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MULTICENTER OSTEOARTHRITIS STUDY

MOST Reading Center Dataset Description
Baseline and Longitudinal BL-30M, BL–84M DXA Bone Density
V0BMD, V02BMD, V05BMD

May 2022

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1. Overview

Datasets:
Dataset: V0BMD.sas7bdat
Observations: 2970 (1 record per participant)
Variable Guide: VariableGuide_V0BMD.pdf
Distributions: Distributions_V0BMD.pdf

Dataset: V02BMD.sas7bdat
Observations: 447 (1 record per participant)
Variable Guide: VariableGuide_V02BMD.pdf
Distributions: Distributions_V02BMD.pdf

Dataset: V05BMD.sas7bdat
Observations: 2074 (1 record per participant)
Variable Guide: VariableGuide_V05BMD.pdf
Distributions: Distributions_V05BMD.pdf

OM chapter: 4N_BoneDensityDXA_v1.0pMay2009

The data in these datasets are provided on the participant level, one row per participant. The following variable prefixes indicate the study time point and whether each variable is derived from clinical data (data collection forms filled out in the clinic) or from the DXA Reading Center.

- V0 = Baseline clinical data
- V2 = 30-month clinical data
- V5 = 84-month clinical data
- DX0 = Baseline Reading Center data
- DX2 = 30-month Reading Center data
- DX5 = 84-month Reading Center data

Table 1 summarizes the body composition and bone density scan acquisition schedule. A whole body and hip scan was obtained at the baseline, 30-month (subset of study participants) and 84-month follow-up visit. Follow-up visit scans were re-processed and compared to the MOST baseline visit scans for positioning, analysis, and excessive bone loss. Therefore, longitudinal datasets contains two sets of parameters:
V02BMD: DX0- re-processed baseline parameters and DX2- parameters obtained from 30M scan;
V05BMD: DX0- re-processed baseline parameters and DX5- parameters obtained from 30M scan.

Table 1 Scan Acquisition

DXA Scans	Baseline	30-Month*	84-Month
Whole Body	2955	438	2043
Hip (Right or Left)	2963	444	2054

*Densitometry measurements acquired in a subset of study participants at the second follow-up visit (30-months) selected and enrolled as part of the ancillary study (AS06-01).

2. Important Analyst Notes

Analysts not using longitudinal data should use the baseline dataset V0BMD – it contains the largest number of records.

Baseline scans were re-evaluated by the Reading Center for the longitudinal assessments using the latest imaging software version, and therefore baseline assessments in V02BMD reflect updated readings with updated software and that are different from what was previously read without the 30-month images for comparison. This applies only for the subset of participants who were enrolled at ancillary study (AS06-01) during 30-months clinic visit.

Baseline scans were re-evaluated by the Reading Center for the longitudinal assessments using the latest imaging software version, and therefore baseline assessments in V05BMD reflect updated readings with updated software and that are different from what was previously read without the 84-month images for comparison. There should be no expectation that baseline Reading Center assessments in V05BMD (longitudinal) should correspond for each participant to assessments previously released in V0BMD (baseline only). See Appendix A for the specific software details, including an NHANES correction[1] that was applied.

[1] See also: *Schoeller DA, Tylavsky FA, Baer DJ, Chumlea WC, Earthman CP, Fuerst T, Harris TB, Heymsfield SB, Horlick M, Lohman TG, Lukaski HC, Shepherd J, Siervogel RM, Borrud LG. QDR 4500A dual-energy X-ray absorptiometer underestimates fat mass in comparison with criterion methods in adults. Am J Clin Nutr. 2005 May;81(5):1018-25. PMID:15883424.*

University of California
San Francisco
Coordinating Center

Bone Density Quality Assurance Report

84-month Visit

MOST Study

Participant Data
Spine, Hip and Whole Body Phantom
Scanner Performance

University of California, San Francisco Coordinating Center
DXA Quality Assurance Center

First version dated: 01/April/2013 Version: 1.0
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1.0 Introduction

The purpose of this report is to investigate and summarize quality control activities and data that focus on the operation and management of bone densitometry scanners used in the MOST study. The goal of our work is the assurance of valid, consistent and reliable data through certification of operators, monitoring of operator and scanner performance during the study, and the application of specific procedures to quantify the longitudinal variability of study scanners.

Quality control procedures are protocol-driven activities performed by clinic personnel and evaluated by the DXA QA Center at the University of California, San Francisco Coordinating Center. The data originated from the clinic-based bone densitometers and were collected by the DXA QA Center for review and statistical analyses.

In this report we provide a summary of our quality control activities during the 84-month visit (May 2011 through December 2012).

Table 1 Participant and Spine, Hip, and Whole Body Phantom Scan Dates

Clinic	Visit	Participant		Spine Phantom		Hip Phantom		Whole Body Phantom	
		First Scan	Last Scan	First Scan	Last Scan	First Scan	Last Scan	First Scan	Last Scan
Birmingham	Baseline	04/15/03	02/01/05	04/15/03	02/15/05	04/15/03	02/15/05	04/15/03	02/01/05
	Month 84	06/15/11	12/17/12	06/15/11	12/17/12	06/15/11	12/17/12	06/15/11	12/17/12
Iowa City	Baseline	06/16/03	04/08/05	06/16/03	04/08/05	06/24/03	04/08/05	06/16/03	04/06/05
	Month 84	05/05/11	11/30/12	05/11/11	11/30/12	05/18/11	11/30/12	05/09/11	11/30/12

2.0 Participant Data

Scan Review

Scans were reviewed by DXA QA Center staff according to the study protocol. The following reviews were done for the MOST study: review of flagged hip and whole body scans, a random sample, a monthly review of scans with outlying values, and a review of DXA operator certification scans. Results were logged into the Scan Review Database, a SQL-web database maintained at DXA QA Center. This database was used to assist in data cleaning and producing reports.

Flagged Scans
The clinic operators identified flagged scans according to specific criteria defined in the protocol, such as difficulty positioning the participant, questionable analysis, or some type of artifact.. These scans were logged into the Scan Review Database.

Tables 2.1 and 2.2 summarize the results of the review of flagged 84-month scans.

Table 2.1 Summary of 84-month Whole Body Scan Review

	Total # scans	# Reviewed scans	Reanalyzed	Acceptable	Suboptimal	Unacceptable	Rescanned
Site Name							
Birmingham	914	459	36	415	42	2	0
Iowa	1140	694	13	673	19	2	0
Total	**2054**	**1153**	**49**	**1088**	**61**	**4**	**0**

Table 2.2 Summary of 84-month Hip Scan Flag Review

	Total # scans	# Reviewed scans	Reanalyzed	Acceptable	Suboptimal	Unacceptable	Rescanned
Site Name							
Birmingham	948	78	8	75	3	0	0
Iowa	1156	638	44	625	12	1	1
Total	**2104**	**716**	**52**	**700**	**15**	**1**	**1**

Random Sample

In April 2012, a random sample of scans from each clinic was reviewed by the DXA QA Manager. Each scan was reviewed for quality of acquisition and analysis. These scans were logged into the Scan Review Database.

Tables 2.3 and 2.4 summarize the results of the 84-month random sample review.

Table 2.3 Summary of 84-month Whole Body Scan Random Sample Review

	# Reviewed scans	Reanalyzed	Acceptable	Suboptimal	Unacceptable	Rescanned
Site Name						
Birmingham	10	0	8	2	0	0
Iowa	9	0	8	1	0	0
Total	**19**	**0**	**16**	**3**	**0**	**0**

Table 2.4 Summary of 84-month Hip Scan Random Sample Review

	# Reviewed scans	Reanalyzed	Acceptable	Suboptimal	Unacceptable	Rescanned
Site Name						
Birmingham	10	0	9	1	0	0
Iowa	9	1	6	3	0	0
Total	**19**	**1**	**15**	**4**	**0**	**0**

Outlier Scans

On a monthly basis, an outlier check was performed on the high and low end of several variables. The criteria values were based on the experience of the DXA QA Center staff and were set to capture unusual values. The cut-off values were based on statistical calculations for each combination of sex, age group, and ethnicity. Data points more extreme than the median value for each strata +/- 2.5 times the interquartile range were considered possible outliers. The questionable scans were retrieved by the DXA QA Center staff and visually checked for technical problems. These scans were logged into the Scan Review Database.

Tables 2.5 and 2.6 summarize the results of the review of outlier 84-month scans.

Table 2.5 Summary of 84-month Whole Body Scan Outlier Review

	# Reviewed scans	Reanalyzed	Acceptable	Suboptimal	Unacceptable	Rescanned
Site Name						
Birmingham	8	1	7	1	0	0
Iowa	6	0	4	2	0	0
Total	**14**	**1**	**11**	**3**	**0**	**0**

Table 2.6 Summary of 84-month Hip Scan Outlier Review

	# Reviewed scans	Reanalyzed	Acceptable	Suboptimal	Unacceptable	Rescanned
Site Name						
Birmingham	34	2	33	1	0	0
Iowa	10	3	9	1	0	0
Total	**44**	**5**	**42**	**2**	**0**	**0**

Certification Scans

All DXA operators who scanned for MOST were certified by the DXA QA Center. Each operator acquired and submitted ten hip and whole body scans. These scans were reviewed for problems in positioning and analysis. Any issues were returned to the operator with instructions for improvement. These scans were logged in the Scan Review Database.

DXA operators were re-certified at the beginning of the 84-month visit.

Tables 2.7 and 2.8 summarize the results of the review of certification 84-month scans.

Table 2.7 Summary of 84-month Whole Body Scan Certification Review

		Acquisition		Analysis	
	# Reviewed scans	**Acceptable**	**Suboptimal**	**Reanalysis Required**	**Unacceptable**
Site Name					
Birmingham	50	47	3	4	0
Iowa	69	63	6	2	0
Total	**119**	**110**	**9**	**6**	**0**

Table 2.8 Summary of 84-month Hip Scan Certification Review

		Acquisition		Analysis	
	# Reviewed scans	**Acceptable**	**Suboptimal**	**Reanalysis Required**	**Unacceptable**
Site Name					
Birmingham	50	49	1	16	0
Iowa	64	63	0	11	1
Total	**114**	**112**	**1**	**27**	**1**

Unacceptable Scans

There were six unacceptable scans during the MOST study. Of these, one had a successful repeat scan. The values of the unacceptable scans have been set to missing in the dataset provided to MOST.

Excessive Bone Loss (EBL)

The EBL criteria for the BL/84-month visit was a loss greater than 15% at the total hip since the baseline visit. During the 84-month visit, there were 33 cases of confirmed EBL, based on comparison of follow-up and baseline scans.

2.1 Conclusions Regarding Participant Scans

The DXA QA Center considers the acquisition and analysis of the MOST DXA participant scans to be acceptable for the evaluation of the research questions posed by the study.

3.0 Scanner Information

Table 3.1 lists the scanner software information for the duration of the MOST study.

Table 3.1 Summary of scanner software throughout the study

Clinic	QDR S/N	QDR Model	Software at Baseline	Software Upgrade	Date of Upgrade
Birmingham	49454	4500W	9.8	Apex 3.3	03/25/11
Iowa	80030	Discovery A	12.0	12.4	06/05/12

Whole body and hip scans acquired at Birmingham were analyzed using Hologic software 9.8 at baseline. In March 2011, Birmingham upgraded to Apex 3.3 prior to the start of the 84-month visit. The Apex software includes substantial changes to the analysis of hip scans and also provides the option of applying the NHANES correction to whole body scans (see Section 4.0). The 84-month scans were therefore analyzed using the "legacy" feature which matches the analysis version used in the baseline scans.

Iowa had a software upgrade from 12.0 to 12.4, but this change should not have an effect on scan results.

4.0 Scanner QC: Longitudinal Spine and Hip Phantom Scans

Daily and weekly quality control operations on the bone densitometers provide the longitudinal data for monitoring and adjusting for individual scanner calibration changes over the course of the study.

Table 4.1. Longitudinal quality control procedures designated for the MOST study

Phantom	Scanning frequency
Local Hologic Tissue Bar	1 time/week
Local Hologic Spine Phantom	3 times / week and always on a day that participants are scanned
Local Hologic Hip Phantom	2 times / week
Local Hologic Whole Body Phantom	3 times / week
Radiographic Uniformity Scan	1 time / week

4.1 Spine Quality Control

The performance of each densitometer used in the MOST study was monitored by regular scanning of the Hologic spine phantom that is specific to each instrument. According to Hologic standard operating procedures the spine phantom is to be scanned at the beginning of each day the densitometer is in use. An alert is triggered by the Hologic software if the coefficient of variation (CV) of QC measurements is greater than 0.6%.

Failure of the spine phantom scan warranted a call to the Hologic service department and follow-up by Hologic technical personnel. This review of QC data by the operator served as a first line of defense against scanner malfunction.

QC data were sent monthly to the DXA QA Center and visually inspected by trained personnel. In the event unusual performance was noted, the DXA QA Center notified the clinic operator, who contacted Hologic with a request for service.

All repairs, preventive maintenance, and service to a study scanner were documented by the clinic staff. The study and manufacturer repair logs were sent to the DXA QA Center and logged into a database by date and type.

4.2 Phantom Analysis of Change Points and Drifts in the QC Data

At the end of the Month 84 visit, the data from the spine and hip phantom scans were analyzed by the DXA QA Center. The coefficients of variation for the QC measurements were calculated (Table 4.2 and 4.3).

The hip phantom plot for the baseline visit for Iowa had a CV of 1.58% due to ~20 points with unusually low values. We determined that these unusually low values were due to poor positioning of the hip phantom. Since this would not affect the densitometer's performance in acquiring participant scans, we deleted these points (all scans with total BMD<0.755) and re-analyzed the plot. The overall CV was 0.53%. In the results presented here for the hip phantom measurements at Iowa, we have excluded these unusually low values from our analyses and plots.

Table 4.2. Spine phantom information and performance statistics for total BMD

Site name	QDR #	Spine Phantom #	CV (%)	Within Limits	Spine Phantom Date Range
Birmingham	49454	7975	0.37	✓	04/15/03 – 12/17/12
Iowa City	80030	10849	0.35	✓	06/16/03 – 11/30/12

Table 4.3. Hip phantom information and performance statistics for total BMD

Site name	QDR #	Hip Phantom #	CV (%)	Within Limits	Hip Phantom Date Range
Birmingham	49454	231	0.45	✓	04/15/03 – 12/17/12
Iowa City	80030	310	0.55	✓	06/24/03 – 11/30/12

4.3 Interpretation of the Spine and Hip Phantom QC Data

Based on the coefficients of variation of the spine phantom total BMD data, both clinical site scanners performed within the acceptable limits of a CV of 0.5% or less.

The hip phantom is generally more variable than the spine phantom. In this study, the CV for the hip phantom was within acceptable limits (<0.6%) at both sites.

4.3.1 Impressions and Recommendations Regarding Longitudinal QC

The scanners of the MOST study performed within pre-determined QC specifications and at a level acceptable for longitudinal studies of spine and hip bone mineral density. We do not recommend longitudinal correction factors for these data.

5.0 Whole Body Quality Control

Whole body quality control was maintained and monitored through radiographic uniformity scan reviews (summarized in the following section) and whole body phantom scans. Whole body phantom scans were sent to the DXA QA Center weekly. Quarterly, the WB phantom results were plotted for review by the DXA QA Center. Detailed analyses of the whole body phantom data are presented below in section 5.2.

5.1 Radiographic Uniformity Scans

Radiographic uniformity scans were performed at least once a week at the clinical sites. A radiographic uniformity scan is a whole body scan performed without anything or anyone on the scanner table. The purpose is to assure proper alignment of the table with the x-ray beam and to monitor potential artifacts on the tabletop which may interfere with scan acquisition.

A Hologic software-specific analysis program calculates the standard deviation (SD) for a certain number of scan lines across the table. If an SD value exceeded 2.0, the clinic was instructed to contact both the DXA QA Center and Hologic to review the problem. (Generally, if the SDs do not exceed 3.0, no repairs are necessary.)

Radiographic uniformity scans were sent to the DXA QA Center electronically for review.

Often high SD values indicate the need to adjust the tabletop or re-flatten the x-ray detector. The image can also show an artifact, like horizontal lines or the table edge. Horizontal lines indicate potential problems with power to the scanner. The Iowa scanner had a number of scans that showed horizontal lines.

5.2 Whole Body Phantom

This section of the report reviews results from regular scans of whole body phantoms on each of the study densitometers. Recommendations will be given concerning corrections to the participant data, as needed. The Hologic whole body phantom is composed of layers of material meant to simulate the composition of bone, lean, and fat mass as typically found in a person. Each clinic owns its own whole body phantom, scheduled to be scanned three times a week throughout the study. The Apex software version, used in Birmingham at the 84-month visit but not the baseline visit, includes an option to apply the NHANES correction (discussed below) to whole body scans. In order to assess longitudinal changes in the whole body phantom from the baseline visit, all whole body phantom scans at the 84-month visit were obtained without application of the NHANES correction.

5.2.1. Longitudinal Whole Body Phantom Control Charts

The longitudinal control charts of scanner performance when measuring the whole body phantom are provided in the plots at the end of this report. The control charts are included for total bone mineral density (TOTBMD), total bone area (TOTAREA), total bone mineral content (TOTBMC), total mass (TOTMASS), total percent fat (TOTPF), total fat (TOTFAT), and total fat-free mass (TOTFFM) at each clinic. The top portion of each chart lists: the clinic, the DXA measure being plotted, and various statistical measures of the data such as the mean and CV. The control charts are produced with CUSUM analysis, an approach used to detect changes in scanner performance. This method has been shown to be a sensitive and specific procedure for evaluating QC data (Lu et al., J Bone Miner Res 11:626, 1996). CUSUM technique identifies statistically significant change points in the phantom data. These change points are compared against thresholds for clinical significance. The repair records of the scanner are also considered in determining recommended correction factors.

Table 5.1 provides the CV for each whole body measure for each scanner, with and without recommended corrections applied to the data.

Table 5.1 Coefficient of variation for WB phantom variables, with and without recommended corrections

Total BMD						
Clinic	Scanner S/N	Phantom S/N	QC Date		CV (%)	
			First	Last	Uncorrected	Corrected
Birmingham	49454	106	04/15/03	12/17/12	2.42	2.32
Iowa City	80030	1037	06/16/03	11/30/12	1.96	1.60
Total Area						
Clinic	Scanner S/N	Phantom S/N	QC Date		CV (%)	
			First	Last	Uncorrected	Corrected
Birmingham	49454	106	04/15/03	12/17/12	1.37	1.26
Iowa City	80030	1037	06/16/03	11/30/12	1.84	1.57
Total BMC						
Clinic	Scanner S/N	Phantom S/N	QC Date		CV (%)	
			First	Last	Uncorrected	Corrected
Birmingham	49454	106	04/15/03	12/17/12	2.71	2.71
Iowa City	80030	1037	06/16/03	11/30/12	1.85	1.66
Total Mass						
Clinic	Scanner S/N	Phantom S/N	QC Date		CV (%)	
			First	Last	Uncorrected	Corrected
Birmingham	49454	106	04/15/03	12/17/12	0.11	n/a
Iowa City	80030	1037	06/16/03	11/30/12	0.42	n/a
Total Percent Fat						
Clinic	Scanner S/N	Phantom S/N	QC Date		CV (%)	
			First	Last	Uncorrected	Corrected
Birmingham	49454	106	04/15/03	12/17/12	1.37	1.27
Iowa City	80030	1037	06/16/03	11/30/12	1.14	1.01
Total Fat						
Clinic	Scanner S/N	Phantom S/N	QC Date		CV (%)	
			First	Last	Uncorrected	Corrected
Birmingham	49454	106	04/15/03	12/17/12	1.39	1.29
Iowa City	80030	1037	06/16/03	11/30/12	1.30	1.13
Total Fat Free Mass						
Clinic	Scanner S/N	Phantom S/N	QC Date		CV (%)	
			First	Last	Uncorrected	Corrected
Birmingham	49454	106	04/15/03	12/17/12	1.25	1.13
Iowa City	80030	1037	06/16/03	11/30/12	1.07	1.02

5.3. Birmingham Whole Body Phantom

Birmingham's data include whole body phantoms scanned between 04/15/2003 -12/17/2012.
Correction factors:

We are recommending correction factors for every whole body measure except Total Mass. Total BMD, Total Area, and Total BMC were not previously corrected, but corrections are recommended for these measures during the Month 84 visit. An additional correction is recommended for Total Percent Fat. Previous corrections have not changed.

Correction factors were applied to the phantom data as follows:

Total BMD (TOTBMD):
1) For scans performed on or after 5/24/12, multiply TOTBMD by 0.9886.

Total Area (TOTAREA):
1) For scans performed on or after 6/12/12, multiply TOTAREA by 1.0156.

Total Percent Fat (TOTPF):
1) For scans performed from 7/15/03 – 10/1/03, multiply TOTPF by 0.9842.
2) For scans performed from 12/29/03 – 12/13/04, multiply TOTPF by 0.9851.
3) For scans performed on or after 6/15/11, multiply TOTPF by 0.9869.

After the above corrections have been applied to TOTBMD, TOTAREA, and TOTPF, re-calculate Total BMC (TOTBMC), Total Fat (TOTFAT), Total Fat Free Mass (TOTFFM), and Total Lean (TOTLEAN) using the following formulae:

TOTBMC = TOTBMD * TOTAREA
TOTFAT = (TOTPF/100) * TOTMASS
TOTFFM = (1 - (TOTPF/100)) * TOTMASS (or TOTMASS – TOTFAT)
TOTLEAN = TOTFFM - TOTBMC

Comments about Birmingham's variables:

Total BMD: The mean of the values from May 2012 onward was +1.7% higher than the mean of the first interval, most likely due to preventive maintenance on the scanner on 5/1/12. A correction factor was applied to this last interval, and the corrected plot and interval statistics improved.

Total Area: There was a downward shift in the values from 6/12/12 onward (-1.6% compared to the first interval). This shift did not coincide with the increase in BMD values in May 2012, so the breakpoint was kept at 6/12/12. After correcting this last interval, no breakpoints were detected by CUSUM in the corrected plot.

Total BMC: There was a -2.1% downward shift in the Total BMC values from February 2012 – May 2012, which does not coincide with the significant shifts detected for Total BMD and Total

Area in May/June 2012. After re-calculating Total BMC using corrected Total BMD and Total Area, the interval statistics improved slightly, though there was still a -1.4% significant downward shift from February 2012 – July 2012.

Total Mass: No corrections are necessary for this variable.

Total Percent Fat: During the baseline visit, there were two significant upward shifts in the data which required corrections: compared to the mean of the first interval, the mean of the values from 7/15/03 – 10/1/03 was +1.4% higher and from 12/29/03-12/13/04 was +1.3% higher. The breakpoint in July 2003 corresponds to a scanner repair (transistor). The Month 84 values were significantly higher (+1.7%) than those in the first interval. Correction factors were applied to these three intervals, and the corrected plot improved.

Total Fat: The breakpoints detected for Total Fat were similar to those for Total Percent Fat. After re-calculating using the corrected Total Percent Fat, the plot improved.

Total Fat Free Mass: The plot for Total Fat Free Mass was similar to the plot for Percent Fat and Total Fat, but with the increases and decreases reversed. The plot improved after re-calculating using the corrected Total Percent Fat.

5.4. Iowa City Whole Body Phantom

Iowa City's data include whole body phantoms scanned between 06/16/2003 – 11/30/2012.
Correction factors:
We are recommending correction factors for every whole body measure except Total Mass. Total BMD, Total Area, and Total BMC were not previously corrected, but corrections are recommended for these measures during the Month 84 visit. Additional corrections are recommended for Total Percent Fat. Previous corrections have not changed.

Correction factors were applied to the phantom data as follows:

Total BMD (TOTBMD):
1) For scans performed from 5/9/11 – 6/5/12, multiply TOTBMD by 0.9755.
2) For scans performed on or after 6/6/12, multiply TOTBMD by 1.0075.

Total Area (TOTAREA):
1) For scans performed on or after 6/6/12, multiply TOTAREA by 0.9781.

Total Percent Fat (TOTPF):
1) For scans performed from 9/10/03 – 3/16/04, multiply TOTPF by 1.0079.
2) For scans performed from 4/26/04 – 7/14/04, multiply TOTPF by 1.0091.
3) For scans performed from 7/28/04 – 3/14/05, multiply TOTPF by 1.0077.
4) For scans performed from 7/20/11 – 9/14/11, multiply TOTPF by 1.0122.
5) For scans performed from 9/15/11 – 5/20/12, multiply TOTPF by 1.0058.
6) For scans performed from 5/21/12 – 8/1/12, multiply TOTPF by 1.0130.
7) For scans performed on or after 8/2/12, multiply TOTPF by 1.0217.

After the above corrections have been applied to TOTBMD, TOTAREA, and TOTPF, re-calculate Total BMC (TOTBMC), Total Fat (TOTFAT), Total Fat Free Mass (TOTFFM), and Total Lean (TOTLEAN) using the following formulae:

TOTBMC = TOTBMD * TOTAREA
TOTFAT = (TOTPF/100) * TOTMASS
TOTFFM = (1 - (TOTPF/100)) * TOTMASS (or TOTMASS – TOTFAT)
TOTLEAN = TOTFFM - TOTBMC

Comments about Iowa City's variables:

Total BMD: There was a significant +2.3% upward shift in the values from the start of Month 84 (5/9/11) through June 2012. The values shifted downward on 6/5/12 when preventive maintenance was performed to correct a problem with air scans. The mean of the scans from 6/6/12 onward was -1.0% lower than the mean of the first interval. After correcting these two intervals, the plot and interval statistics improved.

Total Area: The mean of the Total Area values from 6/6/12 onward was +2.2% higher than the first interval's mean, due to preventive maintenance on 6/5/12 (see Total BMD). After correcting this interval, the plot and interval statistics improved.

Total BMC: During Month 84, CUSUM detected intervals which were +1.5% to +2.3% higher than the first interval's mean. After re-calculating Total BMC using corrected Total BMD and Total Area, the plot and interval statistics improved.

Total Mass: No corrections are necessary for this variable.

Total Percent Fat: During the baseline visit, there were three significant downward shifts in the data which required corrections: compared to the mean of the first interval, the mean of the values from 9/10/03 – 3/16/04 was -0.8% lower, from 4/26/04 – 7/14/04 was -0.9% lower, and from 7/28/04 – 3/14/05 was -0.7% lower. During Month 84, there were three more significant downward shifts in the data: compared to the first interval's mean, the mean from 7/20/11 – 9/14/11 was -1.2% lower, from 5/21/12 – 8/1/12 was -1.3% lower, and from 8/2/12 onward was -2.1% lower. A seventh correction was required for 9/15/11-5/20/12 even though the mean of this interval was only -0.5% lower than the mean of the first interval; without this correction, a significant breakpoint was detected in the corrected plot for Total Fat. There were no entries in the maintenance and repair log corresponding with any of these dates. After correcting these 7 intervals, the plot and interval statistics improved.

Total Fat: The breakpoints detected for Total Fat were similar to those for Total Percent Fat. After re-calculating using the corrected Total Percent Fat, the plot improved.

Total Fat Free Mass: Compared to the first interval, there was a +0.7% upward shift in the values from 7/20/11 – 10/19/11 and a +1.2% upward shift from 6/25/12 onward. The plot improved after re-calculating using the corrected Total Percent Fat.

5.5 Recommended Correction Factors for Whole Body Scans
We recommend the application of the correction factors specified above to the participant whole body DXA data. These correction factors can be applied to the data that has already been corrected for the under-estimation of fat mass, discussed below.

5.6. Hologic 4500 Underestimates Fat Mass
In a study published in 2005, Schoeller et al. [Am J Clin Nutr 81:1018-25] compared fat-free mass and fat mass estimates obtained with the Hologic QDR 4500A, using software version 8, with several criterion methods and concluded that the QDR4500A over-estimated fat mass by about 5% and therefore under-estimated fat mass. In the more recent Apex software, Hologic provided an option to implement the corrections recommended in the Schoeller paper, referred to in Hologic documentation as the NHANES correction. They are as follows:

```
BTOTFFM = BTOTFFM  * 0.946 ;
BTOTFAT = BTOTMASS  - BTOTFFM  ;
BTOTLEAN = BTOTMASS  - BTOTFAT  - BTOTBMC  ;
BTOTPF = 100*BTOTFAT /BTOTMASS ;
```

The WB participant data received at the DXA QA Center included data without any NHANES correction from Iowa (using software version 12.4) and a mix of corrected and uncorrected data from Birmingham (using software version Apex 13.3). We revised the participant data so that datasets provided to the MOST CC are either all corrected or not corrected. We recommend that the datasets with the NHANES corrections be used for analyses. The MOST CC may also wish to apply the longitudinal corrections discussed in the previous sections. The longitudinal corrections can be applied to the data that have already had the NHANES corrections applied. To summarize the datasets that we have provided for WB participant results:

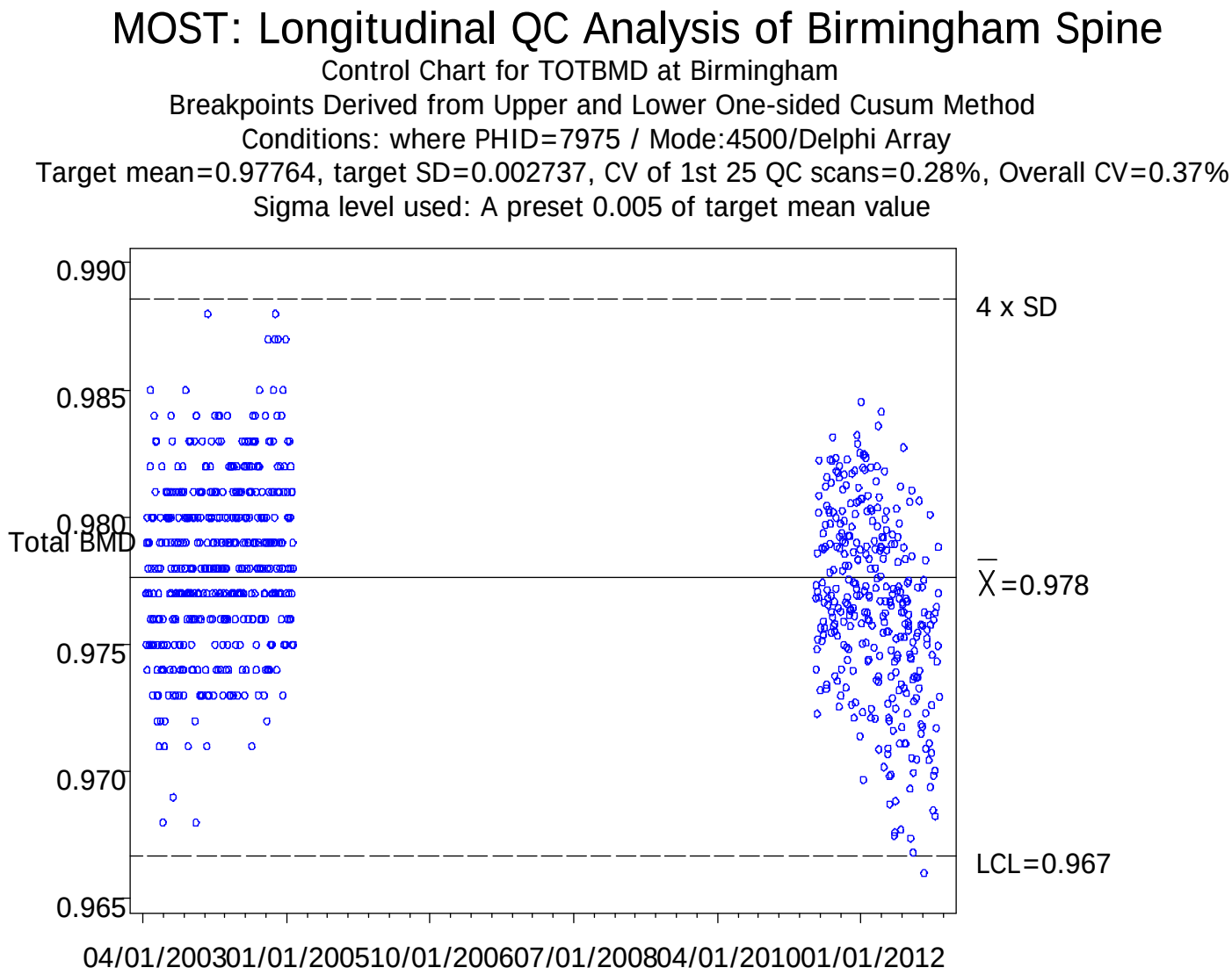
1) MOSTBMDuncorrected (84-month data). Any NHANES corrections applied during scan analysis at the local sites have been removed.

2) MOSTBMDcorrected. This includes 84 month and corresponding BL data with NHANES correction applied.

3) V0BMDcorrected. Original baseline V0BMD data from June 2005 with NHANES correction applied.

Note: In a later release of Apex (version 13.4), the formula above was altered slightly so that the correction factor of 0.946 was applied to BTOTLEAN, rather than BTOTFFM. Thus, later versions of the software will give slightly different results for the body composition variables. The differences are very small and within the expected measurement variability of the scanner. Because the scanner in MOST (Birmingham) used Apex version 13.3, we have applied correction factors consistent with that software version.

Figure 1 Birmingham QDR 49454 Total Spine BMD, without breakpoints



NOTE: v9.8 software at BL rounded the values to the nearest .001, whereas the later version at 84-month visit did not. There are clusters of data whenever the value is carried out to just 3 decimal places.

Figure 2 Iowa City QDR 80030 Total Spine BMD, without breakpoints

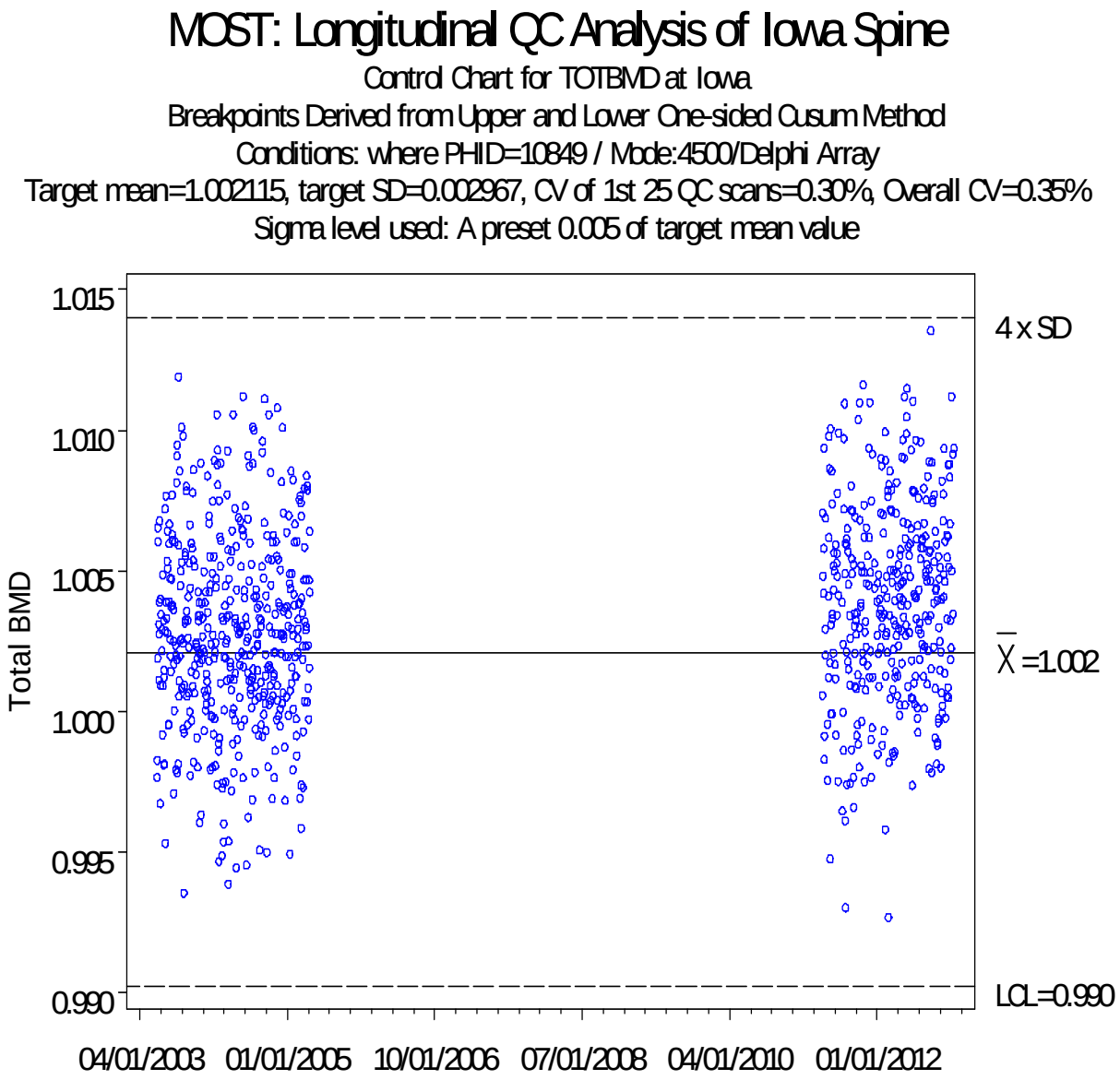
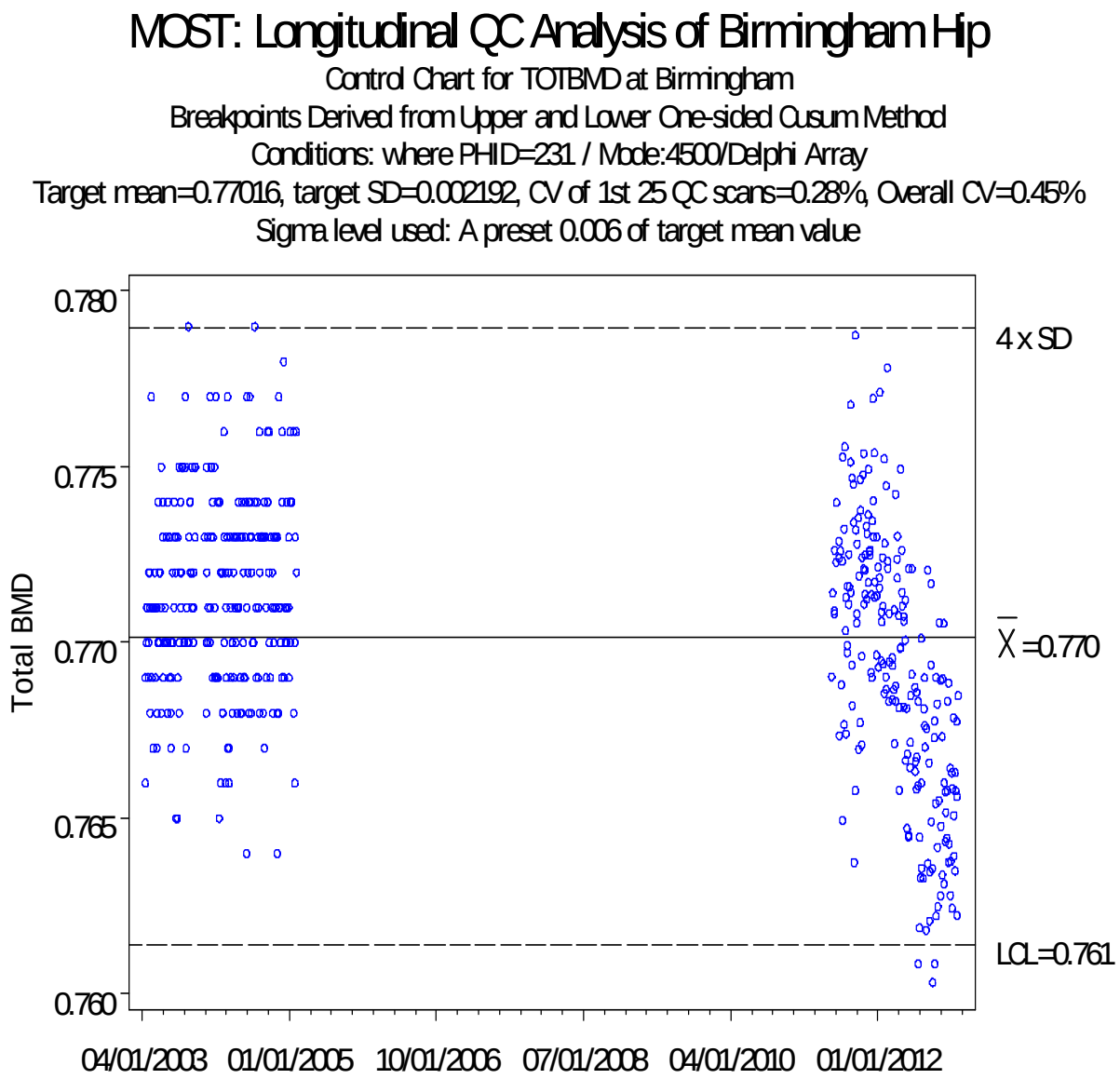


Figure 3 Birmingham QDR 49454 Total Hip BMD, without breakpoints



NOTE: v9.8 software at BL rounded the values to the nearest .001, whereas the later version at 84-month visit did not. There are clusters of data whenever the value is carried out to just 3 decimal places.

Figure 4 Iowa City QDR 80030 Total Hip BMD, without breakpoints

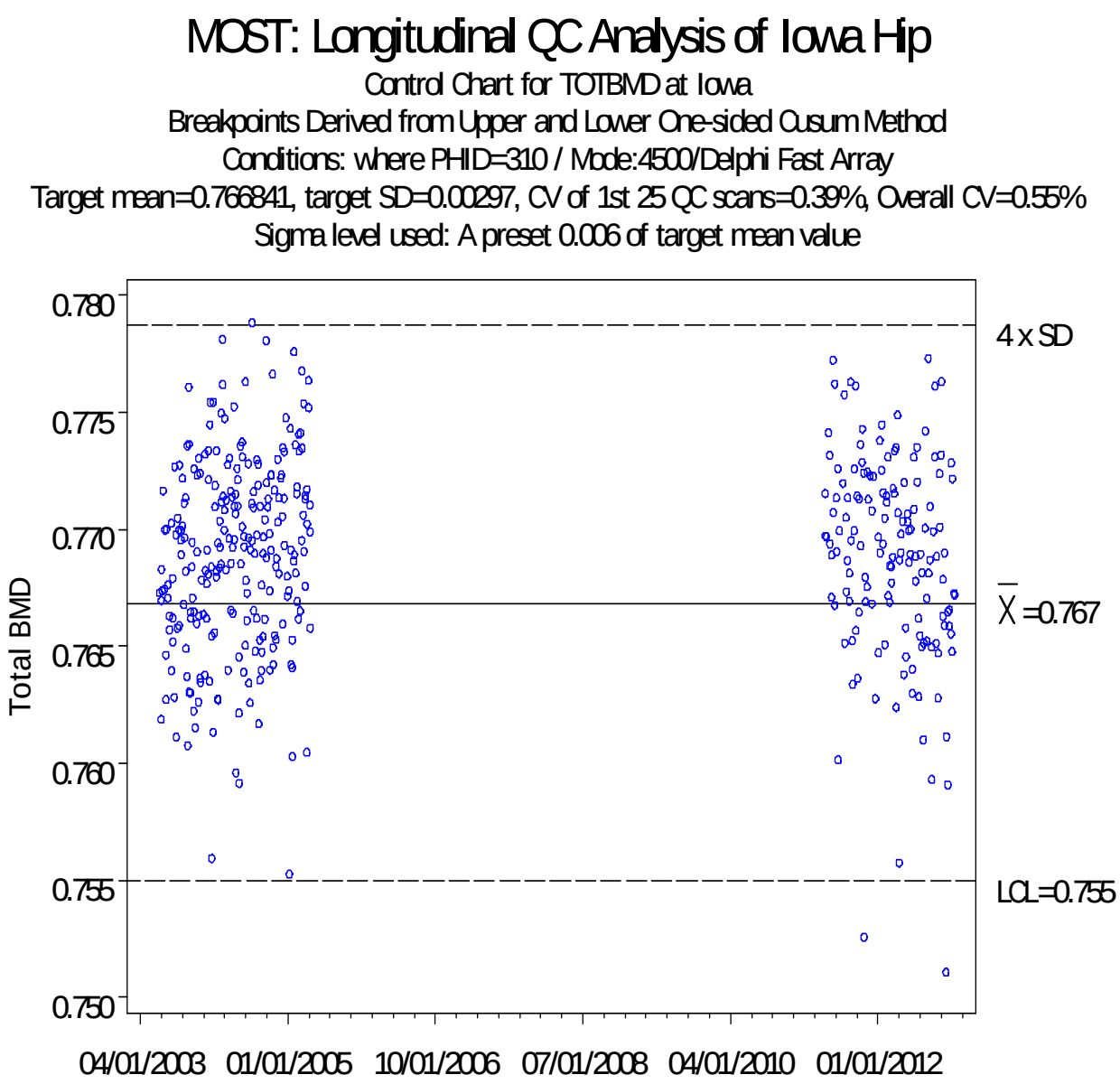
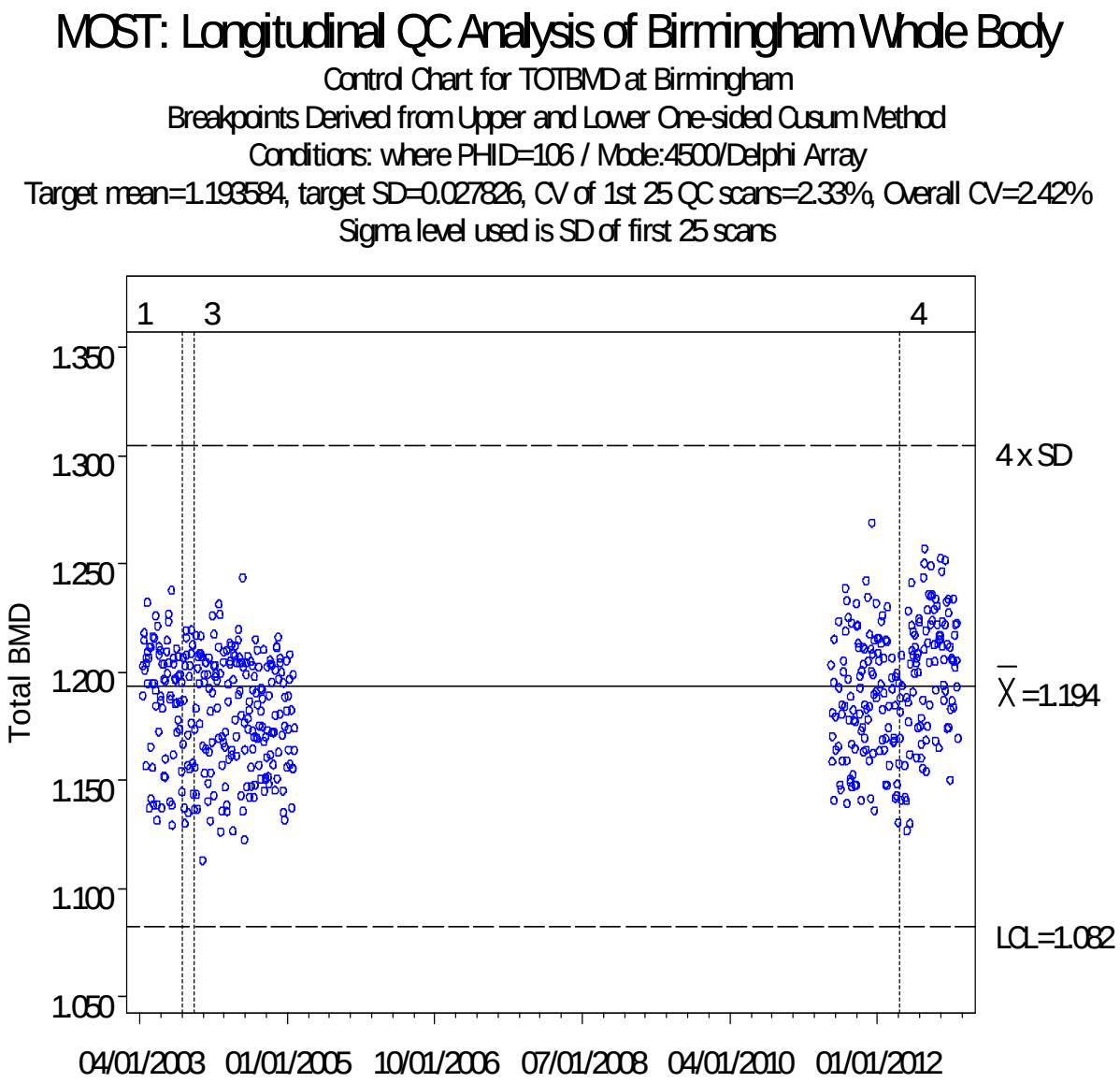


Figure 5 Birmingham QDR 49454 Total BMD (uncorrected), with all automatically found breakpoints, interval 4 to be corrected



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTBMD at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=1.193584, target SD=0.027826, CV of 1st 25 QC scans=2.33%, Overall CV=2.42%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	94	04/15/2003	11/18/2003	1.18733	.	.	.	.	_	1.129	1.238
2	18	11/19/2003	12/31/2003	1.17730	-0.010024	(0.844%)	-0.010024	(0.844%)	0.3531	1.113	1.217
3	304	01/06/2004	05/23/2012	1.18224	-0.005085	(0.428%)	0.004939	0.420%	0.2731	1.123	1.269
4	88	05/24/2012	12/17/2012	1.20729	0.019963	1.681%	0.025048	2.119%	<.0001	1.150	1.257

MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTBMD at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=1, target SD=0.023313, CV of 1st 25 QC scans=2.33%, Overall CV=2.42%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	94	04/15/2003	11/18/2003	0.99476	.	.	.	.	_	0.946	1.037
2	18	11/19/2003	12/31/2003	0.98636	-0.008398	(0.844%)	-0.008398	(0.844%)	0.3531	0.933	1.020
3	304	01/06/2004	05/23/2012	0.99050	-0.004260	(0.428%)	0.004138	0.420%	0.2731	0.941	1.063
4	**88**	**05/24/2012**	**12/17/2012**	**1.01148**	**0.016726**	**1.681%**	**0.020986**	**2.119%**	**<.0001**	**0.964**	**1.053**

CORRECTION FACTOR FOR SCANS PERFORMED FROM 5/24/12 ONWARD: 1/1.01148 = 0.9886

Figure 6 Birmingham QDR 49454 Total BMD (uncorrected), without breakpoints

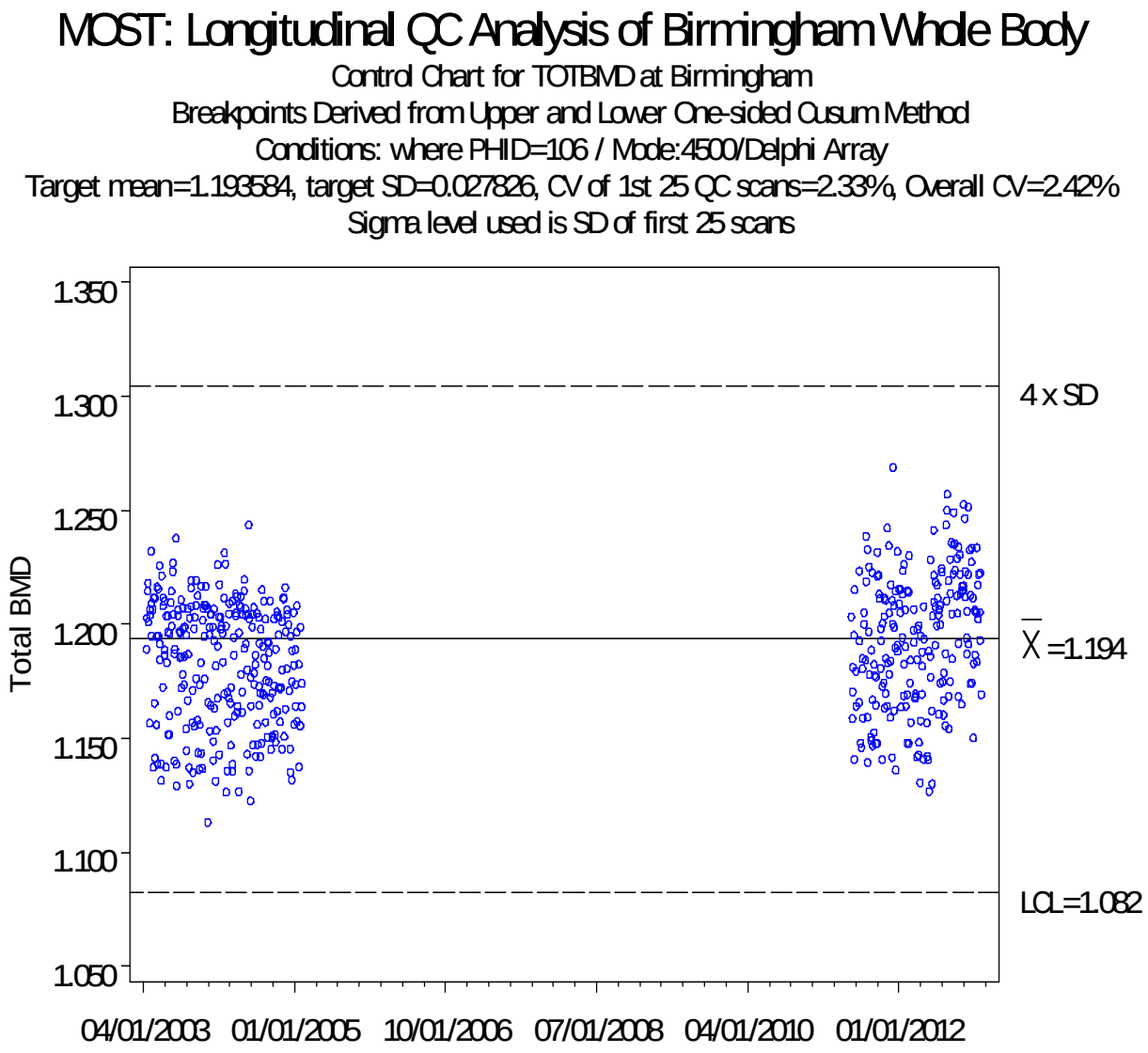
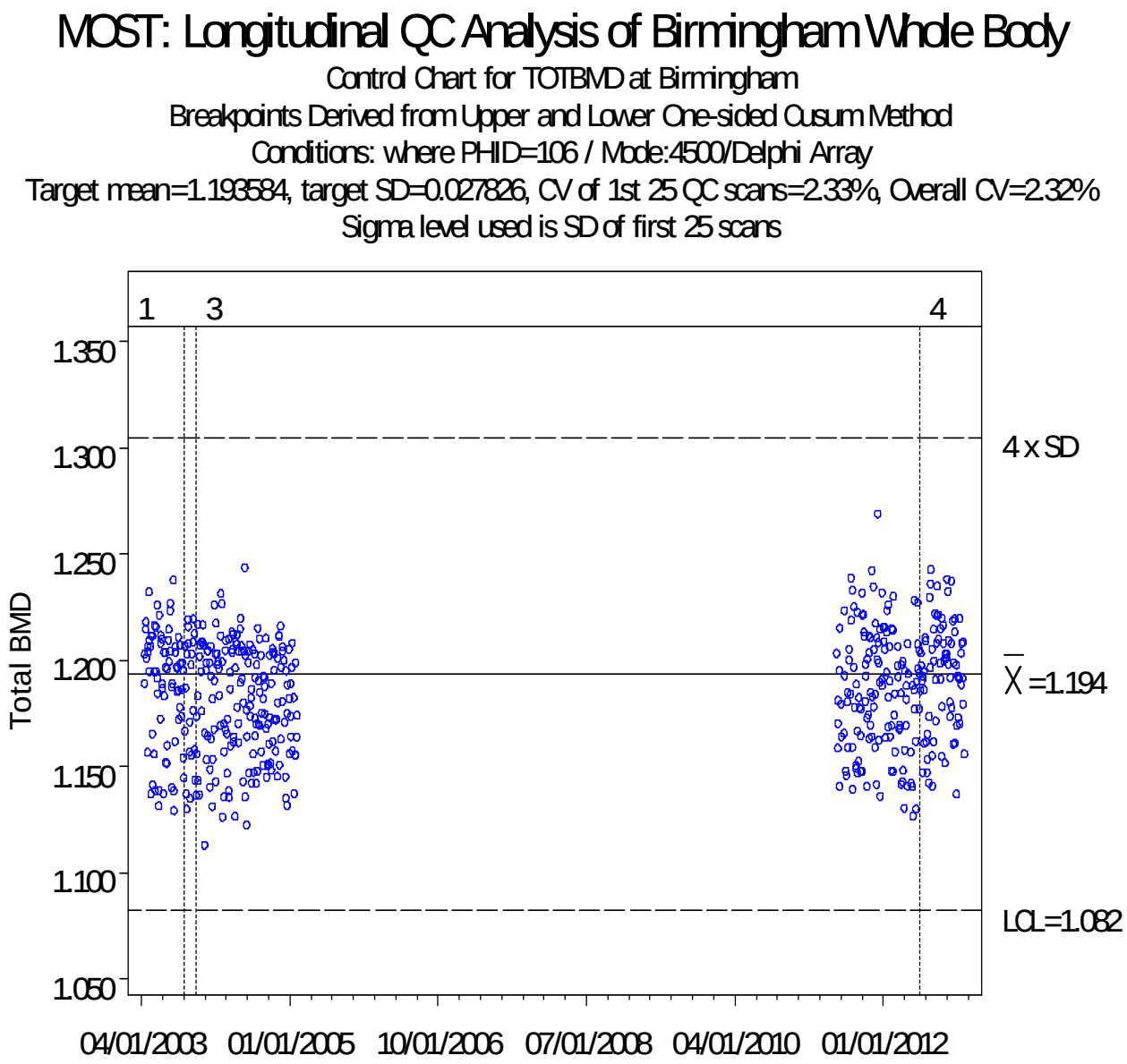


Figure 7 Birmingham QDR 49454 Total BMD (corrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTBMD at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=1.193584, target SD=0.027826, CV of 1st 25 QC scans=2.33%, Overall CV=2.32%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	94	04/15/2003	11/18/2003	1.18733	.	.	.	.	_	1.129	1.238
2	18	11/19/2003	12/31/2003	1.17730	-0.010024	(0.844%)	-0.010024	(0.844%)	0.3531	1.113	1.217
3	328	01/06/2004	07/18/2012	1.18239	-0.004938	(0.416%)	0.005086	0.432%	0.2885	1.123	1.269
4	64	07/20/2012	12/17/2012	1.19701	0.009679	0.815%	0.014618	1.236%	0.0748	1.137	1.243

Figure 8 Birmingham QDR 49454 Total BMD (corrected), without breakpoints

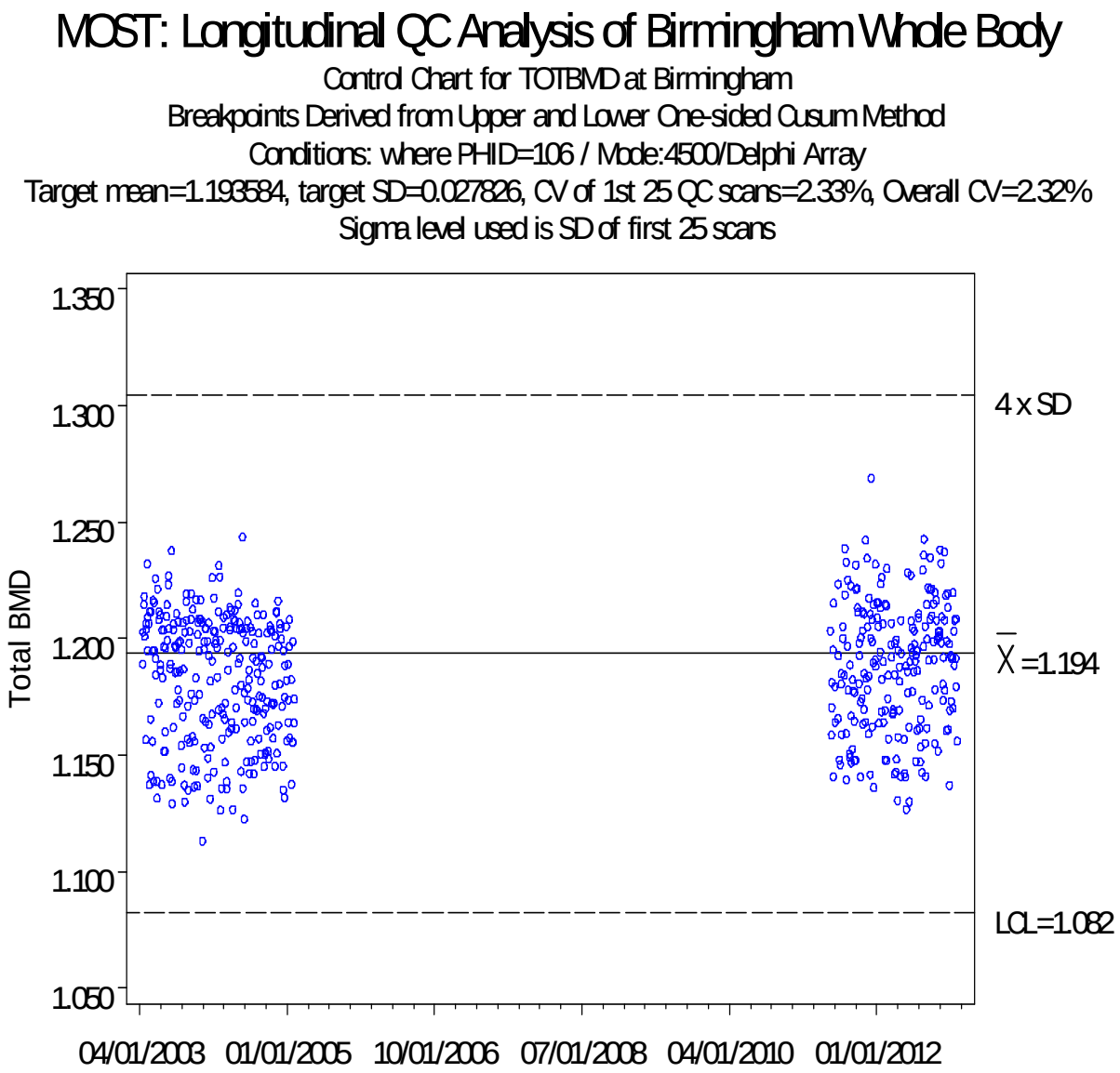
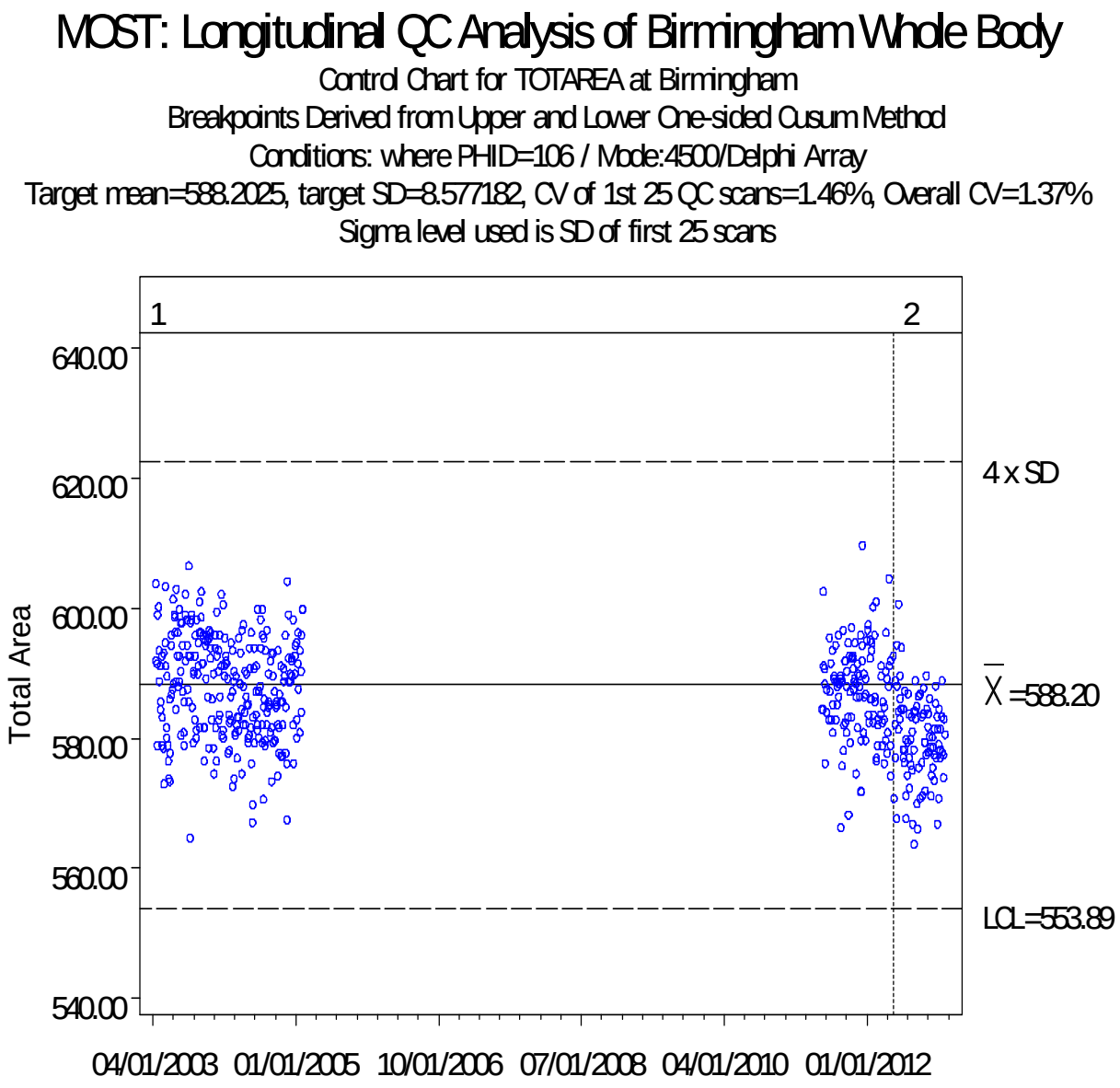


Figure 9 Birmingham QDR 49454 Total Area (uncorrected), with all automatically found breakpoints, interval 2 to be corrected



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTAREA at Birmingham

where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=588.2025, target SD=8.577182, CV of 1st 25 QC scans=1.46%, Overall CV=1.37%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	423	04/15/2003	06/06/2012	587.703	.	.	.	.	<.0001	564.75	609.70
2	81	06/12/2012	12/17/2012	579.180	-8.52337	(1.450%)	-8.52337	(1.450%)	_	563.75	589.68

MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTAREA at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=1, target SD=0.014582, CV of 1st 25 QC scans=1.46%, Overall CV=1.37%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	423	04/15/2003	06/06/2012	0.99915	.	.	.	.	<.0001	0.96	1.04
2	**81**	**06/12/2012**	**12/17/2012**	**0.98466**	**-0.014491**	**(1.450%)**	**-0.014491**	**(1.450%)**	**_**	**0.96**	**1.00**

***CORRECTION FACTOR FOR SCANS PERFORMED FROM 6/12/12 ONWARD: 1/0.98466 = 1.0156**

Figure 10 Birmingham QDR 49454 Total Area (uncorrected), without breakpoints

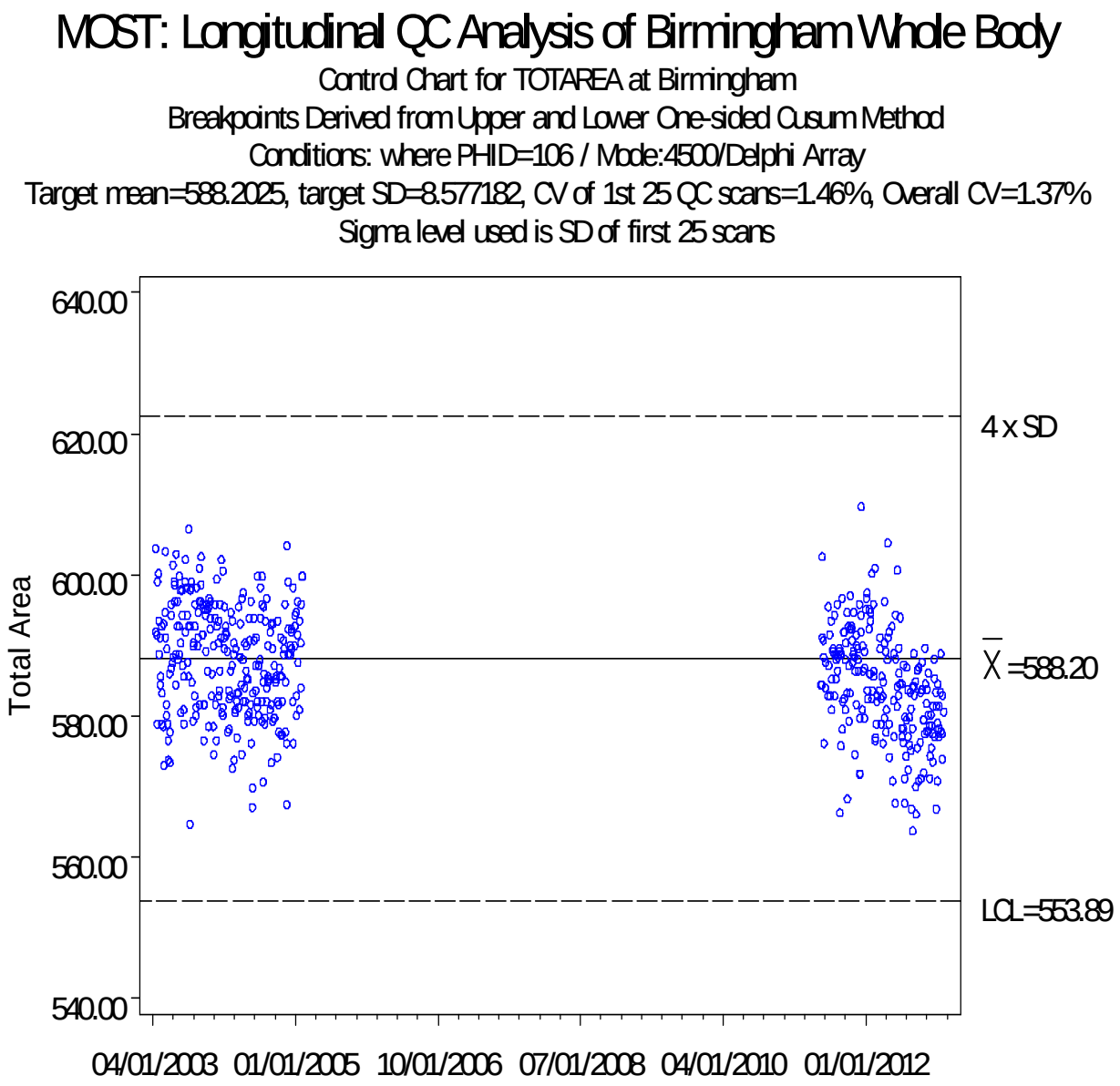


Figure 11 Birmingham QDR 49454 Total Area (corrected), no breakpoints detected by CUSUM

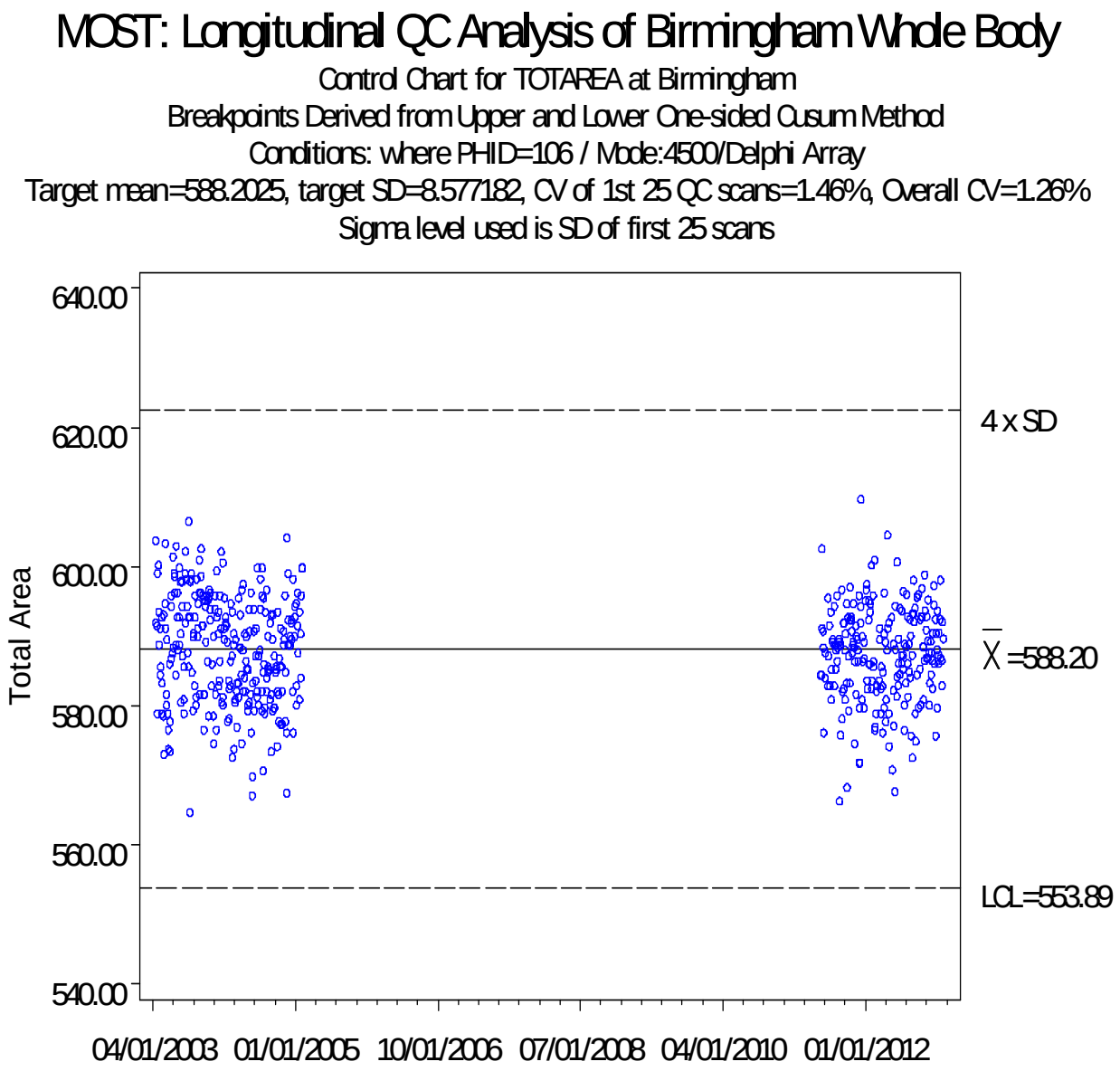
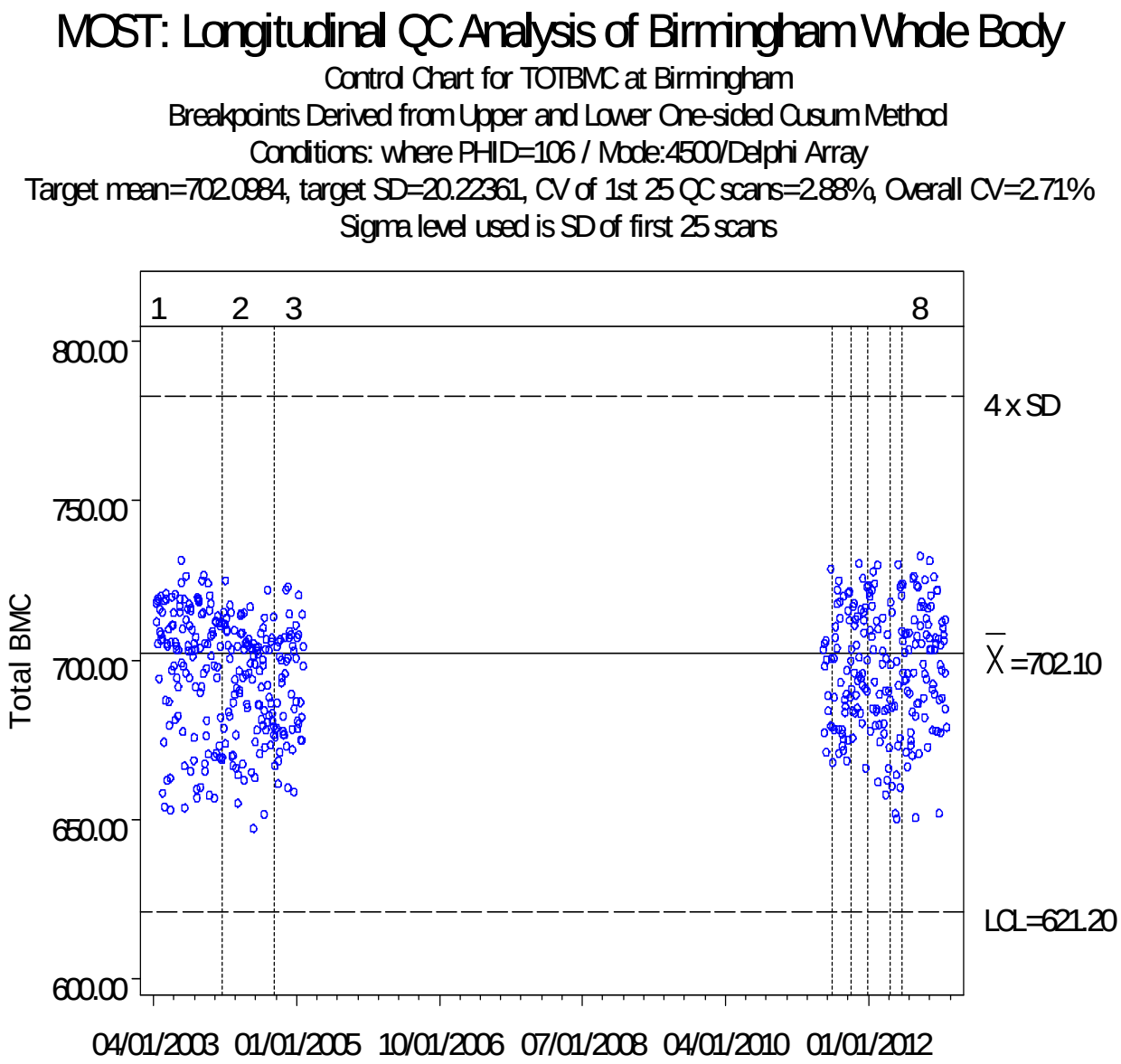


Figure 12 Birmingham QDR 49454 Total BMC (uncorrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTBMC at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=702.0984, target SD=20.22361, CV of 1st 25 QC scans=2.88%, Overall CV=2.71%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	143	04/15/2003	03/16/2004	699.346	.	.	.	.	_	653.05	731.44
2	103	03/17/2004	11/08/2004	690.022	-9.3235	(1.333%)	-9.3235	(1.333%)	0.0006	647.33	722.20
3	63	11/09/2004	08/31/2011	695.923	-3.4234	(0.490%)	5.9002	0.855%	0.7838	658.84	728.65
4	38	09/06/2011	11/28/2011	695.579	-3.7673	(0.539%)	-0.3439	(0.049%)	0.8499	668.54	730.38
5	33	11/29/2011	02/13/2012	704.626	5.2801	0.755%	9.0474	1.301%	0.5976	666.30	729.85
6	36	02/14/2012	05/23/2012	684.881	-14.4648	(2.068%)	-19.7449	(2.802%)	0.0002	650.35	730.18
7	22	05/24/2012	07/11/2012	698.254	-1.0918	(0.156%)	13.3730	1.953%	1.0000	666.67	723.92
8	66	07/17/2012	12/17/2012	700.868	1.5216	0.218%	2.6135	0.374%	0.9964	650.68	732.71

Figure 13 Birmingham QDR 49454 Total BMC (uncorrected), without breakpoints

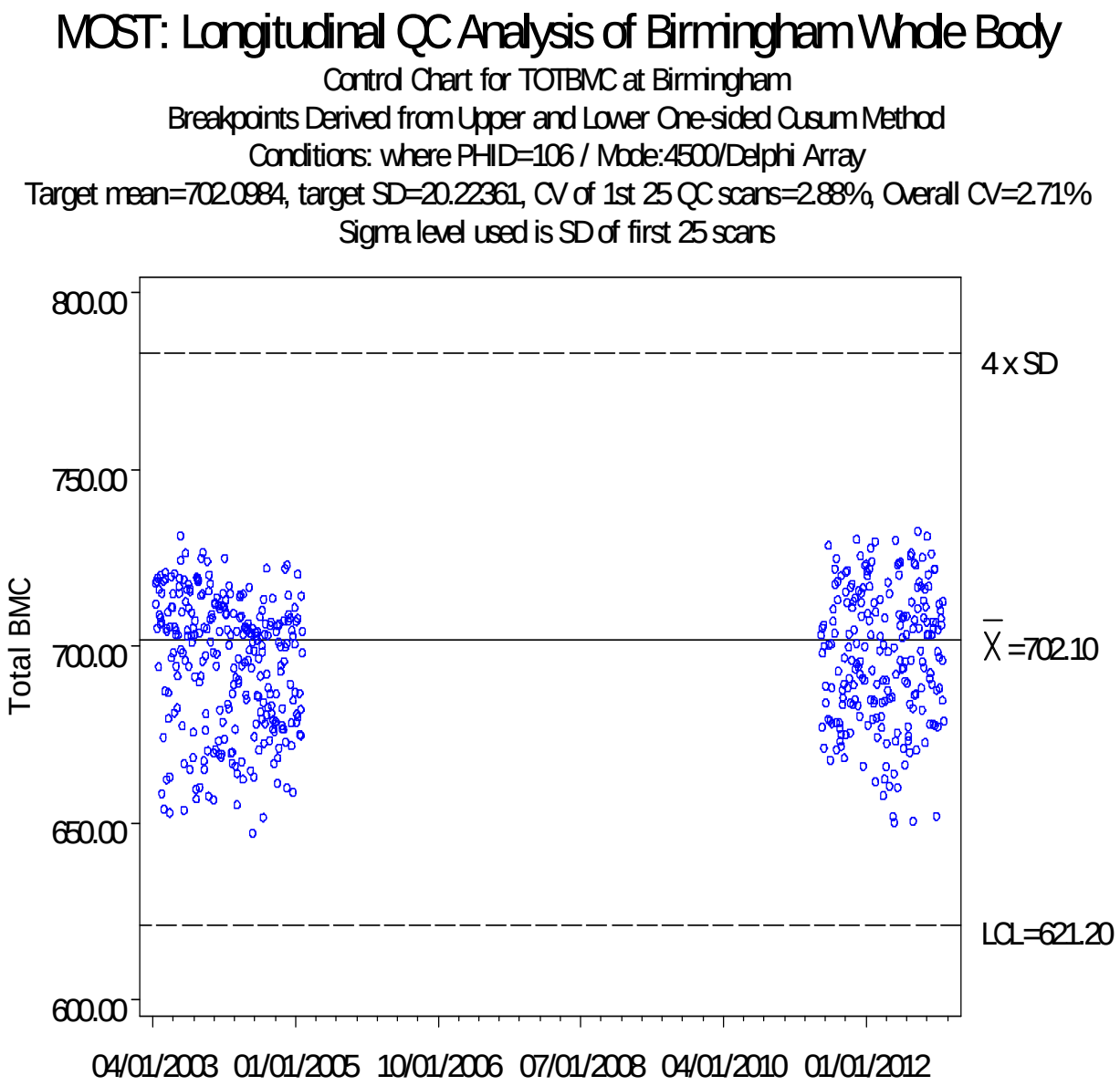
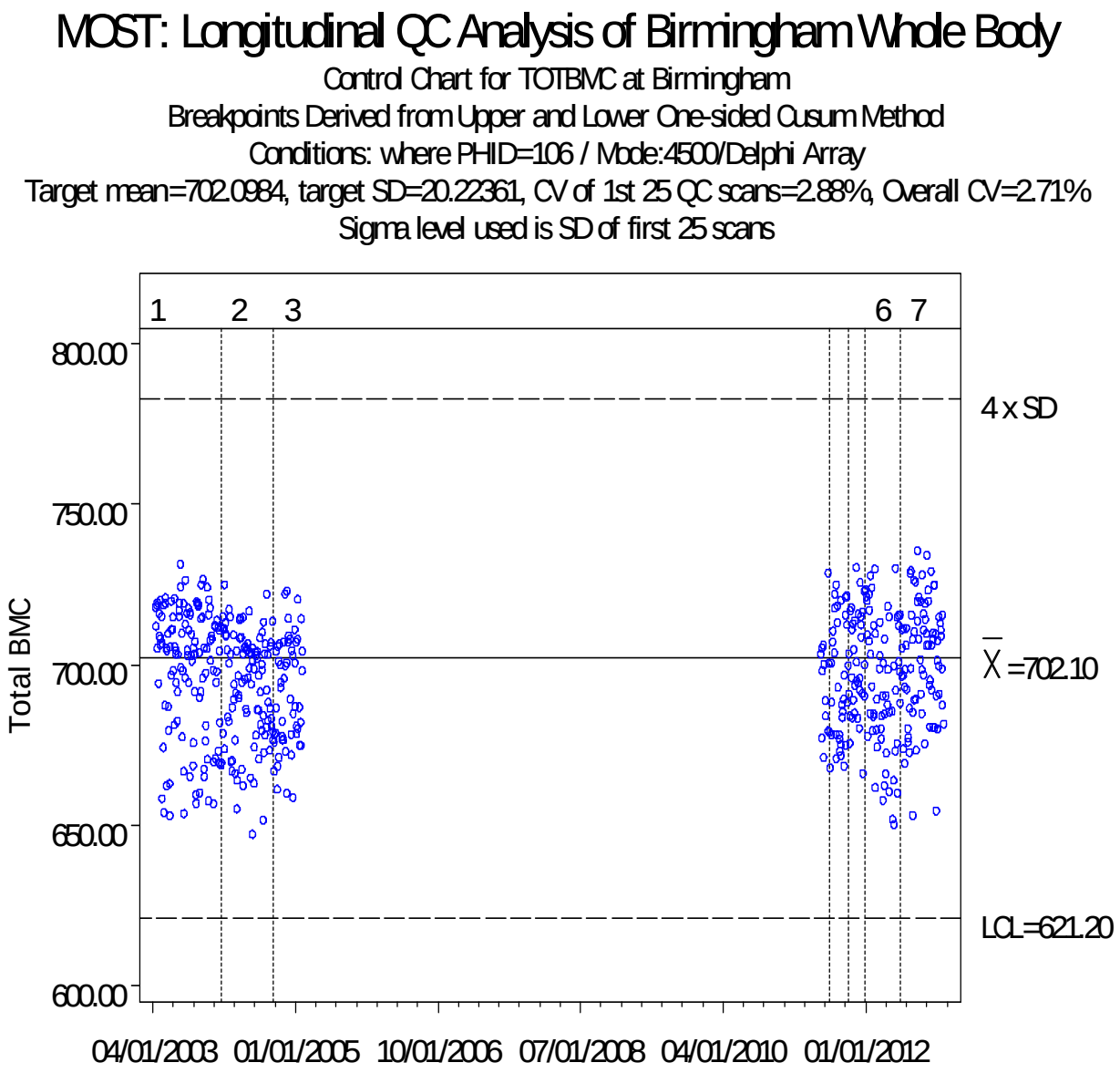


Figure 14 Birmingham QDR 49454 Total BMC (corrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTBMC at Birmingham
where PHID=106 / Mode:4500/Delphi Array

CUSUM sigma level used: SD of first 25 scans
Target mean=702.0984, target SD=20.22361, CV of 1st 25 QC scans=2.88%, Overall CV=2.71%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	143	04/15/2003	03/16/2004	699.346	.	.	.	.	_	653.05	731.44
2	103	03/17/2004	11/08/2004	690.022	-9.32354	(1.333%)	-9.3235	(1.333%)	0.0005	647.33	722.20
3	63	11/09/2004	08/31/2011	695.923	-3.42338	(0.490%)	5.9002	0.855%	0.7247	658.84	728.65
4	38	09/06/2011	11/28/2011	695.579	-3.76731	(0.539%)	-0.3439	(0.049%)	0.7979	668.54	730.38
5	33	11/29/2011	02/13/2012	704.626	5.28006	0.755%	9.0474	1.301%	0.5348	666.30	729.85
6	60	02/14/2012	07/18/2012	689.356	-9.99024	(1.429%)	-15.2703	(2.167%)	0.0023	650.35	730.18
7	64	07/20/2012	12/17/2012	704.436	5.09027	0.728%	15.0805	2.188%	0.2976	653.30	735.66

Figure 15 Birmingham QDR 49454 Total BMC (corrected), without breakpoints

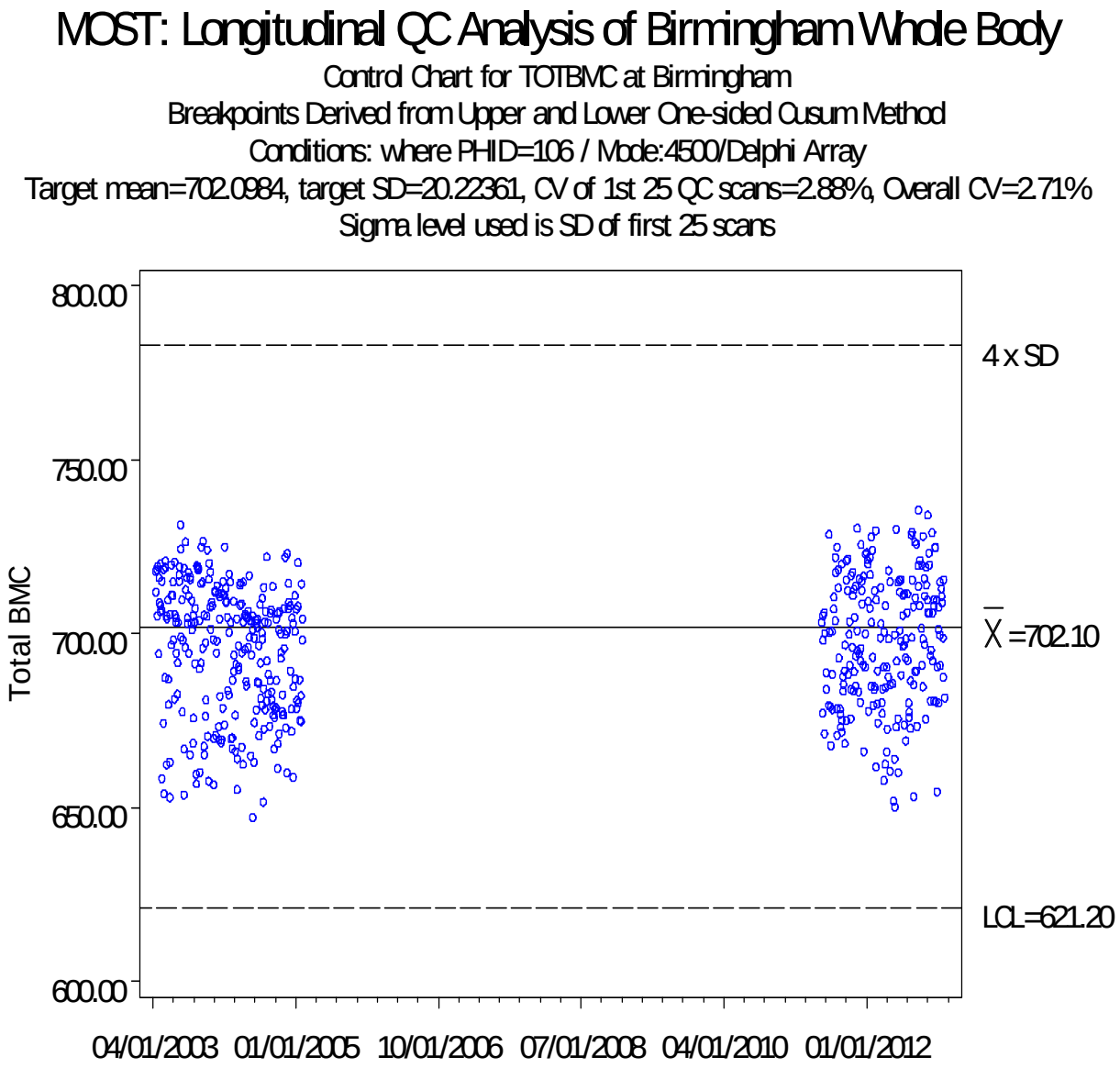


Figure 16 Birmingham QDR 49454 Total Mass (uncorrected), no breakpoints detected by CUSUM

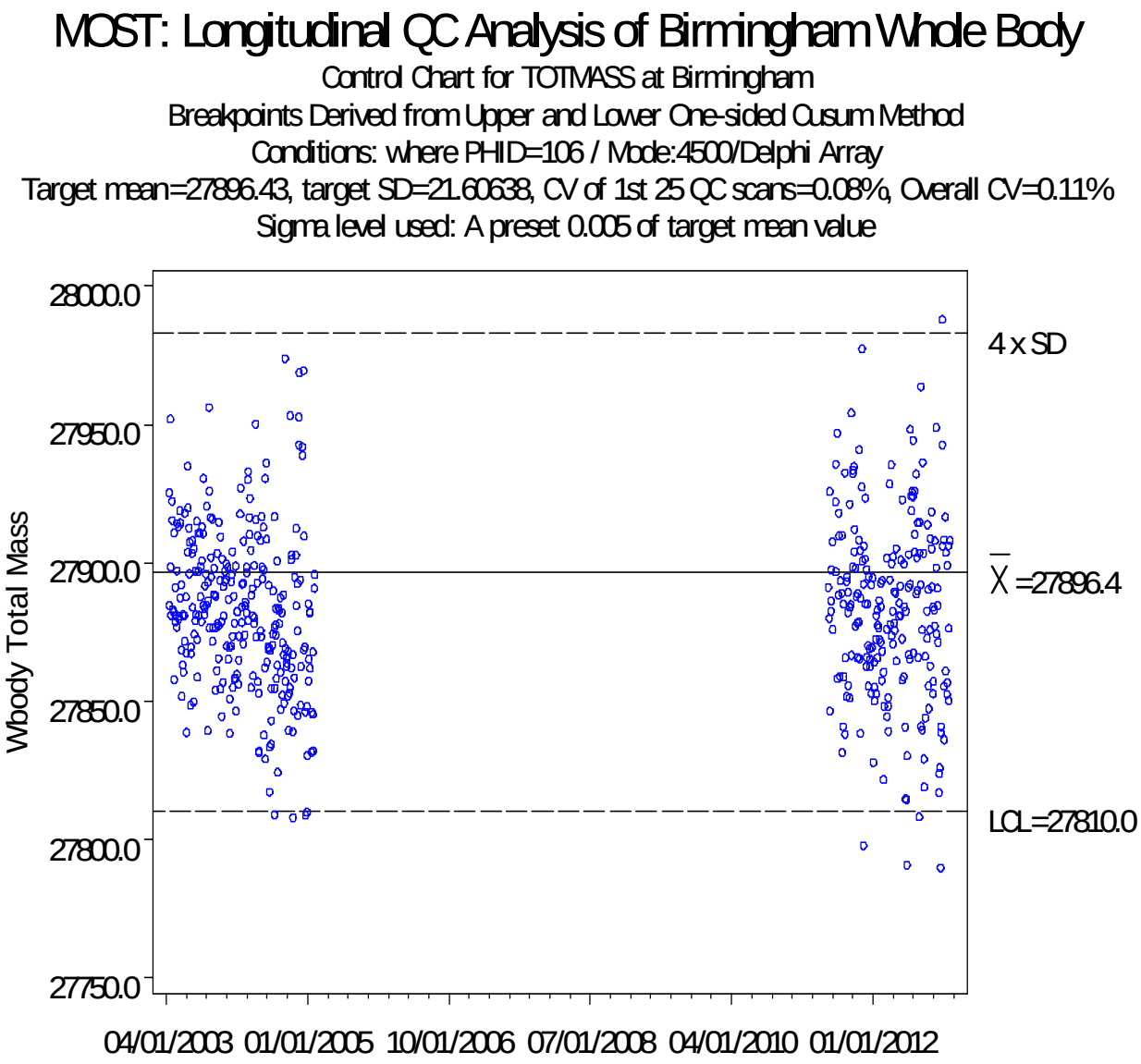
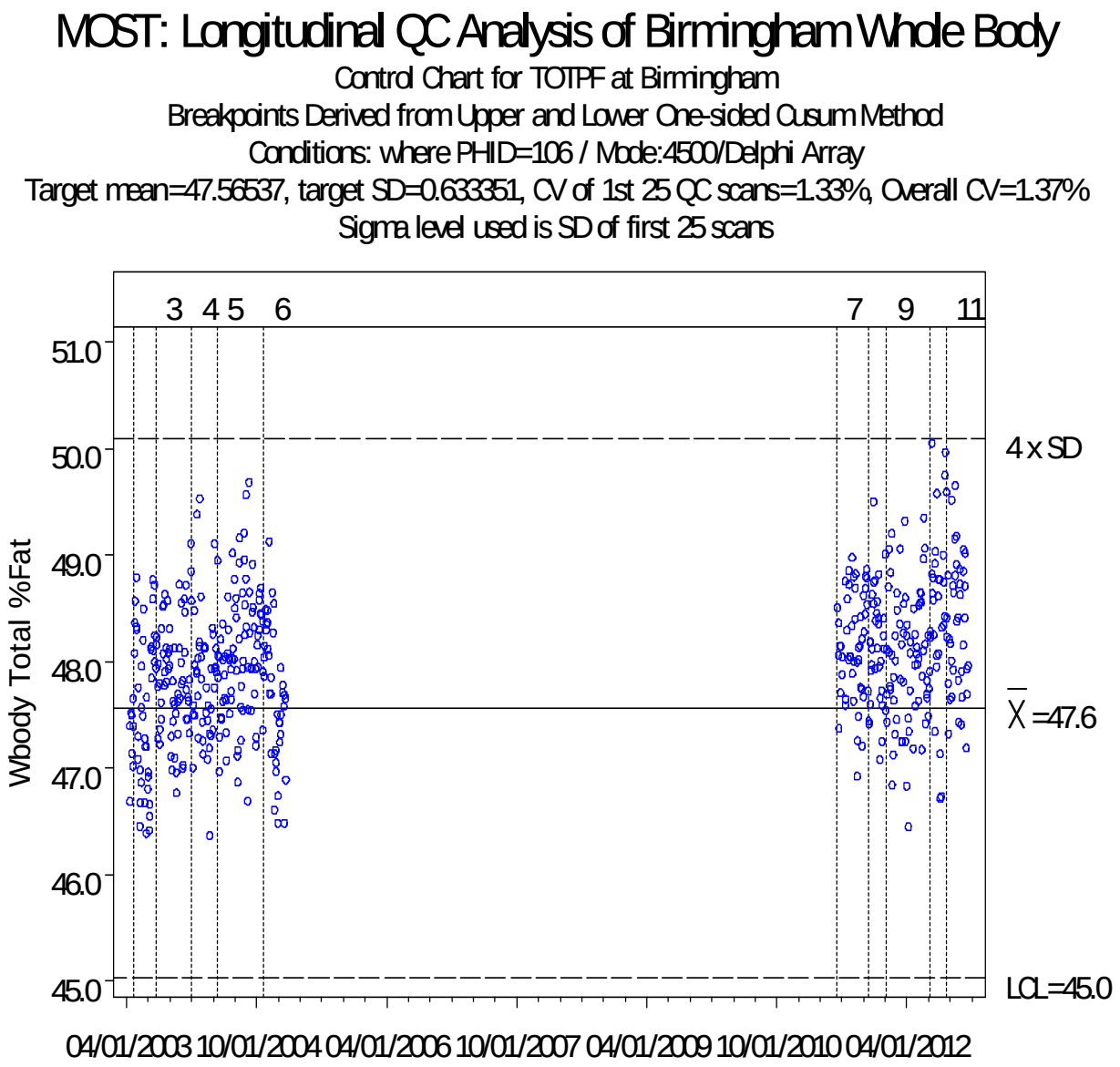


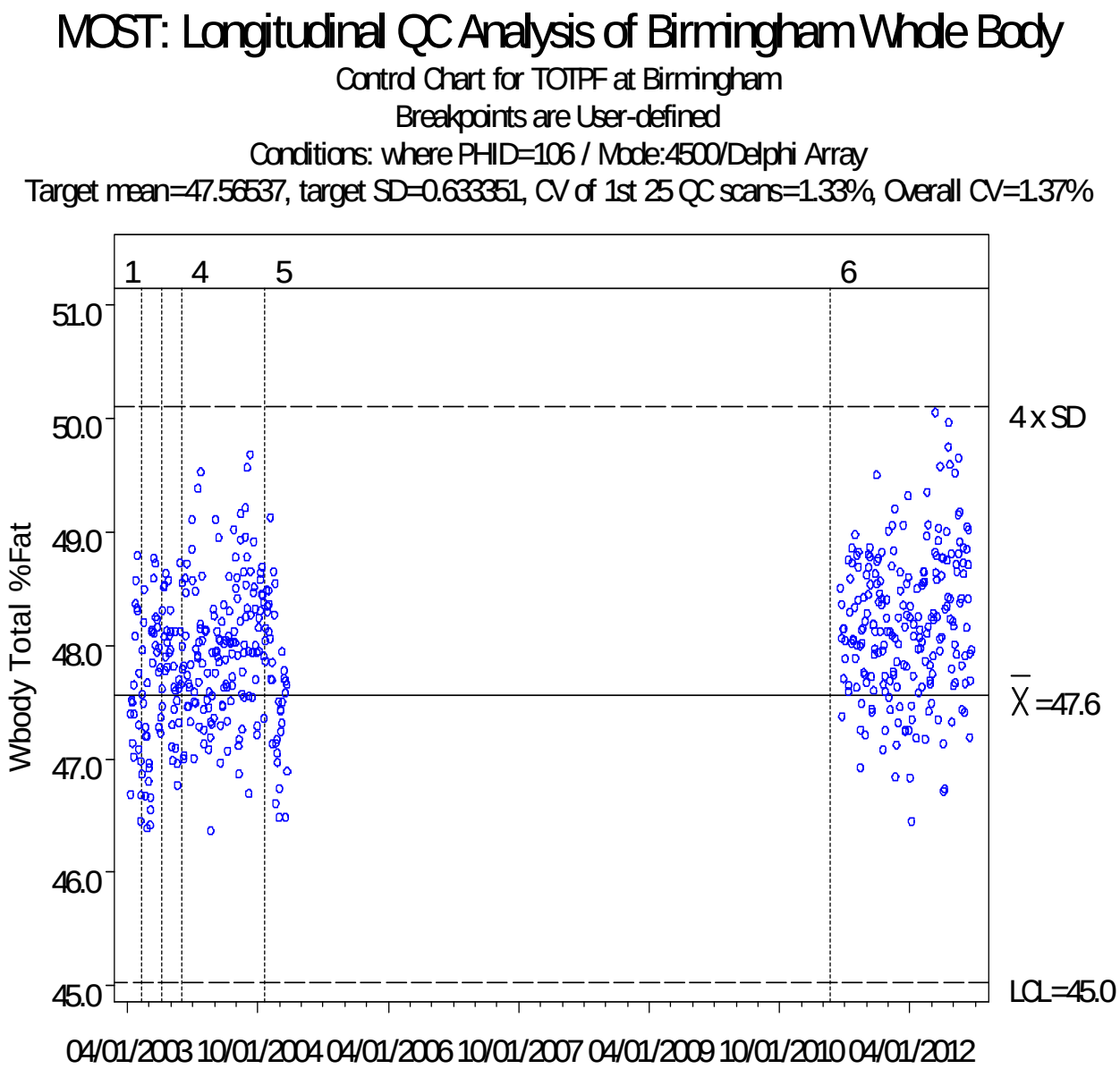
Figure 17 Birmingham QDR 49454 Total Percent Fat (uncorrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTPF at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=47.56537, target SD=0.633351, CV of 1st 25 QC scans=1.33%, Overall CV=1.37%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	26	04/15/2003	06/11/2003	47.6012	.	.	.	.	_	46.5	48.8
2	39	06/16/2003	09/10/2003	47.6899	0.08876	0.186%	0.08876	0.186%	0.9959	46.4	48.8
3	65	09/15/2003	02/11/2004	47.8895	0.28835	0.606%	0.19959	0.419%	0.2076	46.8	49.5
4	44	02/16/2004	05/26/2004	47.7282	0.12699	0.267%	-0.16136	(0.337%)	0.9480	46.4	49.1
5	86	06/01/2004	12/13/2004	48.1637	0.56250	1.182%	0.43551	0.912%	0.0004	46.7	49.7
6	33	12/14/2004	07/20/2011	47.5333	-0.06785	(0.143%)	-0.63035	(1.309%)	0.9996	46.5	48.8
7	59	07/25/2011	12/07/2011	48.2378	0.63662	1.337%	0.70447	1.482%	<.0001	46.9	49.5
8	31	12/09/2011	02/20/2012	47.9302	0.32903	0.691%	-0.30759	(0.638%)	0.2112	46.8	49.2
9	71	02/21/2012	08/20/2012	48.1885	0.58730	1.234%	0.25826	0.539%	0.0003	46.5	50.1
10	29	08/21/2012	10/29/2012	48.4360	0.83483	1.754%	0.24754	0.514%	<.0001	46.7	50.0
11	21	10/30/2012	12/17/2012	48.2460	0.64482	1.355%	-0.19001	(0.392%)	0.0026	47.2	49.0

Figure 18 Birmingham QDR 49454 Total Percent Fat (uncorrected), intervals 2, 4, & 6 to be corrected



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics of User-defined Intervals for TOTPF at Birmingham

where PHID=106 / Mode:4500/Delphi Array

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	39	04/15/2003	07/14/2003	47.3975	.	.	.	.	_	46.4	48.8
2	35	07/15/2003	10/01/2003	48.0571	0.65960	1.392%	0.65960	1.392%	<.0001	47.2	48.8
3	35	10/06/2003	12/23/2003	47.6776	0.28006	0.591%	-0.37954	(0.790%)	0.1523	46.8	48.7
4	151	12/29/2003	12/13/2004	48.0348	0.63730	1.345%	0.35724	0.749%	<.0001	46.4	49.7
5	21	12/14/2004	02/01/2005	47.2551	-0.14242	(0.300%)	-0.77972	(1.623%)	0.8163	46.5	47.9
6	223	06/15/2011	12/17/2012	48.1942	0.79667	1.681%	0.93909	1.987%	<.0001	46.5	50.1

MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics of User-defined Intervals for TOTPF at Birmingham Scaled Down to Target Mean=1
where PHID=106 / Mode:4500/Delphi Array

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	39	04/15/2003	07/14/2003	0.99647	.	.	.	.	_	1.0	1.0
2	**35**	**07/15/2003**	**10/01/2003**	**1.01034**	**0.013867**	**1.392%**	**0.013867**	**1.392%**	**<.0001**	**1.0**	**1.0**
3	35	10/06/2003	12/23/2003	1.00236	0.005888	0.591%	-0.007979	(0.790%)	0.1523	1.0	1.0
4	**151**	**12/29/2003**	**12/13/2004**	**1.00987**	**0.013398**	**1.345%**	**0.007510**	**0.749%**	**<.0001**	**1.0**	**1.0**
5	21	12/14/2004	02/01/2005	0.99348	-0.002994	(0.300%)	-0.016393	(1.623%)	0.8163	1.0	1.0
6	**223**	**06/15/2011**	**12/17/2012**	**1.01322**	**0.016749**	**1.681%**	**0.019743**	**1.987%**	**<.0001**	**1.0**	**1.1**

***CORRECTION FACTOR FOR SCANS PERFORMED FROM 7/15/03-10/1/03: 1/1.01034 = 0.9898 (WILL USE PREVIOUS CORRECTION = 0.9842)**
***CORRECTION FACTOR FOR SCANS PERFORMED FROM 12/29/03-12/13/04: 1/1.00987 = 0.9902 (WILL USE PREVIOUS CORRECTION = 0.9851)**
***CORRECTION FACTOR FOR SCANS PERFORMED FROM 6/15/11 ONWARD: 1/1.01322 = 0.9869**

Figure 19 Birmingham QDR 49454 Total Percent Fat (uncorrected), without breakpoints

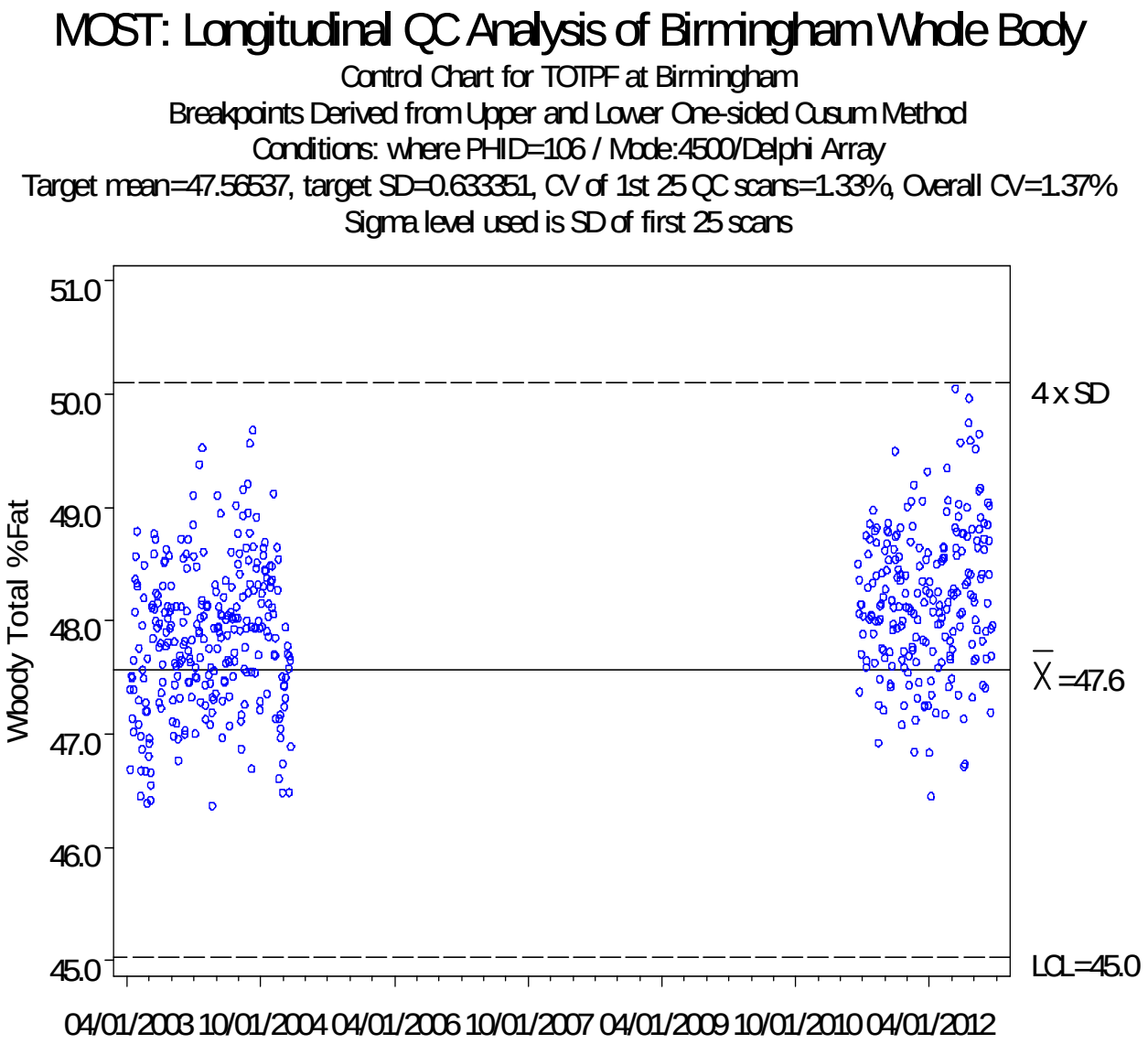
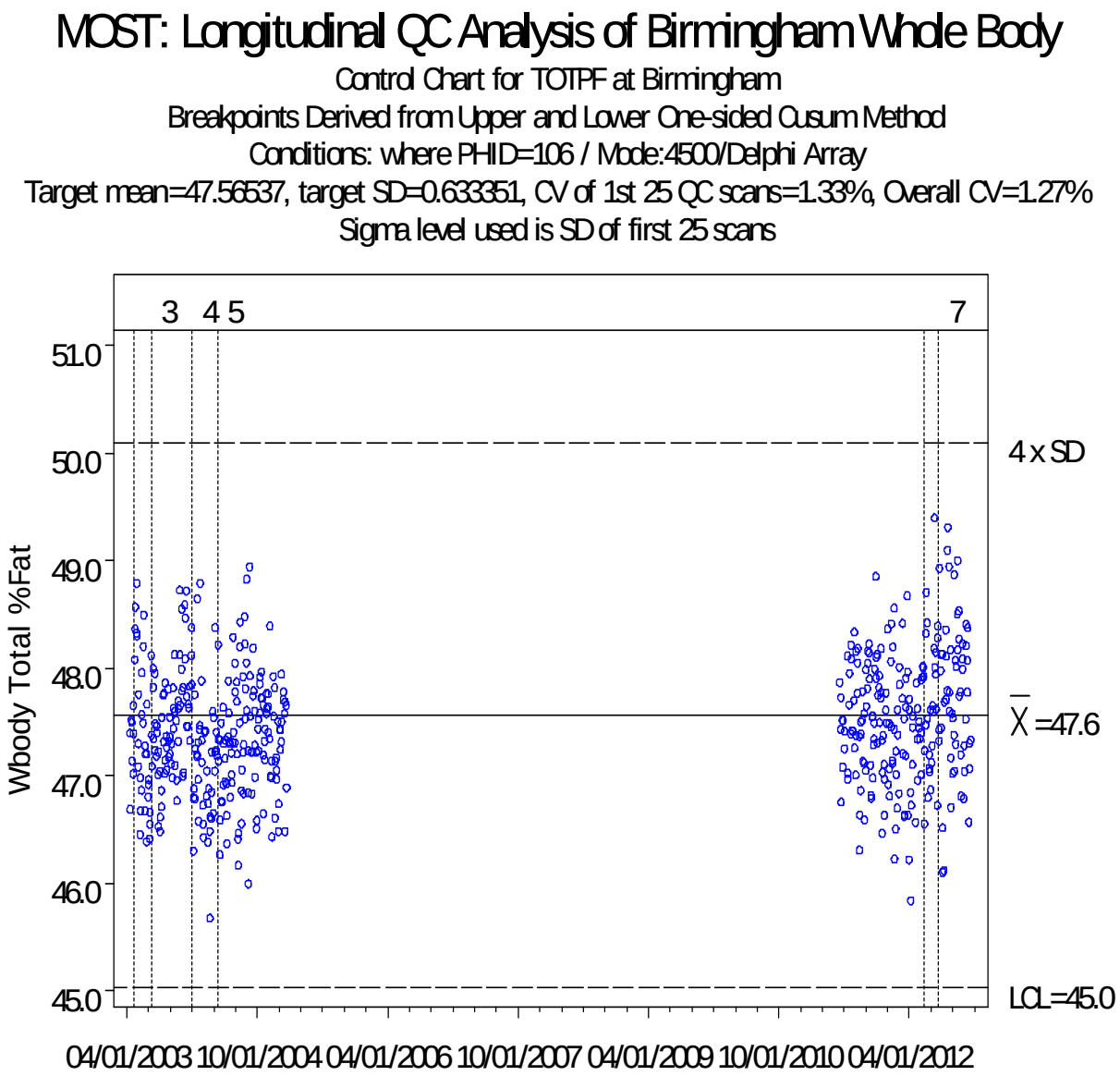


Figure 20 Birmingham QDR 49454 Total Percent Fat (corrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTPF at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=47.56537, target SD=0.633351, CV of 1st 25 QC scans=1.33%, Overall CV=1.27%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	26	04/15/2003	06/11/2003	47.6012	.	.	.	.	_	46.5	48.8
2	32	06/16/2003	08/26/2003	47.1172	-0.48396	(1.017%)	-0.48396	(1.017%)	0.0064	46.4	48.1
3	72	08/27/2003	02/11/2004	47.5463	-0.05487	(0.115%)	0.42910	0.911%	0.9927	46.3	48.8
4	44	02/16/2004	05/26/2004	47.0170	-0.58416	(1.227%)	-0.52929	(1.113%)	0.0002	45.7	48.4
5	264	06/01/2004	07/11/2012	47.4432	-0.15801	(0.332%)	0.42615	0.906%	0.4963	45.8	48.9
6	27	07/17/2012	09/17/2012	47.9208	0.31964	0.671%	0.47765	1.007%	0.1484	46.1	49.4
7	39	09/18/2012	12/17/2012	47.7018	0.10060	0.211%	-0.21904	(0.457%)	0.9262	46.6	49.0

Figure 21 Birmingham QDR 49454 Total Percent Fat (corrected), without breakpoints

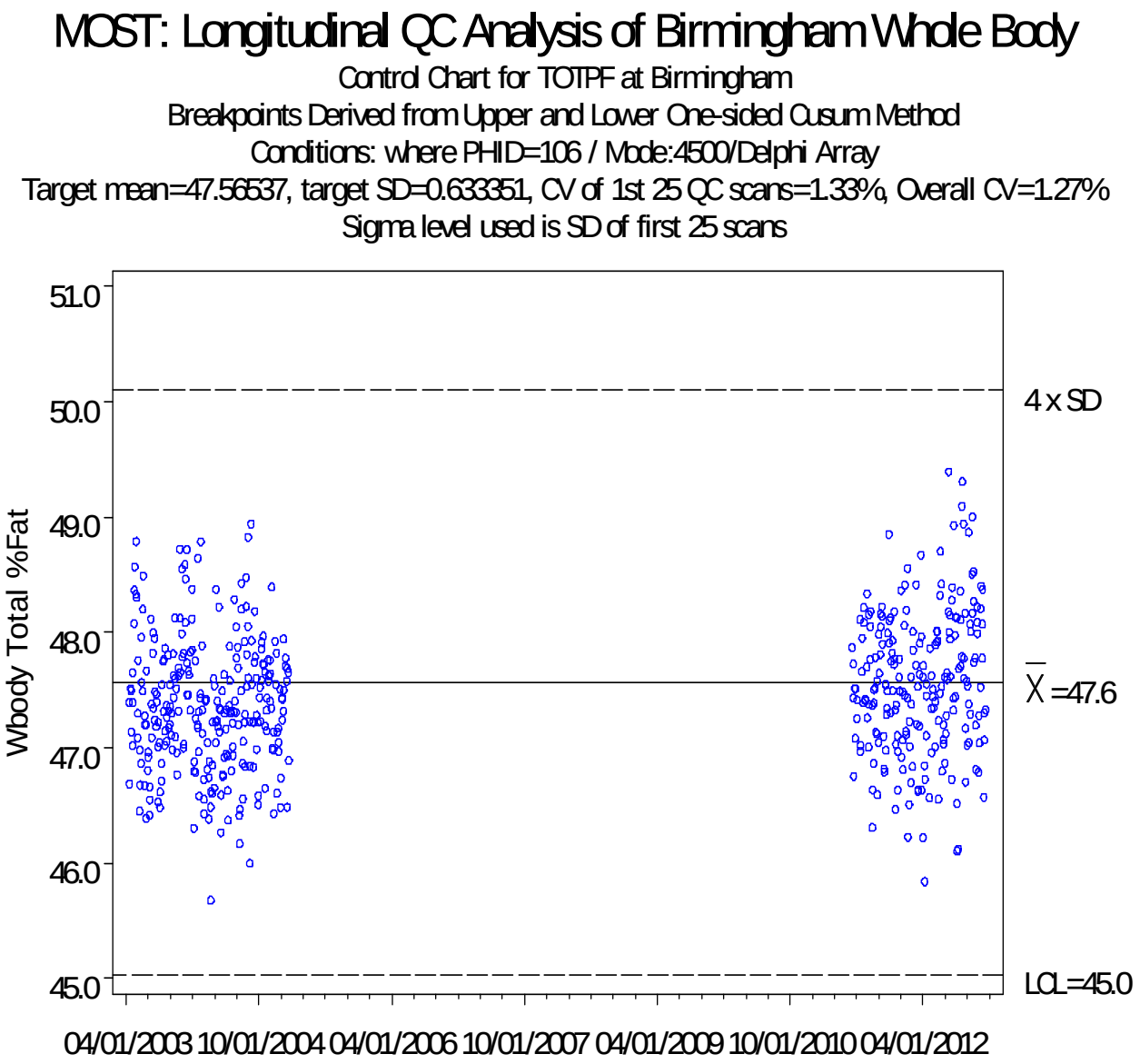
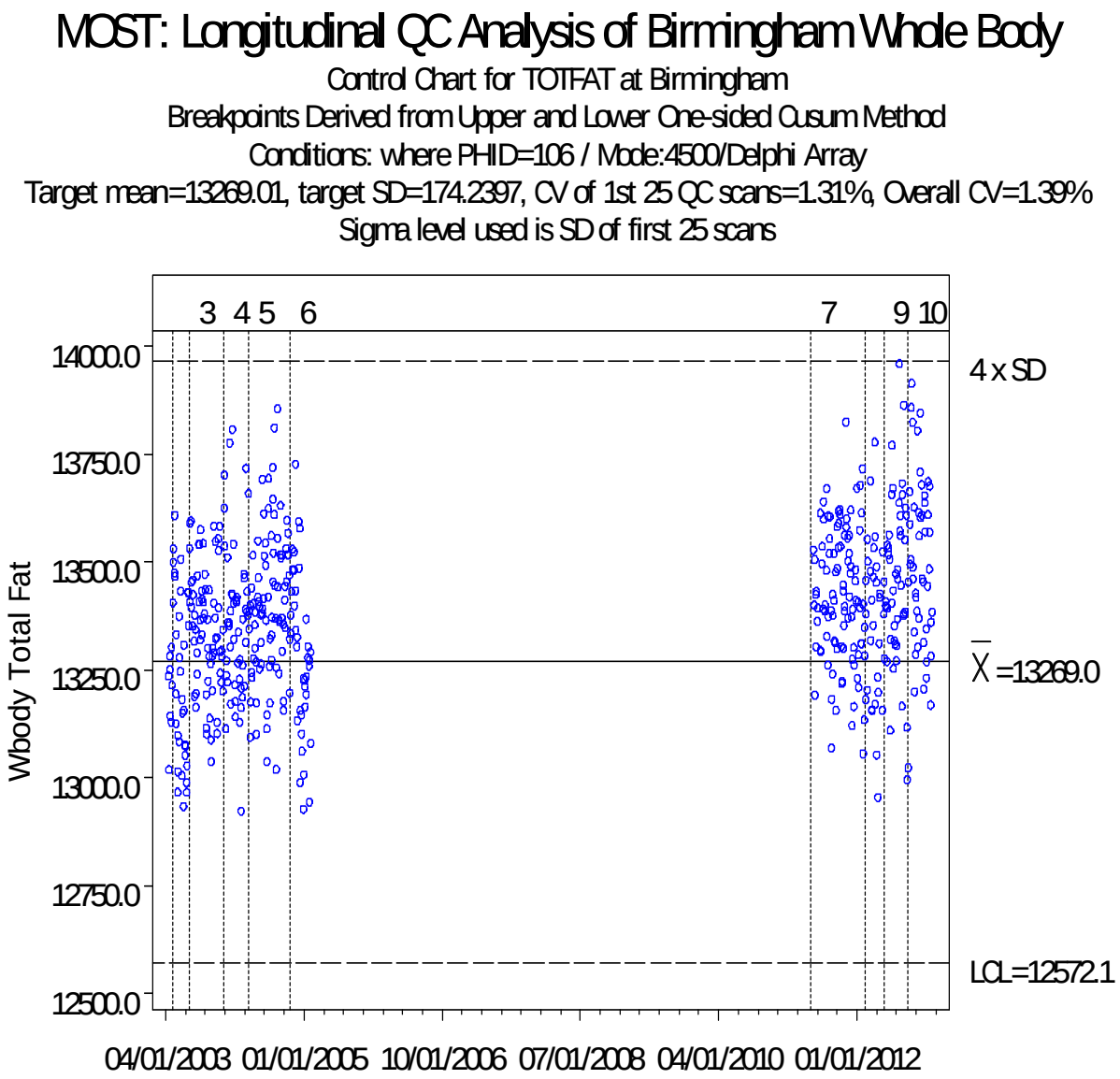


Figure 22 Birmingham QDR 49454 Total Fat (uncorrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTFAT at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=13269.01, target SD=174.2397, CV of 1st 25 QC scans=1.31%, Overall CV=1.39%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	26	04/15/2003	06/11/2003	13278.16	.	.	.	.	_	12967.3	13609.2
2	35	06/16/2003	09/03/2003	13282.68	4.519	0.034%	4.519	0.034%	1.0000	12934.4	13595.9
3	68	09/04/2003	02/10/2004	13360.21	82.043	0.618%	77.524	0.584%	0.1839	13038.1	13808.1
4	45	02/11/2004	05/26/2004	13310.61	32.446	0.244%	-49.597	(0.371%)	0.9577	12923.9	13718.0
5	86	06/01/2004	12/13/2004	13427.53	149.366	1.125%	116.920	0.878%	0.0009	13020.1	13855.7
6	32	12/14/2004	07/19/2011	13247.36	-30.807	(0.232%)	-180.173	(1.342%)	0.9790	12928.0	13613.6
7	104	07/20/2011	03/27/2012	13424.32	146.160	1.101%	176.967	1.336%	0.0009	13056.4	13824.8
8	31	03/28/2012	06/18/2012	13386.36	108.197	0.815%	-37.963	(0.283%)	0.0969	12955.6	13771.0
9	47	06/19/2012	10/08/2012	13472.31	194.142	1.462%	85.945	0.642%	<.0001	12996.4	13959.5
10	30	10/09/2012	12/17/2012	13497.37	219.204	1.651%	25.062	0.186%	<.0001	13169.4	13845.8

Figure 23 Birmingham QDR 49454 Total Fat (uncorrected), without breakpoints

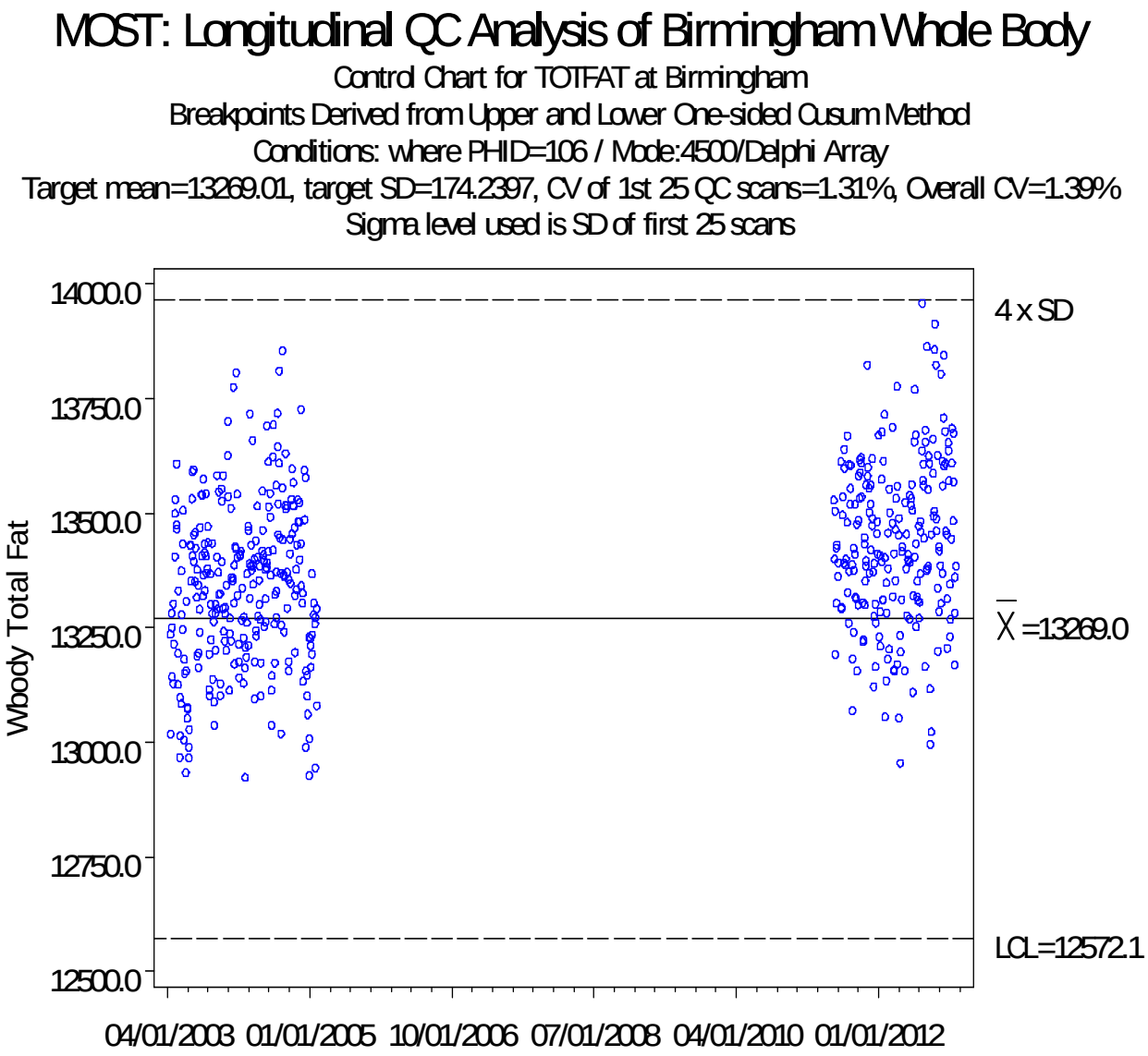
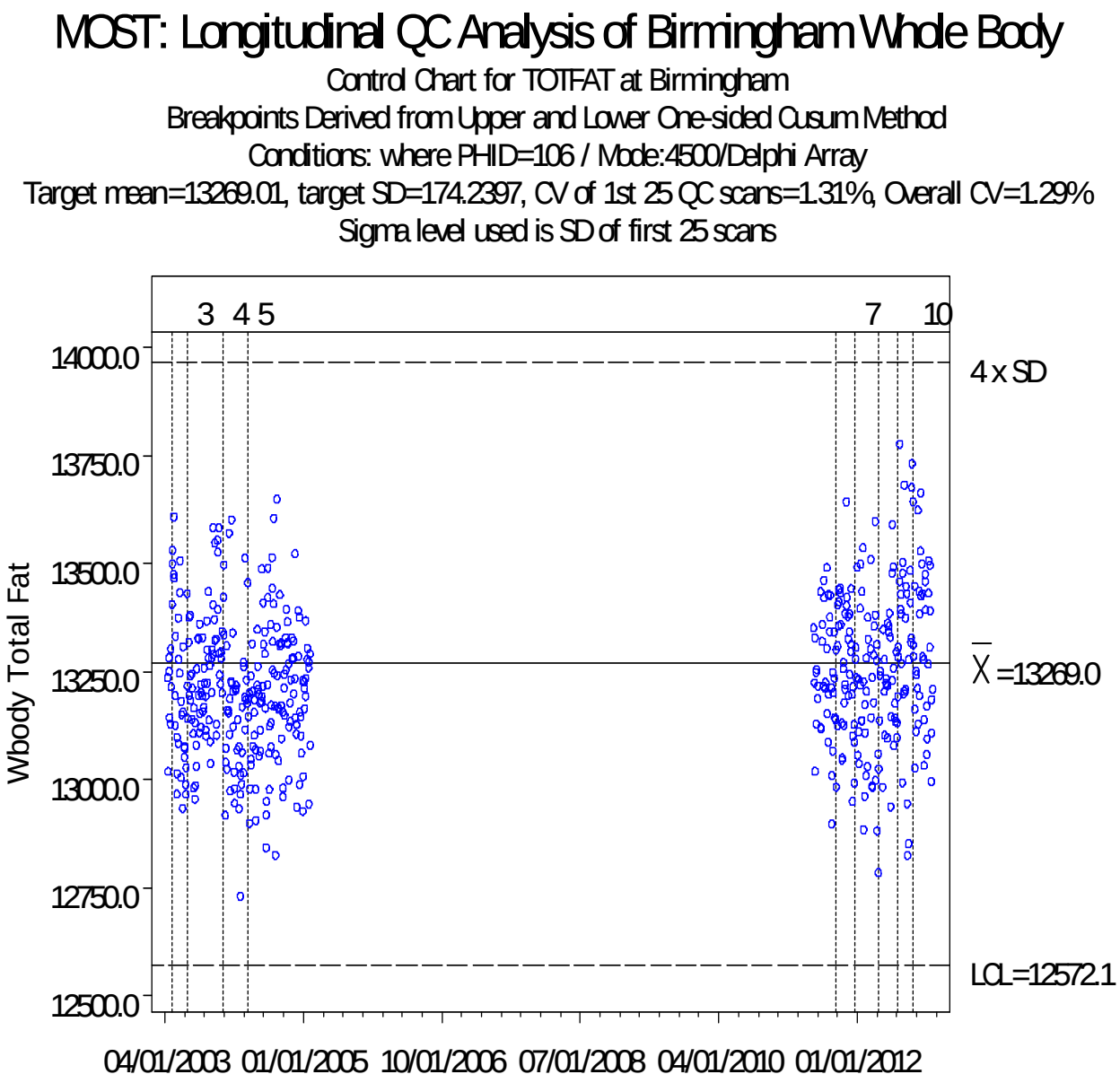


Figure 2 Birmingham QDR 49454 Total Fat (corrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTFAT at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=13269.01, target SD=174.2397, CV of 1st 25 QC scans=1.31%, Overall CV=1.29%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	26	04/15/2003	06/11/2003	13278.16	.	.	.	.	_	12967.3	13609.2
2	32	06/16/2003	08/26/2003	13139.35	-138.811	(1.045%)	-138.811	(1.045%)	0.0088	12934.4	13431.2
3	71	08/27/2003	02/10/2004	13260.78	-17.386	(0.131%)	121.426	0.924%	0.9986	12918.6	13602.4
4	45	02/11/2004	05/26/2004	13112.28	-165.882	(1.249%)	-148.496	(1.120%)	0.0003	12731.3	13513.6
5	165	06/01/2004	11/08/2011	13225.80	-52.360	(0.394%)	113.522	0.866%	0.4837	12826.1	13649.3
6	38	11/09/2011	02/06/2012	13253.89	-24.273	(0.183%)	28.087	0.212%	0.9927	12885.4	13643.7
7	38	02/07/2012	05/22/2012	13188.17	-89.992	(0.678%)	-65.719	(0.496%)	0.1507	12785.8	13597.6
8	39	05/23/2012	08/20/2012	13313.31	35.151	0.265%	125.143	0.949%	0.9326	12938.6	13776.6
9	30	08/21/2012	10/30/2012	13329.16	51.001	0.384%	15.850	0.119%	0.7468	12826.1	13732.0
10	20	10/31/2012	12/17/2012	13264.82	-13.343	(0.100%)	-64.344	(0.483%)	1.0000	12996.9	13507.4

Figure 25 Birmingham QDR 49454 Total Fat (corrected), without breakpoints

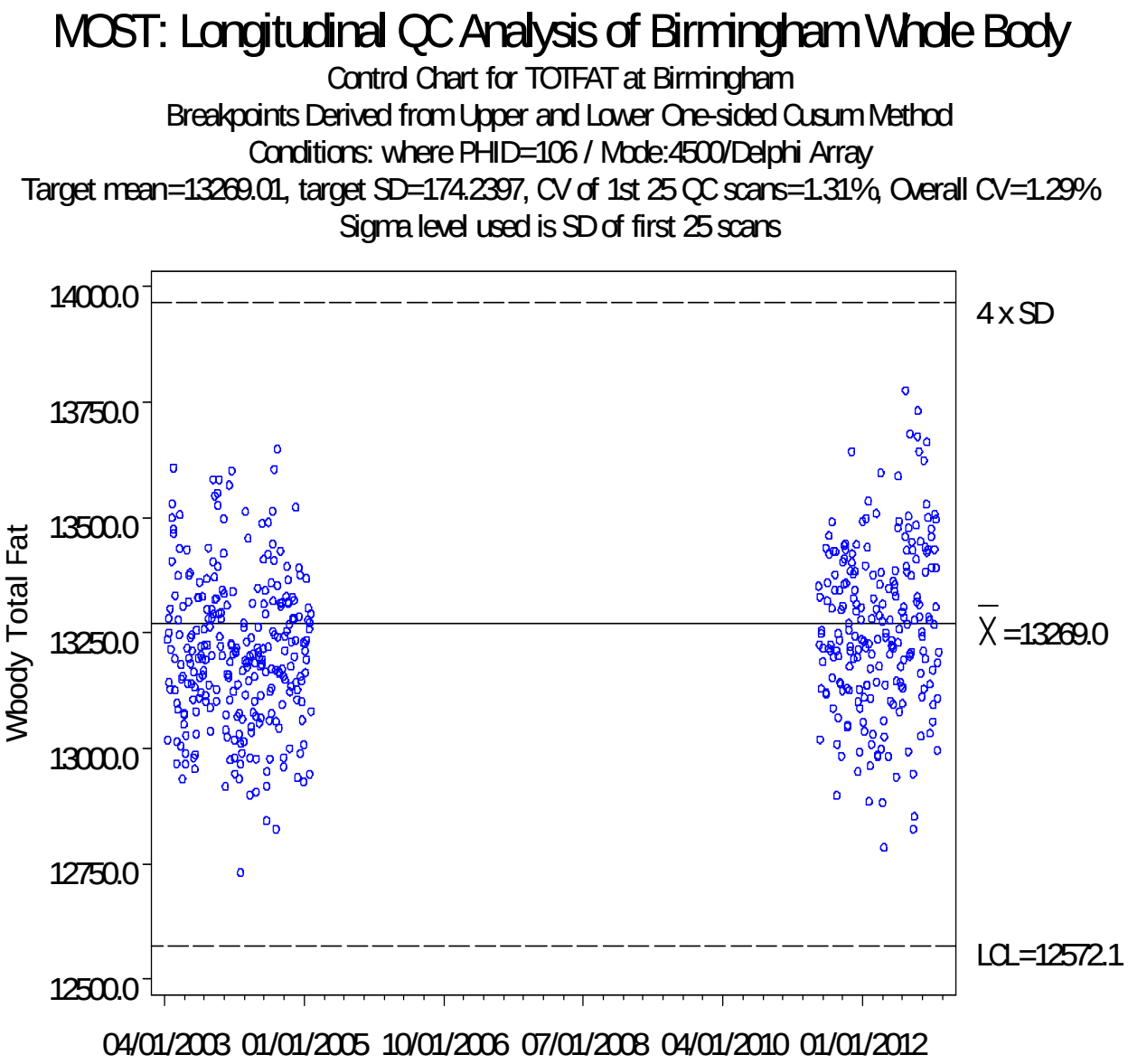
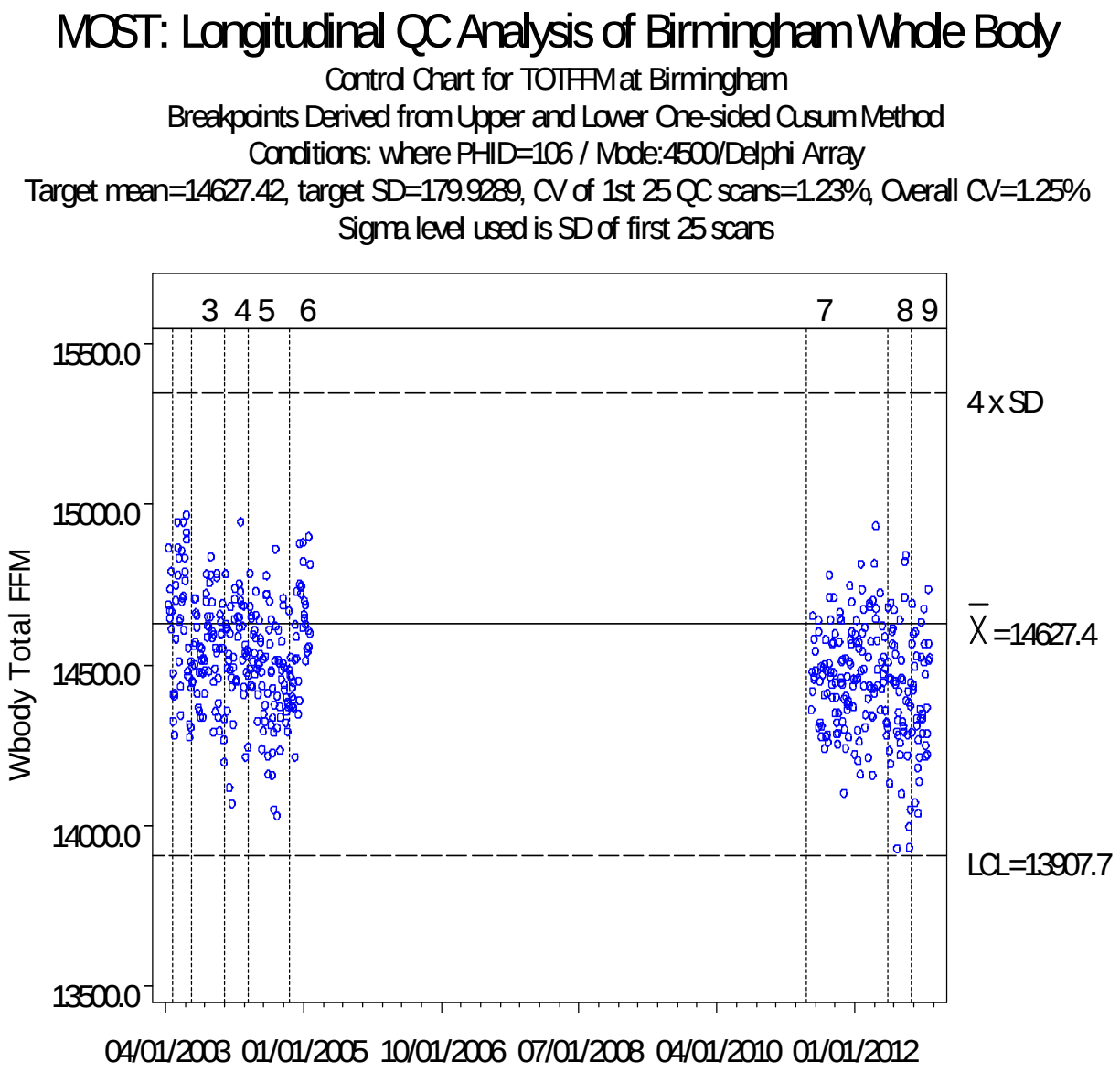


Figure 3 Birmingham QDR 49454 Total Fat Free Mass (uncorrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTFFM at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=14627.42, target SD=179.9289, CV of 1st 25 QC scans=1.23%, Overall CV=1.25%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	26	04/15/2003	06/11/2003	14616.55	.	.	.	.	_	14282.1	14946.0
2	39	06/16/2003	09/10/2003	14588.35	-28.205	(0.193%)	-28.205	(0.193%)	0.9698	14276.4	14968.0
3	65	09/15/2003	02/11/2004	14531.08	-85.470	(0.585%)	-57.265	(0.393%)	0.1203	14070.2	14838.7
4	44	02/16/2004	05/26/2004	14577.37	-39.182	(0.268%)	46.287	0.319%	0.8468	14215.2	14947.0
5	86	06/01/2004	12/13/2004	14451.35	-165.200	(1.130%)	-126.017	(0.864%)	<.0001	14031.8	14862.8
6	29	12/14/2004	07/05/2011	14639.39	22.836	0.156%	188.036	1.301%	0.9940	14362.1	14900.6
7	149	07/06/2011	07/11/2012	14471.51	-145.043	(0.992%)	-167.879	(1.147%)	0.0003	14102.8	14934.2
8	48	07/17/2012	11/05/2012	14353.42	-263.134	(1.800%)	-118.091	(0.816%)	<.0001	13929.5	14842.6
9	18	11/06/2012	12/17/2012	14447.05	-169.501	(1.160%)	93.633	0.652%	0.0054	14217.2	14737.0

Figure 27 Birmingham QDR 49454 Total Fat Free Mass (uncorrected), without breakpoints

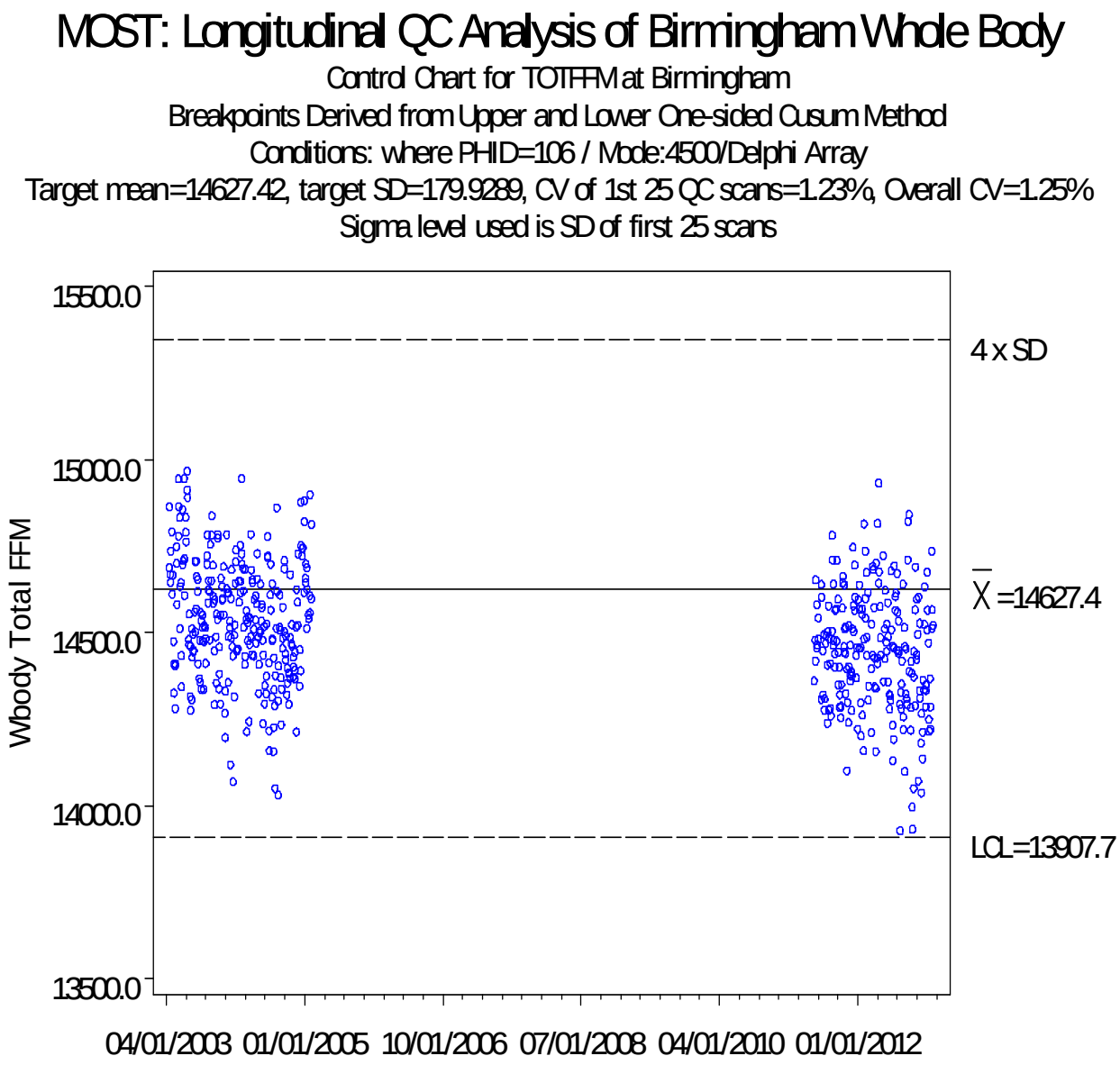
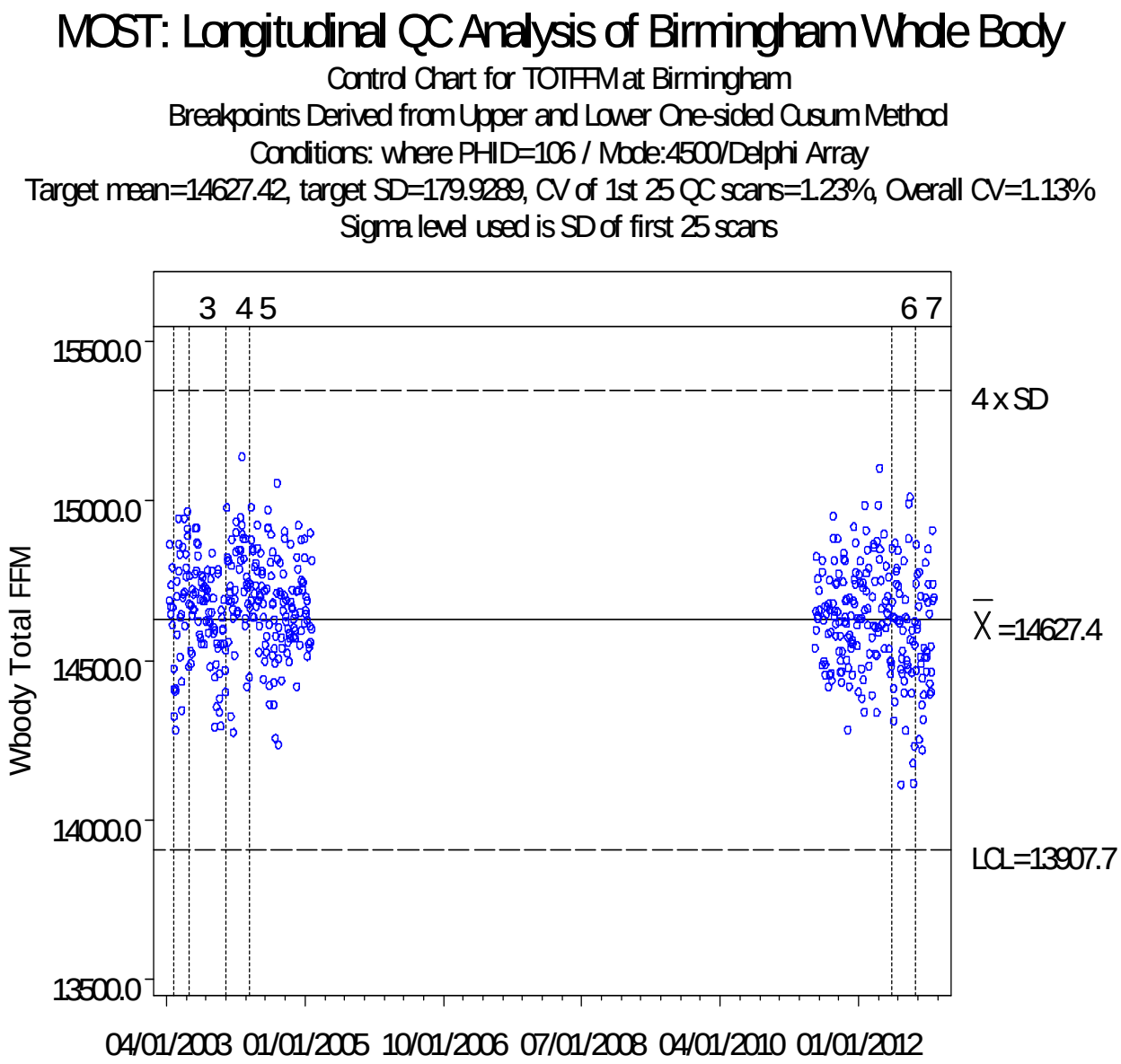


Figure 28 Birmingham QDR 49454 Total Fat Free Mass (corrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Birmingham Whole Body
Statistics on All Automatically Found Intervals for TOTFFM at Birmingham
where PHID=106 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=14627.42, target SD=179.9289, CV of 1st 25 QC scans=1.23%, Overall CV=1.13%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	26	04/15/2003	06/11/2003	14616.55	.	.	.	.	_	14282.1	14946.0
2	32	06/16/2003	08/26/2003	14747.19	130.633	0.894%	130.633	0.894%	0.0076	14481.5	14968.0
3	72	08/27/2003	02/11/2004	14627.34	10.781	0.074%	-119.852	(0.813%)	0.9988	14276.0	14979.9
4	44	02/16/2004	05/26/2004	14775.70	159.142	1.089%	148.361	1.014%	0.0002	14419.6	15139.6
5	264	06/01/2004	07/11/2012	14653.04	36.489	0.250%	-122.653	(0.830%)	0.6548	14238.3	15103.9
6	48	07/17/2012	11/05/2012	14530.59	-85.962	(0.588%)	-122.450	(0.836%)	0.0930	14112.4	15013.2
7	18	11/06/2012	12/17/2012	14623.10	6.550	0.045%	92.511	0.637%	1.0000	14396.5	14909.5

Figure 49 Birmingham QDR 49454 Total Fat Free Mass (corrected), without breakpoints

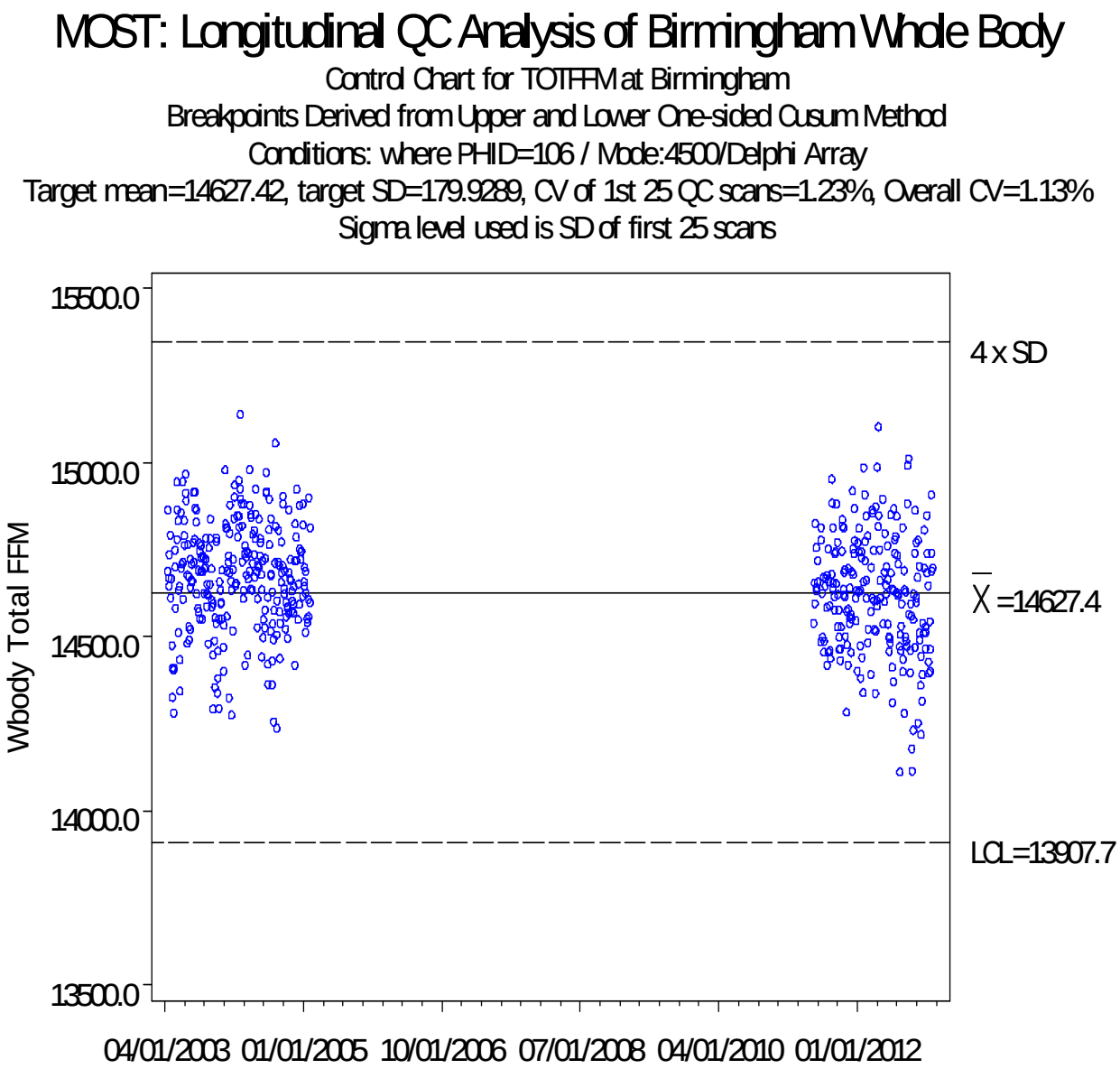
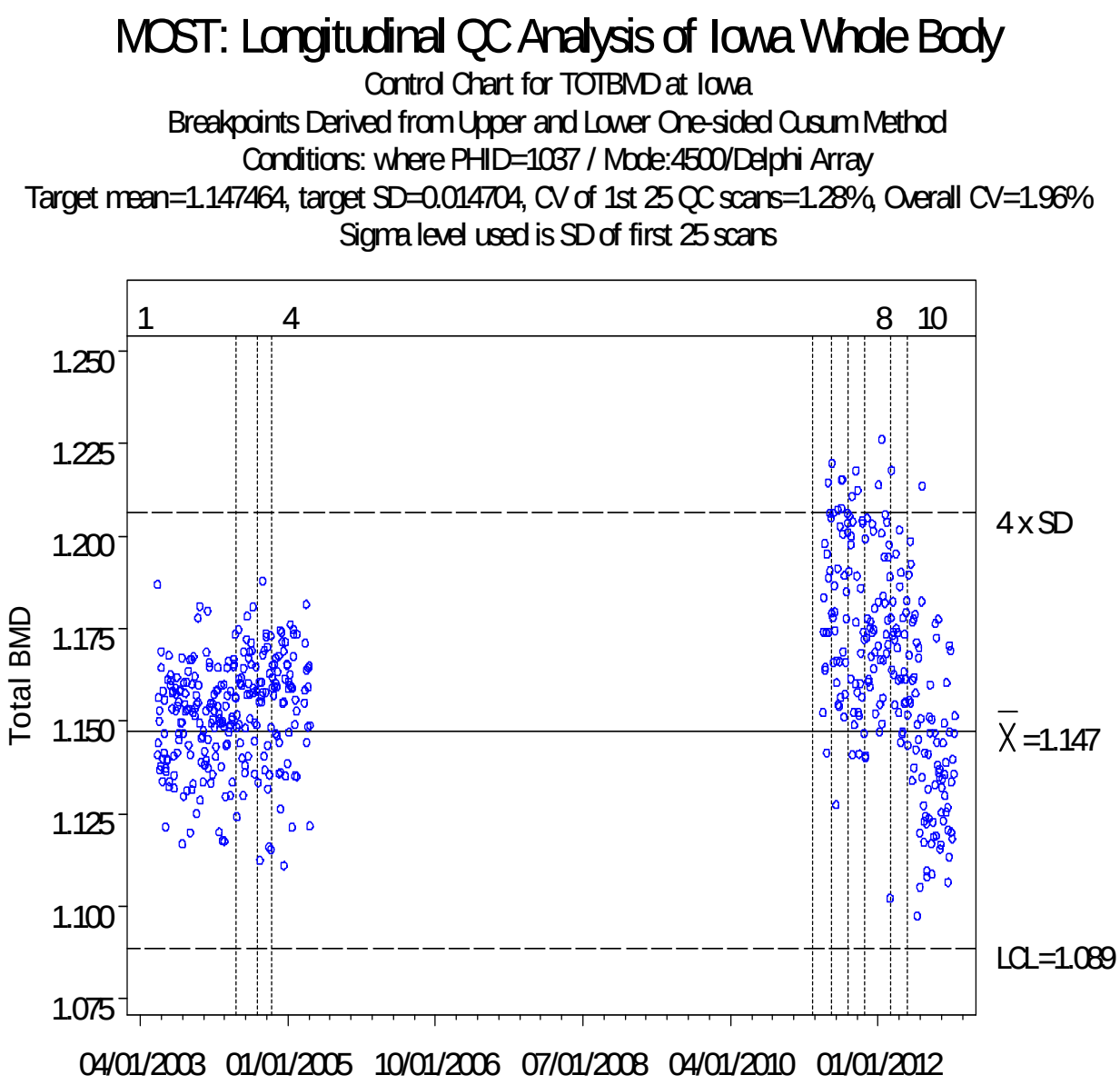


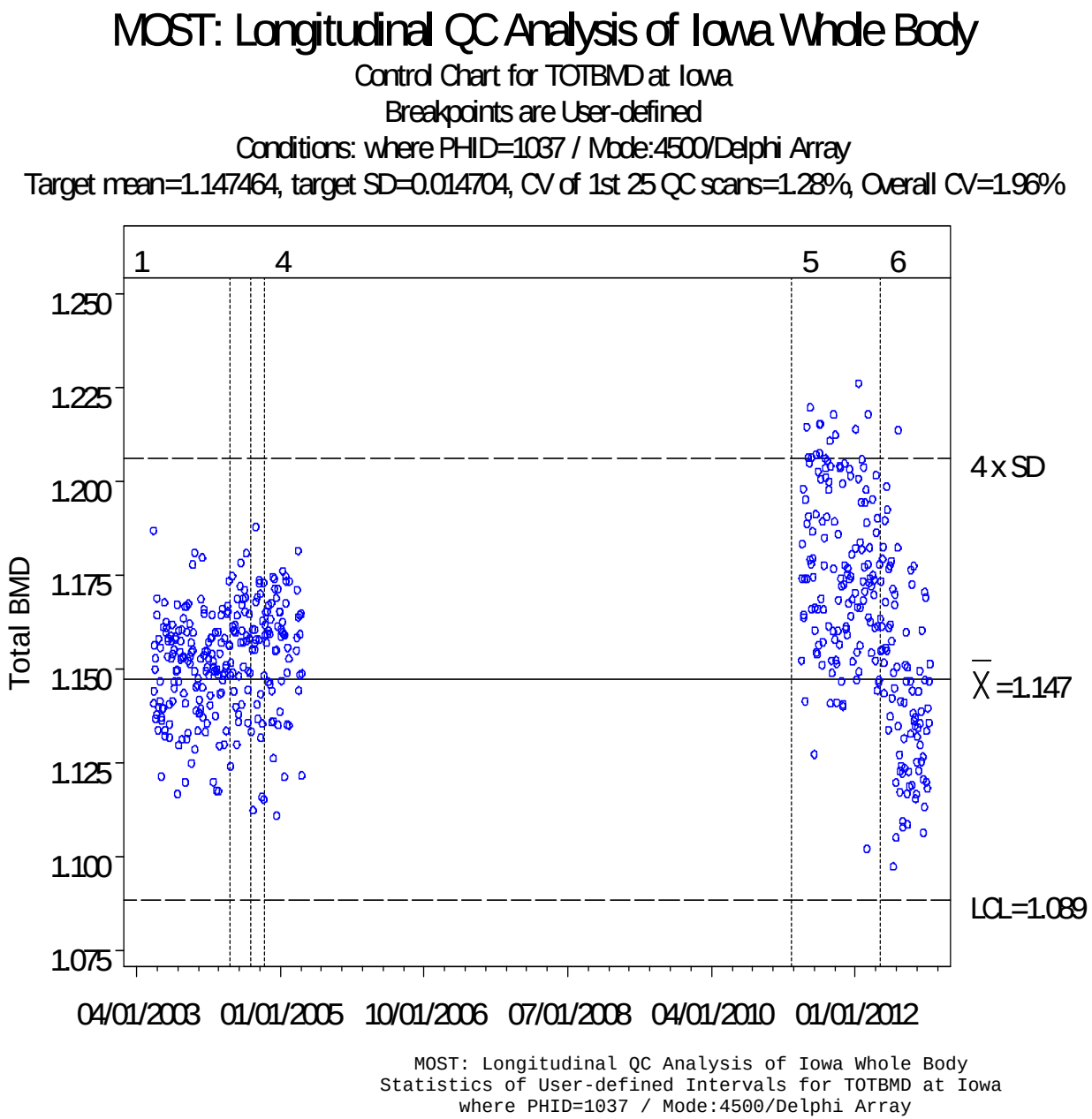
Figure 30 Iowa City QDR 80030 Total BMD (uncorrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTBMD at Iowa
where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=1.147464, target SD=0.014704, CV of 1st 25 QC scans=1.28%, Overall CV=1.96%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	165	06/16/2003	06/30/2004	1.15012	.	.	.	.	_	1.117	1.187
2	38	07/06/2004	10/04/2004	1.15866	0.008545	0.743%	0.008545	0.743%	0.0681	1.113	1.188
3	28	10/05/2004	12/07/2004	1.15248	0.002363	0.205%	-0.006182	(0.534%)	0.9981	1.115	1.175
4	41	12/08/2004	05/09/2011	1.15578	0.005660	0.492%	0.003297	0.286%	0.4551	1.111	1.182
5	32	05/10/2011	07/25/2011	1.17977	0.029651	2.578%	0.023991	2.076%	<.0001	1.127	1.220
6	30	07/27/2011	10/06/2011	1.18579	0.035668	3.101%	0.006017	0.510%	<.0001	1.141	1.218
7	30	10/10/2011	12/19/2011	1.17180	0.021679	1.885%	-0.013989	(1.180%)	<.0001	1.140	1.205
8	43	12/21/2011	04/05/2012	1.17662	0.026507	2.305%	0.004827	0.412%	<.0001	1.102	1.226
9	31	04/09/2012	06/18/2012	1.16432	0.014202	1.235%	-0.012305	(1.046%)	0.0005	1.134	1.199
10	68	06/20/2012	11/30/2012	1.13723	-0.012885	(1.120%)	-0.027087	(2.326%)	<.0001	1.098	1.214

Figure 31 Iowa City QDR 80030 Total BMD (uncorrected), intervals 5 & 6 to be corrected



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics of User-defined Intervals for TOTBMD at Iowa
where PHID=1037 / Mode:4500/Delphi Array

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	165	06/16/2003	06/30/2004	1.15012	.	.	.	.	_	1.117	1.187
2	38	07/06/2004	10/04/2004	1.15866	0.008545	0.743%	0.008545	0.743%	0.0459	1.113	1.188
3	28	10/05/2004	12/07/2004	1.15248	0.002363	0.205%	-0.006182	(0.534%)	0.9712	1.115	1.175
4	40	12/08/2004	04/06/2005	1.15586	0.005743	0.499%	0.003380	0.293%	0.3047	1.111	1.182
5	161	05/09/2011	06/04/2012	1.17622	0.026102	2.270%	0.020359	1.761%	<.0001	1.102	1.226
6	74	06/06/2012	11/30/2012	1.13894	-0.011176	(0.972%)	-0.037278	(3.169%)	<.0001	1.098	1.214

MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics of User-defined Intervals for TOTBMD at Iowa Scaled Down to Target Mean=1
where PHID=1037 / Mode:4500/Delphi Array

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	165	06/16/2003	06/30/2004	1.00231	.	.	.	.	_	0.973	1.034
2	38	07/06/2004	10/04/2004	1.00976	0.007447	0.743%	0.007447	0.743%	0.0459	0.970	1.035
3	28	10/05/2004	12/07/2004	1.00437	0.002059	0.205%	-0.005388	(0.534%)	0.9712	0.972	1.024
4	40	12/08/2004	04/06/2005	1.00732	0.005005	0.499%	0.002946	0.293%	0.3047	0.968	1.030
5	**161**	**05/09/2011**	**06/04/2012**	**1.02506**	**0.022748**	**2.270%**	**0.017742**	**1.761%**	**<.0001**	**0.961**	**1.069**
6	**74**	**06/06/2012**	**11/30/2012**	**0.99257**	**-0.009740**	**(0.972%)**	**-0.032487**	**(3.169%)**	**<.0001**	**0.956**	**1.058**

***CORRECTION FACTOR FOR SCANS PERFORMED FROM 5/9/11-6/5/12: 1/1.02506 = 0.9755**
***CORRECTION FACTOR FOR SCANS PERFORMED FROM 6/6/12 ONWARD: 1/0.99257 = 1.0075**

Figure 32 Iowa City QDR 80030 Total BMD (uncorrected), without breakpoints

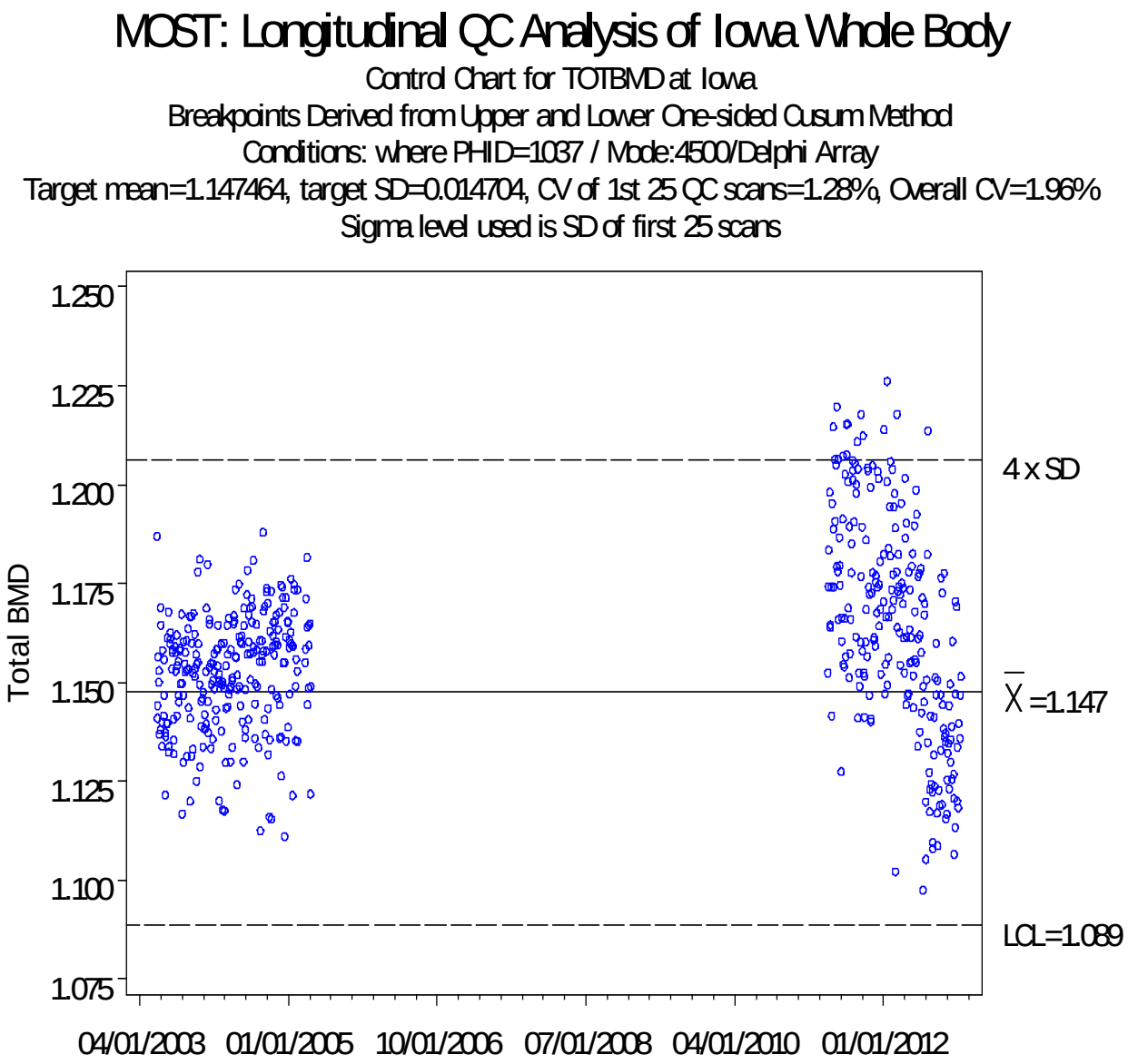
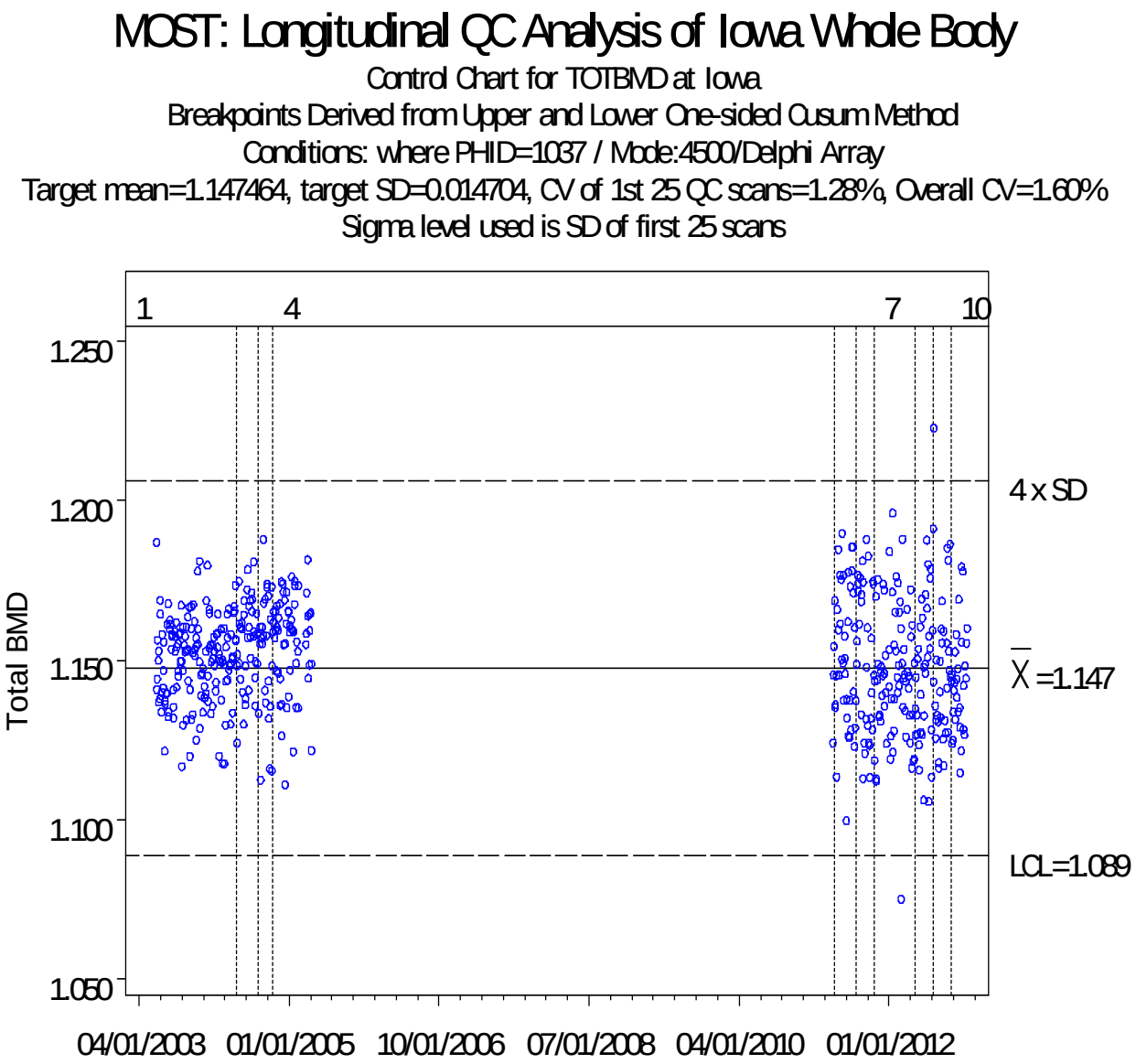


Figure 33 Iowa City QDR 80030 Total BMD (corrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTBMD at Iowa
where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans

Target mean=1.147464, target SD=0.014704, CV of 1st 25 QC scans=1.28%, Overall CV=1.60%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	165	06/16/2003	06/30/2004	1.15012	.	.	.	.	_	1.117	1.187
2	38	07/06/2004	10/04/2004	1.15866	0.008545205	0.743%	0.008545205	0.743%	0.0716	1.113	1.188
3	28	10/05/2004	12/07/2004	1.15248	0.002363140	0.205%	-.006182066	(0.534%)	0.9982	1.115	1.175
4	62	12/08/2004	06/29/2011	1.15548	0.005362222	0.466%	0.002999083	0.260%	0.3267	1.111	1.190
5	36	06/30/2011	09/26/2011	1.15111	0.000994711	0.086%	-.004367511	(0.378%)	1.0000	1.100	1.186
6	32	09/28/2011	12/12/2011	1.14587	-.004250324	(0.370%)	-.005245035	(0.456%)	0.8776	1.112	1.188
7	70	12/14/2011	05/31/2012	1.14386	-.006262490	(0.545%)	-.002012166	(0.176%)	0.1216	1.075	1.196
8	32	06/04/2012	08/16/2012	1.15090	0.000780735	0.068%	0.007043225	0.616%	1.0000	1.106	1.223
9	33	08/20/2012	11/05/2012	1.14288	-.007235026	(0.629%)	-.008015761	(0.696%)	0.2627	1.115	1.186
10	10	11/07/2012	11/30/2012	1.15188	0.001758787	0.153%	0.008993813	0.787%	1.0000	1.127	1.179

Figure 5 Iowa City QDR 80030 Total BMD (corrected), without breakpoints

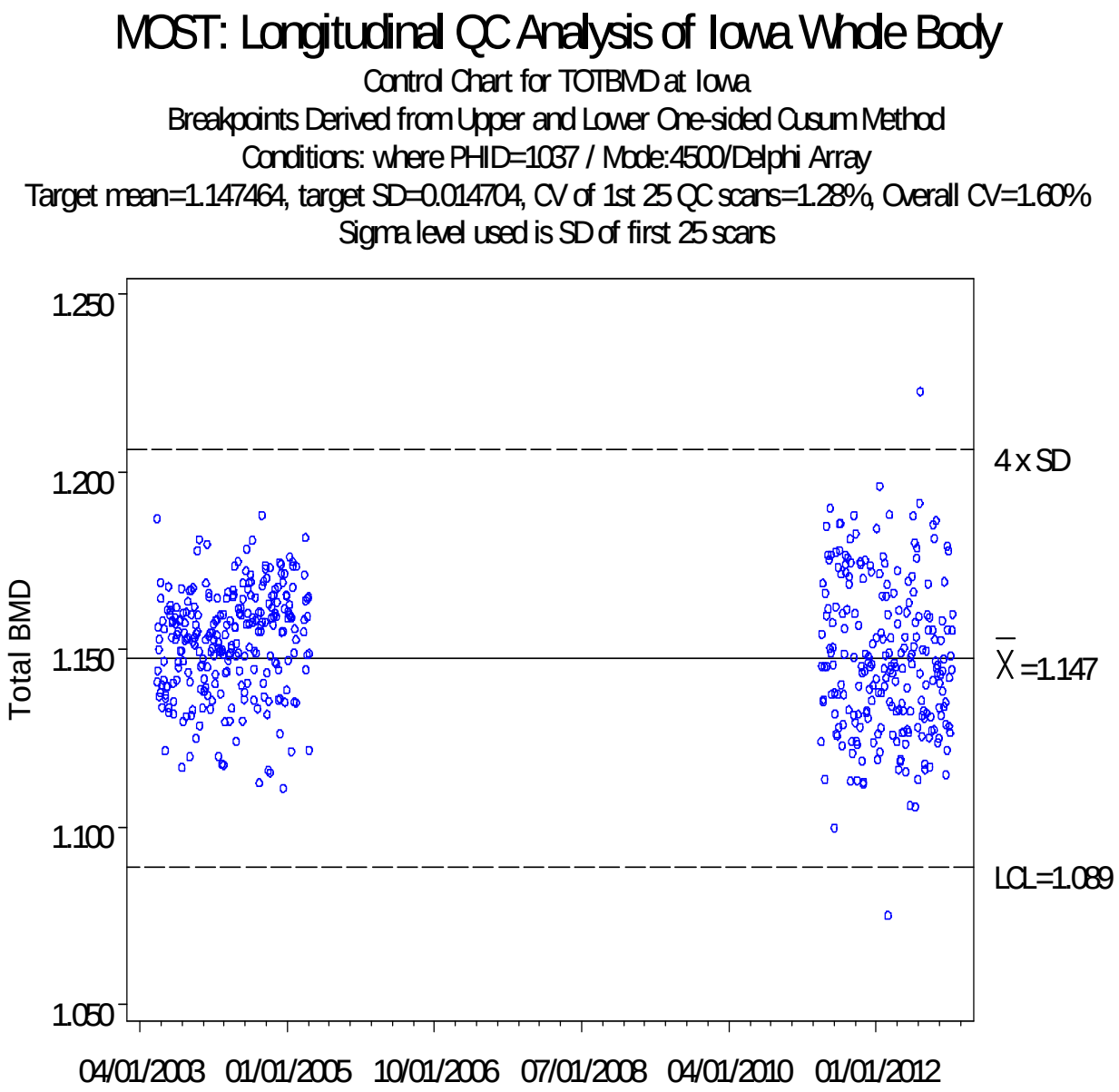
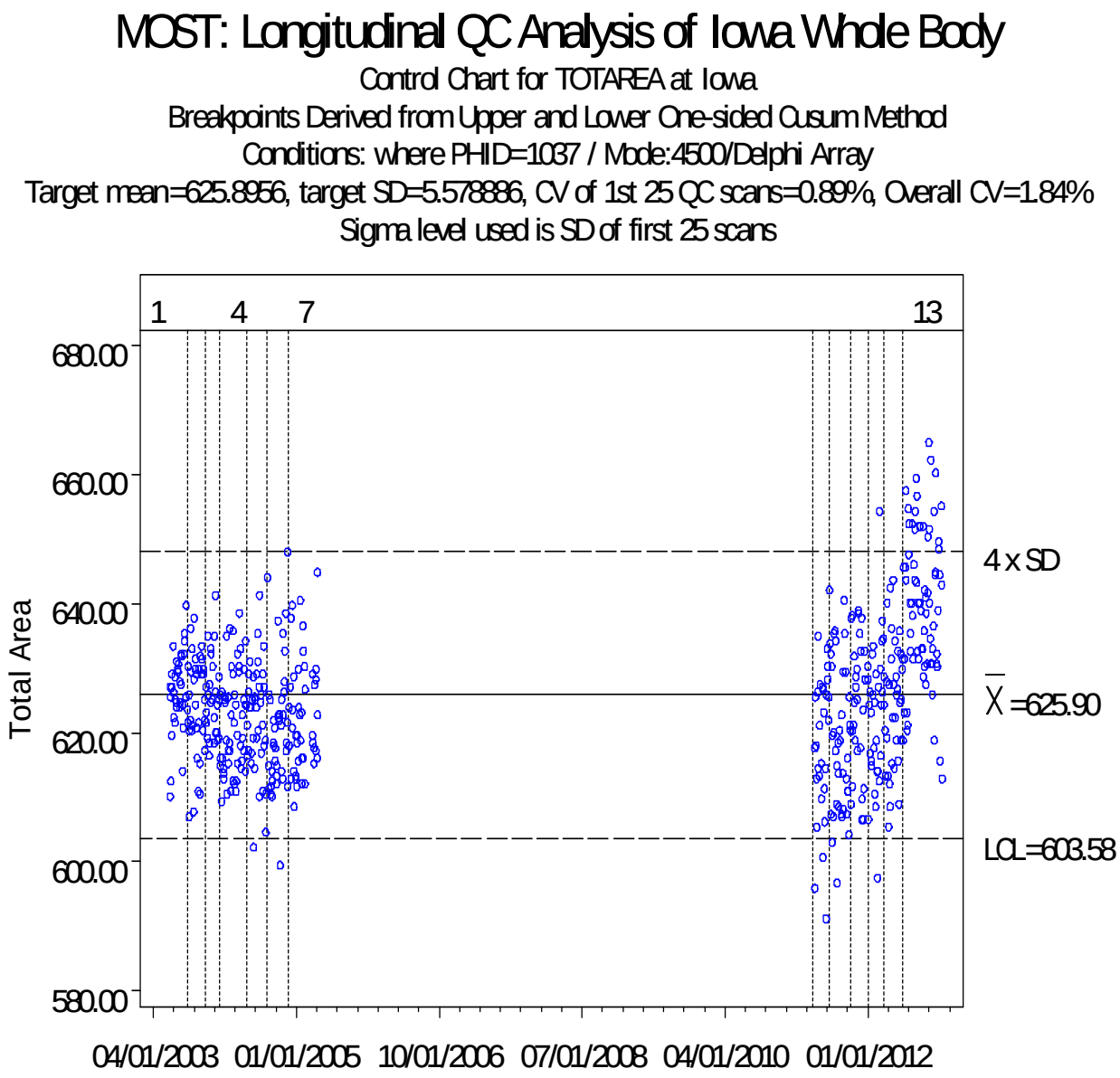


Figure 35 Iowa City QDR 80030 Total Area (uncorrected), with all automatically found breakpoints

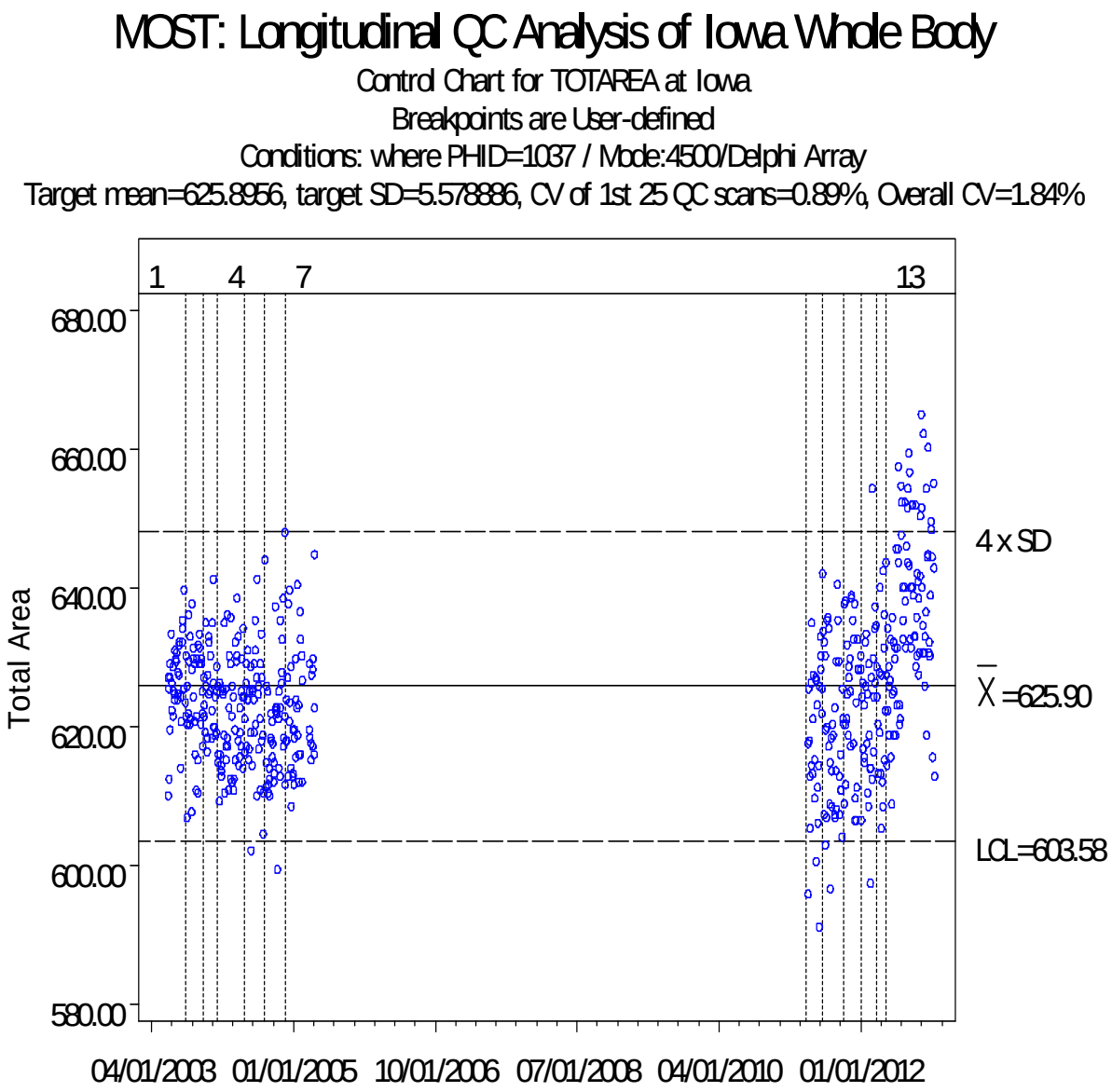


MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTAREA at Iowa
where PHID=1037 / Mode:4500/Delphi Array

CUSUM sigma level used: SD of first 25 scans
Target mean=625.8956, target SD=5.578886, CV of 1st 25 QC scans=0.89%, Overall CV=1.84%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	54	06/16/2003	10/14/2003	625.937	.	.	.	.	_	607.01	639.77
2	33	10/15/2003	12/31/2003	624.559	-1.3774	(0.220%)	-1.37739	(0.220%)	0.9993	610.57	635.04
3	29	01/05/2004	03/09/2004	621.617	-4.3195	(0.690%)	-2.94214	(0.471%)	0.3899	609.38	641.35
4	51	03/10/2004	07/07/2004	622.167	-3.7701	(0.602%)	0.54945	0.088%	0.3534	602.28	638.59
5	36	07/08/2004	10/04/2004	620.609	-5.3281	(0.851%)	-1.55807	(0.250%)	0.1067	604.65	644.11
6	41	10/05/2004	01/05/2005	621.925	-4.0115	(0.641%)	1.31666	0.212%	0.3496	599.52	648.06
7	43	01/10/2005	06/15/2011	621.801	-4.1360	(0.661%)	-0.12447	(0.020%)	0.2961	595.96	644.90
8	31	06/16/2011	08/25/2011	619.109	-6.8276	(1.091%)	-2.69168	(0.433%)	0.0219	591.23	642.14
9	36	08/29/2011	11/22/2011	621.749	-4.1880	(0.669%)	2.63967	0.426%	0.3433	604.25	640.56
10	32	11/28/2011	02/15/2012	620.951	-4.9855	(0.796%)	-0.79758	(0.128%)	0.1899	597.54	637.80
11	29	02/16/2012	04/25/2012	625.673	-0.2639	(0.042%)	4.72167	0.760%	1.0000	605.44	654.38
12	36	04/26/2012	07/19/2012	631.703	5.7667	0.921%	6.03055	0.964%	0.0621	608.99	657.53
13	55	07/20/2012	11/30/2012	640.598	14.6609	2.342%	8.89420	1.408%	<.0001	612.93	665.03

Figure 36 Iowa City QDR 80030 Total Area (uncorrected), interval 13 to be corrected



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics of User-defined Intervals for TOTAREA at Iowa
where PHID=1037 / Mode:4500/Delphi Array

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	54	06/16/2003	10/14/2003	625.937	.	.	.	.	_	607.01	639.77
2	33	10/15/2003	12/31/2003	624.559	-1.3774	(0.220%)	-1.3774	(0.220%)	0.9992	610.57	635.04
3	29	01/05/2004	03/09/2004	621.617	-4.3195	(0.690%)	-2.9421	(0.471%)	0.3742	609.38	641.35
4	51	03/10/2004	07/07/2004	622.167	-3.7701	(0.602%)	0.5495	0.088%	0.3379	602.28	638.59
5	36	07/08/2004	10/04/2004	620.609	-5.3281	(0.851%)	-1.5581	(0.250%)	0.0978	604.65	644.11
6	41	10/05/2004	01/05/2005	621.925	-4.0115	(0.641%)	1.3167	0.212%	0.3342	599.52	648.06
7	43	01/10/2005	06/15/2011	621.801	-4.1360	(0.661%)	-0.1245	(0.020%)	0.2814	595.96	644.90
8	31	06/16/2011	08/25/2011	619.109	-6.8276	(1.091%)	-2.6917	(0.433%)	0.0190	591.23	642.14
9	36	08/29/2011	11/22/2011	621.749	-4.1880	(0.669%)	2.6397	0.426%	0.3280	604.25	640.56
10	32	11/28/2011	02/15/2012	620.951	-4.9855	(0.796%)	-0.7976	(0.128%)	0.1776	597.54	637.80
11	29	02/16/2012	04/25/2012	625.673	-0.2639	(0.042%)	4.7217	0.760%	1.0000	605.44	654.38
12	17	04/26/2012	06/04/2012	624.891	-1.0460	(0.167%)	-0.7822	(0.125%)	1.0000	608.99	635.83
13	74	06/06/2012	11/30/2012	639.879	13.9423	2.227%	14.9883	2.399%	<.0001	612.93	665.03

MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics of User-defined Intervals for TOTAREA at Iowa Scaled Down to Target Mean=1
where PHID=1037 / Mode:4500/Delphi Array

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	54	06/16/2003	10/14/2003	1.00007	.	.	.	.	_	0.97	1.02
2	33	10/15/2003	12/31/2003	0.99787	-0.002201	(0.220%)	-0.002201	(0.220%)	0.9992	0.98	1.01
3	29	01/05/2004	03/09/2004	0.99316	-0.006901	(0.690%)	-0.004701	(0.471%)	0.3742	0.97	1.02
4	51	03/10/2004	07/07/2004	0.99404	-0.006023	(0.602%)	0.000878	0.088%	0.3379	0.96	1.02
5	36	07/08/2004	10/04/2004	0.99155	-0.008513	(0.851%)	-0.002489	(0.250%)	0.0978	0.97	1.03
6	41	10/05/2004	01/05/2005	0.99366	-0.006409	(0.641%)	0.002104	0.212%	0.3342	0.96	1.04
7	43	01/10/2005	06/15/2011	0.99346	-0.006608	(0.661%)	-0.000199	(0.020%)	0.2814	0.95	1.03
8	31	06/16/2011	08/25/2011	0.98916	-0.010909	(1.091%)	-0.004301	(0.433%)	0.0190	0.94	1.03
9	36	08/29/2011	11/22/2011	0.99337	-0.006691	(0.669%)	0.004217	0.426%	0.3280	0.97	1.02
10	32	11/28/2011	02/15/2012	0.99210	-0.007965	(0.796%)	-0.001274	(0.128%)	0.1776	0.95	1.02
11	29	02/16/2012	04/25/2012	0.99964	-0.000422	(0.042%)	0.007544	0.760%	1.0000	0.97	1.05
12	17	04/26/2012	06/04/2012	0.99839	-0.001671	(0.167%)	-0.001250	(0.125%)	1.0000	0.97	1.02
13	**74**	**06/06/2012**	**11/30/2012**	**1.02234**	**0.022276**	**2.227%**	**0.023947**	**2.399%**	**<.0001**	**0.98**	**1.06**

***CORRECTION FACTOR FOR SCANS PERFORMED FROM 6/6/12 ONWARD: 1/1.02234 = 0.9781**

Figure 37 Iowa City QDR 80030 Total Area (uncorrected), without breakpoints

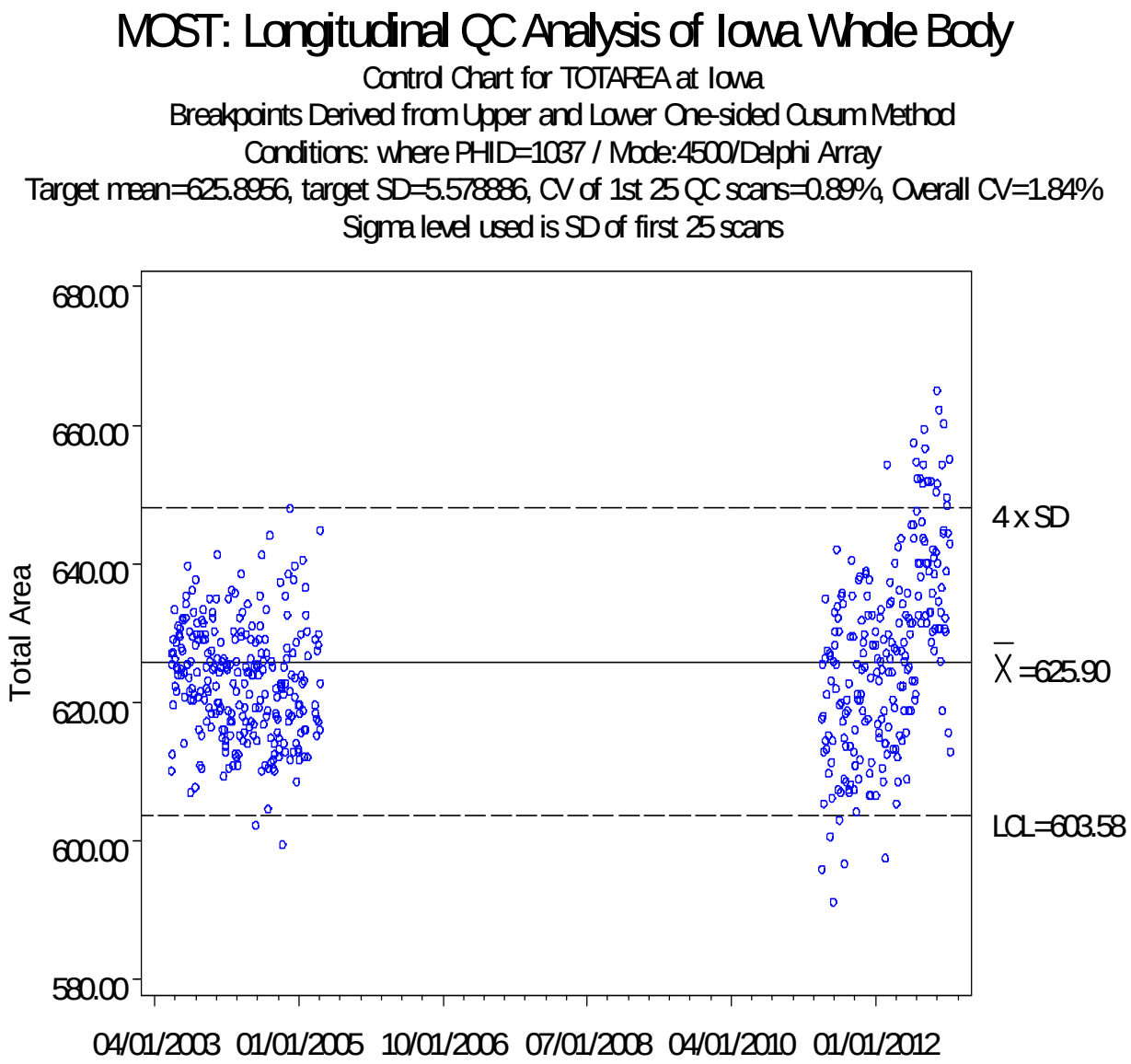
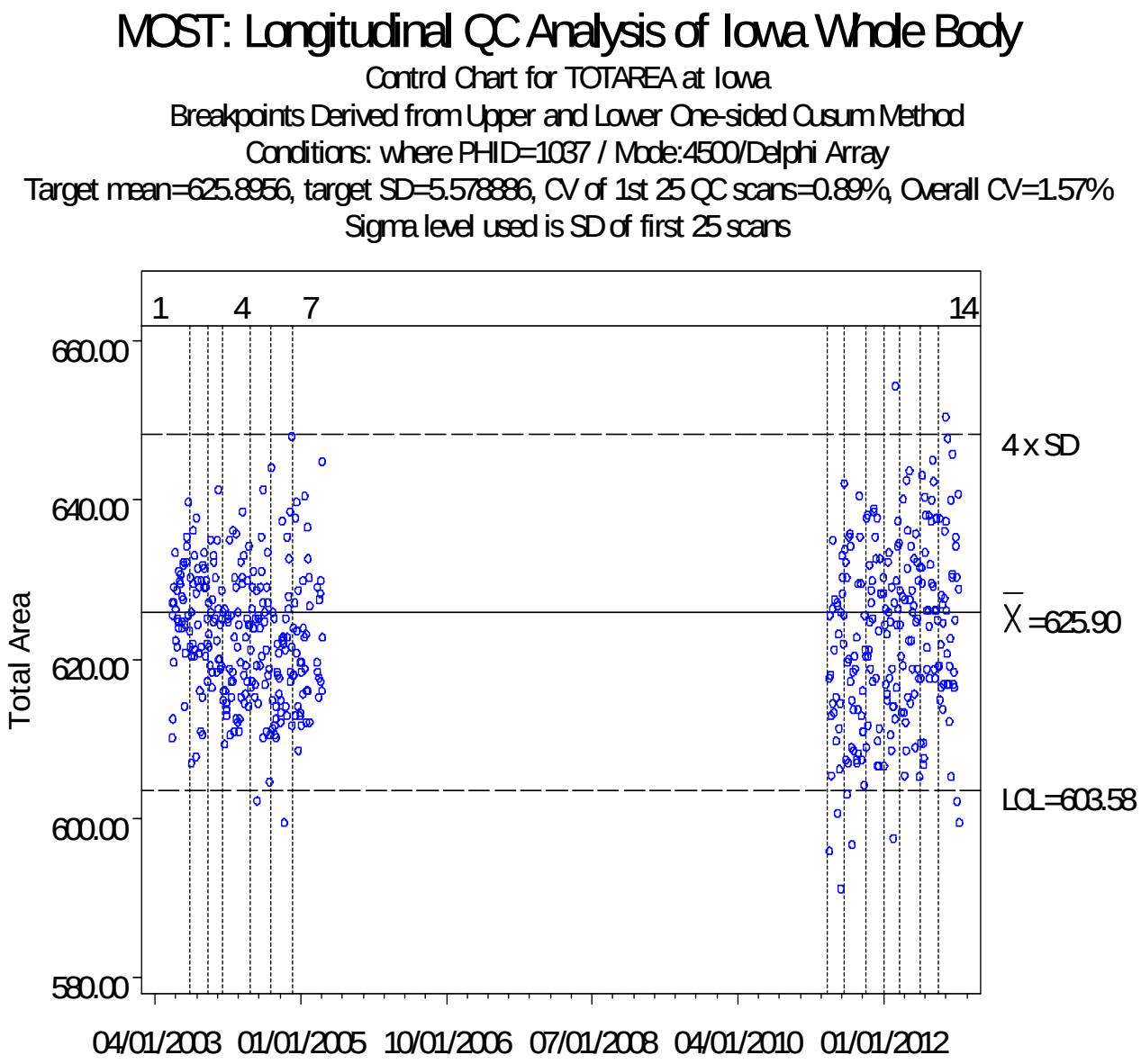


Figure 68 Iowa City QDR 80030 Total Area (corrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTAREA at Iowa

where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=625.8956, target SD=5.578886, CV of 1st 25 QC scans=0.89%, Overall CV=1.57%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	54	06/16/2003	10/14/2003	625.937	.	.	.	.	_	607.01	639.77
2	33	10/15/2003	12/31/2003	624.559	-1.37739	(0.220%)	-1.37739	(0.220%)	0.9996	610.57	635.04
3	29	01/05/2004	03/09/2004	621.617	-4.31953	(0.690%)	-2.94214	(0.471%)	0.3854	609.38	641.35
4	51	03/10/2004	07/07/2004	622.167	-3.77007	(0.602%)	0.54945	0.088%	0.3479	602.28	638.59
5	36	07/08/2004	10/04/2004	620.609	-5.32815	(0.851%)	-1.55807	(0.250%)	0.0994	604.65	644.11
6	41	10/05/2004	01/05/2005	621.925	-4.01149	(0.641%)	1.31666	0.212%	0.3441	599.52	648.06
7	43	01/10/2005	06/15/2011	621.801	-4.13596	(0.661%)	-0.12447	(0.020%)	0.2894	595.96	644.90
8	31	06/16/2011	08/25/2011	619.109	-6.82764	(1.091%)	-2.69168	(0.433%)	0.0189	591.23	642.14
9	36	08/29/2011	11/22/2011	621.749	-4.18797	(0.669%)	2.63967	0.426%	0.3376	604.25	640.56
10	32	11/28/2011	02/15/2012	620.951	-4.98555	(0.796%)	-0.79758	(0.128%)	0.1818	597.54	637.80
11	29	02/16/2012	04/25/2012	625.673	-0.26387	(0.042%)	4.72167	0.760%	1.0000	605.44	654.38
12	38	04/26/2012	07/23/2012	624.153	-1.78393	(0.285%)	-1.52006	(0.243%)	0.9919	605.30	643.13
13	33	07/26/2012	10/11/2012	628.721	2.78422	0.445%	4.56815	0.732%	0.8588	613.79	650.47
14	20	10/15/2012	11/30/2012	623.580	-2.35647	(0.376%)	-5.14069	(0.818%)	0.9859	599.51	645.84

Figure 79 Iowa City QDR 80030 Total Area (corrected), without breakpoints

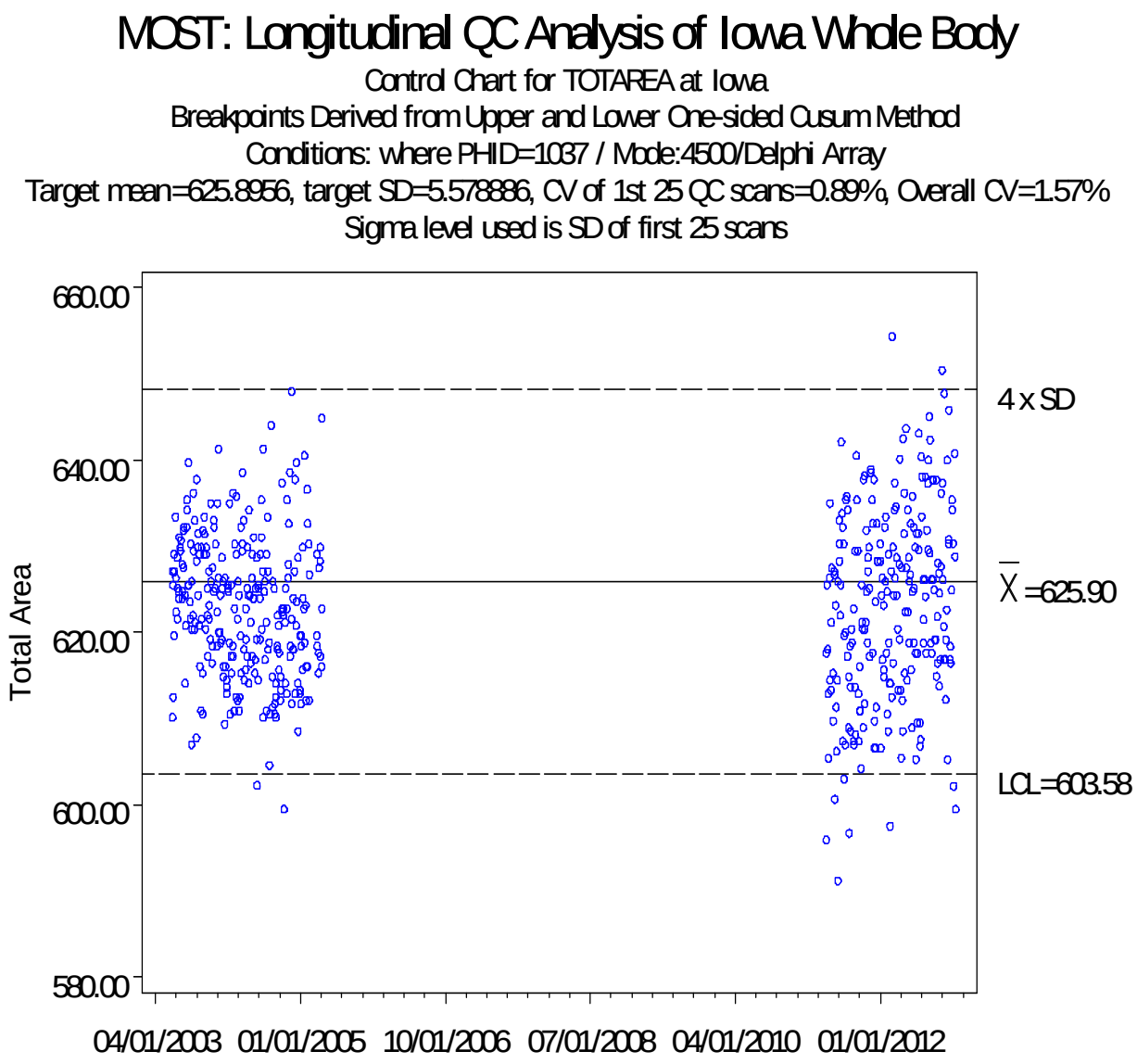
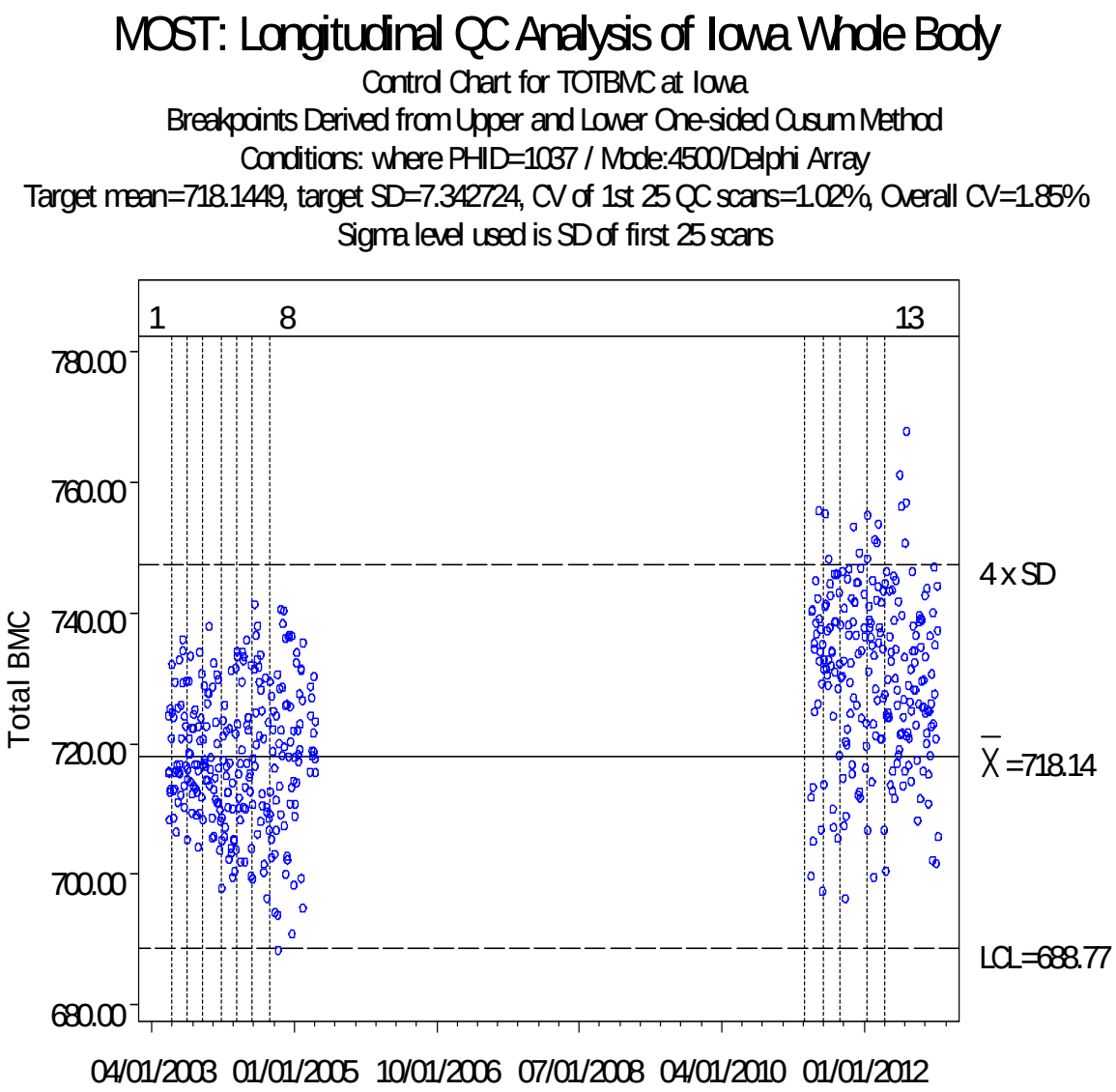


Figure 40 Iowa City QDR 80030 Total BMC (uncorrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTBMC at Iowa
where PHID=1037 / Mode:4500/Delphi Array

CUSUM sigma level used: SD of first 25 scans
Target mean=718.1449, target SD=7.342724, CV of 1st 25 QC scans=1.02%, Overall CV=1.85%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	26	06/16/2003	08/11/2003	717.918	.	.	.	.	_	706.49	732.88
2	31	08/12/2003	10/21/2003	719.893	1.9751	0.275%	1.9751	0.275%	0.9971	705.35	736.02
3	29	10/22/2003	12/30/2003	718.951	1.0332	0.144%	-0.9419	(0.131%)	1.0000	704.24	737.96
4	34	12/31/2003	03/17/2004	715.126	-2.7921	(0.389%)	-3.8253	(0.532%)	0.9536	697.90	732.36
5	31	03/22/2004	06/01/2004	716.332	-1.5855	(0.221%)	1.2065	0.169%	0.9996	699.59	735.90
6	30	06/02/2004	08/09/2004	721.416	3.4988	0.487%	5.0843	0.710%	0.8606	699.37	741.38
7	30	08/10/2004	10/20/2004	711.763	-6.1546	(0.857%)	-9.6534	(1.338%)	0.2770	688.44	730.64
8	66	10/25/2004	05/19/2011	720.308	2.3904	0.333%	8.5450	1.201%	0.9636	690.91	740.57
9	35	05/23/2011	08/11/2011	734.348	16.4300	2.289%	14.0396	1.949%	<.0001	697.43	755.71
10	31	08/15/2011	10/27/2011	728.760	10.8424	1.510%	-5.5876	(0.761%)	0.0047	696.38	746.76
11	47	10/31/2011	02/23/2012	731.955	14.0373	1.955%	3.1950	0.438%	<.0001	699.61	754.98
12	33	02/27/2012	05/14/2012	731.740	13.8221	1.925%	-0.2152	(0.029%)	<.0001	700.53	753.69
13	83	05/16/2012	11/30/2012	728.831	10.9137	1.520%	-2.9084	(0.397%)	0.0004	701.73	767.88

Figure 41 Iowa City QDR 80030 Total BMC (uncorrected), without breakpoints

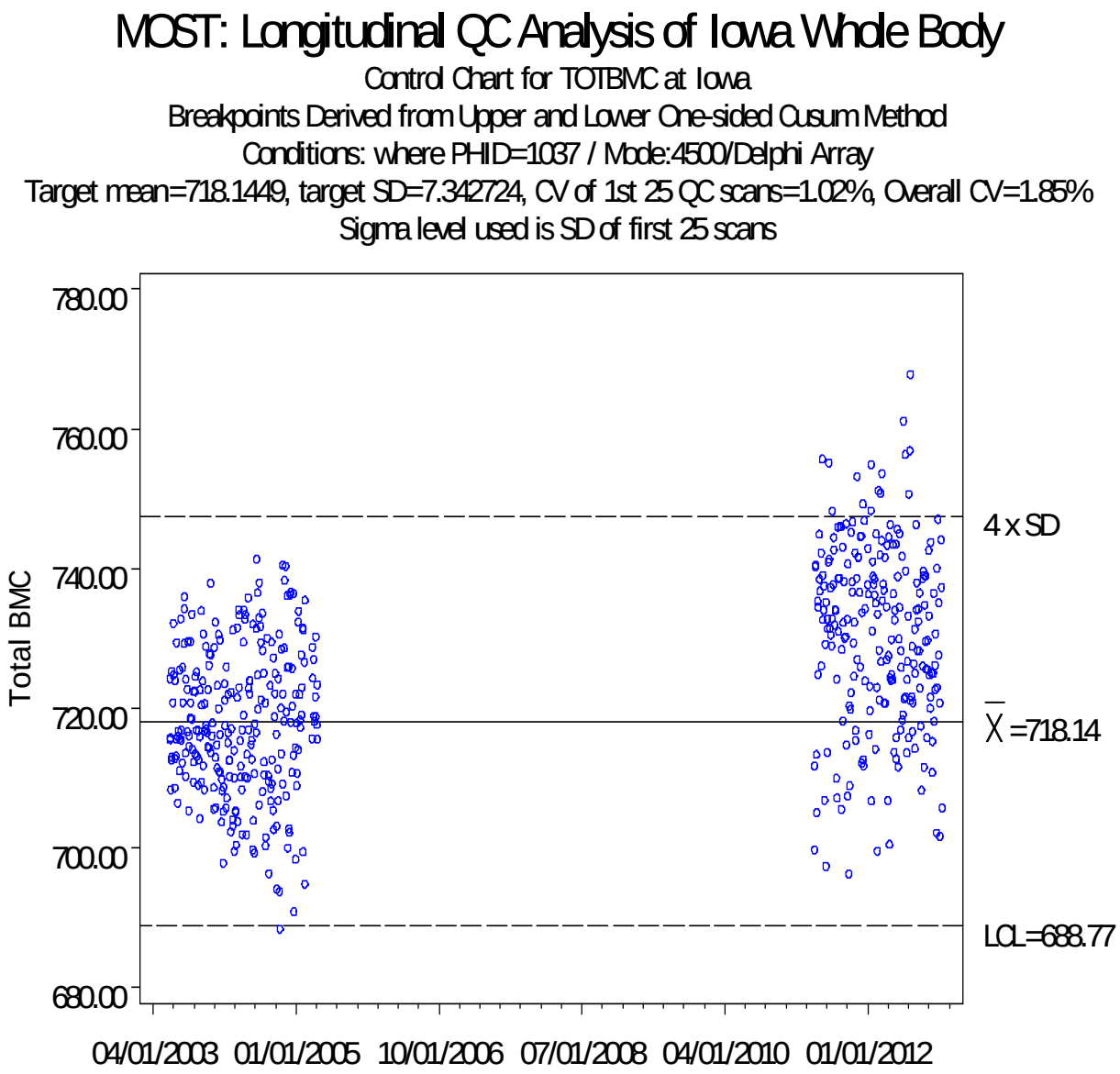
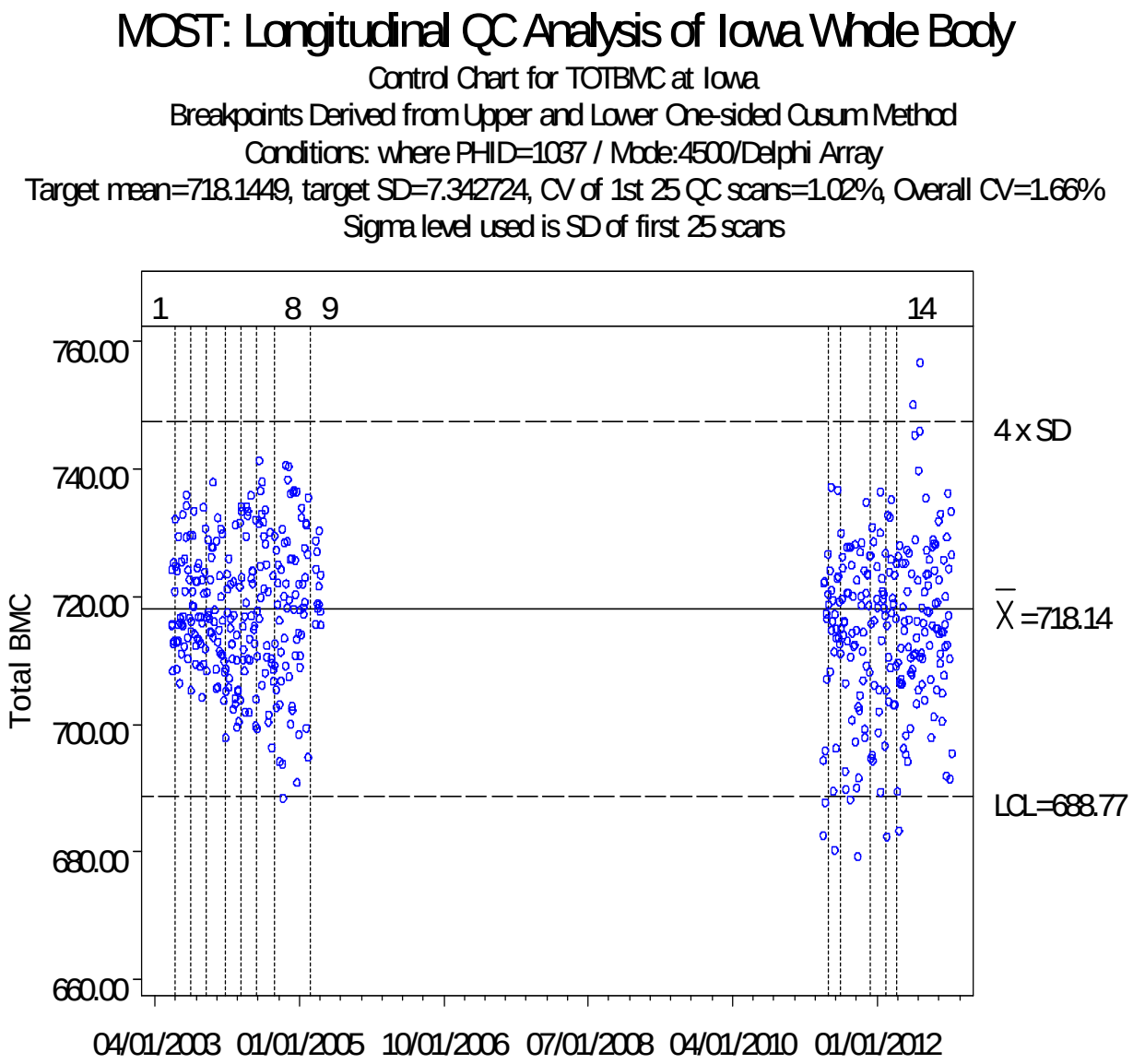


Figure 42 Iowa City QDR 80030 Total BMC (corrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTBMC at Iowa
where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=718.1449, target SD=7.342724, CV of 1st 25 QC scans=1.02%, Overall CV=1.66%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	26	06/16/2003	08/11/2003	717.918	.	.	.	.	_	706.49	732.88
2	31	08/12/2003	10/21/2003	719.893	1.97508	0.275%	1.97508	0.275%	0.9984	705.35	736.02
3	29	10/22/2003	12/30/2003	718.951	1.03318	0.144%	-0.94189	(0.131%)	1.0000	704.24	737.96
4	34	12/31/2003	03/17/2004	715.126	-2.79207	(0.389%)	-3.82526	(0.532%)	0.9659	697.90	732.36
5	31	03/22/2004	06/01/2004	716.332	-1.58554	(0.221%)	1.20654	0.169%	0.9998	699.59	735.90
6	30	06/02/2004	08/09/2004	721.416	3.49877	0.487%	5.08431	0.710%	0.8853	699.37	741.38
7	30	08/10/2004	10/20/2004	711.763	-6.15461	(0.857%)	-9.65338	(1.338%)	0.2943	688.44	730.64
8	59	10/25/2004	04/05/2005	720.572	2.65425	0.370%	8.80885	1.238%	0.9520	690.91	740.57
9	29	04/06/2005	07/13/2011	712.132	-5.78602	(0.806%)	-8.44027	(1.171%)	0.3724	680.35	737.20
10	21	07/14/2011	08/31/2011	716.214	-1.70360	(0.237%)	4.08242	0.573%	0.9999	689.88	730.00
11	52	09/06/2011	01/12/2012	712.230	-5.68806	(0.792%)	-3.98446	(0.556%)	0.2623	679.31	734.81
12	30	01/17/2012	03/26/2012	716.369	-1.54844	(0.216%)	4.13962	0.581%	0.9999	682.47	736.49
13	20	03/28/2012	05/10/2012	709.981	-7.93664	(1.106%)	-6.38820	(0.892%)	0.1543	683.37	728.07
14	84	05/14/2012	11/30/2012	717.548	-0.36945	(0.051%)	7.56719	1.066%	1.0000	691.51	756.70

Figure 43 Iowa City QDR 80030 Total BMC (corrected), without breakpoints

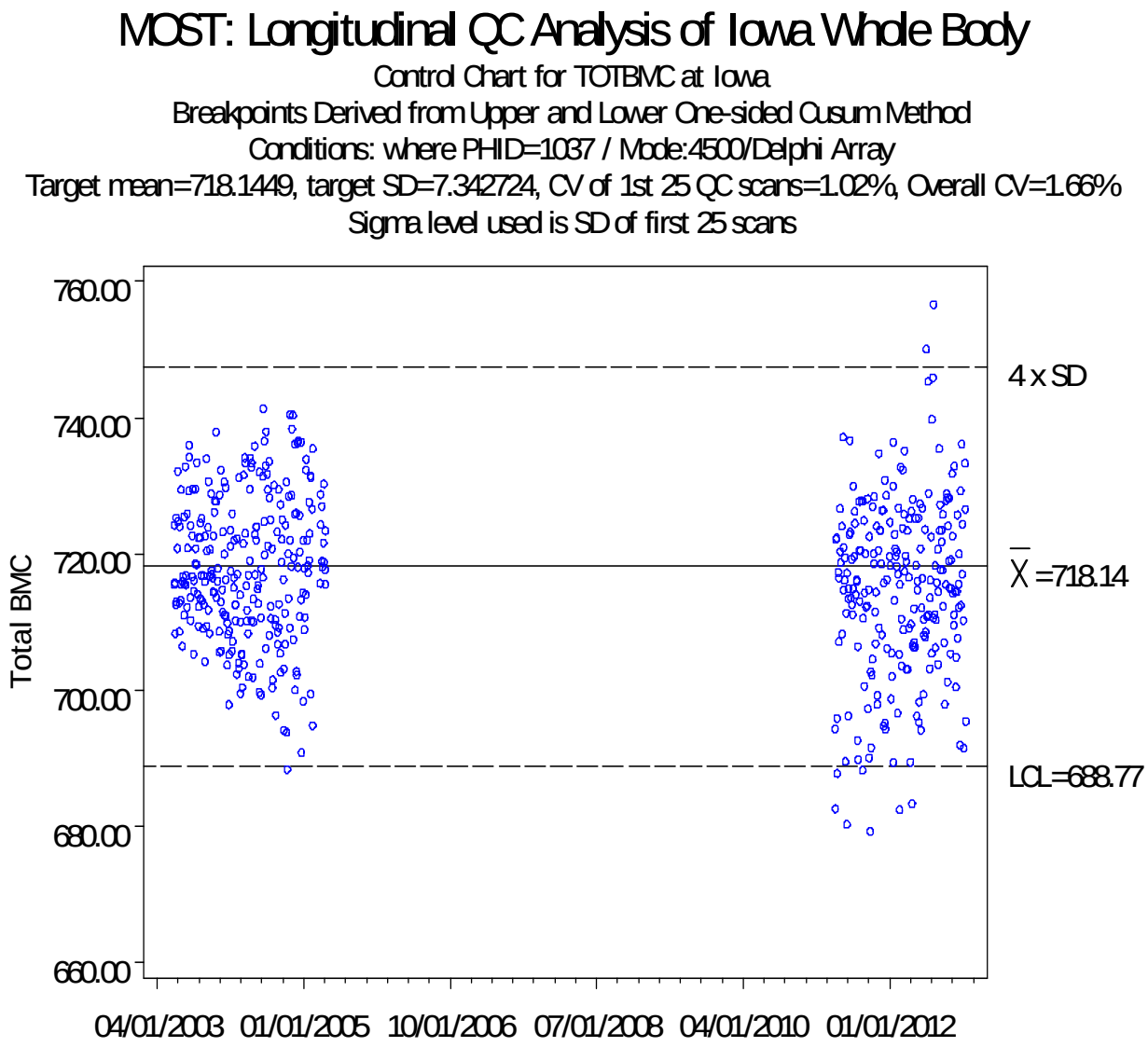
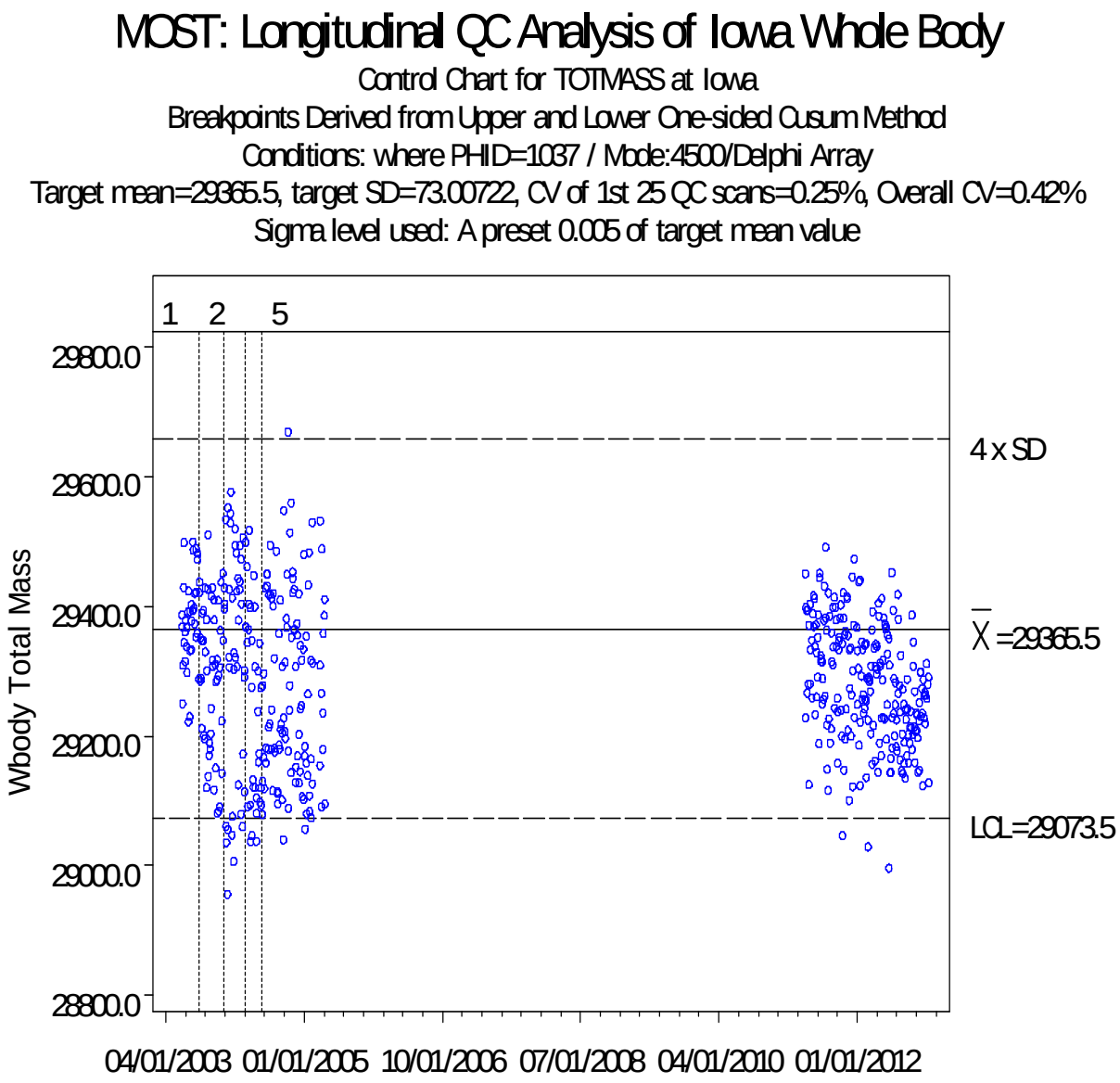


Figure 44 Iowa City QDR 80030 Total Mass (uncorrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTMASS at Iowa
where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: A preset 0.005 of target mean value
Target mean=29365.5, target SD=73.00722, CV of 1st 25 QC scans=0.25%, Overall CV=0.42%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	54	06/16/2003	10/14/2003	29362.45	.	.	.	.	_	29121.0	29510.8
2	50	10/15/2003	02/10/2004	29281.47	-80.976	(0.276%)	-80.9760	(0.276%)	0.0019	28956.4	29576.5
3	41	02/11/2004	05/17/2004	29324.79	-37.662	(0.128%)	43.3142	0.148%	0.3385	29037.7	29520.5
4	33	05/18/2004	08/02/2004	29235.18	-127.270	(0.433%)	-89.6084	(0.306%)	<.0001	29038.6	29494.6
5	328	08/03/2004	11/30/2012	29278.70	-83.748	(0.285%)	43.5226	0.149%	<.0001	28997.0	29669.2

Figure 45 Iowa City QDR 80030 Total Mass (uncorrected), without breakpoints

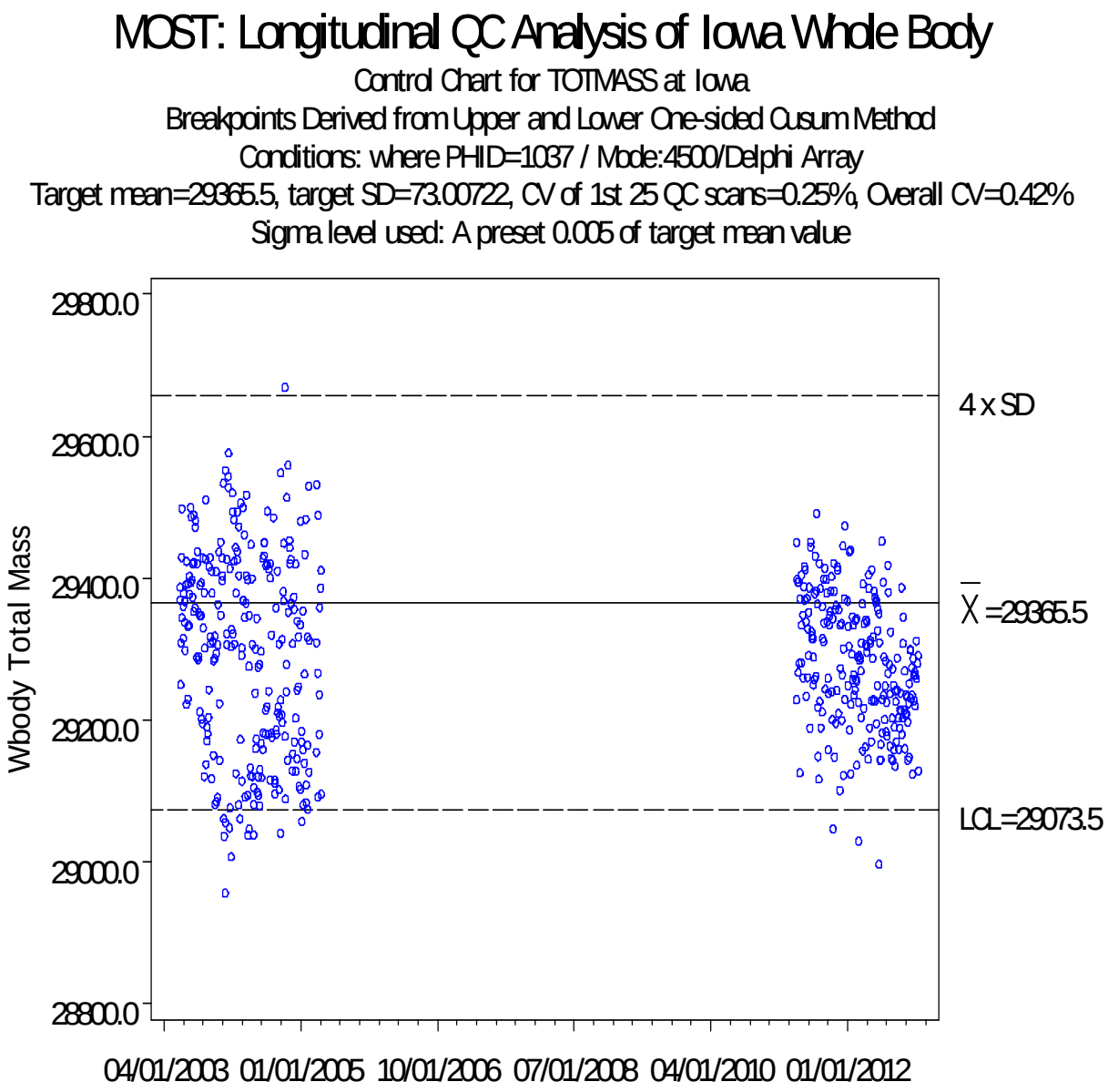
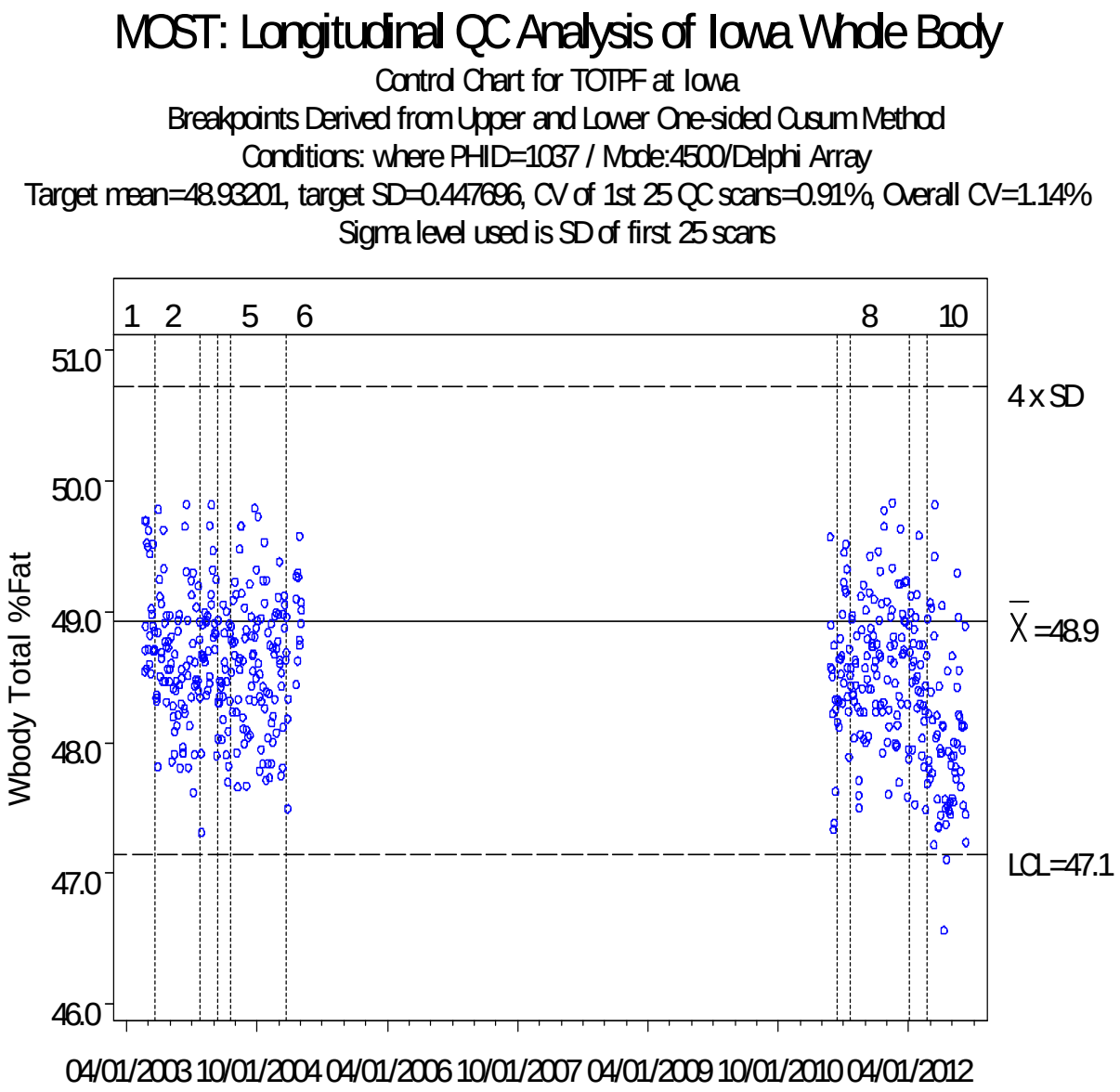


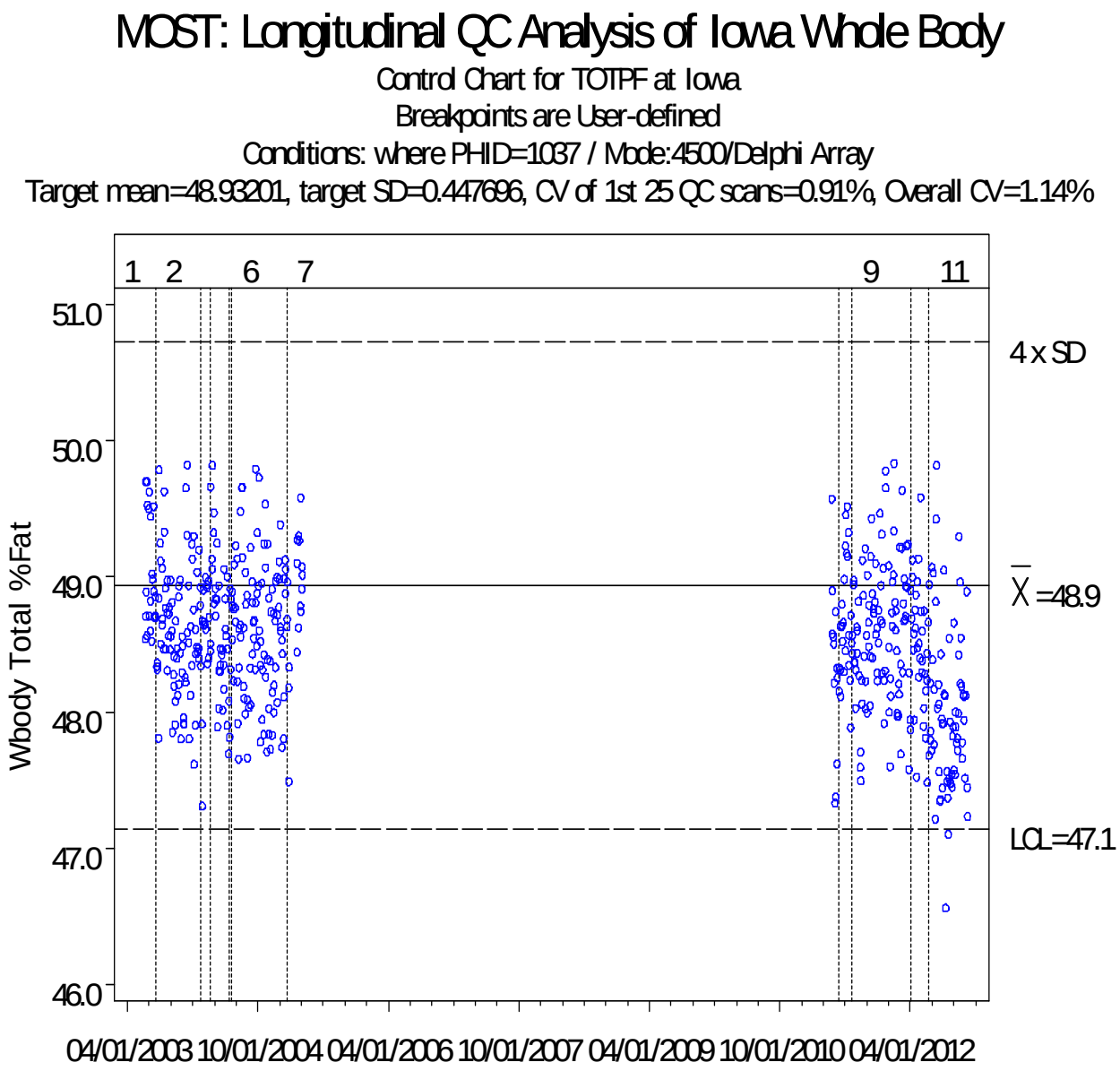
Figure 46 Iowa City QDR 80030 Total Percent Fat (uncorrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTPF at Iowa
where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=48.93201, target SD=0.447696, CV of 1st 25 QC scans=0.91%, Overall CV=1.14%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	39	06/16/2003	09/09/2003	48.9267	.	.	.	.	_	47.8	49.8
2	80	09/10/2003	03/16/2004	48.5480	-0.37877	(0.774%)	-0.37877	(0.774%)	0.0009	47.3	49.8
3	32	03/17/2004	06/01/2004	48.6795	-0.24729	(0.505%)	0.13148	0.271%	0.2041	47.7	49.8
4	25	06/02/2004	07/27/2004	48.6747	-0.25201	(0.515%)	-0.00472	(0.010%)	0.2522	47.7	49.7
5	84	07/28/2004	03/14/2005	48.5586	-0.36816	(0.752%)	-0.11614	(0.239%)	0.0012	47.5	49.8
6	41	03/15/2005	07/18/2011	48.7194	-0.20738	(0.424%)	0.16078	0.331%	0.3114	47.3	49.6
7	24	07/20/2011	09/14/2011	48.3415	-0.58529	(1.196%)	-0.37791	(0.776%)	<.0001	47.5	49.0
8	100	09/15/2011	05/17/2012	48.6511	-0.27562	(0.563%)	0.30967	0.641%	0.0245	47.5	49.8
9	31	05/21/2012	08/01/2012	48.3020	-0.62475	(1.277%)	-0.34914	(0.718%)	<.0001	47.2	49.8
10	50	08/02/2012	11/30/2012	47.8932	-1.03355	(2.112%)	-0.40879	(0.846%)	<.0001	46.6	49.3

Figure 87 Iowa City QDR 80030 Total Percent Fat (uncorrected), intervals 2, 4, 6, & 8-11 to be corrected



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics of User-defined Intervals for TOTPF at Iowa

where PHID=1037 / Mode:4500/Delphi Array

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	39	06/16/2003	09/09/2003	48.9267	.	.	.	.	_	47.8	49.8
2	80	09/10/2003	03/16/2004	48.5480	-0.37877	(0.774%)	-0.37877	(0.774%)	0.0008	47.3	49.8
3	16	03/17/2004	04/21/2004	48.9377	0.01101	0.022%	0.38977	0.803%	1.0000	47.9	49.8
4	36	04/26/2004	07/14/2004	48.4891	-0.43769	(0.895%)	-0.44870	(0.917%)	0.0012	47.7	49.2
5	5	07/19/2004	07/27/2004	49.2002	0.27345	0.559%	0.71114	1.467%	0.8410	48.6	49.7
6	84	07/28/2004	03/14/2005	48.5586	-0.36816	(0.752%)	-0.64160	(1.304%)	0.0011	47.5	49.8
7	41	03/15/2005	07/18/2011	48.7194	-0.20738	(0.424%)	0.16078	0.331%	0.3358	47.3	49.6
8	24	07/20/2011	09/14/2011	48.3415	-0.58529	(1.196%)	-0.37791	(0.776%)	<.0001	47.5	49.0
9	100	09/15/2011	05/17/2012	48.6511	-0.27562	(0.563%)	0.30967	0.641%	0.0245	47.5	49.8
10	31	05/21/2012	08/01/2012	48.3020	-0.62475	(1.277%)	-0.34914	(0.718%)	<.0001	47.2	49.8
11	50	08/02/2012	11/30/2012	47.8932	-1.03355	(2.112%)	-0.40879	(0.846%)	<.0001	46.6	49.3

MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics of User-defined Intervals for TOTPF at Iowa Scaled Down to Target Mean=1
where PHID=1037 / Mode:4500/Delphi Array

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	39	06/16/2003	09/09/2003	0.99989	.	.	.	.	_	1.0	1.0
2	**80**	**09/10/2003**	**03/16/2004**	**0.99215**	**-0.007741**	**(0.774%)**	**-0.007741**	**(0.774%)**	**0.0008**	**1.0**	**1.0**
3	16	03/17/2004	04/21/2004	1.00012	0.000225	0.022%	0.007966	0.803%	1.0000	1.0	1.0
4	**36**	**04/26/2004**	**07/14/2004**	**0.99095**	**-0.008945**	**(0.895%)**	**-0.009170**	**(0.917%)**	**0.0012**	**1.0**	**1.0**
5	5	07/19/2004	07/27/2004	1.00548	0.005588	0.559%	0.014533	1.467%	0.8410	1.0	1.0
6	**84**	**07/28/2004**	**03/14/2005**	**0.99237**	**-0.007524**	**(0.752%)**	**-0.013112**	**(1.304%)**	**0.0011**	**1.0**	**1.0**
7	41	03/15/2005	07/18/2011	0.99565	-0.004238	(0.424%)	0.003286	0.331%	0.3358	1.0	1.0
8	**24**	**07/20/2011**	**09/14/2011**	**0.98793**	**-0.011961**	**(1.196%)**	**-0.007723**	**(0.776%)**	**<.0001**	**1.0**	**1.0**
9	**100**	**09/15/2011**	**05/17/2012**	**0.99426**	**-0.005633**	**(0.563%)**	**0.006329**	**0.641%**	**0.0245**	**1.0**	**1.0**
10	**31**	**05/21/2012**	**08/01/2012**	**0.98712**	**-0.012768**	**(1.277%)**	**-0.007135**	**(0.718%)**	**<.0001**	**1.0**	**1.0**
11	**50**	**08/02/2012**	**11/30/2012**	**0.97877**	**-0.021122**	**(2.112%)**	**-0.008354**	**(0.846%)**	**<.0001**	**1.0**	**1.0**

***CORRECTION FACTOR FOR SCANS PERFORMED FROM 9/10/03-3/16/04: 1/0.99215 = 1.0079**
***CORRECTION FACTOR FOR SCANS PERFORMED FROM 4/26/04-7/14/04: 1/0.99095 = 1.0091**
***CORRECTION FACTOR FOR SCANS PERFORMED FROM 7/28/04-3/14/05: 1/0.99237 = 1.0077**
***CORRECTION FACTOR FOR SCANS PERFORMED FROM 7/20/11-9/14/11: 1/0.98793 = 1.0122**
***CORRECTION FACTOR FOR SCANS PERFORMED FROM 9/15/11-5/20/12: 1/0.99426 = 1.0058**
***CORRECTION FACTOR FOR SCANS PERFORMED FROM 5/21/12-8/1/12: 1/0.98712 = 1.0130**
***CORRECTION FACTOR FOR SCANS PERFORMED FROM 8/2/12 ONWARD: 1/0.97877 = 1.0217**

Figure 48 Iowa City QDR 80030 Total Percent Fat (uncorrected), without breakpoints

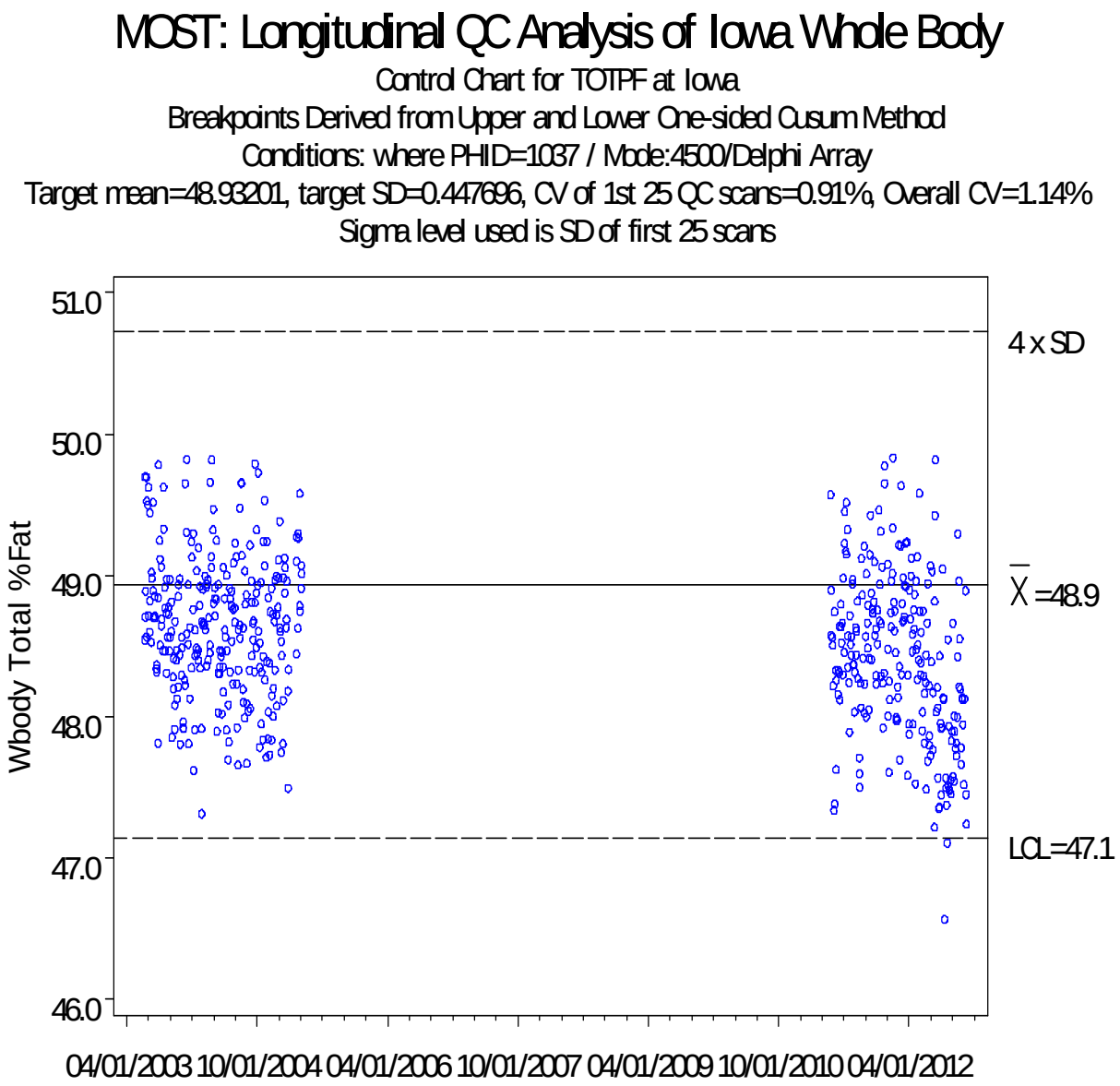
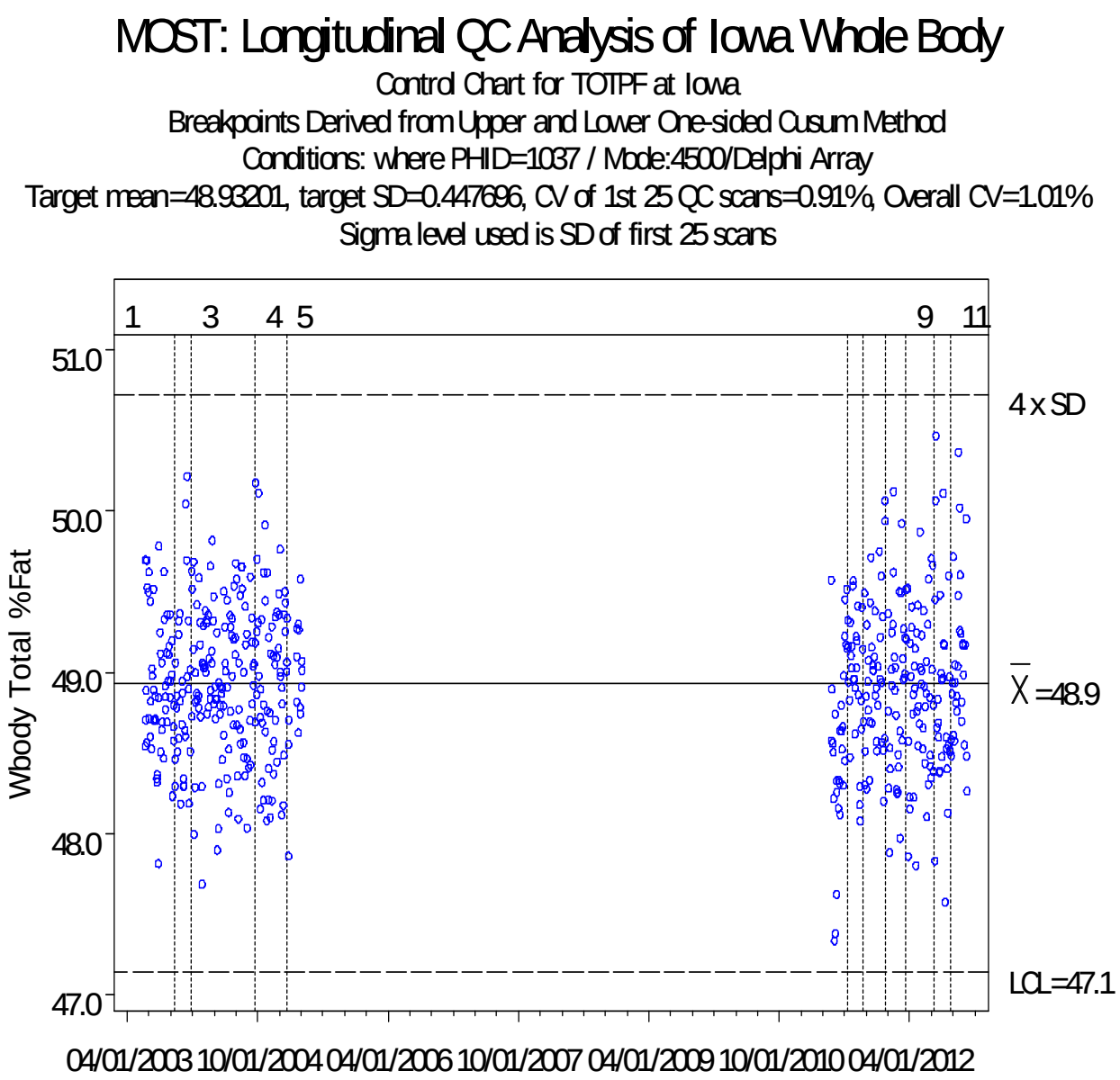


Figure 49 Iowa City QDR 80030 Total Percent Fat (corrected), with all automatically found breakpoints



Statistics on All Automatically Found Intervals for TOTPF at Iowa
where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=48.93201, target SD=0.447696, CV of 1st 25 QC scans=0.91%, Overall CV=1.01%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	75	06/16/2003	12/02/2003	48.8696	.	.	.	.	_	47.8	49.8
2	29	12/03/2003	02/10/2004	49.0086	0.13907	0.285%	0.13907	0.285%	0.8292	47.7	50.2
3	112	02/11/2004	11/02/2004	48.9897	0.12013	0.246%	-0.01894	(0.039%)	0.5797	47.9	50.2
4	44	11/03/2004	03/14/2005	48.8676	-0.00194	(0.004%)	-0.12208	(0.249%)	1.0000	47.9	49.8
5	59	03/15/2005	08/29/2011	48.8296	-0.03997	(0.082%)	-0.03803	(0.078%)	0.9999	47.3	49.6
6	25	08/31/2011	10/31/2011	48.8303	-0.03928	(0.080%)	0.00069	0.001%	1.0000	48.1	49.7
7	37	11/02/2011	02/02/2012	49.0113	0.14171	0.290%	0.18099	0.371%	0.7343	47.9	50.1
8	36	02/06/2012	04/30/2012	48.8252	-0.04441	(0.091%)	-0.18611	(0.380%)	0.9999	47.8	49.9
9	50	05/02/2012	08/27/2012	48.9580	0.08841	0.181%	0.13282	0.272%	0.9619	47.8	50.5
10	29	08/30/2012	11/05/2012	48.9177	0.04819	0.099%	-0.04022	(0.082%)	0.9999	47.6	50.4
11	10	11/07/2012	11/30/2012	48.9286	0.05905	0.121%	0.01086	0.022%	1.0000	48.3	50.0

Figure 50 Iowa City QDR 80030 Total Percent Fat (corrected), without breakpoints

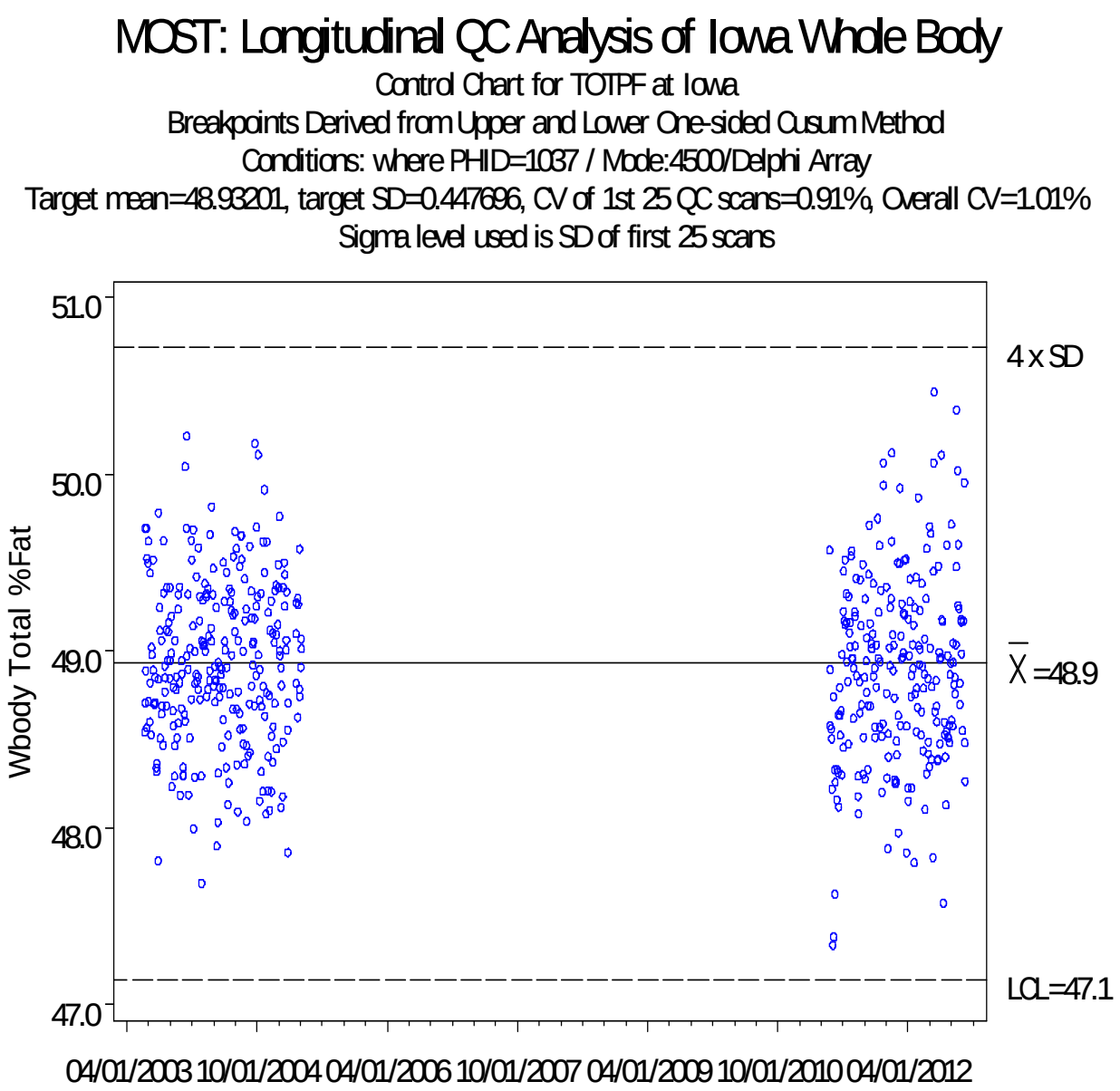
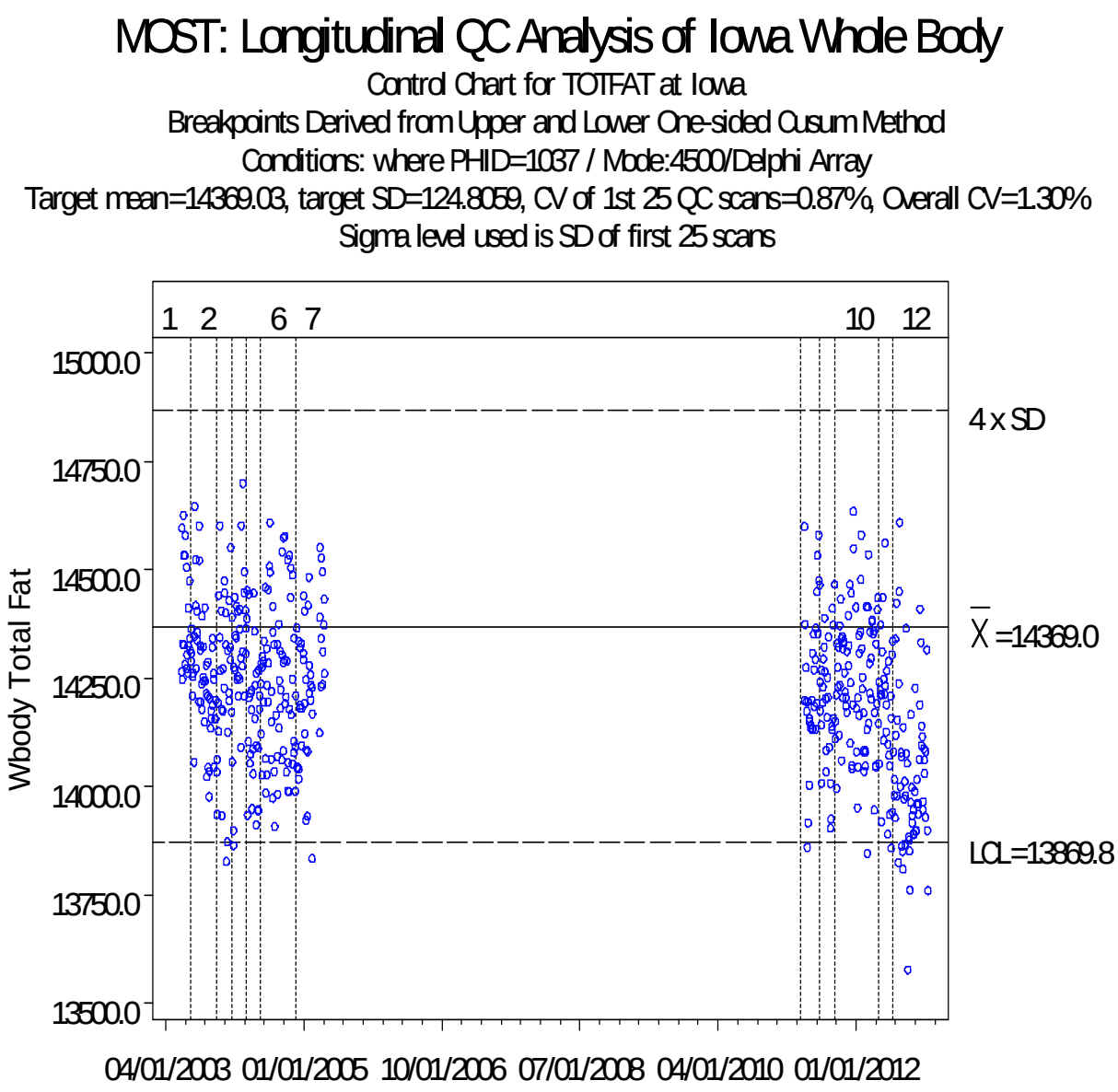


Figure 51 Iowa City QDR 80030 Total Fat (uncorrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTFAT at Iowa
where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=14369.03, target SD=124.8059, CV of 1st 25 QC scans=0.87%, Overall CV=1.30%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	39	06/16/2003	09/09/2003	14373.03	.	.	.	.	_	14056.8	14647.2
2	50	09/10/2003	01/06/2004	14223.05	-149.978	(1.043%)	-149.978	(1.043%)	0.0002	13933.9	14601.8
3	29	01/07/2004	03/15/2004	14236.51	-136.523	(0.950%)	13.455	0.095%	0.0072	13827.6	14551.3
4	29	03/16/2004	05/19/2004	14274.48	-98.552	(0.686%)	37.971	0.267%	0.1093	13934.9	14699.9
5	29	05/24/2004	07/27/2004	14211.11	-161.921	(1.127%)	-63.369	(0.444%)	0.0007	13911.9	14609.1
6	67	07/28/2004	01/04/2005	14226.72	-146.312	(1.018%)	15.608	0.110%	0.0001	13908.6	14578.1
7	39	01/05/2005	06/01/2011	14229.40	-143.631	(0.999%)	2.681	0.019%	0.0013	13834.6	14600.0
8	37	06/02/2011	08/29/2011	14257.89	-115.136	(0.801%)	28.495	0.200%	0.0210	14008.5	14580.5
9	29	08/31/2011	11/09/2011	14218.44	-154.594	(1.076%)	-39.458	(0.277%)	0.0014	13904.5	14466.8
10	80	11/10/2011	05/24/2012	14243.38	-129.653	(0.902%)	24.941	0.175%	0.0006	13846.5	14634.7
11	28	05/29/2012	08/01/2012	14122.92	-250.113	(1.740%)	-120.459	(0.846%)	<.0001	13825.2	14609.7
12	50	08/02/2012	11/30/2012	13998.69	-374.342	(2.604%)	-124.229	(0.880%)	<.0001	13578.5	14410.2

Figure 52 Iowa City QDR 80030 Total Fat (uncorrected), without breakpoints

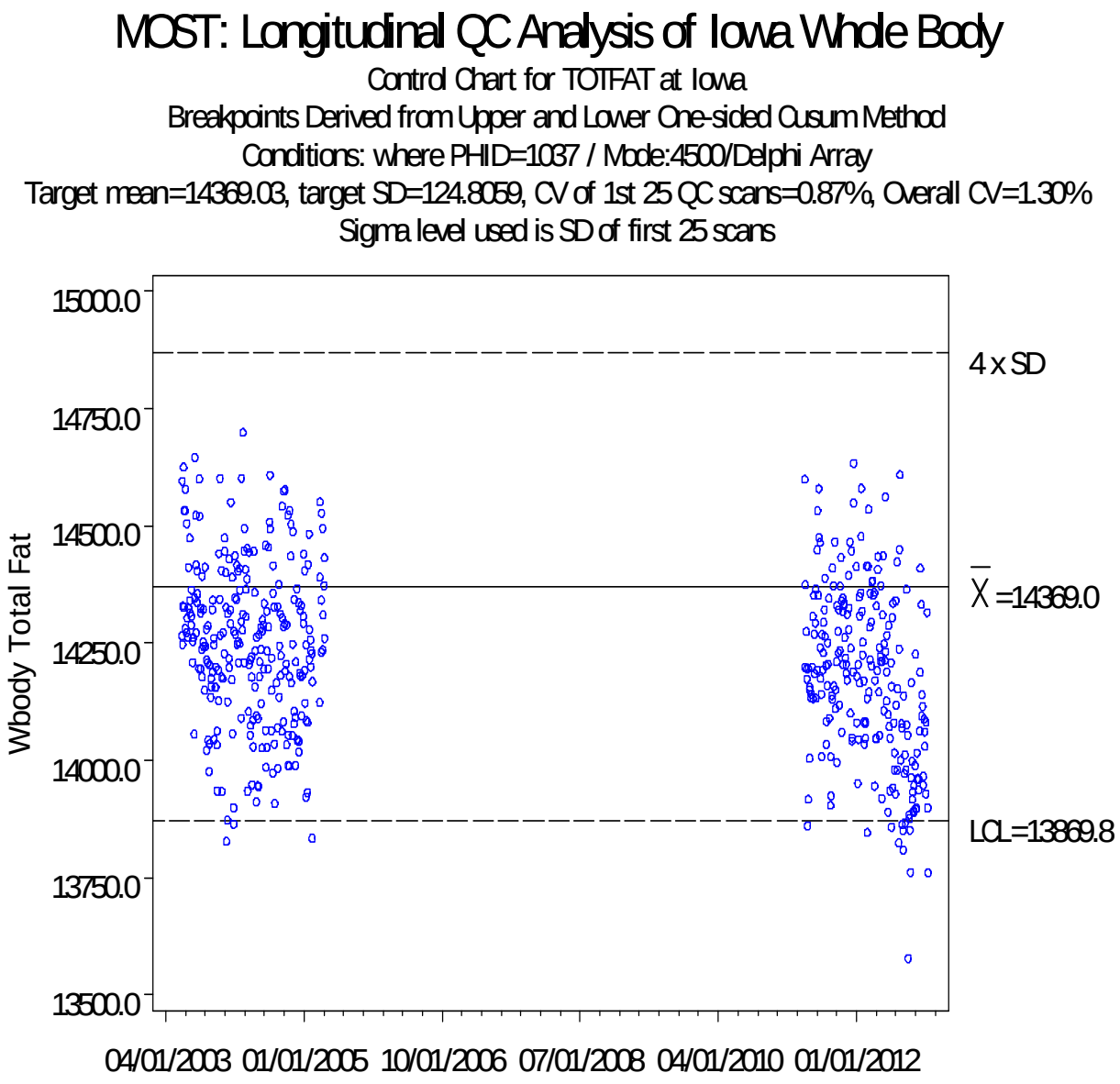
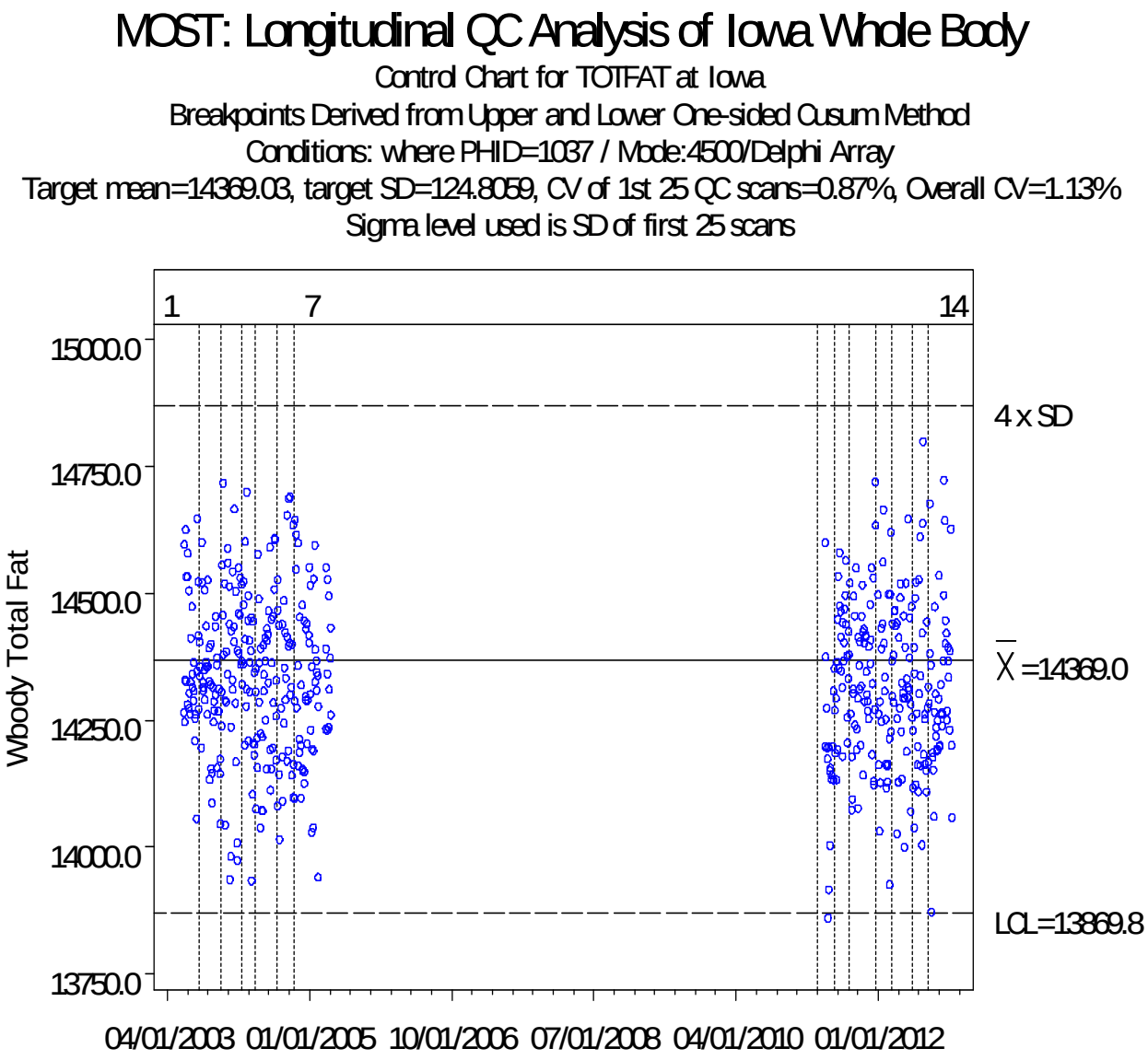


Figure 53 Iowa City QDR 80030 Total Fat (corrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTFAT at Iowa
where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=14369.03, target SD=124.8059, CV of 1st 25 QC scans=0.87%, Overall CV=1.13%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	51	06/16/2003	10/07/2003	14373.10	.	.	.	.	_	14056.8	14647.2
2	41	10/08/2003	01/13/2004	14303.61	-69.488	(0.483%)	-69.488	(0.483%)	0.2991	13936.9	14717.2
3	39	01/14/2004	04/13/2004	14393.27	20.171	0.140%	89.659	0.627%	0.9998	13974.7	14699.9
4	27	04/14/2004	06/15/2004	14262.59	-110.508	(0.769%)	-130.679	(0.908%)	0.0387	13934.9	14577.8
5	39	06/16/2004	09/20/2004	14325.59	-47.514	(0.331%)	62.994	0.442%	0.7937	14015.7	14609.1
6	34	09/21/2004	12/07/2004	14350.33	-22.768	(0.158%)	24.746	0.173%	0.9995	14096.2	14690.3
7	44	12/08/2004	05/16/2011	14331.62	-41.481	(0.289%)	-18.713	(0.130%)	0.8783	13941.2	14600.0
8	33	05/18/2011	08/03/2011	14263.60	-109.500	(0.762%)	-68.019	(0.475%)	0.0237	13860.9	14580.5
9	25	08/04/2011	10/05/2011	14329.31	-43.787	(0.305%)	65.713	0.461%	0.9405	14074.2	14564.9
10	48	10/06/2011	02/02/2012	14358.84	-14.263	(0.099%)	29.525	0.206%	1.0000	14032.2	14719.5
11	29	02/06/2012	04/12/2012	14303.17	-69.927	(0.487%)	-55.664	(0.388%)	0.4236	13926.8	14620.1
12	40	04/16/2012	07/18/2012	14297.32	-75.783	(0.527%)	-5.856	(0.041%)	0.2098	14000.7	14646.9
13	29	07/19/2012	09/26/2012	14283.59	-89.511	(0.623%)	-13.729	(0.096%)	0.1450	13873.2	14799.6
14	27	09/27/2012	11/30/2012	14350.25	-22.846	(0.159%)	66.666	0.467%	0.9998	14059.2	14722.9

Figure 94 Iowa City QDR 80030 Total Fat (corrected), without breakpoints

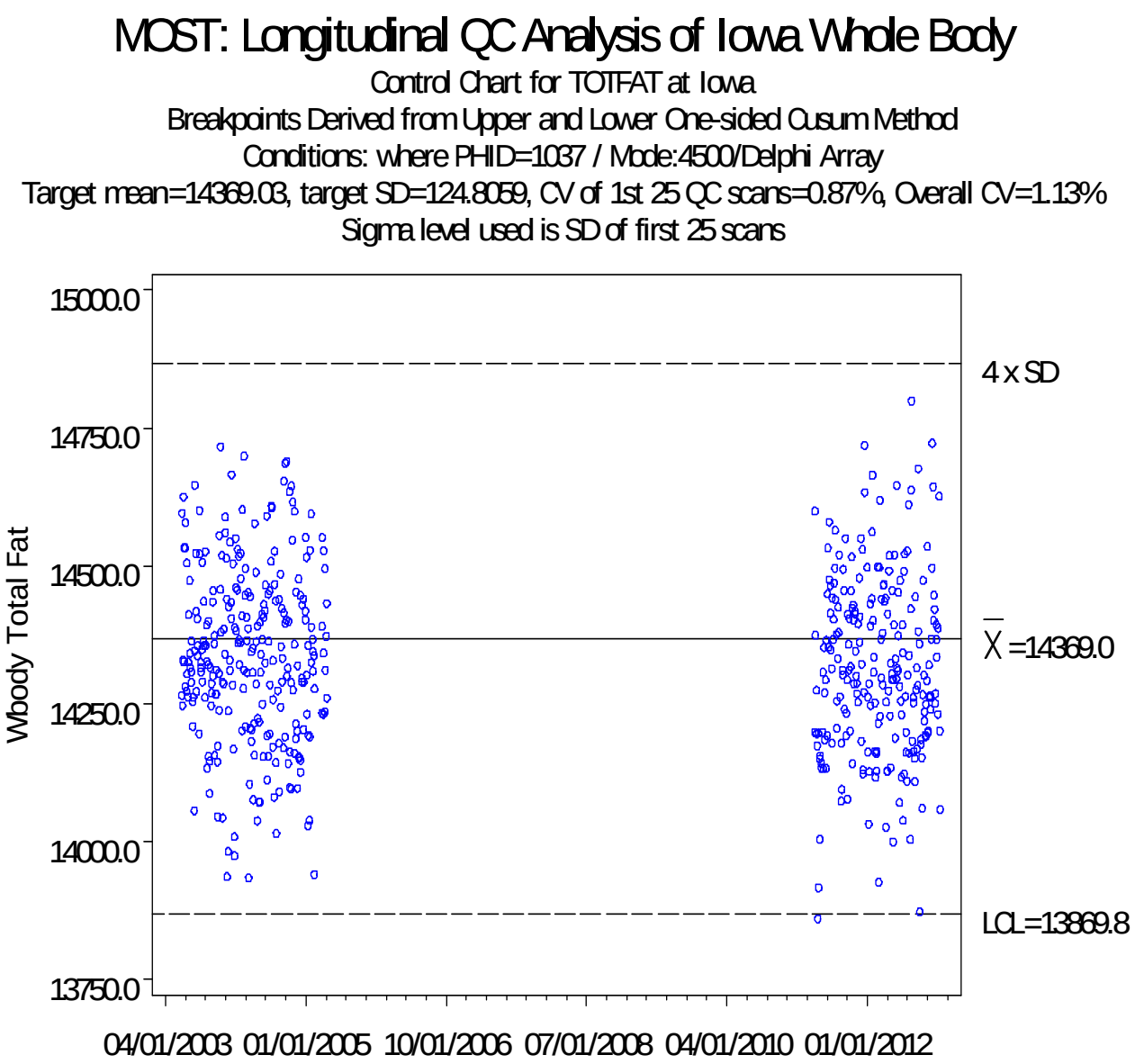
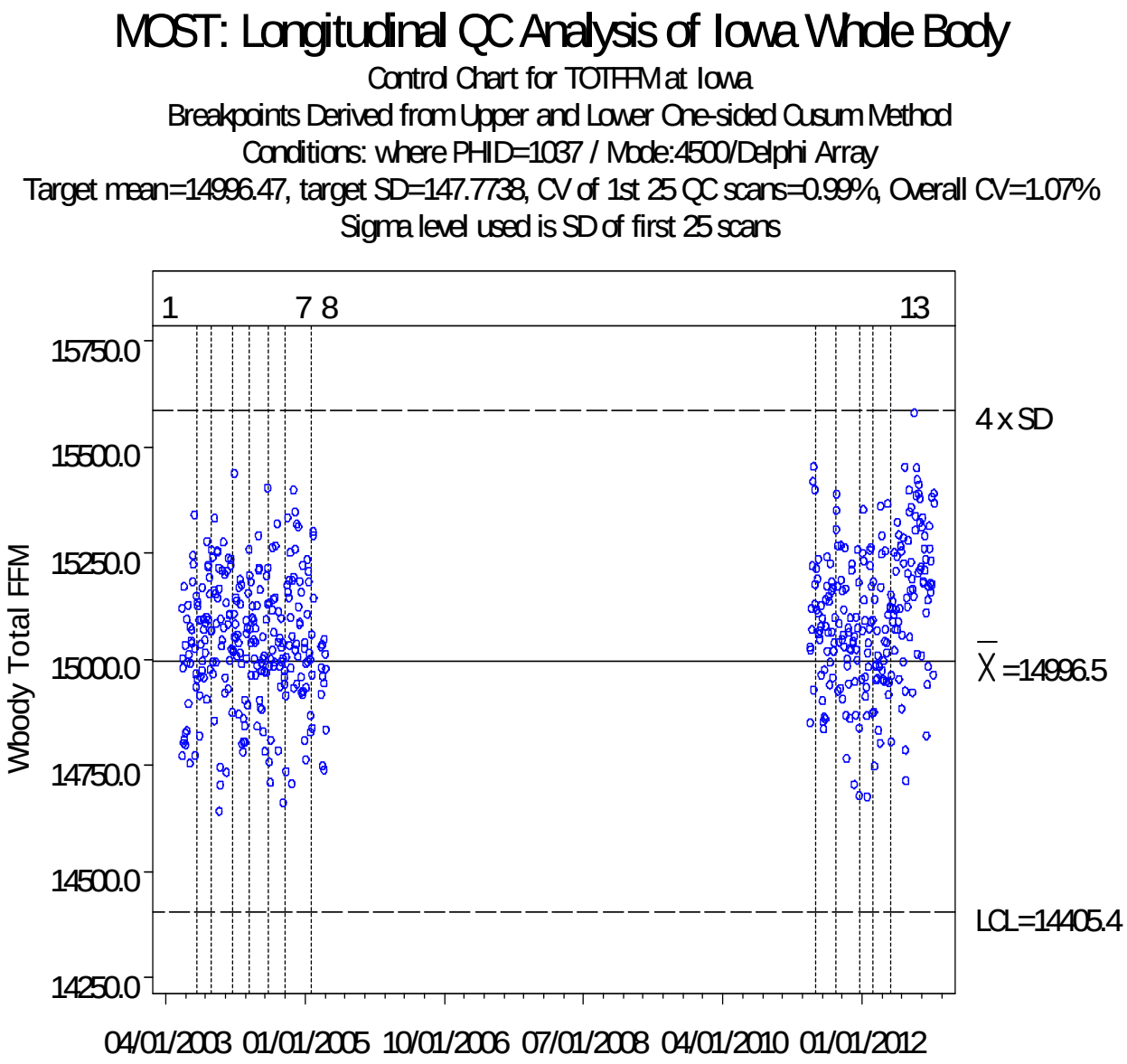


Figure 55 Iowa City QDR 80030 Total Fat Free Mass (uncorrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTFFM at Iowa
where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=14996.47, target SD=147.7738, CV of 1st 25 QC scans=0.99%, Overall CV=1.07%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	51	06/16/2003	10/07/2003	15012.86	.	.	.	.	_	14755.9	15340.9
2	26	10/08/2003	12/08/2003	15105.71	92.844	0.618%	92.844	0.618%	0.1039	14643.2	15333.5
3	42	12/09/2003	03/16/2004	15074.38	61.517	0.410%	-31.327	(0.207%)	0.3674	14704.6	15438.5
4	32	03/17/2004	06/01/2004	15018.42	5.562	0.037%	-55.955	(0.371%)	1.0000	14782.6	15291.9
5	36	06/02/2004	08/25/2004	15044.67	31.804	0.212%	26.242	0.175%	0.9745	14710.6	15404.5
6	34	08/30/2004	11/15/2004	15042.90	30.040	0.200%	-1.764	(0.012%)	0.9854	14663.1	15399.9
7	38	11/16/2004	02/09/2005	15055.02	42.160	0.281%	12.120	0.081%	0.8409	14764.4	15318.2
8	42	03/14/2005	07/18/2011	15039.48	26.618	0.177%	-15.542	(0.103%)	0.9910	14740.6	15454.3
9	38	07/20/2011	10/19/2011	15119.50	106.637	0.710%	80.019	0.532%	0.0122	14907.3	15390.1
10	42	10/20/2011	02/02/2012	15010.54	-2.321	(0.015%)	-108.959	(0.721%)	1.0000	14677.1	15353.3
11	25	02/06/2012	04/04/2012	15065.79	52.929	0.353%	55.250	0.368%	0.7520	14748.8	15361.0
12	34	04/05/2012	06/21/2012	15083.78	70.916	0.472%	17.987	0.119%	0.2698	14806.7	15367.0
13	66	06/25/2012	11/30/2012	15200.38	187.515	1.249%	116.599	0.773%	<.0001	14714.9	15580.8

Figure 56 Iowa City QDR 80030 Total Fat Free Mass (uncorrected), without breakpoints

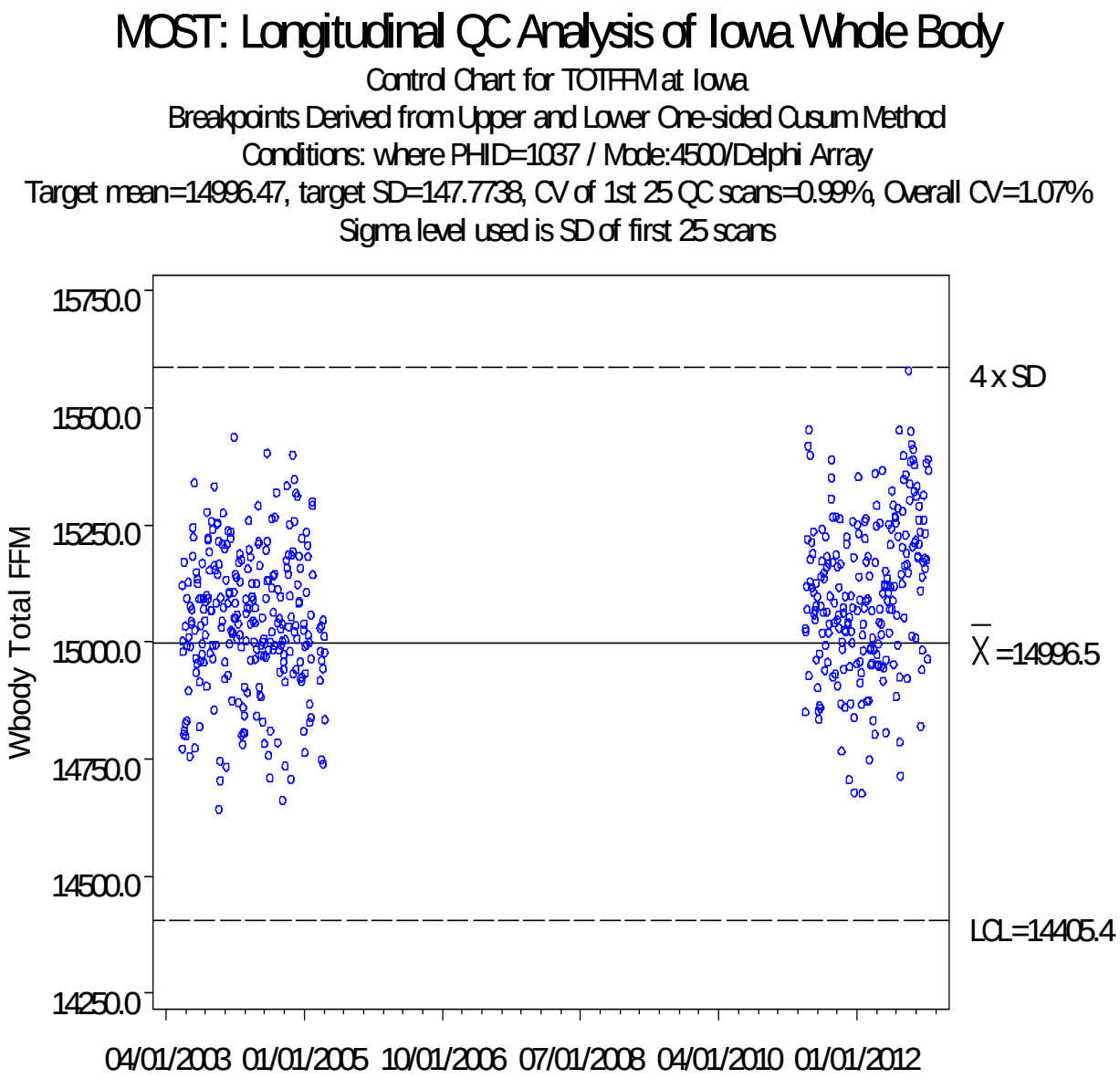
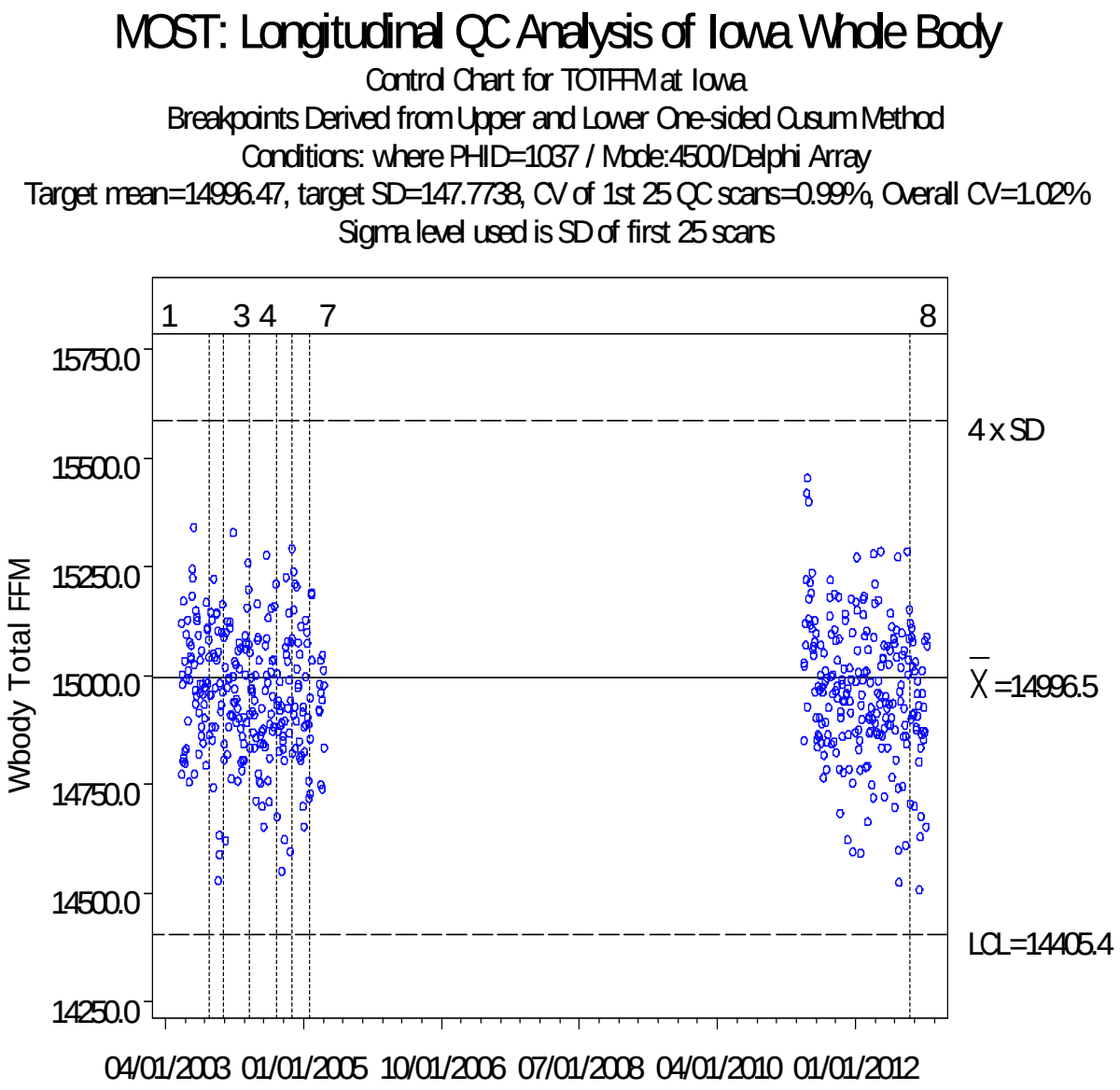


Figure 57 Iowa City QDR 80030 Total Fat Free Mass (corrected), with all automatically found breakpoints



MOST: Longitudinal QC Analysis of Iowa Whole Body
Statistics on All Automatically Found Intervals for TOTFFM at Iowa
where PHID=1037 / Mode:4500/Delphi Array
CUSUM sigma level used: SD of first 25 scans
Target mean=14996.47, target SD=147.7738, CV of 1st 25 QC scans=0.99%, Overall CV=1.02%

Int	N Obs	From	To	INTERVAL MEAN	DIFF FROM 1ST INTERVAL	% DIFF FROM 1ST INTERVAL	DIFF FROM PREVIOUS INTERVAL	% DIFF FROM PREVIOUS MEAN	Control Int vs Int Pr>|T|	Min	Max
1	75	06/16/2003	12/02/2003	14999.73	.	.	.	.	_	14743.5	15340.9
2	29	12/03/2003	02/10/2004	14935.53	-64.200	(0.428%)	-64.200	(0.428%)	0.2574	14529.1	15329.0
3	49	02/11/2004	06/03/2004	14961.77	-37.969	(0.253%)	26.231	0.176%	0.6477	14713.0	15260.0
4	52	06/07/2004	10/06/2004	14902.75	-96.987	(0.647%)	-59.018	(0.394%)	0.0023	14551.1	15276.8
5	32	10/11/2004	12/21/2004	15007.74	8.004	0.053%	104.991	0.705%	1.0000	14596.6	15291.7
6	22	12/22/2004	02/09/2005	14914.91	-84.826	(0.566%)	-92.830	(0.619%)	0.1120	14653.5	15191.6
7	231	03/14/2005	10/22/2012	14970.78	-28.958	(0.193%)	55.868	0.375%	0.5914	14525.0	15454.3
8	16	10/24/2012	11/30/2012	14856.60	-143.134	(0.954%)	-114.176	(0.763%)	0.0036	14508.1	15089.9

Figure 58 Iowa City QDR 80030 Total Fat Free Mass (corrected), without breakpoints