Neogen Veratox Ochratoxin
630.06	2	0	Vicam OchraTest
630.23	8	0	LC-MS/MS
630.21	2	0	LC-PCD FI
630.05	2	1	r-Biopharm Ridascreen FAST Och A
630.03	1	1	Romer AgraQuant Ochratoxin
630.02	1	1	Charm ROSA Ochratoxin
630.20	4	0	LC

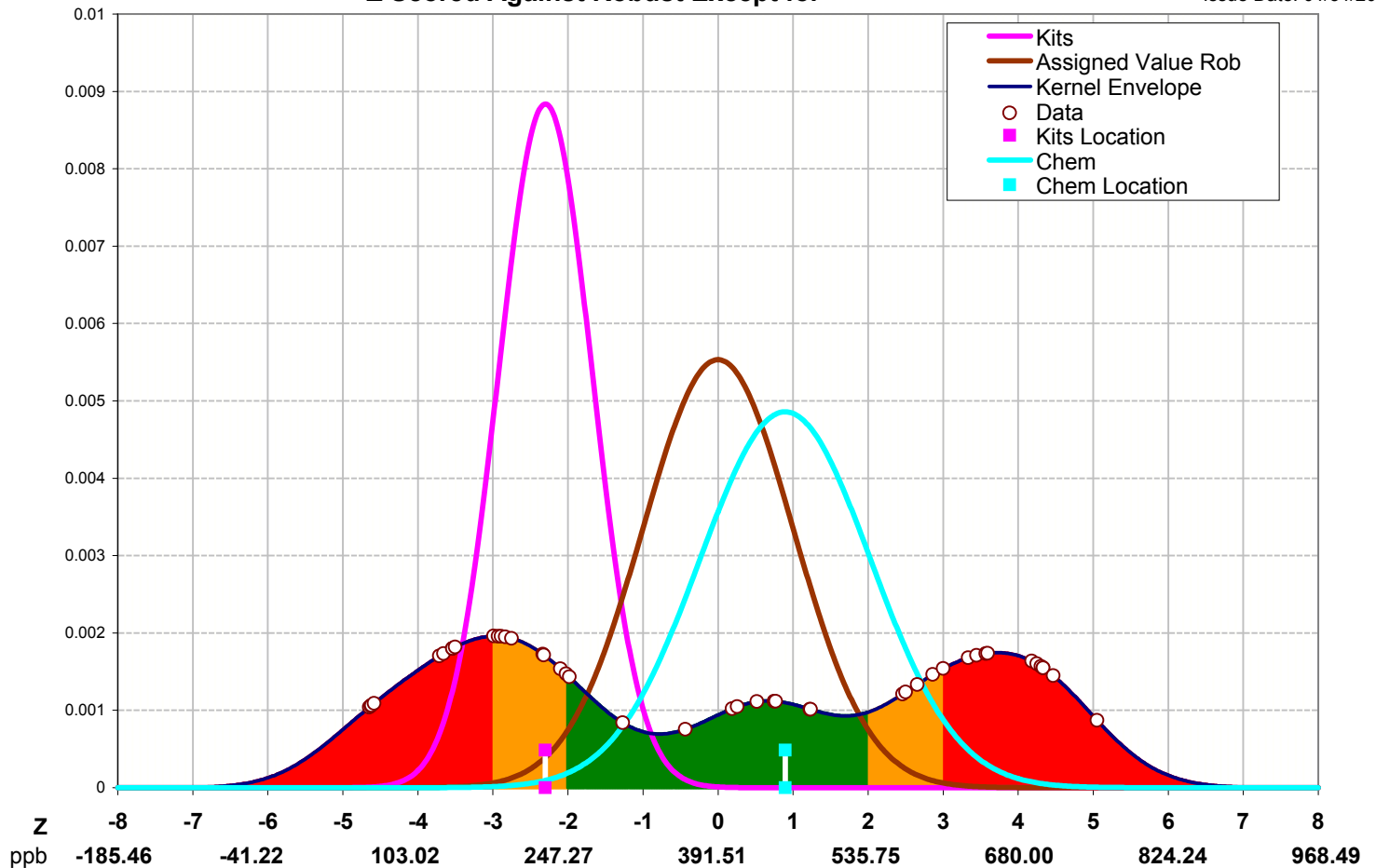
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Ochratoxin A (ppb) Code: 630 - In Sample # 201664, Dog Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 01/31/2017



Rob AV Curve 391.51 (ppb) \pm 72.12 (ppb)
 Chem Curve 456.08 (ppb) \pm 82.11 (ppb)
 Kits Curve 225.55 (ppb) \pm 45.15 (ppb)

Participating Labs 20

Methods Used 7
 Kernel Bandwidth 54.09 (ppb)
 Number of Non-Detects 0
 Number of Detects 44

Unique LOD's at:

7 Kits
 15 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 4.4%
 Chem overlapping with Kits 7.1%

Code	# Dup. Tests	kits = 1	Method
630.01	5	1	Neogen Veratox Ochratoxin
630.23	8	0	LC-MS/MS
630.21	2	0	LC-PCD FI
630.98	1	1	Other Rapid Test Kit
630.05	1	1	r-Biopharm Ridascreen FAST Och A
630.06	1	0	Vicam OchraTest
630.20	4	0	LC

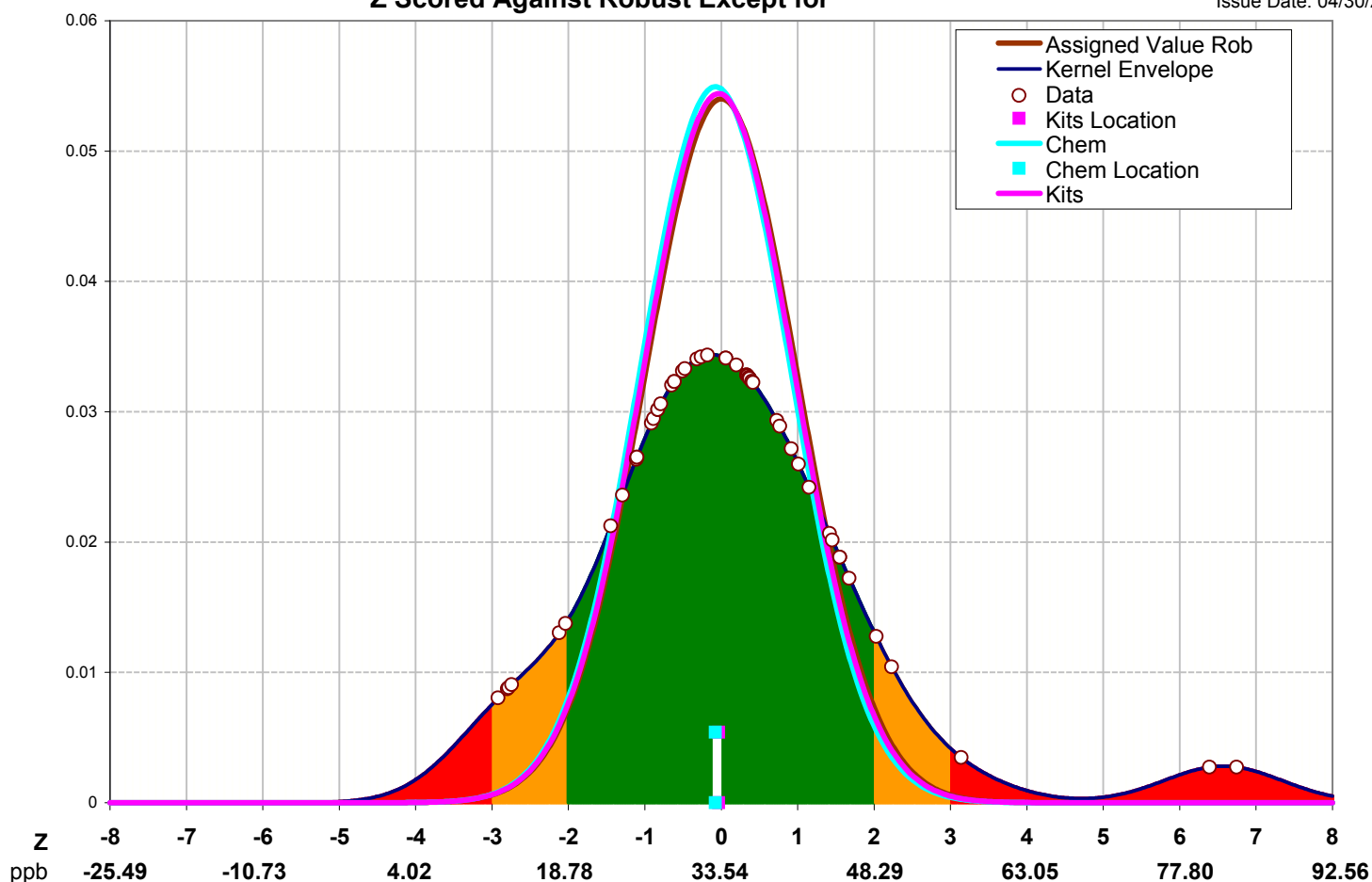
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Ochratoxin A (ppb) Code: 630 - In Sample # 201761, Swine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 04/30/2017



Rob AV Curve 33.54 (ppb) \pm 7.38 (ppb)
Chem Curve 32.97 (ppb) \pm 7.25 (ppb)
Kits Curve 33.29 (ppb) \pm 7.32 (ppb)
Participating Labs 21

Methods Used 9
 Kernel Bandwidth 5.53 (ppb)
 Number of Non-Detects 4
 Number of Detects 50

Unique LOD's at: 30 (ppb)
 50 (ppb)

13 Kits
12 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 95.6%
 Chem overlapping with Kits 95.2%

Code	# Dup. Tests	kits = 1	Method
630.01	5	1	Neogen Veratox Ochratoxin
630.05	4	1	r-Biopharm Ridascreen FAST Och A
630.20	5	0	LC
630.23	7	0	LC-MS/MS
630.03	2	1	Romer AgraQuant Ochratoxin
630.21	1	0	LC-PCD FI
630.98	1	1	Other Rapid Test Kit
630.02	1	1	Charm ROSA Ochratoxin
630.06	1	0	Vicam OchraTest

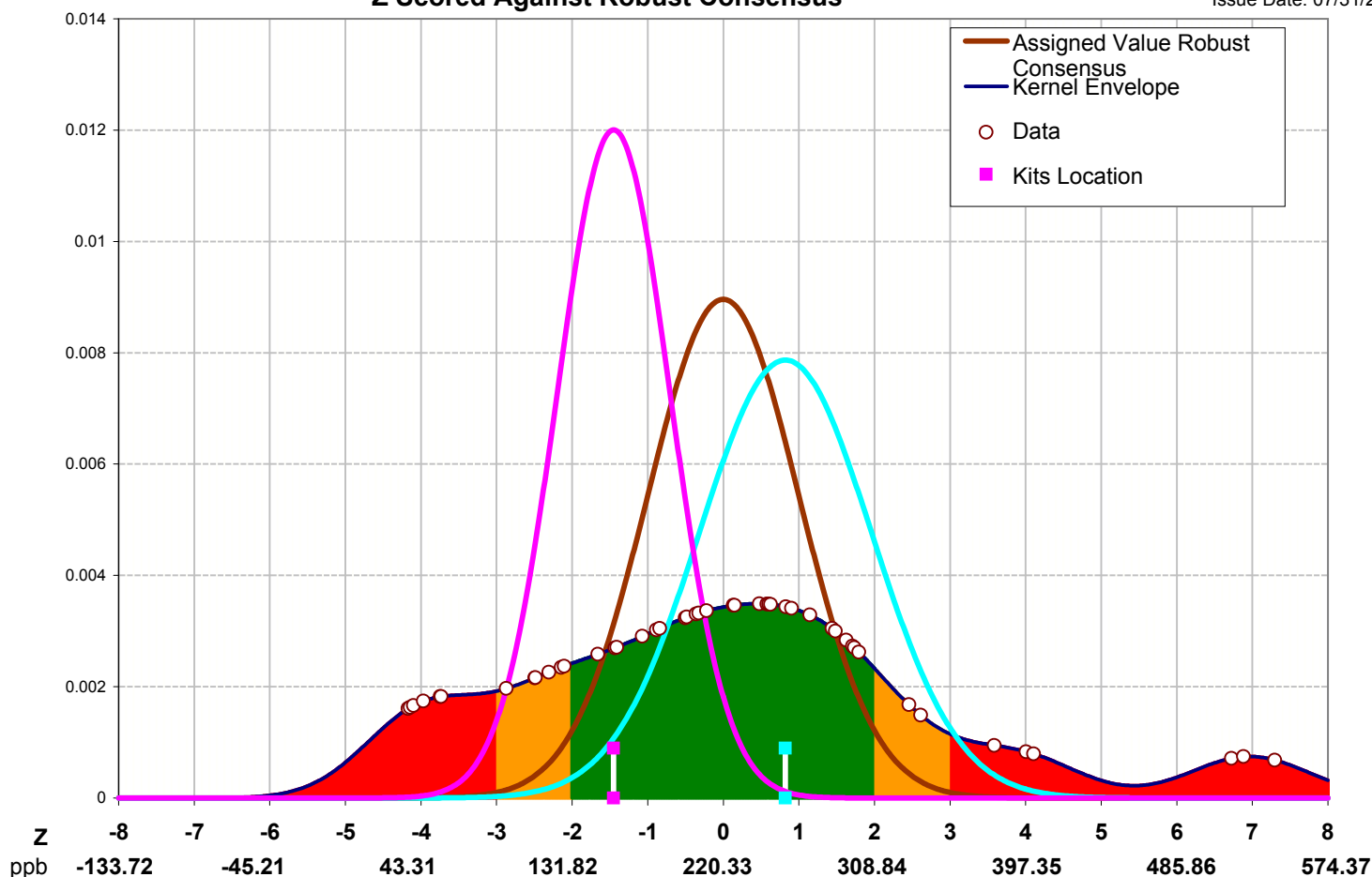
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Ochratoxin A (ppb) Code: 630 - In Sample # 201762, Dairy Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 07/31/2017



Consensus AV Curve 220.33 (ppb) \pm 44.26 (ppb)

Chromatography Curve 256.71 (ppb) \pm 50.39 (ppb)

Kits Curve 156.14 (ppb) \pm 33.03 (ppb)

Participating Labs 22

Methods Used 6
Kernel Bandwidth 33.19 (ppb)
Number of Non-Detects 0
Number of Detects 46

Unique LOD's at:

9 Kits

14 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chromatography 24.6%

Chromatography overlapping with Kits 50.3%

Code	# Dup. Tests	kits = 1	Method
630.01	6	1	Neogen Veratox Ochratoxin
630.06	1	0	Vicam OchraTest
630.05	3	1	r-Biopharm Ridascreen FAST Och A
630.23	9	0	LC-MS/MS
630.20	3	0	LC
630.21	1	0	LC-PCD FI

Note: Chart Z (X axis) refers to Assigned Value Robust Consensus

Ochratoxin A, Code 630

**Horwitz Expanded
Uncertainty**

**Do the Assigned
Values fall within
the Uncertainty**

Sample	Kits	Chrom.	$-\sigma$	$+\sigma$	Kits	Chrom.
201561	6	11	147	340	OK	OK
201562	4	9	45	115	OK	OK
201563	6	8	122	289	OK	OK
201564	4	8	106	255	OK	OK
201661	5	16	94	231	OK	OK
201662	6	17	84	209	OK	OK
201663	8	16	95	233	OK	OK
201664	7	15	247	536	Fail	OK
201761	13	14	19	48	OK	OK
201762	9	14	132	309	OK	OK

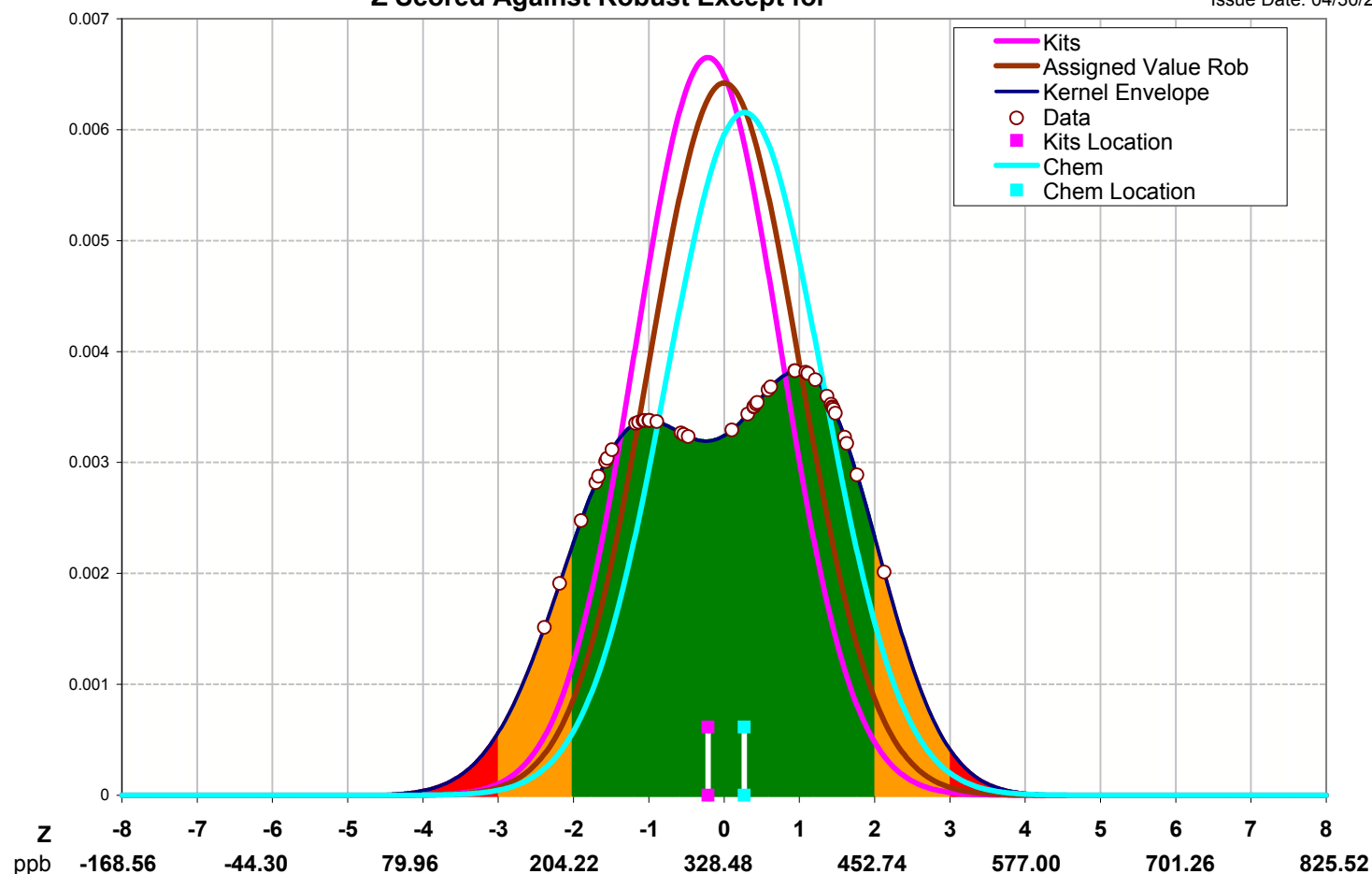
ZEARALENONE CHARTS

Zearalenone (ppb) Code: 650 - In Sample # 201561, Dairy Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 04/30/2015



Rob AV Curve 328.48 (ppb) \pm 62.13 (ppb)
Chem Curve 345.24 (ppb) \pm 64.81 (ppb)
Kits Curve 315.17 (ppb) \pm 59.98 (ppb)
Participating Labs 20

Methods Used 5
 Kernel Bandwidth 46.60 (ppb)
 Number of Non-Detects 0
 Number of Detects 42

Unique LOD's at:
11 Kits
10 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 90.7%
 Chem overlapping with Kits 94.8%

Code	# Dup. Tests	kits = 1	Method
650.24	7	0	LC-MS/MS
650.06	3	1	r-Biopharm Ridascreen FAST ZON
650.01	6	1	Neogen Veratox Zearalenone
650.20	3	0	LC
650.07	2	1	r-Biopharm Ridascreen FAST ZON SC

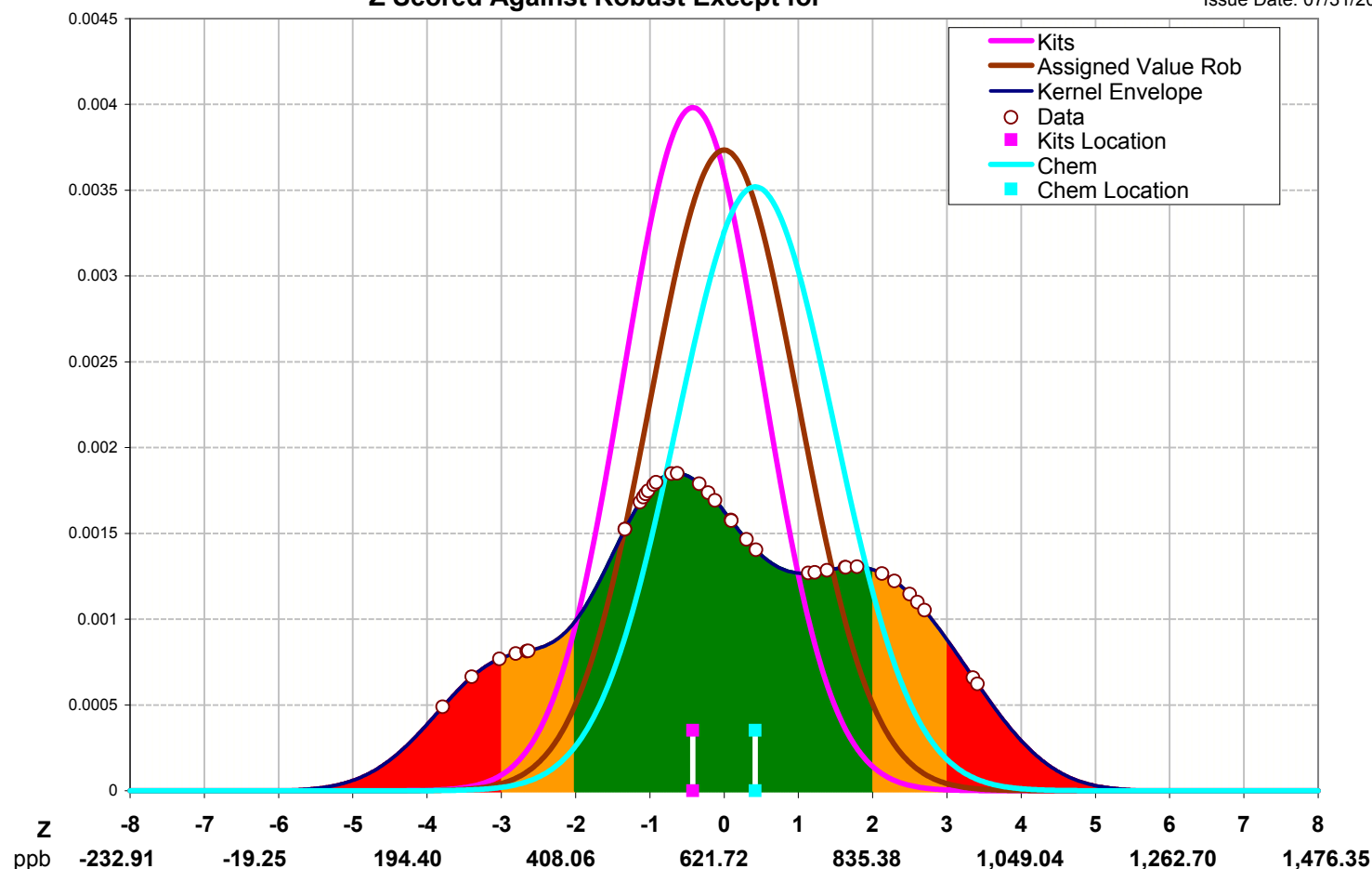
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Zearalenone (ppb) Code: 650 - In Sample # 201562, Poultry Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 07/31/2015



Rob AV Curve 621.72 (ppb) \pm 106.83 (ppb)
Chem Curve 666.56 (ppb) \pm 113.34 (ppb)
Kits Curve 576.51 (ppb) \pm 100.19 (ppb)
Participating Labs 17

Methods Used 5
 Kernel Bandwidth 80.12 (ppb)
 Number of Non-Detects 0
 Number of Detects 36

Unique LOD's at:
11 Kits
7 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 83.0%
 Chem overlapping with Kits 91.3%

Code	# Dup. Tests	kits = 1	Method
650.24	5	0	LC-MS/MS
650.01	6	1	Neogen Veratox Zearalenone
650.06	3	1	r-Biopharm Ridascreen FAST ZON
650.07	2	1	r-Biopharm Ridascreen FAST ZON SC
650.20	2	0	LC

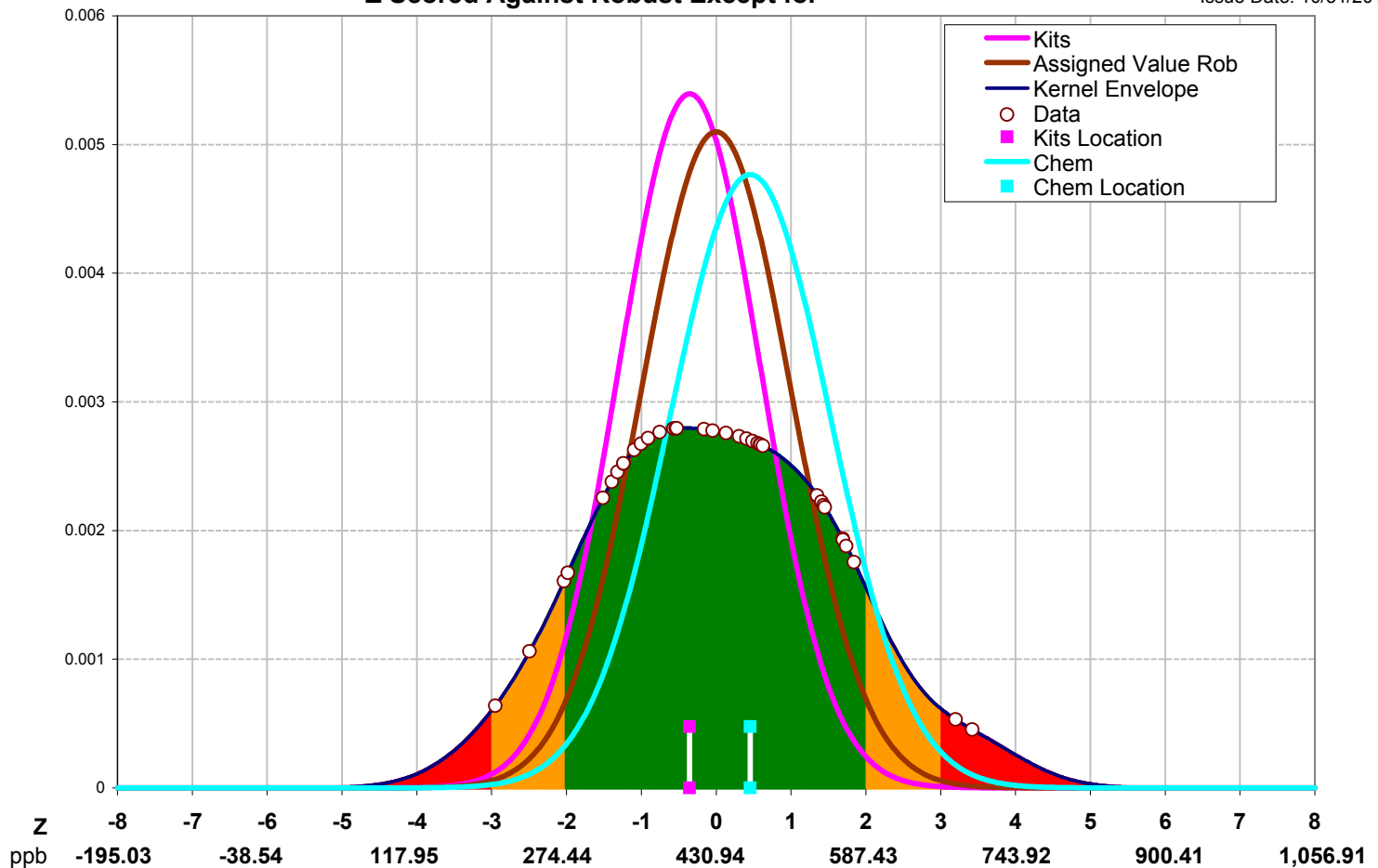
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Zearalenone (ppb) Code: 650 - In Sample # 201563, Equine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 10/31/2015



Rob AV Curve 430.94 (ppb) \pm 78.25 (ppb)
Chem Curve 466.51 (ppb) \pm 83.70 (ppb)
Kits Curve 403.26 (ppb) \pm 73.96 (ppb)
Participating Labs 16

Methods Used 6
 Kernel Bandwidth 58.68 (ppb)
 Number of Non-Detects 0
 Number of Detects 36

Unique LOD's at:
11 Kits
7 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 83.8%
 Chem overlapping with Kits 92.0%

Code	# Dup. Tests	kits = 1	Method
650.01	7	1	Neogen Veratox Zearalenone
650.24	4	0	LC-MS/MS
650.22	1	0	LC-FI, AOCS
650.06	2	1	r-Biopharm Ridascreen FAST ZON
650.07	2	1	r-Biopharm Ridascreen FAST ZON SC
650.20	2	0	LC

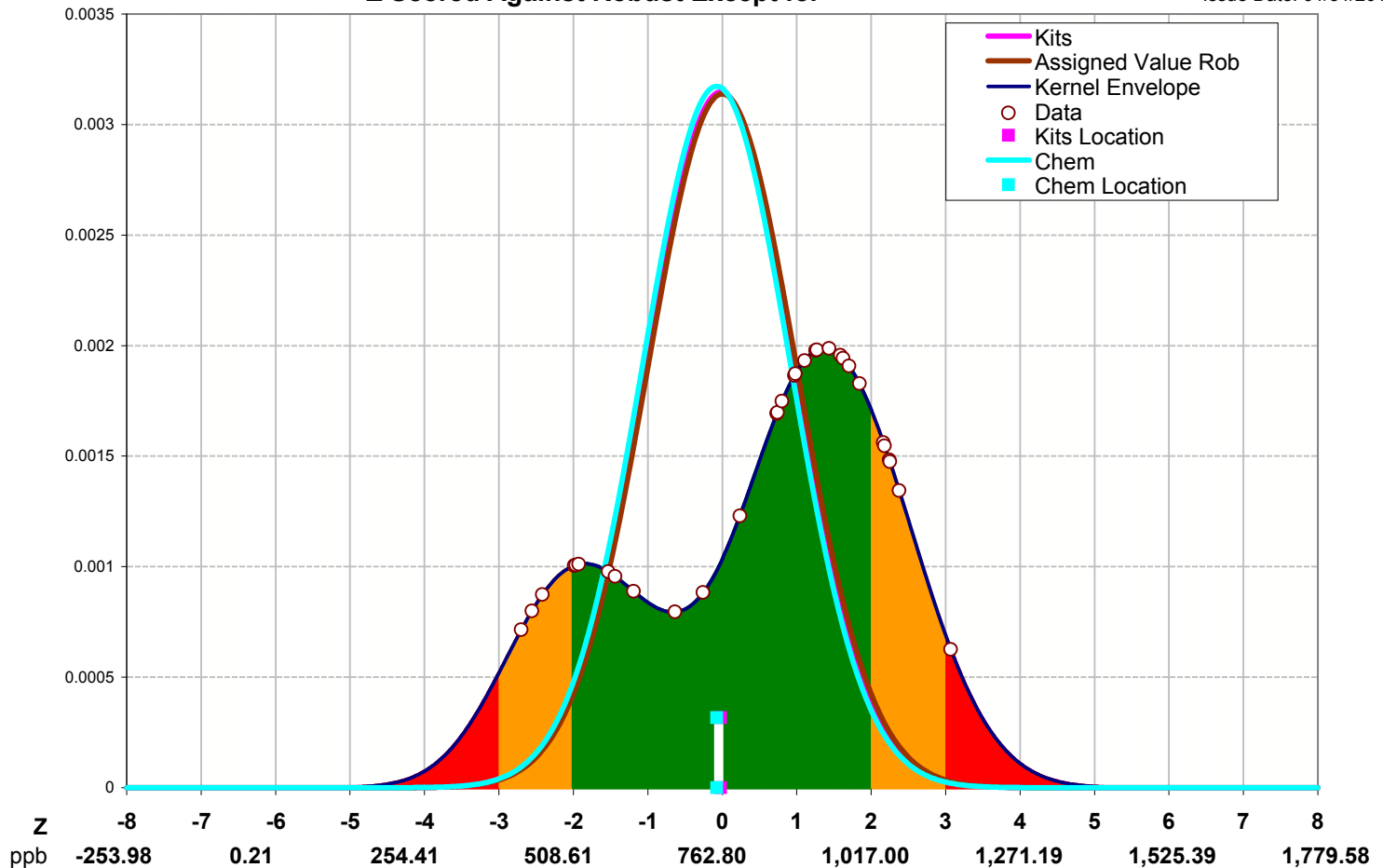
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Zearalenone (ppb) Code: 650 - In Sample # 201564, Pet Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 01/31/2016



Rob AV Curve 762.80 (ppb) \pm 127.10 (ppb)
Chem Curve 753.14 (ppb) \pm 125.73 (ppb)
Kits Curve 760.22 (ppb) \pm 126.73 (ppb)
Participating Labs 14

Methods Used 6
 Kernel Bandwidth 95.32 (ppb)
 Number of Non-Detects 0
 Number of Detects 32

Unique LOD's at:
9 Kits
7 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 95.6%
 Chem overlapping with Kits 95.2%

Code	# Dup. Tests	kits = 1	Method
650.01	5	1	Neogen Veratox Zearalenone
650.24	4	0	LC-MS/MS
650.06	2	1	r-Biopharm Ridascreen FAST ZON
650.22	1	0	LC-FI, AOCS
650.07	2	1	r-Biopharm Ridascreen FAST ZON SC
650.20	2	0	LC

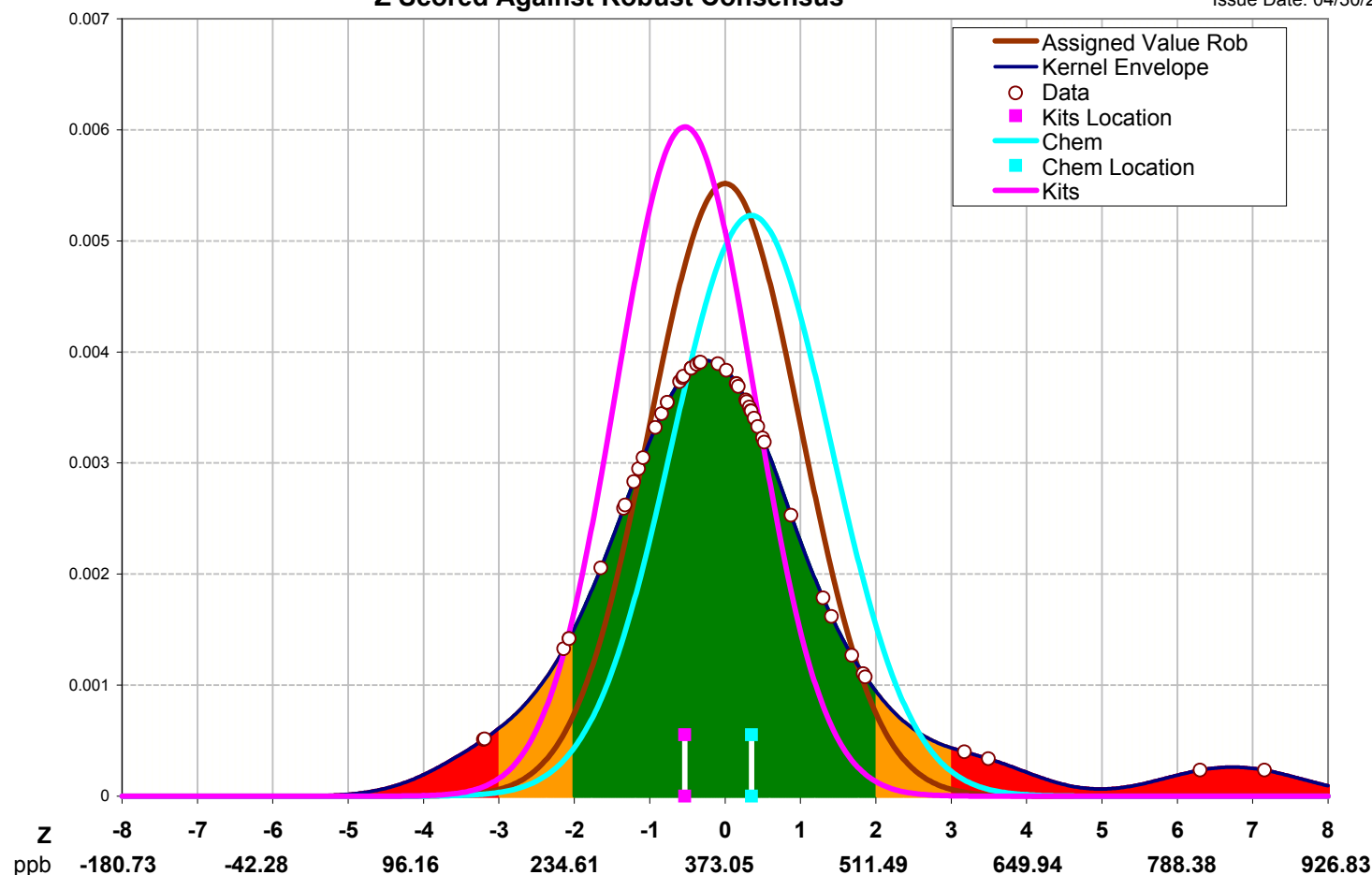
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Zearalenone (ppb) Code: 650 - In Sample # 201661, Beef Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 04/30/2016



Rob AV Curve 373.05 (ppb) \pm 69.22 (ppb)
Chem Curve 397.30 (ppb) \pm 73.03 (ppb)
Kits Curve 336.19 (ppb) \pm 63.37 (ppb)

Participating Labs 24
 # Methods Used 7
 Kernel Bandwidth 51.92 (ppb)
 Number of Non-Detects 0
 Number of Detects 50
 Unique LOD's at:
 11 Kits
 14 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 81.1%
 Chem overlapping with Kits 90.9%

Code	# Dup. Tests	kits = 1	Method
650.06	3	1	r-Biopharm Ridascreen FAST ZON
650.01	6	1	Neogen Veratox Zearalenone
650.24	7	0	LC-MS/MS
650.20	6	0	LC
650.21	1	0	LC-Fl, ISO
650.07	1	1	r-Biopharm Ridascreen FAST ZON SC
650.04	1	1	Romer AgraQuant ZON

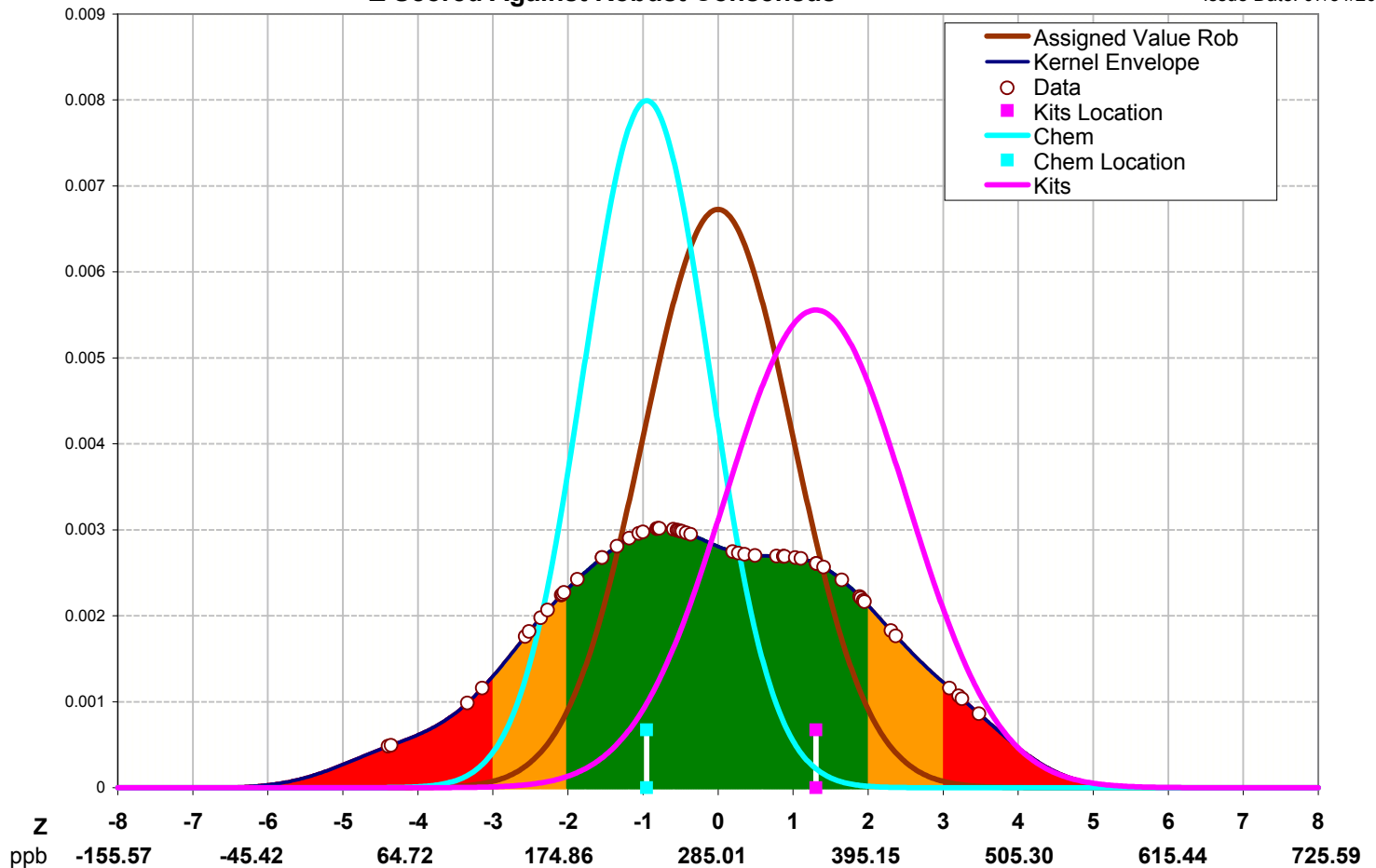
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Zearalenone (ppb) Code: 650 - In Sample # 201662, Equine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 07/31/2016



Rob AV Curve 285.01 (ppb) \pm 55.07 (ppb)
 Chem Curve 232.64 (ppb) \pm 46.35 (ppb)
 Kits Curve 356.80 (ppb) \pm 66.65 (ppb)
 Participating Labs 27

Methods Used 7
 Kernel Bandwidth 41.30 (ppb)
 Number of Non-Detects 0
 Number of Detects 56

Unique LOD's at:
 12 Kits
 16 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 57.8%
 Chem overlapping with Kits 31.8%

Code	# Dup. Tests	kits = 1	Method
650.20	6	0	LC
650.24	9	0	LC-MS/MS
650.06	3	1	r-Biopharm Ridascreen FAST ZON
650.07	2	1	r-Biopharm Ridascreen FAST ZON SC
650.22	1	0	LC-Fl, AOCS
650.01	6	1	Neogen Veratox Zearalenone
650.04	1	1	Romer AgraQuant ZON

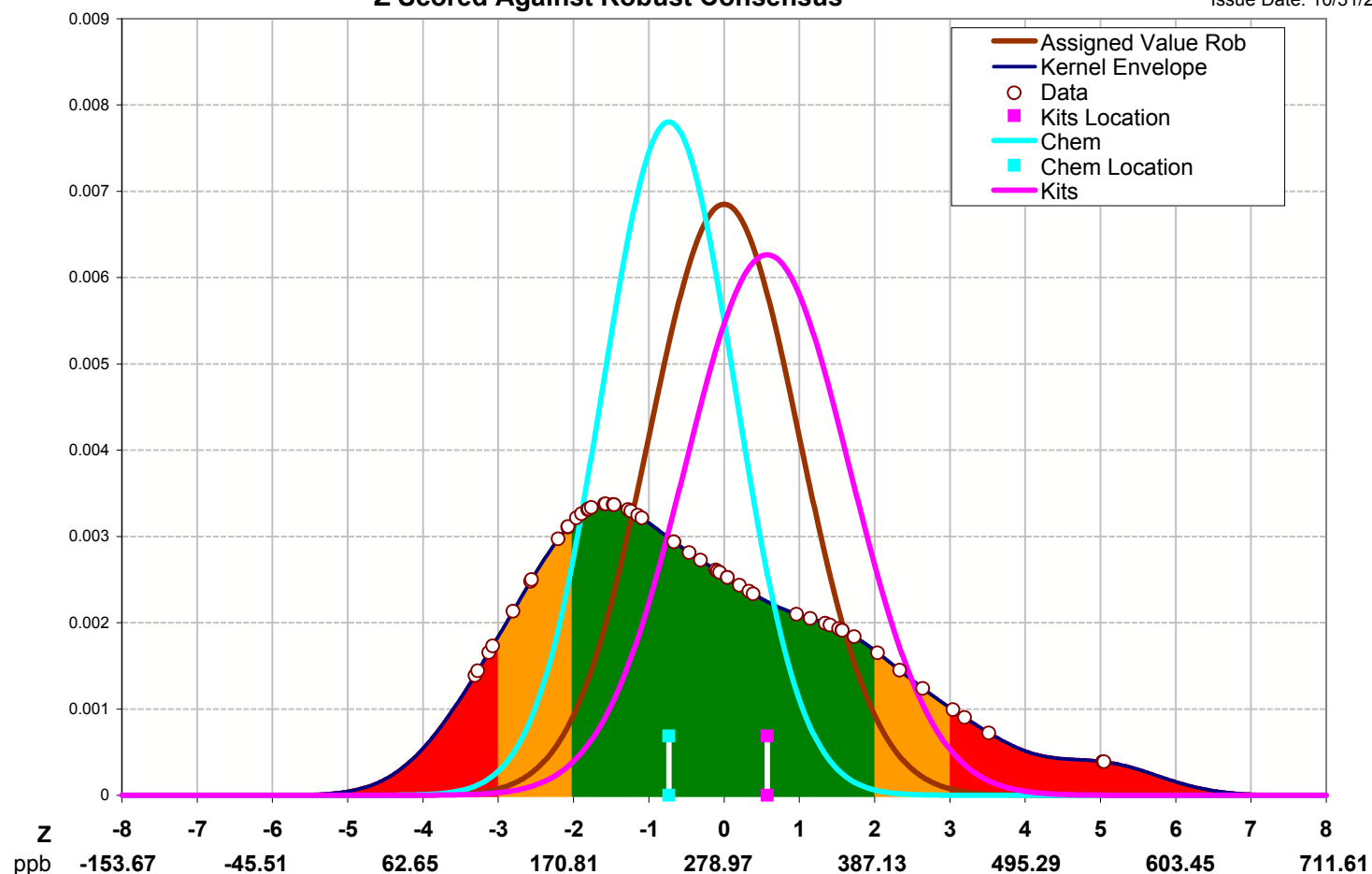
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Zearalenone (ppb) Code: 650 - In Sample # 201663, Poultry Feed, Medicated

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 10/31/2016



Rob AV Curve 278.97 (ppb) \pm 54.08 (ppb)
Chem Curve 239.28 (ppb) \pm 47.47 (ppb)
Kits Curve 309.92 (ppb) \pm 59.14 (ppb)
Participating Labs 26

Methods Used 10
 Kernel Bandwidth 40.56 (ppb)
 Number of Non-Detects 2
 Number of Detects 56

Unique LOD's at: 100 (ppb)
14 Kits
14 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 84.2%
 Chem overlapping with Kits 65.7%

Code	# Dup. Tests	kits = 1	Method
650.24	7	0	LC-MS/MS
650.22	2	0	LC-FI, AOCS
650.06	3	1	r-Biopharm Ridascreen FAST ZON
650.01	6	1	Neogen Veratox Zearalenone
650.20	4	0	LC
650.07	2	1	r-Biopharm Ridascreen FAST ZON SC
650.02	1	1	Charm ROSA Zearalenone Quant - MeOH
650.04	2	1	Romer AgraQuant ZON
650.05	1	1	r-Biopharm Ridascreen Zearalenon
650.21	1	0	LC-FI, ISO

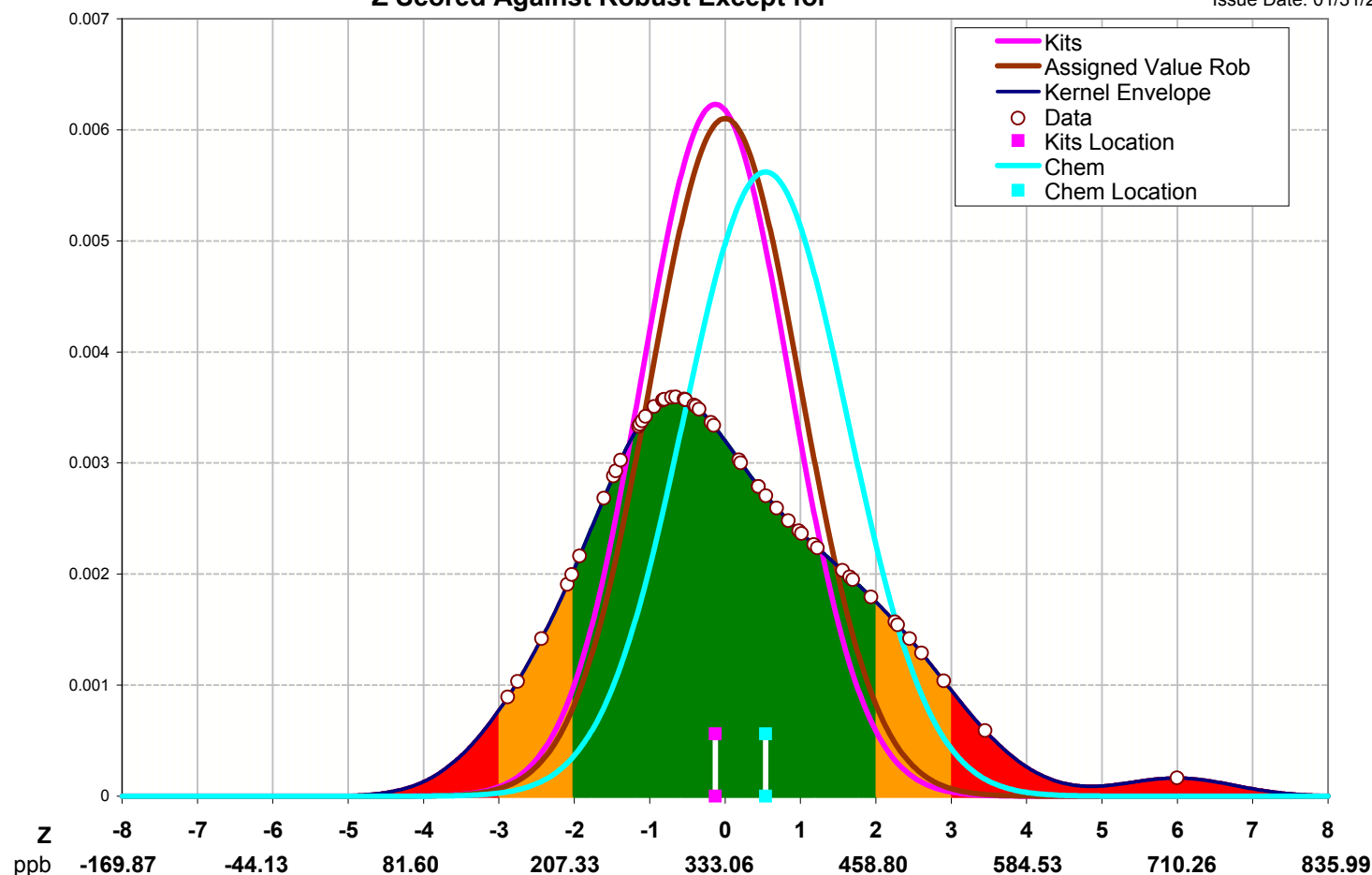
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Zearalenone (ppb) Code: 650 - In Sample # 201664, Dog Food

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 01/31/2017



Rob AV Curve 333.06 (ppb) \pm 62.87 (ppb)
 Chem Curve 366.83 (ppb) \pm 68.24 (ppb)
 Kits Curve 325.00 (ppb) \pm 61.57 (ppb)

Participating Labs 23

Methods Used 7
 Kernel Bandwidth 47.15 (ppb)
 Number of Non-Detects 0
 Number of Detects 52

Unique LOD's at:
 12 Kits
 14 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 87.5%
 Chem overlapping with Kits 93.6%

Code	# Dup. Tests	kits = 1	Method
650.01	8	1	Neogen Veratox Zearalenone
650.24	8	0	LC-MS/MS
650.06	2	1	r-Biopharm Ridascreen FAST ZON
650.20	4	0	LC
650.22	2	0	LC-FI, AOCS
650.98	1	1	Other Rapid Test Kit
650.07	1	1	r-Biopharm Ridascreen FAST ZON SC

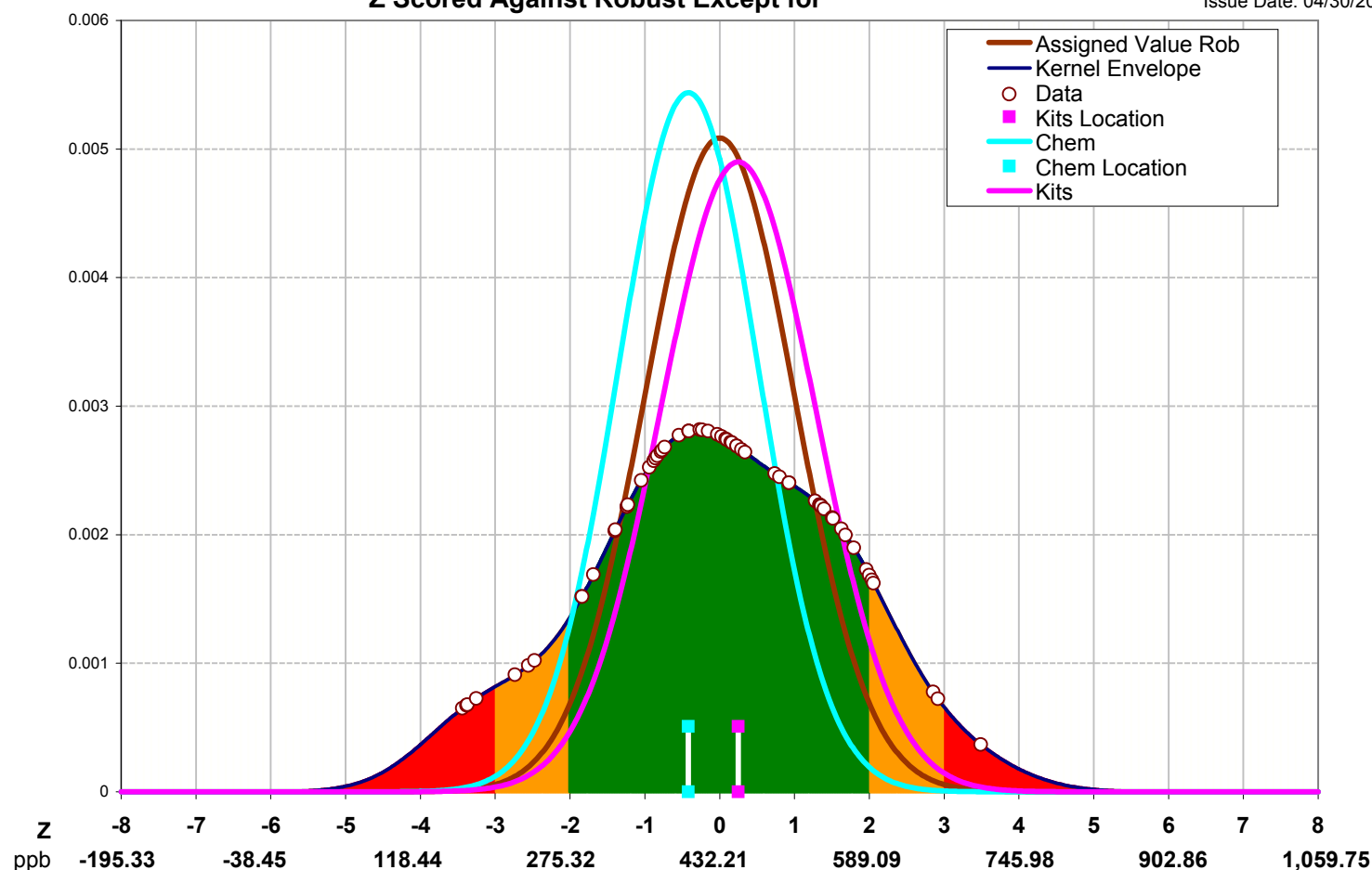
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Zearalenone (ppb) Code: 650 - In Sample # 201761, Swine Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 04/30/2017



Rob AV Curve 432.21 (ppb) \pm 78.44 (ppb)
Chem Curve 399.43 (ppb) \pm 73.36 (ppb)
Kits Curve 451.62 (ppb) \pm 81.43 (ppb)
Participating Labs 29

Methods Used 8
 Kernel Bandwidth 58.83 (ppb)
 Number of Non-Detects 2
 Number of Detects 62
 Unique LOD's at: 50 (ppb)
18 Kits
13 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem 93.3%
 Chem overlapping with Kits 87.0%

Code	# Dup. Tests	kits = 1	Method
650.02	3	1	Charm ROSA Zearalenone Quant - MeOH
650.20	5	0	LC
650.24	7	0	LC-MS/MS
650.07	3	1	r-Biopharm Ridascreen FAST ZON SC
650.22	2	0	LC-Fl, AOCS
650.06	4	1	r-Biopharm Ridascreen FAST ZON
650.01	7	1	Neogen Veratox Zearalenone
650.04	2	1	Romer AgraQuant ZON

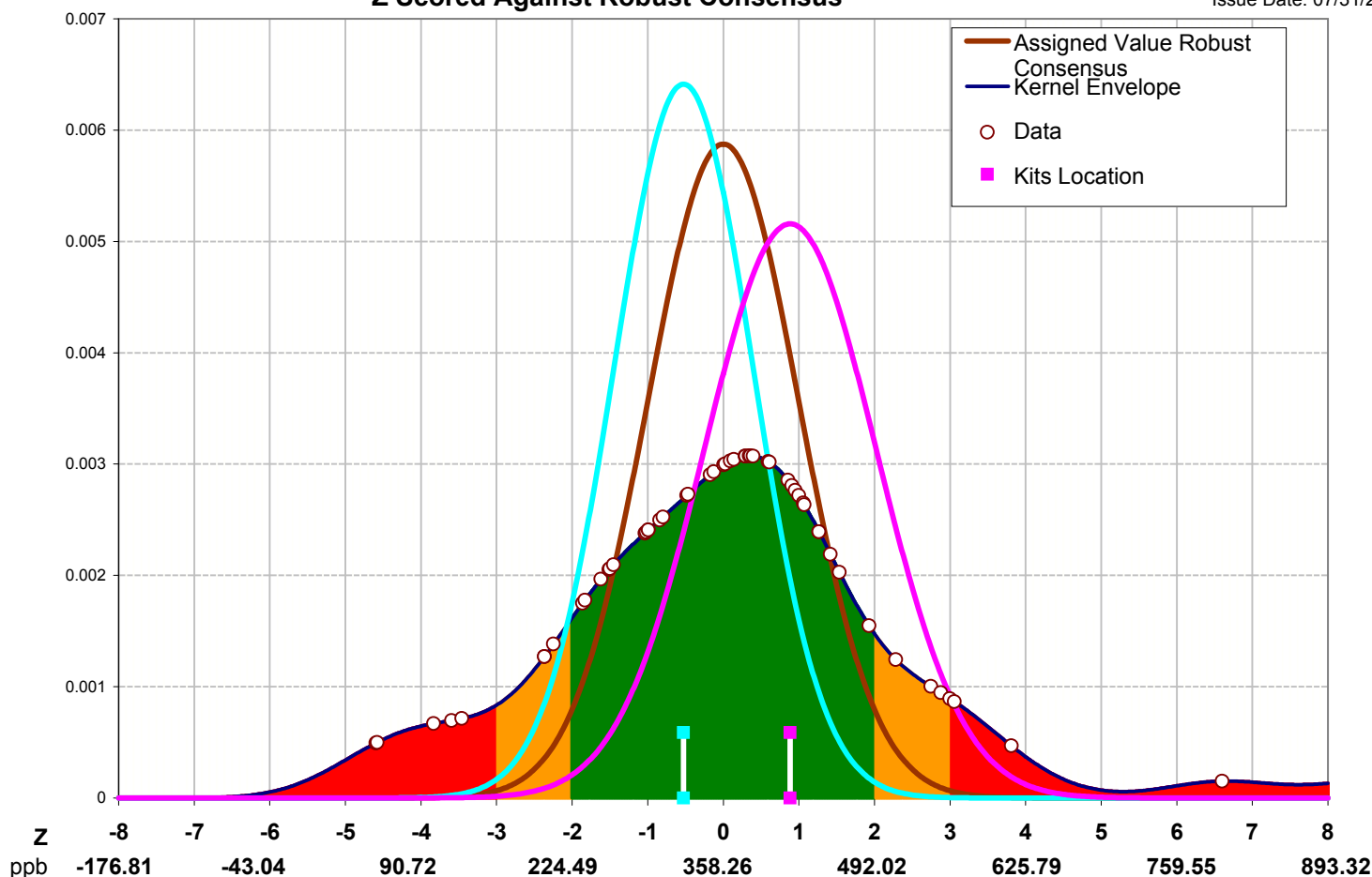
Note: Chart Z (X axis) refers to Assigned Value Rob only!

Zearalenone (ppb) Code: 650 - In Sample # 201762, Dairy Feed

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Consensus

Issue Date: 07/31/2017



Consensus AV Curve 358.26 (ppb) \pm 66.88 (ppb)

Chromatography Curve 323.11 (ppb) \pm 61.27 (ppb)

Kits Curve 417.47 (ppb) \pm 76.16 (ppb)

Participating Labs 25

Methods Used 7
Kernel Bandwidth 50.16 (ppb)
Number of Non-Detects 0
Number of Detects 54

Unique LOD's at:

12 Kits

15 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chromatography 82.8%

Chromatography overlapping with Kits 64.2%

Code	# Dup. Tests	kits = 1	Method
650.20	5	0	LC
650.24	9	0	LC-MS/MS
650.22	1	0	LC-FI, AOCS
650.02	1	1	Charm ROSA Zearalenone Quant - MeOH
650.06	2	1	r-Biopharm Ridascreen FAST ZON
650.07	2	1	r-Biopharm Ridascreen FAST ZON SC
650.01	7	1	Neogen Veratox Zearalenone

Note: Chart Z (X axis) refers to Assigned Value Robust Consensus

Zearalenone, Code 650

**Horwitz Expanded
Uncertainty**

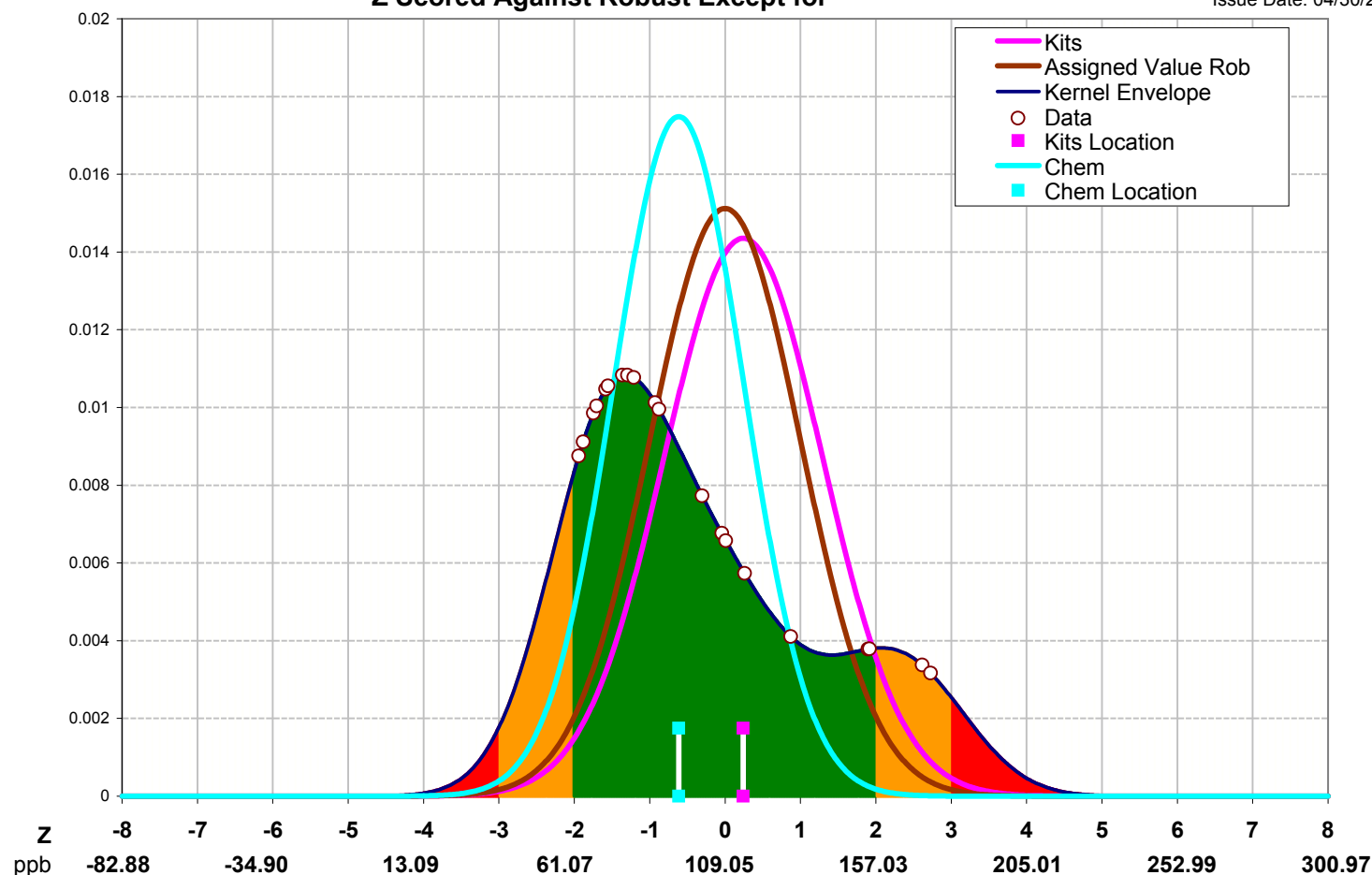
**Do the Assigned
Values fall within
the Uncertainty**

Sample	Kits	Chrom.	$-\sigma$	$+\sigma$	Kits	Chrom.
201561	11	10	204	453	OK	OK
201562	11	7	408	835	OK	OK
201563	11	7	274	587	OK	OK
201564	9	7	509	1017	OK	OK
201661	11	14	235	511	OK	OK
201662	12	16	175	395	OK	OK
201663	15	14	171	387	OK	OK
201664	12	14	207	459	OK	OK
201761	19	14	275	589	OK	OK
201762	12	15	224	492	OK	OK

T-2 CHARTS

T-2 (ppb) Code: 640 - In Sample # 201561, Dairy Feed
Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve
Z Scored Against Robust Except for *

Issue Date: 04/30/2015



Rob AV Curve 109.05 (ppb) \pm 23.99 (ppb)
Chem Curve 94.29 (ppb) \pm 20.74 (ppb)
Kits Curve 114.85 (ppb) \pm 25.27 (ppb)
Participating Labs 10

Methods Used 4
 Kernel Bandwidth 17.99 (ppb)
 Number of Non-Detects 0
 Number of Detects 22

Unique LOD's at:
3 Kits
8 Chem Methods

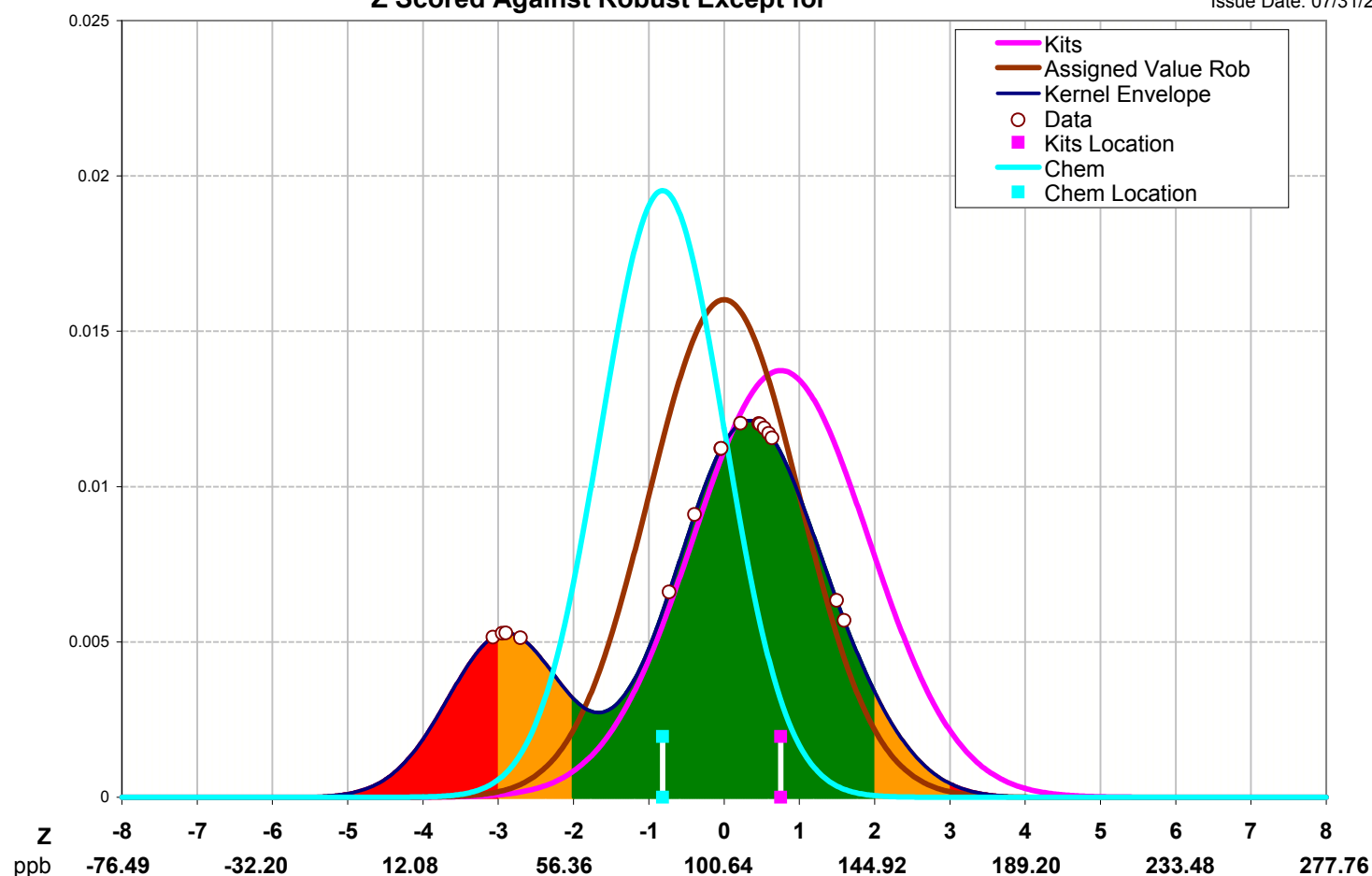
Proportion Overlapping in Z = \pm 2 Zone
 Kits overlapping with Chem 92.5%
 Chem overlapping with Kits 78.9%

Code	# Dup. Tests	kits = 1	Method
640.23	7	0	LC-MS/MS
640.05	2	1	r-Biopharm Ridascreen FAST T-2
640.24	1	0	GC-ECD
640.98	1	1	Other Rapid Test Kit

Note: Chart Z (X axis) refers to Assigned Value Rob only!

T-2 (ppb) Code: 640 - In Sample # 201562, Poultry Feed
Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve
Z Scored Against Robust Except for *

Issue Date: 07/31/2015



Rob AV Curve 100.64 (ppb) \pm 22.14 (ppb)
Chem Curve 82.54 (ppb) \pm 18.16 (ppb)
Kits Curve 117.34 (ppb) \pm 25.81 (ppb)

Methods Used 4
 Kernel Bandwidth 16.61 (ppb)
 Number of Non-Detects 0
 Number of Detects 18

Unique LOD's at:
 3 Kits
 6 Chem Methods

Participating Labs 8

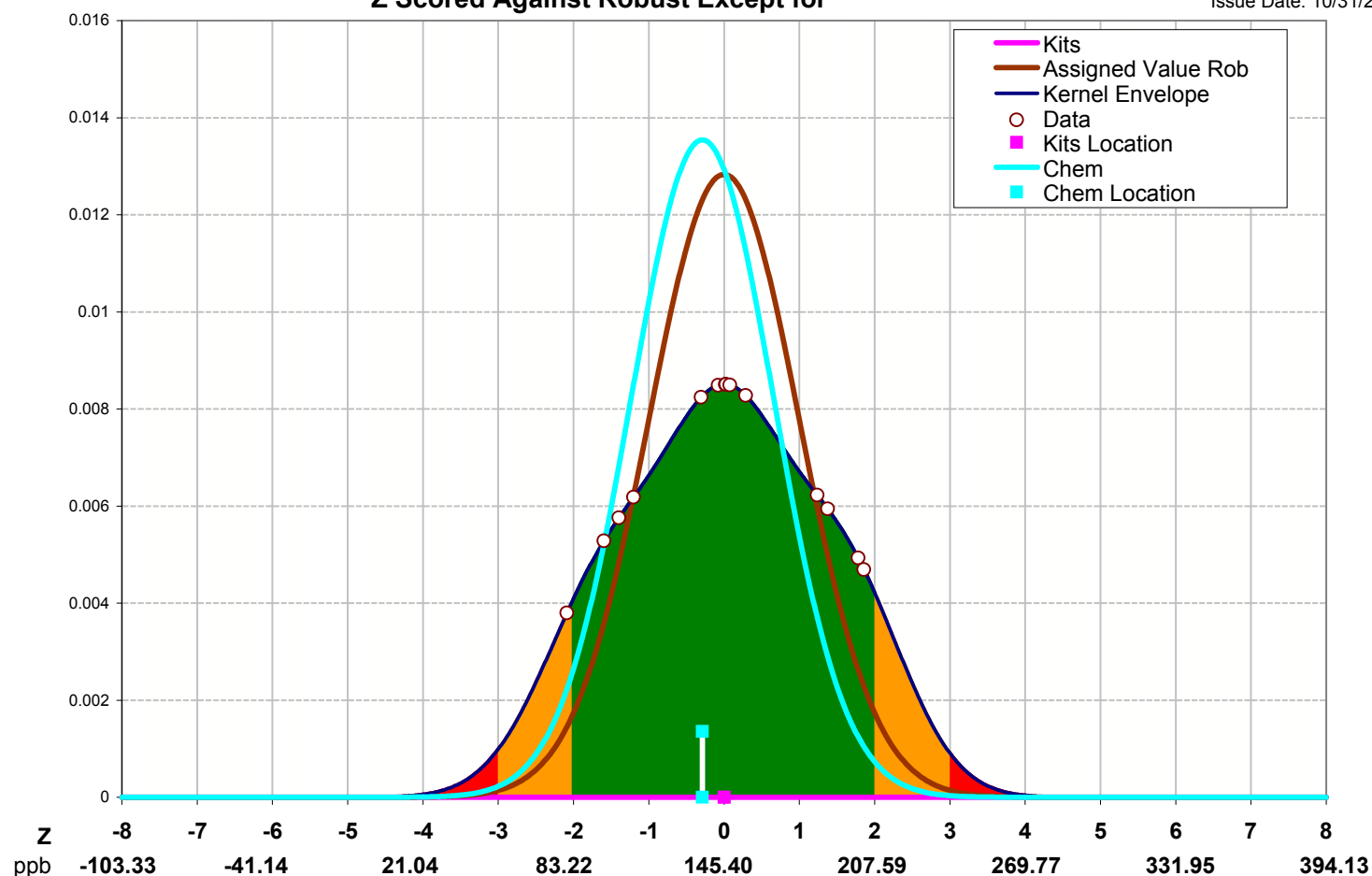
Proportion Overlapping in Z = \pm 2 Zone
 Kits overlapping with Chem 82.3%
 Chem overlapping with Kits 52.1%

Code	# Dup. Tests	kits = 1	Method
640.23	5	0	LC-MS/MS
640.05	2	1	r-Biopharm Ridascreen FAST T-2
640.24	1	0	GC-ECD
640.98	1	1	Other Rapid Test Kit

Note: Chart Z (X axis) refers to Assigned Value Rob only!

T-2 (ppb) Code: 640 - In Sample # 201563, Equine Feed
Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve
Z Scored Against Robust Except for *

Issue Date: 10/31/2015



Rob AV Curve 145.40 (ppb) \pm 31.09 (ppb)
Chem Curve 136.46 (ppb) \pm 29.46 (ppb)
Kits Curve 0.00 (ppb) \pm 0.00 (ppb)

Participating Labs 6

Proportion Overlapping in Z = \pm 2 Zone
 Kits overlapping with Chem **0.0%**
 Chem overlapping with Kits

Unique LOD's at:

2 Kits
5 Chem Methods

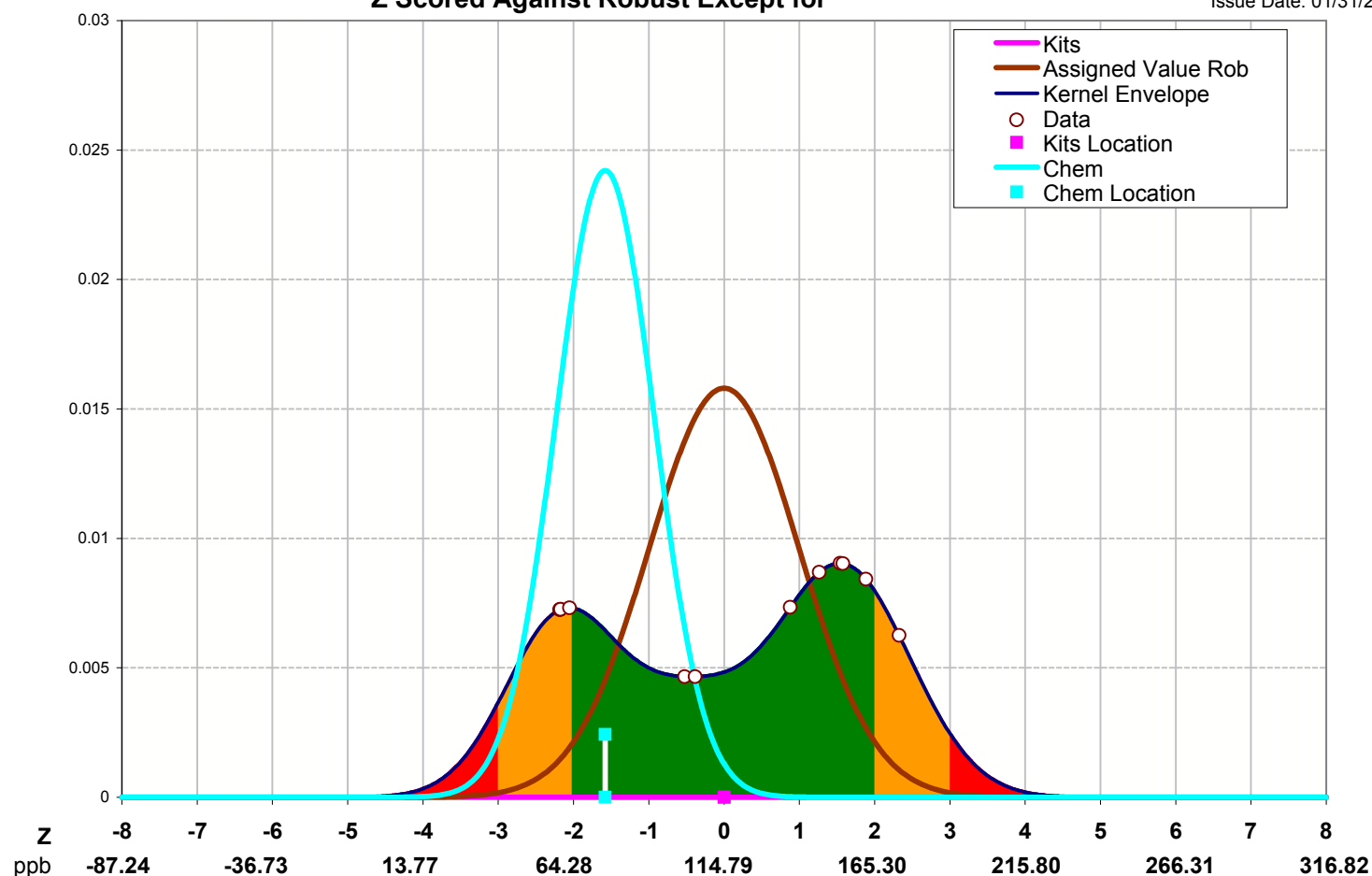
Methods Used 3
Kernel Bandwidth 23.32 (ppb)
Number of Non-Detects 0
Number of Detects 14

Code	# Dup. Tests	kits = 1	Method
640.23	4	0	LC-MS/MS
640.05	2	1	r-Biopharm Ridascreen FAST T-2
640.24	1	0	GC-ECD

Note: Chart Z (X axis) refers to Assigned Value Rob only!

T-2 (ppb) Code: 640 - In Sample # 201564, Pet Food
Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve
Z Scored Against Robust Except for *

Issue Date: 01/31/2016



Rob AV Curve 114.79 (ppb) \pm 25.25 (ppb)
Chem Curve 74.90 (ppb) \pm 16.48 (ppb)
Kits Curve 0.00 (ppb) \pm 0.00 (ppb)
Participating Labs 6

Methods Used 3
 Kernel Bandwidth 18.94 (ppb)
 Number of Non-Detects 2
 Number of Detects 12

Unique LOD's at: 1 (ppb)
 2 Kits
 4 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

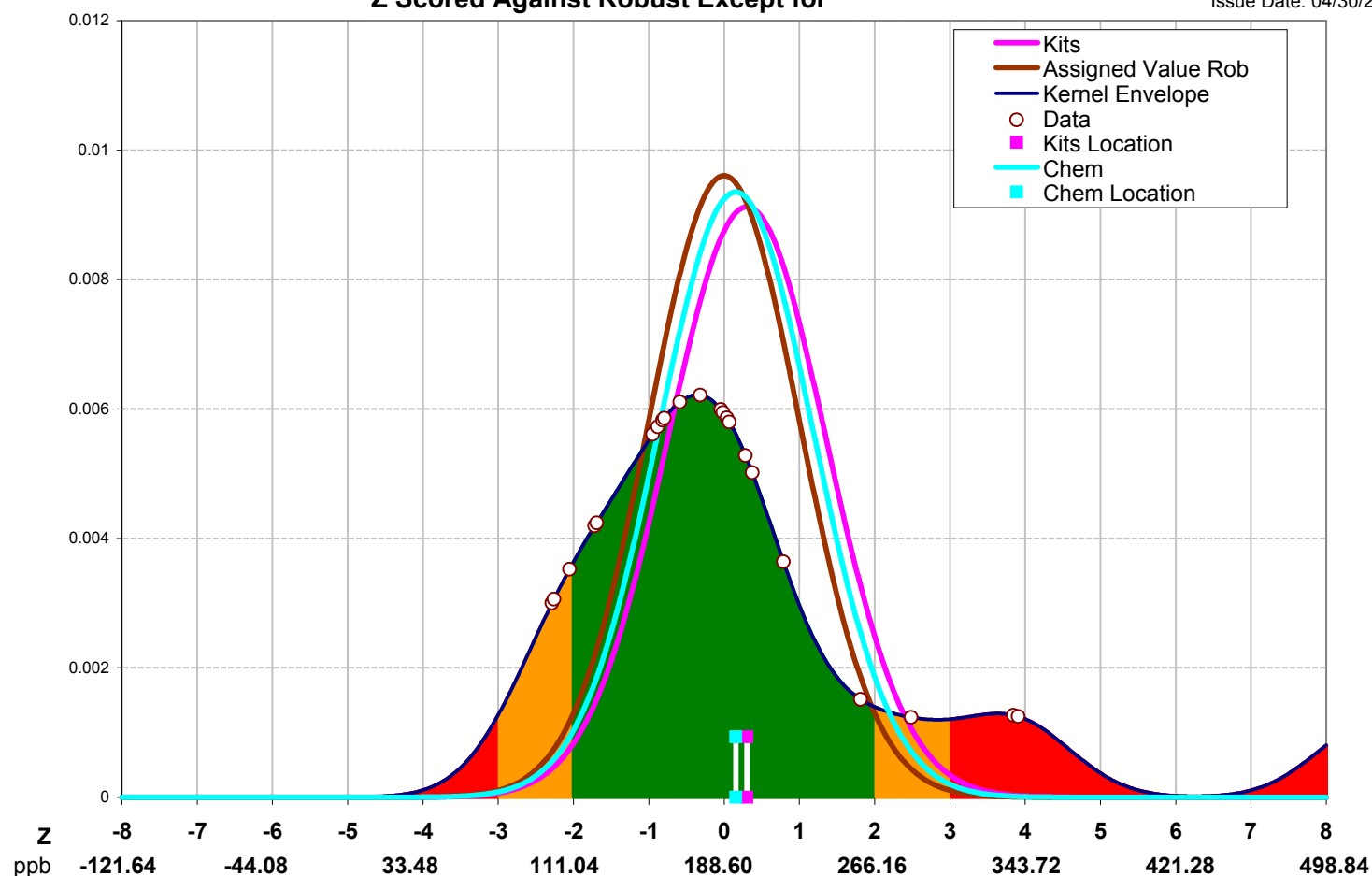
Kits overlapping with Chem **0.0%**
 Chem overlapping with Kits

Code	# Dup. Tests	kits = 1	Method
640.23	4	0	LC-MS/MS
640.05	2	1	r-Biopharm Ridascreen FAST T-2
640.24	1	0	GC-ECD

Note: Chart Z (X axis) refers to Assigned Value Rob only!

T-2 (ppb) Code: 640 - In Sample # 201661, Beef Food
Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve
Z Scored Against Robust Except for *

Issue Date: 04/30/2016



Rob AV Curve 188.60 (ppb) \pm 38.78 (ppb)	# Methods Used	5	Unique LOD's at:
Chem Curve 194.62 (ppb) \pm 39.83 (ppb)	Kernel Bandwidth	29.09 (ppb)	
Kits Curve 200.38 (ppb) \pm 40.83 (ppb)	Number of Non-Detects	0	
Participating Labs 11	Number of Detects	24	
	3 Kits		
	9 Chem Methods		

Proportion Overlapping in Z = \pm 2 Zone

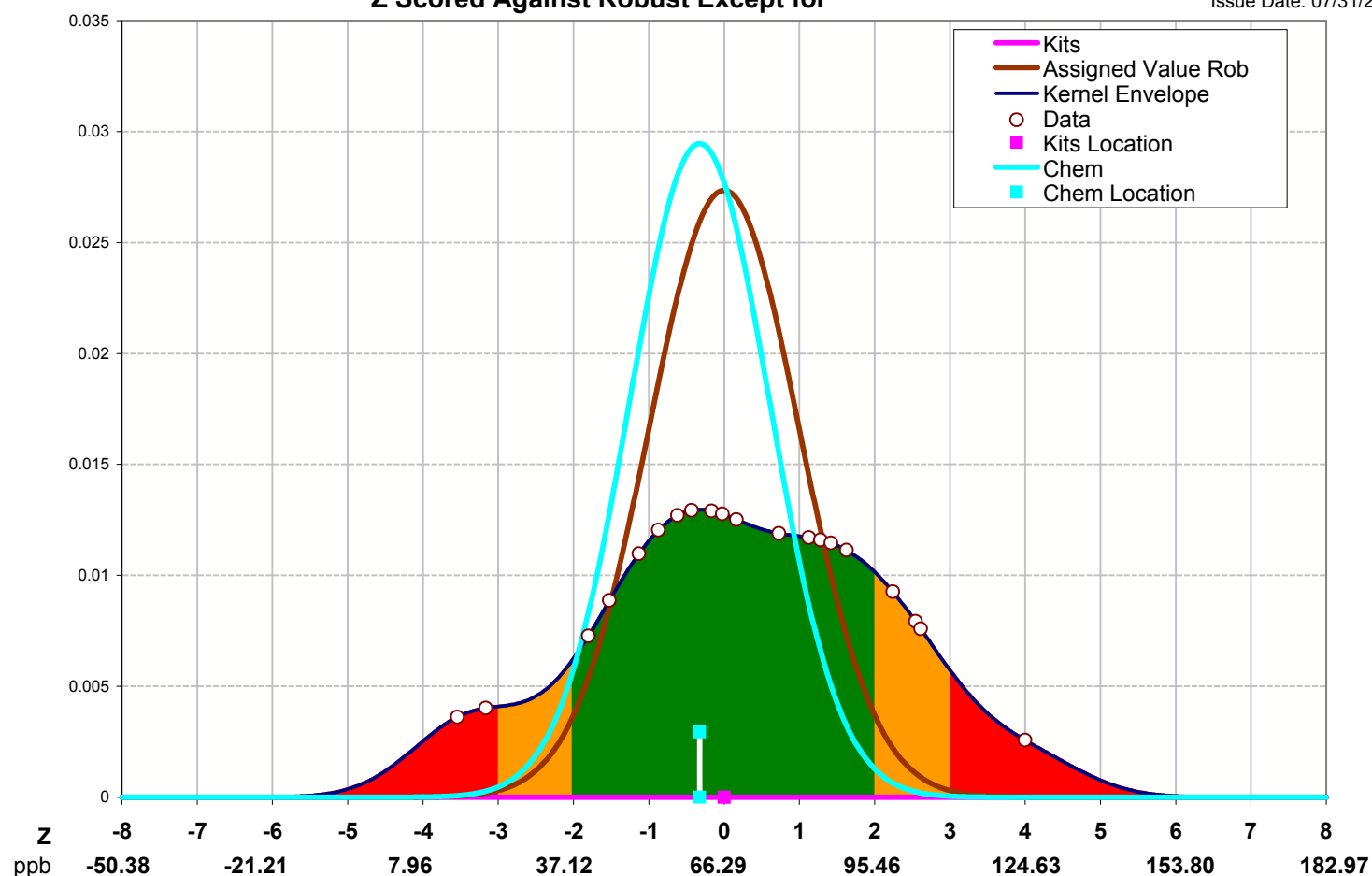
Kits overlapping with Chem	95.8%
Chem overlapping with Kits	94.7%

Code	# Dup. Tests	kits = 1	Method
640.05	2	1	r-Biopharm Ridascreen FAST T-2
640.23	6	0	LC-MS/MS
640.24	1	0	GC-ECD
640.20	2	0	LC
640.03	1	1	Romer AgraQuant T-2

Note: Chart Z (X axis) refers to Assigned Value Rob only!

T-2 (ppb) Code: 640 - In Sample # 201662, Equine Feed
Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve
Z Scored Against Robust Except for *

Issue Date: 07/31/2016



Rob AV Curve 66.29 (ppb) \pm 14.58 (ppb)
Chem Curve 61.56 (ppb) \pm 13.54 (ppb)
Kits Curve 0.00 (ppb) \pm 0.00 (ppb)
Participating Labs 12

Methods Used 4
 Kernel Bandwidth 10.94 (ppb)
 Number of Non-Detects 6
 Number of Detects 20

Unique LOD's at: 5.2 (ppb)
 50 (ppb)
 100 (ppb)

1 Kits
9 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chem **0.0%**
 Chem overlapping with Kits

Code	# Dup. Tests	kits = 1	Method
640.20	2	0	LC
640.23	8	0	LC-MS/MS
640.24	1	0	GC-ECD
640.05	2	1	r-Biopharm Ridascreen FAST T-2

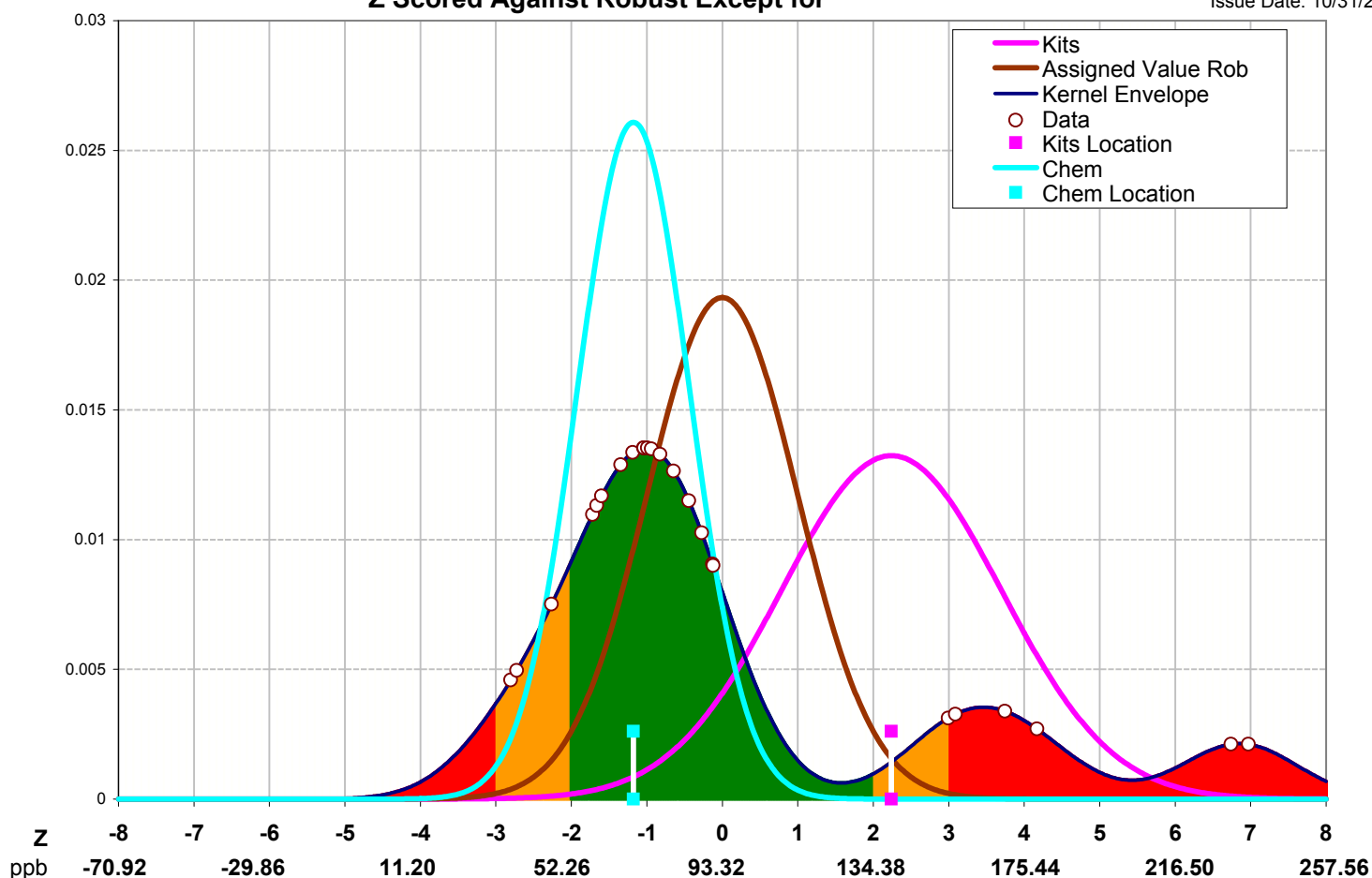
Note: Chart Z (X axis) refers to Assigned Value Rob only!

T-2 (ppb) Code: 640 - In Sample # 201663, Poultry Feed, Medicated

Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve

Z Scored Against Robust Except for *

Issue Date: 10/31/2016



Rob AV Curve 93.32 (ppb) \pm 20.53 (ppb)
Chem Curve 69.15 (ppb) \pm 15.21 (ppb)
Kits Curve 139.32 (ppb) \pm 29.98 (ppb)
Participating Labs 12

Methods Used 7
 Kernel Bandwidth 15.40 (ppb)
 Number of Non-Detects 2
 Number of Detects 24
 Unique LOD's at: 100 (ppb)

4 Kits
8 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

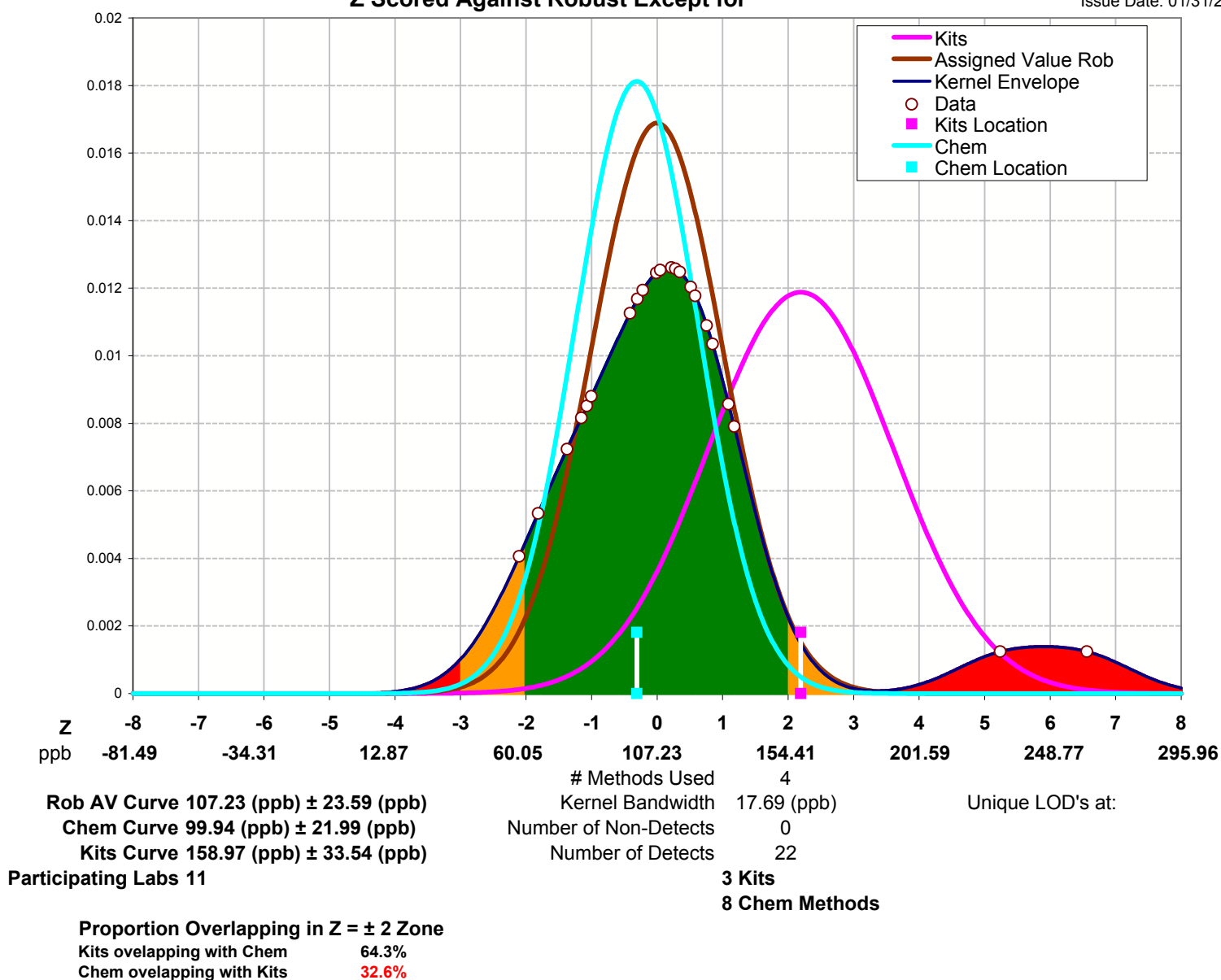
Kits overlapping with Chem **25.1%**
 Chem overlapping with Kits **9.2%**

Code	# Dup. Tests	kits = 1	Method
640.23	6	0	LC-MS/MS
640.24	1	0	GC-ECD
640.03	1	1	Romer AgraQuant T-2
640.05	2	1	r-Biopharm Ridascreen FAST T-2
640.04	1	1	r-Biopharm Ridascreen T-2
640.21	1	0	LC-PCD FI
640.98	1	1	Other Rapid Test Kit

Note: Chart Z (X axis) refers to Assigned Value Rob only!

T-2 (ppb) Code: 640 - In Sample # 201664, Dog Food
Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve
Z Scored Against Robust Except for *

Issue Date: 01/31/2017

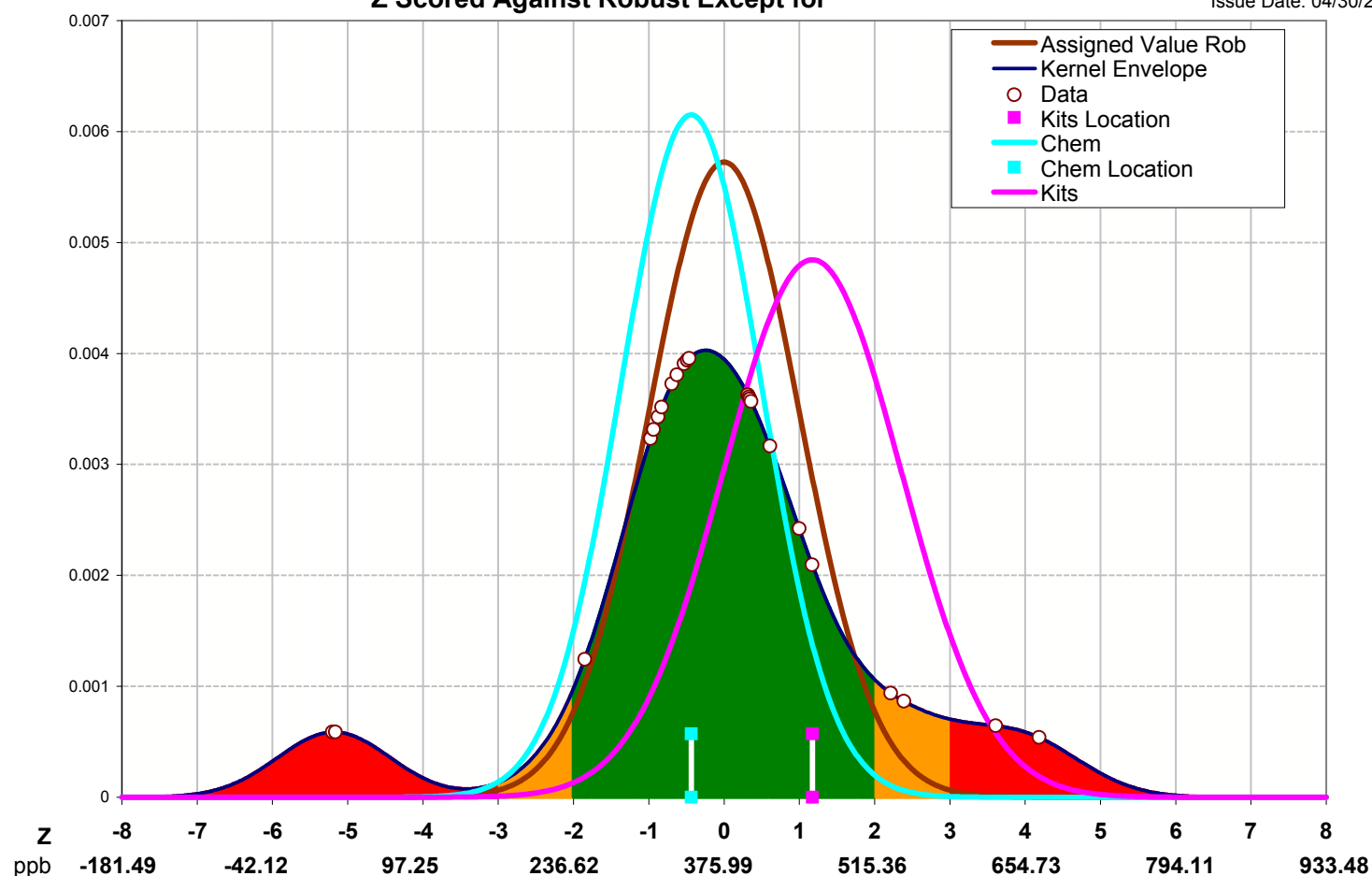


Code	# Dup. Tests	kits = 1	Method
640.23	7	0	LC-MS/MS
640.24	1	0	GC-ECD
640.05	2	1	r-Biopharm Ridascreen FAST T-2
640.98	1	1	Other Rapid Test Kit

Note: Chart Z (X axis) refers to Assigned Value Rob only!

T-2 (ppb) Code: 640 - In Sample # 201761, Swine Feed
Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve
Z Scored Against Robust Except for *

Issue Date: 04/30/2017



Rob AV Curve 375.99 (ppb) \pm 69.69 (ppb)
Chem Curve 345.54 (ppb) \pm 64.86 (ppb)
Kits Curve 457.69 (ppb) \pm 82.35 (ppb)
Participating Labs 12

Proportion Overlapping in Z = \pm 2 Zone
Kits overlapping with Chem 79.1%
Chem overlapping with Kits 58.3%

Methods Used 4
Kernel Bandwidth 52.26 (ppb)
Number of Non-Detects 0
Number of Detects 26

5 Kits
8 Chem Methods

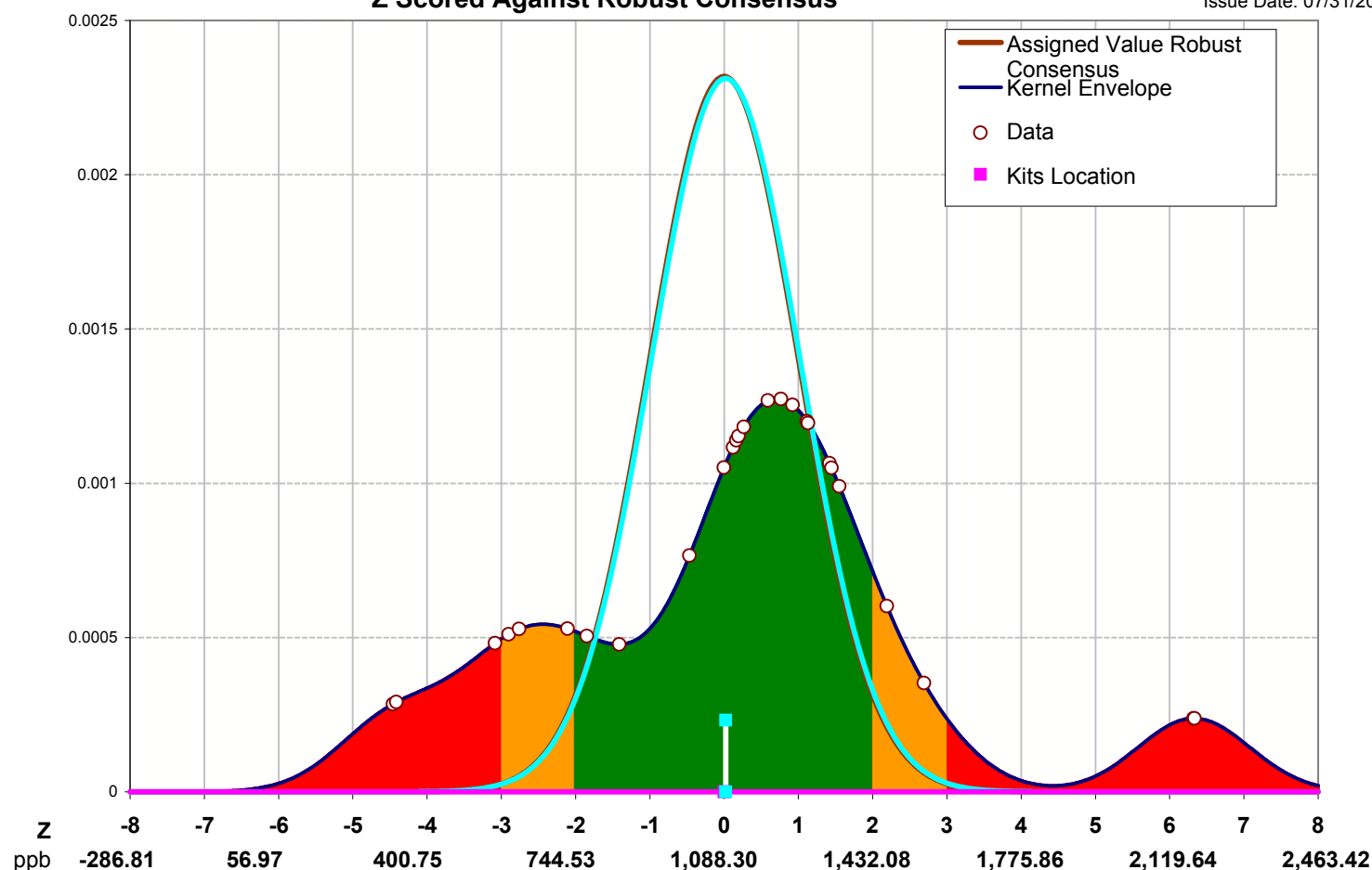
Unique LOD's at:

Code	# Dup. Tests	kits = 1	Method
640.23	7	0	LC-MS/MS
640.05	3	1	r-Biopharm Ridascreen FAST T-2
640.24	1	0	GC-ECD
640.03	2	1	Romer AgraQuant T-2

Note: Chart Z (X axis) refers to Assigned Value Rob only!

T-2 (ppb) Code: 640 - In Sample # 201762, Dairy Feed
Kernel Density Envelope Detected Values Relative to Normal Horwitz Curve
Z Scored Against Robust Consensus

Issue Date: 07/31/2017



Consensus AV Curve 1,088.30 (ppb) \pm 171.89 (ppb)
 Chromatography Curve 1,091.91 (ppb) \pm 172.37 (ppb)
 Kits Curve 0.00 (ppb) \pm 0.00 (ppb)
 Participating Labs 12

Methods Used 4
 Kernel Bandwidth 128.92 (ppb)
 Number of Non-Detects 0
 Number of Detects 26

Unique LOD's at:

2 Kits
11 Chem Methods

Proportion Overlapping in Z = \pm 2 Zone

Kits overlapping with Chromatography 0.0%
 Chromatography overlapping with Kits 0.0%

Code	# Dup. Tests	kits = 1	Method
640.23	9	0	LC-MS/MS
640.05	2	1	r-Biopharm Ridascreen FAST T-2
640.21	1	0	LC-PCD FI
640.24	1	0	GC-ECD

Note: Chart Z (X axis) refers to Assigned Value Robust Consensus

T-2, Code 640

**Horwitz Expanded
Uncertainty**

**Do the Assigned
Values fall within
the Uncertainty**

Sample	Kits	Chrom.	$-\sigma$	$+\sigma$	Kits	Chrom.
201561	3	8	61	157	OK	OK
201562	3	6	56	145	OK	OK
201661	3	9	117	278	OK	OK
201663	5	8	52	134	Fail	OK
201664	3	8	60	154	Fail	OK
201761	5	8	237	515	OK	OK

In Summary

Things to Consider:

- When reporting Aflatoxin and Fumonisin Types separately do not sum to report totals and **don't report totals**.

In Summary

Things to Consider:

- When reporting Aflatoxin and Fumonisin Types separately do not sum to report totals and **don't report totals**.
- Both Kits and Chromatography are supposed to be reporting the same Mycotoxin.

In Summary

Things to Consider:

- When reporting Aflatoxin and Fumonisin Types separately do not sum to report totals and **don't report totals**.
- Both Kits and Chromatography are supposed to be reporting the same Mycotoxin.
- Horwitz estimate of dispersion is typically **much tighter** than observed. **We are actually doing quite well!**

In Summary

Things to Consider:

- When reporting Aflatoxin and Fumonisin Types separately do not sum to report totals and **don't report totals**.
- Both Kits and Chromatography are supposed to be reporting the same Mycotoxin.
- Horwitz estimate of dispersion is typically **much tighter** than observed. **We are actually doing quite well!**
- If we separate Kits and Chromatography are we **perpetuating the problem!**



Aesop may have had a point!
