

**ANKARA 2. BÖLGE
MERKEZ
LABORATUVARI
İÇ KALİTE KONTROL
UYGULAMALARI**

ÇIĞDEM SÖNMEZ

LABORATUVAR YÖNETİCİSİ



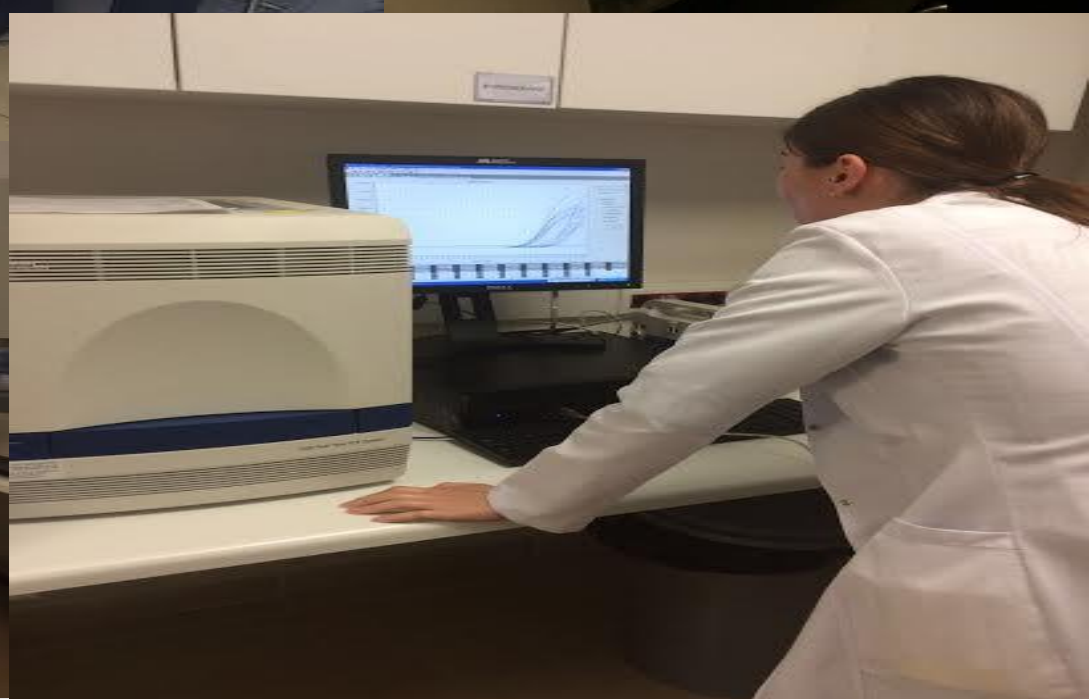
5 OCAK 2015













2015 yılında

- 529 farklı testte
- 1.150.156 numune
- 4.494.177 test
- 23 sağlık tesisi
- Web servis

taahhüdümüz

- İyi laboratuvar prensiplerine,
- TS-EN-ISO 15189 Standardı Yönetim sistemi prensiplerine
- Sürekli iyileştirme
- Kalite

- Laboratuvarımız, mümkün olduğunca alınan kararların geçerliliğini sağlayan, özellikle klinik karar değerlerinde uygun reaktif veya cihaz üreticisi tarafından sağlanan bir kontrol malzemesinin yanı sıra bağımsız **üçüncü taraf kontrol** malzemelerini de kullanmaktadır.

	TURKIYE KAMU HASTANELERI KURUMU	Doküman Kodu	PR-17
	Ankara 2.Bölge Kamu Hastaneleri Birliği Genel Sekreterliği	İlk Yayın Tarihi	04.05.2015
	MERKEZ LABORATUVARI	Revizyon Tarihi/No	11.05.2016/ 03
	MERKEZ LABORATUVARI	Sayfa No	3 / 7
	KALİTE KONTROL PROSEDÜRÜ		

- İç kalite sonuçları “**DKD-13 QC Asistan 2.0 Modülü**” üzerinden yetkilendirilmiş uzmanlar tarafından değerlendirilir.

	TURKIYE KAMU HASTANELERİ KURUMU Ankara 2.Bölge Kamu Hastaneleri Birliği Genel Sekreterliği MERKEZ LABORATUVARI	Doküman Kodu	PR-17
	MERKEZ LABORATUVARI KALİTE KONTROL PROSEDÜRÜ	İlk Yayın Tarihi	04.05.2015
		Revizyon Tarihi/No	11.05.2016/ 03
		Sayfa No	1 / 7



Bölüm:

Test Grubu: Klinik Biyokimya

Cihaz: ARCH_3

Test: Kolesterol; total

Kontrol: BIORAD CCLLevel 1

Tarih Aralığı:

Baş: 05.01.2015

Son: 01.06.2016

Bugün F5

Bul F2

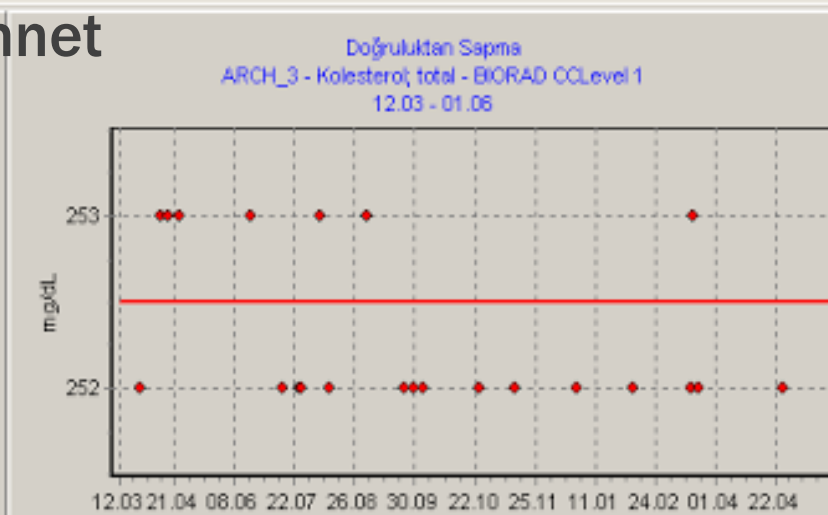
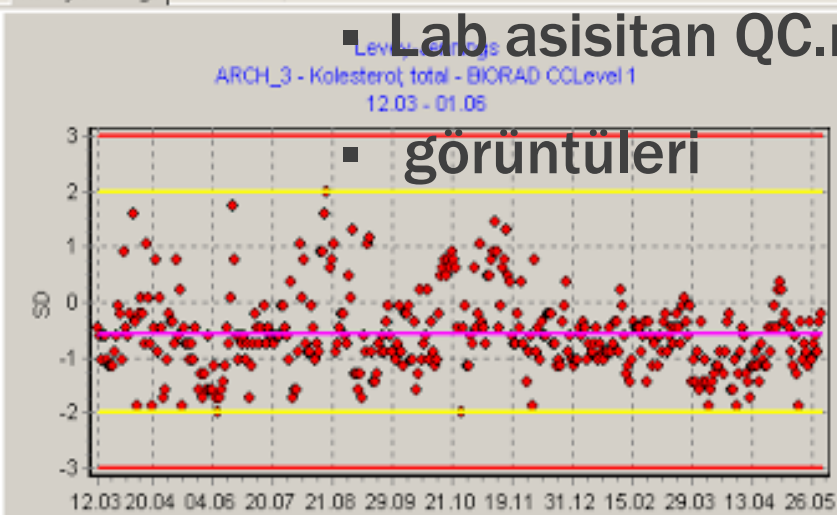
Kapat

 Bugün çalınan kontroller Westgard Uyarıları

Levey-Jennings Tam Ekran

Lab asistan QC.nnet

görüntüleri



Veriler	
Ortalama	: 248.22
Standart Sapma:	5.20
%CV	: 2.10
Varyans	: 27.07
BIAS	: -4.28
Toplam Hata	: 2.50
----- Kontrol	
Hedef	: 252.50
SD	: 7.25
+3S	: 274.25
-3S	: 230.75
----- Doğruluk Sapma	
Hedef	: 252.50
Sapma (%)	: 0.00
Maksimum Değer:	252.50
Minimum Değer	: 252.50

 SD > 1.5 Hepsini Seç/Seçme

Excel

Yaz

Sil

Teknisyen Onay

Uzman Onay

Kaydet

376 adet

Seç	Tarih	Cihaz	Kontrol	Test	Lot No	Sonuç	Hedef	Min	Maks	SD	Doğruluk Sapma	Westgard Uyarı	Çalışma
<input type="checkbox"/>	01.06.2016 09:08	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	251.00	252.50	238	267			10x	
<input type="checkbox"/>	31.05.2016 09:24	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	250.00	252.50	238	267			10x	
<input type="checkbox"/>	30.05.2016 09:08	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	246.00	252.50	238	267			10x	
<input type="checkbox"/>	27.05.2016 08:57	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	248.00	252.50	238	267			10x	
<input type="checkbox"/>	26.05.2016 15:18	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	247.00	252.50	238	267			10x	
<input type="checkbox"/>	26.05.2016 08:54	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	245.00	252.50	238	267			10x	
<input type="checkbox"/>	24.05.2016 10:57	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	250.00	252.50	238	267			10x	
<input type="checkbox"/>	23.05.2016 09:06	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	244.00	252.50	238	267			10x	
<input type="checkbox"/>	20.05.2016 09:05	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	246.00	252.50	238	267			10x	
<input type="checkbox"/>	18.05.2016 08:50	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	247.00	252.50	238	267			10x	
<input type="checkbox"/>	17.05.2016 09:51	ARCH_3	BIORAD CCLLevel 1	Kolesterol; total	14481	245.00	252.50	238	267			10x	



Profil:

Test Grubu: Hematoloji

Cihaz: CELLDYN_1

Kontrol: LOW 6060

Yalnızca bugün işlem yapılan kontroller

Son: 20

Özel tarih yazmaya izin ver

İlk Tarih: 30 Aralık 1899 Cumartesi

Son Tarih: 01 Haziran 2016 Çarşamba

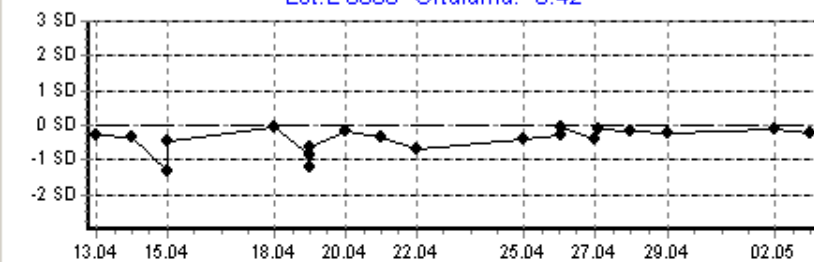
Ölçek:

Otomatik 2S 1S 3S

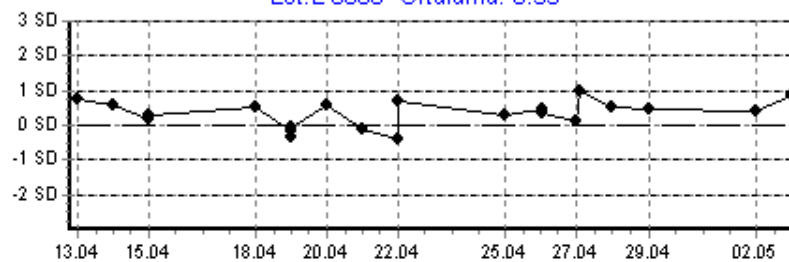
% Basofil

Ortalama çizgisi

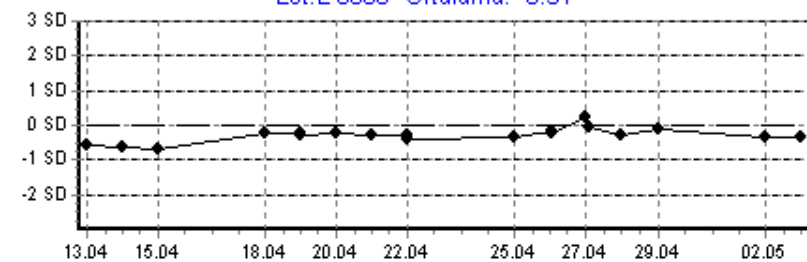
CELLDYN_1 - LOW 6060-Lökosit Sayısı
Lot:L 6060 Ortalama: -0.42



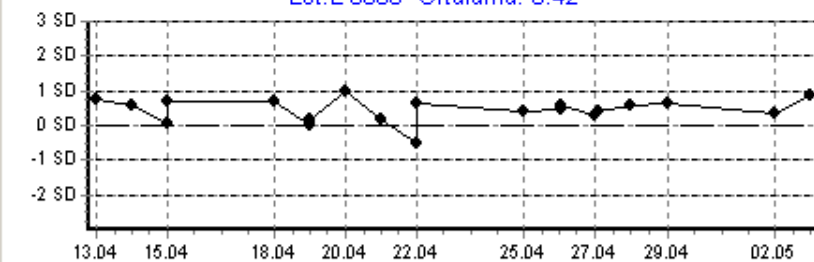
CELLDYN_1 - LOW 6060-Eritrosit sayısı
Lot:L 6060 Ortalama: 0.33



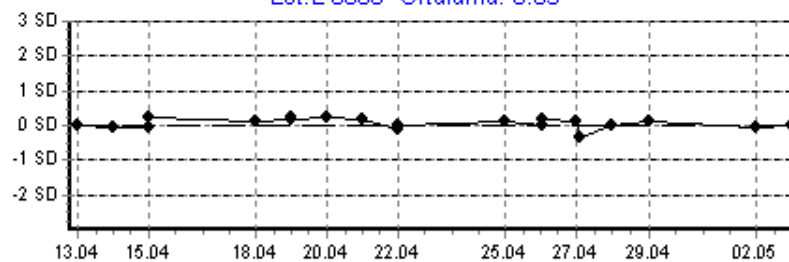
CELLDYN_1 - LOW 6060-MCV
Lot:L 6060 Ortalama: -0.31



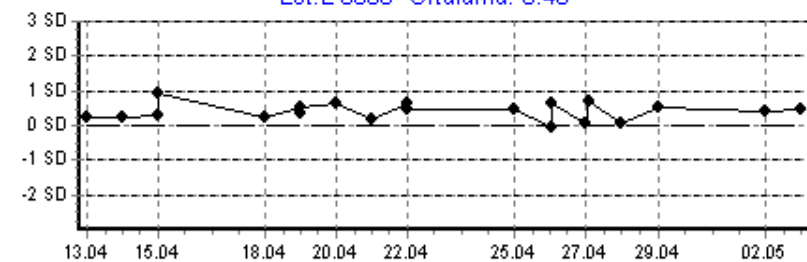
CELLDYN_1 - LOW 6060-Hemoglobin
Lot:L 6060 Ortalama: 0.42



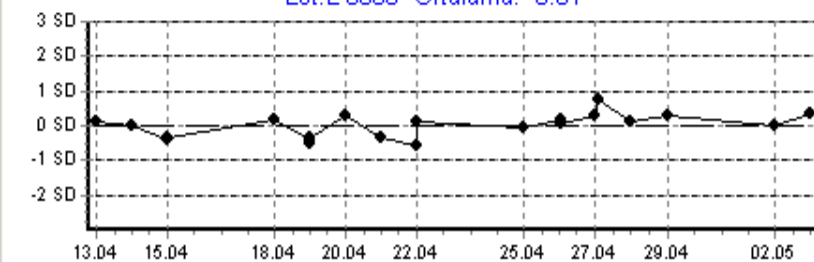
CELLDYN_1 - LOW 6060-MCH
Lot:L 6060 Ortalama: 0.05



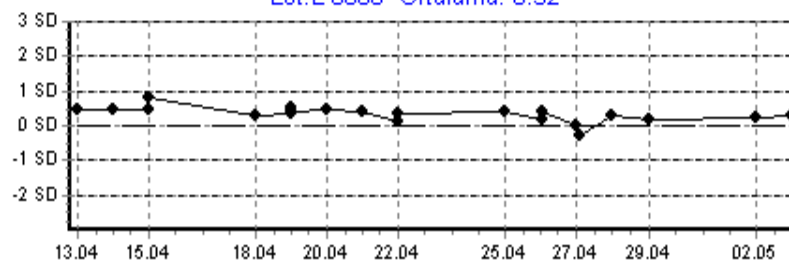
CELLDYN_1 - LOW 6060-RDW
Lot:L 6060 Ortalama: 0.40



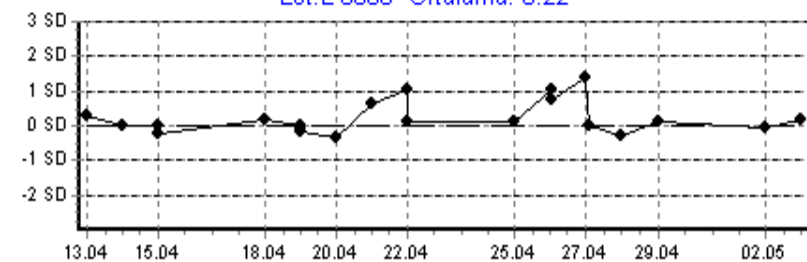
CELLDYN_1 - LOW 6060-Hematokrit
Lot:L 6060 Ortalama: -0.01




CELLDYN_1 - LOW 6060-MCHC
Lot:L 6060 Ortalama: 0.32



CELLDYN_1 - LOW 6060-Trombosit sayısı
Lot:L 6060 Ortalama: 0.22



- Tıbbi Biyokimya Bölümü Sorumlu Hekimleri “**FR-61 Vizit Formu**” ile günlük olarak bölümlerin yapması gereken kontrol faaliyetlerini check-list ile kontrol ederek kayıt altına alınır.

 T.C. Sağlık Bakanlığı	TURKIYE KAMU HASTANELERİ KURUMU Ankara 2.Bölge Kamu Hastaneleri Birliği Genel Sekreterliği MERKEZ LABORATUVARI	Doküman Kodu	PR-17
	MERKEZ LABORATUVARI KALİTE KONTROL PROSEDÜRÜ	İlk Yayın Tarihi	04.05.2015
		Revizyon Tarihi/No	11.05.2016/ 03
		Sayfa No	1 / 7



TÜRKİYE KAMU HASTANELERİ KURUMU
Ankara 2.Bölge Kamu Hastaneleri Birliği Genel
Sekreterliği
MERKEZ LABORATUVARI

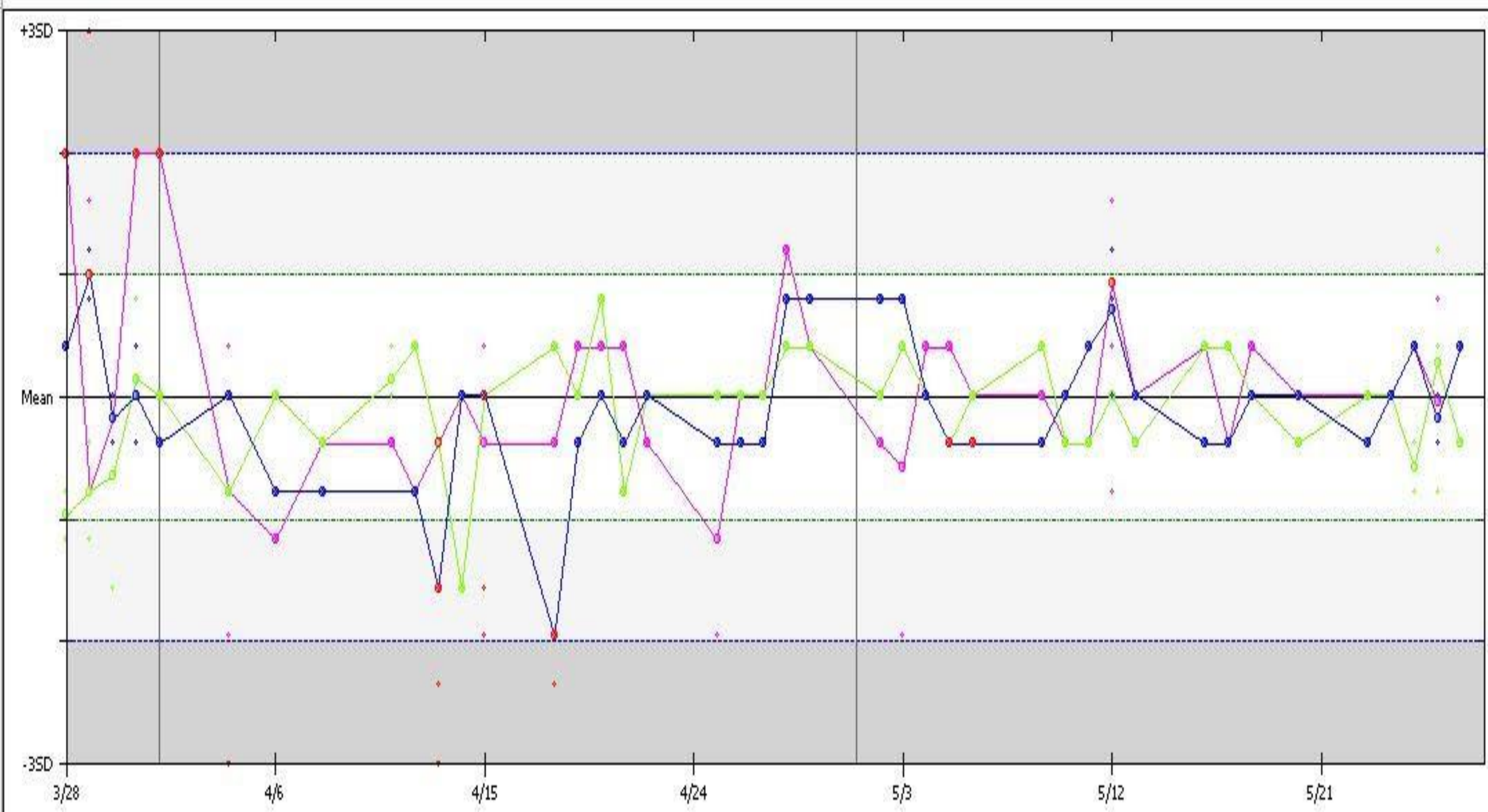
VİZİT FORMU

TARİH:

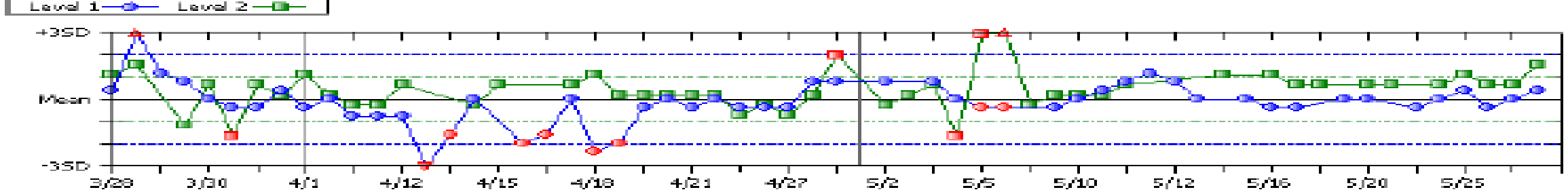
Günler	Biyokimya Hormon				Hemogram		HPLC		IMMULİTE		KOAG	RIA	ELEK	SPA	Not
	ARC 1	ARC 2	ARC 3	ARC 4	CELD1	CELD2	HbA1c	Hb	İ2000-1	İ2000-2	KOAG	RIA	ELEK	SPA	
Pazartesi															Kalib.
															Kontr.
Salı															Kalib.
															Kontr.
Çarşamba															Kalib.
															Kontr.
Perşembe															Kalib.
															Kontr.
Cuma															Kalib.
															Kontr.
Uzman Dr:															

- İ kalite kontrol deęerlerinin gncellenmesi gerektięinde ise Tıbbi Biyokimya ve Immunassay Biyokimya Blmlerinde kullanılan nc taraf kontrol malzemesinin <http://www.qcnet.com> internet sitesindeki **Worldwide Report** satırında ilgili lot numarası seęilerek gncel deęerler alınır.
- *Her ay sonunda ise aynı siteden Product İnsert sayfasından gncellemeler alınır ve QC Asistan sayfasına da yansıtılır.*

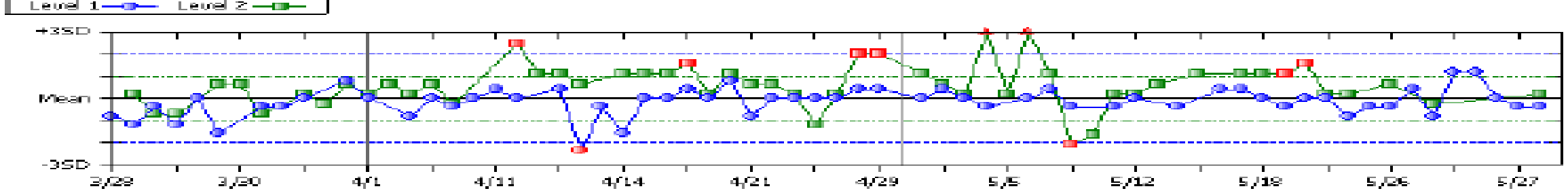
Levey-Jennings Chart Period: 3/28/2016 - 5/27/2016



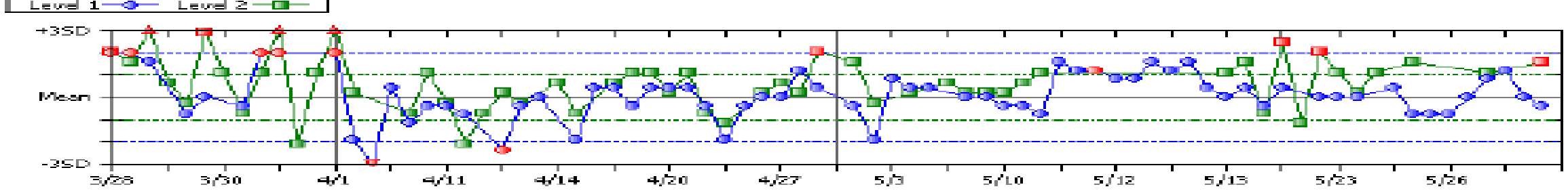
Levy-Jennings Chart Period: 3/26/2016 - 5/27/2016
 Lab: 846641
 Lot: 14480, Assayed Chemistry, Bio-Rad Laboratories, 5/31/2017
Sodium, mEq/L
 Cum Mean/SD/CV: [1] 143.59/2.23/1.56, [2] 125.28/1.61/1.29
 Graph against: Your laboratory, Another instrument, Cumulative
 Abbott ARCHITECT ci16200/architecth 2[846653]
 Mean/SD/CV: [1] 142.96/2.54/1.77, [2] 124.56/2.20/1.77



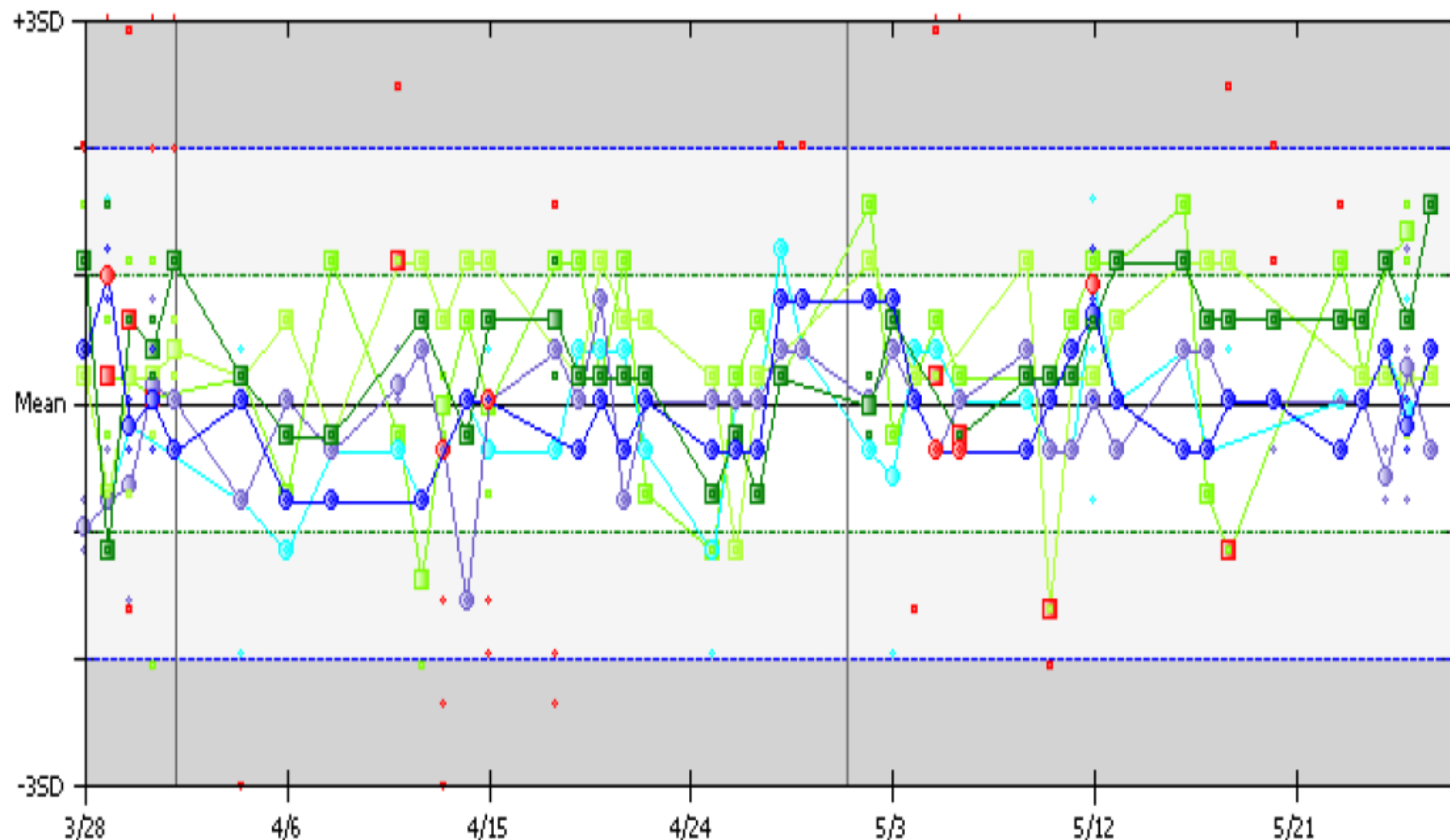
Lab: 846653
 Lot: 14480, Assayed Chemistry, Bio-Rad Laboratories, 5/31/2017
Sodium, mEq/L
 Cum Mean/SD/CV: [1] 142.96/2.54/1.77, [2] 124.56/2.20/1.77
 Graph against: Your laboratory, Another instrument, Cumulative
 Abbott ARCHITECT ci16200/architecth 2[846653]
 Mean/SD/CV: [1] 142.96/2.54/1.77, [2] 124.56/2.20/1.77



Lab: 846665
 Lot: 14480, Assayed Chemistry, Bio-Rad Laboratories, 5/31/2017
Sodium, mEq/L
 Cum Mean/SD/CV: [1] 142.65/2.60/1.82, [2] 124.45/2.19/1.76
 Graph against: Your laboratory, Another instrument, Cumulative
 Abbott ARCHITECT ci16200/architecth 2[846653]
 Mean/SD/CV: [1] 142.96/2.54/1.77, [2] 124.56/2.20/1.77



Levey-Jennings Chart Period: 3/28/2016 - 5/27/2016



Template: Inst Comp

Lab: 846641

Lot: 14480 Assayed Chemistry, Matrix: Serum, Manufacturer: Bio-Rad Laboratories, Expiration date: 5/31/2017

Data reference set: Data Set B

Test Selection: Current Lot

Data Set A: Consensus group: Peer, Cumulative

Data Set B1: Your laboratory, Another Instrument Abbott ARCHITECT ci16200/architecth 1[846641], Cumulative

Data Set B2: Your laboratory, Another Instrument Abbott ARCHITECT ci16200/architecth 2[846653], Cumulative

Data Set B3: Your laboratory, Another Instrument Abbott ARCHITECT ci16200/architecth 3[846665], Cumulative

Data Set B4: Your laboratory, Another Instrument Abbott ARCHITECT ci16200/architecth 1[846641] Abbott ARCHITECT ci16200/architecth 2[846653] Abbott ARCHITECT ci16200/architecth 3[846665], Cumulative

Alert thresholds: SDI: ± 2.00 , CVR: 2.00, Sigma: 4.00

Level 1

Data Analysis Report

Data Set	Analyte	Instrument	Unit	Mean	SD	CV	Pts	# Labs	SDI	CVR	Bias%	TE p<0.05	TEB%	Sigma	TEa	TEa Selection
A	Sodium	Abbott ARCHITECT ci16200	mEq/L	143.42	2.17	1.52	19610	130							2.79	CLIA
B1		Abbott ARCHITECT ci16200[846641]	mEq/L	143.59	2.23	1.56	335	1	-0.08	0.97	-0.12	2.62	93.95	1.76		
B2		Abbott ARCHITECT ci16200[846653]	mEq/L	142.96	2.54	1.77	251	1	0.18	0.85	0.32	2.82	101.22	1.63		
B3		Abbott ARCHITECT ci16200[846665]	mEq/L	142.65	2.60	1.82	347	1	0.30	0.83	0.54	3.04	109.09	1.48		
B4		Abbott ARCHITECT ci16200[846641], Abbo...	mEq/L	143.07	2.49	1.74	933	3	0.14	0.87	0.24	2.75	98.44	1.68		

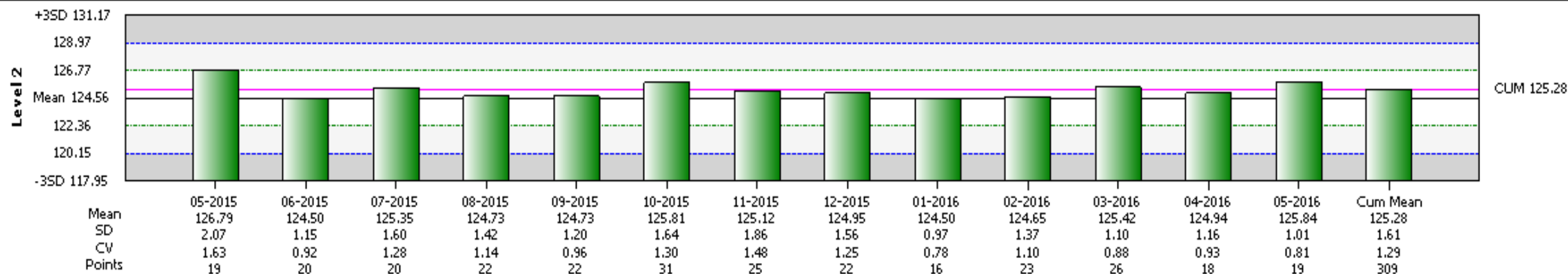
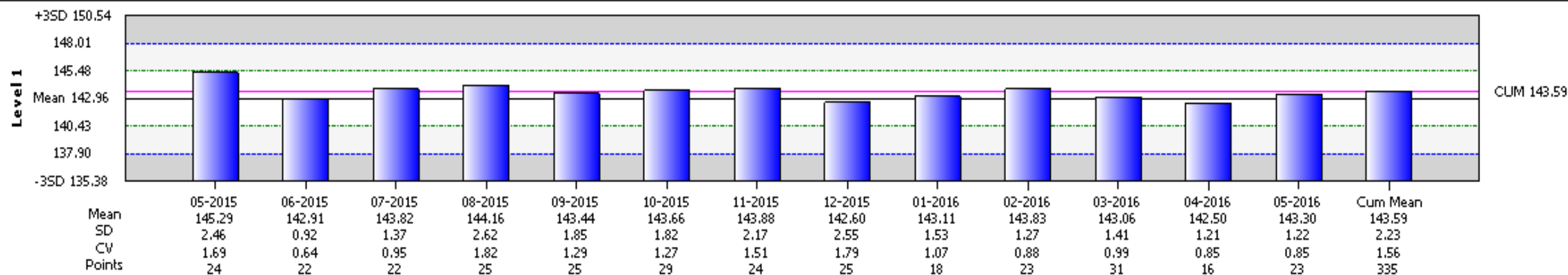
Data Set	Analyte	Instrument	Unit	Mean	SD	CV	Pts	# Labs	SDI	CVR	Bias%	TE p<0.05	TEB%	Sigma	TEa	TEa Selection
B1		Abbott ARCHITECT ci16200[846641]	mg/dL	0.44	0.02	5.36	284	1	0.16	1.73	0.85	16.18	43.14	3.95		
B2		Abbott ARCHITECT ci16200[846653]	mg/dL	0.45	0.04	7.87	220	1	-0.13	1.18	-1.04	16.37	43.65	3.92		
B3		Abbott ARCHITECT ci16200[846665]	mg/dL	0.44	0.03	5.82	287	1	0.28	1.60	1.64	16.97	45.25	3.86		
B4		Abbott ARCHITECT ci16200[846641], Abbo...	mg/dL	0.44	0.03	6.41	791	3	0.09	1.45	0.60	15.93	42.47	3.97		
A	Bilirubin, Total/TBIL	Abbott ARCHITECT ci16200	mg/dL	1.24	0.11	8.69	16960	122							32.14	CLIA
B1		Abbott ARCHITECT ci16200[846641]	mg/dL	1.24	0.08	6.84	295	1	0.06	1.27	0.39	14.73	45.85	3.65		
B2		Abbott ARCHITECT ci16200[846653]	mg/dL	1.22	0.08	6.19	214	1	0.29	1.41	1.80	16.14	50.23	3.49		
B3		Abbott ARCHITECT ci16200[846665]	mg/dL	1.21	0.10	8.48	304	1	0.31	1.02	2.64	16.99	52.86	3.39		
B4		Abbott ARCHITECT ci16200[846641], Abbo...	mg/dL	1.23	0.09	7.39	813	3	0.22	1.18	1.59	15.94	49.60	3.51		
A	Chloride	Abbott ARCHITECT ci16200	mEq/L	98.60	2.00	2.03	19063	129							5.00	CLIA
B1		Abbott ARCHITECT ci16200[846641]	mEq/L	98.86	2.12	2.15	338	1	-0.12	0.95	-0.26	3.61	72.28	2.33		
B2		Abbott ARCHITECT ci16200[846653]	mEq/L	99.07	1.80	1.81	254	1	-0.26	1.12	-0.47	3.82	76.49	2.23		
B3		Abbott ARCHITECT ci16200[846665]	mEq/L	99.75	2.14	2.15	346	1	-0.54	0.94	-1.16	4.51	90.15	1.89		
B4		Abbott ARCHITECT ci16200[846641], Abbo...	mEq/L	99.24	2.08	2.10	938	3	-0.31	0.97	-0.65	4.00	80.04	2.14		
A	Urea Nitrogen	Abbott ARCHITECT ci16200	mg/dL	15.39	0.53	3.46	15152	68							13.00	CLIA
B1		Abbott ARCHITECT ci16200[846641]	mg/dL	15.64	0.46	2.92	297	1	-0.56	1.18	-1.62	7.34	56.48	3.28		
B2		Abbott ARCHITECT ci16200[846653]	mg/dL	15.44	0.56	3.61	239	1	-0.09	0.96	-0.31	6.03	46.40	3.66		
B3		Abbott ARCHITECT ci16200[846665]	mg/dL	15.35	0.43	2.83	272	1	0.10	1.23	0.29	6.00	46.20	3.67		
B4		Abbott ARCHITECT ci16200[846641], Abbo...	mg/dL	15.48	0.50	3.22	808	3	-0.19	1.08	-0.60	6.32	48.60	3.58		
A	Calcium	Abbott ARCHITECT ci16200	mg/dL	9.33	0.22	2.34	20512	132							10.72	CLIA
B1		Abbott ARCHITECT ci16200[846641]	mg/dL	9.36	0.27	2.88	311	1	-0.12	0.81	-0.35	4.21	39.29	4.43		
B2		Abbott ARCHITECT ci16200[846653]	mg/dL	9.35	0.22	2.33	217	1	-0.13	1.01	-0.29	4.16	38.79	4.45		
B3		Abbott ARCHITECT ci16200[846665]	mg/dL	9.36	0.18	1.89	280	1	-0.18	1.24	-0.33	4.20	39.19	4.43		
B4		Abbott ARCHITECT ci16200[846641], Abbo...	mg/dL	9.36	0.23	2.42	808	3	-0.13	0.97	-0.33	4.19	39.12	4.43		
A	Cholesterol, Total	Abbott ARCHITECT ci16200	mg/dL	249.09	6.01	2.41	21169	131							10.00	CLIA

► Mean Bar Chart Period: 01-May-15 - 31-May-16

Lab: 846641
 Lot: 14480, Assayed Chemistry, Bio-Rad Laboratories, 31-May-17

Sodium, mEq/L
Cum Mean/SD/CV: [1] 143.59/2.23/1.56, [2] 125.28/1.61/1.29

Graph against: Your laboratory, Another instrument, Cumulative
 Abbott ARCHITECT ci16200/architecth 2[846653]
 Mean/SD/CV: [1] 142.96/2.53/1.77, [2] 124.56/2.20/1.77

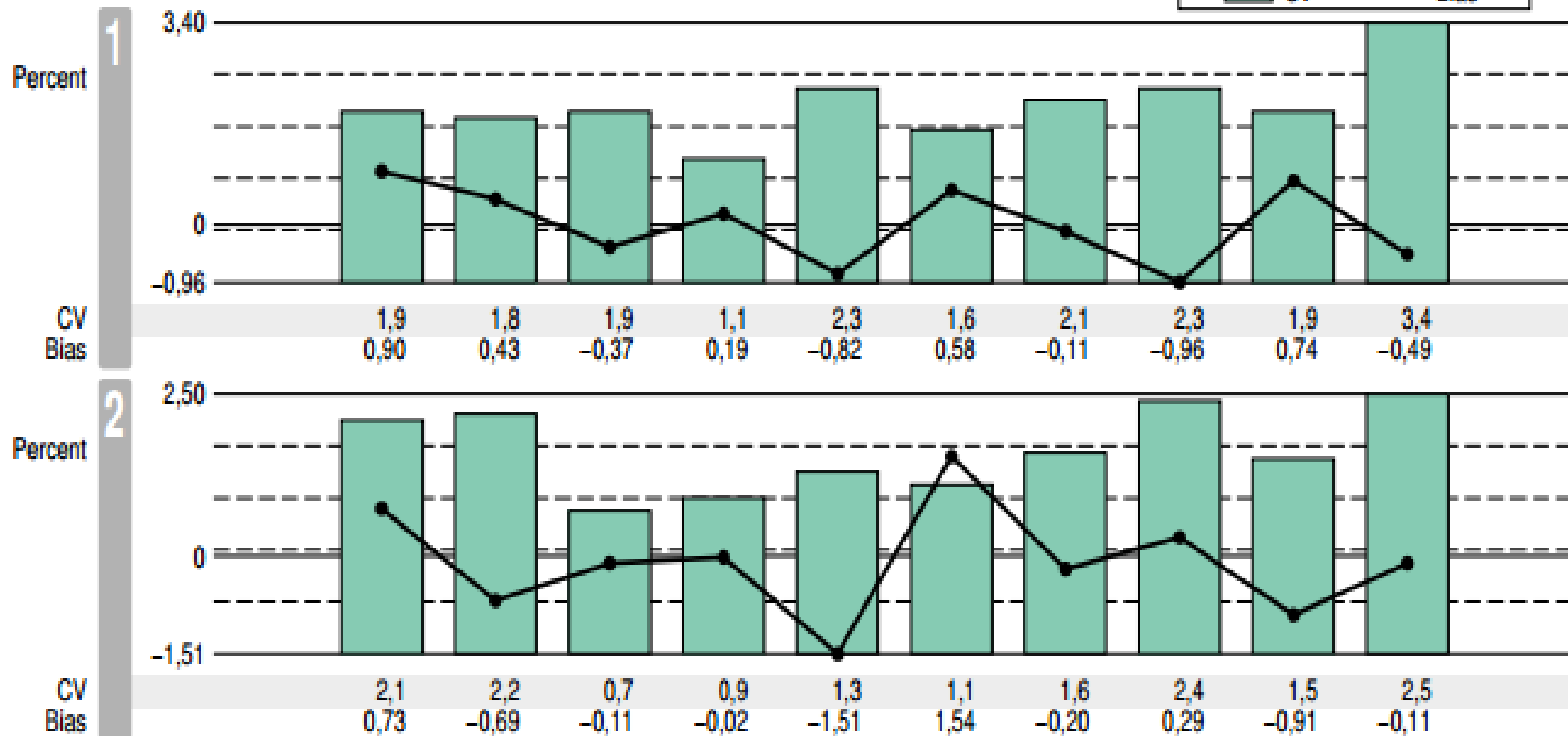


Creatinine Alkaline picrate-kinetic, IFCC-IDMS Standardized mg/dL

Level May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr

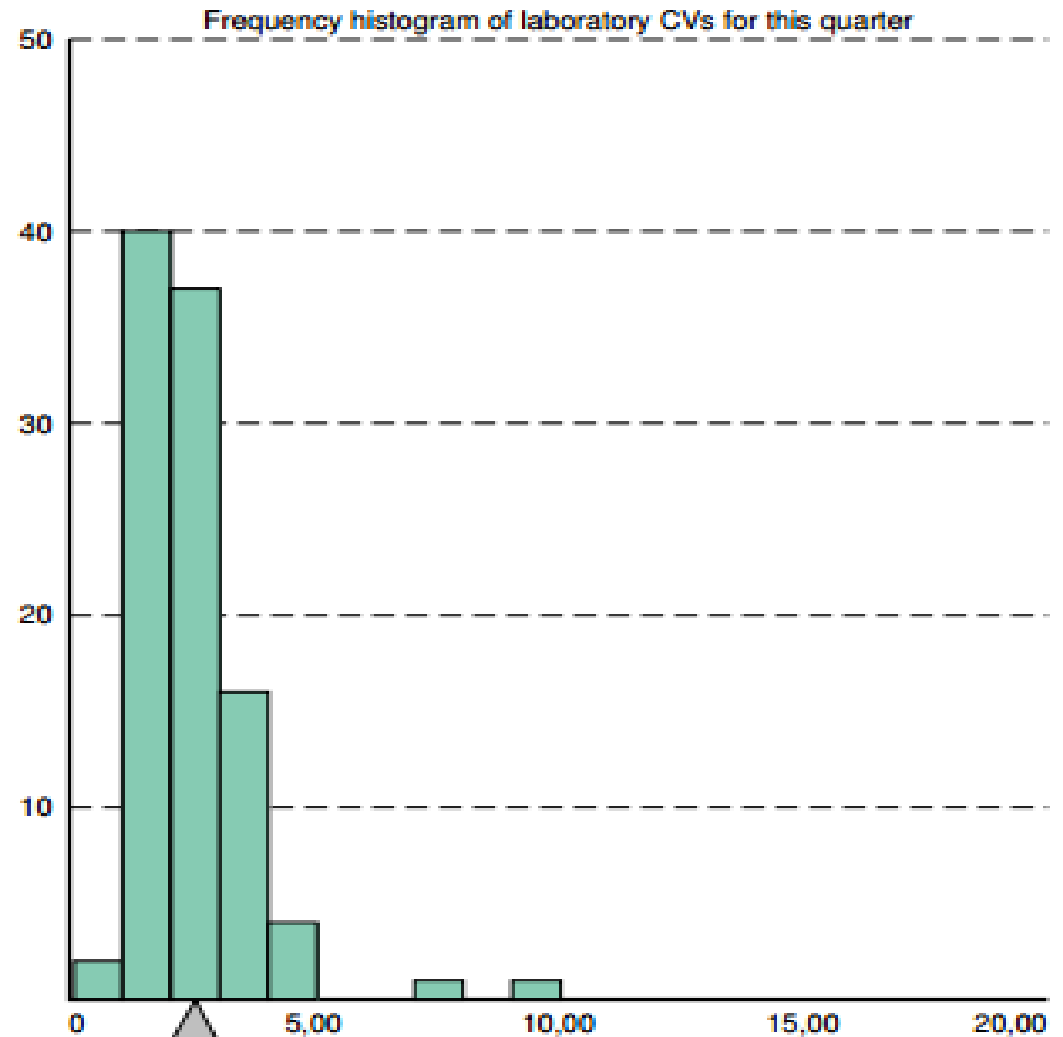
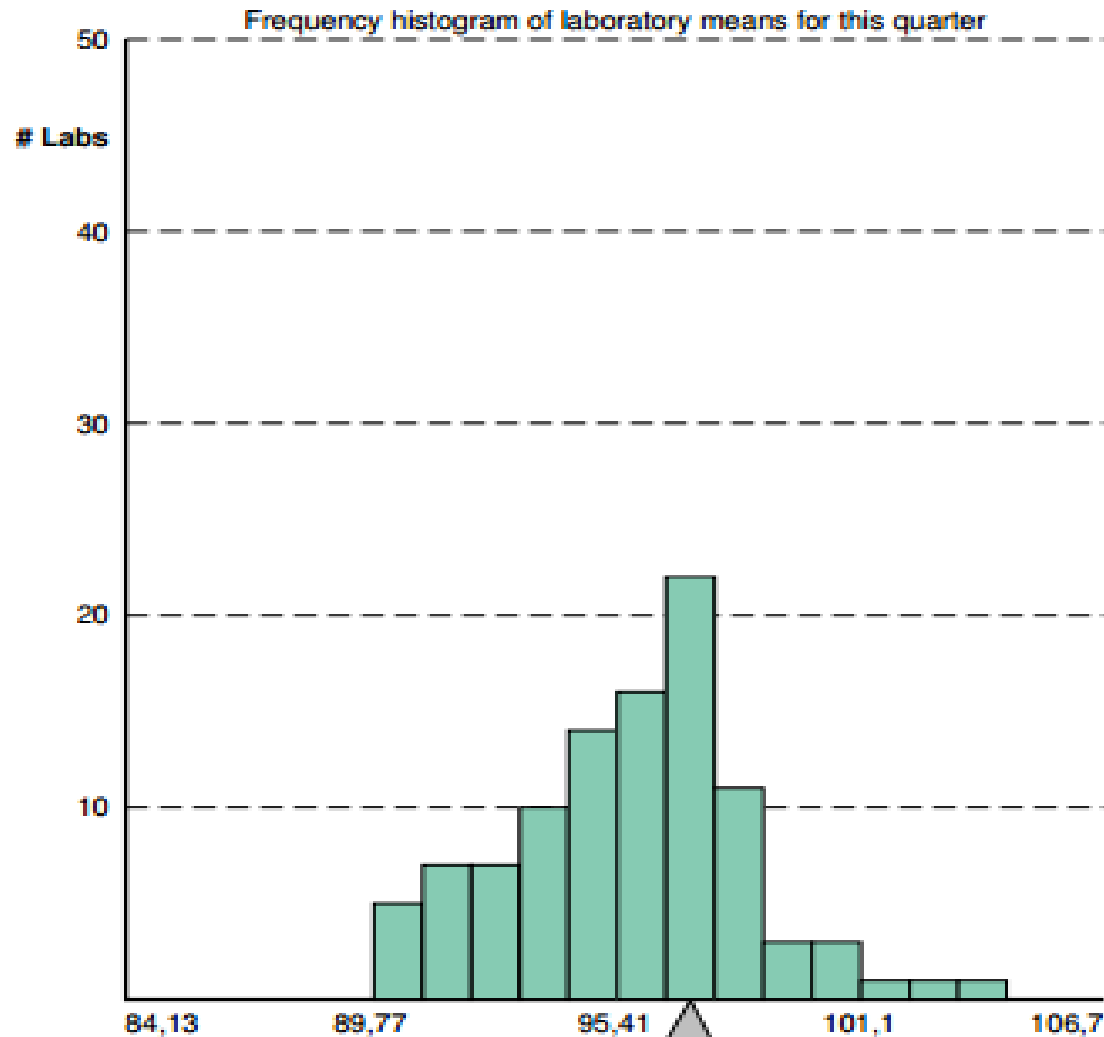
Abbott ARCHITECT c16000

CV Bias

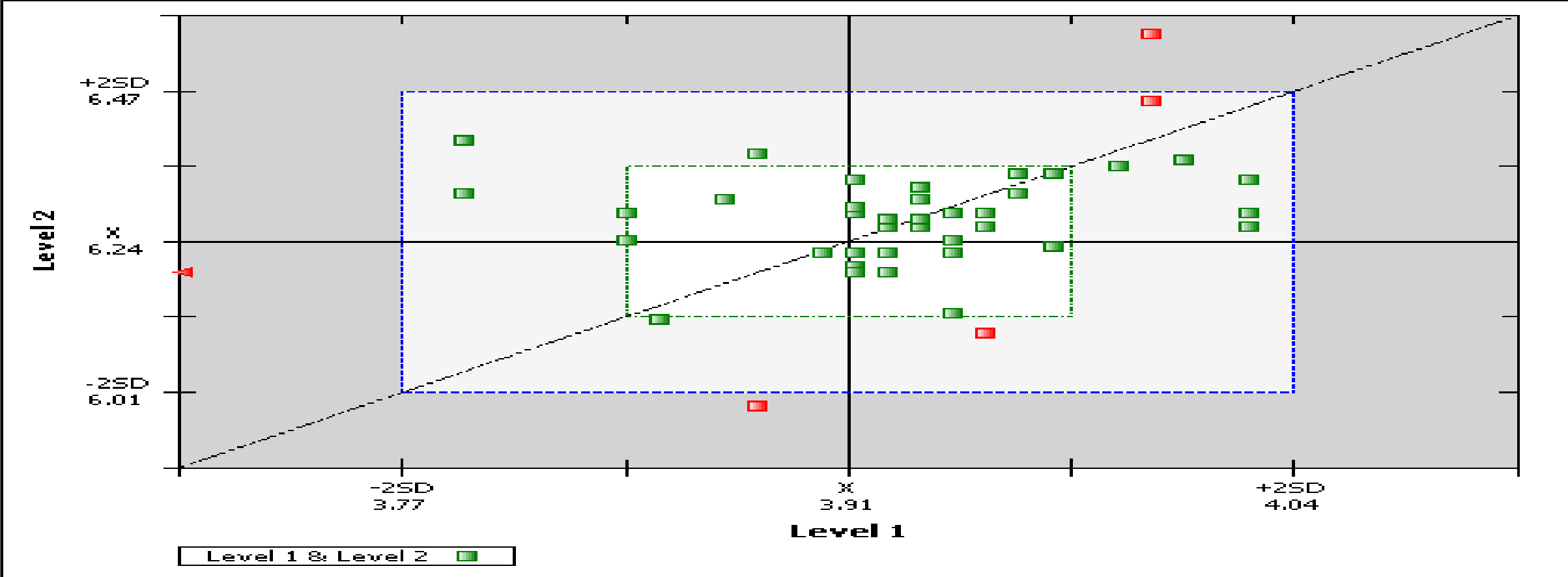


ALT (ALAT/GPT) UV without PSP U/L 37° C

	Level	This Quarter	This Year	Level	Your Lab Qtr	Your Lab Year	Peer Group Qtr	Peer Group Year	Method Group Qtr	Method Group Year	All Labs Qtr	All Labs Year	
Abbott ARCHITECT ci16200 ...continued													
Lab 2s Range	2	92,45 – 102,4	91,88 – 103,1	Median	2	N/A	N/A	95,66	95,81	93,27	93,78	93,36	94,18
Lab 3s Range		89,95 – 104,9	89,07 – 105,9	Mean		97,45	97,49	95,44	95,69	94,22	94,16	94,96	94,96
				SD		2,50	2,80	3,77	3,71	4,83	5,44	5,79	5,97
				CV		2,56	2,88	3,95	3,87	5,13	5,78	6,10	6,29
				[Lab Bias]		N/A	N/A	2,11	1,87	3,43	3,53	2,63	2,66
				# Points		58	233	9984	31935	32329	120K	44821	177K
				# Labs				111	142	421	623	625	1011



▶ Youden Chart Period: 28-Mar-16 - 27-May-16
 Lab: 846641
 Lot: 14480, Assayed Chemistry, Bio-Rad Laboratories, 31-May-17
Potassium, mEq/L
Cum Mean/SD/CV: [1] 3.93/0.15/3.80, [2] 6.27/0.07/1.18
 Graph against: Your laboratory, Another instrument, Cumulative
 Abbott ARCHITECT ci16200/architecth 2[846653]
 Mean/SD/CV: [1] 3.91/0.07/1.74, [2] 6.24/0.11/1.82



Lab: 846641: architecth 1

Lot: 14480: Assayed Chemistry

 Display Analyte Method Instrument Reagent Unit Temperature

 Fixed mean and SD Float mean and SD Expected Response

		Level 1		Level 2			Set New Start Date & Time ²
	Points ¹	Mean	SD	Mean	SD		
Glucose	20	89.81	2.34	288.61	5.74	<input type="checkbox"/>	<input type="checkbox"/>
LD (Lactate Dehydrogenase)	20	178.92	2.69	415.88	5.74	<input type="checkbox"/>	<input type="checkbox"/>
Potassium	20	3.93	0.15	6.27	0.07	<input type="checkbox"/>	<input type="checkbox"/>
Phosphorus	20	3.45	0.10	7.19	0.16	<input type="checkbox"/>	<input type="checkbox"/>
Protein, Total, Serum	20	6.38	0.11	4.10	0.08	<input type="checkbox"/>	<input type="checkbox"/>
Sodium	20	143.59	2.23	125.28	1.61	<input type="checkbox"/>	<input type="checkbox"/>
Triglycerides	20	180.70	3.21	87.09	1.63	<input type="checkbox"/>	<input type="checkbox"/>
Albumin	20	3.97	0.06	2.73	0.05	<input type="checkbox"/>	<input type="checkbox"/>
ALT (ALAT/GPT)	20	26.69	1.57	97.41	2.79	<input type="checkbox"/>	<input type="checkbox"/>
Alkaline Phosphatase	20	110.08	7.80	446.79	26.91	<input type="checkbox"/>	<input type="checkbox"/>
AST (ASAT/GOT)	20	36.11	0.89	213.93	2.77	<input type="checkbox"/>	<input type="checkbox"/>
Bilirubin, Direct/BC (DBIL)	20	0.44	0.02	1.14	0.04	<input type="checkbox"/>	<input type="checkbox"/>
Bilirubin, Total/TBIL	20	1.24	0.08	4.21	0.13	<input type="checkbox"/>	<input type="checkbox"/>
Chloride	20	98.86	2.12	84.28	1.39	<input type="checkbox"/>	<input type="checkbox"/>
Urea Nitrogen	20	15.64	0.46	48.92	1.05	<input type="checkbox"/>	<input type="checkbox"/>
Calcium	20	9.36	0.27	11.87	0.21	<input type="checkbox"/>	<input type="checkbox"/>
Cholesterol, Total	20	246.37	3.32	91.22	1.59	<input type="checkbox"/>	<input type="checkbox"/>
Creatinine	20	2.74	0.07	6.26	0.13	<input type="checkbox"/>	<input type="checkbox"/>

1 This option defines the number of points before rule evaluation is initiated when using a floating mean and standard deviation.

2 This option enables you to define a new start date for your floating mean and standard deviation. The default if this option is not selected is the cumulative statistics.

Please note that any fixed mean/SD takes precedence over the float mean/SD.

[-]	846641: architecth 1
	40300: Immunoassay I
	40320: Immunoassay I
	14480: Assayed Chem
[-]	846653: architecth 2
	40300: Immunoassay I
	40320: Immunoassay I
	14480: Assayed Chem
	54590: Tumor Marker
[+]	846665: architecth 3
[+]	846709: Meslek Hastalikla

Analyte	Reject Rules	Warning Rules
Glucose	1-2s 1-3s 2-2s R-4s 4-1s	
LD (Lactate Dehydrog...	1-2s 1-3s R-4s	
Potassium	1-2s 1-3s 2-2s R-4s 4-1s	
Phosphorus	1-2s 1-3s R-4s	
Protein, Total, Serum	1-2s 1-3s 2-2s R-4s 4-1s	
Sodium	1-2s 1-3s 2-2s R-4s 4-1s	
Triglycerides	1-2s 1-3s R-4s	
Albumin	1-2s 1-3s R-4s	
ALT (ALAT/GPT)	1-2s 1-3s R-4s	
Alkaline Phosphatase	1-2s 1-3s R-4s	
AST (ASAT/GOT)	1-2s 1-3s R-4s	
Bilirubin, Direct/BC (D...	1-2s 1-3s R-4s	
Bilirubin, Total/TBIL	1-2s 1-3s R-4s	
Chloride	1-2s 1-3s 2-2s R-4s 4-1s	
Urea Nitrogen	1-2s 1-3s R-4s	
Calcium	1-2s 1-3s R-4s	
Cholesterol, Total	1-2s 1-3s R-4s	
Creatinine	1-2s 1-3s 2-2s R-4s 4-1s	
GGT (Gamma Glutam...	1-2s 1-3s R-4s	
Iron	1-2s 1-3s R-4s	

Month	Level 1			Level 2		
	Mean	CV	# Points	Mean	CV	# Points
04-2015	6.60	0	1	4.20	0	1
06-2015	6.39	1.86	22	4.08	1.30	22
07-2015	6.45	1.30	19	4.09	0.631	15
08-2015	6.42	1.13	13	4.11	1.50	14
09-2015	6.35	1.11	2	4.15	1.76	16
10-2015				4.13	1.73	23
11-2015				4.13	1.59	21
12-2015	6.44	1.33	18	4.14	1.96	21
01-2016	6.36	2.45	14	4.14	1.20	14
02-2016	6.26	1.12	10	4.09	1.43	18
03-2016	6.33	0.759	13	4.06	1.24	11
04-2016	6.31	1.31	20	4.08	1.41	12
05-2016	6.26	1.01	14	4.11	1.66	16

	Analyte	Reject Rules	Warning Rules
846641: architecth 1	Glucose	1-2s 1-3s 2-2s R-4s 4-1s	
40300: Immunoassay I	LD (Lactate Dehydrog...	1-2s 1-3s R-4s	
40320: Immunoassay I	Potassium	1-2s 1-3s 2-2s R-4s 4-1s	
14480: Assayed Cherr	Phosphorus	1-2s 1-3s R-4s	
846653: architecth 2	Protein, Total, Serum	1-2s 1-3s 2-2s R-4s 4-1s	
846665: architecth 3	Sodium	1-2s 1-3s 2-2s R-4s 4-1s	
846709: Meslek Hastalikle	Triglycerides	1-2s 1-3s R-4s	
	Albumin	1-2s 1-3s R-4s	
	ALT (ALAT/GPT)	1-2s 1-3s R-4s	
	Alkaline Phosphatase	1-2s 1-3s R-4s	
	AST (ASAT/GOT)	1-2s 1-3s R-4s	
	Bilirubin, Direct/BC (D...	1-2s 1-3s R-4s	
	Bilirubin, Total/TBIL	1-2s 1-3s R-4s	
	Chloride	1-2s 1-3s R-4s	
	Urea Nitrogen	1-2s 1-3s R-4s	
	Calcium	1-2s 1-3s R-4s	
	Cholesterol, Total	1-2s 1-3s R-4s	
	Creatinine	1-2s 1-3s 2-2s R-4s 4-1s	
	GGT (Gamma Glutam...	1-2s 1-3s R-4s	
	Iron	1-2s 1-3s R-4s	

Group	Level 1					Level 2				
	Mean	CV	Bias %	# Points	# Labs	Mean	CV	Bias %	# Points	# Labs
Lab Cumulative	3.93	3.80	0	340	1	6.27	1.18	0	304	1
Peer Monthly	3.90	1.67	0.830	3,490	91	6.20	1.49	1.04	3,452	93
Peer 6 Months	3.91	2.12	0.704	15,560	125	6.20	1.73	1.09	15,588	127
Peer Cumulative	3.91	2.08	0.617	19,557	127	6.20	1.80	1.03	19,421	130
Method Monthly	3.91	2.42	0.599	12,683	403	6.23	2.16	0.541	12,549	400
Method 6 Months	3.90	2.67	0.773	72,972	564	6.23	2.38	0.617	71,949	560
Method Cumulative	3.90	2.93	0.962	107,136	610	6.22	2.68	0.740	105,012	608
All Labs Monthly	4.10	210	-4.10	14,479	503	6.52	209	-3.93	14,301	495
All Labs 6 Months	3.92	74.3	0.316	126,975	731	6.24	74.3	0.355	123,654	725
All Labs Cumulative	3.92	74.3	0.316	126,975	802	6.24	74.3	0.355	123,654	796

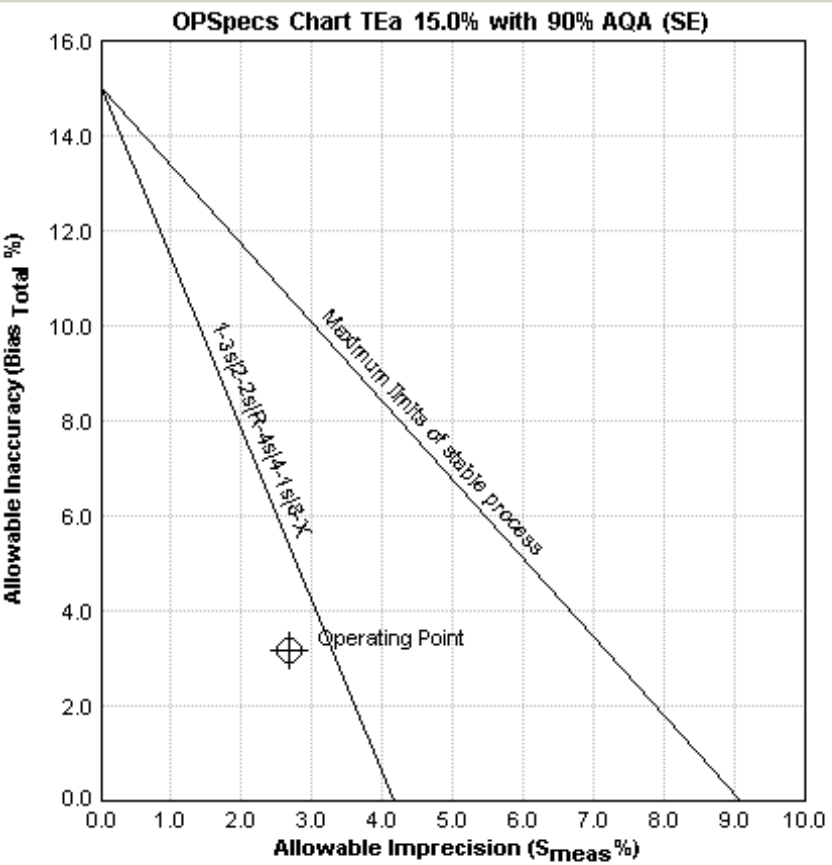
Test: Creatinine < Previous Next >

N = 1 N = 3 N = 6
 N = 2 N = 4 N = 8

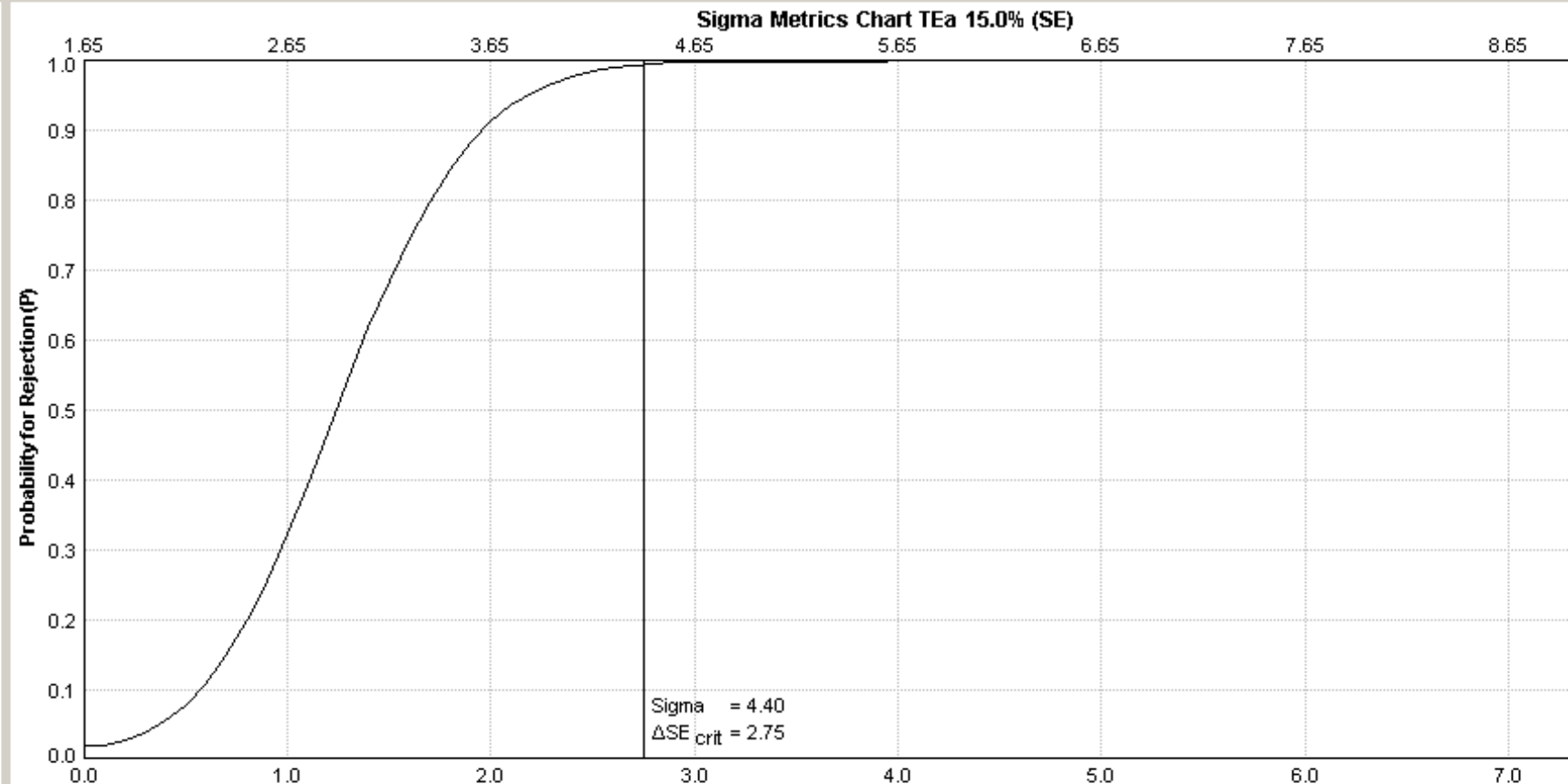
TEa: Bias %: CV:

Existing Reject Rules: 1-2s|1-3s|2-2s|R-4s|4-1s

Suggested Rules	N	Ped	Pfr	Detection Level
1-3s 2-2s R-4s 4-1s 10-X	2	0.994	0.013	[AQA Level >= 90%]
1-3s 2-2s R-4s 4-1s 8-X	2	0.995	0.019	[AQA Level >= 90%]
1-2s	2	0.948	0.091	[AQA Level >= 90%]
1-3s	2	0.643	0.006	[AQA Level >= 50%]
1-3s 2-2s	2	0.781	0.006	[AQA Level >= 50%]
1-3s 2-2s R-4s	2	0.779	0.010	[AQA Level >= 50%]
1-2.5s	2	0.838	0.025	[AQA Level >= 50%]
1-3.5s	2	0.401	0.001	[AQA Level >= 25%]



Creatinine
 Bias_{meas} = 3.17 % P_{fr} = 0.019
 S_{meas} = 2.69 % N = 2



Creatinine
 1-3s|2-2s|R-4s|4-1s|8-X P_{fr} = 0.019
 N = 2 P_{ed} = 0.995

Test: Creatinine

< Previous

Next >

 N = 1
 N = 3
 N = 6

 N = 2
 N = 4
 N = 8

TEa:

15.0

Bias %:

3.17

CV:

2.69

Existing Reject Rules: 1-2s|1-3s|2-2s|R-4s|4-1s

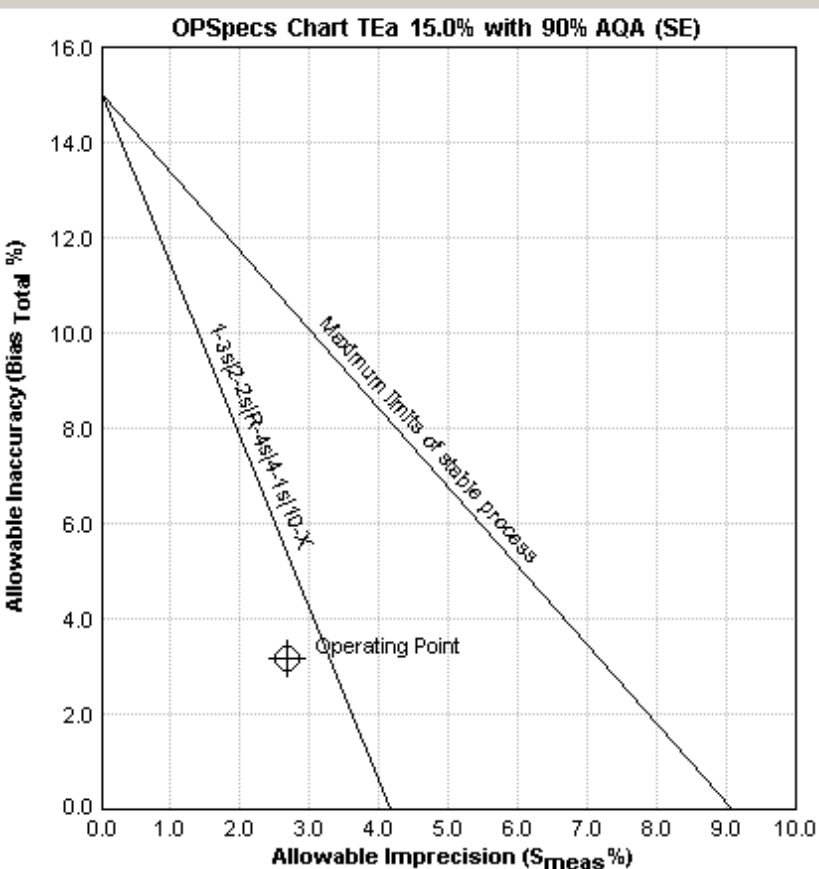
Suggested Rules	N	Ped	Pfr	Detection Level
1-3s 2-2s R-4s 4-1s	2	0.940	0.012	(AQA Level >= 90%)
1-3s 2-2s R-4s 4-1s 10-X	2	0.994	0.013	(AQA Level >= 90%)
1-3s 2-2s R-4s 4-1s 8-X	2	0.995	0.019	(AQA Level >= 90%)
1-2s	2	0.948	0.091	(AQA Level >= 90%)
1-3s	2	0.643	0.006	(AQA Level >= 50%)
1-3s 2-2s	2	0.781	0.006	(AQA Level >= 50%)
1-3s 2-2s R-4s	2	0.779	0.010	(AQA Level >= 50%)
1-2.5s	2	0.838	0.025	(AQA Level >= 50%)

Recalculate

Apply Rules

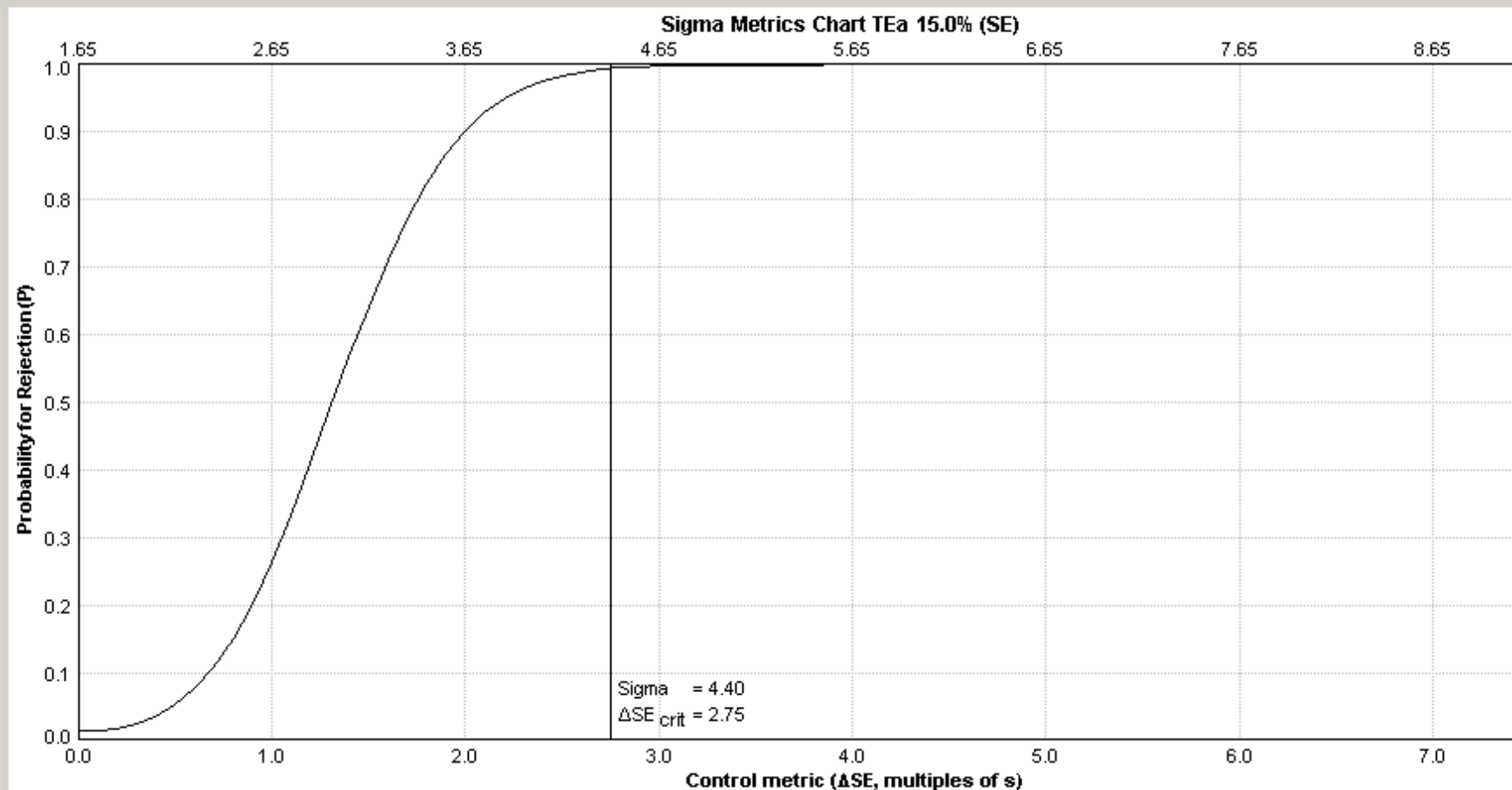
Print

Close



Creatinine
 Bias_{meas} = 3.17 %
 S_{meas} = 2.69 %

P_{fr} = 0.013
 N = 2



Creatinine
 1-3s|2-2s|R-4s|4-1s|10-X
 N = 2

P_{fr} = 0.013
 P_{ed} = 0.994

Proje / Grup toplantıları

- Proje sorumlusu Dr. Koza Murat
- 10 laboratuvar katılımcı
- Klinik kimya (19) ve immünassay testlerinde (14)
- Periyodik değerlendirme toplantıları (6 kez)
- Aylık bazda verilerimiz birlikte değerlendiriyoruz.
- Son toplantı kararı laboratuvarların kendi ortalamaları
- Westgard advisor
- Önerilen kurallar

Peer gruba göre SDI aylık rapor (MART 2016)

AFP	✓	✓			✓	✓			✓		
CEA	✓	✓			✓	✓			✓		
E2	✓	✓			✓	✓			✓		
FSH	✓	✓			✓	✓			✓		
FERRITIN	✓	✓			✓	✓			✓		
LH	✓	✓			✓	✓			✓		
FREE PSA	✓	✓			✓	✓			✓		
TOTAL PSA	✓	✓			✓	✓			✓		
PROGESTERON	✓	✓			✓	✓			✓		
PROLAKTIN	✓	✓			✓	✓			✓		
FREE T3	✓	✓			✓	✓			✓		
FREE T4	L1	✓			✓	✓			L3		
TSH	✓	✓			✓	✓			✓		
HCG	✓	✓			✓	✓			✓		

Sigma deęerlerimiz (Level 2)

GLUKOZ	TOTAL PROTEIN	KREATININ	BUN	NA	K	CL
4.26	4.9	6.85	3.69	1.87	5.51	2.57
2.62	5.91	4.7	2.96	1.53	3.74	1.98
3.57	4.71	7.82	3.25	1.3	3.92	1.93
3.65	2.71	1.4	5.24	0.57	5.13	2.01
4.57	0.91	4.91	7.49	1.33	7.6	1.36
5.12	4.79	6.11	7.83	2.29	8.74	3.59
5.13	5.01	3.62	3.24	0.95	10.27	2.09
3.27	5.33	4.28	9.45	0.47	4.41	1.28
3.54	4.24	4.34	5.66	1.98	7.96	3.12
4.76	7.88	3.83	4.78	2.75	9.88	4.83
5.6	3.31	7.3	11.27	2.17	6.76	2.1
3.9	1.86	4.59	5.4	1.01	8.34	1.65

Afiliye grup



Affiliated Laboratory Comparison Report

Assayed Chemistry • Lot 14480 • Exp 31-May-2017

November 2015 • Lab 846641

ANKARA MERKEZ LAB;architecth 1
ANKARA
ANKARA
Attention: CIGDEM SONMEZ
MERKEZ LABORATUVARI

794595	BIYOKIMYA, ANKARA	854813	Biyokimya Laboratuvar?, Ankara	854908*	Sami Ulus Cocuk Hastaliklari, Ankara
846641	ANKARA MERKEZ LAB;architecth 1, ANKARA	854825*	Biyokimya Laboratuvar?, Ankara	854911	Etlik Zubeyde Hanim Dogum Hast. ankara
846653	ANKARA MERKEZ LAB;architecth 2, ANKARA	854837	Sincan Devlet Hastanesi, Ankara	854923*	Etlik Zubeyde Hanim Dogum Hast. ankara
846665	ANKARA MERKEZ LAB;architecth 3, ANKARA	854852*	Sanatoryum Hastanesi, Ankara	854935	Golbas? Devlet Hastanesi, Ankara
846709*	ANKARA MERKEZ LAB;architecth 4, ANKARA	854864*	Sanatoryum Hastanesi, Ankara	854947*	Golbas? Devlet Hastanesi, Ankara
849196	Etimesgut Devlet Hastanesi, Ankara	854888*	Gazi Mustafa Kemal Devlet Hastanesi, Ankara		
854801*	Etimesgut Devlet Hastanesi, Ankara	854891	Sami Ulus Cocuk Hastaliklari, Ankara		

*Lab data wasn't available for processing for the date listed above. Consequently, no reports were generated for this lab during the reporting cycle.

Abbott AEROSET/ARCHITECT (c, i, ci models) 794595 BIYOKIMYA • Abbott ARCHITECT c16000

○ Affiliated CVR	1	0,6	0,8	2		CVR 2
• Peer CVR		0,6	0,7	1		
□ Method CVR		0,5	0,5	0		SDI -2
○ Affiliated SDI		0,34	0,37	0		
• Peer SDI		-0,26	-0,42	-1		CVR 2
□ Method SDI		-0,37	-0,37	-1		
○ Affiliated CVR	2	0,8	0,7	2		SDI -2
• Peer CVR		0,7	0,7	1		
□ Method CVR		0,4	0,4	0		CVR 2
○ Affiliated SDI		1,30	0,90	0		
• Peer SDI		0,76	0,34	-1		SDI -2
□ Method SDI		0,54	0,50	-1		

Mean	1	26,70	26,62	26,15	26,06	27,11	27,33	27,42	27,44
SD		0,949	1,18	1,62	1,52	1,57	1,70	1,94	2,23
CV		3,6	4,4	6,2	5,8	5,8	6,2	7,1	8,1
Lab Bias				2,10	2,15	-1,52	-2,63	-2,64	-3,01
# Points		10	94	159	1458	3257	16957	10624	85934
# Labs				9	11	86	125	365	551

846641 ANKARA MERKEZ LAB;architecth 1 • Abbott ARCHITECT ci16200

○ Affiliated CVR	1	1,3	1,1	2		CVR 2
• Peer CVR		1,4	1,0	1		
□ Method CVR		1,1	0,8	0		SDI -2
○ Affiliated SDI		0,02	0,51	0		
• Peer SDI		-0,59	-0,29	-1		CVR 2
□ Method SDI		-0,64	-0,27	-1		
○ Affiliated CVR	2	0,9	0,8	2		SDI -2
• Peer CVR		0,9	0,8	1		
□ Method CVR		0,5	0,5	0		CVR 2
○ Affiliated SDI		0,82	0,97	0		
• Peer SDI		0,32	0,41	-1		SDI -2
□ Method SDI				-1		

Mean	1	26,19	26,83	26,15	26,06	27,11	27,33	27,42	27,44
SD		2,11	1,67	1,62	1,52	1,57	1,70	1,94	2,23
CV		8,1	6,2	6,2	5,8	5,8	6,2	7,1	8,1
Lab Bias				0,15	2,99	-3,40	-1,83	-4,50	-2,21
# Points		21	157	159	1458	3257	16957	10624	85934
# Labs				9	11	86	125	365	551

849196 Etimesgut Devlet Hastanesi • Abbott ARCHITECT c16000

○ Affiliated CVR	1	0,9	1,1	2		CVR 2
• Peer CVR		1,0	1,0	1		
□ Method CVR		0,8	0,8	0		SDI -2
○ Affiliated SDI		0,64	0,15	0		
• Peer SDI		0,05	-0,61	-1		CVR 2
□ Method SDI		-0,12	-0,52	-1		
○ Affiliated CVR	2	0,7	0,8	2		SDI -2
• Peer CVR		0,7	0,7	1		
□ Method CVR		0,4	0,4	0		CVR 2
○ Affiliated SDI		-0,06	-0,12	0		
• Peer SDI		-0,49	-0,59	-1		SDI -2
□ Method SDI		-0,13	-0,08	-1		

Mean	1	27,19	26,29	26,15	26,06	27,11	27,33	27,42	27,44
SD		1,50	1,63	1,62	1,52	1,57	1,70	1,94	2,23
CV		5,5	6,2	6,2	5,8	5,8	6,2	7,1	8,1
Lab Bias				3,97	0,89	0,29	-3,83	-0,85	-4,21
# Points		21	174	159	1458	3257	16957	10624	85934
# Labs				9	11	86	125	365	551

854813 Biyokimya Laboratuvar? • Abbott ARCHITECT c8000

○ Affiliated CVR	1	0,3	0,8	2		CVR 2
• Peer CVR		0,3	0,8	1		
□ Method CVR		0,3	0,6	0		SDI -2
○ Affiliated SDI		-0,53	0,41	0		
• Peer SDI		-1,15	-0,39	-1		CVR 2
□ Method SDI		-1,10	-0,34	-1		
○ Affiliated CVR	2	0,1	0,7	2		SDI -2
• Peer CVR		0,1	0,6	1		
□ Method CVR		0,1	0,4	0		CVR 2
○ Affiliated SDI		0,13	0,01	0		
• Peer SDI		-0,32	-0,47	-1		SDI -2
□ Method SDI		-0,04	-0,01	-1		

Mean	1	25,30	26,68	26,15	26,06	27,11	27,33	27,42	27,44
SD		0,480	1,29	1,62	1,52	1,57	1,70	1,94	2,23
CV		1,9	4,8	6,2	5,8	5,8	6,2	7,1	8,1
Lab Bias				-3,26	2,38	-6,68	-2,41	-7,74	-2,79
# Points		4	70	159	1458	3257	16957	10624	85934
# Labs				9	11	86	125	365	551

Abbott AEROSET/ARCHITECT UV without P5P

AST (ASATIGOT) UV without P5P U/L 37° C

Level	Mean	SD	CV	# Points	Affiliated CVR	SDI	Peer CVR	SDI	Method CVR	SDI
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Abbott AEROSET/ARCHITECT (c, l, cl models)

Affiliated Group				↑	34,72	1,40	4,0	141 (6 Labs)		0,9	0,21	0,6	-0,33	
Peer Group					34,40	1,50	4,4	2499 (65 Labs)						
Method Group					5,53	2,46	6,9	9937 (337 Labs)						
794595					5,39	1,58	4,5	18	1,1	0,48	1,0	0,66	0,6	-0,06
846641		T ci16200			5,90	0,700	1,9	21	0,5	0,85	0,5	1,00	0,3	0,15
846653		T ci16200			4,52	0,820	2,4	25	0,6	-0,14	0,5	0,08	0,3	-0,41
846665		T ci16200			3,67	0,700	2,1	24	0,5	-0,75	0,5	-0,49	0,3	-0,76
854852					3,23	1,43	4,3	22	1,1	-1,06	1,0	-0,78	0,6	-0,94
854891		0			5,55	0,720	2,0	31	0,5	0,60	0,5	0,77	0,3	0,01
Affiliated Group					15,2	5,36	2,6	139 (6 Labs)		0,9	0,74	0,6	-0,23	
Peer Group					11,0	5,65	2,8	2348 (63 Labs)						
Method Group					17,3	9,04	4,4	9680 (323 Labs)						
794595					207,6	5,36	2,6	18	1,0	0,45	0,9	1,17	0,6	0,04
846641		T ci16200	▲		214,0	2,27	1,1	22	0,4	1,64	0,4	2,29	0,2	0,74
846653		T ci16200			203,4	1,99	1,0	23	0,4	-0,34	0,4	0,42	0,2	-0,43
846665		T ci16200			199,7	2,51	1,3	23	0,5	-1,02	0,5	-0,23	0,3	-0,83
854852					201,4	2,49	1,2	22	0,5	-0,72	0,4	0,06	0,3	-0,65
854891		0			205,7	1,92	0,9	31	0,4	0,09	0,3	0,83	0,2	-0,17

POSTER 1

Improvement of Analytical Performance with Six Sigma Methodology Performance of Public Hospitals Administration Ankara 2. Region Laboratory Group

Background:

In order to provide the same quality of service among our Public Hospitals Administration Laboratory Group organization, we were implemented a common third party internal quality control program. Our aim is continuously evaluate our analytical performance by monitoring our laboratories six sigma scores. For the test that had a sigma score below four we aimed to use Westgard Advisor for choosing the new rules for improvement of quality.

Method: Our Organization, consists of a central and nine local laboratory. Input data which is necessary for benchmarking originated from laboratories which are using Abbott **Csystem** is transferred daily to the database of the QC software. All chemistry instruments of our group utilize the same lot number of QC material in two level. The central Laboratory had 3 **Csystem** while the other had only one (totaly 12). Sigma statistics was calculated for 7 chemistry test (Glucose, total protein, urea **ditogana** (BUN), creatinine, sodium (Na) potassium (K) chloride (Cl)) that were conducted within six months period (April - October 2015) using CLIA total allowable error with a software containing the Westgard Advisor Sigma statistic Module. All the laboratories were using 1-3S R4S, 1-2S rules.

Results: We calculated six sigma scores for each test, & for each laboratory. We categorized the six sigma score according to the scale (<4, 4 to 6, >6) Number of the instrument those reached the defined scores were given in the Table 1 for each control level. K had the highest score while the worst one was Na.

Conclusion: Evaluating six sigma score, allowed us to use defined quality standards in all labs in our region. In order to achieve the goal; six sigma score above 4 we changed our rules and further observation needed for the outcome

Table 1. Sigma score evaluations categorized according to the score and the number of the instrument

Test	Sigma Score Level I			Sigma Score Level II		
	<4	4-6	>6	<4	4-6	>6
BUN	3	3	6	3	5	4
Creatinine	1	11		1	7	4
Glucose	6	6		2	10	
Total Protein		12		4	7	1
Na	12			12		
K	1	2	9		6	6
	11	1		10	2	

Poster 2

Table1. Peer group Bias, SDI, Participant number, & the number of points obtained from December & one year 2015 IQCP & EQCP.

		Bias	SDI	N	Points	Bias	SDI	N	Points
		IQCP (Dec)				EQCP(Dec)			
FT3	Level1	7,18	0,67	49	968	1,65	0,29	364	364
	Level2	3,97	0,73	47	927				
	Level3	4,03	0,57	48	1007				
FT4	Level1	-2,41	-0,36	65	1291	-3,62	0,78	356	356
	Level2	-6,98	-1,02	65	1311				
	Level3	-14,79	-1,27	56	1213				
TSH	Level1	1,44	0,19	83	1787	-0,98	-0,21	409	409
	Level2	0,57	0,14	82	1695				
	Level3	1,99	0,41	78	1699				
		IQCP (one year)				EQCP(one year)			
FT3	Level1	4,2	0,44	110	13904	0,69	1188	1188	1188
	Level2	3,28	0,59	95	12418				
	Level3	4,04	-0,01	101	14328				
FT4	Level1	0,73	0,14	120	14004	0,82	1164	1164	1164
	Level2	0,17	0,02	119	13964				
	Level3	1,68	-0,18	104	12620				
TSH	Level1	0,7	0,11	166	22630	0,81	1385	1385	1385
	Level2	0,25	0,04	152	19456				
	Level3	0,76	0,15	154	22220				

Unity katılımcıları görüşü

Sorunlar

- Manuel giriş
- İdare desteği olmaması (veri gönderememe)
- Eğitim eksikliği
- Rapor formatlarında eksiklik
- Yönetici yetkilerinin kısıtlılığı
- Ben bunu niye yapıyorum
- Günlük veri değerlendirmeleri yapamamak
- Verilerin/raporların excell e dönüştürülememesi

Unity katılımcıları görüşü

Avantajlar

- Unityden faydalanarak laboratuvar kit referans aralıklarını güncellenmesi
- Lot deęişimlerinin iyi takibi
- Aynı lotun uzun süreli kullanımı
- Motivasyon sağlıyor
- Kendi ortalama deęerlerimizi kullanmamızı sağladı
- Farklı bir vizyon getirdi
- Paylaşımı arttırması
- Lab içi cihaz uyumluluęunu gösterme /saęlama



TS-EN-ISO 15189

Teşekkürler