Introduction

A complete blood count (CBC) is performed in duplicate on all study participants (SPs) aged 1 year and older. The CBC is performed on the Coulter® DxH 800 analyzer using the SP's EDTA blood tubes, which are obtained via the phlebotomy component.

Purpose and Principle of Test

The UniCel DxH 800 analyzer is a quantitative, automated hematology analyzer for in-vitro diagnostic use in screening patient populations in clinical laboratories. The UniCel DxH 800 Analyzer provides the following: CBC, Leukocyte 5-Part Differential (Diff), Reticulocyte (Retic), and Nucleated Red Blood Cell (NRBC) on whole blood.

NOTE: The NHANES study does not use the reticulocyte data, and the NRBC is used only for calculating a corrected white blood cell count.

The UniCel DxH 800 Analyzer measures the following parameters:

WBC	White Blood Cell count
UWBC	Uncorrected White Blood Cell count
RBC	Red Blood Cell count (for Whole Blood and Body Fluids)
Hgb	Hemoglobin
Hct	Hematocrit
MCV	Mean Corpuscular Volume
MCH	Mean Corpuscular Hemoglobin
MCHC	Mean Corpuscular Hemoglobin Concentration
RDW	Red Cell Distribution Width
RDW-SD	Red Cell Distribution Width Standard Deviation (SD)
PLT	Platelet count
MPV	Mean Platelet Volume
NE	Neutrophil percent
LY	Lymphocyte percent
MO	Monocyte percent
EO	Eosinophil percent
BA	Basophil percent
NE#	Neutrophil absolute number
LY#	Lymphocyte absolute number

MO#	Monocyte absolute number
EO#	Eosinophil absolute number
BA#	Basophil absolute number
NRBC	Nucleated Red Blood Cell percent
NRBC#	Nucleated Red Blood Cell absolute number
RET	Reticulocyte percent
RET#	Reticulocyte absolute number
MRV	Mean Reticulocyte Volume
IRF	Immature Reticulocyte Fraction
TNC	Total Nucleated Cell (Body Fluids)

Coulter Method

In 1956, Wallace Coulter described the Coulter Principle as follows: A suspension of blood cells is passed through a small orifice simultaneously with an electric current. The individual blood cells passing through the orifice introduce an impedance change in the orifice determined by the size of the cell.

Each cell suspended in a conductive liquid (diluent) acts as an insulator. As each cell passes through the aperture, it momentarily increases the resistance of the electrical path between the submerged electrodes on either side of the aperture. This causes a measurable electronic pulse. For purposes of counting, the vacuum used to pull the diluted suspension of cells through the aperture must be at a regulated volume. The number of recorded pulses indicates particle count, and the size of the electrical pulse is proportional to the cell volume. In addition, the system counts the individual cells and provides cell size distribution. The number of cells counted per sample is approximately 100 times greater than the usual microscope count, which reduces the odds of statistical error approximately 10 times.

VCSn Technology

Historically, Beckman Coulter analyzers housed a flow cell in a Triple Transducer Module (TTM), which was first introduced commercially in the 1980s. The TTM flow cell was the location for detection of the processed samples. The TTM produced three measurement signals—volume, conductivity, and light scatter.

The DxH 800 system replaces the TTM with the Multi-Transducer Module (MTM), which measures additional multiple angles of light scatter, a major improvement over the single light scatter measured by the TTM. All Diff, NRBC, and Retic analysis occurs in the VCSn module. The VCSn module is responsible for controlled sample preparation and delivery of the prepared sample to the flow cell for analysis of the WBC

differential, reticulocyte, and NRBC. The VCSn module includes the Air Mix and Temperature Control (AMTC) and the Multi-Transducer Module (MTM).

In the flow cell, low-frequency direct current measures volume, while high-frequency (RF) current senses cellular internal content through measuring changes in conductivity.

The MTM uses a flow cell to pass particles through a sensing zone, one particle at a time, and a diode laser to illuminate the particles. The illuminated particles both scatter and absorb a portion of the incident light. Sensors strategically placed around the flow cell collect the scattered light of interest. An additional sensor placed in the laser path measures the amount of light removed due to light scatter and absorption. This measurement is called Axial Light Loss.

Dataplot Development

The SM performs a series of operations on the stored digital raw values received from the flow cell to identify populations and calculate the frequency of cells within each population. The system produces the dataplot displays for visual representation of the Differential, NRBC membership (types of cells), and density (concentration).

The DxH 800 system algorithm uses tools designed for finding optimal separation between overlapping clusters of data.

The algorithm can:

- Adapt to unusual population shifts and overlaps;
- Define highly irregular separation;
- Make subsequent analysis of the identified regions; and
- Correct deficiencies in separation.

In the dataplots, different colors represent different memberships. Shades of colors represent density: dark colors for low density and bright colors for high density, as shown in the following listing:

NRBC analysis		Diff analysis	
NRBC	Red	Lymphocyte	Blue
Other*	Green	Monocyte	Green
WBC	Blue	Neutrophil	Purple
		Eosinophil	Orange
		Basophil	White
		Non-White Cell	Red

* Others include RBC debris, and PLT debris, etc.

6.2.4 Parameter Measurement, Derivation, and Calculation

Exhibit 6-1 lists each reportable parameter and the method used to obtain the results. A description of the method is also included.

Exhibit 6-1. Reportable parameters and analysis methods

Parameter (reporting units in US-1 format)	Method	Description
WBC	Coulter Principle	White Blood Cell Count or Leukocyte Count ■ Measure directly, multiplied by the calibration factor. ■ Corrected for interference if necessary. If no correction is required, then WBC = UWBC. ■ WBC = N x 10^3 cells/µL.
UWBC	Coulter Principle	Uncorrected White Blood Cell ■ Measure directly, multiplied by the calibration factor. ■ UWBC = N x 10^3 cells/µL.
RBC	Coulter Principle	Red Blood Cell Count or Erythrocyte Count ■ Measure directly, multiplied by the calibration factor. ■ Corrected for very high white count if necessary. ■ RBC = N X 10^6 cells/µL.
Hgb	Photometric Measurement	Hemoglobin or Hemoglobin Concentration ■ Transmittance of light at 525 nm through a lysed WBC solution in the Hgb cuvette, compared to the transmittance of the same light through a reagent blank. The system converts this ratio to the Hgb value using a calibration factor. ■ Weight (mass) of Hgb determined from the degree of absorbance found through photo current transmittance expressed in g/dl. ■ Corrected for WBC interference. ■ Hgb (g/dl) = [constant X $\log^{10}$ (Reference %T/Sample %T)].
Hct	Calculated	Hematocrit ■ The relative volume of packed erythrocytes to whole blood. ■ Hct (%) = RBC X MCV^{10}).
MCV	Derived from RBC Histogram	Mean Corpuscular Volume ■ The average volume of individual erythrocytes derived from the RBC histogram. ■ The system multiples the number of RBC in each channel by the size of the RBC in that channel. The products of each channel between 36 and 360 femtoliters (fL) are added. This sum is

		divided by the total number of RBC between 36 and 360 fL. The analyzer then multiplies by a calibration factor. ■ Corrected for WBC interference. ■ Expressed in fL.

The DxH 800 system includes a Specimen Processing Module (SPM), a Pneumatic Supply Module (PSM), and an SM, precisely integrated to provide process control, data consolidation, and cassette or single-tube delivery of specimens.

Components of DxH 800

The Specimen Processing Module

The SPM is made up of the following functional modules:

- **Specimen Transport Module (STM).** The STM automatically transports specimens, delivering closed-vial and open-vial specimens, which accommodates a wide range of specimen tubes. The STM supports the following:
  - Operator loading and unloading of specimens;
  - Transport and queuing of specimens;
  - Mixing and presentation of specimens; and
  - A Magnetic Transport System to move cassettes containing specimens.
- **Sample Aspiration Module (SAM).** The SAM aspirates from capped specimen tubes (presented via cassette or single-tube presentation) or open vials (single-tube presentation). Body fluids are presented via single-tube, while whole bloods can be presented in either presentation mode. The identification and integrity of samples are verified prior to delivery and transfer to the analytical modules within the system. The SAM design provides for two methods of sample delivery: sample segmentation and sample dispensing. In sample segmentation, aspirated sample is transferred through the BSV where it is segmented for whole blood CBC and body fluid. In sample dispensing, whole blood sample segments are dispensed via the aspiration probe into the mixing chambers on the Air Mix Temperature Control Module (AMTC) for the WBC differential, and NRBC analyses.
- **VCSn Module.** The VCSn module provides the physical processing elements necessary for the Differential and NRBC sample preparation and subsequent measurement. This module includes the Distribution Valve (DV), Air Mix Temperature Control (AMTC) module, Multi-transducer Module (MTM) and their associated electronics and fluidics. Samples prepared at the AMTC are delivered to the MTM where the sample detection occurs.

- **CBC Assembly.** The CBC Assembly provides the physical processing elements necessary for CBC sample conditioning (combining of reagents and the sample segment, mixing, and incubation) and measurement via the aperture bath assemblies, the Hgb assembly, and the electrical signal conditioning circuits.

- Common services consist of the Electronic Supply Module, Pneumatic Services, and Reagent Services (supply and distribution). Common Services provides and monitors electronic power and supplies and monitors the reagent and waste levels as well as the pressure and vacuum.

The System Manager

The DxH 800 SM is responsible for the following:

- Controlling processes, such as analytic and diagnostic procedures;

- Producing test results; and

- Managing data, such as test ordering, result, review and release, quality control, LIS interface, logging, and report generation

The SM includes an LCD flat panel monitor with touch screen capability, a computer with a CD/DVD RW drive running Microsoft Windows operating system, the DxH 800 software, a standard keyboard, and an optical mouse.

Pneumatic Supply Module

The PSM supplies vacuum and pressure to the SPM.

Special Safety Precautions

All specimens may be potentially positive for infectious agents including HIV and Hepatitis B and C viruses. Observe standard precautions. It is mandatory to wear gloves and a lab coat when handling all human blood products and Coulter controls. Dispose of all biological samples in a biohazard container and wipe down all work surfaces with a 10% bleach solution at the end of each session.

The MEC *Working Safely with Hazardous Chemicals* manual contains all Coulter material safety data sheets (MSDS).

Computerization: Integrated Survey Information System (ISIS)

The DxH 800 SM transmits individual SP results to the MEC automated ISIS system. All SP results are reviewed at the DxH 800 SM monitor.

The ISIS hematology module in the laboratory application automatically receives the results, or results are transmitted manually to the hematology module. The laboratory application evaluates the data for completeness and accuracy. The final decision to accept or reject a result is the responsibility of the medical technologist.

All data are backed up and stored at Westat's home office.

Specimen Collection and Preparation

Specimen Collection

- The phlebotomist collects a 3- or 4-ml K2 EDTA (ethylene diamine-tetracetic acid) tube, used for a CBC on all SPs aged 1 year and older, following the established venipuncture protocol and procedures. (A 1-2% dilution effect occurs in this liquid EDTA tube.)
- Sample volume is 165µL of whole blood in the closed-vial mode or the single tube presentation mode. The minimum sample volume per tube in the closed-vial mode is 1-ml with the proper proportion of blood to anticoagulant.

Specimen Preparation

- For SPs 1-2 years old, the medical technologist working in the blood specimen-processing workstation initially processes the tube by first taking off whole blood required for various tests in the SP's profile. The medical technologist working in the blood specimen-processing workstation places the specimen on a rocker until the medical technologist working in the hematology workstation can perform the CBC. The CBC should be run as soon as possible; there is no requirement to wait any length of time between drawing the blood and running the CBC.
- There is a dedicated tube drawn for the CBC on SPs aged 3 years and older.
- For SPs aged 3-19, the CBC tube should be given to workstation 2 after the CBC has been resulted and reported. This tube will be spun down for the fluoride vessel.

Procedure for Microscopic Examination

Not applicable. Do not prepare differential microscopic slides.

Reagents and Supplies

DxH reagents, including storage and handling requirements, are listed below:

- Coulter DxH diluent (store at 2-40° C).
  - Coulter DxH diluent is shipped in ready-to-use containers.
  - Opened containers are stable for 60 days. Do not use this product beyond the expiration date.
  - Coulter DxH diluent is a cyanide-free, isotonic buffered saline solution.
  - Coulter DxH diluent dilutes the specimen, is used for rinsing SPM components between sample analyses, and provides a sheath stream to transport the specimen through the flow cell.
- Coulter DxH Lyse reagent (store at 2-40° C).
  - Coulter DxH Lyse reagent is shipped in ready-to-use containers.
  - Opened containers are stable for 60 days. Do not use this product beyond the expiration date.
  - Coulter DxH Lyse is a cyanide-free, CBC lytic reagent that lyses red blood cells for the white blood cell count and works in conjunction with Coulter DxH Diluent to generate a stable hemoglobin measurement.
  - Coulter DxH Cell Lyse is also used to lyse the red blood cells and discriminates nucleated red blood cells from white blood cells.
- Coulter DxH Diff Pack (store at 2–25° C).
  - Coulter DxH Diff Pack is shipped in ready-to-use containers.
  - Opened containers are stable for 60 days. Do not use this product beyond the expiration date.
  - The Coulter DxH Diff Pack consists of the Erythrolyse Lytic reagent and StabliLyse Preservative reagent.

  - The Erythrolyse Lytic reagent is a cyanide-free lytic reagent that dilutes the blood sample and lyses red blood cells in preparation for white blood cell measurement in the flow cell.

  - The StabiLyse Preservative reagent neutralizes the Diff lytic reagent and preserves the white blood cells for measurement in the flow cell. Together, Erythrolyse and StabiLyse provide the five-part differential.

- Coulter DxH cleaner (store at 2–25° C).

  - Coulter DxH cleaner is shipped in ready-to-use containers.

  - Opened containers are stable for 90 days. Do not use this product beyond the expiration date.

  - DxH cleaner is a cyanide-free, aldehyde-free cleaning agent that degrades residual materials so that they may be flushed from the system with diluent.

NOTE: If any Coulter DxH reagent has been partially or completely frozen, allow the product to warm to room temperature. Mix product by gentle inversion prior to placement on the instrument.

DxH controls, including storage and handling requirements, are listed below:

- Coulter 6C cell control (store at 2–8 ° C).

  - The Coulter 6C cell control is an integrated control that enables monitoring of system performance and calibration status for all directly measured and calculated CBC, Diff, and NRBC parameters. Instructions for use are as follows:

  - Remove 6C cell control vials from refrigerator and warm at ambient temperature for 10 to 15 minutes.

  - Roll the tube slowly between the palms of the hands eight times in an upright position. Invert the tube and slowly roll between the palms of the hands eight times. Then gently invert the tube eight times. Repeat.

  - Run the controls in the cassette presentation on the instrument

  - Return the control tubes to the refrigerator within 30 minutes.

- The Coulter LIN-X Linearity control (store at 2–8° C) is recommended for verification of the reportable range and linearity, and for calibration assessment of the WBC, RBC, HGB, and PLT parameters.

  - Remove Coulter Lin-X Cell control vials from refrigerator and warm at ambient temperature for 15 minutes.

  - Roll the tube slowly between the palms of the hands eight times in an upright position. Invert the tube and slowly roll between the palms of the hands eight times. Then gently invert the tube eight times. Repeat mixing procedure three times.

- Run the Lin-X Cell controls in consecutive order beginning with Level 0 and ending with Level 11. Run controls in cassette presentation on the instrument.
- Level 11 is used to clean the system. The values for this level are not recorded.

- How to run linearity in the MEC:
  - Run each level under a separate repeatability—this is useful since it will calculate the mean for that level of Lin-X.
  - Print out the summary report for each level of Lin-X.
  - Write the level number on the top of each summary report.
  - Document all value on the Coulter Lin-X Control Worksheet.
  - Send worksheet, package insert, and summary reports in the end of stand box to the study manager at the home office in Rockville, MD.
- Coulter Latron CP-X control (store at 2 to 30° C) is recommended for the verification of the system calibration status of the VCSn parameters. Coulter Latron CP-X control checks the alignment of the laser and the flow cell on the DxH 800.
  - Perform daily checks prior to running Latron control.
  - Gently mix Latron CP-X control by inversion five to eight times. Avoid foaming.
  - Run the controls in the cassette presentation on the instrument.
- Coulter S-CAL® Calibrator is traceable to reference methods and recommended for determining adjustment factors to ensure accurate SPM measurements of directly measured CBC parameters. Calibrator results should be monitored with Coulter 6C Cell control.
  - Remove S-CAL from the refrigerator and warm at ambient temperature for 15 minutes.
  - Roll the tube slowly between the palms of the hands eight times in an upright position.
  - Invert the tube and slowly roll between the palms of the hands eight times. Then gently invert the tube eight times. Repeat.
  - Inspect the tube contents to determine if all cells have been uniformly distributed. Repeat the mixing procedure if contents have not been uniformly distributed.
  - Complete entire procedure within 1 hour.

DxH 800 Supplies

- 3-ml K_2 EDTA BD Hemogard Vacutainer® tube (367856)

- 4-ml K_2 EDTA BD Hemogard Vacutainer® tube (367861)
- Tube rocker
- Bleach, 5.25% sodium hypochlorite
- Bottled deionized water
- Plastic squirt bottle
- Cotton gauze pads
- Three-hole paper punch
- Notebook
- Flashlight
- Precision screwdriver set
- CD-RW

Shutdown of DxH 800 System

The DxH 800 SPM, SM, and monitor are connected to an uninterruptible power supply (UPS). In the event of a power outage at your facility, the components will continue to
operate for a short time so that you can shut down the system. The printer is connected to the back-up power supply. Shut down the SM as follows:

- Logoff. Select the Logoff utility icon,  then the Exit Workstation button.
- Shut down the operating system by using the routine Windows application.
- Power off the computer. Powering off the computer also powers off the monitor. You do not need to power off the monitor separately. The computer does not need to be shut down on a routine basis. Power off the computer only when circumstances are indicated.

Daily Shutdown

Beckman Coulter recommends that the SPM remain in cleaner for at least 30 minutes every 24 hours. If the SPM has power, and is in Shutdown, but the pneumatics is off, automatic cycling occurs every 24 hours to prevent flow cell and sample line clogging.

- Shutdown can be initiated manually or automatically.
- Shutdown removes diluent from the Unicel DxH 800 and replaces it with cleaner.

- At the end of the time with cleaner, the cleaner is replaced with diluent. Then, the compressor automatically shuts off.

Shutdown at the Mobile Examination Center

- Shutdown will be set automatically:
  - Select Calendar Icon on top of DxH monitor screen.
- From the Daily Checks screen, select the Shutdown button to display the Manual Shutdown dialog box.
  - Select Autoconfiguration at the bottom of the screen.
  - Select Configure Shutdown
  - Check Enable Automatic Shutdown: Fill in hour **07,** Min **00.**
  - √ Daily.
  - Make sure each of the 7 days is checked.
  - Time in cleaner **0** hour(s) **30** Minutes.
  - OK.
- Daily Checks (formerly known as StartUp) (Menu > QA > Daily Checks) is programmed to immediately follow the StartUp:
  - Select Autoconfiguration at the bottom of the screen.
  - Select Configure Daily Checks.
  - Check Enable Automatic Daily Checks.
  - Choose radio button Perform Daily Checks after Shutdown.
  - OK.
- Latron CP-X control should be run immediately following daily checks.

Cancel Automatic Shutdown

At certain times Automatic Shutdown will have to be cancelled. To cancel Automatic Shutdown:

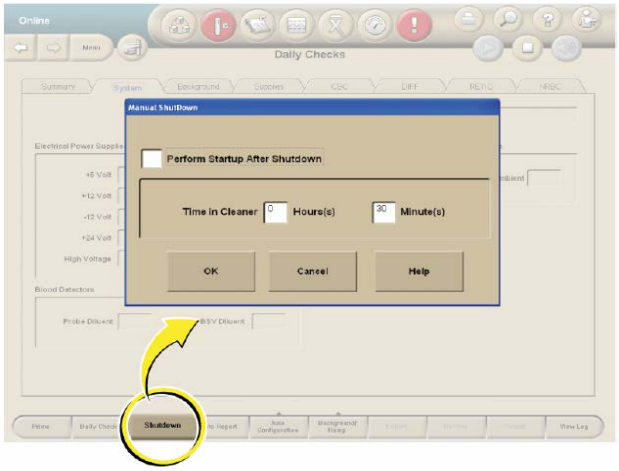
- From the Daily Checks screen, select Auto Configuration.

- Select Configure Shutdown.
- Remove the check mark from the Enable Automatic Shutdown box.

To perform a manual shutdown when Auto Configuration is disabled, please see the information that follows (Section 6.8.4).

Manual Shutdown of DxH Units

- From the Daily Checks screen, select the Shutdown button to display the Manual Shutdown dialog box.



- Select the Perform Startup after Shutdown check box to automatically begin Daily Checks after Shutdown.
- Type in Time in Cleaner 0 Hours and 30 Minutes check boxes to determine the time in cleaner.
- Select OK to begin Shutdown or Cancel to exit the pop-up window without starting Shutdown.

Logon as User

Logging on to the SM:

- Click on the  icon (person with key).
- Type your user name.
- Type your password. If you forget it, ask one of the senior techs to reset it for you.

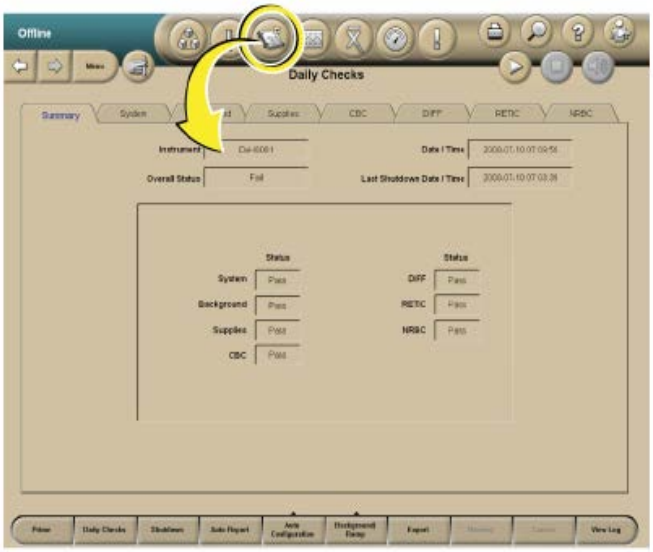
Entering New Operator

- Select Menu button upper left hand corner of DxH 800 screen.
- Then select **Setup** button.
- Select **Operators & Roles** button.
- Select **New Operator** button, enter all information. HINT: do not enter the password you want to use, the first time you sign on you will be asked to change your password. Under operators access you need to select Level 3 in order to do all tasks on the DxH 800.

Run Daily Checks

- Select the Daily Checks button (Calendar icon) from the top of any screen to display the Daily Checks Summary screen with results of the most recent Daily Checks.
- Obtain printout of Daily Checks from printer, initial as Reviewed by and place in Hematology Log Book.
- If Daily Checks passed all criteria, Run Latron Control.
- Running Daily Checks manually if Automatic Daily Check Failed:
  - Select the Daily Checks button (Calendar icon) from the top of any screen to display the Daily Checks Summary screen with results of the most recent Daily Checks.
  - Select the Daily Checks button at the bottom of the screen. A DxH 800 dialog box displays the following:

Are you sure you want to start a Daily Checks procedure? Press OK to continue.



Select OK to run Daily Checks or select Cancel.

Daily Checks Screen

- The results of Daily Checks display on eight tabbed views: Summary (default view), System, Background, Supplies, CBC, Diff, Retic, and NRBC.
- When Daily Checks pass, the Daily Checks icon is neutral. Select the individual tabs to view those results.

If any of the Daily Checks do not pass, the following occurs:

- The Daily Checks icon is red.
- The problematic result is backlit in red on the Summary tab.
- The tab that contains the problematic result has a red indicator.
- If there are any failures, you must Review Daily Checks (Event Logs > General Tab) in order to proceed with further analysis.
- The Daily Checks must pass or be reviewed in order to run specimens.
- From any tab on the Daily Checks screen, select the Review button on the Local Navigation bar to indicate that the Daily Checks results have been reviewed.

  NOTE: If Daily Checks pass, the Review button is disabled.
- You have to review only results that are questionable.

- Document on the Troubleshooting Log any action taken to troubleshoot the Daily Checks failure.

Additional Tasks From the Daily Checks Screen

- Select the Histogram button at the right of the screen on the DIFF, RETIC, or NRBC tabs to display the VCSn Ramp Tests Histogram screen.

  NOTE: The VCSn Ramp Tests Histogram screen is not for routine use; however, you may at some time be asked to access this screen when on the phone with a Beckman Coulter representative.

- Prime the SPM.
- Prime provides a method to remove cleaner in case an error occurred during a Shutdown cycle.
- Select the Prime button at the bottom of the Daily Checks screen to prime the SPM.
- A DxH 800 dialog box will display the following message: "You have requested to perform a Prime Cycle."
- Select OK to continue or Cancel.

Quality Control

- Quality control is the routine monitoring of performance and service using commercial or patient controls.
- Controls have known characteristics when run on a given system and are analyzed periodically in the same manner that patient specimens are analyzed.
- The results of analyzed controls are then compared to the known characteristics using statistical methods.
- This comparison allows changes in the SPM performance to be detected.
- You can then take some action if the changes detected are significant.

Frequency of Performing Quality Control

- Beckman Coulter 6C cell control will be run each shift, at the start of the session. The time of QC performance is set to follow the preprogrammed Daily Checks of the analyzers.
- Beckman Coulter 6C cell control is run in the cassette mode on the DxH analyzers.

- Beckman Coulter Latron CP-X control is run once each 24 hours following Daily Checks on the instrument and is run in the cassette mode on the DxH analyzers.
- Beckman Coulter Lin-X will be run once per year or at high elevation stands.
- Calibration with S-CAL will be performed at the start of every stand or when recommended to troubleshoot a problem.

Setting Up a Control File

- Entering 6C cell control lot numbers and expiration dates.
- Menu > QA > QC > More Options > QC Setup > New Control from Barcode > *Scan the 6C Cell Insert Barcode* > Select ALL & Auto Transmit > Select OK.

Setting Up a Latron Control File

- Entering Latron control lot numbers and expiration dates.
- Menu > QA > QC > More Options > QC Setup > New Control from Barcode > *Scan the Latron Insert Barcode* > Select ALL & Auto Transmit > Select OK.

What To Do When a Control Is Out

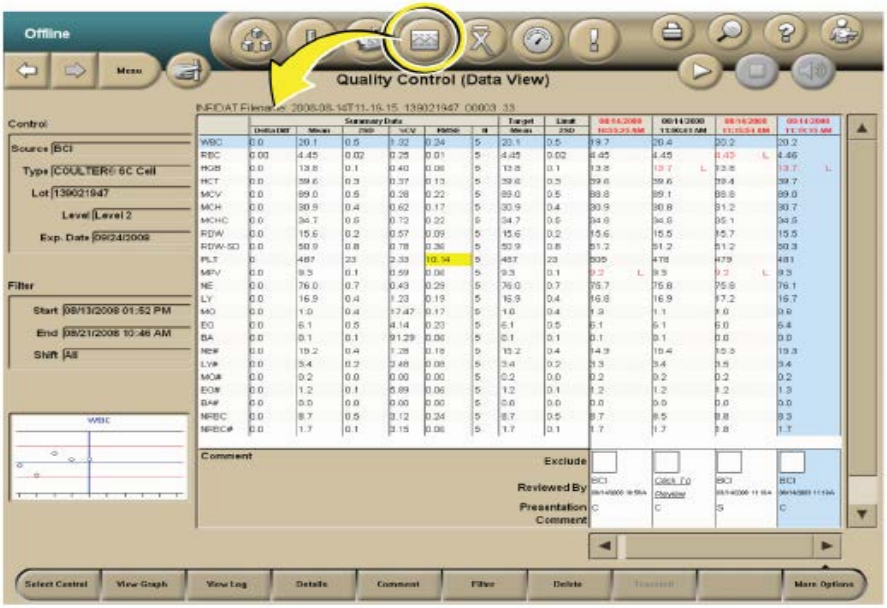
- When a commercial control is out:
  - Ensure that the control material was mixed properly. If not, mix it according to the package insert.
  - Verify that the control was identified properly. If using a bar code reader, ensure that the bar code labels are clean and positioned correctly. If entering the ID manually, ensure that you typed the correct information.
  - Verify that the assigned set-up information (assigned values and expected ranges) matches either the control package insert or your labs established values. If they do not, contact a senior technologist to change the control's information to match.
  - If the problems above are ruled out, then rerun the control to ensure that the problem was not a statistical outlier.
  - Ensure that the control material was not contaminated by running another vial or level of control.
  - Ensure that there are no errors during the cycle. If necessary, call Beckman Coulter for help in resolution.

- Exclude the results on any out-of-range control by checking the Exclude box when reviewing that control.
- Document action taken in the comment tab on the Coulter screen of affected control.

- When Latron QC is out:
  - Ensure that the control setup information (assigned values and expected ranges) matches the package insert. If it does not, change the control information to match the package insert, then rerun the control.
  - Ensure that the Latron control is not contaminated, is properly mixed, is not expired, and you have a sufficient volume of sample.
  - If necessary, use a new vial of control. Be sure to mix it according to the directions listed above.
  - Ensure that the flow cell is clear by performing the Flush Flow Cell procedure.
  - Rerun the control. If the control is still outside the expected ranges, call Beckman Coulter.
  - Document action taken in the comment tab on the Coulter screen of Latron Control.
  - Check the Exclude box on any Latron results that are out of range.

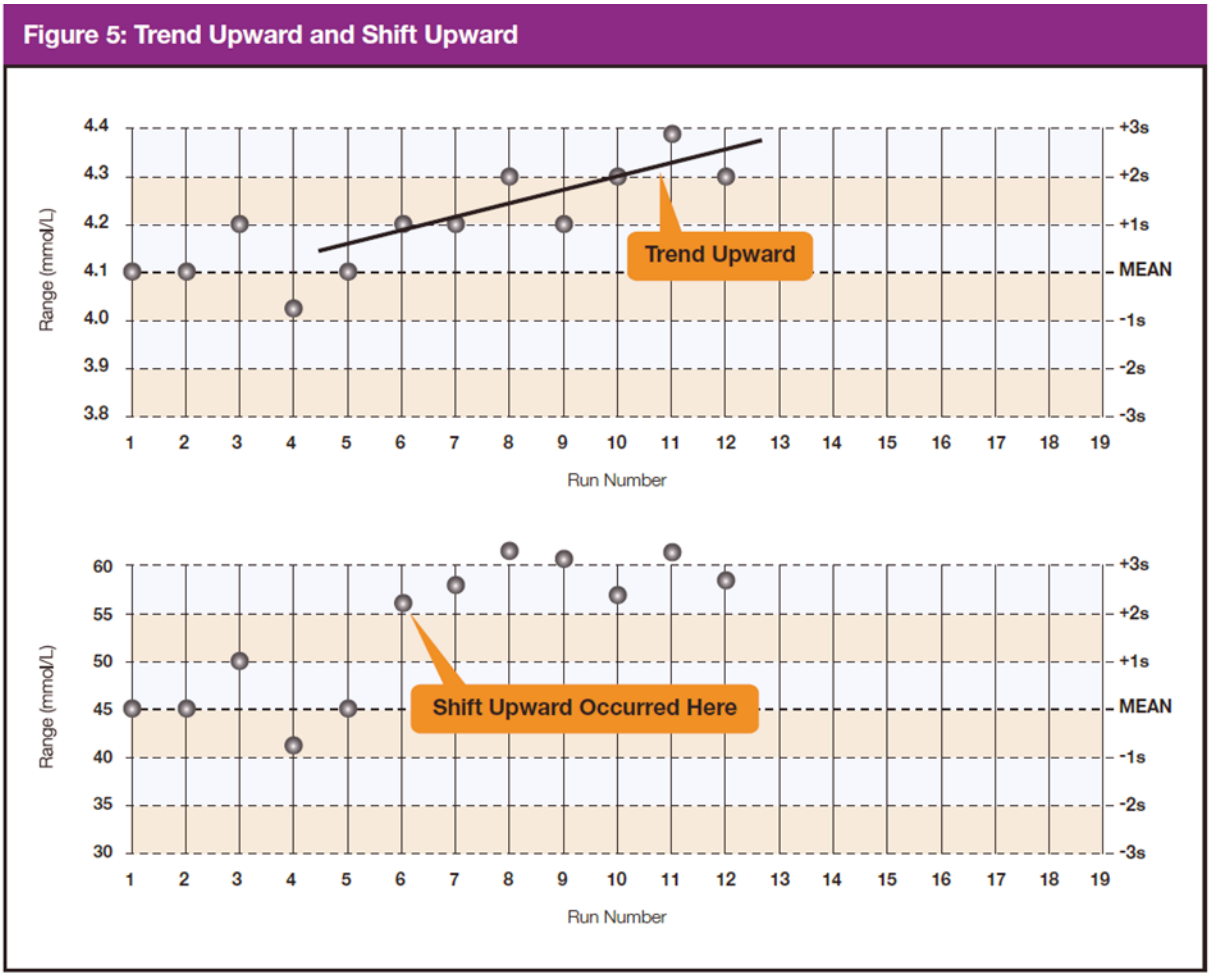
Viewing Control Files – Data View (Menu>QA>QC)

- To view control files on the Quality Control (Data View) screen, select the QC Status icon at the top of any screen.



- The Quality Control–Data View screen displays the most recently analyzed control lot with the most recently analyzed run selected by default.
- If controls have not been reviewed, a dialog box displays a list of them.
- Out of control data as well as the date and time are displayed in red text.
- The Quality Control (data view) screen includes summary data, configuration data, a filter section, QC run data, run status, and one thumbnail Levy-Jennings graph for the selected parameter (row).
- The chief medical technologists will review QC on a weekly basis looking for any outlier results using the Westgard rules listed below. See examples of trends and shifts in QC data (Exhibit 6-2).

Exhibit 6-2. Examples of trends and shifts in QC data



Exhibits 6-3 through 6-7 present the Westgard rules as mentioned earlier.

Exhibit 6-3. Westgard Rule 1_{2s}

Rule 1_{2s}. A single control measurement exceeds 2 standard deviations (SD) of control limits either above or below the mean. This rule is used as a warning rule to trigger careful inspection of the control data.

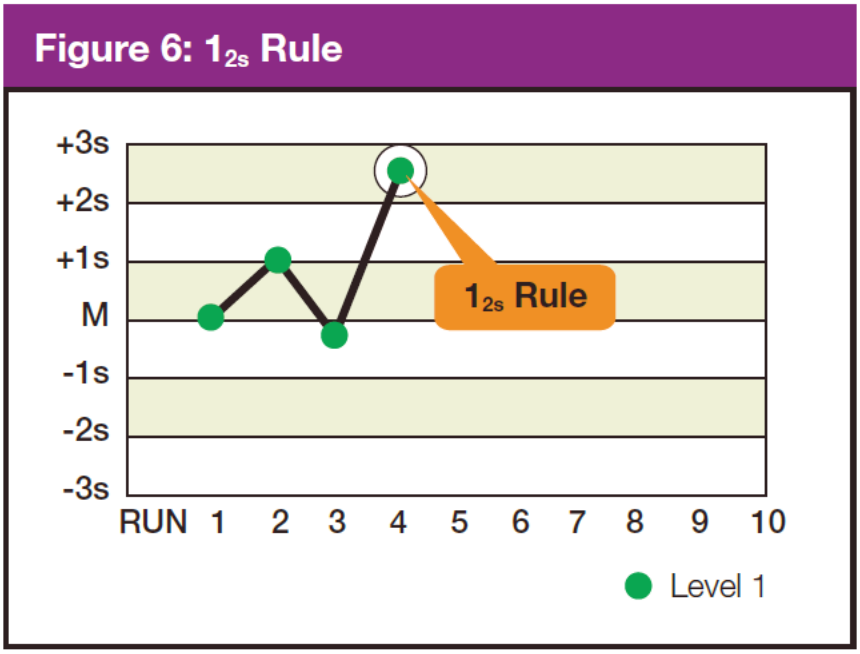


Exhibit 6-4. Westgard Rule 1_{3ss}

Rule 1_{3S}. Identifies unacceptable random error or possible the beginning of a large systematic error. Any QC outside ± 3S D violates this rule. A run is rejected when a single control measurement exceeds the mean ±3 control limits.

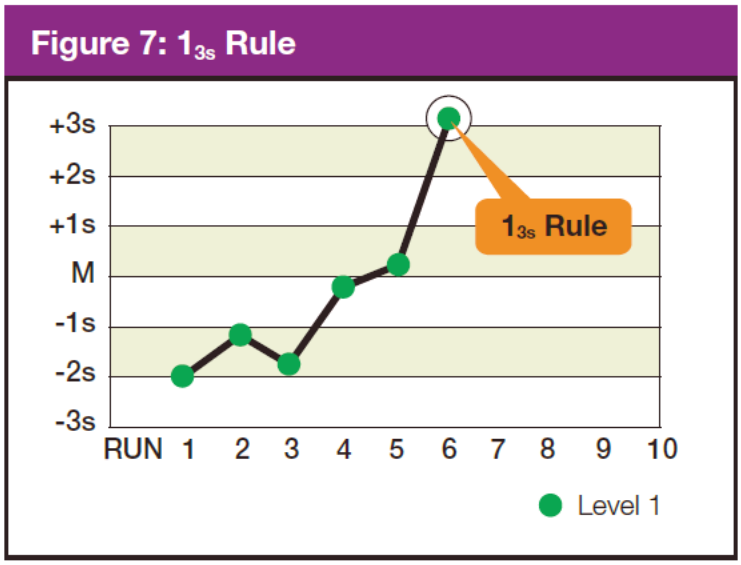


Exhibit 6-5. Westgard Rule 2_{2s}

Rule 2_{2s}. There are 2 rejection criteria for this rule: two consecutive QC results that are greater than 2SD that are on the same side of the mean. Violation within the run indicates that systematic error is present and that it potentially affects the entire analytical curve. Violation across the run indicates that only a single portion of the analytical curve is affected by the error. The control run is rejected with 2 consecutive control measurements are greater than 2 standard deviations of control limits on the same side of mean within or across the run, with this rule.

Figure 8: 2_{2s} Rule

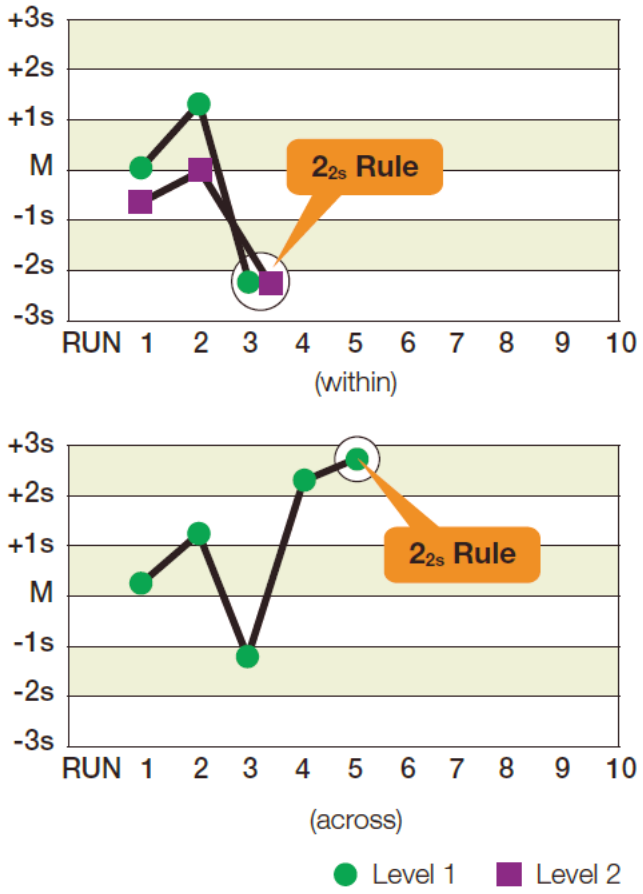
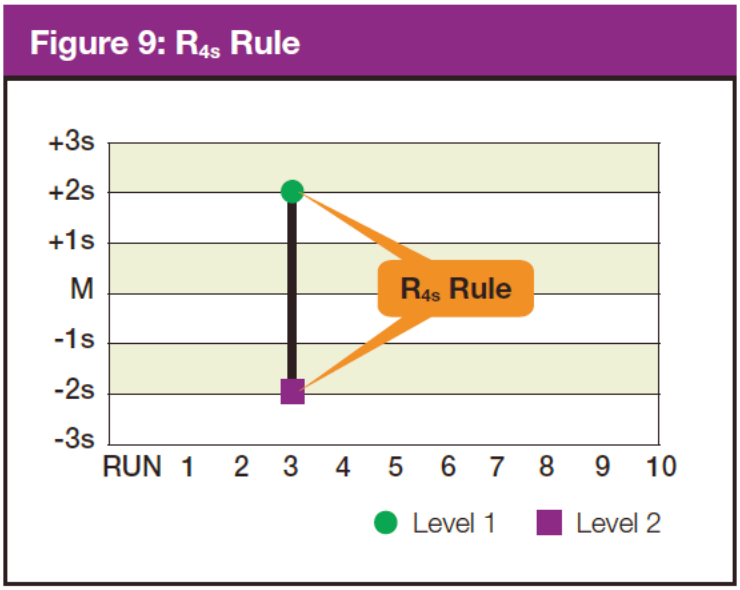


Exhibit 6-6. Westgard Rule$_{4s}$

Rule $_{4S}$. This rule rejects a run if there is at least a 4 SD difference between control values within a single run. For example, Level 1 control is + 2.9 SD above the mean and Level 2 is -1.4 SD below the mean. The total difference between the 2 control levels is greater than 4 SD. This rule identifies random error and is applied only within the current run.



NOTE: Violation of any of the following rules does not necessarily require rejection of the **analytical** run. These violations typically identify smaller systematic error or analytical bias that is not often clinically significant or relevant. Analytical bias may be eliminated by performing calibration or instrument maintenance.

Exhibit 6-7. Westgard Rule 4_{1s}

Rule 4_{1s} This rule is violated with the 4th consecutive control measurement exceeding 1 standard deviation on the same side of the mean. Troubleshooting action includes calling the Coulter hotline to see if other labs are reporting a bias with the same lot number of control. Perform any suggested diagnostic action or recalibrate if suggested by Coulter.

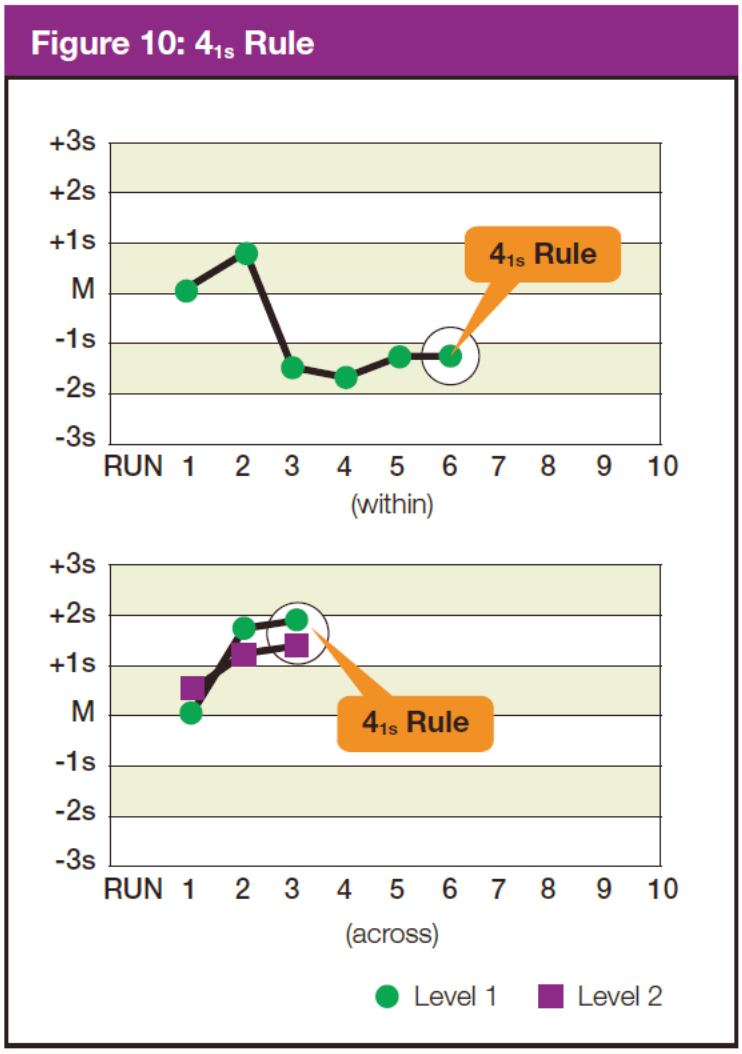


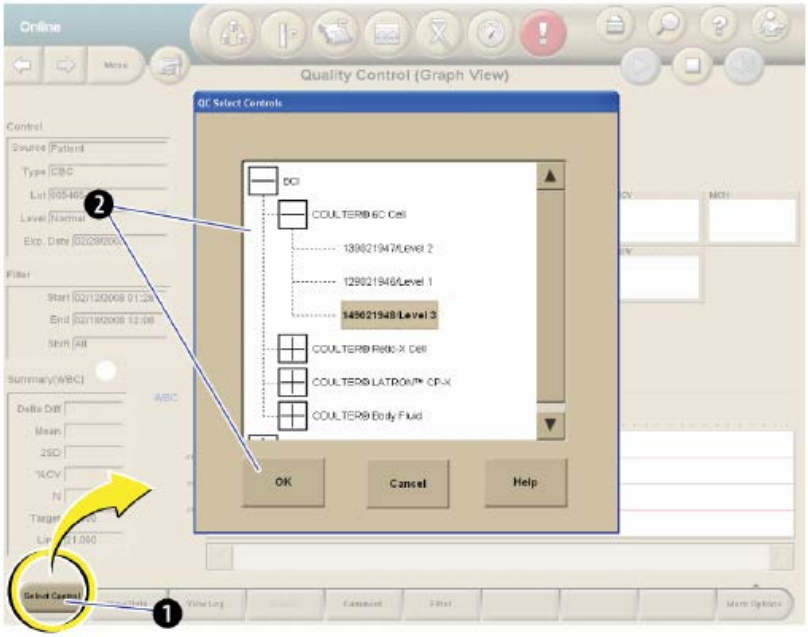
Table 6-2 lists the components seen on the QC Data View screen.

Table 6-2. Components on the QC Data View screen

Component	Description
Delta Diff	The difference between the calculated mean and the assigned target of the parameter within the specified filter. **NOTE:** If the Extended QC is enabled, and Extended QC limits have been configured, and the equation below is greater than (absolute Delta Diff/BCI Target Value) x 100, is greater than the Systematic Error limit, the Delta Diff will be highlighted in yellow for that parameter if N>=2 and N<15 or in red if N>=15. If the parameter's target is not applicable, N/A displays in this field.
Mean	The calculated mean of the included points within the specified filter.
25D	The calculated SD of the included points within the specified filter.
%CV	The calculated Coefficient of Variation of the included points within the specified filter. **NOTE:** If the Extended QC is enabled and Extended QC limits have been configured and the CV value is greater than the Random Error limit, the %CV will be highlighted in yellow for that parameter if N>=2 and N<15, or in red if N>=15.
RMSE	Root Mean Square Error (RMSE) displays when Extended QC is enabled. See Figure 4.2. The RMSE is a Single Measurement Error. If the value exceeds the Single Measurement Error limit, the RMSE value will be highlighted in yellow for that parameter if N>=2 and N<15. The value is highlighted in red if N>=15. If the parameter's target is not applicable, NA displays in this field.
N	The number of included points within the specified filter.
Target	The assigned target of the parameter being used in your lab at the time of the control analysis. The target used by Extended QC will be based on what has been configured for Traditional QC (either assigned or Mean to Target values).
(Assigned or Mean)	If Beckman Coulter or manually-entered targets are used, then the label below this heading reads "Assigned:" If means are used, then the label below the heading reads "Means." If the parameter's target is not applicable, N/A displays in this field.
Limit	The traditional expected limit of the parameter in use in your lab at the time of the control analysis.
(Manual, 2SD, or Lab)	If assigned limits are used, then the label below this heading reads "Manual." If SDs or Lab Limits are used, then the label below this heading reads "2SD" or "Lab," respectively.
Date/Time	The date and time of the control analysis.
Exclude	Allows you to exclude the results of that run from the control statistics calculations.
Reviewed By	Displays one of the following: ■ IF the run has not yet been reviewed: A Click to Review link that allows you to review the run. ■ If the run has been reviewed: The reviewer's user name and the review date and time.
Presentation	Displays the method of presentation for each run in the control file. ■ C = Cassette Presentation ■ S = Single-tube Presentation
Comment	A comment icon displays in this column if any comments have been added.
Ref. RBC	If the control type is a RETIC only, a **REF**, **RBC** heading and numeric value display on the left side of the screen under the Summary Data columns. If the control is RETIC only and the Reference RBC Target and Limit are not sec, **No Value** will display in the Ref. RBC field.

Selecting a Control

- From the Quality Control (Data View) screen or the Quality Control (Graph View) screen, select the Select Control button on the Local Navigation Bar to display the QC Select Controls dialog box.



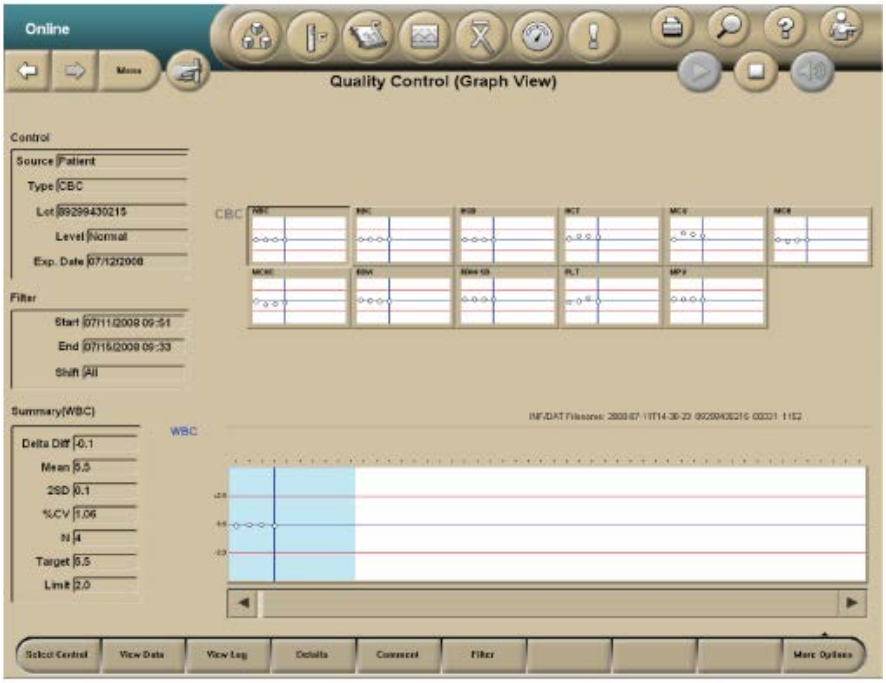
- Highlight the desired control and select OK.
- Exclude and rerun any control that is out of range. Document action taken to correct QC under comments on the Coulter screen in the affected control.

Viewing Control Files Graphically (Menu>QA>QC>View Graph)

From the Quality Control – Data View screen, select the View Graph button OR select a parameter (row) and double-tap the thumbnail Levey-Jennings graph.

The Quality Control (graph view) screen displays the following:

- Up to 31 thumbnail Levey-Jennings graphs, one graph per parameter.
- An expanded Levey-Jennings graph for the selected parameter data.
- Summary data for the selected parameter.



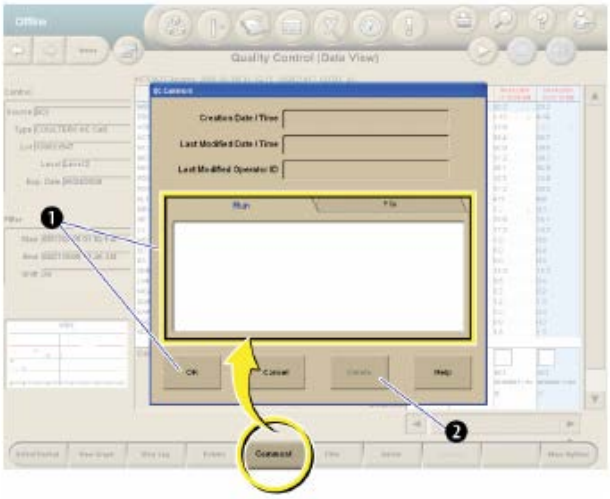
Using and Interpreting the Levey-Jennings Graphs

- The top half of the Quality Control (graph view) screen displays all parameters associated with controls.
  - Levey-Jennings graphs display the latest run points for all parameters.
  - Each graph displays up to 10 points, and these change to reflect the scrolling of the expanded graph.
  - The points shown in the blue shaded window of the expanded graph reflect those shown in the thumbnail graphs.

- The point cursor on the thumbnail graphs is synchronized with the selected run within the data grid and the point cursor in the expanded graph.
- If you select a thumbnail graph, it will be displayed in the expanded graph section on the lower half of the screen.
- Any thumbnail graph's border displays red if it contains a QC Out point.
  - Once all runs in a graph are reviewed, its border will return to normal color, but the QC Out point will remain red in the graph.
  - If the results violate the extended QC Single Measurement Error, the point will be yellow.
- The expanded Levey-Jennings graph at the bottom of the Quality Control (graph view) screen displays all of the results for a selected parameter in the control file.
  - The blue-shaded window on the expanded graph, which contains up to 10 points and the point cursor, determines the points and cursor displayed in the thumbnail graphs.
- The point cursor is a blue vertical line on the graph that reflects the date selected in the Data View.
  - The cursor can be moved left or right by using the scroll bar or by selecting either the data points on the graph or the control run analysis Date/Times in the Data View table.
  - If the cursor moves to a point outside the window, the window shifts so that the new point displays in the window as the furthest right or left point.

Add, Modify, or Delete Comments to QC Results

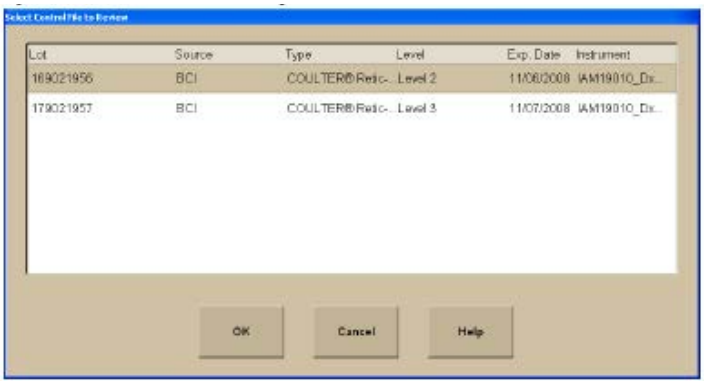
- From the Quality Control (data view) or the Quality Control (graph view) screen, select the Comment button to display the QC Comment Dialog Box.



- The creation date/time, modified date/time, and last modified Operator ID will not be populated until the entry of the comment has been completed.
- To add or modify a comment on a control run, select the Run tab, type in the text box, and select OK.
- To add or modify a comment on a control file, select the File tab, type in the text box, and select OK.
- To delete a comment, select the Delete button.

View Control Files Under Error Conditions

- Under Error conditions, the Quality Control Status icon at the top of the screen is red.
- If more than one lot triggered an error condition, the Select Control File to Review dialog box displays.
- All lots that are OUT are displayed on the dialog box.
- To review a specific log, select the lot and select the OK button.



Sample Analysis

6.12.1 Status

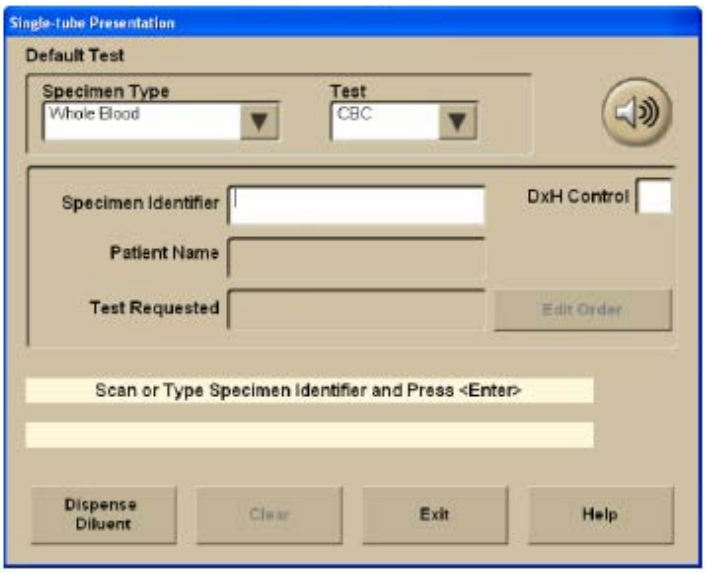
- The SPM must be online to run samples.
- You can view the status of the SPM in the Status Mode area at the upper left corner of any screen, except the home screen.

Cassette Presentation

- Ensure that the SPM is set up for the appropriate test for your workflow.
- Ensure that your specimens have been collected and stored properly.
- Load the specimens into the cassettes. Narrow tubes with small internal diameters will require manual premixing prior to analysis to ensure proper cell and plasma distribution and to avoid possible erroneous results. Premix these tubes before placing them in the cassette and then analyze the cassette by placing it in the Stat position of the input buffer.
- Place the cassettes in the input buffer to the right of the SPM. The SPM automatically begins cycling the cassettes.
- After the SPM cycles the samples, review the sample results at the SM. To avoid serious injury, do not place your hand through the cassette presentation opening on the SPM.

Single-Tube Presentation

- Ensure that your specimens have been collected and stored properly.
- Select the Single-Tube Presentation icon  at the top of any screen to display the Single-Tube Presentation dialog box.



- Place the specimen on the bar code reader platform of the Single-Tube Presentation Station with the bar code facing the SPM to allow the Single-Tube Presentation bar-code reader to scan the specimen label. The bar code may also be scanned with the handheld scanner or the Specimen Accession Number may be typed into the Specimen Identifier field.

- Verify the Specimen Accession Number and test request. Acknowledging the ID that displays on the SM screen indicates that you accept the either bar code label read or the manual entry.
- Thoroughly mix the specimen.
- Place the specimen in the correct single-tube position.
- Do not place a closed tube or a 16 mm-diameter tube in the right position of the single-tube presentation station. Doing so could cause incomplete aspiration and an erroneous result.

Handling Alarms

- An audible or visible alarm on the DxH 800 system should be addressed by reviewing the Event Logs on the History Log screen.
  - The Worklist-Custom tab can be used to select from predefined or user-defined filters to set the audible alarms.

Evaluation of Data

Flags

Flags appear to the right of the result:

- For some parameters, flagging occurs as a result of the flagging or editing of other parameters.
- Flags in the following exhibit are shown in order of placement on screens and printouts, with the highest priority flags at the top within each space.
- A yellow background on the screen indicates that results were above or below a reference range.
- A red background on the screen indicates that results exceeded an action or critical limit or that another flag was present.
- Flags appear in one of four positions to the right of the result.
- The flags are listed in order of priority within each space. It is possible to have flags in each of the four positions.

Refer to Exhibit 6-8 to interpret DxH flags.

Exhibit 6-8. Interpretation of DxH flags

Flag and position				Description
1	2	3	4	
e				Result calculated from a manually edited parameter.
+				Result above the measuring range.
-				Result below the measuring range.
R				Review the result. Special handling is required for editing a result flagged with R. Any parameter derived from an R-flagged parameter cannot be recalculated until that parameter is edited. R flags may also indicate that a System Message has occurred. Check the **message area on the patient result screen** and the History Log > General table for details.
	c	L		Low critical limit exceeded.
	c	H		High critical limit exceeded.
	a	L		Low action limit exceeded.
	a	H		High action limit exceeded.
		H		High reference range limit exceeded.
		L		Low reference range limit exceeded.
			P	Partial aspiration detected during sample analysis.
			N	Non-blood sample detected.
			D	Delta check triggered.

Codes

Codes appear in place of results when the system cannot generate results:

- Codes are also called nonnumeric results.
- Codes in the following table are shown in order of the placement on screens and printouts, with the highest priority flags at the top within each space.

Refer to the following list to interpret DxH codes.

= = = = =	Analysis was disabled at the configuration level of the SM (Menu > Setup > System > Analysis). For example: IF NRBC is temporarily disabled, any results with an NRBC enumeration in the panel will display = = = = = in place of the NRBC values. The = = = = = persists in the database after the analysis has been re-enabled.*
xxxxx	Although available on a panel, this parameter was not enabled as a Test (Menu > Setup > Reporting > Tests) at the time of analysis; however, after this analysis, the parameter was enabled as a test. For example: Sample *A* was analyzed for a CR panel, but the IRF and MRV were not enabled as Tests.

	Later, IRF and MRV were enabled as Tests; therefore, the system will not display the IRF and MRV parameters for CR panel results but, for Sample *A*, xxxxx displays in place of a value for those parameters.
:::::	Flow cell clog was detected.
-----	Total voteout occurred. No average histogram will appear for the affected parameter.
	Incomplete computation. May occur in place of calculated parameters because a voteout or over-range occurred for a primary parameter used in the calculation. Occurs when the instrument cover is opened.*
+++++	Result exceeds the operating range.
?????	Result is outside the range of values that can be formatted for display.
# # # # #	Results were rejected.

Messages

Messages can be results-related or demographic- or status-related:

- Results-related messages:
  - Suspect messages (appear in red) are generated by internal algorithms to convey that a clinical condition may exist with a specimen based on an abnormal cell population or distribution.

    Refer to the *Unicel DxH 800 Help Manual* on board the analyzer for a detailed list of all Suspect messages.
  - System messages (appear in green) indicate an event occurrence that may affect the operation of a system, requires operator notification, or entry into a History Log.

    The majority of system messages are accompanied by an R (review) flag. Some are accompanied by N or P flags.

    Refer to the *Unicel DxH 800 Help Manual* onboard the analyzer for a detailed list of all system messages.
  - Definitive messages (appear in blue) appear for results based on exceed limits configured as part of an individual flagging set.

    Definitive messages can be created by copying reference ranges, or by manual entry of your own message definition.

    Refer to definitive messages in the setup chapter of the onboard *Unicel DxH System Help Manual*.
- Demographic/status-related messages.
  - Exception Messages.
  - If there are any exceptions for a specimen, a comments indicator displays in the System Status Message area below the patient demographics.
  - Select the Additional Data button to view the Exceptions.
  - System Status Messages indicate that the instrument was operating in some nonstandard state when a specimen was analyzed. These states are usually the result of some user action. They do not indicate that any problem was seen when the specimen was analyzed; instead, they indicate that the system was being operated in a manner in which some problems might not be detected.
  - Lab Action Messages are triggered by Decision Rules programmed in the analyzer.

These messages are listed in the Lab Actions area of the Patient Results screen.

All Specimens

- Misleading results can occur if the specimen is not properly collected, stored, or transported. Beckman Coulter recommends that you follow CLSI or equivalent procedures to ensure proper specimen collection, storage, and transport. Always follow the manufacturer's recommendations when using micro-collection devices for capillary specimen collection.
- Misleading results can occur if specimens contain clots. Always use good laboratory practices for inspecting specimens for clots and verifying results.
- Misleading results can occur if the specimen is not properly mixed. Always use good laboratory practices to ensure that specimens are appropriately mixed. Do not bypass or circumvent the automated mixing process used on the DxH 800.
- When running a test panel, with NRBC analysis enabled, the information from the analysis is used to supplement interference detection, flagging, and correction.
- **WBC and TNC**
  - NRBCs, giant platelets, platelet clumps, malarial parasites, precipitated elevated proteins, cryoglobulin, microlymphoblasts, very small lymphocytes, fragmented white cells, agglutinated white cells, lyse resistant red cells, unlysed particles > 35 fl in size.
  - Elevated WBC counts may have a carryover effect on subsequent leukopenic specimens, within the limits specified by Beckman Coulter. (See the Carryover section in the *Unicel DxH Help Manual* on board the analyzer.)
- **RBC**
  - Very high WBC count, high concentration of very large platelets, auto- agglutination.
  - If hemolysis is occurring in vivo, the instrument RBC may be flagged as low, reflecting the true circulating cells. If, however, the hemolysis is in vitro, the specimen may give falsely low RBC results. Cell counts due to in vitro hemolysis do not represent the number of circulating red blood cells.
- **HGB**—severe lipemia, heparin, certain unusual RBC abnormalities that resist lysing.
- **MCV**—very high WBC count, high concentration of very large platelets, auto-agglutination.
- **RDW**—very high WBC count, high concentration of very large platelets, auto-agglutination.
- **PLT**—giant platelets, platelet clumps, white cell fragments, electronic noise, very small red cells, and red cell fragments.
- **HCT**—known interferences related to RBC and MCV.
- **MCH**—known interferences related to HGB and RBC.
- **MCHC**–known interferences related to HGB, RBC, and MCV.

- **NRBC**–known interferences may be related to the following:
  - Lyse-resistant red cells.
  - Malarial parasites.
  - Very small or multi-population lymphocytes.
  - Precipitated elevated proteins.
- Differential
  - Hypogranular granulocytes, agranular granulocytes, lyse resistant red cells, very small or multi-population lymphocytes, elevated triglycerides, precipitated elevated proteins.
  - A transient basophilia may be observed in samples that have been exposed to high temperatures (90º F or 32 ºC). The temporary basophilia should resolve after stabilization at room temperature (72ºF or 22º C).

Laser Safety

The Multi-Transducer Module contains a laser. A laser is a unique light source that exhibits characteristics different from conventional light sources.

The safe use of the laser depends upon familiarity with the instrument and the properties of coherent, intense beams of light. The beam can cause eye damage and instrument damage. There is enough power from the laser to ignite substances placed in the beam path, even at some distance. The beam might also cause damage if contacted indirectly from reflective surfaces (specular reflection). The laser on the DxH 800 is covered by a protective housing.

Calibration of the DxH 800

The S-CAL calibrator kit determines the adjustment factors for the calibration of the Coulter DxH 800. Calibration is a procedure to standardize the instrument by determining its deviation from calibration references and to apply any necessary correction factors. Calibration is performed in the closed-vial mode at ambient room temperature range (16-32°C, 60-90°F), using S-CAL as an alternative to whole blood.

Perform Calibration

- At the start of each stand, before you begin analyzing samples;

- After you replace any component dealing with dilution preparation, such as the BSV primary measurement, such as an aperture; and
- If your Beckman Coulter representative suggests that you calibrate.

Verify the Calibration of Your Instrument

- If controls show unusual trends or are outside limits; and
- When room temperature varies more than 10°F (5.5°C) from the room temperature during the last calibration.

Coulter Pre-Start-Up Procedure

Supply List: (1) Diluent; (1) Cell Lyse; (1) Diff Pak; (1) Cleaner; Latron; and 6C Cell Controls.

Arrangements for a Beckman Coulter representative to perform the necessary Pre-Start Up procedures on the DxH 800, prior to the arrival of the team to the stand, will be arranged by the Chief Field Medical Technologist in advance. These pre-start-up procedures for the representative will include:

- Removal of the travel brackets;
- Placement of all reagent lines in the reagents: Diluent, Cell Lyse, Diff Pack, and Cleaner (No RETICS!!!);
- Power up the analyzer;
- "*Wetting*" the analyzer (full prime of the system); and
- Flow cell adjustment.

A placard will be available for the representative (placed on the right side of the analyzer) with detailed instructions of the tasks that will need to be performed prior to the arrival of the team. The representative will be given the chief technologist's number and email address in the event of any questions concerning the instructions.

Initial DxH 800 Startup

Perform a daily check after the instrument has been "Shutdown for at least 30 minutes." Select Menu > QA > Daily Checks > Daily Checks > OK.

Draw three 4-ml EDTA tubes from a person with a normal CBC.

Inventory all Coulter reagents – mark with receive dates. (Once reagents have been opened, mark with an open date and tech initials).

- Log into the DxH SM

BEFORE DELETING THE PREVIOUS STAND'S DATABASE OR CONTROL FILES, VERIFY WITH THE CHIEF TECHNOLOGIST THAT IT IS OK TO PROCEED WITH THE FOLLOWING INSTRUCTIONS.

- **Delete the database from the previous stand –** Menu >Worklist > Custom > Advanced Search > Insert > Specimen > Analysis Date/Time > Between > Start Date/Time (*Enter MM/DD/YYYY & 24 HR hh:mm:ss that is at least 3 months prior to the current date*) and End Date/Time (*Enter MM/DD/YYYY & 24 HR hh:mm:ss that is 1 day before the current Setup date)* > Select OK > Select Save As *(*Create a Filter Name – Stand #*:* the stand you are getting ready to begin*)* > Search > Delete Order > Select All Test Orders in Current Filter > Select OK > Warning Box Will Appear, Select OK.

- **Delete previously used 6C Cell Control Files –** Menu > QA > QC > More Options > QC Setup > Select Previous (Older) Control File (will be highlighted) > Delete Control >OK.

  You can only delete control files one at a time.

- **Enter reagent lot numbers and expiration dates –** Menu > Supplies > Setup > *Scan the Reagent Barcodes* > Select OK.

- **Enter 6C Cell Control lot numbers and expiration dates –** Menu > QA > QC > More Options > QC Setup > New Control from Barcode > Scan the 6C Cell Insert Barcode > Select ALL & Auto Transmit > Select OK.

- **Enter Latron Control lot numbers and expiration dates –** Menu > QA > QC > More Options > QC Setup > New Control from Barcode > Scan the Latron Insert Barcode > Select ALL & Auto Transmit > Select OK.

- **Double click the Coulter Icon on the desktop**, and verify that the icon is in the Task Bar (right-hand corner of the screen).

- **Enter 6C Cell and Latron Control Lot Information into ISI**S **–** Right-click on the Lab Coulter Icon in the Task Bar **>** Select Expected Values **>** Scan the Insert Barcode **>** Press Tab Key **>** Verify ALL Values **>** Select OK**.** Perform for both 6C Cell and Latron Control File Inserts.

- Place QC and Latron package inserts in the Coulter Binder.

Storage, handling, and stability: Sealed vials are stable through the expiration date when stored at 2–8° (35-46°F). S-Cal when opened is stable for 1 hour.

Repeatability, Carryover Check, and Calibration

Repeatability

Supply List: (2) 4-ml EDTA tubes filled with normal blood.

Before you can start or restart the Carryover process, the SPM must be **offline.**

Ensure that you have enough normal whole blood from a **single donor** for a minimum of 10 cycles, and delete any data on the Repeatability screen before starting a new study.

- Use (2) 4-ml EDTA tubes (aspiration probe damage can occur if a specimen tube is pierced more than five times).
- Select Menu >QA > Repeatability > Repeatability Setup:
  - Presentation**:** Cassette
  - Test Panel**:** CD
  - Number of Aspirations**:** 5
  - Select OK and follow the screen prompts.
- Place the two tubes in consecutive positions in a cassette, place the cassette in the input buffer, and Select OK on the DxH dialog box to start the cycle.
- When the cycle has completed, review the results on the Repeatability screen. Use the scroll bar to review all the results. Verify the %CV and the Diff parameters (see limits below). Select Finish.
- Verify that the coefficient of variation (CV) does not exceed the established Repeatability Limits:
  - **WBC** 2.5
  - **RBC** 2.0
  - **HGB** 1.5
  - **MCV** 2.0
  - **PLT** 5.0

- **MPV** 3.0

- Check the low to high difference (bottom line) for the **Diff** parameters with these Limits:
  - **NE%** ≤ 4.8
  - **LY%** ≤ 4.8
  - **MO%** ≤ 3.2
  - **EO%** ≤ 1.6
  - **BA%** ≤ 1.6

  If any of the results are outside the limits, call Beckman Coulter Customer Service.

- If all the results are within these parameters: Print **>** Select "Finish", and proceed with Carryover Check.

Use the **%CV** line for CBC parameters only and the Diff line for the differential parameters only. Please see *Chapter 1: System Overview - Performance Specifications and Characteristics* section in the Help Men**u** for additional information regarding Repeatability limits for acceptability (Table 1.1 and Table 1.7).

Carryover

Supply List: One 4-ml EDTA tube filled with normal blood and three empty 4-ml EDTA tubes.

NOTE: Remove S-CAL from refrigerator to allow time to acclimate to room temperature. Before you can start or restart the Carryover process, the SPM must be offline.

- Fill three empty 4-ml Vacutainer® EDTA tubes with diluent. Select Single-Tube Presentation Icon > Dispense Diluent **>** Select OK**.** Place one empty capped EDTA tube in the purple tube holder on the left-hand side of the cradle. *1 ml of diluent is dispensed during this process.* Once completed, "Do you want to dispense more diluent in the same tube?" box will appear **>** Select No**.** Remove the filled EDTA tube, and repeat the above steps two more times to fill the 2 remaining empty EDTA tubes with diluent. Select Exit **>** "Are you sure you want to exit Single-tube Presentation?" **>**Select Yes**.**

- Select Menu > QA > Carryover > Carryover Setup:
  - Presentation: Cassette
  - Test Panel**:** CD
  - Select OK and follow the screen prompts.

- Select OK to start the Carryover procedure.
- Place a cassette in the input buffer with one blood tube followed by three diluent tubes consecutively and Select OK to start the Carryover procedure.
- When Carryover is complete, review the results on the Carryover screen. If any of the Carryover results "FAIL", repeat the procedure.

If the Carryover results "FAIL" after the second attempt, call Beckman Coulter Customer Service.

- If the status of all parameters is "PASS": Print.

When performing a Carryover procedure, the calculated percent Carryover and/or Background for each parameter is compared to the Carryover and Background limits for acceptability. Please see *Chapter 1: System Overview - Performance Specifications and Characteristics* section in the Help Menu for additional information regarding Carryover and Background limits for acceptability (Table 1.12 and Table 1.13).

Calibration

Supply List: (1) S-CAL Calibrator.

NOTE: Before you can start or restart the Calibration procedure, the SPM must be offline.

- Allow S-CAL to warm to ambient (room) temperature for approximately 15 minutes.
- Select Menu > QA > CBC Calibration > Calibration Setup. You will be prompted by a dialog box which states: Existing Data will be deleted. Select OK to continue.
  - Number of Aspirations: 11.
  - Presentation: Cassette.
  - Calibrator Type: BCI.
- Select Upload > *Scan the S-Cal Insert Barcode* > Verify ALL Values > Select OK.
- Mix the S-CAL by hand by rolling the tube slowly between the palms of the hands eight times in an upright position. Invert the tube and slowly roll it again eight times. Gently invert the tube eight times. Repeat these actions. When all cells are uniformly distributed, place the calibrator in the cassette.
- Place the cassette in the input buffer and Select OK to start Calibration Procedure.
- Exclude the first run by checking the box beside that run.

- Review the Calibration results.
- If all the results are within the specified parameters: Print > Select Finish**.**
- If results recommend Calibration (the boxes at the bottom of the calibration screen are check marked) **>** Select OK**.**

The background of the Factor %Diff, %CV, and Difference cells changes color when the presented value is out of the normal range as follows:

- Yellow for Difference indicates that the value is out of range, which means that calibration is recommended.
- Red applies only to the %CV and indicates that the statistical value is NOT within range and the system does NOT allow calibration.

When all results are acceptable, the Edit System Recommendations button at the bottom right corner of the screen is enabled. This button allows the modification of the calibration recommended by the system by selecting or deselecting check boxes.

- Verify the Calibration by running controls. Menu **>** QA **>** QC > Select Control > *Select the Control that you want to view* > Select OK] Select "Reviewed By" to review controls > Print.

NOTE: Place all printed charts and control inserts into the DxH Logbook, and have all results verified by a Beckman Coulter Representative via a VIP Service Call or an email. Have a copy of the VIP Service Report sent to the chief technologist's Westat email.

This is the NHANES Coulter Monitor icon. It must be open and running at the start of each session. This icon stores all DxH 800 runs in the ISIS database. Double-click on the Coulter icon, so it displays in the lower right task bar. Once the icon is displayed, the Coulter and the ISIS Laboratory application are communicating with each other.

Run Study Participants

Exhibit 6-9 presents a picture of blood tubes.

Exhibit 6-9. Picture of tubes

- Place tube in the cassette and place in the SPM.
- Run all samples in duplicate. The DxH is now set to automatically rerun SP samples in duplicate, but not controls.

  To set DxH 800 for automatic repeat of each SP sample, use the following sequence of steps:

  Menu> Set-up>Flagging/Rules>Rules> Select decision rule workbench tab (upper right)>Add Rules>Rule name: "Type "Repeat" at the *> Specimen Type: use drop-down menu and select whole blood>Rule description: "Type automatic repeat if condition RBC<10"> Additional test: Check Rerun box in additional test box>OK. Place analyzer offline>Activate Decision Rules Tab (middle center tab) > Activate Rule (lower left)
- Run samples in the primary mode.

Check to make sure the printer is working properly. Operate the analyzer with the doors and panels closed. Monitor reagent levels.

Review Data and Transmit

- Review the data. Menu>Patient Results.
- Data from the Coulter DxH 800 are automatically transmitted to the ISIS system when the NHANES Coulter monitor icon has been opened on the ISIS screen.
- Use the Worklist screen to sort, retrieve, transmit, and archive data to CD. Transmit data from the Coulter® DxH 800 to ISIS as necessary. Save all data to CD at the end of each stand.

Daily Shutdown

See Section 6.8, pages 6-13 to 6-15.

Prolonged Shutdown

- If the instrument is going to be idle for >72 hours, as in summer or winter 2-week breaks, adjust the shutdown procedure as follows: Menu**>**QA**>**Daily Checks**>**AutoConfiguration**>**Configure Shutdown**>** Uncheck Daily, Check only boxes for every other day (Mon, Wed, Fri, Sun)> OK. Ensure that there is sufficient cleaner and diluent for shut-downs during the break time.

Beginning and End of Stand Operations

- Beginning of stand:
  - Arrange for a Coulter service representative to remove all travel brackets and re-wet the system.
  - Follow procedure for Calibration, Repeatability, and Carryover Check.
- End of stand.

NOTE: Call Coulter Support to have an engineer install the travel brackets and perform the travel shutdown procedure for the DxH 800.+ **Before the engineer performs this service,** the following tasks must be completed by the technologist assigned to the Coulter for that stand:

Transmit All Current Stand QC data into ISIS

- Select (QC Icon) > Select Control > Select 6C Cell Control Level 1 > Transmit > Select All Runs in Current Control File > Select OK. The Coulter Icon on the workstation computer will "flicker" to indicate the transmission of data. Once the flickering has stopped, repeat the same steps beginning with Select Control and transmit QC data for 6C Cell Control Levels 2 & 3, followed by the Latron Control File.

Print ALL 6C Cell Control and Latron Files

- Select [QC Icon] > Select Control > Select 6C Cell Control Level 1 > Select [Printer Icon] > Change Report Type to Summary Report > Select [*Control Lot*] and check mark all Current

Stand Controls (Both Latron and 6C Cell Files) > Select [*Print*] All Runs > Select [*Print Options*] Data Report and Graphical Report > Select Thumbnails > Select Print.

- Clip all the reports together with a binder clip and place them in Renee's End of Stand FedEx Box.

Export DxH 800 Data to Three (3) Discs

- DISC 1: IQAP
  - **Export IQAP Data. Insert a blank disc into the disc drive**. Select Menu **>** Set up **>** Quality Control **>** IQAP Export **>** All DxH Control Lots **>** Multiple Shifts **>** CD Recorder **>** Start **>** Follow screen prompts.

    Label the disk ***IQAP*** *and include* ***Stand # and MEC #*** *and place the disc in Renee's End of Stand FedEx Box.*

- DISC 2: LOGS
  - **Export Log Data. Insert a blank disc into the disc drive.** Select Menu **>** Logs **>** Export **>** Select ALL in (1) Event, (2) Data Summary, (3) Maintenance, and (4) Audit Logs **>** Select and Enter Date Range (Start of Stand to End of Stand) **>** Select Start. The disc will automatically eject out of the disc drive upon completion.

    Label the disk ***Logs*** *and include* ***Stand # and MEC #*** *and place the disc in Renee's End of Stand FedEx Box.*

- DISC 3: DATABASE

  - **Export Patient Log (Database). Insert a blank disc into the drive.** Select Menu **>** Worklist **>** Custom **>** Advanced Search **>** Filter Name (Stand #) **>** Insert **>** Specimen **>** Analysis Date/Time **>** Between (Start of Stand to End of Stand) **>** OK **>** Search **>** Export **>** Type CSV **>** All Results in Current Filter **>** Destination CD Recorder (G:\\) **> Select Start.** The disc will automatically eject out of the disc drive upon completion.

    Label the disk ***Database*** *and include* ***Stand # and MEC #*** *and place the disc in Renee's End of Stand FedEx Box.*

Perform Cleaning Procedures on the DxH 800 and Assimilate Paperwork for Shipment to Home Office

- Clean the aspiration probe. Select Menu > Maintenance > Clean Aspiration Probe > [Start]. Once Procedure has Completed Select Finish > [OK].

- Clean the BSV, the Handheld Barcode Scanner, and the STM and wipe the analyzer's exterior with lint-free tissue and deionized water.

  - Complete the Hematology Maintenance Log and include all of the paperwork from the Hematology Notebook, including the following: Daily Check Logs, Package Inserts, Precision Checks, and Calibration Data. This information should be binder-clipped separately into the respective subsections and included in the End of Stand FedEx Box to the Laboratory Component Specialist at Westat. The box can now be sealed and sent with the rest of the shipment.

    Service performed by a Beckman-Coulter Representative

  - Discard all trash and empty reagent boxes after the representative has finished decommissioning the analyzer.

  - Strap down and secure the DxH and computer monitor for the impending travel.

Coulter Reportable Range of Results

Table 6-3 presents the Coulter reportable range of results.

Table 6-3. Coulter reportable range of results

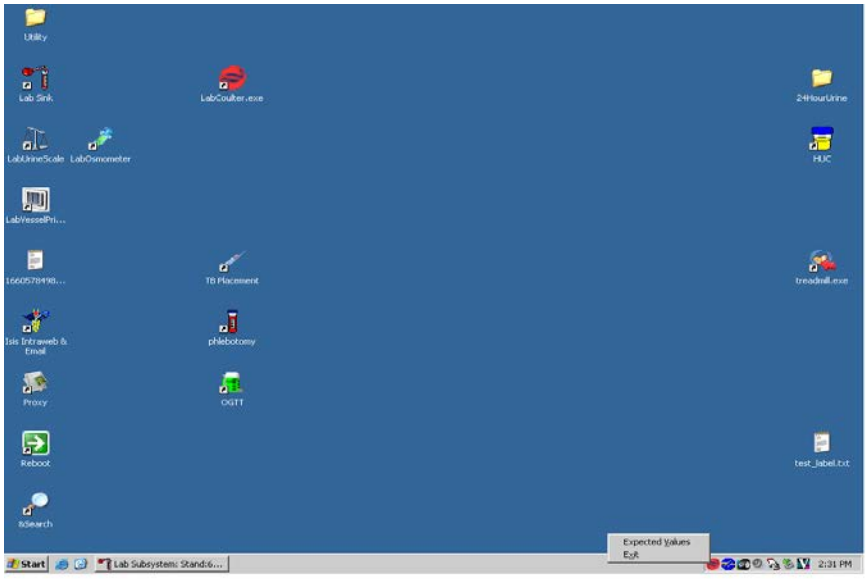
Parameter	Linearity	Limits: The greater of
WBC x 10^3 cells/μl	0 to 99.9	0.2 or 3.0%
RBC x 10^6 cells/μl	0 to 7.00	0.05 or 2.0%
Hgb g/d	0 to 25.0	0.2 or 3.0%
MCV fL	50.0 to 150.0	2.0 or 3.0%
Plt x 10^3 cells/μ	0 to 999	10.0 or 7.0%
MPV fL	5.0 to 20.0	5.0%

Integrated Survey Information System

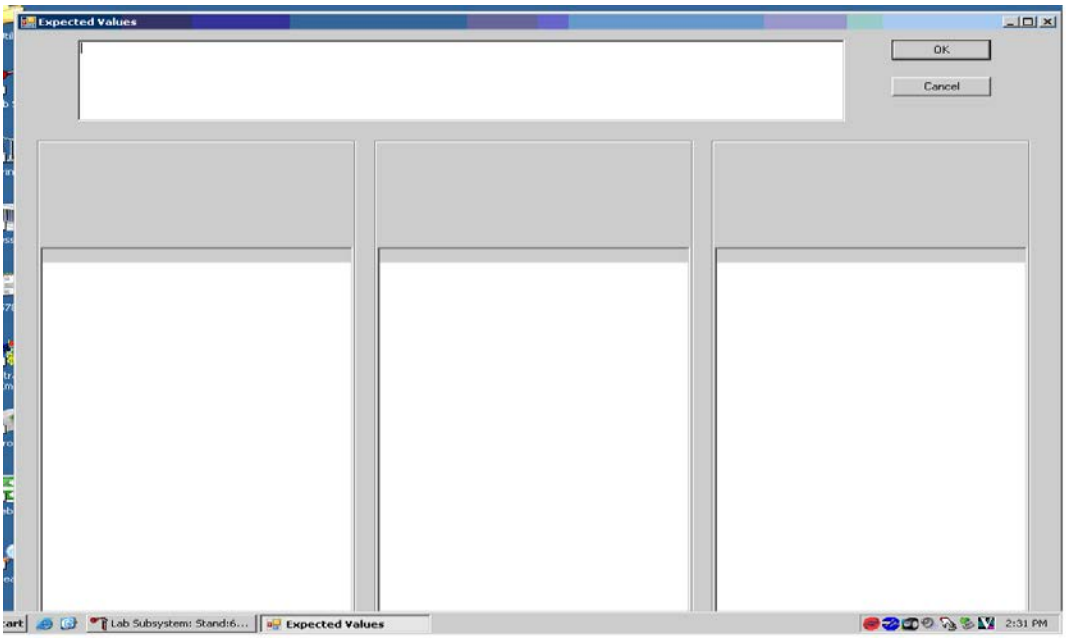
Record 6C Cell and Latron® Lot Numbers in Integrated Survey Information System

The Computerization: The Integrated Survey Information System (ISIS) maintains the capability to download all 6C cell and Latron® control data. The data are used to monitor quality control results. Upload or enter data for each lot number each time a new lot number is put into use. The ISIS uses the same 6C cell control package insert and Latron package insert as the DxH 800.

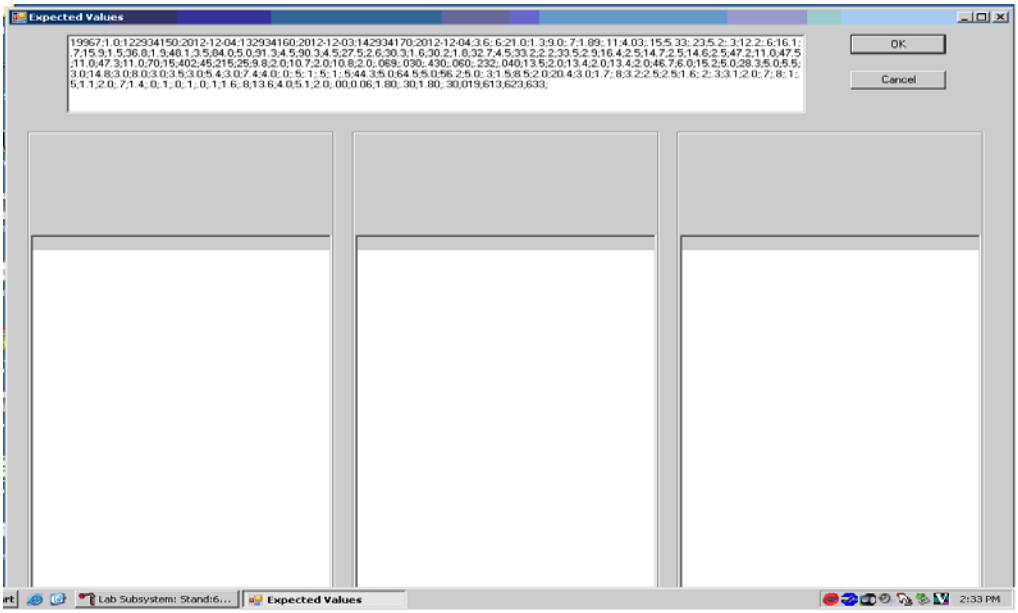
- Access the Coulter QC Lot Info module.
- Right-click on Coulter icon in the bottom right corner of window.



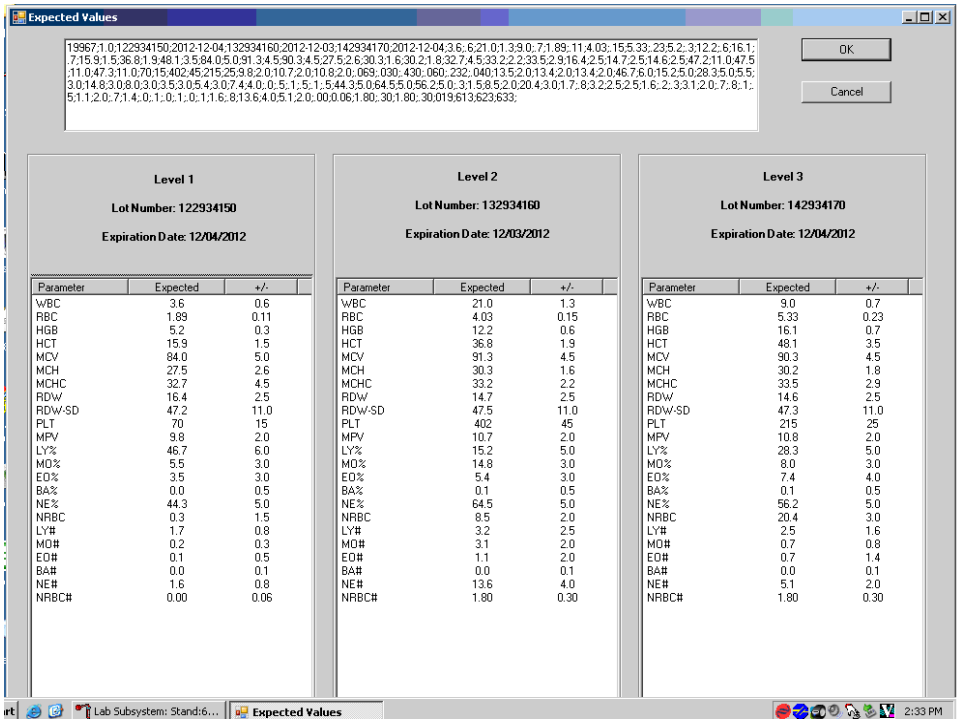
- Click on Expected Values to bring up the Coulter QC Input Screen for 6C cell controls and Latron QC.



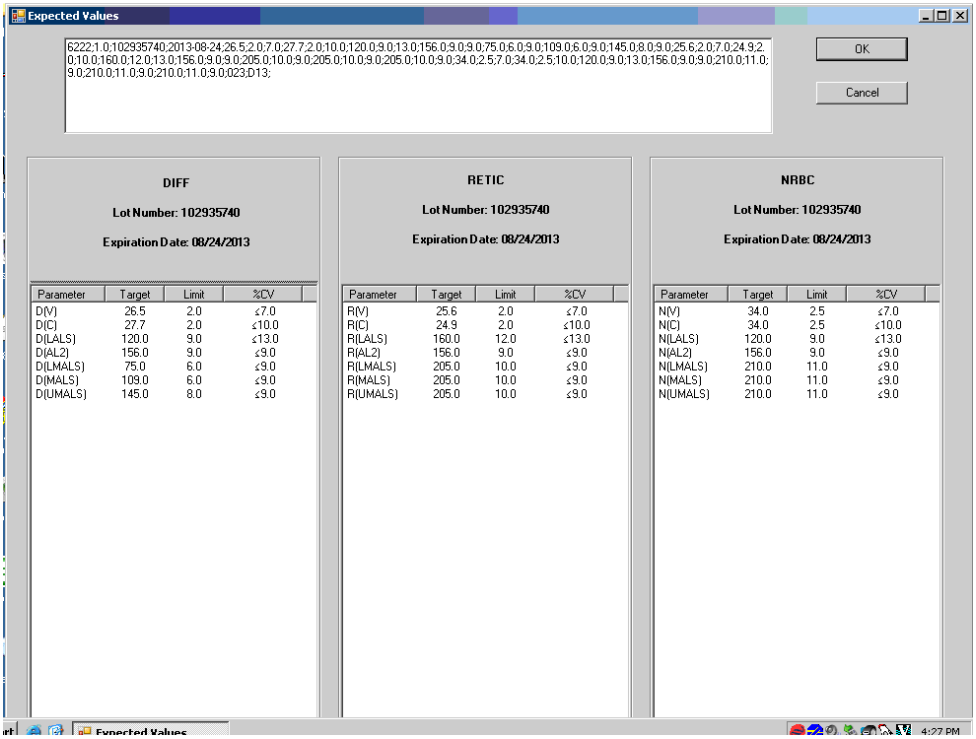
- Make sure cursor is in the top window, scan the bar code on the Coulter Package insert, and wait until data fill in the top window.



- Tab to populate the bottom windows for each level of 6C cell control.



- Screenshot depicting Latron QC expected values for Diff, Retic, and NRBC.



- Check the expected values against the package insert and click OK to save and exit.

Interlaboratory Quality Assurance Program (IQAP)

All instruments participate in Coulter's IQAP program. The IQAP program includes saving results of 6C cell controls, transferring them to a CD, and sending them to Coulter who compares the results to other laboratories. Coulter issues a report that contains a statistical analysis to evaluate performance. Perform this procedure at the end of each stand.

The procedure to download IQAP files to CD follows:

- Slide the CD into the drive and gently close CD holder.
- Menu > QA > QC > More options (bottom of screen) > Export.
- Type: CVS.
- Data Selection: All runs in current control file.
- Folder: CD Recorder Radio Button.

Repeat for each of the three levels of QC.

Reviewing IQAP Peer Group Means (Chief Techs)..

- Use the website - https://qapweb.beckmancoulter.com/qapweb/.
- Login.
- Choose the Analyzer (with note that B1 is MEC 3, B2 is MEC 2, B3 is MEC 1).
- Review active pool statistics.
- Put in lot number of 1st level 6C.
- View report.
- Note: Look at Mean and SD (not the assayed value) which is what is on the assay sheet we get. The Mean and SD are the averages for all the labs submitting data for this lot using 800 DXH. The shown SD is 2 SD from the peer mean.
- BACK.
- Use same procedure for remaining lot #.

Proficiency Testing

Evaluation and participation in the College of American Pathologist (CAP) proficiency-testing program is part of the comprehensive quality control program. These survey materials are shipped three times per year and consist of five 3-ml whole blood specimens. Follow all CAP instruction in preparing the materials before performing the test. Run specimens in a manner identical to routine specimens. Fill out the CAP result form, make a copy for the logbook, and send results to CAP.

After the assigned primary medical technologist has tested and recorded results, other medical technologists are to perform the testing and record their results without consultation with primary tech. The secondary techs' results will be sent to the Laboratory Manager as a record of competency testing.

To make barcode labels:

- Utility on Desktop;
- "Dymo test labels"; and
- Highlight the label shown:
  - Click on "Properties" in far upper right
  - Symbology – choose "code 128 Auto".
  - Data: Barcode delete "Click me" or "0000001" and type in proficiency sample number, i.e. FH6-01
  - Align: Center
  - Size: Medium
  - Show Barcode Text: Below
- Print: will print on dymo labelmaker
- Repeat for all 5 samples;
- Exit out; and
- "No" to "do you want to save?"

To auto print results for proficiency samples:

- Menu> Set Up> Reporting> Auto Report
- √ box "print Lab Report as Each Analysis is Complete"
- Back out of setup
- BE SURE to uncheck box after you have finished running and printing samples

Run Proficiency samples in cassette (will be run twice under current setup and each result will print separately).

- Average results on NHANES Hematology CAP Results worksheet;
- Computer> MECSTAFF>Lab;
- Save as KitName-KitNumber_YYYY-MMDD_MEC#_Tech Initials_ P (for primary) or S (for secondary operator);
- Enter results on CAP paperwork; and
- Enter results in CAP site on computer using your own personal CAP login:
  - Log in to the CAP site with individual account info.
  - Click on the e-lab solutions suite.
  - On the right side of the screen, click on the Request access to laboratory data link.
  - The screen will open that will ask you to enter the CAP number.
  - Enter – 6910001.

Have another tech proof your computer entry before final send. Take a picture of your worksheet as a copy of your work, print for your records. Place your worksheet with indication of kit number, primary or secondary operator, your name and date in the Heme logbook to forward to Component Manager at end of stand and also email the primary copy to component manager. Record on your annual CAP survey Check Sheet. Indicate if you were primary or seconday operator

Linearity for WBC, RBC, Hgb, and Plt Parameters

Lin-X™ (PN 628029) – The Lin-X™ linearity control verifies the reportable range of Coulter® hematology system parameters for WBC, RBC, Hgb and Plt.

OR

CAP Hematology Calibration Verification/Linearity Survey (LN9) - These materials are shipped once per year and consist of 18 3-ml liquid specimens. Follow all CAP instruction in preparing and running the materials before performing the test. Fill out the CAP result form, make a copy for the logbook, and send results to the Laboratory Manager at the end of the stand.

Run either the Lin-X™ or CAP LN9 survey material:

- At installation;
- At least yearly; and
- Whenever experiencing an altitude change of 1 mile or more between stands.

Principle – Lin-X™ linearity controls are human blood components from which repeated measurements verify the reportable range of Coulter hematology systems. Controls contain 12 vials, ranging from 0-12. Lin-X™ verifies the ranges for the following parameters: WBC, RBC, Hgb, and Plt.

To ensure the accuracy of linearity control ranges, Coulter system calibrates with S-CAL calibrator.

Interpretation of Results and Remedial Action

Sample Person Hemoglobin and Hematocrit Review and Remedial Actions

Review all results to make sure the hemoglobin and hematocrit are acceptable. The hematocrit should be approximately three times the hemoglobin. If an "H&H Does Not Match Flag" pops up on both runs of an SP, repeat run using the EDTA sample from processing, if available, as a check. Report out results if all runs are similarly flagged. Delete all but two of the runs before averaging.

SP Parameter Value Review and Remedial Actions

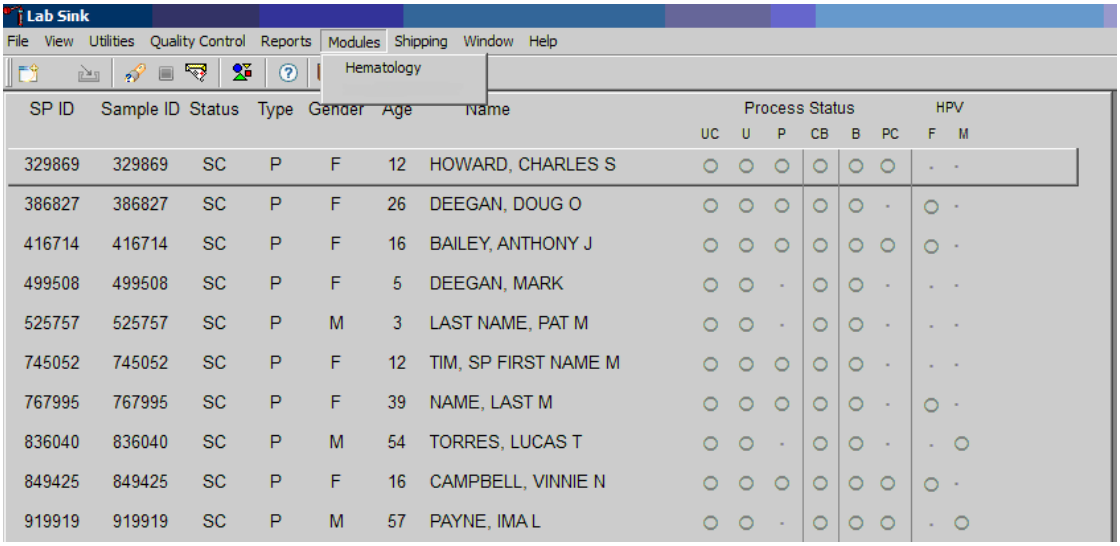
1. **Access the Hematology module or reject a clotted blood tube.**

Open the Hematology module.

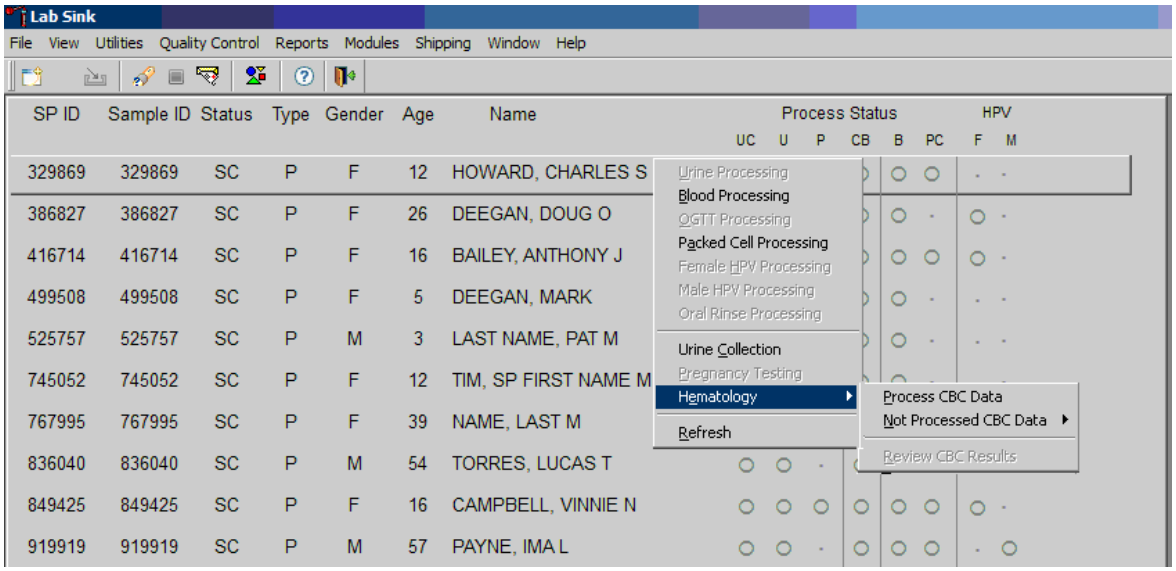
The Hematology module does not need to be open before running SP samples on the DxH 800. Note the red icon in the lower right corner of the system tray.

This is the NHANES Coulter Monitor icon. It must be open and running at the start of each session. This icon stores all DxH 800 runs in the ISIS database. Double-click on the Coulter icon on the desktop to open the application.

Open the Hematology module: direct the mouse arrow to Modules, in the top menu bar, left-click, drag the mouse arrow to Hematology, and right-click.

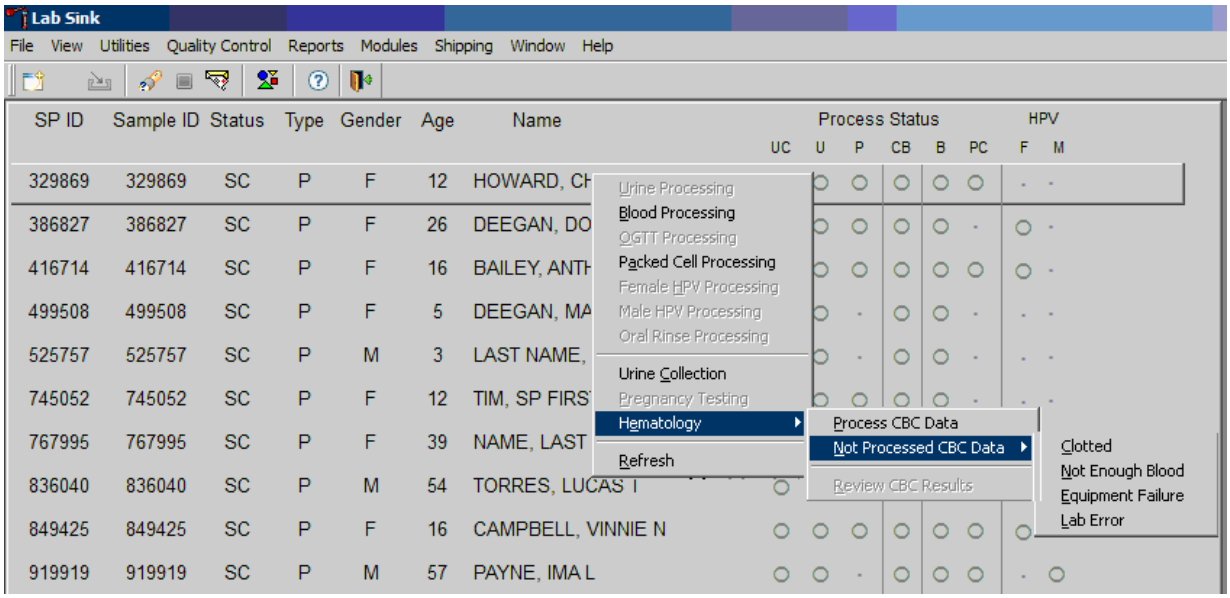


Alternatively, open the Hematology module from the heads-up display.



To access the Hematology module, direct the mouse arrow to any SP, right-click, drag the mouse arrow to Hematology then to Process CBC Data, and right-click. Alternatively, use the arrow keys to move up and down the list until a particular SP is highlighted, right-click, drag the mouse arrow to Hematology then to Process CBC Data, and right-click.

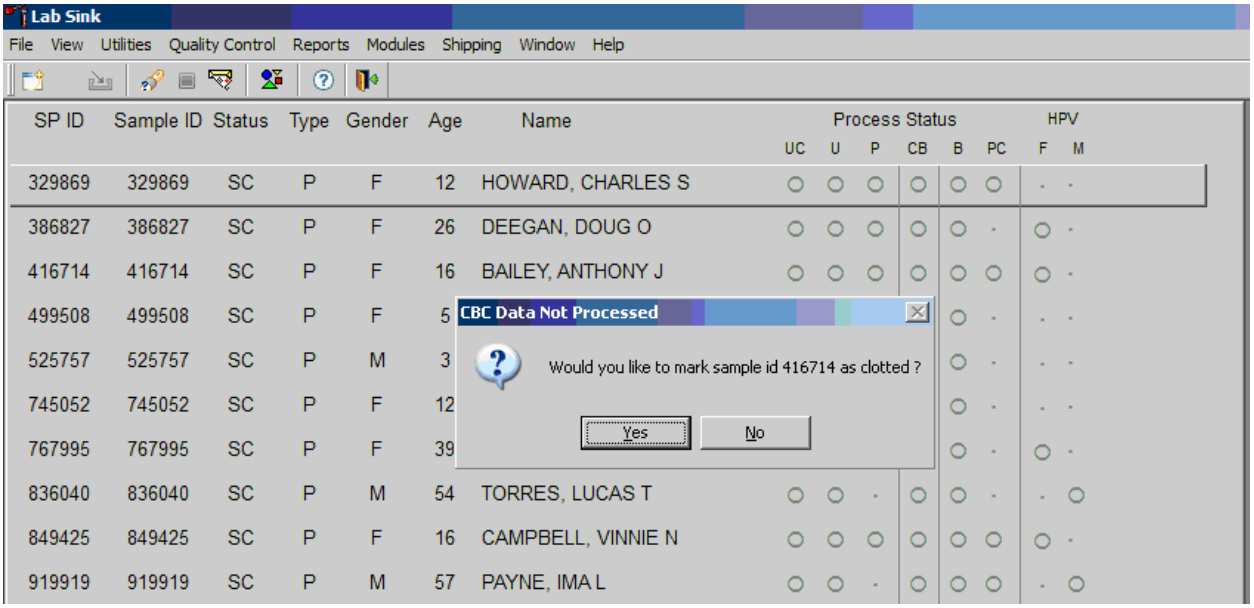
Either open the module or reject the specimen and add a reason or comment for every CB record where blood was drawn in phlebotomy AND there are no CBC results.



Open the module (Process CBC Data) or record a reason why the CBC is not being run (Not Processed CBC Data). Select or record a comment for every CBC that is not run. To complete opening or accessing the Hematology module, direct the mouse arrow to Process CBC Data and right-click. To record a reason why a CBC is not being run, direct the mouse arrow to the exact SP's line on the heads-up display, right-

click, drag the mouse arrow to Not Processed CBC Data, and drag the mouse arrow to the correct reason and right-click.

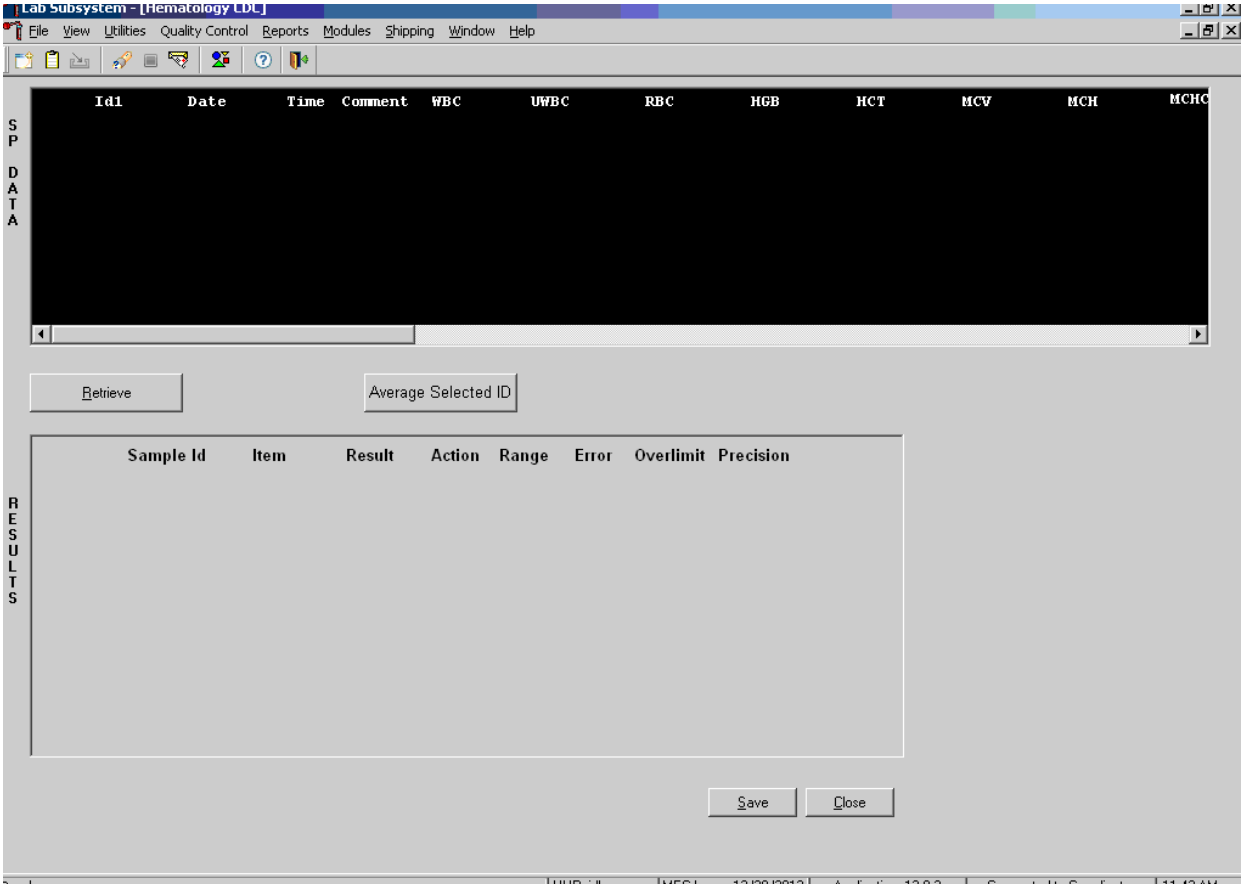
A pop-up window will display. Confirm the selection.



A CBC Data Not Processed message text box displays that asks, "Would you like to mark sample id XXXXXX as Clotted/Not Enough Blood/Equipment Failure/Lab Error?" To record a "Yes" response, direct the mouse arrow to the Yes button and left-click, type [Y], or press Enter. To record a "No" response, direct the mouse arrow to the No button and left-click, or type [N]. If a "Yes" response is recorded, the comment is saved to the database. If a "No" response is recorded, no comment is saved to the database. If the record is marked with the selection in the database, then the heads-up display updates to complete (the CB circle fills in black).

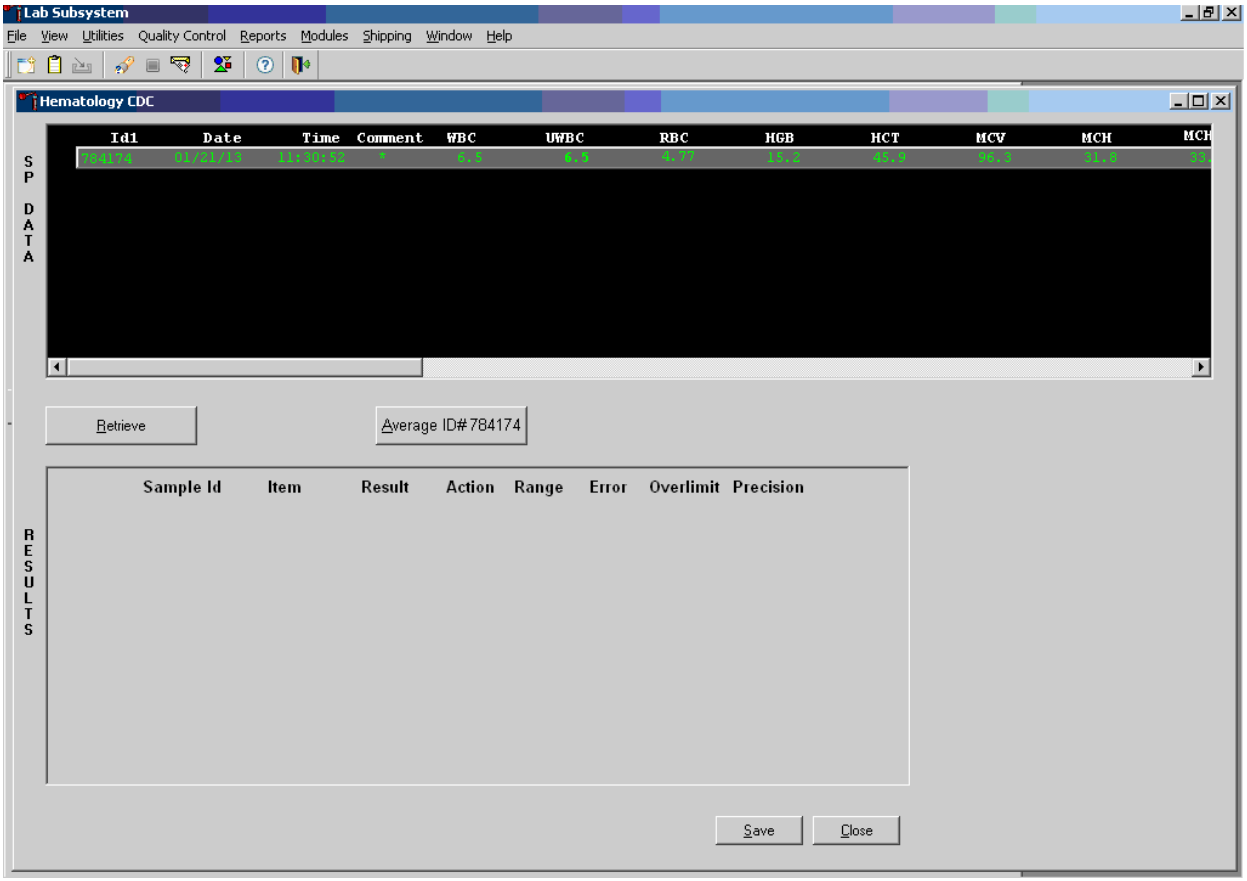
2. Hematology module overview

The CBC results are not automatically populated in the Hematology module. Use the Retrieve button to send the results from ISIS to the Hematology module. Select after each run. Make sure the Coulter DMS host computer icon (HC) is displaying an up arrow (↑) in the DMS bottom tile bar.



After data are retrieved, they display in the top portion of the window, the SP Data section. This section includes the SP ID, the date and time the CBC was run, and columns for each parameter. The bottom portion of the window is the Results section. Results display after the Average Selected ID button is selected.

Review all Coulter data in the SP Data section after they are retrieved.



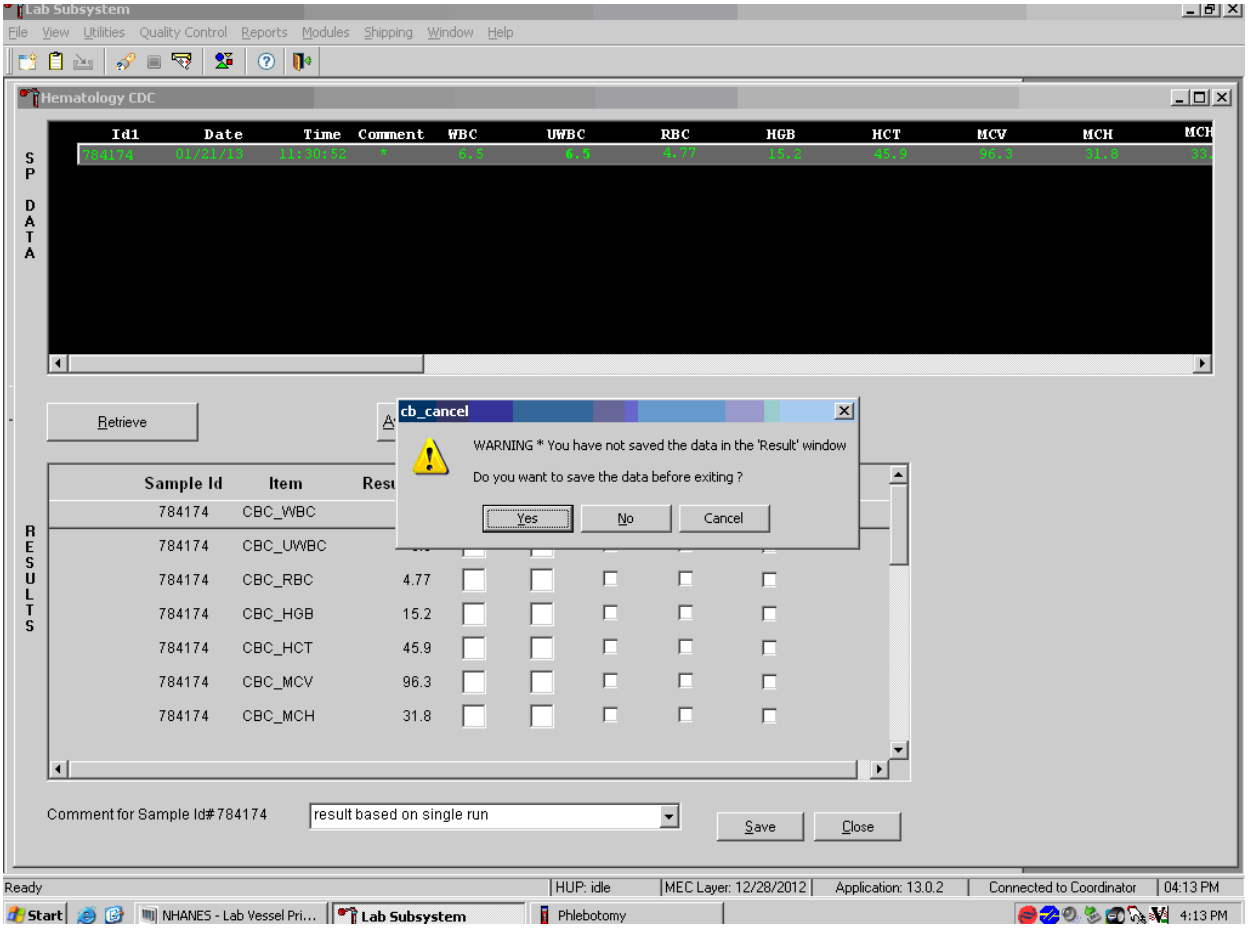
To view SP data for all parameters, direct the mouse arrow to the horizontal scroll bar at the bottom of the SP Data section and drag the scroll bar to the left or right. Alternatively, to view the SP data for all parameters, direct the mouse arrow to the small scroll arrows on the left and right edges of the horizontal scroll bar, and left-click.

Hematology Results section overview. The Result columns include: Sample ID, Item (CBC parameter), Result (Coulter data for a single run or the ISIS-averaged result for multiple runs), Action (CDC-established critical limits), Range (CDC-established reference ranges for both genders and four age groups), Error (Coulter-transmitted instrument errors), Overlimit (Coulter-transmitted result that exceeds the instrument's linearity limit), and Precision (CDC-established values for the difference between any two runs). Checkmarks display in boxes for parameters that have errors, are over limit, or for those that exceed precision limits. An "H" for "high" and "L" for "low" display for parameters that exceed action limits or reference ranges.

Average, evaluate, and save results for all parameters. The SP's results display in the bottom portion of the window after the Average Selected ID button is selected. To view results for all parameters, direct the mouse arrow to the vertical scroll bar at the right side of the Results section and drag the bar up or down.

Alternatively, to view all the results, direct the mouse arrow to the small scroll arrows on the top and bottom edges of the vertical scroll bar, and left-click. Evaluate each parameter for error, overlimit, and precision check marks, and "H" or "L" action limit and reference range flags. To save the result to the database, direct the mouse arrow to the Save button and left-click. After results are saved, they are erased from the screen. To exit without saving the result to the database, direct the mouse arrow to the Cancel button and left-click.

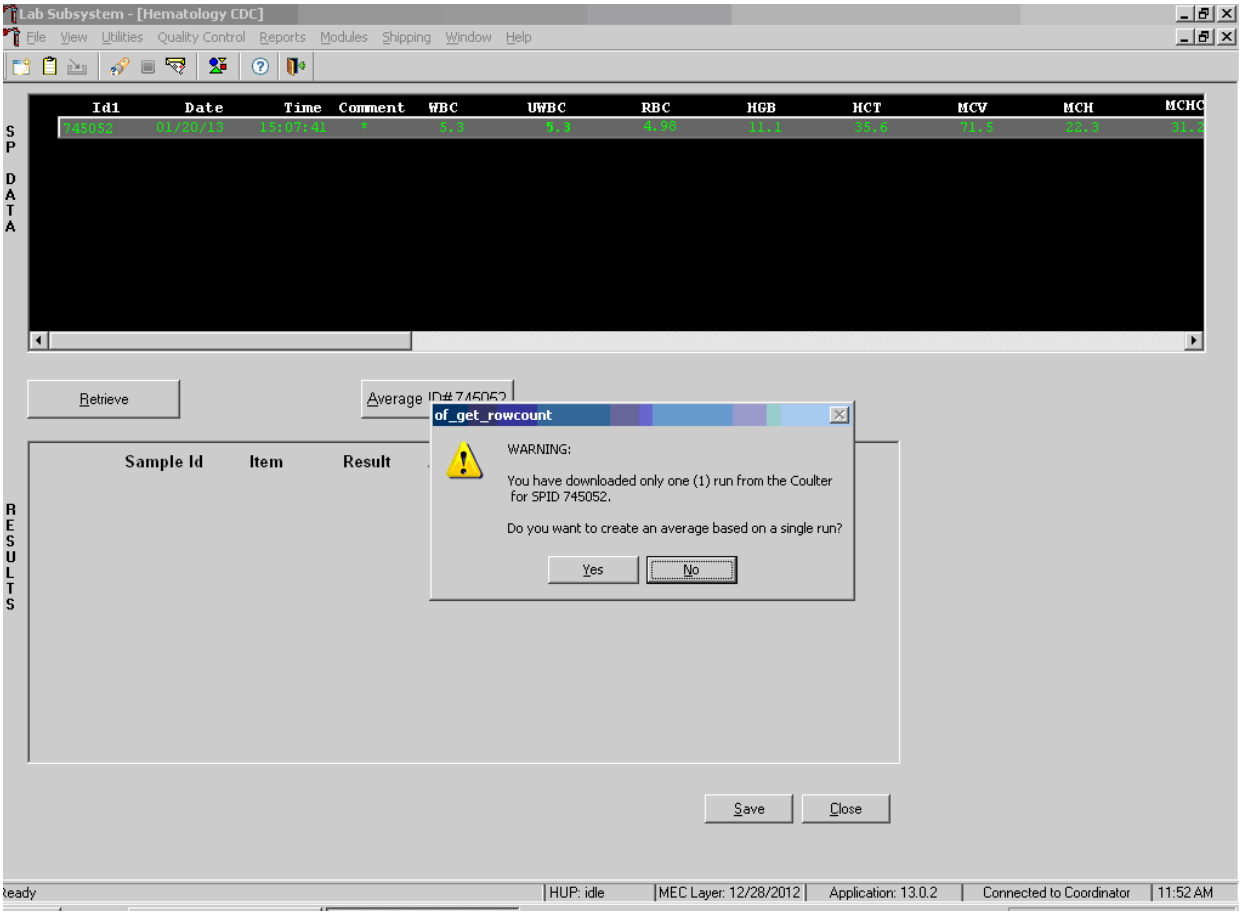
A warning text box displays if the Close button is selected before the results have been saved.



If the Close button is selected before the results are saved to the database, a warning message text box displays that states, "WARNING * You have not saved the data in the 'Result' window" and asks, "Do you want to save the data before exiting?" To record a "Yes" response, direct the mouse arrow to the Yes button and left-click, type [Y], or press Enter. To record a "No" response, direct the mouse arrow to the No button and left-click, or type [N]. To cancel the action, direct the mouse arrow to the Cancel button and left-click. If a "Yes" response is recorded, the CBC results are saved to the database and erased. If a "No" response is recorded, no results are saved to the database and the data in the Results section are erased. A Cancel response returns the screen to its previous state.

3. Running samples when only one run is possible

Save results where only one run was possible.

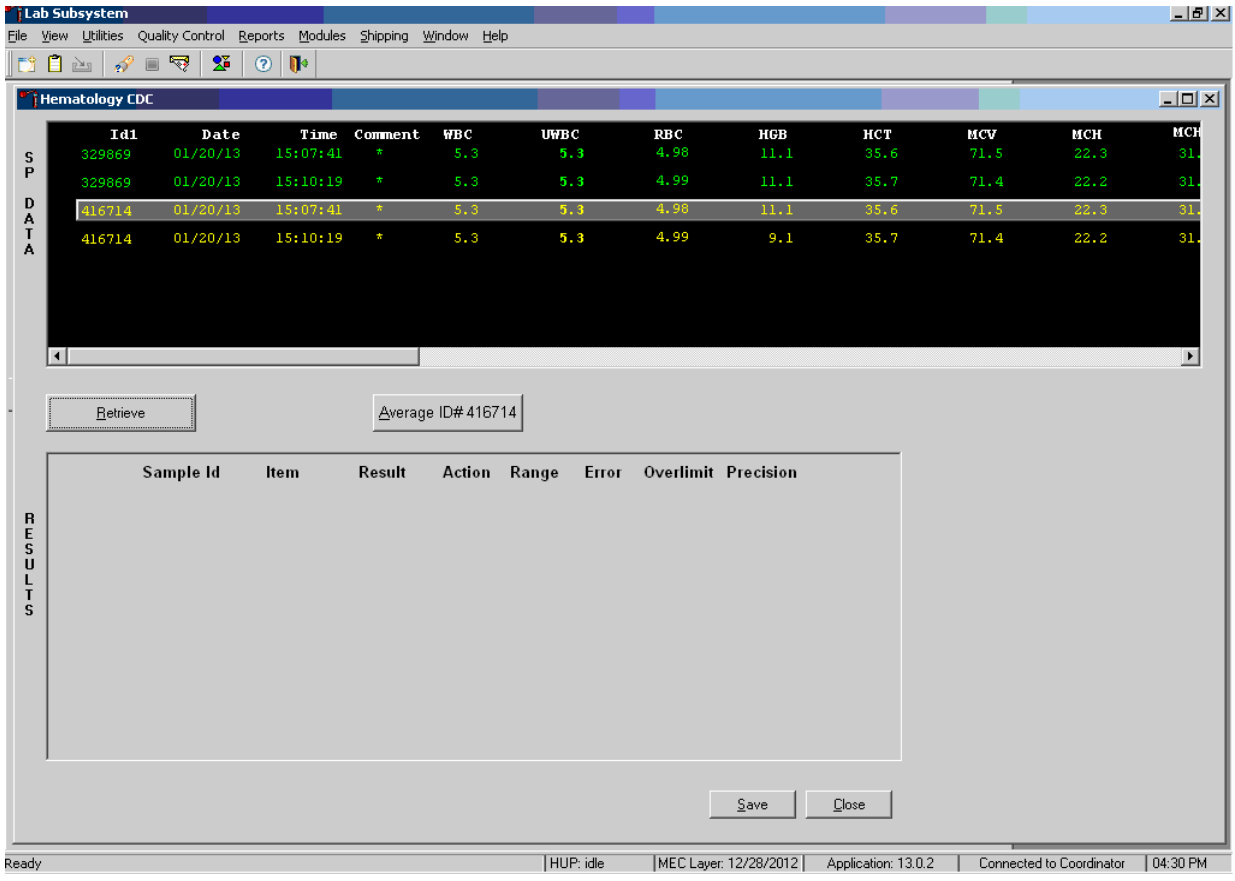


Run samples in duplicate whenever possible. If the whole blood is insufficient, it is acceptable to average and save only one run. To save results where only one run is possible, direct the mouse arrow to the Average Selected ID box and left-click. A warning message text box displays that states, "You have downloaded only one (1) run from the Coulter for SPID *XXXXXX*" and asks, "Do you want to create an average based on a single run?" To record a "Yes" response, direct the mouse arrow to the Yes button and left-click or type [Y/y]. To record a "No" response, direct the mouse arrow to the No button and left-click, or type [N/n], or press Enter. If a "Yes" response is recorded, the CBC results display in the bottom Results section of the window. A "No" response cancels the action and returns the window to its previous state.

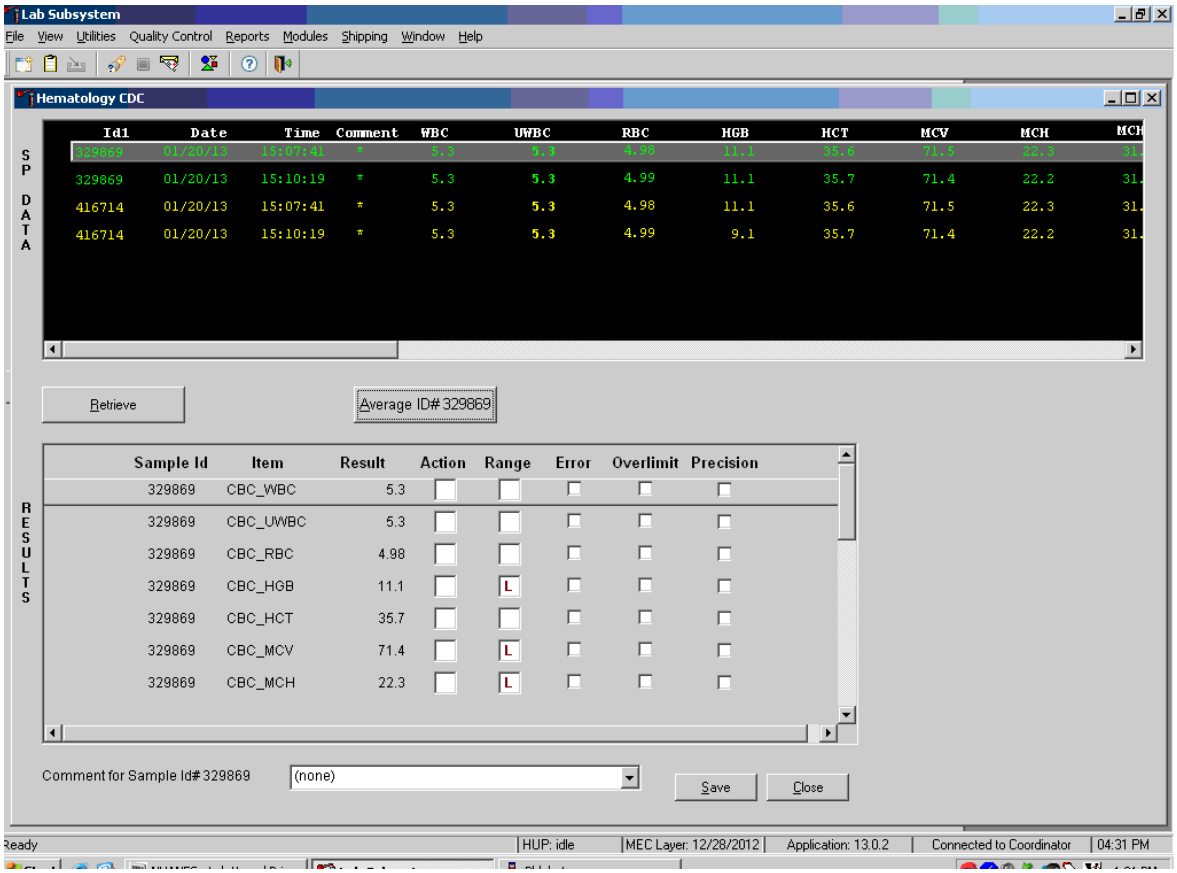
For results where only one run was possible, the Comment box at the bottom of the window defaults to "result based on single run."

4. Running samples in duplicate

Run all samples in duplicate and average the data.



Whenever a sample is run in duplicate, both results display in the SP Data section. To average these two results, direct the mouse arrow to Average ID#*XXXXXX* button and left-click.
Results display in the lower section of the window.

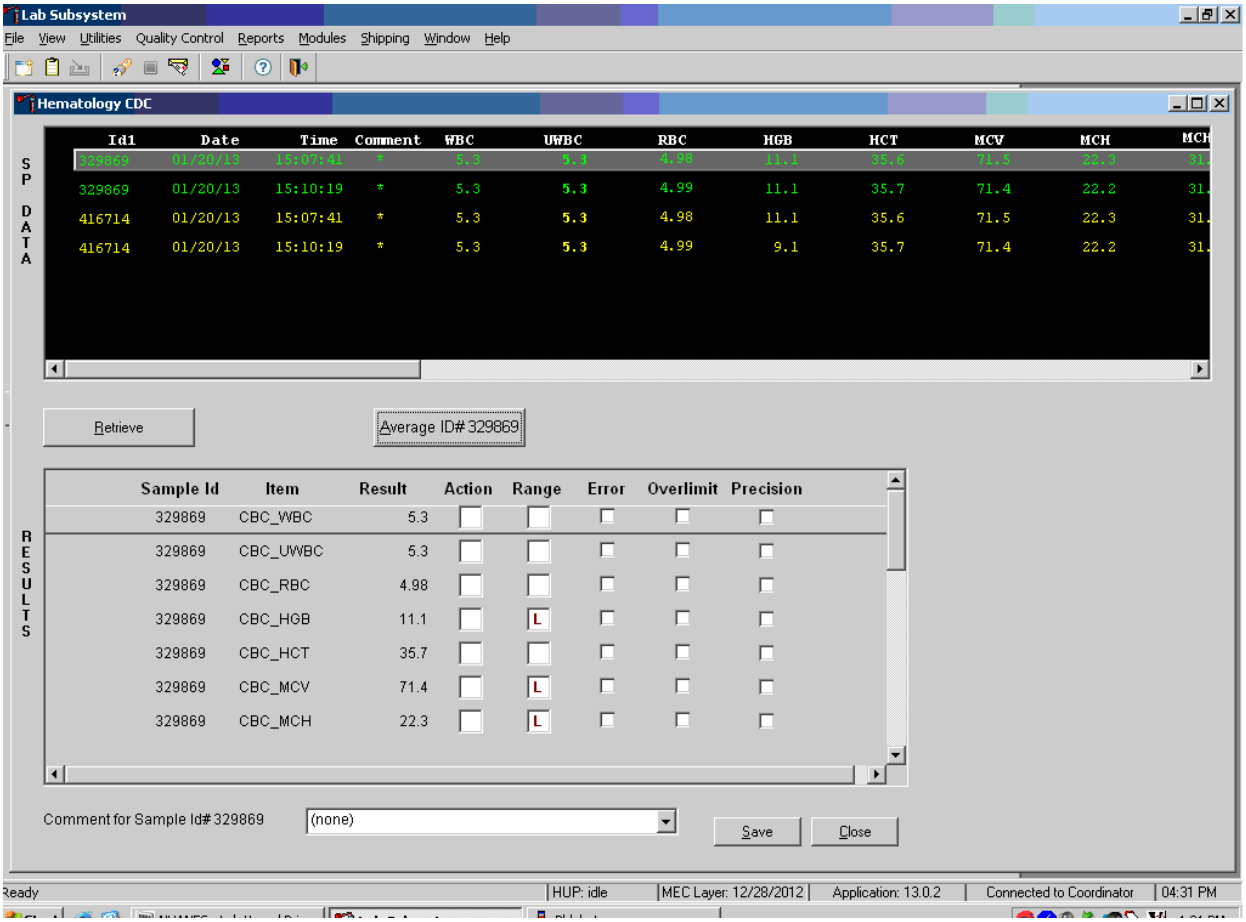


The differences between duplicate values for WBC, RBC, Hgb, MCV, Plt, NE#, LY#, MO#, EO# and BA# are calculated and evaluated to determine if they are within the following CDC established precision limits (Table 6-4).

Table 6-4. CDC precision limits

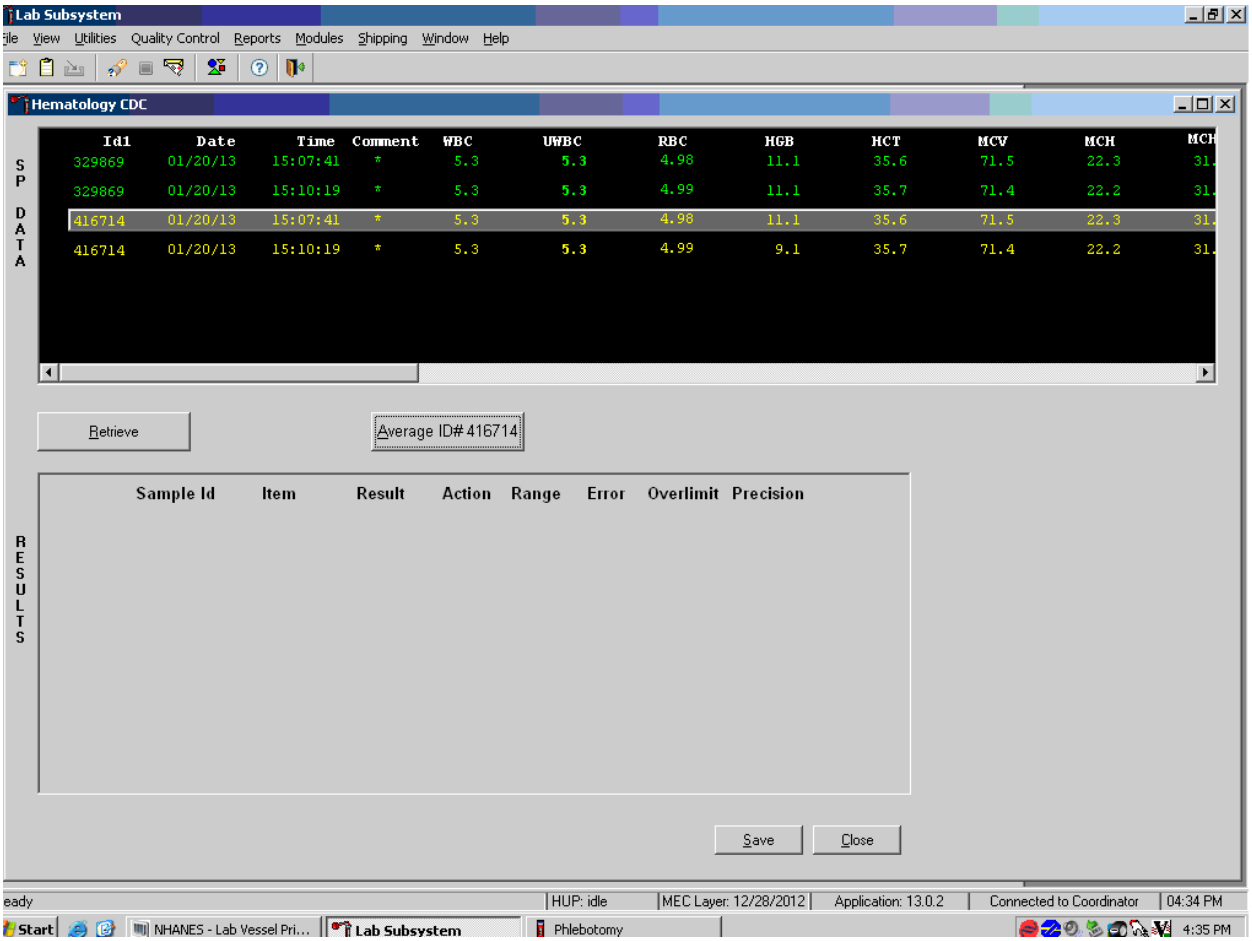
Test	Precision limits
WBC	$\pm 0.4 \times 10^3$
RBC	$\pm 0.1 \times 10^6$
Hgb	±0.4 g/dl
MCV	±2.2 fL
Plt	$\pm 23 \times 10^3$
NE#	$\pm 0.4 \times 10^3$
LY#	$\pm 0.2 \times 10^3$
MO#	$\pm 0.2 \times 10^3$
EO#	$\pm 0.2 \times 10^3$
BA#	$\pm 0.2 \times 10^3$

If RBC parameters are out of range, evaluate the data for drift. If drift is evident, evaluate the possibility of an instrument malfunction. If any WBC differential absolute number is out of range, check the WBC scattergram for abnormal cell population(s). Evaluate and save results when precision limits are not exceeded.



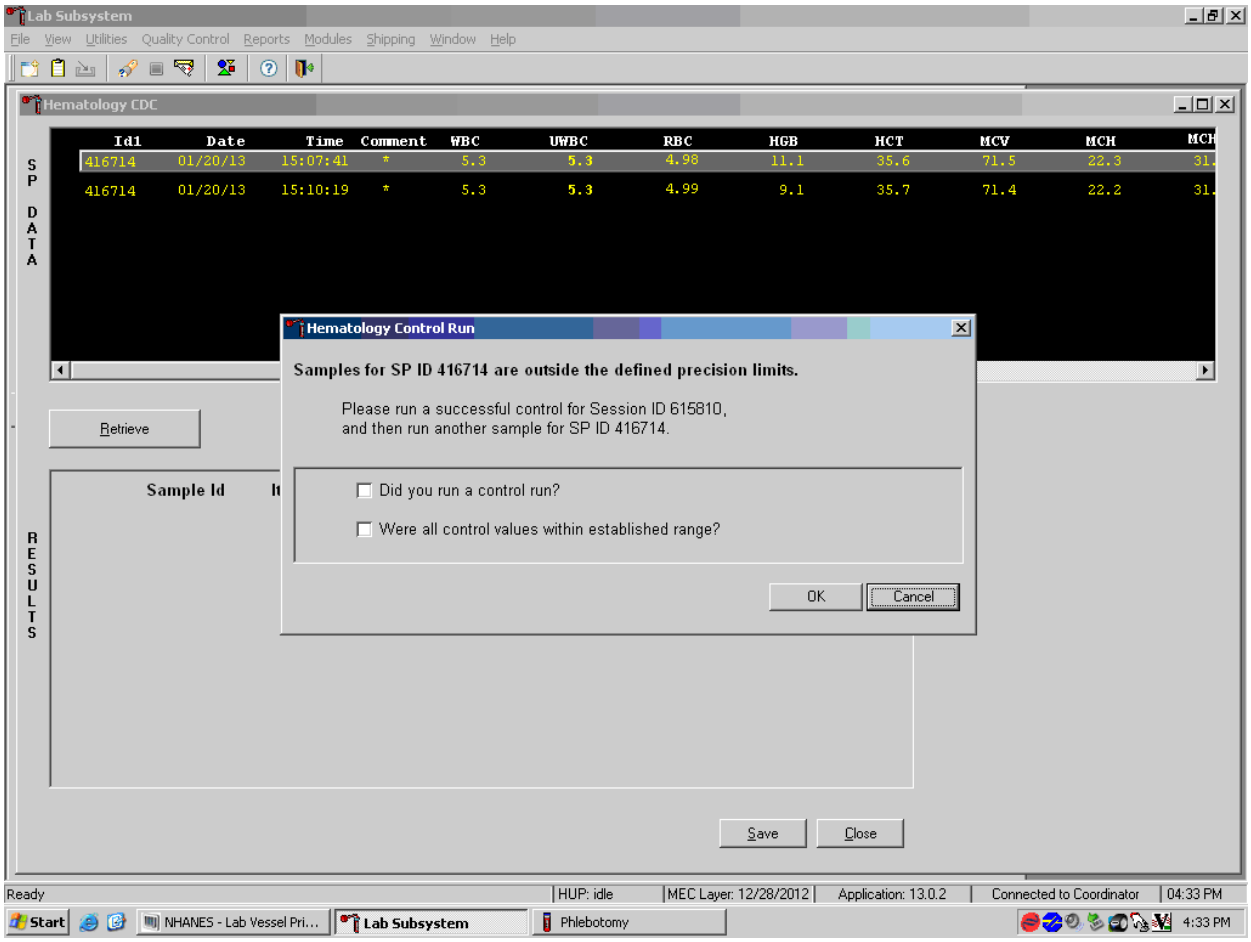
Evaluate results for all parameters. Evaluate each parameter for error, overlimit, and precision check marks, and "H" or "L" action limit and reference range flags. If there are no check marks in the Precision column (no precision limit was exceeded), save the results to the database. To save the results to the database, direct the mouse arrow to the Save button and left-click. After results are saved, they are erased from the screen. To exit without saving the result to the database, direct the mouse arrow to the Close button and left-click.

Average, evaluate, and rerun specimens that exceed precision limits.



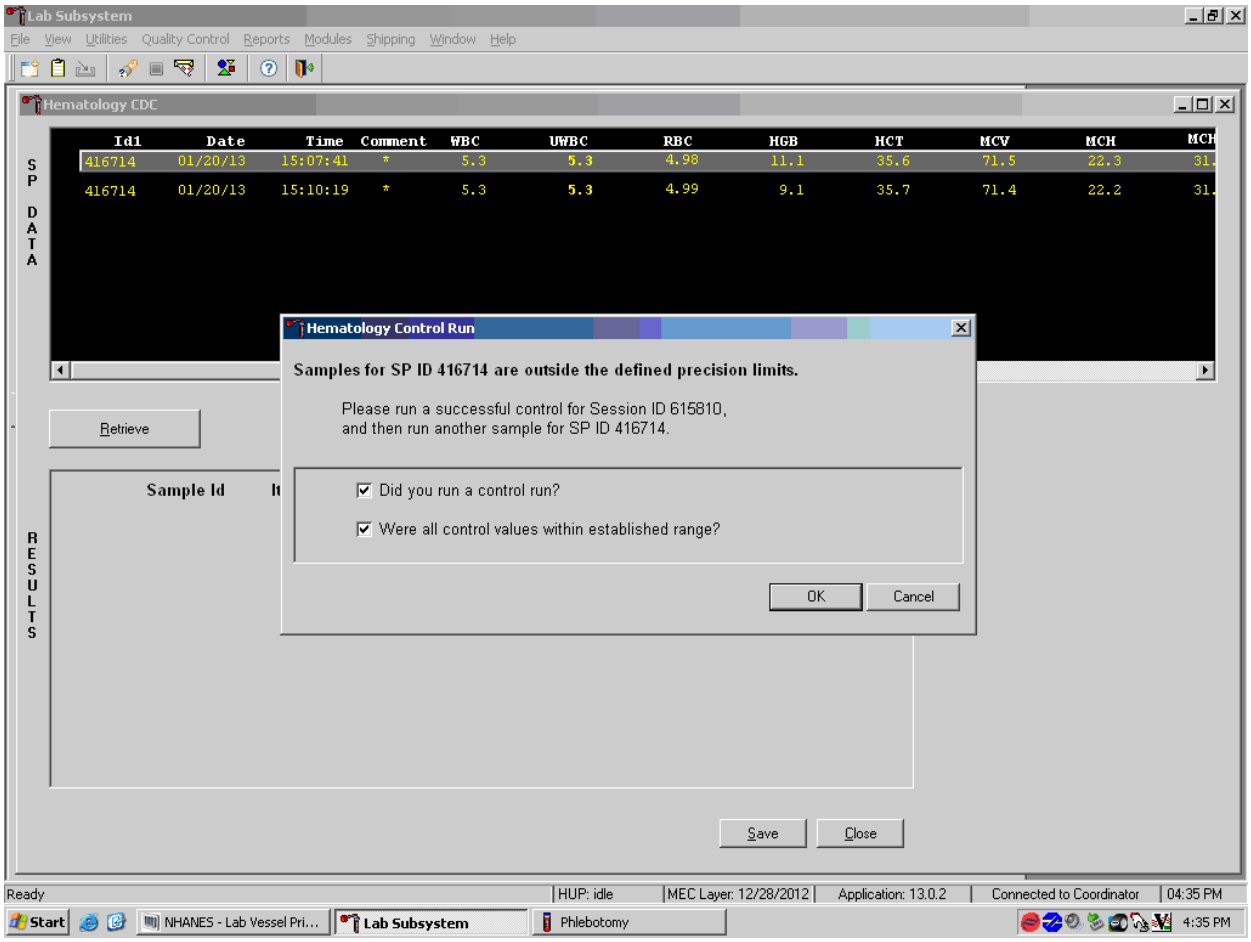
Average the two results by using the mouse to direct the mouse arrow to the Average ID#*XXXXXX* button and left-click. If, at this point, precision limits are exceeded for any individual parameter, the technologist is prompted to run a control and to evaluate it to determine if all control values fall within the control's established range.

If any parameter exceeds its precision limit, the Hematology Control Run window displays.



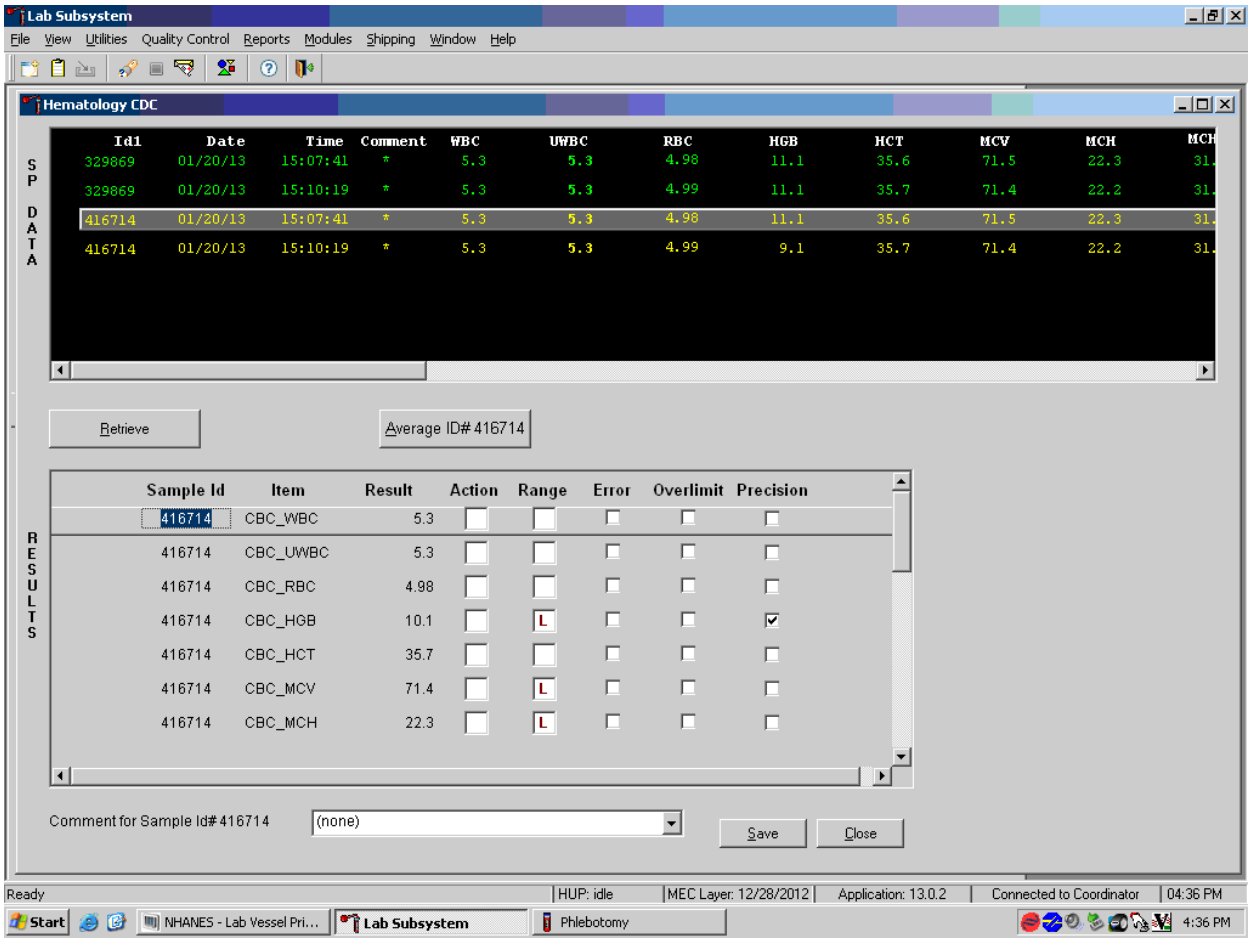
The Hematology Control Run window indicates that the "Samples for SP ID *XXXXXX* are outside the defined precision limits." It instructs the technologist to "Please run a successful control for Session ID *XXXXXX*, and then run another sample for SP ID *XXXXXX*." If it has been >30 minutes since running the sessions QC (all three levels of 6C Cell control), run any one level of 6C cell control and evaluate the results. Respond to the two questions, "Did you run a control run?" and "Were all control values within established range?" To confirm these actions, direct the mouse arrow to each of the two check boxes and left-click to record the check marks.

Save the responses to the check box questions.



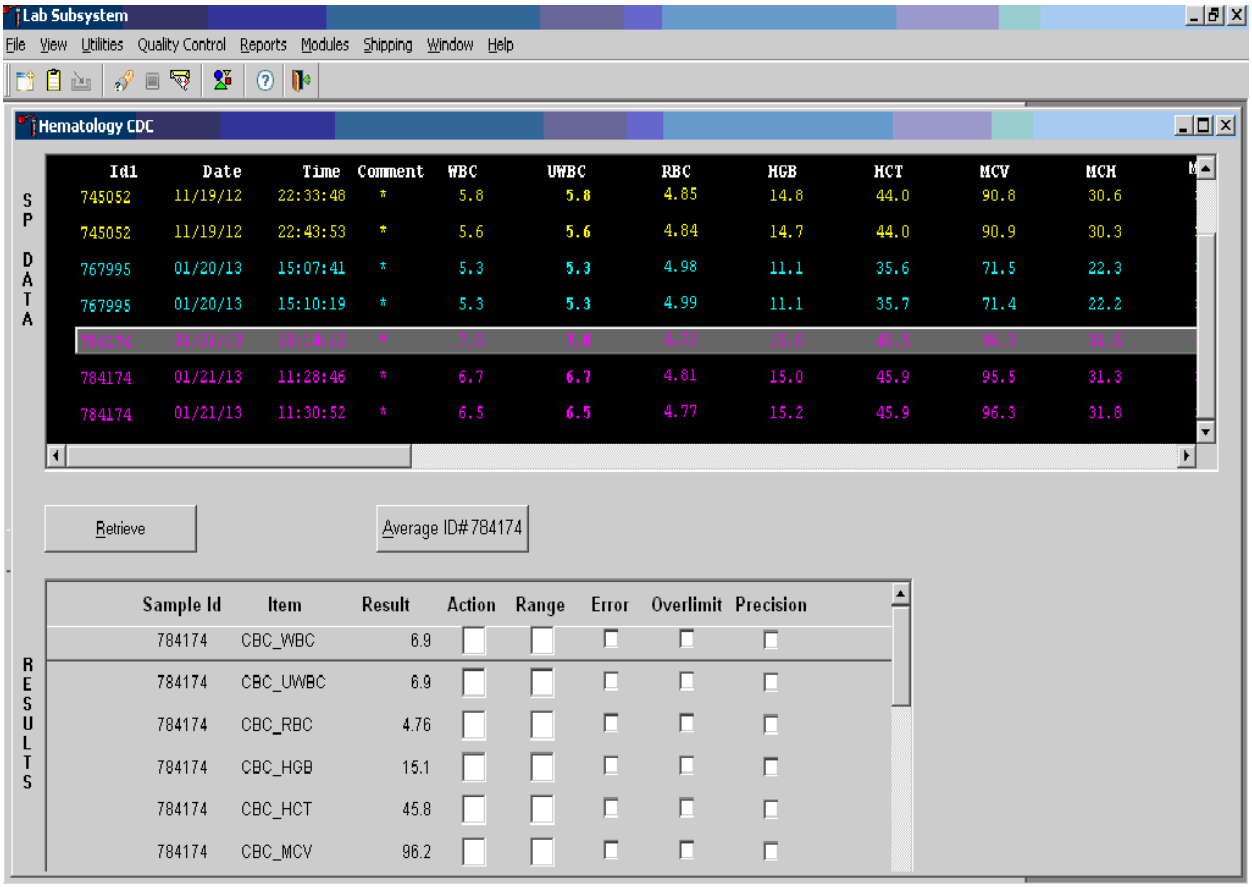
To save these responses to the database, direct the mouse arrow to the OK button and left-click or type Enter. To exit the Hematology Control Run window without saving the responses, direct the mouse arrow to the Cancel button and left-click. As soon as the OK button is selected, the averages display in the Results section of the window.

Evaluate the results displayed in the Results section of the window.

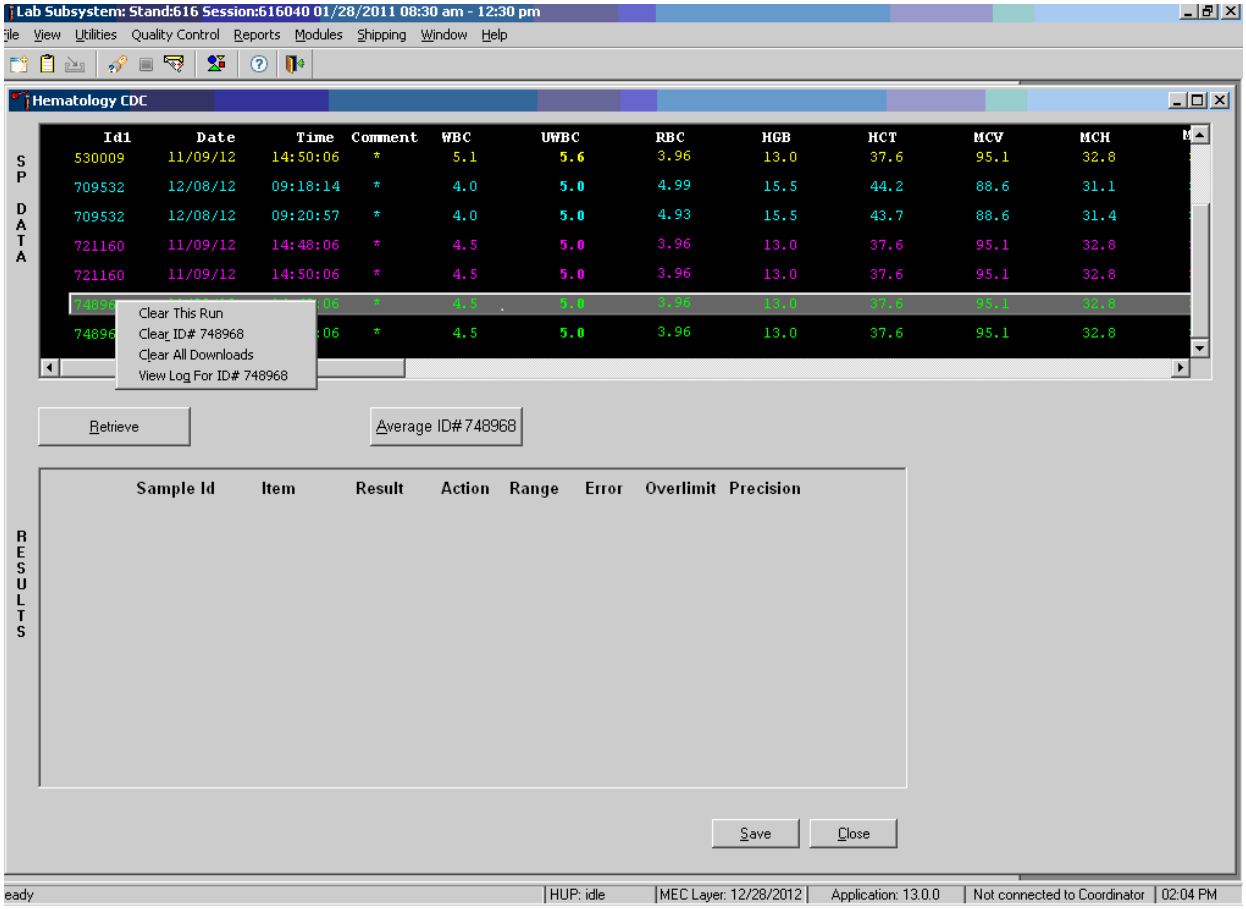


Evaluate each parameter for error, overlimit, and precision check marks, and “H” or “L” action limit, reference range flags, and comment in the above screen. Use the scroll bar to view all results. When there are check marks in any of the Precision columns, meaning that the precision limit was exceeded, rerun the blood sample a third time. If there is insufficient blood to run the CBC again (total of 4 runs, since the instrument is set to run all samples in duplicate), delete the run that caused the precision error. Save one run and comment with based on a single run. (In the above example, delete the second run for SP 416714 and save the first run.) To save the results to the database, direct the mouse arrow to the Save button and left-click. After results are saved, they are erased from the screen. To exit without saving the result to the database, direct the mouse arrow to the Close button and left-click.

Run the specimen again when any precision limit is exceeded or if one run has a comment and the second run does not.

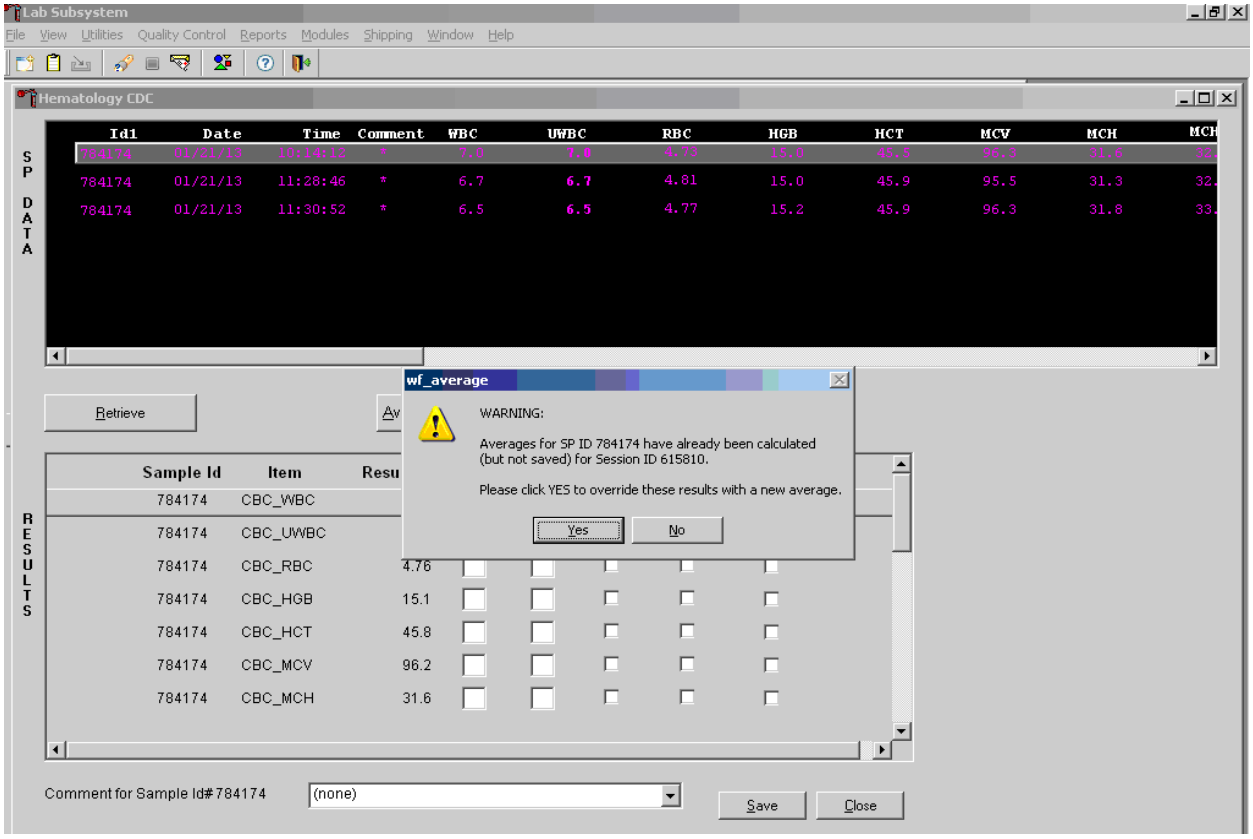


Run the blood sample again. Two additional results will be displayed. Whenever a sample is run more than once, all results in the SP Data section are displayed. Scroll through the top of the SP data window and determine which of the two runs match the best. Delete the 2 outlier runs, which could be the run that caused the precision error or the run that does not/does have a comment, and re-average the two remaining runs.



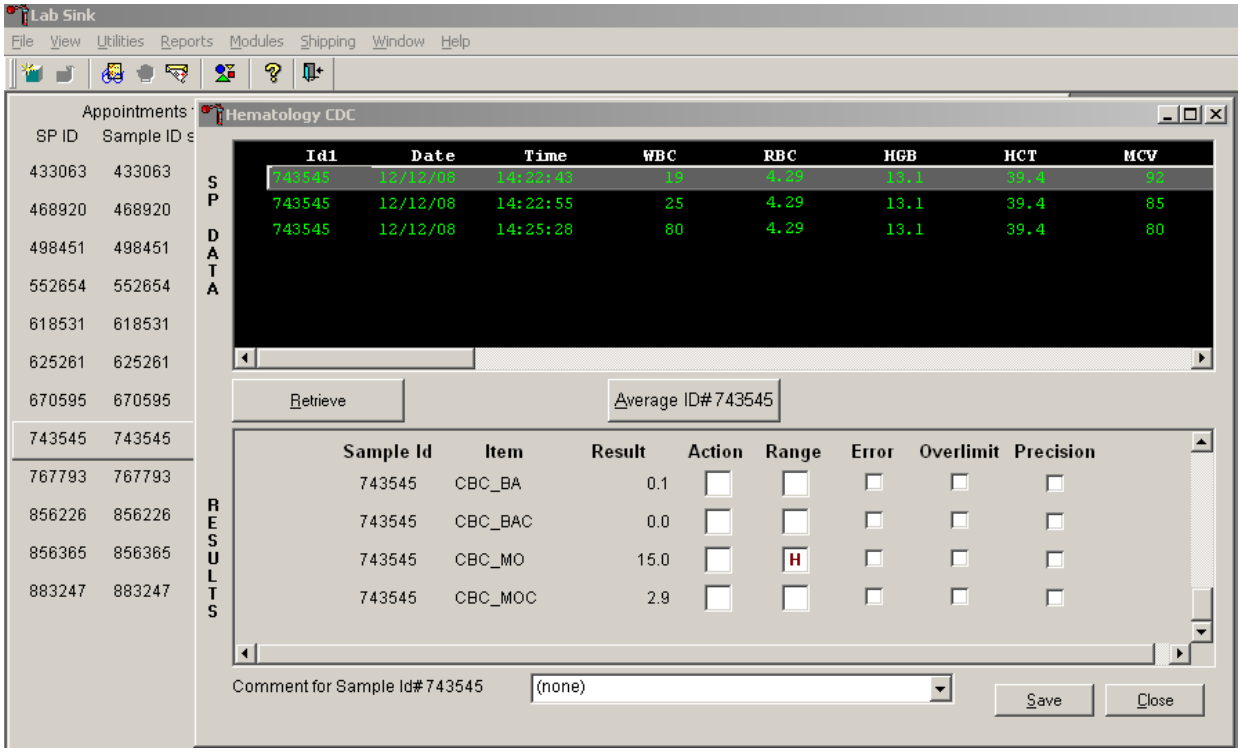
After clearing the outlier runs, re-average the two remaining runs and analyze the results.

Override the current averaged results with a new average.



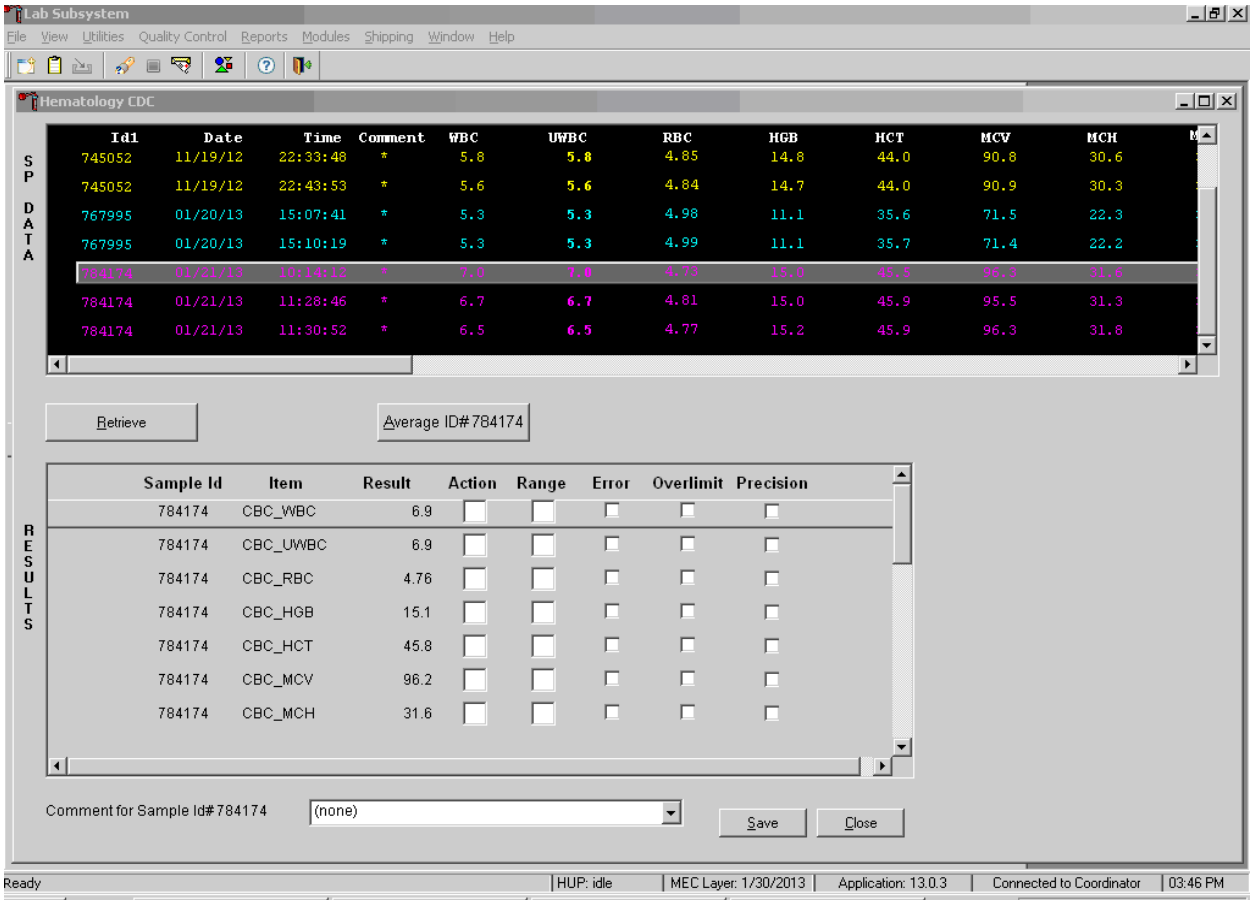
Whenever a sample has previously been averaged, and a new average is calculated, a warning message text box displays stating, "Averages for SP ID *XXXXXX* have already been calculated (but not saved) for session ID *XXXXXX*." The text box instructs, "Please click YES to override these results with a new average." To override the current average with a new average direct the mouse arrow to the Yes button and left-click , or press Enter. To exit or return to the previous screen containing the previous averages, direct the mouse arrow to the No button and left-click.

Evaluate the new results.



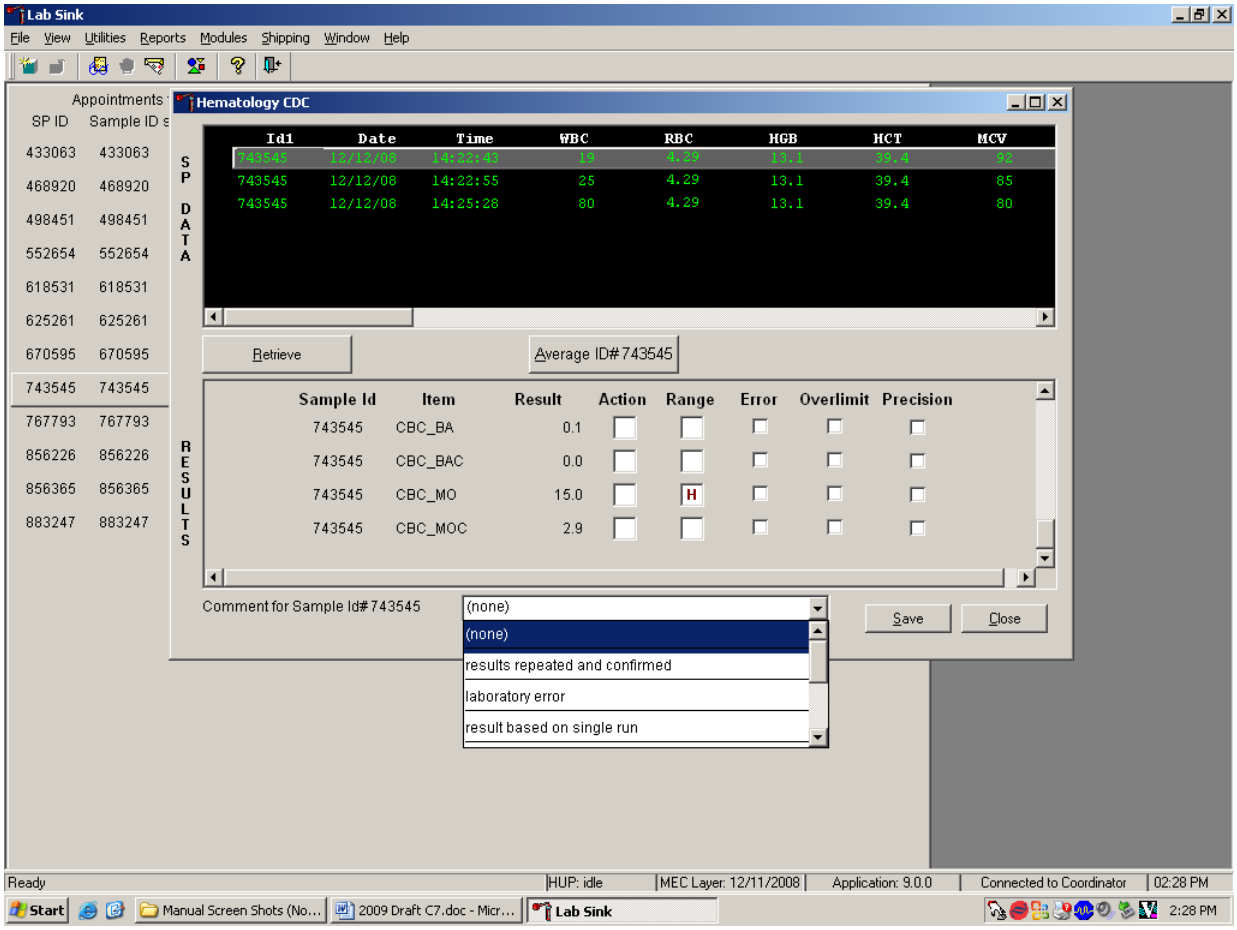
If all parameters of the two remaining runs now meet precision limits (there are no check marks in the Precision column), save the results to the database. To save the result to the database, direct the mouse arrow to the Save button and left-click. After results are saved, they are erased from the screen. To exit without saving the result to the database, direct the mouse arrow to the Close button and left-click.

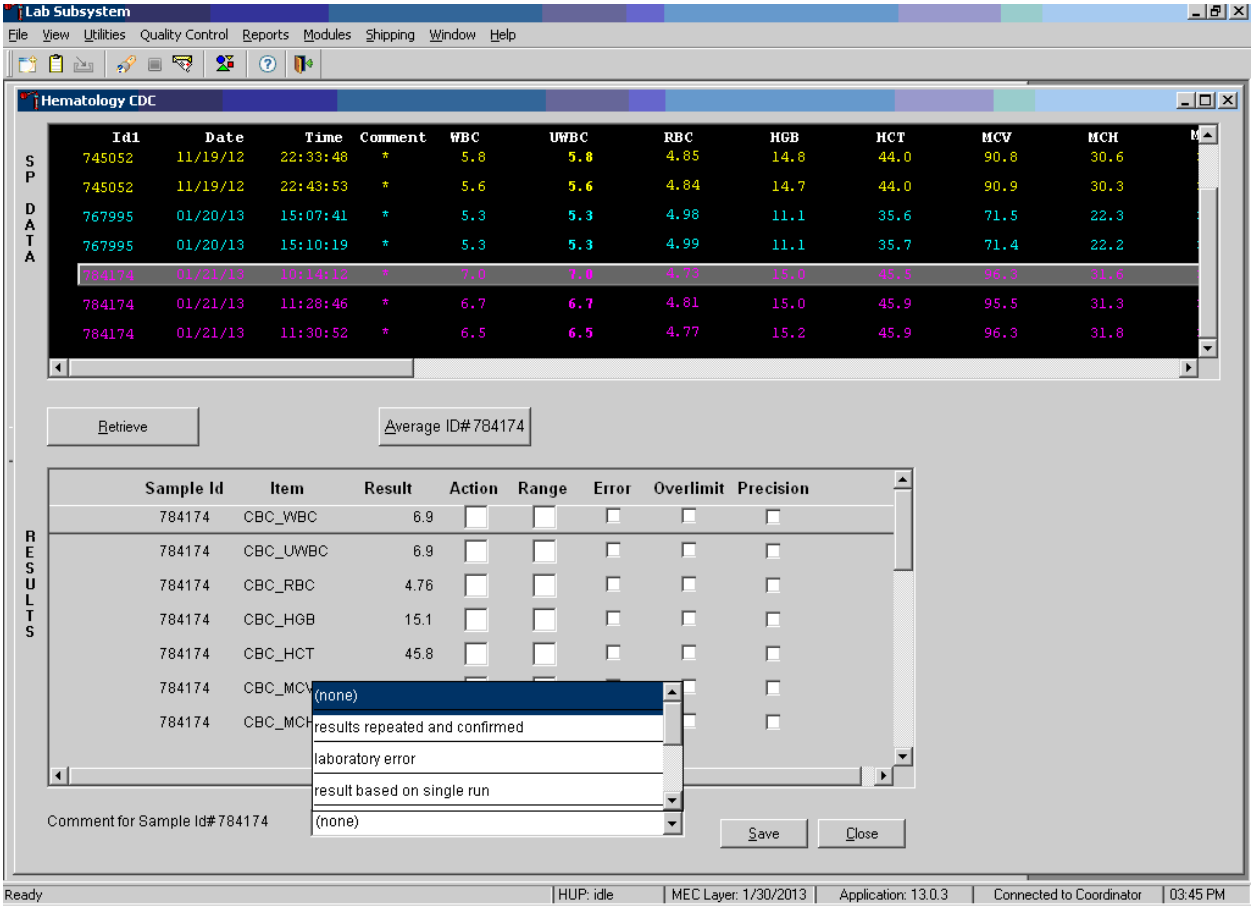
If after four runs precision limits are still not met for any parameter, a comment is automatically attached to the results. Do not run a specimen more than four times.



5. Attaching comments to the results

Enter a comment for any run where results were repeated and confirmed, the equipment failed, or there was a laboratory error.





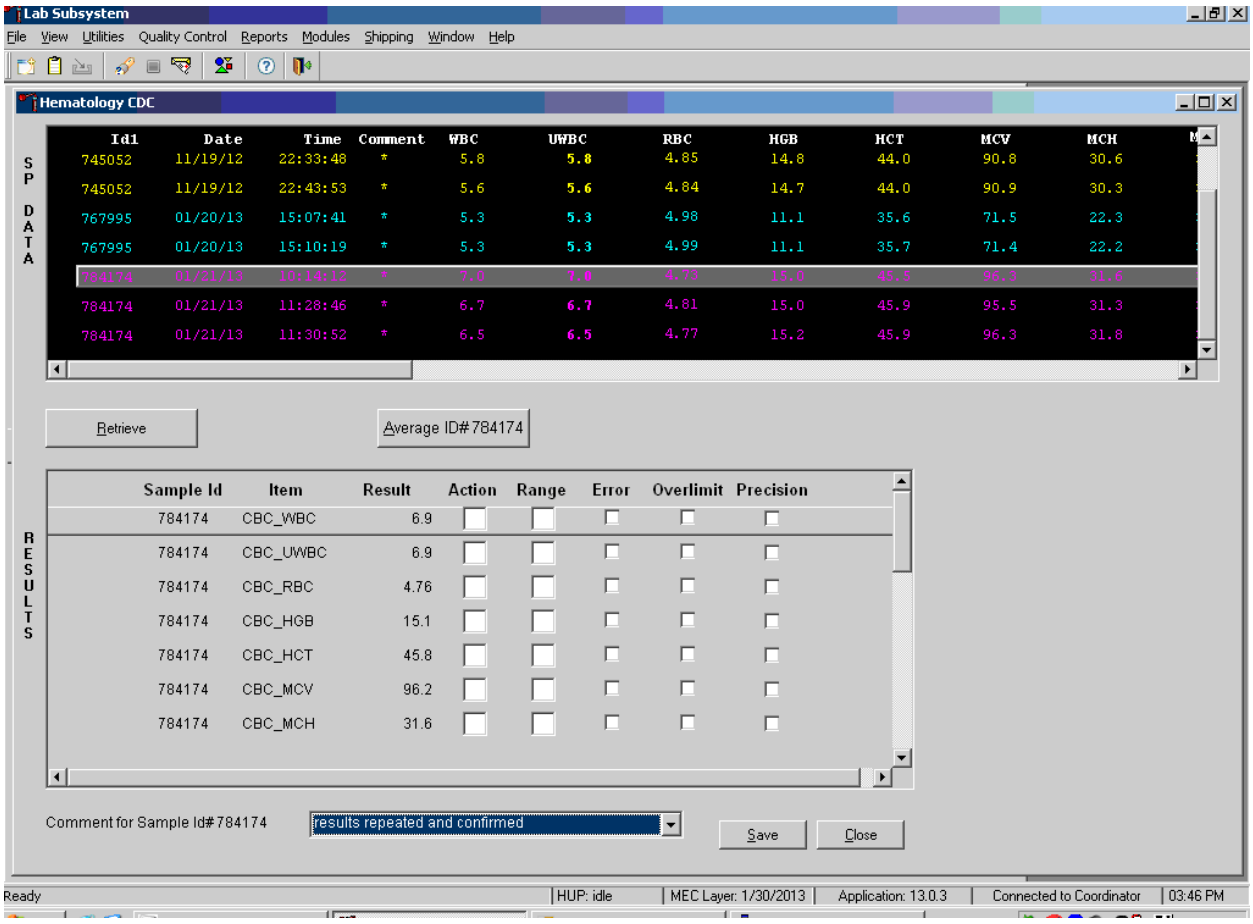
To attach a comment to the results in the database, direct the mouse arrow to the drop-down list on the Comment box, left-click to display the codes, drag the mouse arrow to the most appropriate choice, and left-click. Alternatively, to record a comment, direct the mouse arrow to the drop-down list on the Comment box, click to display the codes, use the up and down keyboard arrows to scroll through the choices or type the first letter of the desired comment code, and when the correct choice is highlighted, left-click.

Exhibit 6-10 presents the comments for the samples and when they are to be used.

Exhibit 6-10. List of comments to be used

Comment	Use when:
Results repeated and confirmed	Any parameter exceeded an action, range, or precision limit and the specimen (blood tube) was run more than once.
Laboratory error	There was a technologist error.
Result based on single run	The quantity of specimen is insufficient to run it more than once.
Equipment failure	The Coulter malfunctioned.
No diff results/diff vote out	The Coulter does not report parameter results for any part of the differential or the instrument reported a voteout for any of the differential parameters.
Clotted	The blood is clotted.
Not enough blood	There is insufficient blood to perform at least one complete aspiration.

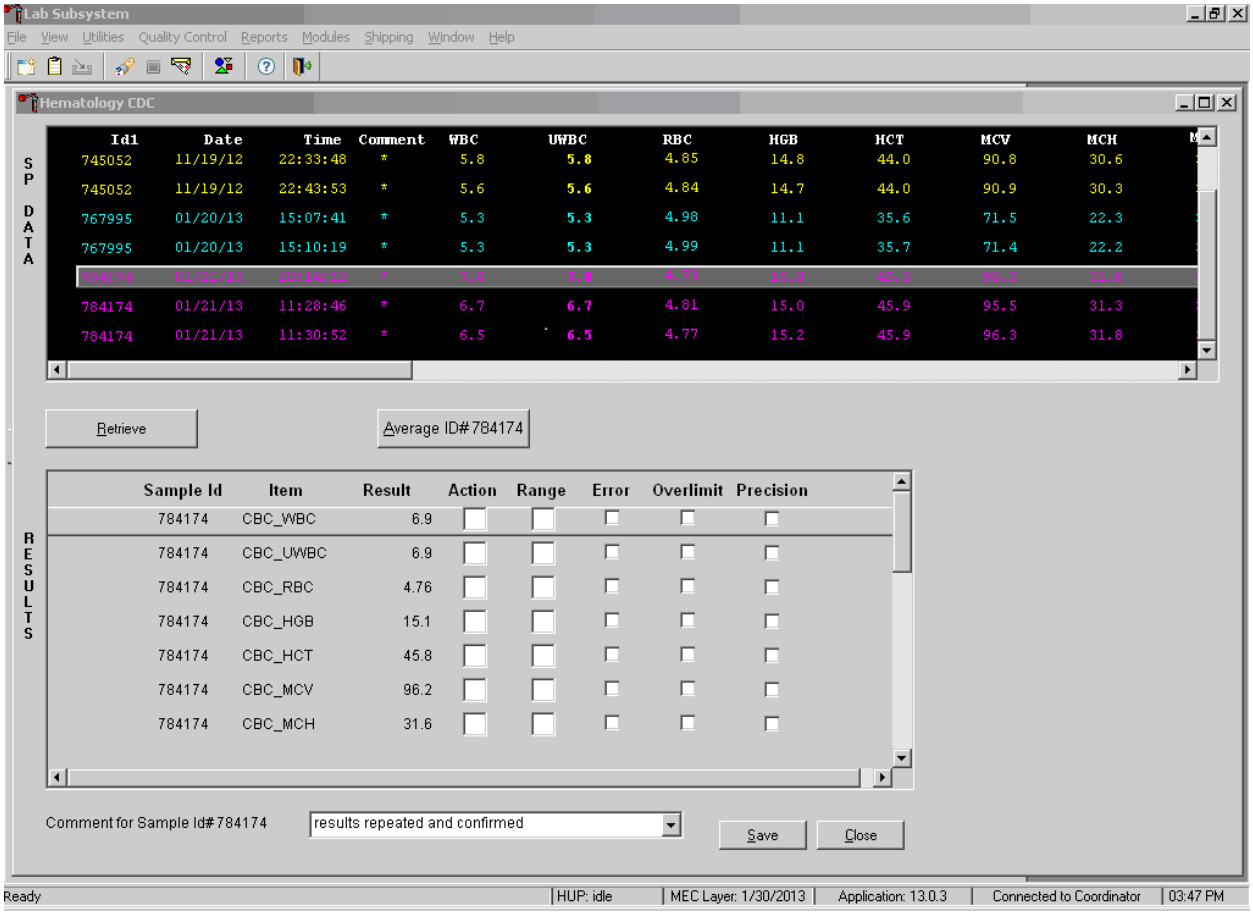
Save the result after attaching a comment.



Save the averaged result and update the comment, by using the mouse to direct the mouse arrow to the Save button and left-click. To exit without saving any data to the database, direct the mouse arrow to the Close button and left-click.

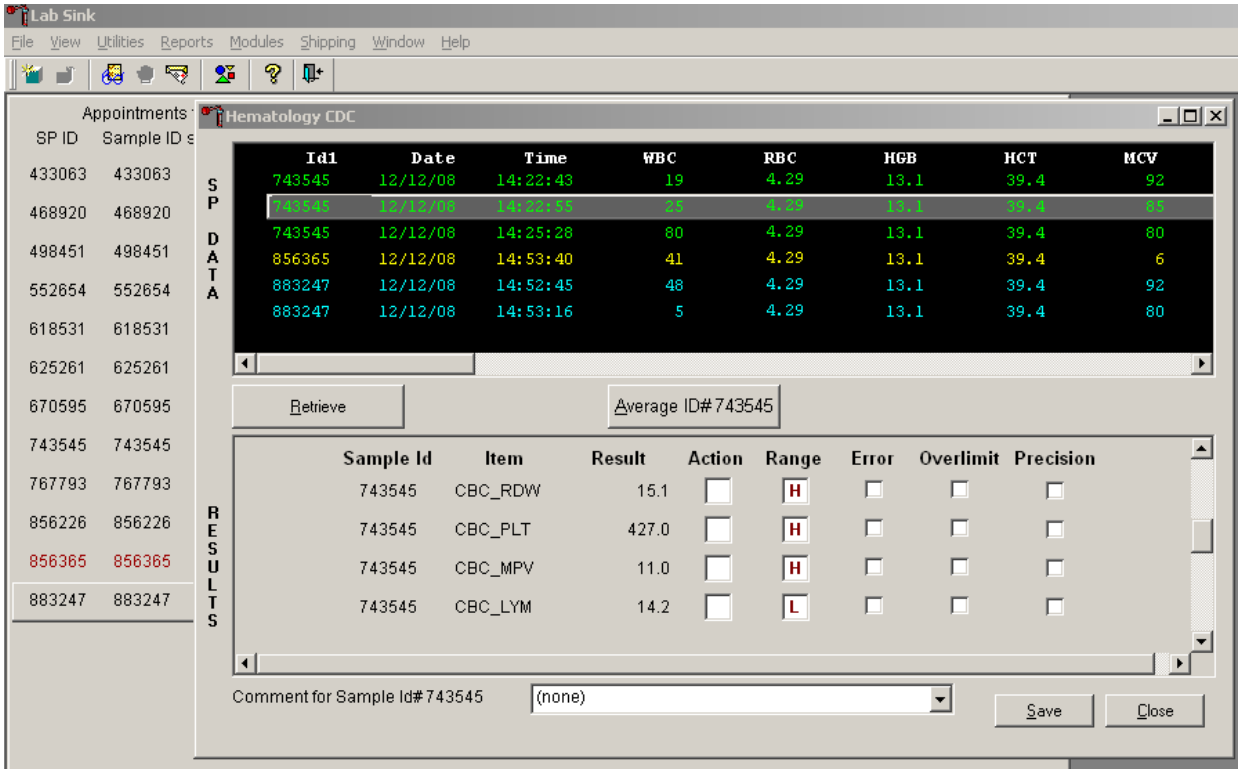
6. Using alternative data manipulation choices

Retain data for multiple SPs in the SP Data section of the window.



In general, run one SP in duplicate through the Coulter, retrieve the data, average the result, and save the data to the database. The Hematology module will display data for multiple SPs in the SP Data section. Each individual SP's results or pairs of results are displayed in a different color. To select or highlight any one SP, direct the mouse arrow to the row containing the correct SP ID and left-click.

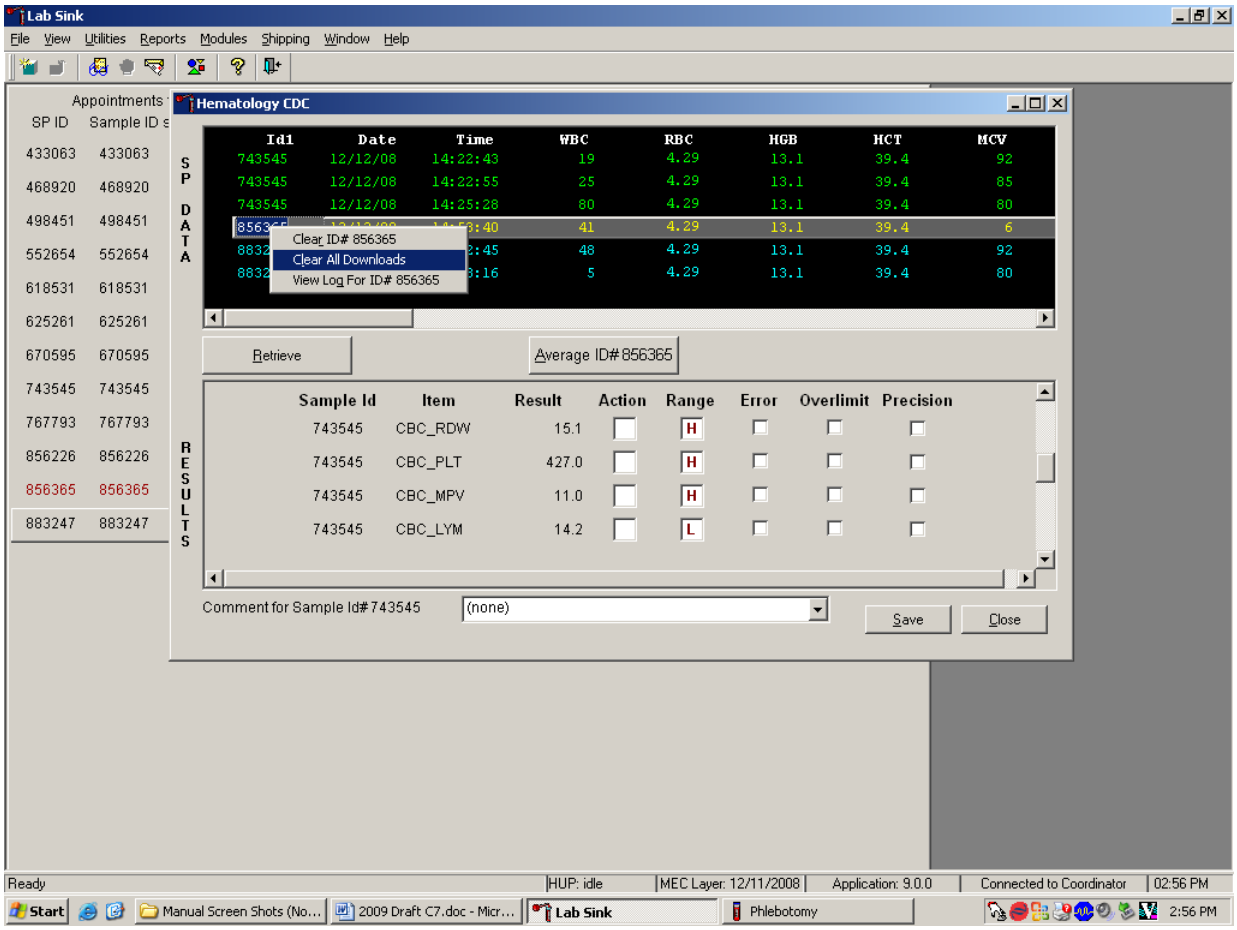
Average the results for one SP at a time.

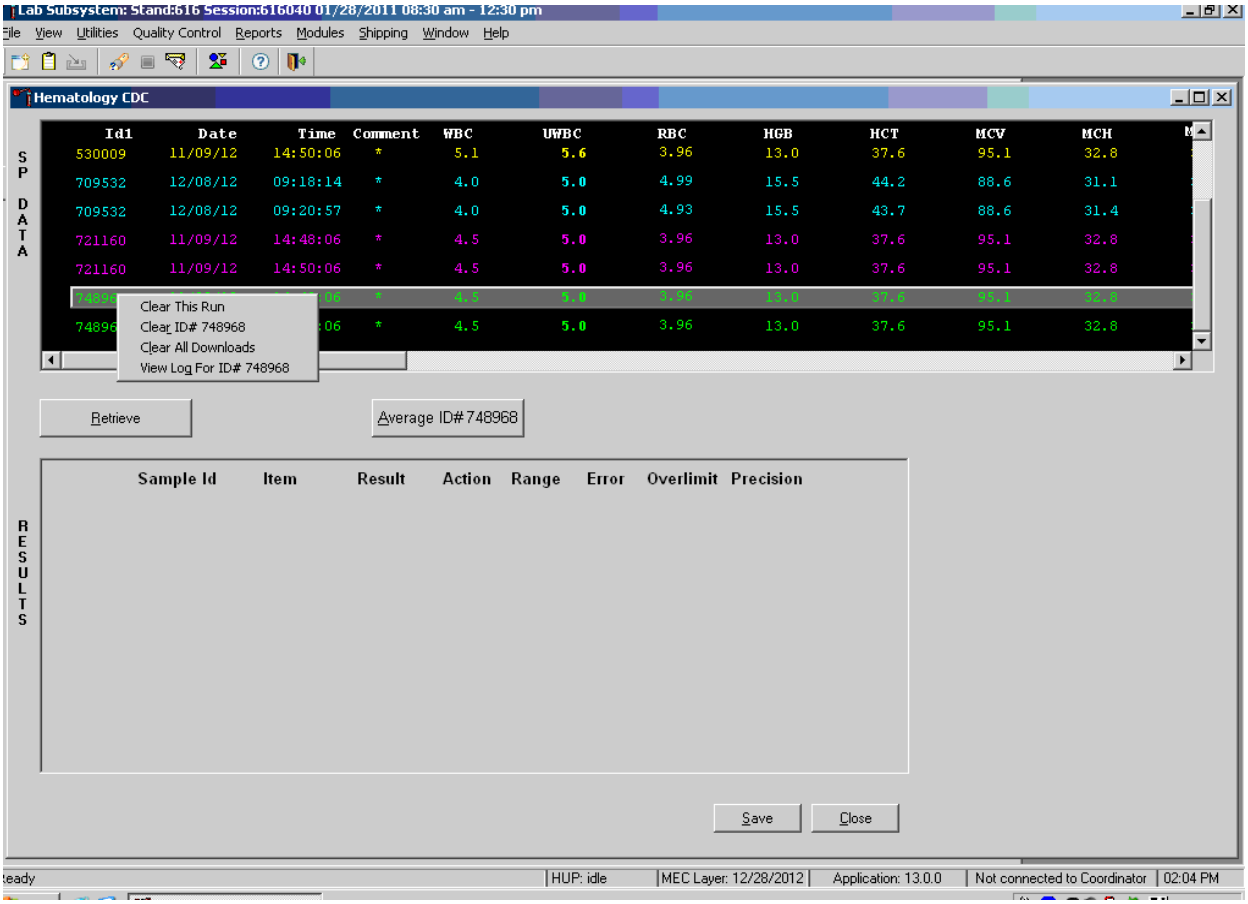


Evaluate each parameter for error, overlimit, and precision check marks, and "H" or "L" action limit and reference range flags. If there are no check marks in the Precision column (no precision limit was exceeded), save the result to the database. To save the result to the database, direct the mouse arrow to the Save button and left-click. To exit without saving the result to the database, direct the mouse arrow to the Close button and left-click. If there are any precision check marks, run a 6C cell control, evaluate the control results, rerun the blood tube a third time, re-average, evaluate, and save the results.

Use alternative data manipulation choices as desired.

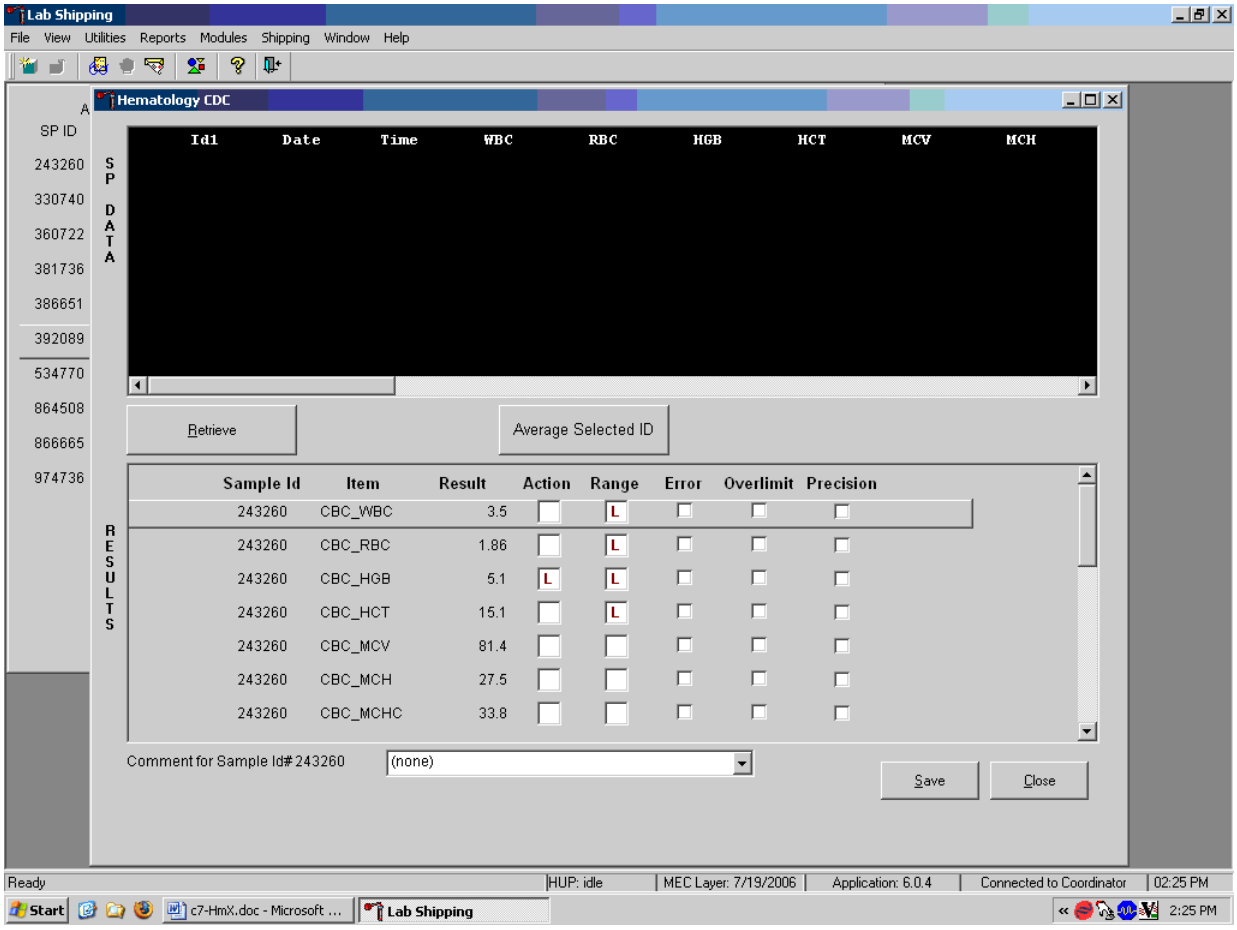
Use the "Clear All Downloads" function to delete all data for all SPs in the SP Data section.





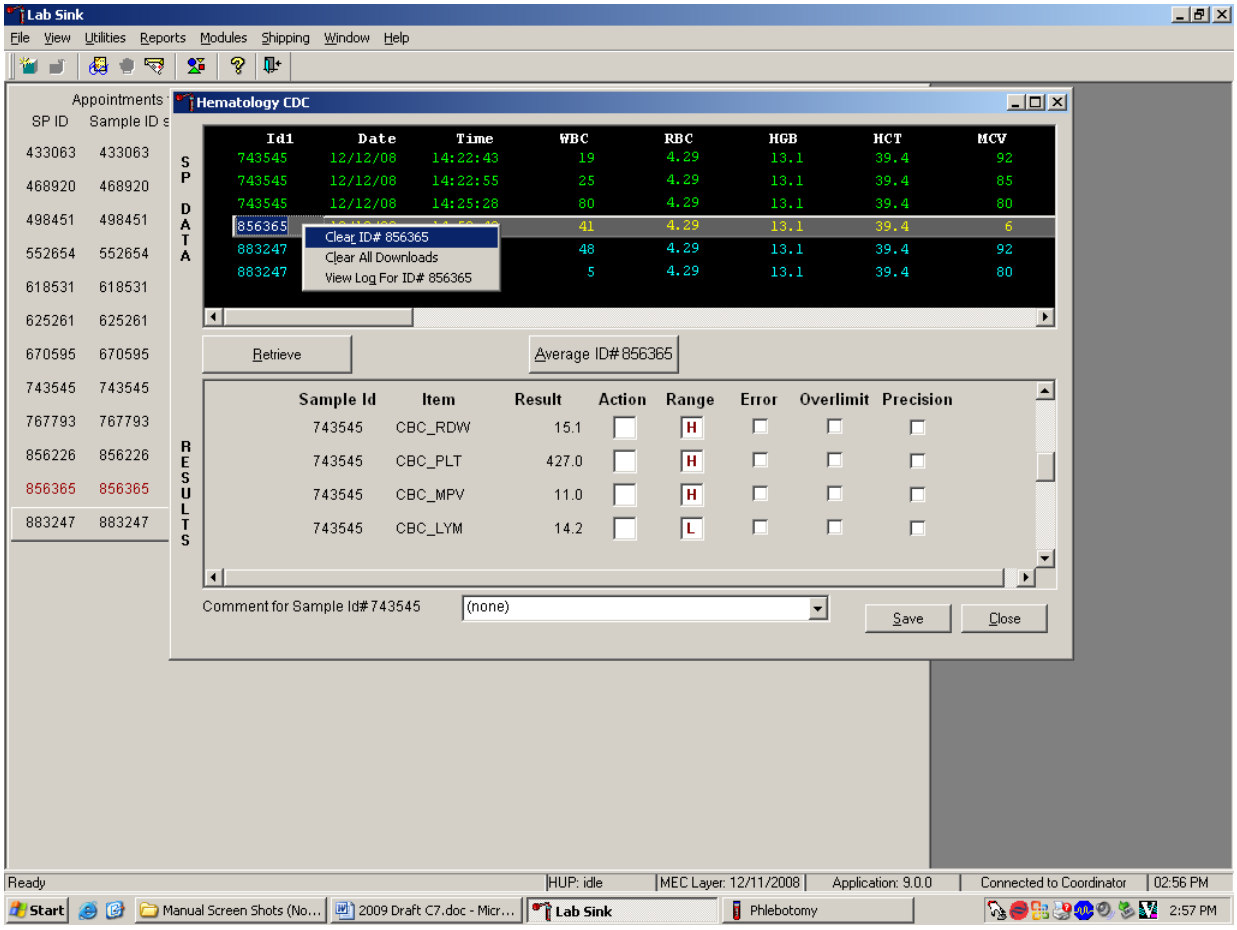
To clear all downloads from the SP Data section, direct the mouse arrow to any row in the SP Data section and right-click to display the alternative data manipulation choices. To select "Clear All Downloads," drag the mouse arrow to the Clear All Downloads choice and left-click.

Release the mouse button to clear all downloads.



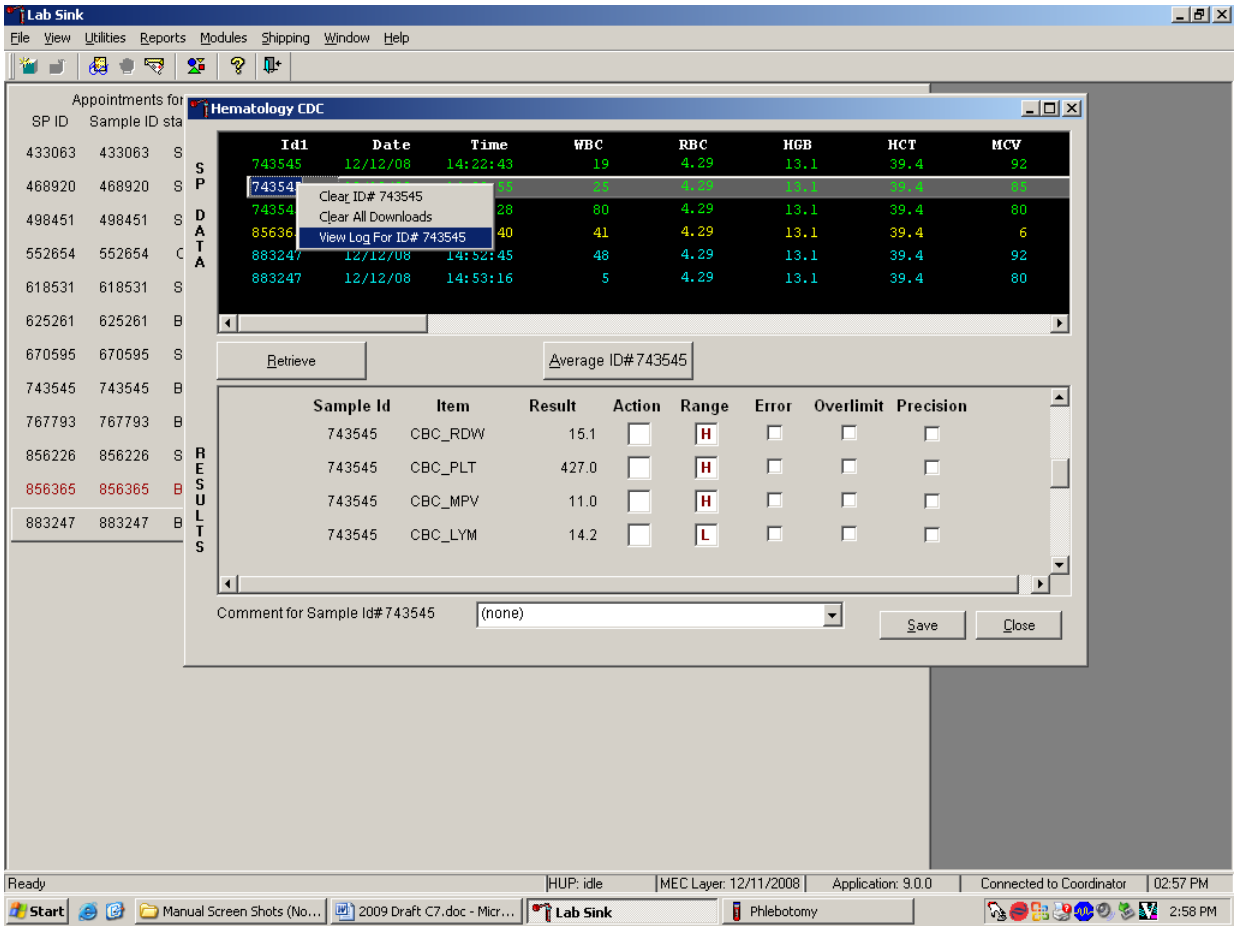
All data in the SP Data section are erased but any averaged result remains in the Results section of the window. To clear the result section, close the Hematology module. To close the Hematology module, direct the mouse arrow to the Close button and left-click.

Use the data manipulation functions to erase or delete one SP's data in the SP Data section.



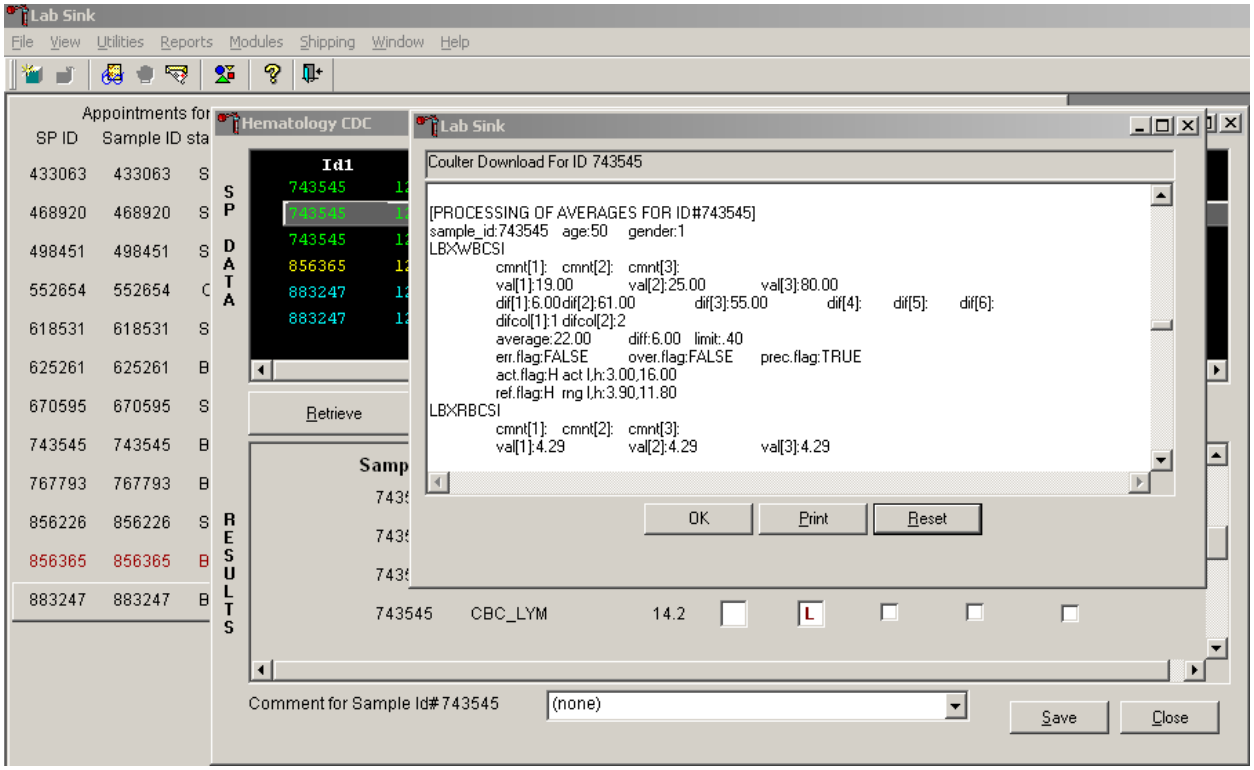
To clear the Coulter downloads for any one SP, direct the mouse arrow to the individual row in the SP Data section, right-click to display the alternative data manipulation choices, drag the mouse arrow to Clear ID#*XXXXXX*, and right- or left-click. Release the mouse button to clear this download. Retransmit, retrieve, average, and save the data.

Use the "View Log for ID# *XXXXXX*" choice to view all Coulter data, averages, and precision limit values for any SP.



To view the detailed log for any one SP's result, direct the mouse arrow to the individual row in the SP Data section and right-click to display the alternative data manipulation choices. Drag the mouse arrow to "View Log for ID*XXXXXX*" and release the mouse button to view the detailed log for this SP's results.

Review the SP's log.



The SP's log contains detailed information for each parameter and each run. When finished reviewing the information, direct the mouse arrow to the OK button to close the window. To print the log, drag the mouse arrow to the Print button and left-click. To clear the log and close the screen, direct the mouse arrow to the Reset button and left-click, or select Enter.

DxH 800 Suspect Messages

- Suspect messages flag an abnormal cell distribution or population. The system generates these messages according to an internal algorithm. Specific suspect messages indicate some abnormalities that exhibit characteristic cluster patterns. Suspect messages indicate the possibility of a particular abnormality. Not every atypical scatterplot has a corresponding suspect message.

- **Remedial Action.** Rerun the specimen. If the flag is "H&H Does Not Match," use the SP's EDTA sample from processing station, if available, as a check for proper tube filling. Delete all but two runs if flags are consistent before averaging and accepting results.

DXH 800 Histogram Interpretations

Exhibit 6-11 presents UniCel DxH 800 Coulter cellular analysis system cell population.

Exhibit 6-11. Cellular analysis images

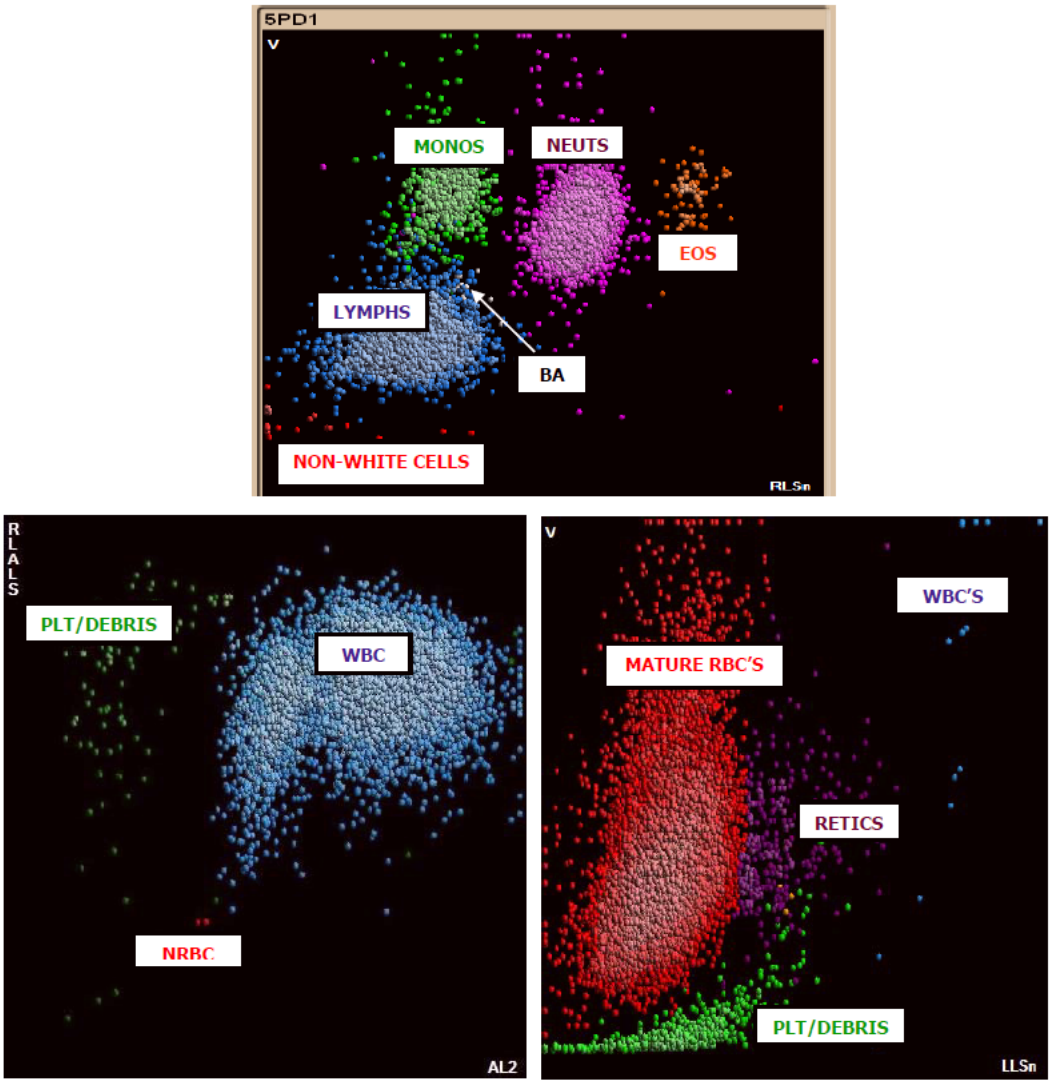


Exhibit 6-12 presents DxH system messages.

Exhibit 6-12. DxH system messages

All System messages are accompanied by "R" (Review) flags. Exceptions are the System Messages associated with an Aspiration error (P Flag) and the Non-Blood Specimen message (N Flag).

SYSTEM MESSAGE DXH		SYSTEM MESSAGE DXH
WBC		**PLT**
Abn WBC Pattern		Platelet Clumps
Cellular Inter		PLT Carryover
System Event: WBC		PLT Inter: Debris
WBC Carryover		RBC-PLT Overlap
RBC		System Event: PLT
Abn RBC Pattern		**NRBC**
System Event: RBC		Abn NRBC Pattern
HGB		AL2 Blank Volt: N
HGB Inter: WBC		DataDisc: N
HGB Blank Shift		High Event Rate: N
System Event: HGB		Low AL2 Events: N
MCV		Low DC Events: N
MCV Inter: PLT		Low Event Rate: N
MCV Inter: WBC		Low Events: N
DIFF		NRBC Inter
Abn Diff Pattern		NRBC-LY Overlap
Aged Sample		System Event: N
Data Disc: D		**BF**
Excessive Debris: D		Abn TNC Pattern
High Event Rate: D		System Event: TNC
High OP Events: D		TNC Carryover
High RF Events: D		**P**
Low Event Rate: D		Bubbles
Low Events: D		Carryover
Low OP Events: D		No Aspiration
Low RMALS Events: D		Non-blood Specimen
MO-NE Overlap		Partial Aspiration
NE-EO Overlap		Range Error
System Event: D		Unknown Error
Undefined Pop: D		**::::: Code**
RETIC		Flow Cell Clog: D
Abn Retic Pattern		Flow Cell Clog: N
AL2 Blank Volt: R		Flow Cell Clog: R
Data Disc: R		
High Event: R		
Low Event: R		
Nucleated Cells		
RET Inter: Debris		
RET Inter: PLT		
RET-RBC Overlap		
System Event: R		

Exhibits 6-13, 6-14, 6-15, and 6-16 respectively present red blood cell histogram examples. white blood cell histogram examples, platelets histogram examples, and an image of better abnormal cell detection.

Exhibit 6-13. Red blood cell histogram examples

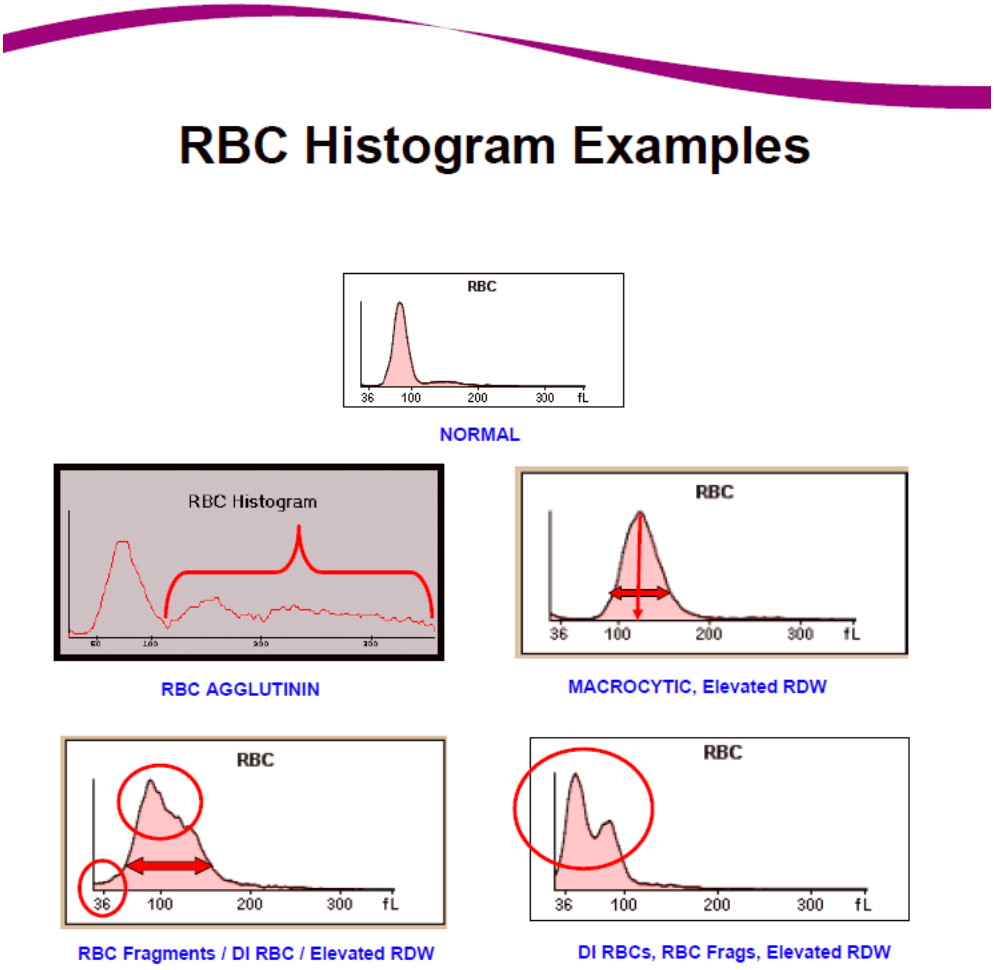


Exhibit 6-14. White blood cell histogram examples

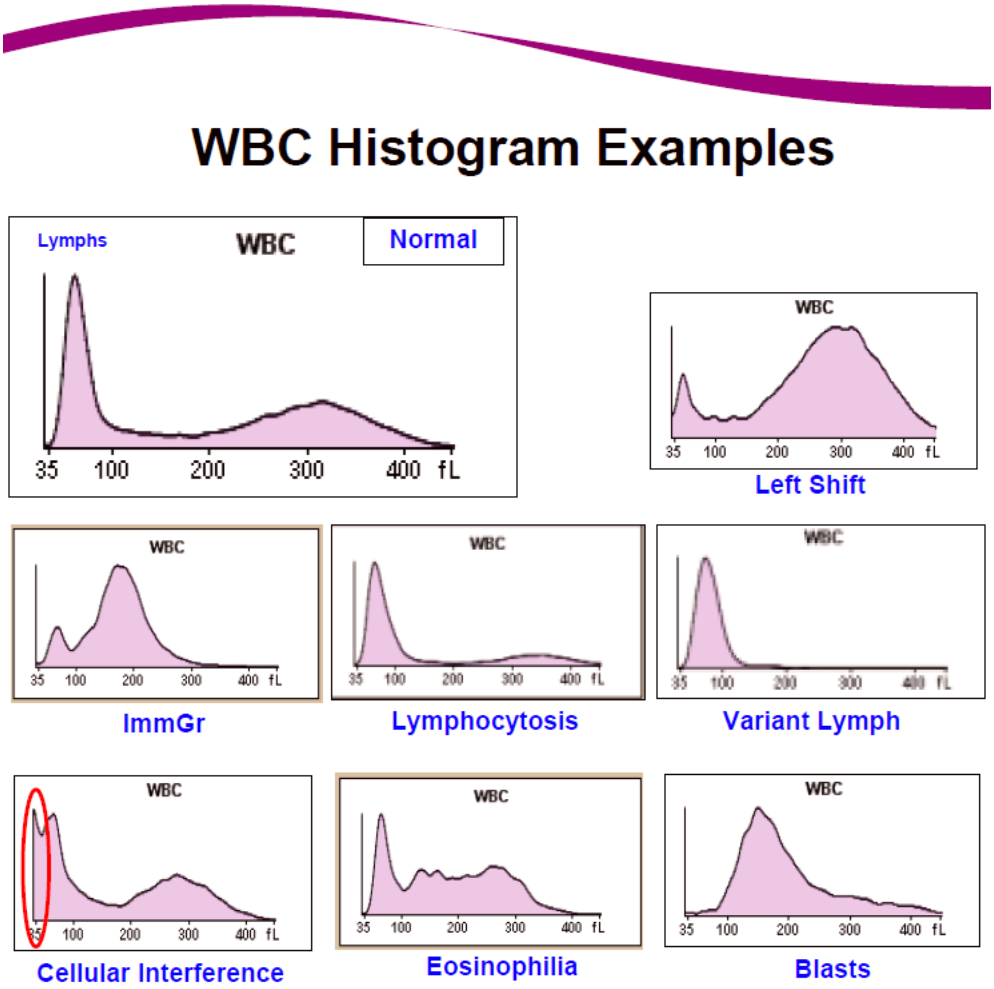


Exhibit 6-15. Platelets histogram examples

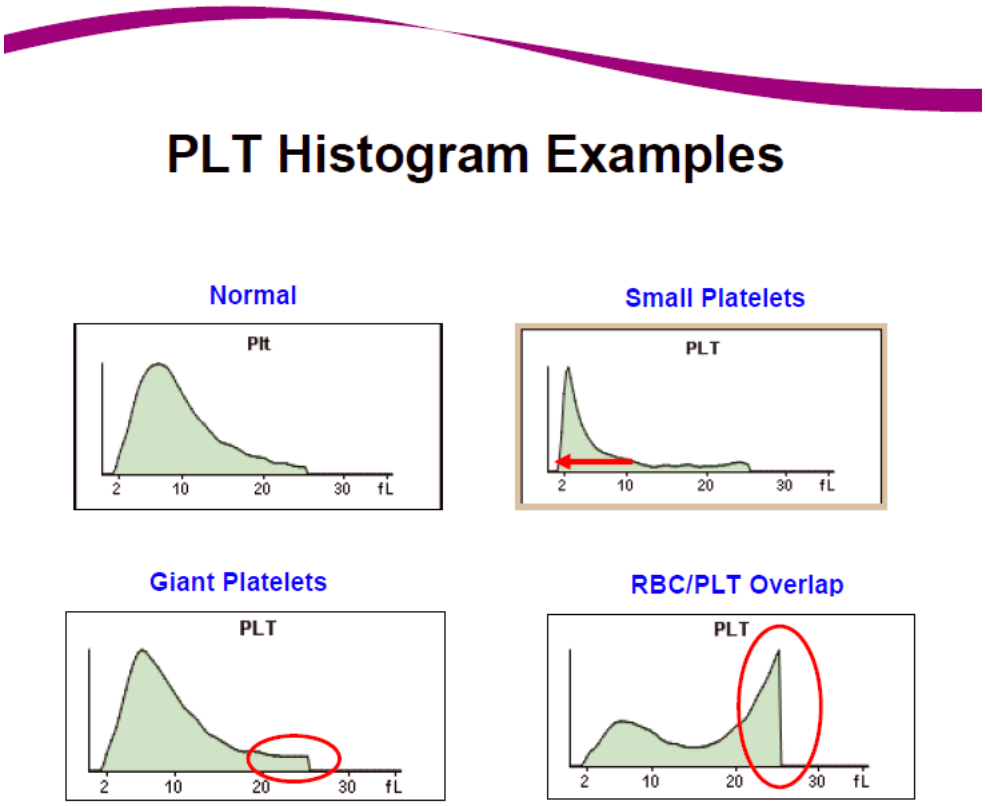
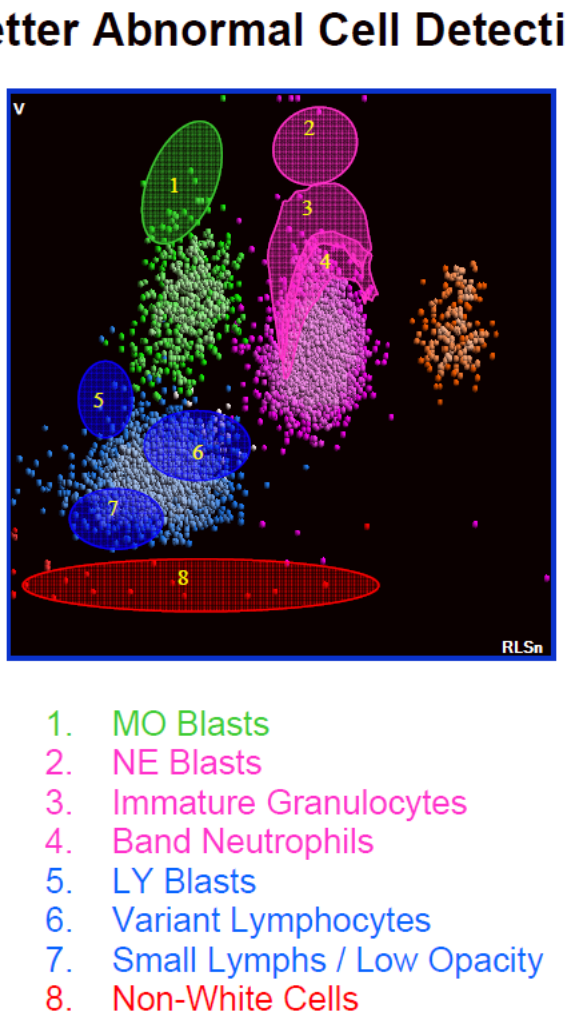


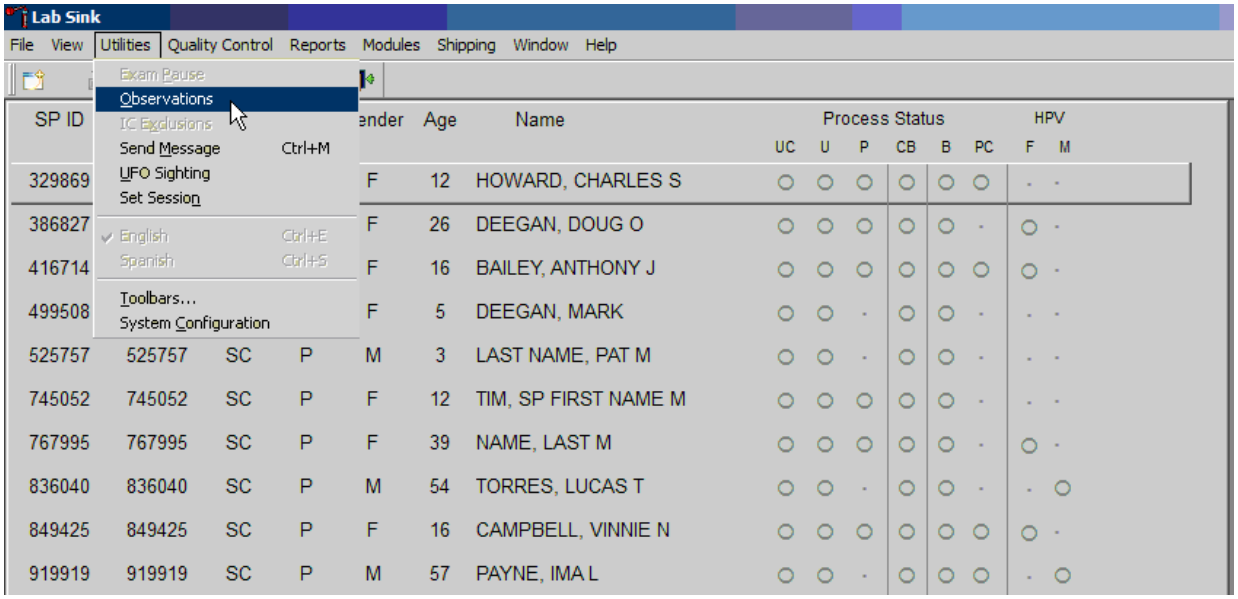
Exhibit 6-16. Image of better abnormal cell detection



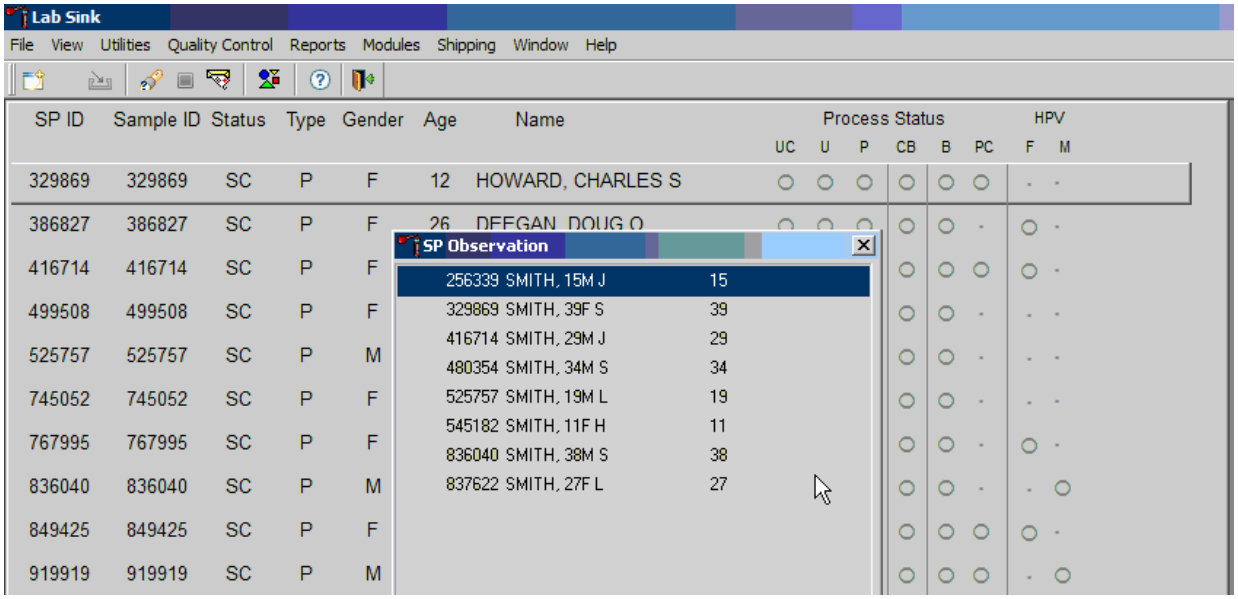
Physician Review

The MEC physician reviews and interprets all CBC results. Results outside action limits flash and transmit to the physician immediately. The physician determines if referral for the SP for treatment is necessary. The medical technologist sends an observation to the physician whenever a critical or action limit is detected for any CBC parameter. This observation includes the date, time, responsible laboratory individual, person notified, and test results.

Send an observation on any SP scheduled into the MEC session. Access the observation function.

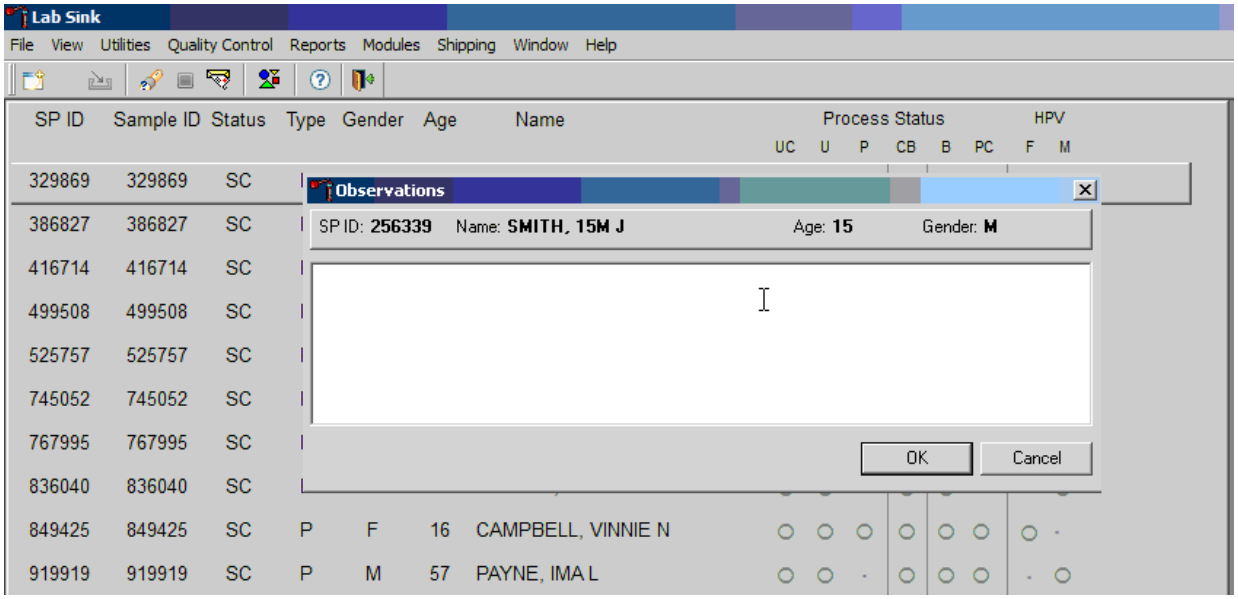


To access the observation function, direct the mouse arrow to Utilities in the menu bar, left-click, drag the mouse arrow to Observations, and left-click. Select or highlight the correct SP.



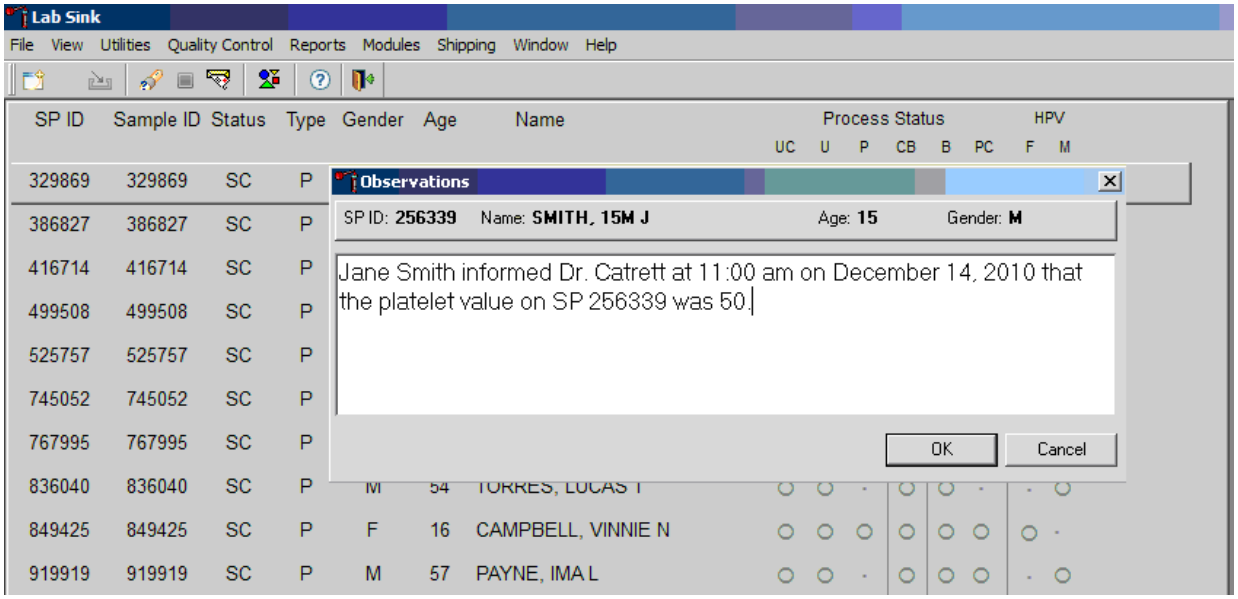
To select or highlight an SP, drag the mouse arrow to the correct SP and left-click or use the keyboard arrows to move up and down the list. Verify that the SP ID, name, and age are correct. Use the scroll bar to view the complete list of SPs. To continue, direct the mouse arrow to the OK button and left-click, or select Enter. To cancel these actions and exit the observation function, direct the mouse arrow to the Cancel button and left-click.

The observation window displays.



The observation window contains the SP ID, name, age, and gender. Type the observation using the keyboard. To send the observation to the physician, direct the mouse arrow to the OK button and left-click, or select Enter. To cancel these actions or to exit the observation window without entering an observation, direct the mouse arrow to the Cancel button and left-click.

Enter the observation on an SP.



Document the date, time, responsible laboratory individual, person notified, and test results, including the parameter.

Limitations of Method: Specimen Rejection, Interfering Substances, and Conditions

This method limits samples to human whole blood.

Specimen Rejection

Reject clotted specimens and recollect if physician requests.

Interfering Substances and Conditions

Because the Coulter directly measures RBC, WBC, Hgb, and Diff percent, it is most important to concentrate on analytes and substances that interfere with these parameters. The Coulter calculates HCT, MCH, MCHC, and DIFF # parameters. The Coulter derives MCV, RDW, PLT, and MPV from RBC or platelet histograms. The following are possible interfering substances or conditions:

- Abnormal BUN, glucose, or sodium levels could affect the MCV.
- Abnormal WBCs could affect lymphocytes, monocytes, and granulocytes.
- Abnormally small WBCs could affect white count, lymphocytes, monocytes, and granulocytes.
- Clumped platelets could affect white count, lymphocytes, monocytes, granulocytes, RBC, MCV, RDW, platelet count, and MPV.
- Cryofibrinogen and cryoglobulin crystals could affect white count, lymphocytes, monocytes, granulocytes, RBC, hemoglobin, platelet count, and MPV.
- An elevated WBC count could affect RBC, hemoglobin, MCV, RDW, platelet count, and MPV parameters.
- Fragile WBCs could affect white count, lymphocytes, monocytes, granulocytes, platelet count, and MPV.
- Giant platelets could affect white count, lymphocytes, monocytes, granulocytes, RBC, MCV, RDW, platelet count, and MPV.
- Hemolyzed specimens could affect RBC, hemoglobin, platelet count, and MPV.
- Lipemic specimens could affect MCV.
- Severely icteric plasma causes increased hemoglobin.
- Nucleated RBCs could affect the white count, lymphocytes, monocytes, granulocytes, and hemoglobin values.
- WBC—certain unusual RBC abnormalities that resist lysing, nucleated RBCs, fragmented WBCs, agglutinated WBCs, any unlysed particles greater than 35 fL, very large or aggregated platelets as when anticoagulated with oxalate or heparin, specimens containing fibrin, cell fragments, or other debris such as pediatric and oncology specimens.
- RBC—very high WBC count, high concentration of very large platelets, agglutinated RBCs, RBCs smaller than 36 fL, specimens containing fibrin, cell fragments, or other debris such as pediatric and oncology specimens.
- Hgb—very high WBC count, severe lipemia, heparin, certain unusual RBC abnormalities that resist lysing, or anything that increases the turbidity of the sample such as elevated levels of triglycerides.

- MCV—very high WBC count, high concentration of very large platelets, agglutinated RBCs, RBC fragments that fall below the 36-fL threshold, or rigid RBCs.
- RDW—very high WBC count, high concentration of very large or clumped platelets as in blood anticoagulated with oxalate or heparin, RBCs below the 36-fL threshold, two distinct populations of RBCs, RBC agglutinates, or rigid RBCs.
- Plt—very small red blood cells near the upper threshold, cell fragments, clumped platelets as with oxalate or heparin, platelet fragments, or cellular debris near the lower platelet threshold.
- MPV—known factors that interfere with the Plt count and shape of the histogram or known effects of EDTA.
- Hct—known factors that interfere with the parameters used for computation: RBC and MCV.
- MCH—known factors that interfere with the parameters used for computation: Hgb and RBC.
- MCHC—known factors that interfere with the parameters used for computation: Hgb, RBC, and MCV.
- Diff Parameters—known factors that affect the WBC count as listed above or high triglycerides that affect lysing.

Reference Ranges

Tables 6-5 and 6-6 respectively present references ranges for blood cell counts for males and females, by age.

Table 6-5. Reference ranges (males)

	1-5		6-18		19-65		66+	
Age in years	2.5	97.5	2.5	97.5	2.5	97.5	2.5	97.5
White blood cell count (SI)	4.3	14.6	3.6	11.5	3.9	11.8	3.8	12.1
Red cell count (SI)	3.98	5.3	4.14	5.78	4.18	5.86	3.57	5.67
Hemoglobin (g/dl)	10.7	14.2	11.9	16.9	13.1	17.5	11.4	17.1
Hematocrit (%)	32.1	41.7	35.3	49.9	38.7	51.4	33.9	50.9
Mean cell volume (fL)	68.2	88.8	75.6	94.6	79.8	99.1	81.4	102.7
Mean cell hemoglobin (pg)	22.3	30.6	25.0	32.3	26.3	34.0	26.3	35.0
MCHC (g/dl)	32.3	35.6	32.3	35.3	32.3	35.3	32.1	35.1
Red cell distribution width (%)	11.4	15.8	11.4	14.0	11.4	14.5	11.8	16.2
Platelet count (%) SI	212	546	179	439	152	386	124	384
Mean platelet volume (fL)	6.1	8.9	6.6	10	6.8	10.1	6.6	10.2
Lymphocyte percent (%)	22.8	68.4	17.5	54.3	16.1	47.9	12.3	46.4
Monocyte percent (%)	4.6	15.2	4.8	13.7	4.4	13.5	4.6	14.0
Segmented neutrophils percent (%)	17.6	67.1	30.3	72.8	37.8	74.6	39.5	78.1
Eosinophils percent (%)	0.7	11.3	0.7	11.5	0.7	8.5	0.6	8.8
Basophils percent (%)	0.1	2.5	0.1	1.6	0.1	1.6	0.1	1.6

Table 6-6. Reference ranges (females)

	1-5		6-18		19-65		66+	
Age in years	2.5	97.5	2.5	97.5	2.5	97.5	2.5	97.5
White blood cell count (SI)	4.3	14.0	3.9	12.2	4.1	12.9	4.0	11.6
Red cell count (SI)	3.96	5.28	3.84	5.24	3.64	5.2	3.51	5.34
Hemoglobin (g/dL)	11.0	14.2	11.2	15.1	10.6	15.6	10.9	15.9
Hematocrit (%)	32.5	41.9	33.5	44.6	32.0	45.9	32.8	47.0
Mean cell volume (fL)	70.2	89.1	74.7	94.9	74.6	98.2	80.3	100.6
Mean cell hemoglobin (pg)	23.3	30.8	24.5	32.6	24.3	33.8	26.4	34.5
MCHC (g/dl)	32.4	35.5	32.3	35.3	32.1	35.3	32.3	35.1
Red cell distribution width (%)	11.3	15.4	11.3	14.8	11.4	16.3	11.6	16.3

Platelet count (%) SI	215	547	190	446	168	441	155	428
Mean platelet volume (fL)	6.1	8.9	6.6	10.0	6.8	10.2	6.7	10.5
Lymphocyte percent (%)	21.6	68.8	17.2	54.7	14.1	47.6	13.7	46.9
Monocyte percent (%)	4.2	14.4	4.3	12.7	3.8	11.6	4.4	12.8
Segmented neutrophils percent (%)	19.4	69.5	31.9	74.3	39.8	78.1	40.9	78.1
Eosinophils percent (%)	0.6	9.9	0.6	9.9	0.6	7.3	0.6	7.5
Basophils percent (%)	0.1	2.5	0.1	1.6	0.1	1.7	0.1	1.7

Reference ranges for normal values were calculated from the NHANES data set (1999–2004) using 95 percent reference interval(s) determined nonparametrically, through ranking the observations and determining the lower (2.5th percentile) and the upper (97.5th percentile) reference limits. The nonparametric (ranking) method was used because most measured hematology parameters have a skewed, non-Gaussian distribution.

Action Limits

Action limits are a guide to inform the physician that a CBC result(s) is/are abnormal. Since all specimens are run in duplicate, there is no reason to retest the sample.

- WBC male and female (all ages) < or = to 3 x 10^3 µl or > or = to 16.0 x 10^3 µl
- Hgb male and female (<6 years) <6.5 g/dl or >14.5 g/dl
- Hgb female (>6 years) <6.5 g/dl or >16.0 g/dl
- Hgb male (>6 years) <6.5 g/dl or >18.0 g/dl
- PLT male and female (all ages) <50 x 10^3 µl or >800 x 10^3 µl

Possible causes of abnormal parameters:

- High RBC, Hgb, or HCT—dehydration, polycythemia, shock, chronic hypoxia
- Low RBC, Hgb, or HCT—anemia, thalassemia, and other hemoglobinopathies
- Low MCV—microcytic anemia
- High MCV—macrocytic anemia, liver disease
- Low WBC—sepsis, marrow hypoplasia
- High WBC—acute stress, infection, malignancies
- Low platelets—risk of bleeding
- High platelets—risk of thrombosis

Specimen Storage and Handling During Testing

Specimen Storage:

- Store specimens capped and place on a rocker at room temperature until processed. If specimens are not run during the session due to excessively high room temperature, place all specimens in a biohazard bag and place bag in a cabinet of a cool room (usually physician's room upper cabinet). Retrieve from this area when specimens can be run— then mix the specimens well before running.
- Run within 24 hours of drawing.

Alternative Method for Performing Test or Storing Specimens If Test System Fails

There is no alternative method for this test. Store EDTA tube at room temperature for no more than 24 hours. Restore the instrument to functionality and then run the specimen after thorough mixing.

Test Results Reporting System: Protocol for Reporting Action Limits

Results outside the action limits are brought to the physician's attention by sending the physician an observation and requesting a decision on "course-to-follow."

All records, including QA/QC data, will be maintained for 6 years. Use only numerical identifiers for SP results.

Quality Control Summary Statistics and Graphs

Chapter 13 includes a separate detailed description of the comprehensive quality control plan. Monitor 6C® cell control results for bias and maintain results for the entire study period. Compare all three instruments using the CAP proficiency results.

Troubleshooting

If the Background fails:

- If WBC, RBC, Plt fails—zap apertures, prime sweep flow several times, shutdown as last resort.
- If Differential fails—flush the flow cell.
- If Hgb fails—clean BSV, Prime CBC Module, perform Hgb blank verification, Shutdown.

If the Latron fails:

- D or N(AI2) and/or D or N(Lals) out—unlock DV x 3, flush flow cell x 3.

Setting Shift Times

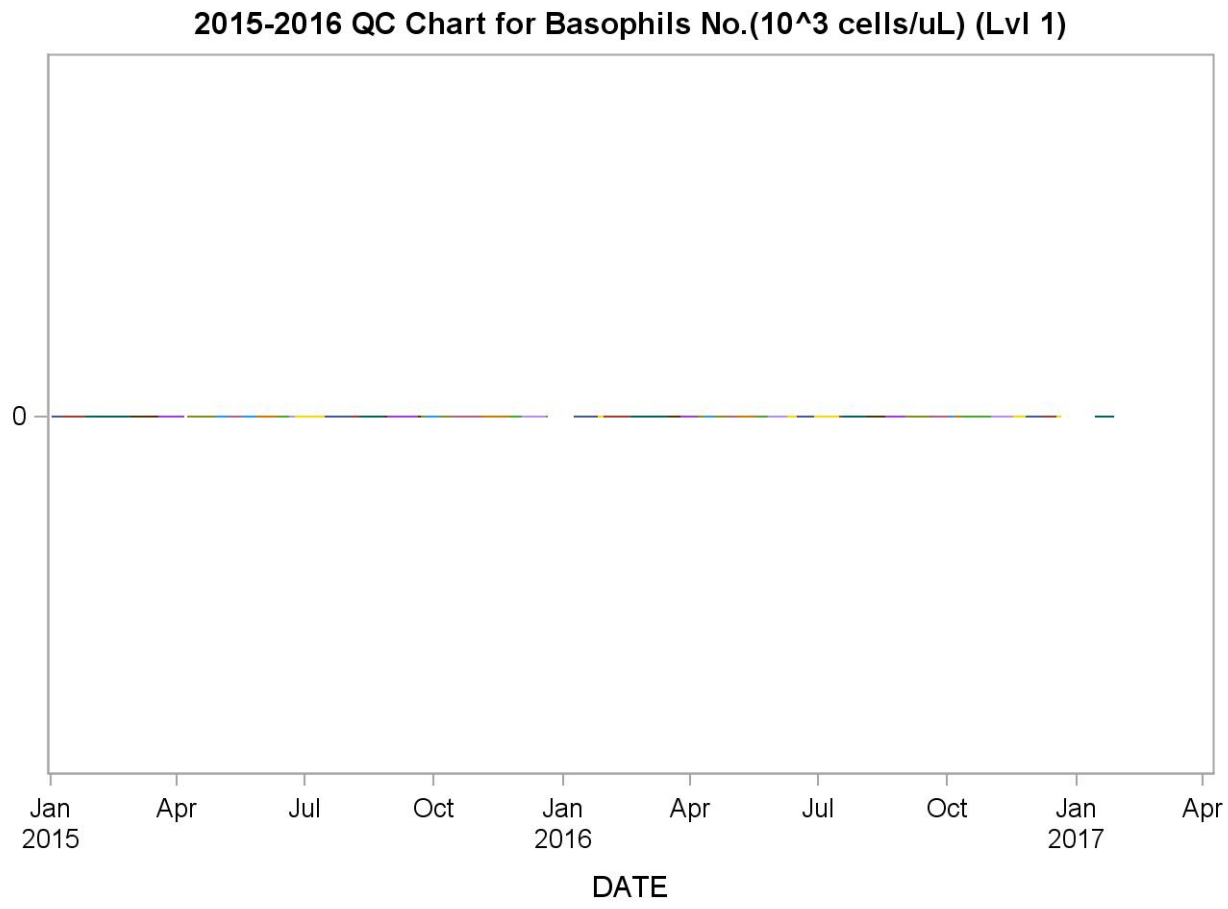
From Main Screen>Click on X with Bar over it (top Menu)> XB setup(Bottom screen)> "Shifts" Tab> In "Multiple Shifts" type 08:00:00 in shift one start box> Type in 13:00:00 in Shift 2 box> Type in 23:00:00 in Shift 3 box>The "to" boxes will auto fill>Save.

Summary QC Statistics and QC Graphs

See following pages.

2015-2016 Summary Statistics and QC Chart for Basophils No.(10^3 cells/uL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	0.0000	0.0000	.
123170340_15	66	09JAN15	14FEB15	0.0000	0.0000	.
123170390_15	87	26JAN15	08MAR15	0.0000	0.0000	.
123170430_15	74	27FEB15	06APR15	0.0000	0.0000	.
123170460_15	30	19MAR15	06APR15	0.0000	0.0000	.
123170510_15	78	08APR15	18MAY15	0.0000	0.0000	.
123170540_15	36	29APR15	04JUN15	0.0000	0.0000	.
123170560_15	21	08MAY15	18MAY15	0.0000	0.0000	.
123170600_15	76	28MAY15	28JUN15	0.0000	0.0000	.
123170620_15	32	12JUN15	01JUL15	0.0000	0.0000	.
123170650_15	25	20JUN15	30JUN15	0.0000	0.0000	.
123170660_15	46	24JUN15	02AUG15	0.0000	0.0000	.
123170700_15	45	15JUL15	20AUG15	0.0000	0.0000	.
123170720_15	57	04AUG15	06SEP15	0.0000	0.0000	.
123170730_15	30	09AUG15	27AUG15	0.0000	0.0000	.
123170760_15	59	27AUG15	11OCT15	0.0000	0.0000	.
123170770_15	40	29AUG15	20SEP15	0.0000	0.0000	.
123170790_15	42	22SEP15	24OCT15	0.0000	0.0000	.
123170820_15	22	25SEP15	05OCT15	0.0000	0.0000	.
123170860_15	94	14OCT15	23NOV15	0.0000	0.0000	.
123170890_15	52	05NOV15	10DEC15	0.0000	0.0000	.
123170930_15	37	24NOV15	21DEC15	0.0000	0.0000	.
123170940_15	36	03DEC15	20DEC15	0.0000	0.0000	.
123170990_16	43	09JAN16	26JAN16	0.0000	0.0000	.
123170980_16	53	10JAN16	10FEB16	0.0000	0.0000	.
123171020_16	87	30JAN16	07MAR16	0.0000	0.0000	.
123171060_16	78	18FEB16	02APR16	0.0000	0.0000	.
123171080_16	51	16MAR16	26APR16	0.0000	0.0000	.
123171100_16	31	25MAR16	07APR16	0.0000	0.0000	.
123171110_16	44	06APR16	11MAY16	0.0000	0.0000	.
123171120_16	22	12APR16	18APR16	0.0000	0.0000	.
123171130_16	55	28APR16	05JUN16	0.0000	0.0000	.
123171150_16	28	04MAY16	17MAY16	0.0000	0.0000	.
123171160_16	47	18MAY16	20JUN16	0.0000	0.0000	.
123171170_16	27	26MAY16	09JUN16	0.0000	0.0000	.
123171190_16	29	09JUN16	16JUL16	0.0000	0.0000	.
123171210_16	32	16JUN16	28JUN16	0.0000	0.0000	.
123171240_16	37	16JUL16	02AUG16	0.0000	0.0000	.
123171250_16	37	18JUL16	15AUG16	0.0000	0.0000	.
123171270_16	42	04AUG16	08SEP16	0.0000	0.0000	.
123171300_16	73	18AUG16	25SEP16	0.0000	0.0000	.
123171320_16	39	01SEP16	19SEP16	0.0000	0.0000	.
123171350_16	35	20SEP16	03OCT16	0.0000	0.0000	.
123171340_16	53	22SEP16	30OCT16	0.0000	0.0000	.
123171360_16	44	06OCT16	10NOV16	0.0000	0.0000	.
123171390_16	28	11OCT16	02NOV16	0.0000	0.0000	.
123171410_16	84	01NOV16	11DEC16	0.0000	0.0000	.
123171430_16	45	17NOV16	21DEC16	0.0000	0.0000	.
123171460_16	31	26NOV16	18DEC16	0.0000	0.0000	.
123171480_16	22	09DEC16	17DEC16	0.0000	0.0000	.
123171480_17	21	14JAN17	28JAN17	0.0000	0.0000	.


2015-2016 QC Chart for Basophils No.(10^3 cells/uL) (Lvl 1)
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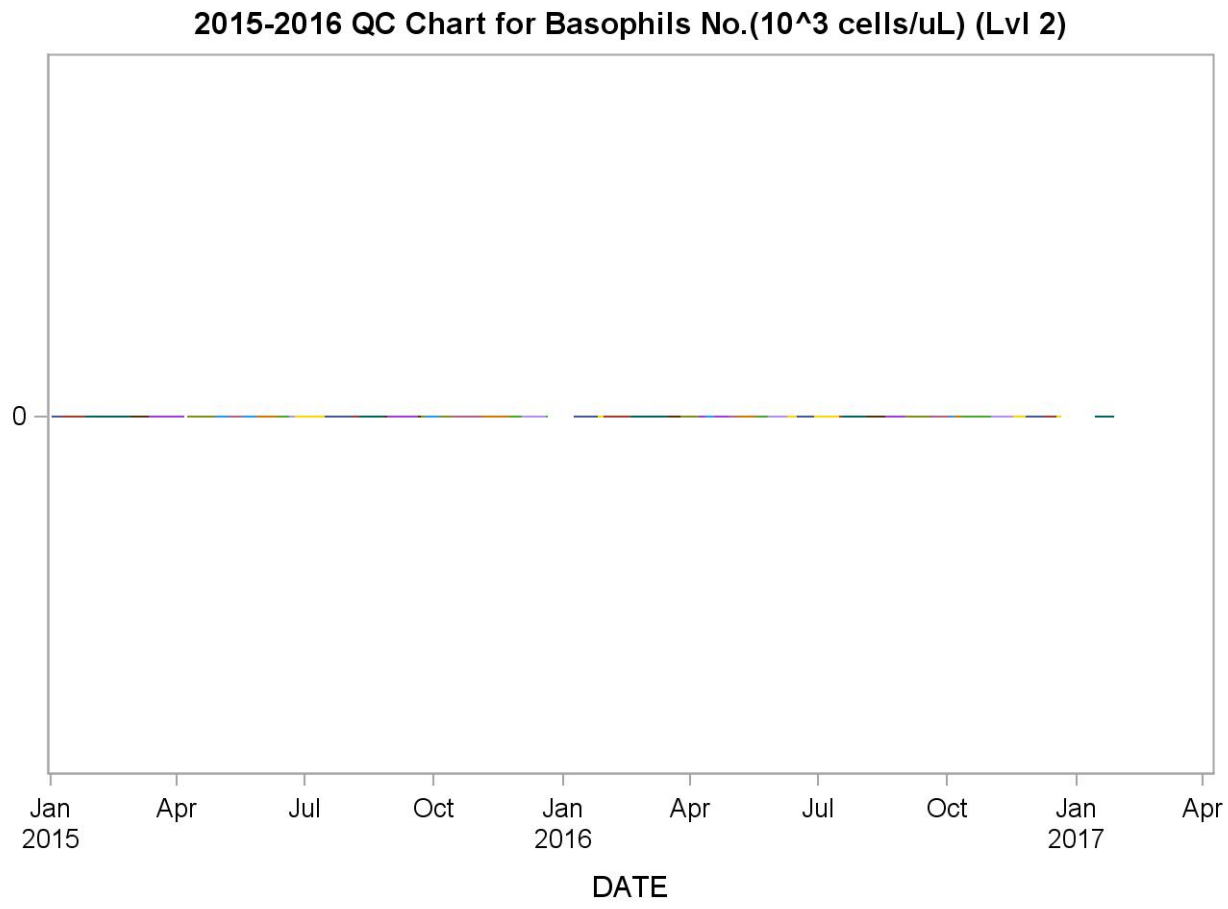
2015-2016 Summary Statistics and QC Chart for Basophils No.(10^3 cells/uL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	0.0000	0.0000	.
133180340_15	69	09JAN15	14FEB15	0.0000	0.0000	.
133180390_15	87	26JAN15	08MAR15	0.0000	0.0000	.
133180430_15	79	27FEB15	06APR15	0.0000	0.0000	.
133180460_15	39	12MAR15	06APR15	0.0000	0.0000	.
133180510_15	82	08APR15	18MAY15	0.0000	0.0000	.
133180540_15	41	29APR15	04JUN15	0.0000	0.0000	.
133180560_15	22	08MAY15	18MAY15	0.0000	0.0000	.
133180600_15	79	28MAY15	27JUN15	0.0000	0.0000	.
133180620_15	44	12JUN15	01JUL15	0.0000	0.0000	.
133180650_15	27	20JUN15	30JUN15	0.0000	0.0000	.
133180660_15	48	24JUN15	02AUG15	0.0000	0.0000	.
133180700_15	50	15JUL15	20AUG15	0.0000	0.0000	.
133180720_15	58	04AUG15	06SEP15	0.0000	0.0000	.
133180730_15	30	09AUG15	27AUG15	0.0000	0.0000	.
133180760_15	68	27AUG15	11OCT15	0.0000	0.0000	.
133180770_15	43	29AUG15	20SEP15	0.0000	0.0000	.
133180790_15	47	22SEP15	24OCT15	0.0000	0.0000	.
133180820_15	22	25SEP15	05OCT15	0.0000	0.0000	.
133180860_15	104	14OCT15	23NOV15	0.0000	0.0000	.
133180890_15	56	05NOV15	10DEC15	0.0000	0.0000	.
133180930_15	41	24NOV15	21DEC15	0.0000	0.0000	.
133180940_15	36	03DEC15	20DEC15	0.0000	0.0000	.
133180990_16	42	09JAN16	26JAN16	0.0000	0.0000	.
133180980_16	57	10JAN16	10FEB16	0.0000	0.0000	.
133181020_16	91	30JAN16	07MAR16	0.0000	0.0000	.
133181060_16	87	18FEB16	02APR16	0.0000	0.0000	.
133181080_16	51	16MAR16	26APR16	0.0000	0.0000	.
133181110_16	31	25MAR16	07APR16	0.0000	0.0000	.
133181100_16	47	06APR16	11MAY16	0.0000	0.0000	.
133181120_16	22	12APR16	18APR16	0.0000	0.0000	.
133181130_16	57	28APR16	05JUN16	0.0000	0.0000	.
133181140_16	28	04MAY16	17MAY16	0.0000	0.0000	.
133181160_16	51	18MAY16	20JUN16	0.0000	0.0000	.
133181170_16	29	26MAY16	09JUN16	0.0000	0.0000	.
133181190_16	35	09JUN16	18JUL16	0.0000	0.0000	.
133181210_16	35	16JUN16	28JUN16	0.0000	0.0000	.
133181240_16	37	16JUL16	02AUG16	0.0000	0.0000	.
133181250_16	44	18JUL16	15AUG16	0.0000	0.0000	.
133181270_16	46	04AUG16	08SEP16	0.0000	0.0000	.
133181300_16	76	18AUG16	25SEP16	0.0000	0.0000	.
133181320_16	38	01SEP16	19SEP16	0.0000	0.0000	.
133181350_16	34	20SEP16	03OCT16	0.0000	0.0000	.
133181340_16	30	22SEP16	30OCT16	0.0000	0.0000	.
133181360_16	45	06OCT16	10NOV16	0.0000	0.0000	.
133181390_16	27	11OCT16	02NOV16	0.0000	0.0000	.
133181410_16	82	01NOV16	11DEC16	0.0000	0.0000	.
133181430_16	50	17NOV16	21DEC16	0.0000	0.0000	.
133181460_16	31	26NOV16	18DEC16	0.0000	0.0000	.
133181480_16	23	09DEC16	17DEC16	0.0000	0.0000	.
133181480_17	22	14JAN17	28JAN17	0.0000	0.0000	.


2015-2016 QC Chart for Basophils No.(10^3 cells/uL) (Lvl 2)
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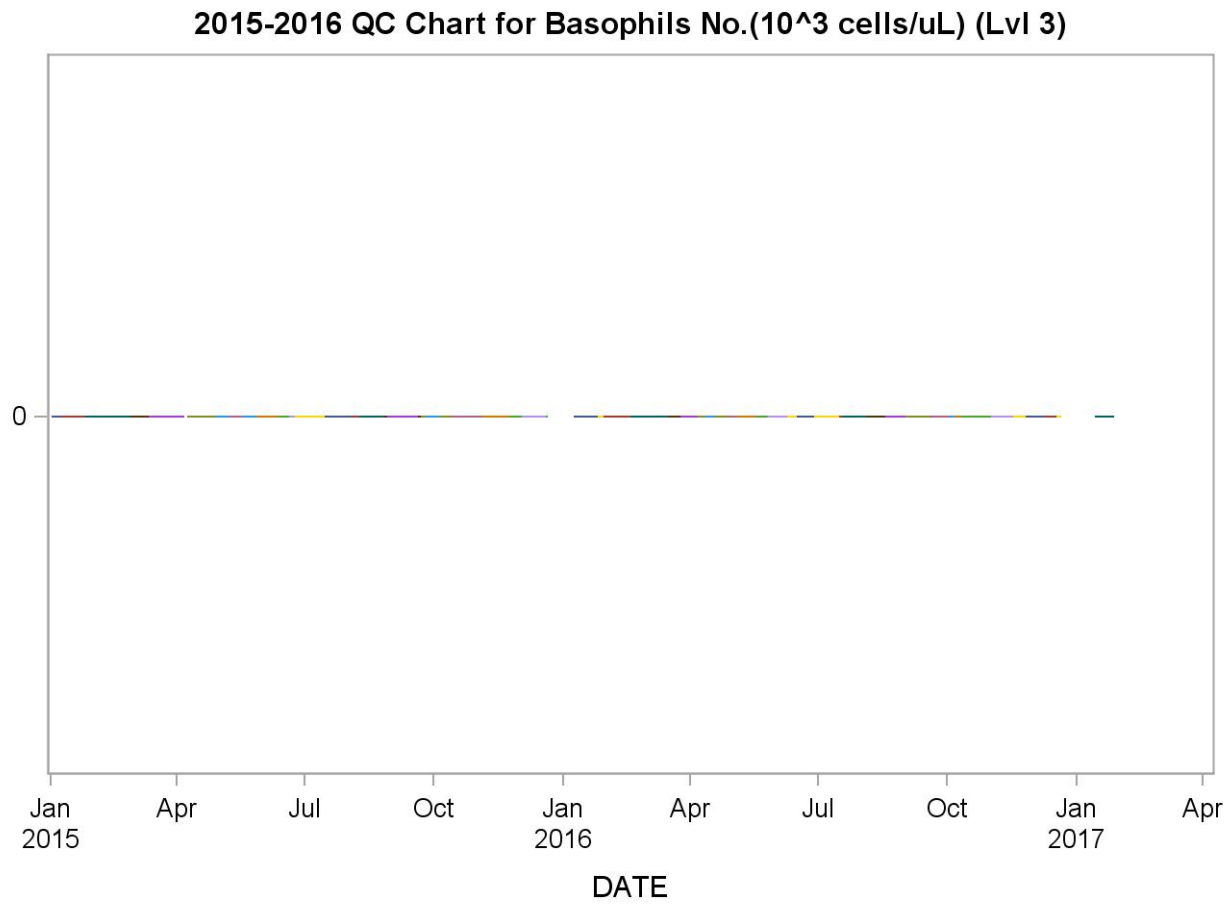
2015-2016 Summary Statistics and QC Chart for Basophils No.(10^3 cells/uL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	0.0000	0.0000	.
143190340_15	63	09JAN15	14FEB15	0.0000	0.0000	.
143190390_15	80	26JAN15	08MAR15	0.0000	0.0000	.
143190430_15	76	27FEB15	06APR15	0.0000	0.0000	.
143190460_15	31	12MAR15	06APR15	0.0000	0.0000	.
143190510_15	89	08APR15	18MAY15	0.0000	0.0000	.
143190540_15	45	29APR15	04JUN15	0.0000	0.0000	.
143190560_15	23	08MAY15	18MAY15	0.0000	0.0000	.
143190600_15	86	28MAY15	28JUN15	0.0000	0.0000	.
143190620_15	34	12JUN15	01JUL15	0.0000	0.0000	.
143190650_15	26	20JUN15	30JUN15	0.0000	0.0000	.
143190660_15	47	24JUN15	02AUG15	0.0000	0.0000	.
143190700_15	46	15JUL15	20AUG15	0.0000	0.0000	.
143190720_15	55	04AUG15	06SEP15	0.0000	0.0000	.
143190730_15	31	09AUG15	27AUG15	0.0000	0.0000	.
143190760_15	63	27AUG15	11OCT15	0.0000	0.0000	.
143190770_15	40	29AUG15	20SEP15	0.0000	0.0000	.
143190790_15	42	22SEP15	24OCT15	0.0000	0.0000	.
143190820_15	27	25SEP15	05OCT15	0.0000	0.0000	.
143190860_15	93	14OCT15	23NOV15	0.0000	0.0000	.
143190890_15	42	05NOV15	04DEC15	0.0000	0.0000	.
143190930_15	36	24NOV15	21DEC15	0.0000	0.0000	.
143190940_15	37	03DEC15	20DEC15	0.0000	0.0000	.
143190990_16	41	09JAN16	26JAN16	0.0000	0.0000	.
143190980_16	51	10JAN16	10FEB16	0.0000	0.0000	.
143191020_16	87	30JAN16	07MAR16	0.0000	0.0000	.
143191060_16	85	18FEB16	02APR16	0.0000	0.0000	.
143191080_16	50	16MAR16	26APR16	0.0000	0.0000	.
143191100_16	31	25MAR16	07APR16	0.0000	0.0000	.
143191110_16	45	06APR16	11MAY16	0.0000	0.0000	.
143191120_16	20	12APR16	18APR16	0.0000	0.0000	.
143191130_16	57	28APR16	05JUN16	0.0000	0.0000	.
143191140_16	28	04MAY16	17MAY16	0.0000	0.0000	.
143191160_16	47	18MAY16	20JUN16	0.0000	0.0000	.
143191170_16	27	26MAY16	09JUN16	0.0000	0.0000	.
143191190_16	31	09JUN16	17JUL16	0.0000	0.0000	.
143191210_16	32	16JUN16	28JUN16	0.0000	0.0000	.
143191240_16	38	16JUL16	02AUG16	0.0000	0.0000	.
143191250_16	41	18JUL16	15AUG16	0.0000	0.0000	.
143191270_16	40	04AUG16	08SEP16	0.0000	0.0000	.
143191300_16	72	18AUG16	25SEP16	0.0000	0.0000	.
143191320_16	38	01SEP16	19SEP16	0.0000	0.0000	.
143191350_16	33	20SEP16	03OCT16	0.0000	0.0000	.
143191340_16	27	22SEP16	30OCT16	0.0000	0.0000	.
143191360_16	44	06OCT16	10NOV16	0.0000	0.0000	.
143191390_16	28	11OCT16	02NOV16	0.0000	0.0000	.
143191410_16	82	01NOV16	11DEC16	0.0000	0.0000	.
143191430_16	52	17NOV16	21DEC16	0.0000	0.0000	.
143191460_16	31	26NOV16	18DEC16	0.0000	0.0000	.
143191480_16	24	09DEC16	17DEC16	0.0000	0.0000	.
143191480_17	21	14JAN17	28JAN17	0.0000	0.0000	.


2015-2016 QC Chart for Basophils No.(10^3 cells/uL) (Lvl 3)
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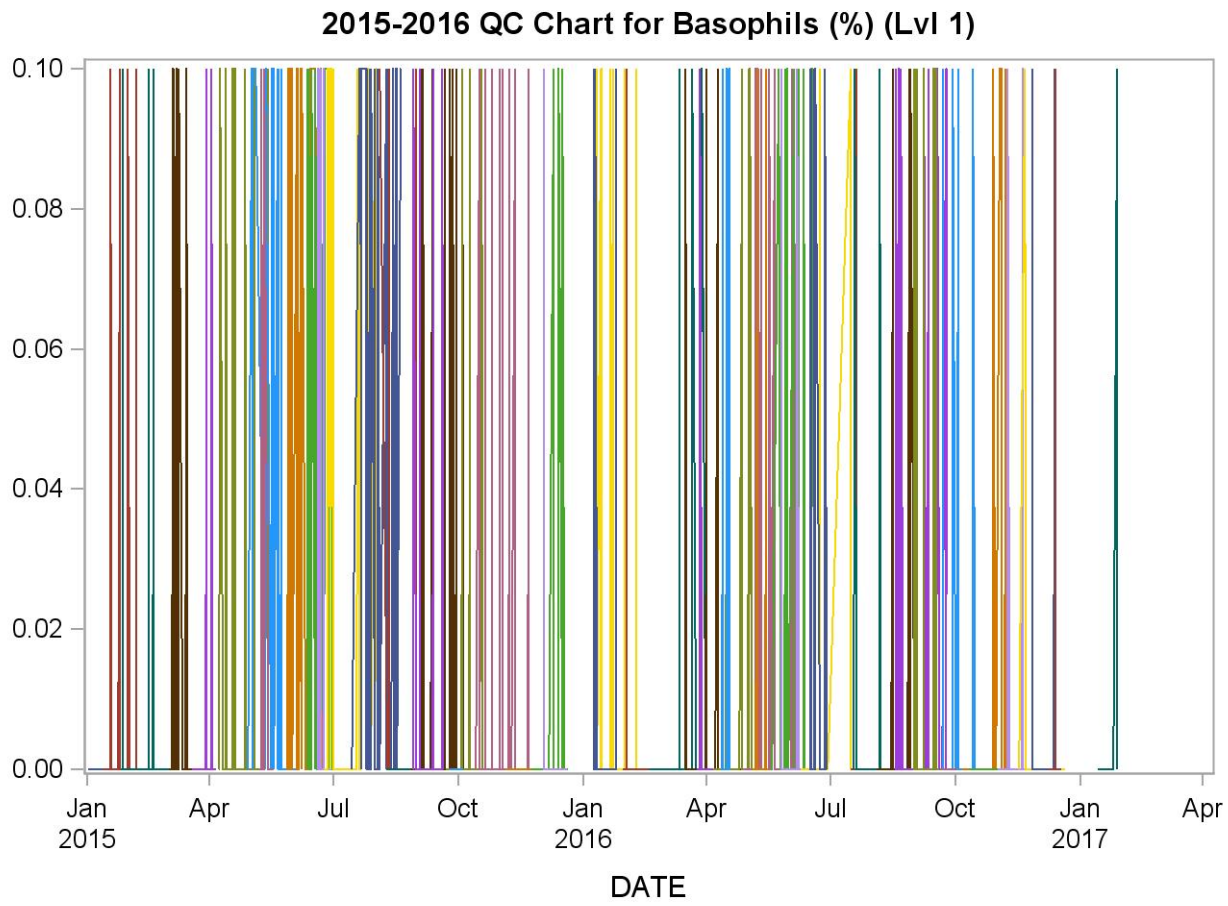
2015-2016 Summary Statistics and QC Chart for Basophils (%) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	0.0000	0.0000	.
123170340_15	52	13JAN15	14FEB15	0.0077	0.0269	349.8
123170390_15	87	26JAN15	08MAR15	0.0034	0.0184	532.2
123170430_15	71	02MAR15	06APR15	0.0127	0.0335	264.3
123170460_15	30	19MAR15	06APR15	0.0067	0.0254	380.6
123170510_15	78	08APR15	18MAY15	0.0154	0.0363	236.0
123170540_15	36	29APR15	04JUN15	0.0444	0.0504	113.4
123170560_15	21	08MAY15	18MAY15	0.0095	0.0301	315.8
123170600_15	76	28MAY15	28JUN15	0.0474	0.0503	106.1
123170620_15	32	12JUN15	01JUL15	0.0375	0.0492	131.2
123170650_15	25	20JUN15	30JUN15	0.0240	0.0436	181.6
123170660_15	47	24JUN15	02AUG15	0.0404	0.0496	122.7
123170700_15	45	15JUL15	20AUG15	0.0378	0.0490	129.8
123170720_15	57	04AUG15	06SEP15	0.0070	0.0258	367.2
123170730_15	30	09AUG15	27AUG15	0.0000	0.0000	.
123170760_15	59	27AUG15	11OCT15	0.0136	0.0345	254.7
123170770_15	40	29AUG15	20SEP15	0.0100	0.0304	303.8
123170790_15	42	22SEP15	24OCT15	0.0071	0.0261	364.9
123170820_15	22	25SEP15	05OCT15	0.0000	0.0000	.
123170860_15	94	14OCT15	23NOV15	0.0085	0.0281	329.6
123170890_15	52	05NOV15	10DEC15	0.0000	0.0000	.
123170930_15	37	24NOV15	21DEC15	0.0108	0.0315	291.2
123170940_15	36	03DEC15	20DEC15	0.0028	0.0167	600.0
123170990_16	43	09JAN16	26JAN16	0.0070	0.0258	369.5
123170980_16	53	10JAN16	10FEB16	0.0151	0.0361	239.4
123171020_16	87	30JAN16	07MAR16	0.0011	0.0107	932.7
123171060_16	78	18FEB16	02APR16	0.0051	0.0222	432.9
123171080_16	51	16MAR16	26APR16	0.0059	0.0238	404.0
123171100_16	31	25MAR16	07APR16	0.0032	0.0180	556.8
123171110_16	44	06APR16	11MAY16	0.0114	0.0321	282.5
123171120_16	22	12APR16	18APR16	0.0273	0.0456	167.1
123171130_16	55	28APR16	05JUN16	0.0164	0.0373	228.2
123171150_16	28	04MAY16	17MAY16	0.0071	0.0262	367.2
123171160_16	47	18MAY16	20JUN16	0.0234	0.0428	182.9
123171170_16	27	26MAY16	09JUN16	0.0074	0.0267	360.3
123171190_16	29	09JUN16	16JUL16	0.0103	0.0310	299.6
123171210_16	32	16JUN16	28JUN16	0.0188	0.0397	211.5
123171240_16	37	16JUL16	02AUG16	0.0027	0.0164	608.3
123171250_16	37	18JUL16	15AUG16	0.0054	0.0229	424.1
123171270_16	42	04AUG16	08SEP16	0.0071	0.0261	364.9
123171300_16	73	18AUG16	25SEP16	0.0205	0.0407	198.0
123171320_16	39	01SEP16	19SEP16	0.0231	0.0427	185.0
123171350_16	35	20SEP16	03OCT16	0.0000	0.0000	.
123171340_16	53	22SEP16	30OCT16	0.0075	0.0267	353.3
123171360_16	44	06OCT16	10NOV16	0.0091	0.0291	319.9
123171390_16	28	11OCT16	02NOV16	0.0000	0.0000	.
123171410_16	84	01NOV16	11DEC16	0.0036	0.0187	522.7
123171430_16	45	17NOV16	21DEC16	0.0022	0.0149	670.8
123171460_16	31	26NOV16	18DEC16	0.0065	0.0250	387.1
123171480_16	22	09DEC16	17DEC16	0.0045	0.0213	469.0
123171480_17	21	14JAN17	28JAN17	0.0048	0.0218	458.3


2015-2016 QC Chart for Basophils (%) (Lvl 1)
0.10
0.08
0.06
0.04
0.02
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Jan
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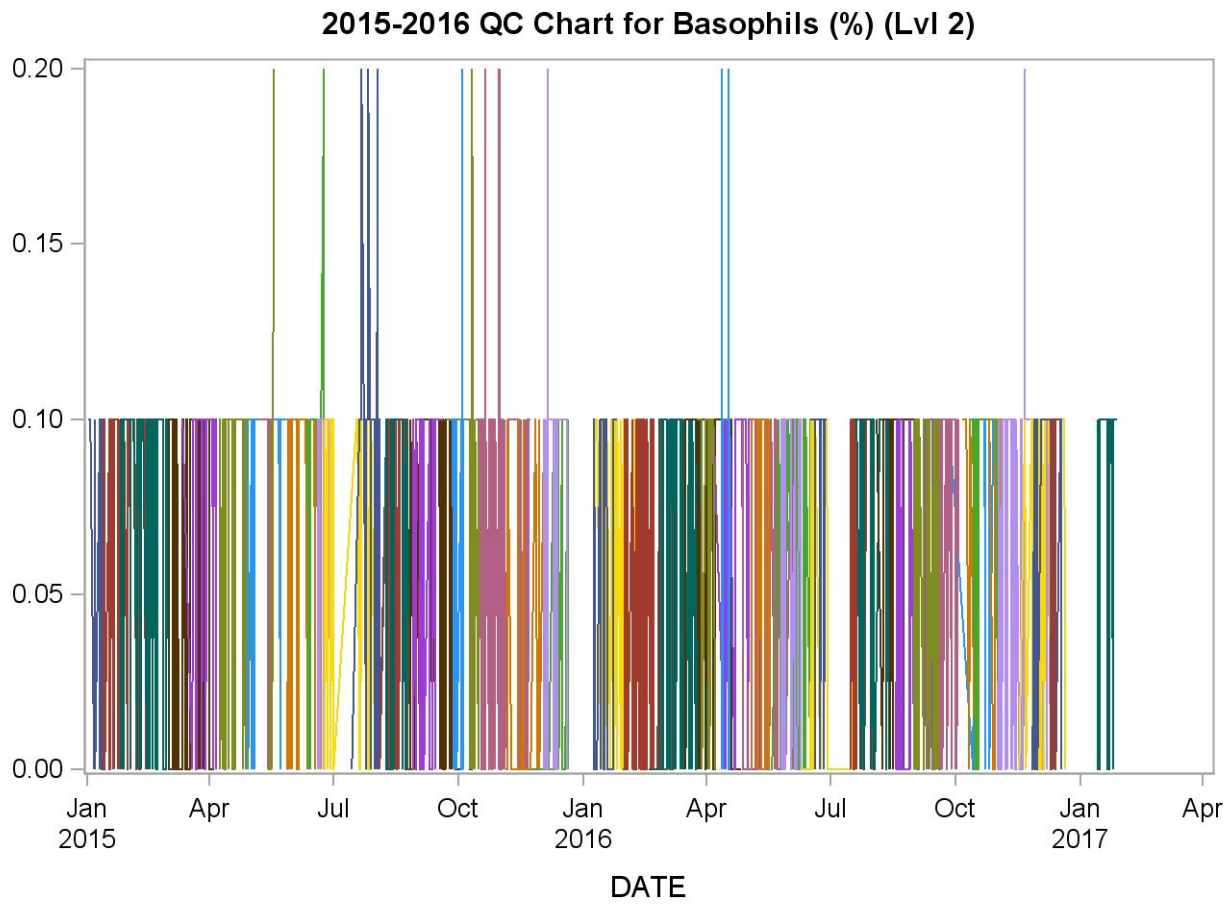
DATE

2015-2016 Summary Statistics and QC Chart for Basophils (%) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	0.0565	0.0507	89.7
133180340_15	56	13JAN15	14FEB15	0.0661	0.0478	72.3
133180390_15	87	26JAN15	08MAR15	0.0690	0.0465	67.5
133180430_15	75	02MAR15	06APR15	0.0653	0.0479	73.3
133180460_15	39	12MAR15	06APR15	0.0769	0.0427	55.5
133180510_15	82	08APR15	18MAY15	0.0805	0.0429	53.2
133180540_15	41	29APR15	04JUN15	0.0878	0.0331	37.7
133180560_15	22	08MAY15	18MAY15	0.0955	0.0213	22.3
133180600_15	79	28MAY15	27JUN15	0.0778	0.0414	53.2
133180620_15	44	12JUN15	01JUL15	0.0909	0.0362	39.8
133180650_15	27	20JUN15	30JUN15	0.0852	0.0362	42.5
133180660_15	48	24JUN15	02AUG15	0.0604	0.0494	81.8
133180700_15	50	15JUL15	20AUG15	0.0920	0.0444	48.3
133180720_15	58	04AUG15	06SEP15	0.0483	0.0504	104.4
133180730_15	30	09AUG15	27AUG15	0.0500	0.0509	101.7
133180760_15	68	27AUG15	11OCT15	0.0691	0.0465	67.3
133180770_15	43	29AUG15	20SEP15	0.0651	0.0482	74.1
133180790_15	47	22SEP15	24OCT15	0.0766	0.0476	62.2
133180820_15	22	25SEP15	05OCT15	0.0727	0.0550	75.7
133180860_15	104	14OCT15	23NOV15	0.0697	0.0519	74.4
133180890_15	56	05NOV15	10DEC15	0.0196	0.0401	204.1
133180930_15	41	24NOV15	21DEC15	0.0268	0.0449	167.2
133180940_15	36	03DEC15	20DEC15	0.0722	0.0513	71.1
133180990_16	42	09JAN16	26JAN16	0.0571	0.0501	87.7
133180980_16	57	10JAN16	10FEB16	0.0684	0.0469	68.5
133181020_16	91	30JAN16	07MAR16	0.0440	0.0499	113.5
133181060_16	87	18FEB16	02APR16	0.0690	0.0465	67.5
133181080_16	51	16MAR16	26APR16	0.0745	0.0440	59.1
133181110_16	31	25MAR16	07APR16	0.0839	0.0374	44.6
133181100_16	47	06APR16	11MAY16	0.0745	0.0441	59.2
133181120_16	22	12APR16	18APR16	0.0864	0.0560	64.9
133181130_16	57	28APR16	05JUN16	0.0474	0.0504	106.3
133181140_16	28	04MAY16	17MAY16	0.0714	0.0460	64.4
133181160_16	51	18MAY16	20JUN16	0.0647	0.0483	74.6
133181170_16	29	26MAY16	09JUN16	0.0483	0.0509	105.3
133181190_16	35	09JUN16	18JUL16	0.0600	0.0497	82.8
133181210_16	35	16JUN16	28JUN16	0.0914	0.0284	31.1
133181240_16	37	16JUL16	02AUG16	0.0730	0.0450	61.7
133181250_16	44	18JUL16	15AUG16	0.0773	0.0424	54.9
133181270_16	46	04AUG16	08SEP16	0.0891	0.0315	35.3
133181300_16	76	18AUG16	25SEP16	0.0513	0.0503	98.0
133181320_16	38	01SEP16	19SEP16	0.0605	0.0495	81.8
133181350_16	34	20SEP16	03OCT16	0.0706	0.0462	65.5
133181340_16	30	22SEP16	30OCT16	0.0833	0.0379	45.5
133181360_16	45	06OCT16	10NOV16	0.0844	0.0367	43.4
133181390_16	27	11OCT16	02NOV16	0.0630	0.0492	78.2
133181410_16	82	01NOV16	11DEC16	0.0659	0.0502	76.3
133181430_16	50	17NOV16	21DEC16	0.0620	0.0490	79.1
133181460_16	31	26NOV16	18DEC16	0.0548	0.0506	92.2
133181480_16	23	09DEC16	17DEC16	0.0739	0.0449	60.7
133181480_17	22	14JAN17	28JAN17	0.0773	0.0429	55.5


2015-2016 QC Chart for Basophils (%) (Lvl 2)
0.20
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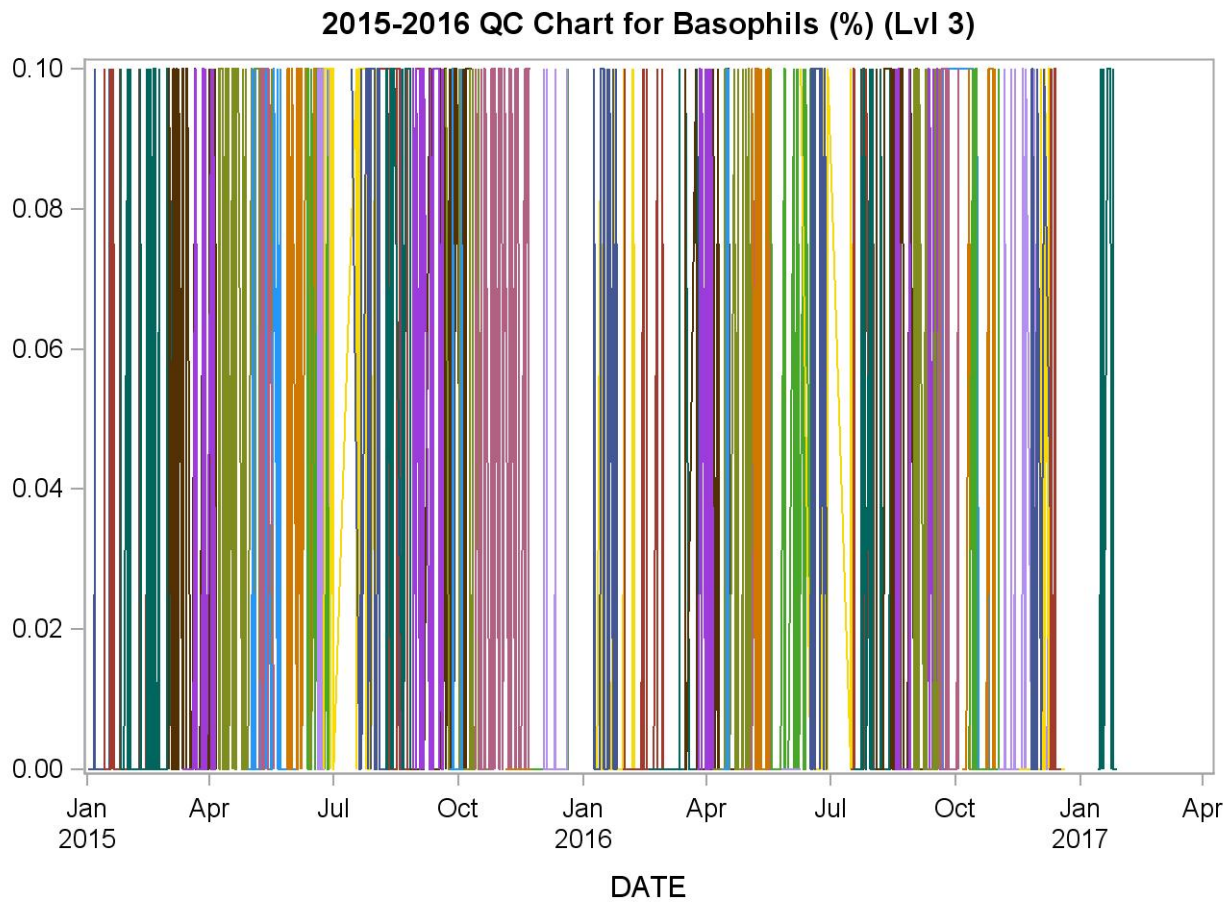
Jan
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Basophils (%) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	0.0118	0.0332	282.3
143190340_15	50	13JAN15	14FEB15	0.0140	0.0351	250.4
143190390_15	80	26JAN15	08MAR15	0.0213	0.0412	193.7
143190430_15	73	02MAR15	06APR15	0.0356	0.0482	135.4
143190460_15	31	12MAR15	06APR15	0.0290	0.0461	158.9
143190510_15	89	08APR15	18MAY15	0.0427	0.0497	116.5
143190540_15	45	29APR15	04JUN15	0.0333	0.0477	143.0
143190560_15	23	08MAY15	18MAY15	0.0565	0.0507	89.7
143190600_15	86	28MAY15	28JUN15	0.0634	0.0482	76.0
143190620_15	34	12JUN15	01JUL15	0.0529	0.0507	95.7
143190650_15	26	20JUN15	30JUN15	0.0462	0.0508	110.2
143190660_15	45	24JUN15	02AUG15	0.0689	0.0468	68.0
143190700_15	46	15JUL15	20AUG15	0.0717	0.0455	63.5
143190720_15	55	04AUG15	06SEP15	0.0400	0.0494	123.6
143190730_15	31	09AUG15	27AUG15	0.0645	0.0486	75.4
143190760_15	62	27AUG15	11OCT15	0.0516	0.0504	97.6
143190770_15	39	29AUG15	20SEP15	0.0564	0.0502	89.1
143190790_15	42	22SEP15	24OCT15	0.0119	0.0328	275.3
143190820_15	27	25SEP15	05OCT15	0.0111	0.0320	288.2
143190860_15	93	14OCT15	23NOV15	0.0430	0.0498	115.7
143190890_15	42	05NOV15	04DEC15	0.0000	0.0000	.
143190930_15	36	24NOV15	21DEC15	0.0028	0.0167	600.0
143190940_15	37	03DEC15	20DEC15	0.0108	0.0315	291.2
143190990_16	41	09JAN16	26JAN16	0.0244	0.0435	178.3
143190980_16	51	10JAN16	10FEB16	0.0157	0.0367	234.1
143191020_16	87	30JAN16	07MAR16	0.0069	0.0255	369.6
143191060_16	85	18FEB16	02APR16	0.0047	0.0213	452.7
143191080_16	50	16MAR16	26APR16	0.0180	0.0388	215.6
143191100_16	31	25MAR16	07APR16	0.0258	0.0445	172.4
143191110_16	45	06APR16	11MAY16	0.0311	0.0468	150.5
143191120_16	20	12APR16	18APR16	0.0100	0.0308	307.8
143191130_16	57	28APR16	05JUN16	0.0070	0.0258	367.2
143191140_16	28	04MAY16	17MAY16	0.0357	0.0488	136.6
143191160_16	47	18MAY16	20JUN16	0.0362	0.0486	134.3
143191170_16	27	26MAY16	09JUN16	0.0000	0.0000	.
143191190_16	31	09JUN16	17JUL16	0.0452	0.0506	112.0
143191210_16	32	16JUN16	28JUN16	0.0531	0.0507	95.4
143191240_16	38	16JUL16	02AUG16	0.0211	0.0413	196.2
143191250_16	41	18JUL16	15AUG16	0.0195	0.0401	205.6
143191270_16	40	04AUG16	08SEP16	0.0475	0.0506	106.5
143191300_16	72	18AUG16	25SEP16	0.0264	0.0444	168.2
143191320_16	38	01SEP16	19SEP16	0.0237	0.0431	181.9
143191350_16	33	20SEP16	03OCT16	0.0333	0.0479	143.6
143191340_16	27	22SEP16	30OCT16	0.0185	0.0396	213.8
143191360_16	44	06OCT16	10NOV16	0.0136	0.0347	254.6
143191390_16	28	11OCT16	02NOV16	0.0214	0.0418	195.0
143191410_16	82	01NOV16	11DEC16	0.0098	0.0299	306.0
143191430_16	52	17NOV16	21DEC16	0.0096	0.0298	309.6
143191460_16	31	26NOV16	18DEC16	0.0226	0.0425	188.2
143191480_16	24	09DEC16	17DEC16	0.0250	0.0442	176.9
143191480_17	21	14JAN17	28JAN17	0.0476	0.0512	107.5


2015-2016 QC Chart for Basophils (%) (Lvl 3)
0.10
0.08
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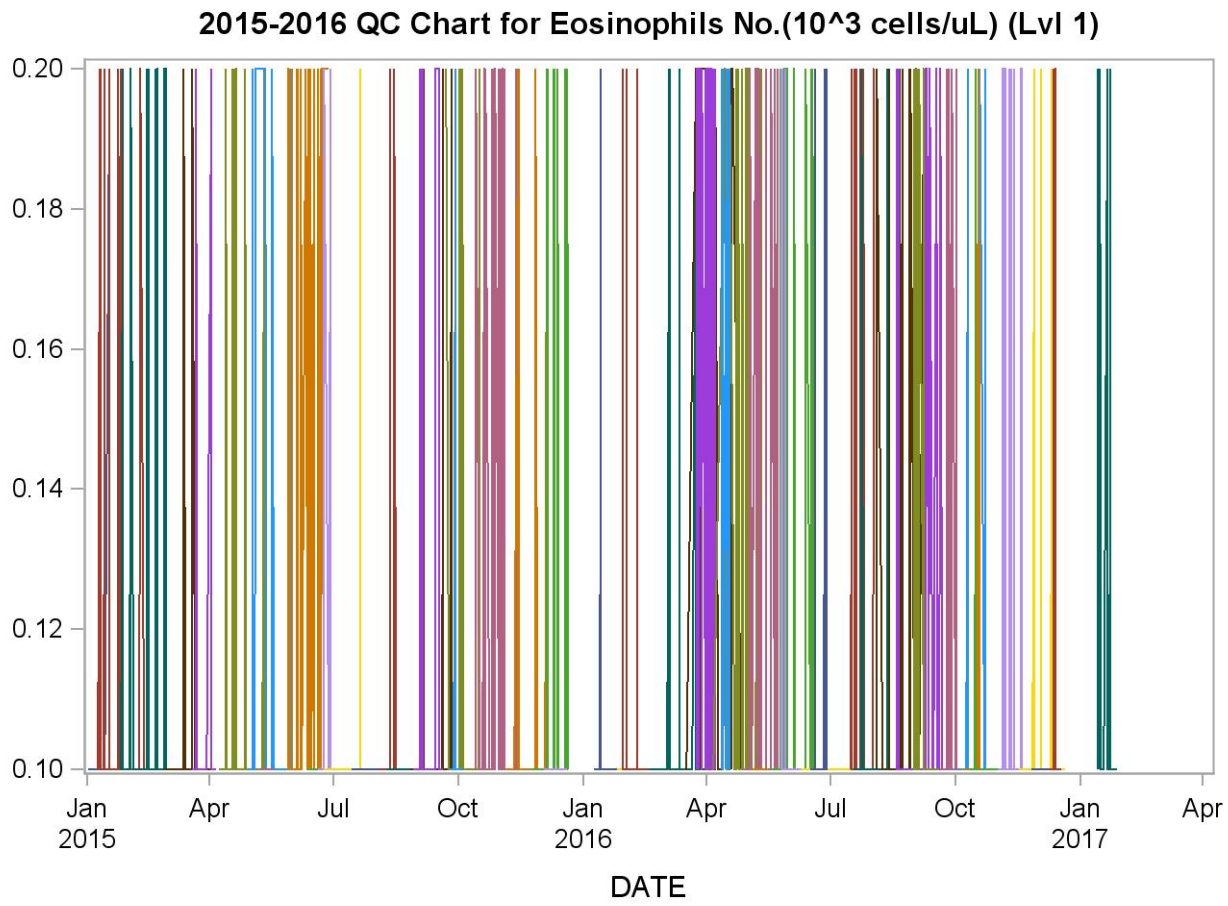
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Eosinophils No.(10^3 cells/uL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	0.1118	0.0332	29.7
123170340_15	65	09JAN15	14FEB15	0.1138	0.0348	30.6
123170390_15	87	26JAN15	08MAR15	0.1138	0.0347	30.5
123170430_15	74	27FEB15	06APR15	0.1027	0.0163	15.9
123170460_15	30	19MAR15	06APR15	0.1067	0.0254	23.8
123170510_15	78	08APR15	18MAY15	0.1090	0.0288	26.4
123170540_15	36	29APR15	04JUN15	0.1167	0.0378	32.4
123170560_15	21	08MAY15	18MAY15	0.1000	0.0000	0.0
123170600_15	76	28MAY15	28JUN15	0.1276	0.0450	35.3
123170620_15	32	12JUN15	01JUL15	0.1000	0.0000	0.0
123170650_15	25	20JUN15	30JUN15	0.1080	0.0277	25.6
123170660_15	46	24JUN15	02AUG15	0.1022	0.0147	14.4
123170700_15	45	15JUL15	20AUG15	0.1000	0.0000	0.0
123170720_15	57	04AUG15	06SEP15	0.1053	0.0225	21.4
123170730_15	30	09AUG15	27AUG15	0.1000	0.0000	0.0
123170760_15	59	27AUG15	11OCT15	0.1085	0.0281	25.9
123170770_15	40	29AUG15	20SEP15	0.1150	0.0362	31.4
123170790_15	42	22SEP15	24OCT15	0.1143	0.0354	31.0
123170820_15	22	25SEP15	05OCT15	0.1045	0.0213	20.4
123170860_15	94	14OCT15	23NOV15	0.1191	0.0396	33.2
123170890_15	52	05NOV15	10DEC15	0.1077	0.0269	25.0
123170930_15	37	24NOV15	21DEC15	0.1189	0.0397	33.4
123170940_15	36	03DEC15	20DEC15	0.1000	0.0000	0.0
123170990_16	43	09JAN16	26JAN16	0.1023	0.0152	14.9
123170980_16	53	10JAN16	10FEB16	0.1000	0.0000	0.0
123171020_16	87	30JAN16	07MAR16	0.1034	0.0184	17.7
123171060_16	78	18FEB16	02APR16	0.1064	0.0247	23.2
123171080_16	51	16MAR16	26APR16	0.1294	0.0460	35.6
123171100_16	31	25MAR16	07APR16	0.1581	0.0502	31.7
123171110_16	44	06APR16	11MAY16	0.1364	0.0487	35.7
123171120_16	22	12APR16	18APR16	0.1227	0.0429	35.0
123171130_16	54	28APR16	05JUN16	0.1241	0.0432	34.8
123171150_16	28	04MAY16	17MAY16	0.1000	0.0000	0.0
123171160_16	47	18MAY16	20JUN16	0.1213	0.0414	34.1
123171170_16	27	26MAY16	09JUN16	0.1111	0.0320	28.8
123171190_16	29	09JUN16	16JUL16	0.1000	0.0000	0.0
123171210_16	32	16JUN16	28JUN16	0.1094	0.0296	27.1
123171240_16	37	16JUL16	02AUG16	0.1216	0.0417	34.3
123171250_16	37	18JUL16	15AUG16	0.1054	0.0229	21.7
123171270_16	42	04AUG16	08SEP16	0.1238	0.0431	34.8
123171300_16	73	18AUG16	25SEP16	0.1205	0.0407	33.7
123171320_16	39	01SEP16	19SEP16	0.1128	0.0339	30.0
123171350_16	35	20SEP16	03OCT16	0.1114	0.0323	29.0
123171340_16	53	22SEP16	30OCT16	0.1075	0.0267	24.8
123171360_16	44	06OCT16	10NOV16	0.1045	0.0211	20.2
123171390_16	28	11OCT16	02NOV16	0.1036	0.0189	18.2
123171410_16	84	01NOV16	11DEC16	0.1119	0.0326	29.1
123171430_16	45	17NOV16	21DEC16	0.1067	0.0252	23.6
123171460_16	31	26NOV16	18DEC16	0.1032	0.0180	17.4
123171480_16	22	09DEC16	17DEC16	0.1182	0.0395	33.4
123171480_17	21	14JAN17	28JAN17	0.1190	0.0402	33.8


2015-2016 QC Chart for Eosinophils No.(10^3 cells/uL) (Lvl 1)
0.20
0.18
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Jan
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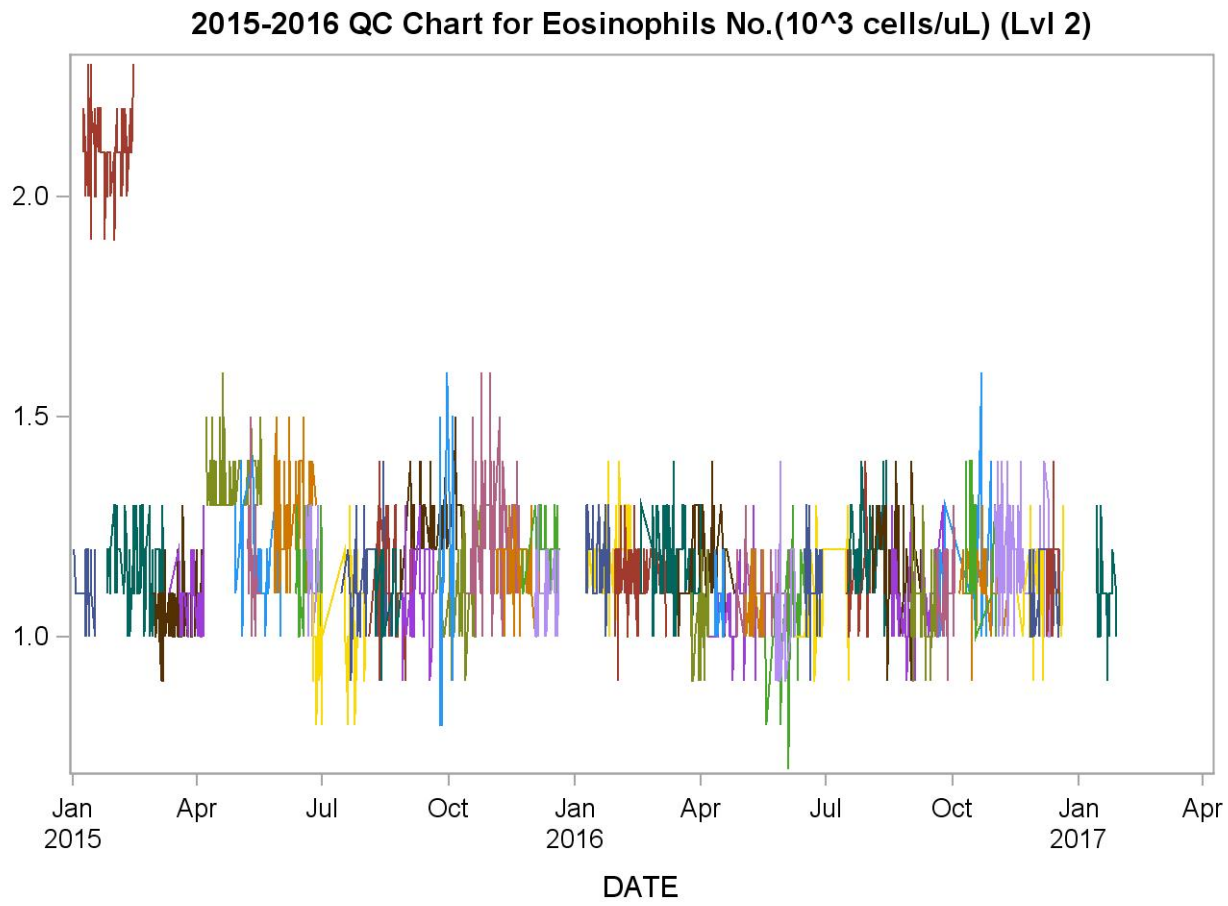
2017
Apr
DATE

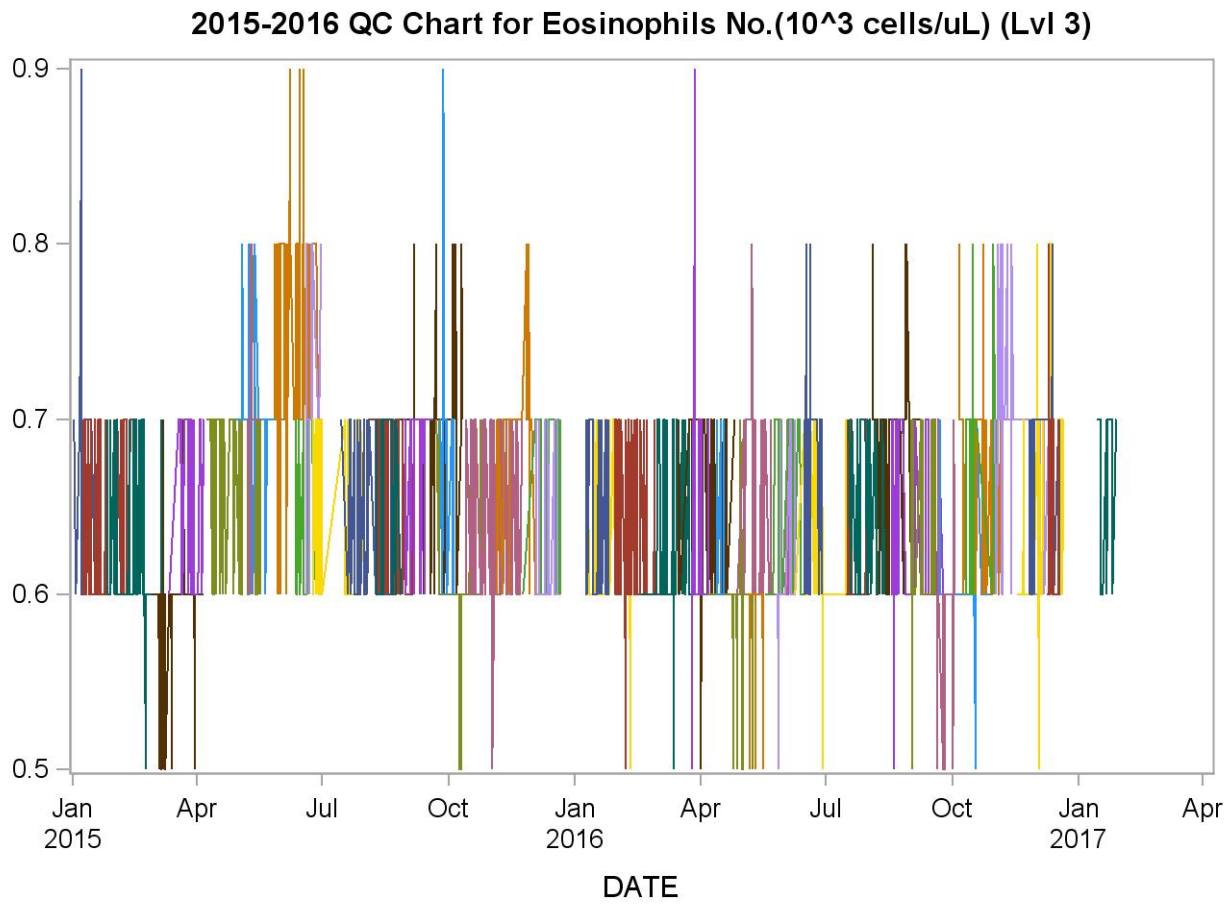
2015-2016 Summary Statistics and QC Chart for Eosinophils No.(10^3 cells/uL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	1.1043	0.0706	6.4
133180340_15	69	09JAN15	14FEB15	2.1014	0.0931	4.4
133180390_15	87	26JAN15	08MAR15	1.1690	0.0853	7.3
133180430_15	79	27FEB15	06APR15	1.0582	0.0761	7.2
133180460_15	39	12MAR15	06APR15	1.0846	0.0709	6.5
133180510_15	82	08APR15	18MAY15	1.3659	0.0671	4.9
133180540_15	41	29APR15	04JUN15	1.1976	0.1037	8.7
133180560_15	22	08MAY15	18MAY15	1.1955	0.1133	9.5
133180600_15	79	28MAY15	27JUN15	1.2709	0.0989	7.8
133180620_15	44	12JUN15	01JUL15	1.1182	0.0971	8.7
133180650_15	27	20JUN15	30JUN15	1.1593	0.0888	7.7
133180660_15	48	24JUN15	02AUG15	1.0063	0.1080	10.7
133180700_15	49	15JUL15	20AUG15	1.1204	0.1000	8.9
133180720_15	58	04AUG15	06SEP15	1.1483	0.1047	9.1
133180730_15	30	09AUG15	27AUG15	1.1033	0.0850	7.7
133180760_15	67	27AUG15	11OCT15	1.2642	0.0829	6.6
133180770_15	43	29AUG15	20SEP15	1.0953	0.0872	8.0
133180790_15	47	22SEP15	24OCT15	1.1064	0.0965	8.7
133180820_15	20	25SEP15	05OCT15	1.2050	0.2585	21.5
133180860_15	102	14OCT15	23NOV15	1.2211	0.1201	9.8
133180890_15	56	05NOV15	10DEC15	1.1357	0.0749	6.6
133180930_15	41	24NOV15	21DEC15	1.1976	0.0724	6.0
133180940_15	36	03DEC15	20DEC15	1.1000	0.0717	6.5
133180990_16	42	09JAN16	26JAN16	1.1905	0.0790	6.6
133180980_16	57	10JAN16	10FEB16	1.1789	0.0861	7.3
133181020_16	91	30JAN16	07MAR16	1.1341	0.0734	6.5
133181060_16	87	18FEB16	02APR16	1.1759	0.0862	7.3
133181080_16	51	16MAR16	26APR16	1.1706	0.0923	7.9
133181110_16	31	25MAR16	07APR16	1.0194	0.0873	8.6
133181100_16	46	06APR16	11MAY16	1.0783	0.0841	7.8
133181120_16	22	12APR16	18APR16	1.0864	0.0640	5.9
133181130_16	57	28APR16	05JUN16	1.1018	0.0719	6.5
133181140_16	28	04MAY16	17MAY16	1.0786	0.0738	6.8
133181160_16	51	18MAY16	20JUN16	1.0431	0.1136	10.9
133181170_16	29	26MAY16	09JUN16	1.0310	0.1198	11.6
133181190_16	34	09JUN16	18JUL16	1.0706	0.1031	9.6
133181210_16	35	16JUN16	28JUN16	1.1429	0.0917	8.0
133181240_16	37	16JUL16	02AUG16	1.1216	0.0787	7.0
133181250_16	44	18JUL16	15AUG16	1.2114	0.0945	7.8
133181270_16	46	04AUG16	08SEP16	1.1696	0.1152	9.9
133181300_16	76	18AUG16	25SEP16	1.0921	0.0860	7.9
133181320_16	38	01SEP16	19SEP16	1.0579	0.1030	9.7
133181350_16	34	20SEP16	03OCT16	1.1235	0.0890	7.9
133181340_16	30	22SEP16	30OCT16	1.1467	0.1332	11.6
133181360_16	45	06OCT16	10NOV16	1.1489	0.0895	7.8
133181390_16	27	11OCT16	02NOV16	1.2074	0.1238	10.3
133181410_16	82	01NOV16	11DEC16	1.1707	0.1083	9.2
133181430_16	50	17NOV16	21DEC16	1.1140	0.0857	7.7
133181460_16	31	26NOV16	18DEC16	1.0968	0.0752	6.9
133181480_16	23	09DEC16	17DEC16	1.1478	0.1039	9.0
133181480_17	22	14JAN17	28JAN17	1.1000	0.0976	8.9


2015-2016 QC Chart for Eosinophils No.(10^3 cells/uL) (Lvl 2)
2.0
1.5
1.0
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

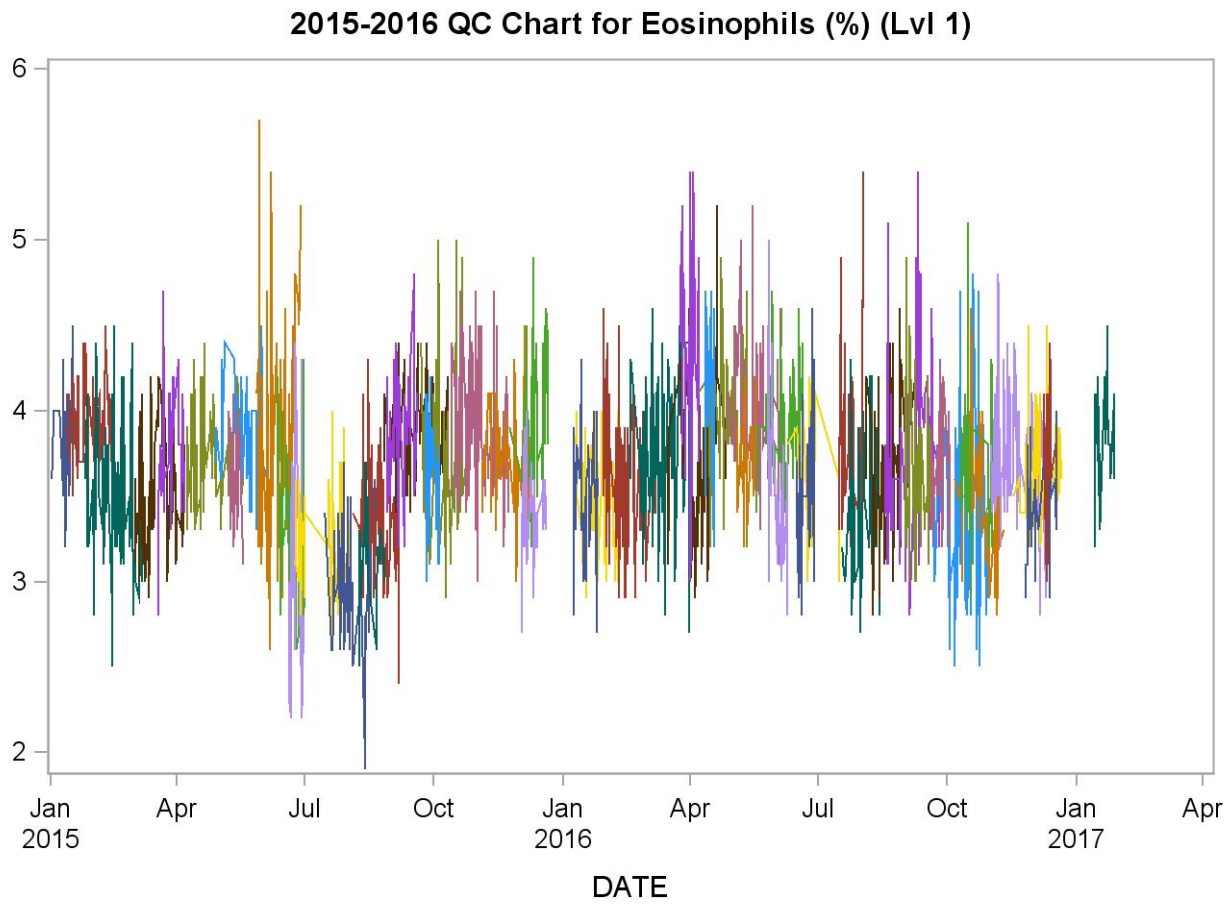
2015-2016 Summary Statistics and QC Chart for Eosinophils No.(10^3 cells/uL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	0.6824	0.0728	10.7
143190340_15	63	09JAN15	14FEB15	0.6444	0.0501	7.8
143190390_15	80	26JAN15	08MAR15	0.6225	0.0477	7.7
143190430_15	76	27FEB15	06APR15	0.5868	0.0411	7.0
143190460_15	31	12MAR15	06APR15	0.6645	0.0486	7.3
143190510_15	88	08APR15	18MAY15	0.6750	0.0461	6.8
143190540_15	45	29APR15	04JUN15	0.7022	0.0398	5.7
143190560_15	23	08MAY15	18MAY15	0.7000	0.0426	6.1
143190600_15	86	28MAY15	28JUN15	0.7337	0.0625	8.5
143190620_15	34	12JUN15	01JUL15	0.6529	0.0507	7.8
143190650_15	26	20JUN15	30JUN15	0.7154	0.0543	7.6
143190660_15	46	24JUN15	02AUG15	0.6326	0.0474	7.5
143190700_15	46	15JUL15	20AUG15	0.6435	0.0501	7.8
143190720_15	55	04AUG15	06SEP15	0.6600	0.0494	7.5
143190730_15	31	09AUG15	27AUG15	0.6323	0.0475	7.5
143190760_15	63	27AUG15	11OCT15	0.7016	0.0458	6.5
143190770_15	40	29AUG15	20SEP15	0.6850	0.0362	5.3
143190790_15	42	22SEP15	24OCT15	0.6095	0.0431	7.1
143190820_15	24	25SEP15	05OCT15	0.6833	0.0702	10.3
143190860_15	93	14OCT15	23NOV15	0.6349	0.0499	7.9
143190890_15	42	05NOV15	04DEC15	0.6905	0.0431	6.2
143190930_15	36	24NOV15	21DEC15	0.6611	0.0494	7.5
143190940_15	36	03DEC15	20DEC15	0.6222	0.0422	6.8
143190990_16	41	09JAN16	26JAN16	0.6341	0.0480	7.6
143190980_16	51	10JAN16	10FEB16	0.6294	0.0502	8.0
143191020_16	87	30JAN16	07MAR16	0.6230	0.0450	7.2
143191060_16	85	18FEB16	02APR16	0.6235	0.0454	7.3
143191080_16	50	16MAR16	26APR16	0.6480	0.0544	8.4
143191100_16	31	25MAR16	07APR16	0.6258	0.0682	10.9
143191110_16	44	06APR16	11MAY16	0.5932	0.0398	6.7
143191120_16	20	12APR16	18APR16	0.6250	0.0444	7.1
143191130_16	57	28APR16	05JUN16	0.6421	0.0533	8.3
143191140_16	28	04MAY16	17MAY16	0.5893	0.0315	5.3
143191160_16	47	18MAY16	20JUN16	0.6596	0.0496	7.5
143191170_16	27	26MAY16	09JUN16	0.6111	0.0424	6.9
143191190_16	31	09JUN16	17JUL16	0.6387	0.0558	8.7
143191210_16	32	16JUN16	28JUN16	0.6750	0.0568	8.4
143191240_16	38	16JUL16	02AUG16	0.6158	0.0370	6.0
143191250_16	41	18JUL16	15AUG16	0.6537	0.0505	7.7
143191270_16	40	04AUG16	08SEP16	0.6825	0.0549	8.1
143191300_16	72	18AUG16	25SEP16	0.6194	0.0432	7.0
143191320_16	38	01SEP16	19SEP16	0.6263	0.0503	8.0
143191350_16	32	20SEP16	03OCT16	0.5875	0.0554	9.4
143191340_16	27	22SEP16	30OCT16	0.6185	0.0483	7.8
143191360_16	44	06OCT16	10NOV16	0.6773	0.0565	8.3
143191390_16	27	11OCT16	02NOV16	0.6741	0.0594	8.8
143191410_16	82	01NOV16	11DEC16	0.6939	0.0454	6.5
143191430_16	52	17NOV16	21DEC16	0.6635	0.0627	9.5
143191460_16	31	26NOV16	18DEC16	0.6677	0.0541	8.1
143191480_16	23	09DEC16	17DEC16	0.6478	0.0593	9.2
143191480_17	21	14JAN17	28JAN17	0.6762	0.0436	6.5


2015-2016 QC Chart for Eosinophils No.(10^3 cells/uL) (Lvl 3)
0.9
0.8
0.7
0.6
0.5
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

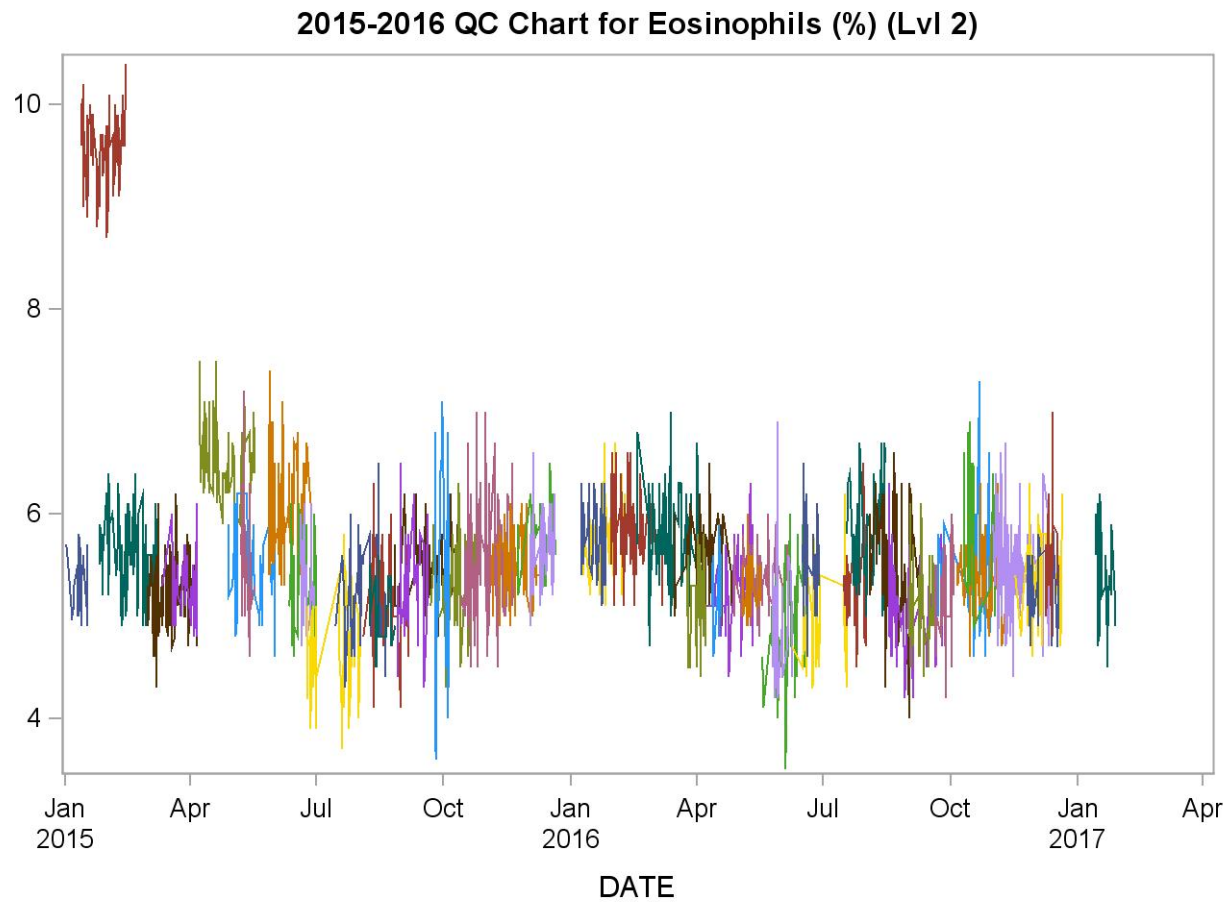
2015-2016 Summary Statistics and QC Chart for Eosinophils (%) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	3.8000	0.3279	8.6
123170340_15	52	13JAN15	14FEB15	3.9462	0.2279	5.8
123170390_15	86	26JAN15	08MAR15	3.4826	0.3777	10.8
123170430_15	71	02MAR15	06APR15	3.5408	0.3310	9.3
123170460_15	30	19MAR15	06APR15	3.7733	0.3657	9.7
123170510_15	78	08APR15	18MAY15	3.7385	0.2595	6.9
123170540_15	36	29APR15	04JUN15	3.8278	0.3095	8.1
123170560_15	21	08MAY15	18MAY15	3.6143	0.3021	8.4
123170600_15	76	28MAY15	28JUN15	3.7645	0.5903	15.7
123170620_15	32	12JUN15	01JUL15	3.3375	0.4054	12.1
123170650_15	25	20JUN15	30JUN15	3.0720	0.5806	18.9
123170660_15	47	24JUN15	02AUG15	3.2894	0.2760	8.4
123170700_15	45	15JUL15	20AUG15	2.9867	0.3507	11.7
123170720_15	57	04AUG15	06SEP15	3.3912	0.3186	9.4
123170730_15	30	09AUG15	27AUG15	3.1867	0.2849	8.9
123170760_15	59	27AUG15	11OCT15	3.9102	0.2777	7.1
123170770_15	40	29AUG15	20SEP15	3.9650	0.3286	8.3
123170790_15	42	22SEP15	24OCT15	3.7048	0.4834	13.0
123170820_15	22	25SEP15	05OCT15	3.5682	0.3469	9.7
123170860_15	94	14OCT15	23NOV15	3.9005	0.3700	9.5
123170890_15	52	05NOV15	10DEC15	3.7635	0.2964	7.9
123170930_15	37	24NOV15	21DEC15	3.9378	0.3737	9.5
123170940_15	36	03DEC15	20DEC15	3.4028	0.2635	7.7
123170990_16	43	09JAN16	26JAN16	3.5186	0.3149	8.9
123170980_16	53	10JAN16	10FEB16	3.5075	0.3269	9.3
123171020_16	87	30JAN16	07MAR16	3.5885	0.3633	10.1
123171060_16	78	18FEB16	02APR16	3.7974	0.3918	10.3
123171080_16	51	16MAR16	26APR16	3.7216	0.4580	12.3
123171100_16	31	25MAR16	07APR16	4.4387	0.5439	12.3
123171110_16	44	06APR16	11MAY16	3.9750	0.3642	9.2
123171120_16	22	12APR16	18APR16	4.0455	0.3997	9.9
123171130_16	54	28APR16	05JUN16	4.0167	0.3638	9.1
123171150_16	28	04MAY16	17MAY16	3.7607	0.2514	6.7
123171160_16	47	18MAY16	20JUN16	3.8979	0.3267	8.4
123171170_16	27	26MAY16	09JUN16	3.6815	0.4985	13.5
123171190_16	29	09JUN16	16JUL16	3.6310	0.3263	9.0
123171210_16	32	16JUN16	28JUN16	3.5813	0.3728	10.4
123171240_16	37	16JUL16	02AUG16	3.8054	0.4743	12.5
123171250_16	37	18JUL16	15AUG16	3.3973	0.4093	12.0
123171270_16	42	04AUG16	08SEP16	3.7381	0.4395	11.8
123171300_16	73	18AUG16	25SEP16	3.7534	0.5080	13.5
123171320_16	38	01SEP16	19SEP16	3.5816	0.4299	12.0
123171350_16	35	20SEP16	03OCT16	3.6400	0.2499	6.9
123171340_16	53	22SEP16	30OCT16	3.4057	0.5580	16.4
123171360_16	44	06OCT16	10NOV16	3.4886	0.3425	9.8
123171390_16	28	11OCT16	02NOV16	3.6714	0.4302	11.7
123171410_16	84	01NOV16	11DEC16	3.7690	0.3383	9.0
123171430_16	45	17NOV16	21DEC16	3.6933	0.3136	8.5
123171460_16	31	26NOV16	18DEC16	3.4742	0.3376	9.7
123171480_16	22	09DEC16	17DEC16	3.7864	0.3668	9.7
123171480_17	21	14JAN17	28JAN17	3.8429	0.3171	8.3


2015-2016 QC Chart for Eosinophils (%) (Lvl 1)
6
5
4
3
2
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

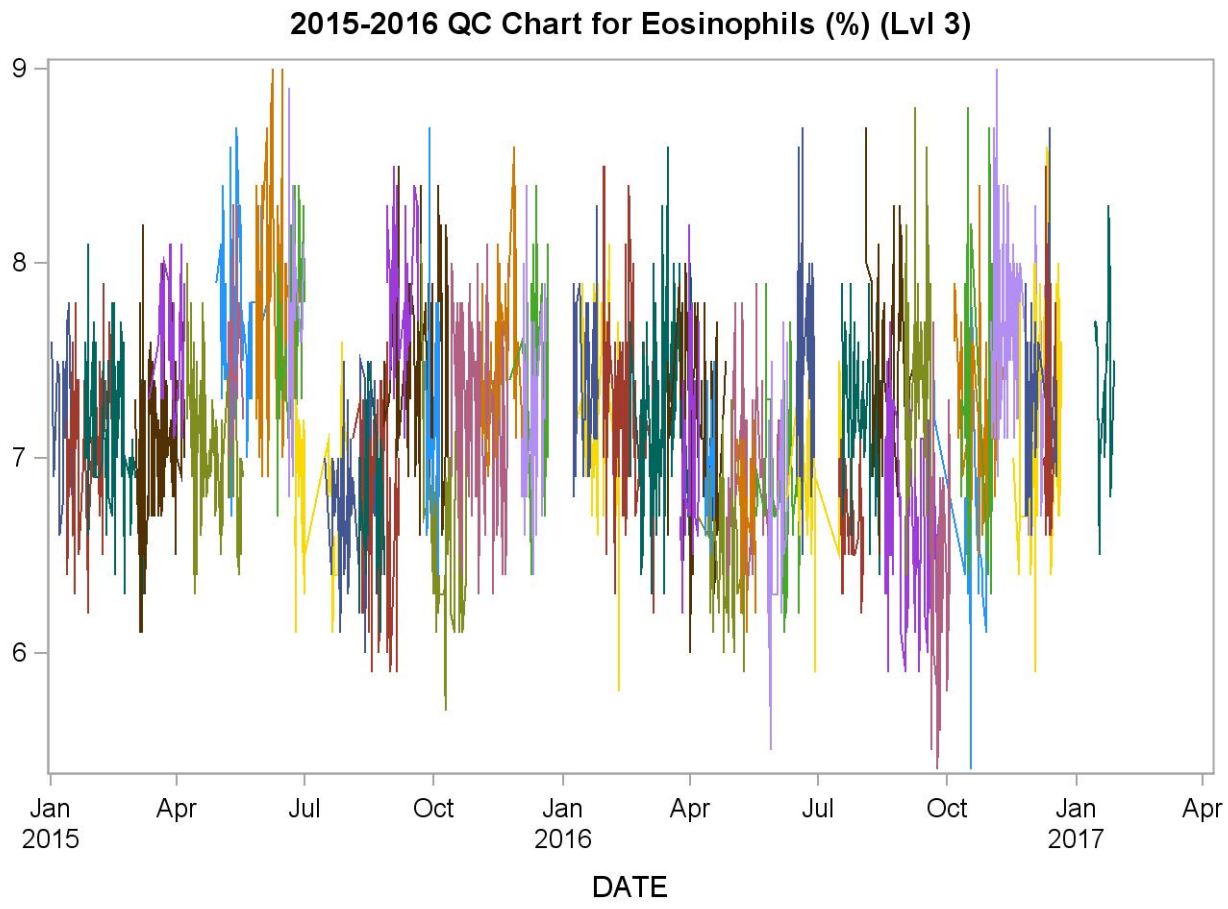
2015-2016 Summary Statistics and QC Chart for Eosinophils (%) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	5.3304	0.2819	5.3
133180340_15	56	13JAN15	14FEB15	9.5625	0.3778	4.0
133180390_15	87	26JAN15	08MAR15	5.6644	0.3748	6.6
133180430_15	75	02MAR15	06APR15	5.1920	0.3537	6.8
133180460_15	39	12MAR15	06APR15	5.3103	0.2963	5.6
133180510_15	82	08APR15	18MAY15	6.5524	0.3461	5.3
133180540_15	41	29APR15	04JUN15	5.5390	0.4265	7.7
133180560_15	22	08MAY15	18MAY15	5.6500	0.5672	10.0
133180600_15	79	28MAY15	27JUN15	6.0728	0.4504	7.4
133180620_15	44	12JUN15	01JUL15	5.2318	0.4450	8.5
133180650_15	27	20JUN15	30JUN15	5.3630	0.4068	7.6
133180660_15	48	24JUN15	02AUG15	4.6583	0.4533	9.7
133180700_15	49	15JUL15	20AUG15	5.2143	0.4569	8.8
133180720_15	58	04AUG15	06SEP15	5.1948	0.4236	8.2
133180730_15	30	09AUG15	27AUG15	5.0833	0.3086	6.1
133180760_15	68	27AUG15	11OCT15	5.5235	0.3301	6.0
133180770_15	43	29AUG15	20SEP15	5.3256	0.4359	8.2
133180790_15	47	22SEP15	24OCT15	5.2532	0.4091	7.8
133180820_15	20	25SEP15	05OCT15	5.3800	1.1533	21.4
133180860_15	102	14OCT15	23NOV15	5.5260	0.5147	9.3
133180890_15	56	05NOV15	10DEC15	5.4732	0.3205	5.9
133180930_15	41	24NOV15	21DEC15	5.7122	0.3100	5.4
133180940_15	36	03DEC15	20DEC15	5.6167	0.3590	6.4
133180990_16	42	09JAN16	26JAN16	5.8167	0.3471	6.0
133180980_16	57	10JAN16	10FEB16	5.7789	0.3658	6.3
133181020_16	91	30JAN16	07MAR16	5.8374	0.3437	5.9
133181060_16	87	18FEB16	02APR16	5.7874	0.4248	7.3
133181080_16	51	16MAR16	26APR16	5.5961	0.3955	7.1
133181110_16	31	25MAR16	07APR16	5.0871	0.3956	7.8
133181100_16	46	06APR16	11MAY16	5.3261	0.3884	7.3
133181120_16	22	12APR16	18APR16	5.2955	0.3000	5.7
133181130_16	57	28APR16	05JUN16	5.3544	0.2784	5.2
133181140_16	28	04MAY16	17MAY16	5.3179	0.2829	5.3
133181160_16	51	18MAY16	20JUN16	4.8922	0.5188	10.6
133181170_16	29	26MAY16	09JUN16	4.8724	0.5675	11.6
133181190_16	34	09JUN16	18JUL16	4.9118	0.4416	9.0
133181210_16	35	16JUN16	28JUN16	5.6000	0.4037	7.2
133181240_16	37	16JUL16	02AUG16	5.3162	0.3701	7.0
133181250_16	44	18JUL16	15AUG16	5.8159	0.4456	7.7
133181270_16	46	04AUG16	08SEP16	5.5391	0.5438	9.8
133181300_16	76	18AUG16	25SEP16	5.0855	0.3877	7.6
133181320_16	38	01SEP16	19SEP16	5.0684	0.4300	8.5
133181350_16	34	20SEP16	03OCT16	5.2118	0.3960	7.6
133181340_16	30	22SEP16	30OCT16	5.3667	0.5915	11.0
133181360_16	45	06OCT16	10NOV16	5.4467	0.4148	7.6
133181390_16	27	11OCT16	02NOV16	5.8926	0.5830	9.9
133181410_16	82	01NOV16	11DEC16	5.4707	0.4726	8.6
133181430_16	50	17NOV16	21DEC16	5.4460	0.3813	7.0
133181460_16	31	26NOV16	18DEC16	5.2419	0.3384	6.5
133181480_16	23	09DEC16	17DEC16	5.6565	0.5350	9.5
133181480_17	22	14JAN17	28JAN17	5.3545	0.4788	8.9


2015-2016 QC Chart for Eosinophils (%) (Lvl 2)
10
8
6
4
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

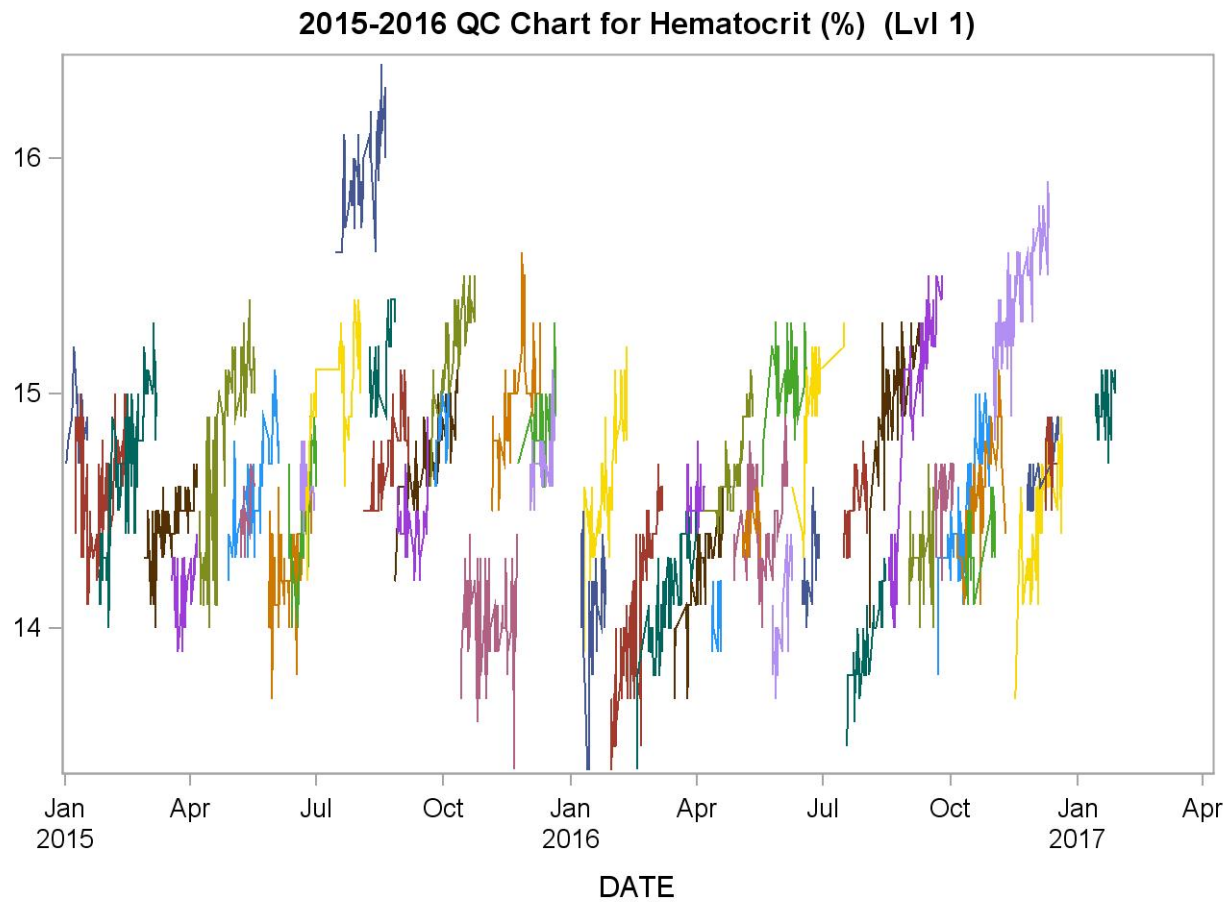
2015-2016 Summary Statistics and QC Chart for Eosinophils (%) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	7.2412	0.4139	5.7
143190340_15	50	13JAN15	14FEB15	7.0760	0.3777	5.3
143190390_15	80	26JAN15	08MAR15	7.1775	0.3659	5.1
143190430_15	73	02MAR15	06APR15	7.0479	0.4184	5.9
143190460_15	31	12MAR15	06APR15	7.6710	0.3035	4.0
143190510_15	88	08APR15	18MAY15	7.1216	0.4021	5.6
143190540_15	45	29APR15	04JUN15	7.7556	0.3952	5.1
143190560_15	23	08MAY15	18MAY15	7.6130	0.3442	4.5
143190600_15	86	28MAY15	28JUN15	7.7407	0.4418	5.7
143190620_15	34	12JUN15	01JUL15	7.6235	0.4335	5.7
143190650_15	26	20JUN15	30JUN15	7.6269	0.4805	6.3
143190660_15	46	24JUN15	02AUG15	6.7913	0.3168	4.7
143190700_15	46	15JUL15	20AUG15	6.8087	0.3577	5.3
143190720_15	55	04AUG15	06SEP15	6.7582	0.4135	6.1
143190730_15	31	09AUG15	27AUG15	6.7645	0.3220	4.8
143190760_15	63	27AUG15	11OCT15	7.5000	0.4443	5.9
143190770_15	40	29AUG15	20SEP15	7.9025	0.3309	4.2
143190790_15	42	22SEP15	24OCT15	6.6690	0.4876	7.3
143190820_15	23	25SEP15	05OCT15	7.1957	0.5121	7.1
143190860_15	93	14OCT15	23NOV15	7.2371	0.4238	5.9
143190890_15	42	05NOV15	04DEC15	7.5024	0.3666	4.9
143190930_15	36	24NOV15	21DEC15	7.4861	0.4363	5.8
143190940_15	36	03DEC15	20DEC15	7.2306	0.4407	6.1
143190990_16	41	09JAN16	26JAN16	7.4244	0.3448	4.6
143190980_16	51	10JAN16	10FEB16	7.2392	0.4176	5.8
143191020_16	87	30JAN16	07MAR16	7.2506	0.4231	5.8
143191060_16	85	18FEB16	02APR16	7.2200	0.4621	6.4
143191080_16	50	16MAR16	26APR16	7.1340	0.4627	6.5
143191100_16	30	25MAR16	07APR16	7.0267	0.4756	6.8
143191110_16	44	06APR16	11MAY16	6.6000	0.3444	5.2
143191120_16	20	12APR16	18APR16	6.9750	0.2936	4.2
143191130_16	57	28APR16	05JUN16	6.9667	0.3686	5.3
143191140_16	28	04MAY16	17MAY16	6.7321	0.2945	4.4
143191160_16	47	18MAY16	20JUN16	6.9043	0.3653	5.3
143191170_16	27	26MAY16	09JUN16	6.6519	0.5139	7.7
143191190_16	31	09JUN16	17JUL16	6.9839	0.3661	5.2
143191210_16	32	16JUN16	28JUN16	7.4844	0.5068	6.8
143191240_16	38	16JUL16	02AUG16	6.7316	0.2752	4.1
143191250_16	41	18JUL16	15AUG16	7.1951	0.3993	5.6
143191270_16	40	04AUG16	08SEP16	7.4950	0.4935	6.6
143191300_16	72	18AUG16	25SEP16	6.6625	0.4404	6.6
143191320_16	38	01SEP16	19SEP16	7.4342	0.5758	7.7
143191350_16	32	20SEP16	03OCT16	6.3938	0.5559	8.7
143191340_16	27	22SEP16	30OCT16	6.7259	0.5073	7.5
143191360_16	44	06OCT16	10NOV16	7.3045	0.4690	6.4
143191390_16	27	11OCT16	02NOV16	7.4111	0.6767	9.1
143191410_16	82	01NOV16	11DEC16	7.6085	0.4688	6.2
143191430_16	52	17NOV16	21DEC16	7.2865	0.5746	7.9
143191460_16	31	26NOV16	18DEC16	7.2677	0.4679	6.4
143191480_16	24	09DEC16	17DEC16	7.2583	0.5124	7.1
143191480_17	21	14JAN17	28JAN17	7.3810	0.4167	5.6


2015-2016 QC Chart for Eosinophils (%) (Lvl 3)
9
8
7
6
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Hematocrit (%) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	14.8529	0.1281	0.9
123170340_15	67	09JAN15	14FEB15	14.5806	0.2331	1.6
123170390_15	86	26JAN15	08MAR15	14.6663	0.3004	2.0
123170430_15	74	27FEB15	06APR15	14.4270	0.1317	0.9
123170460_15	29	19MAR15	06APR15	14.1793	0.1320	0.9
123170510_15	78	08APR15	18MAY15	14.7205	0.3906	2.7
123170540_15	36	29APR15	04JUN15	14.6222	0.2179	1.5
123170560_15	21	08MAY15	18MAY15	14.4762	0.1044	0.7
123170600_15	76	28MAY15	28JUN15	14.2789	0.1955	1.4
123170620_15	32	12JUN15	01JUL15	14.4531	0.2688	1.9
123170650_15	25	20JUN15	30JUN15	14.6120	0.1092	0.7
123170660_15	47	24JUN15	02AUG15	14.9574	0.2602	1.7
123170700_15	45	15JUL15	20AUG15	15.9333	0.1834	1.2
123170720_15	58	04AUG15	06SEP15	14.7293	0.1475	1.0
123170730_15	30	09AUG15	27AUG15	15.1167	0.1577	1.0
123170760_15	59	27AUG15	11OCT15	14.7169	0.1886	1.3
123170770_15	40	29AUG15	20SEP15	14.4475	0.1261	0.9
123170790_15	42	22SEP15	24OCT15	15.2048	0.1886	1.2
123170820_15	22	25SEP15	05OCT15	14.8409	0.1182	0.8
123170860_15	94	14OCT15	23NOV15	14.0495	0.1829	1.3
123170890_15	52	05NOV15	10DEC15	14.9712	0.2261	1.5
123170930_15	37	24NOV15	21DEC15	14.8378	0.1497	1.0
123170940_15	36	03DEC15	20DEC15	14.7000	0.1219	0.8
123170990_16	43	09JAN16	26JAN16	14.1372	0.2411	1.7
123170980_16	56	10JAN16	10FEB16	14.6536	0.2697	1.8
123171020_16	91	30JAN16	07MAR16	13.9802	0.3361	2.4
123171060_16	76	18FEB16	02APR16	14.1145	0.2057	1.5
123171080_16	52	16MAR16	26APR16	14.2308	0.2381	1.7
123171100_16	31	25MAR16	07APR16	14.5645	0.0985	0.7
123171110_16	44	06APR16	11MAY16	14.6818	0.1871	1.3
123171120_16	22	12APR16	18APR16	14.0500	0.1102	0.8
123171130_16	55	28APR16	05JUN16	14.4491	0.1835	1.3
123171150_16	28	04MAY16	17MAY16	14.4429	0.0836	0.6
123171160_16	47	18MAY16	20JUN16	15.0681	0.1491	1.0
123171170_16	27	26MAY16	09JUN16	14.0074	0.1752	1.3
123171190_16	29	09JUN16	16JUL16	14.9276	0.2750	1.8
123171210_16	32	16JUN16	28JUN16	14.2406	0.1388	1.0
123171240_16	37	16JUL16	02AUG16	14.4946	0.1290	0.9
123171250_16	37	18JUL16	15AUG16	13.9405	0.1817	1.3
123171270_16	42	04AUG16	08SEP16	14.9952	0.2622	1.7
123171300_16	74	18AUG16	25SEP16	14.8311	0.4848	3.3
123171320_16	39	01SEP16	19SEP16	14.2949	0.1468	1.0
123171350_16	35	20SEP16	03OCT16	14.5800	0.1256	0.9
123171340_16	53	22SEP16	30OCT16	14.5132	0.2689	1.9
123171360_16	44	06OCT16	10NOV16	14.6000	0.2220	1.5
123171390_16	28	11OCT16	02NOV16	14.3643	0.1254	0.9
123171410_16	84	01NOV16	11DEC16	15.4119	0.2032	1.3
123171430_16	45	17NOV16	21DEC16	14.5067	0.2444	1.7
123171460_16	31	26NOV16	18DEC16	14.6548	0.1312	0.9
123171480_16	22	09DEC16	17DEC16	14.7227	0.1110	0.8
123171480_17	21	14JAN17	28JAN17	14.9286	0.1231	0.8


2015-2016 QC Chart for Hematocrit (%) (Lvl 1)
16
15
14
Jan
2015
Apr
Jul
Oct
Jan
2016
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Jul
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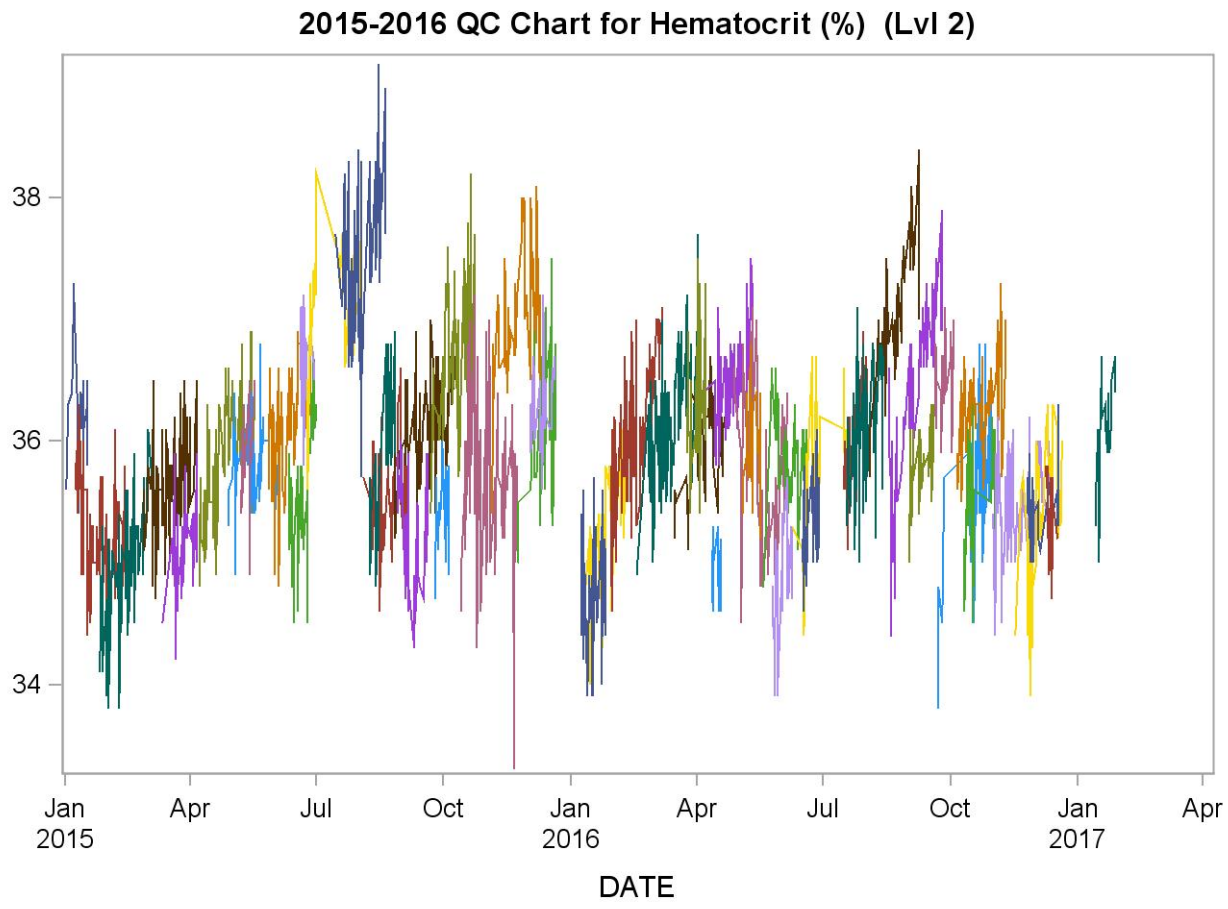
Jan
2017
Apr
DATE

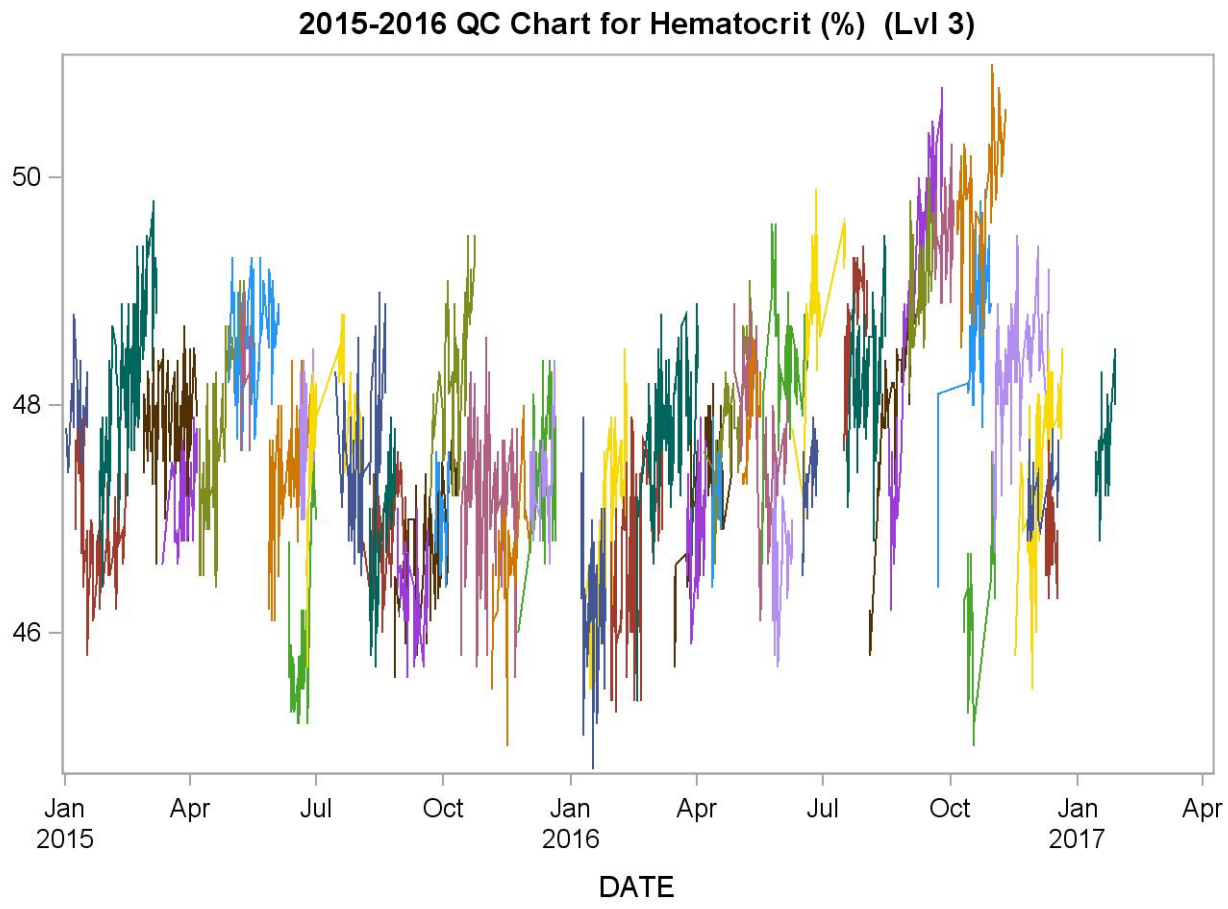
2015-2016 Summary Statistics and QC Chart for Hematocrit (%) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	36.1652	0.4648	1.3
133180340_15	70	09JAN15	14FEB15	35.2243	0.4305	1.2
133180390_15	87	26JAN15	08MAR15	34.9667	0.4999	1.4
133180430_15	80	27FEB15	06APR15	35.6325	0.4006	1.1
133180460_15	39	12MAR15	06APR15	35.1359	0.3587	1.0
133180510_15	82	08APR15	18MAY15	35.7695	0.4758	1.3
133180540_15	41	29APR15	04JUN15	35.9098	0.3541	1.0
133180560_15	22	08MAY15	18MAY15	35.7864	0.3833	1.1
133180600_15	79	28MAY15	27JUN15	36.0620	0.4553	1.3
133180620_15	44	12JUN15	01JUL15	35.4932	0.6048	1.7
133180650_15	26	20JUN15	30JUN15	36.6346	0.3566	1.0
133180660_15	49	24JUN15	02AUG15	37.1367	0.5143	1.4
133180700_15	50	15JUL15	20AUG15	37.4840	0.6798	1.8
133180720_15	58	04AUG15	06SEP15	35.5672	0.3882	1.1
133180730_15	30	09AUG15	27AUG15	35.6367	0.5840	1.6
133180760_15	67	27AUG15	11OCT15	36.1955	0.3902	1.1
133180770_15	44	29AUG15	20SEP15	35.1659	0.4329	1.2
133180790_15	47	22SEP15	24OCT15	36.8234	0.5950	1.6
133180820_15	22	25SEP15	05OCT15	35.3773	0.3206	0.9
133180860_15	104	14OCT15	23NOV15	35.7486	0.6626	1.9
133180890_15	56	05NOV15	10DEC15	36.9161	0.5805	1.6
133180930_15	41	24NOV15	21DEC15	36.1610	0.6078	1.7
133180940_15	36	03DEC15	20DEC15	36.3417	0.2922	0.8
133180990_16	42	09JAN16	26JAN16	34.8214	0.4709	1.4
133180980_16	58	10JAN16	10FEB16	35.1655	0.5428	1.5
133181020_16	95	30JAN16	07MAR16	36.0000	0.5210	1.4
133181060_16	88	18FEB16	02APR16	36.1693	0.5363	1.5
133181080_16	51	16MAR16	26APR16	35.9471	0.3859	1.1
133181110_16	31	25MAR16	07APR16	36.3516	0.5495	1.5
133181100_16	47	06APR16	11MAY16	36.5404	0.3916	1.1
133181120_16	22	12APR16	18APR16	34.9273	0.2120	0.6
133181130_16	57	28APR16	05JUN16	35.8526	0.6517	1.8
133181140_16	28	04MAY16	17MAY16	35.9750	0.3648	1.0
133181160_16	51	18MAY16	20JUN16	35.8510	0.4187	1.2
133181170_16	30	26MAY16	09JUN16	34.8233	0.4500	1.3
133181190_16	35	09JUN16	18JUL16	35.7714	0.5188	1.5
133181210_16	35	16JUN16	28JUN16	35.3257	0.3526	1.0
133181240_16	37	16JUL16	02AUG16	35.9405	0.4406	1.2
133181250_16	45	18JUL16	15AUG16	36.2444	0.5853	1.6
133181270_16	46	04AUG16	08SEP16	37.1130	0.5488	1.5
133181300_16	76	18AUG16	25SEP16	36.1829	0.8435	2.3
133181320_16	38	01SEP16	19SEP16	35.7632	0.3062	0.9
133181350_16	34	20SEP16	03OCT16	36.4735	0.2906	0.8
133181340_16	30	22SEP16	30OCT16	35.4767	0.7573	2.1
133181360_16	45	06OCT16	10NOV16	36.3178	0.3921	1.1
133181390_16	28	11OCT16	02NOV16	35.5000	0.4651	1.3
133181410_16	82	01NOV16	11DEC16	35.4683	0.3503	1.0
133181430_16	50	17NOV16	21DEC16	35.3660	0.5875	1.7
133181460_16	31	26NOV16	18DEC16	35.4065	0.2768	0.8
133181480_16	23	09DEC16	17DEC16	35.3391	0.3011	0.9
133181480_17	22	14JAN17	28JAN17	36.0409	0.4125	1.1


2015-2016 QC Chart for Hematocrit (%) (Lvl 2)
38
36
34
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

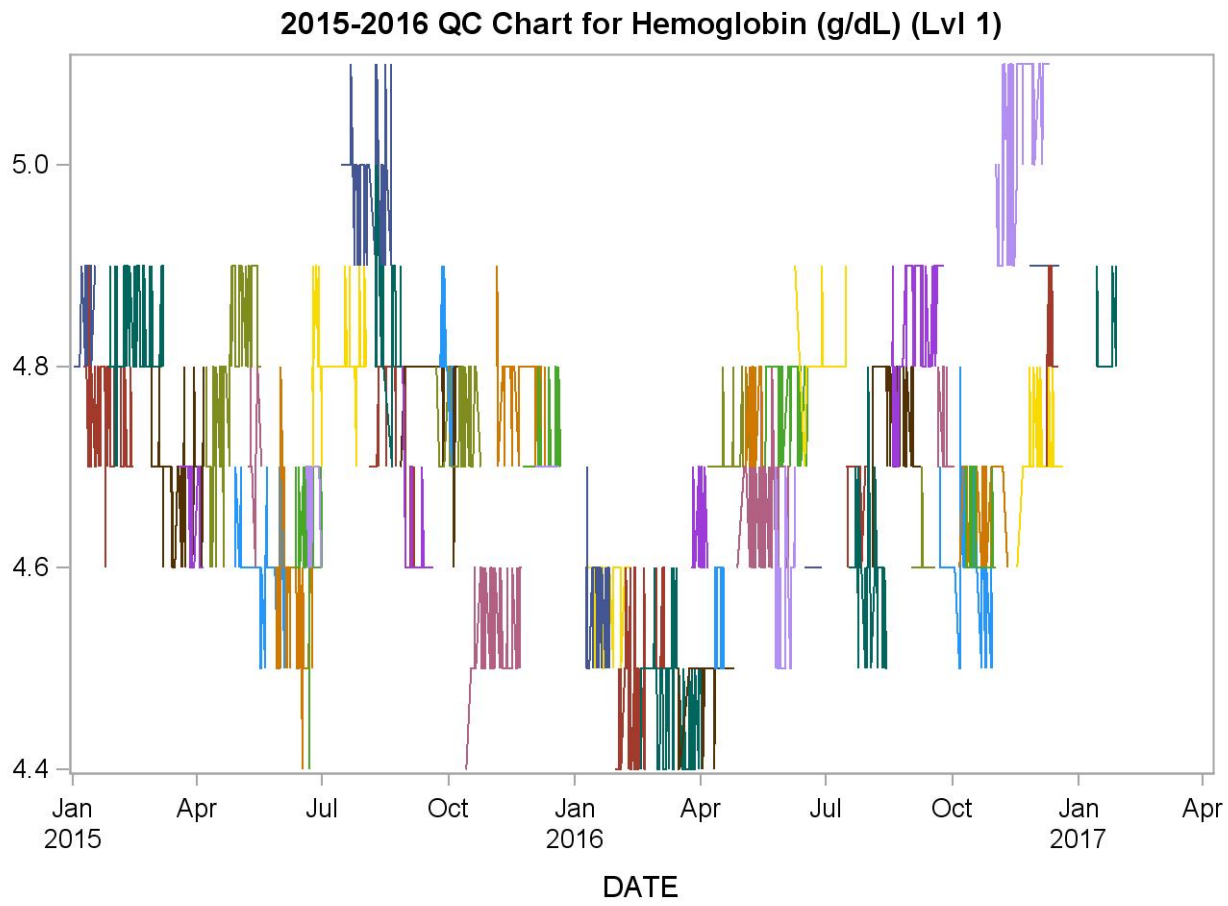
2015-2016 Summary Statistics and QC Chart for Hematocrit (%) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	47.8529	0.4403	0.9
143190340_15	63	09JAN15	14FEB15	46.8603	0.4821	1.0
143190390_15	80	26JAN15	08MAR15	48.2350	0.7529	1.6
143190430_15	76	27FEB15	06APR15	47.8697	0.4382	0.9
143190460_15	31	12MAR15	06APR15	47.1871	0.3914	0.8
143190510_15	90	08APR15	18MAY15	47.7156	0.7623	1.6
143190540_15	45	29APR15	04JUN15	48.6089	0.4481	0.9
143190560_15	23	08MAY15	18MAY15	48.4174	0.3845	0.8
143190600_15	85	28MAY15	28JUN15	47.2253	0.5357	1.1
143190620_15	34	12JUN15	01JUL15	46.1265	0.7432	1.6
143190650_15	26	20JUN15	30JUN15	47.7385	0.4373	0.9
143190660_15	47	24JUN15	02AUG15	47.8234	0.6030	1.3
143190700_15	46	15JUL15	20AUG15	47.5087	0.6296	1.3
143190720_15	55	04AUG15	06SEP15	46.8873	0.3930	0.8
143190730_15	31	09AUG15	27AUG15	46.7323	0.5700	1.2
143190760_15	63	27AUG15	11OCT15	46.7889	0.5087	1.1
143190770_15	40	29AUG15	20SEP15	46.3575	0.3706	0.8
143190790_15	42	22SEP15	24OCT15	48.3810	0.5997	1.2
143190820_15	27	25SEP15	05OCT15	47.1296	0.3406	0.7
143190860_15	94	14OCT15	23NOV15	47.2351	0.6108	1.3
143190890_15	42	05NOV15	04DEC15	46.7286	0.5628	1.2
143190930_15	36	24NOV15	21DEC15	47.4583	0.5789	1.2
143190940_15	37	03DEC15	20DEC15	47.3486	0.3556	0.8
143190990_16	41	09JAN16	26JAN16	46.4366	0.6445	1.4
143190980_16	54	10JAN16	10FEB16	46.9796	0.7708	1.6
143191020_16	91	30JAN16	07MAR16	46.7121	0.7126	1.5
143191060_16	85	18FEB16	02APR16	47.8235	0.6432	1.3
143191080_16	51	16MAR16	26APR16	47.1843	0.5714	1.2
143191100_16	31	25MAR16	07APR16	46.9452	0.4456	0.9
143191110_16	45	06APR16	11MAY16	47.9711	0.5016	1.0
143191120_16	20	12APR16	18APR16	47.1750	0.3291	0.7
143191130_16	57	28APR16	05JUN16	47.7140	0.6723	1.4
143191140_16	28	04MAY16	17MAY16	47.9321	0.3518	0.7
143191160_16	47	18MAY16	20JUN16	48.4234	0.5010	1.0
143191170_16	27	26MAY16	09JUN16	46.5667	0.4566	1.0
143191190_16	31	09JUN16	17JUL16	48.7452	0.7762	1.6
143191210_16	32	16JUN16	28JUN16	47.3063	0.3192	0.7
143191240_16	38	16JUL16	02AUG16	48.5763	0.5037	1.0
143191250_16	41	18JUL16	15AUG16	48.3512	0.6021	1.2
143191270_16	40	04AUG16	08SEP16	48.0800	0.7374	1.5
143191300_16	72	18AUG16	25SEP16	48.5319	1.3561	2.8
143191320_16	38	01SEP16	19SEP16	49.1079	0.4395	0.9
143191350_16	33	20SEP16	03OCT16	49.4727	0.3660	0.7
143191340_16	27	22SEP16	30OCT16	48.6333	0.7786	1.6
143191360_16	44	06OCT16	10NOV16	49.7955	0.5882	1.2
143191390_16	28	11OCT16	02NOV16	46.1857	0.6288	1.4
143191410_16	82	01NOV16	11DEC16	48.3366	0.4509	0.9
143191430_16	52	17NOV16	21DEC16	47.5327	0.6659	1.4
143191460_16	31	26NOV16	18DEC16	47.2065	0.3076	0.7
143191480_16	23	09DEC16	17DEC16	46.8130	0.3571	0.8
143191480_17	21	14JAN17	28JAN17	47.6762	0.4194	0.9


2015-2016 QC Chart for Hematocrit (%) (Lvl 3)
50
48
46
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

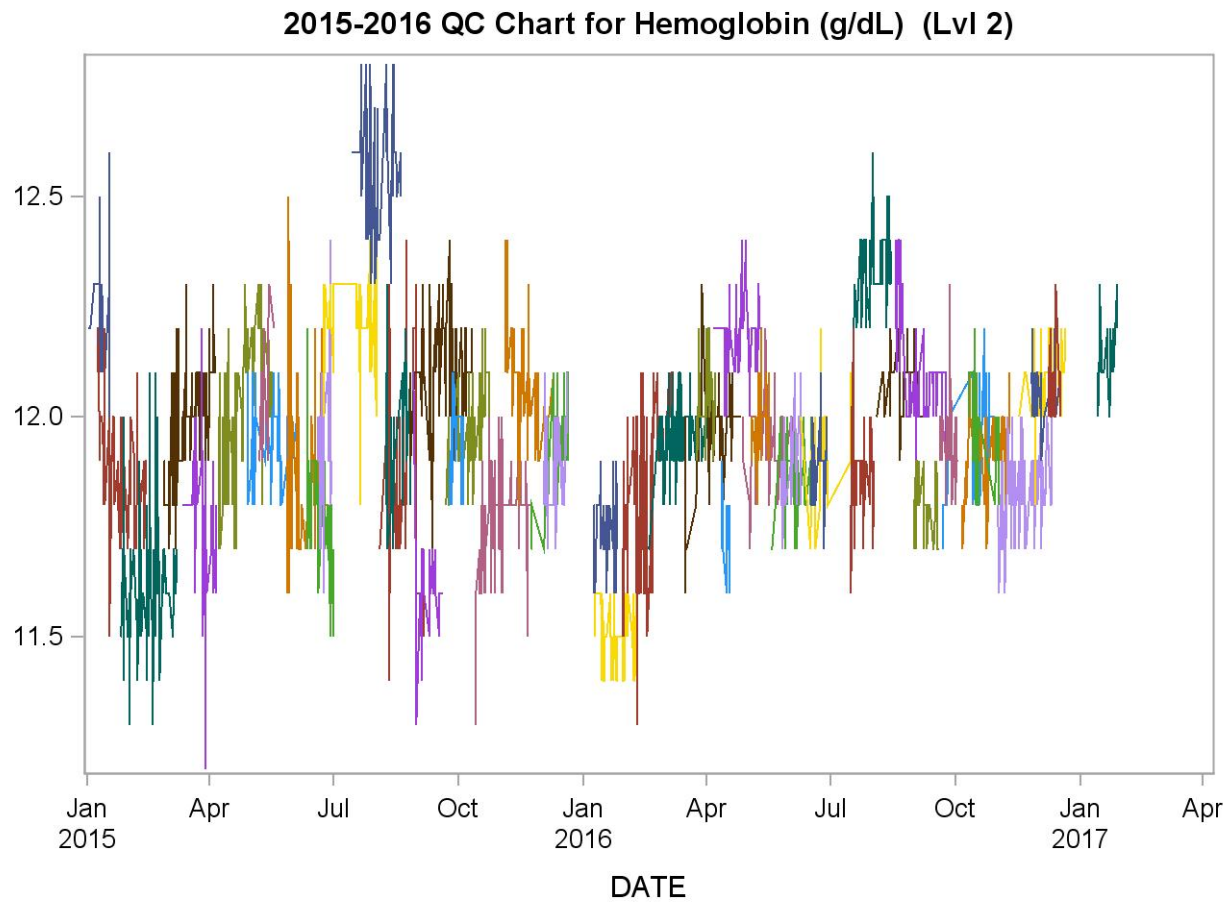
2015-2016 Summary Statistics and QC Chart for Hemoglobin (g/dL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	4.8588	0.0507	1.0
123170340_15	67	09JAN15	14FEB15	4.7537	0.0559	1.2
123170390_15	86	26JAN15	08MAR15	4.8279	0.0501	1.0
123170430_15	74	27FEB15	06APR15	4.6919	0.0461	1.0
123170460_15	29	19MAR15	06APR15	4.6586	0.0501	1.1
123170510_15	78	08APR15	18MAY15	4.7821	0.0849	1.8
123170540_15	36	29APR15	04JUN15	4.6000	0.0586	1.3
123170560_15	21	08MAY15	18MAY15	4.7048	0.0384	0.8
123170600_15	75	28MAY15	28JUN15	4.5733	0.0577	1.3
123170620_15	32	12JUN15	01JUL15	4.6250	0.0622	1.3
123170650_15	25	20JUN15	30JUN15	4.6800	0.0408	0.9
123170660_15	47	24JUN15	02AUG15	4.8106	0.0477	1.0
123170700_15	44	15JUL15	20AUG15	4.9818	0.0657	1.3
123170720_15	58	04AUG15	06SEP15	4.7638	0.0667	1.4
123170730_15	30	09AUG15	27AUG15	4.8367	0.0718	1.5
123170760_15	59	27AUG15	11OCT15	4.7898	0.0357	0.7
123170770_15	39	29AUG15	20SEP15	4.6282	0.0647	1.4
123170790_15	42	22SEP15	24OCT15	4.7381	0.0492	1.0
123170820_15	22	25SEP15	05OCT15	4.8045	0.0375	0.8
123170860_15	94	14OCT15	23NOV15	4.5223	0.0467	1.0
123170890_15	52	05NOV15	10DEC15	4.7885	0.0379	0.8
123170930_15	37	24NOV15	21DEC15	4.7189	0.0397	0.8
123170940_15	36	03DEC15	20DEC15	4.7000	0.0000	0.0
123170990_16	43	09JAN16	26JAN16	4.5674	0.0522	1.1
123170980_16	55	10JAN16	10FEB16	4.5764	0.0429	0.9
123171020_16	87	30JAN16	07MAR16	4.4672	0.0673	1.5
123171060_16	77	18FEB16	02APR16	4.4701	0.0586	1.3
123171080_16	52	16MAR16	26APR16	4.4865	0.0345	0.8
123171100_16	31	25MAR16	07APR16	4.6258	0.0445	1.0
123171110_16	44	06APR16	11MAY16	4.7114	0.0321	0.7
123171120_16	22	12APR16	18APR16	4.5636	0.0492	1.1
123171130_16	55	28APR16	05JUN16	4.6509	0.0573	1.2
123171150_16	28	04MAY16	17MAY16	4.7464	0.0508	1.1
123171160_16	47	18MAY16	20JUN16	4.7809	0.0398	0.8
123171170_16	27	26MAY16	09JUN16	4.5667	0.0679	1.5
123171190_16	29	09JUN16	16JUL16	4.8069	0.0371	0.8
123171210_16	32	16JUN16	28JUN16	4.6000	0.0000	0.0
123171240_16	37	16JUL16	02AUG16	4.6946	0.0229	0.5
123171250_16	37	18JUL16	15AUG16	4.5865	0.0673	1.5
123171270_16	42	04AUG16	08SEP16	4.7548	0.0550	1.2
123171300_16	74	18AUG16	25SEP16	4.8284	0.0693	1.4
123171320_16	39	01SEP16	19SEP16	4.6026	0.0160	0.3
123171350_16	35	20SEP16	03OCT16	4.7143	0.0355	0.8
123171340_16	52	22SEP16	30OCT16	4.6019	0.0641	1.4
123171360_16	44	06OCT16	10NOV16	4.6773	0.0424	0.9
123171390_16	28	11OCT16	02NOV16	4.6571	0.0504	1.1
123171410_16	84	01NOV16	11DEC16	5.0179	0.0894	1.8
123171430_16	45	17NOV16	21DEC16	4.7111	0.0383	0.8
123171460_16	31	26NOV16	18DEC16	4.9000	0.0000	0.0
123171480_16	22	09DEC16	17DEC16	4.8364	0.0581	1.2
123171480_17	21	14JAN17	28JAN17	4.8143	0.0359	0.7


2015-2016 QC Chart for Hemoglobin (g/dL) (Lvl 1)
5.0
4.8
4.6
4.4
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

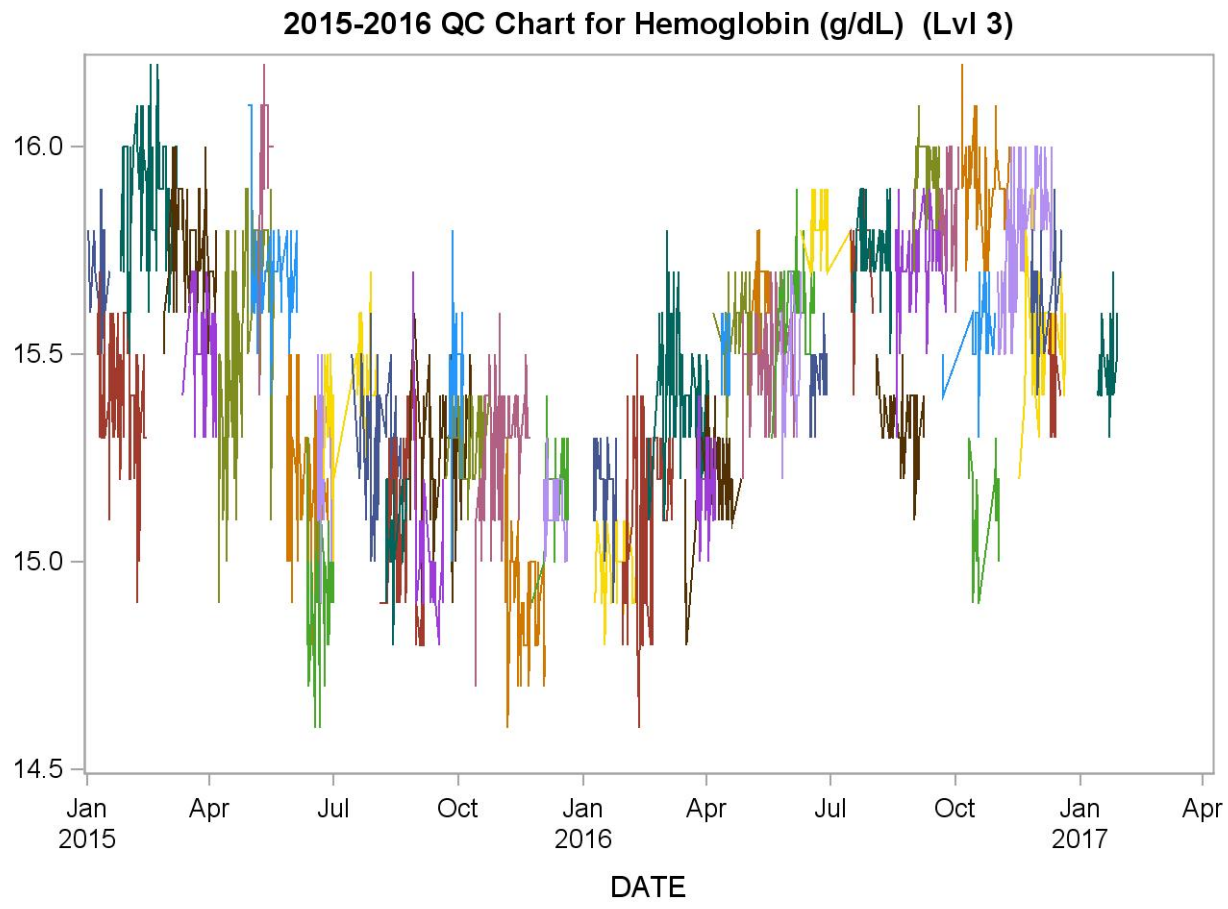
2015-2016 Summary Statistics and QC Chart for Hemoglobin (g/dL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	12.2174	0.1435	1.2
133180340_15	70	09JAN15	14FEB15	11.8829	0.1318	1.1
133180390_15	86	26JAN15	08MAR15	11.6174	0.1424	1.2
133180430_15	80	27FEB15	06APR15	11.9713	0.1324	1.1
133180460_15	39	12MAR15	06APR15	11.7692	0.1704	1.4
133180510_15	82	08APR15	18MAY15	12.0085	0.1612	1.3
133180540_15	41	29APR15	04JUN15	11.9366	0.1043	0.9
133180560_15	22	08MAY15	18MAY15	12.0864	0.1167	1.0
133180600_15	79	28MAY15	27JUN15	11.8949	0.1811	1.5
133180620_15	44	12JUN15	01JUL15	11.7818	0.1167	1.0
133180650_15	27	20JUN15	30JUN15	11.9296	0.1489	1.2
133180660_15	49	24JUN15	02AUG15	12.2000	0.1080	0.9
133180700_15	49	15JUL15	20AUG15	12.5551	0.1444	1.2
133180720_15	58	04AUG15	06SEP15	11.8483	0.2079	1.8
133180730_15	30	09AUG15	27AUG15	11.9167	0.1464	1.2
133180760_15	67	27AUG15	11OCT15	12.1075	0.1259	1.0
133180770_15	43	29AUG15	20SEP15	11.6419	0.1651	1.4
133180790_15	47	22SEP15	24OCT15	11.9745	0.1031	0.9
133180820_15	22	25SEP15	05OCT15	11.9409	0.0908	0.8
133180860_15	104	14OCT15	23NOV15	11.7668	0.1110	0.9
133180890_15	56	05NOV15	10DEC15	12.0571	0.1291	1.1
133180930_15	41	24NOV15	21DEC15	11.9220	0.1107	0.9
133180940_15	36	03DEC15	20DEC15	11.8861	0.1018	0.9
133180990_16	42	09JAN16	26JAN16	11.7381	0.0795	0.7
133180980_16	58	10JAN16	10FEB16	11.5034	0.0725	0.6
133181020_16	95	30JAN16	07MAR16	11.8232	0.1789	1.5
133181060_16	88	18FEB16	02APR16	11.9602	0.0851	0.7
133181080_16	51	16MAR16	26APR16	11.9588	0.1283	1.1
133181110_16	31	25MAR16	07APR16	12.0516	0.0926	0.8
133181100_16	47	06APR16	11MAY16	12.1787	0.0883	0.7
133181120_16	22	12APR16	18APR16	11.7273	0.0703	0.6
133181130_16	57	28APR16	05JUN16	11.9509	0.0984	0.8
133181140_16	28	04MAY16	17MAY16	11.9821	0.0863	0.7
133181160_16	51	18MAY16	20JUN16	11.8667	0.0816	0.7
133181170_16	30	26MAY16	09JUN16	11.8800	0.0997	0.8
133181190_16	35	09JUN16	18JUL16	11.9114	0.1022	0.9
133181210_16	35	16JUN16	28JUN16	11.8657	0.0802	0.7
133181240_16	37	16JUL16	02AUG16	11.8649	0.1086	0.9
133181250_16	45	18JUL16	15AUG16	12.3444	0.0893	0.7
133181270_16	46	04AUG16	08SEP16	12.0696	0.0662	0.5
133181300_16	76	18AUG16	25SEP16	12.1421	0.1407	1.2
133181320_16	38	01SEP16	19SEP16	11.7974	0.0716	0.6
133181350_16	34	20SEP16	03OCT16	11.9618	0.0922	0.8
133181340_16	30	22SEP16	30OCT16	11.9333	0.1213	1.0
133181360_16	45	06OCT16	10NOV16	11.9267	0.0889	0.7
133181390_16	28	11OCT16	02NOV16	11.9536	0.1071	0.9
133181410_16	82	01NOV16	11DEC16	11.8195	0.0987	0.8
133181430_16	50	17NOV16	21DEC16	12.0800	0.0808	0.7
133181460_16	31	26NOV16	18DEC16	12.0677	0.0653	0.5
133181480_16	23	09DEC16	17DEC16	12.0696	0.0765	0.6
133181480_17	22	14JAN17	28JAN17	12.1318	0.0839	0.7


2015-2016 QC Chart for Hemoglobin (g/dL) (Lvl 2)
12.5
12.0
11.5
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

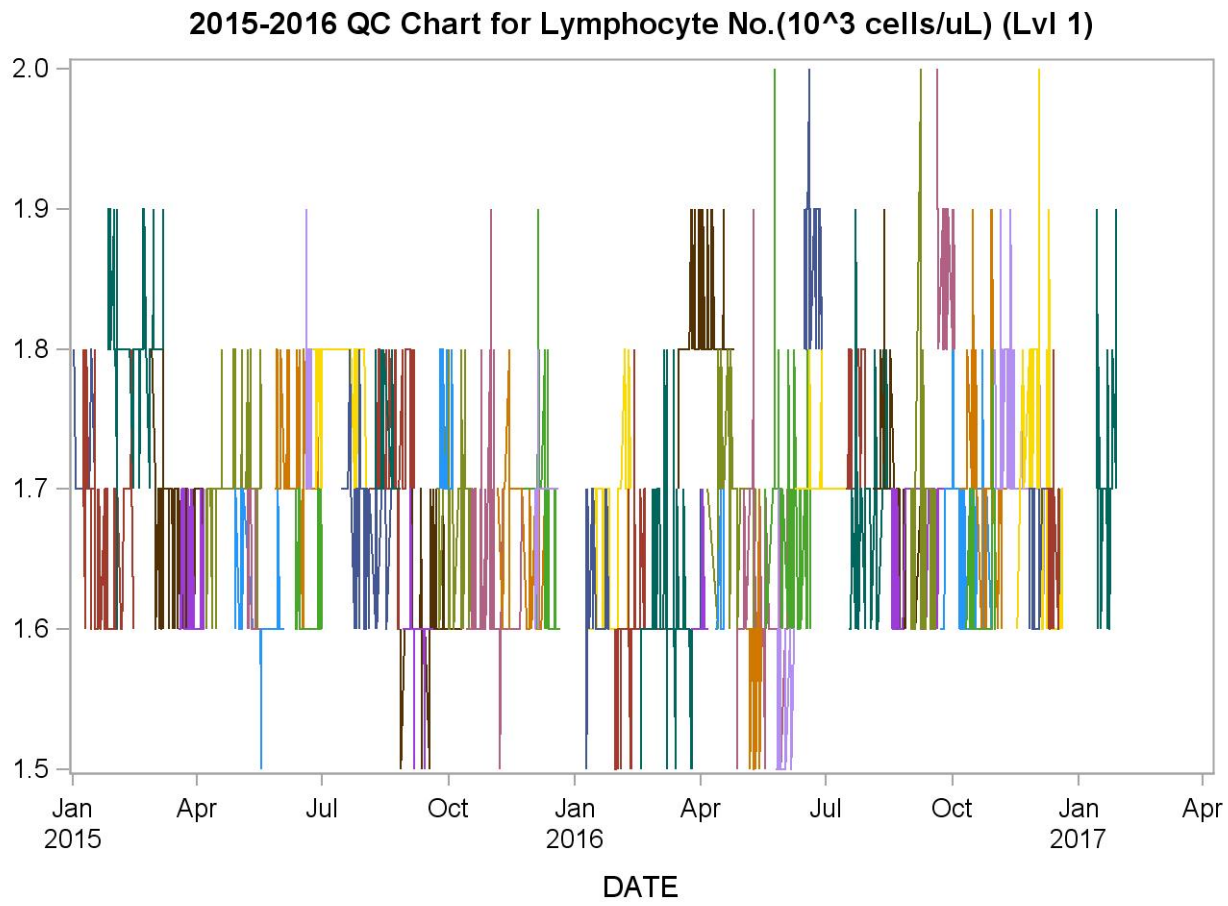
2015-2016 Summary Statistics and QC Chart for Hemoglobin (g/dL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	16	02JAN15	17JAN15	15.7188	0.1276	0.8
143190340_15	63	09JAN15	14FEB15	15.3889	0.1587	1.0
143190390_15	80	26JAN15	08MAR15	15.8750	0.1522	1.0
143190430_15	76	27FEB15	06APR15	15.7711	0.1105	0.7
143190460_15	31	12MAR15	06APR15	15.5194	0.1352	0.9
143190510_15	90	08APR15	18MAY15	15.5111	0.2401	1.5
143190540_15	45	29APR15	04JUN15	15.6956	0.1261	0.8
143190560_15	23	08MAY15	18MAY15	15.9957	0.1665	1.0
143190600_15	85	28MAY15	28JUN15	15.1906	0.1419	0.9
143190620_15	34	12JUN15	01JUL15	14.9265	0.1504	1.0
143190650_15	26	20JUN15	30JUN15	15.2615	0.1525	1.0
143190660_15	47	24JUN15	02AUG15	15.4085	0.1442	0.9
143190700_15	46	15JUL15	20AUG15	15.2826	0.1450	0.9
143190720_15	55	04AUG15	06SEP15	15.0909	0.2075	1.4
143190730_15	31	09AUG15	27AUG15	15.0645	0.1112	0.7
143190760_15	63	27AUG15	11OCT15	15.2714	0.1385	0.9
143190770_15	40	29AUG15	20SEP15	15.0475	0.2038	1.4
143190790_15	42	22SEP15	24OCT15	15.2976	0.0841	0.5
143190820_15	27	25SEP15	05OCT15	15.4630	0.1644	1.1
143190860_15	94	14OCT15	23NOV15	15.2473	0.1396	0.9
143190890_15	42	05NOV15	04DEC15	14.8857	0.1389	0.9
143190930_15	36	24NOV15	21DEC15	15.1667	0.1042	0.7
143190940_15	37	03DEC15	20DEC15	15.1243	0.0683	0.5
143190990_16	41	09JAN16	26JAN16	15.1707	0.0901	0.6
143190980_16	54	10JAN16	10FEB16	14.9852	0.1106	0.7
143191020_16	91	30JAN16	07MAR16	15.0824	0.2101	1.4
143191060_16	85	18FEB16	02APR16	15.4259	0.1424	0.9
143191080_16	51	16MAR16	26APR16	15.1882	0.1227	0.8
143191100_16	31	25MAR16	07APR16	15.1903	0.0978	0.6
143191110_16	45	06APR16	11MAY16	15.5689	0.0874	0.6
143191120_16	20	12APR16	18APR16	15.4900	0.0718	0.5
143191130_16	57	28APR16	05JUN16	15.4877	0.1181	0.8
143191140_16	28	04MAY16	17MAY16	15.6714	0.0763	0.5
143191160_16	47	18MAY16	20JUN16	15.6170	0.1028	0.7
143191170_16	27	26MAY16	09JUN16	15.4556	0.1251	0.8
143191190_16	31	09JUN16	17JUL16	15.7935	0.0772	0.5
143191210_16	32	16JUN16	28JUN16	15.4375	0.0707	0.5
143191240_16	38	16JUL16	02AUG16	15.7132	0.0963	0.6
143191250_16	41	18JUL16	15AUG16	15.7585	0.0921	0.6
143191270_16	40	04AUG16	08SEP16	15.3275	0.0847	0.6
143191300_16	72	18AUG16	25SEP16	15.7181	0.1248	0.8
143191320_16	38	01SEP16	19SEP16	15.9447	0.0950	0.6
143191350_16	33	20SEP16	03OCT16	15.8636	0.1055	0.7
143191340_16	27	22SEP16	30OCT16	15.5667	0.1038	0.7
143191360_16	44	06OCT16	10NOV16	15.9114	0.1104	0.7
143191390_16	28	11OCT16	02NOV16	15.1107	0.1031	0.7
143191410_16	82	01NOV16	11DEC16	15.7573	0.1548	1.0
143191430_16	52	17NOV16	21DEC16	15.5500	0.1276	0.8
143191460_16	31	26NOV16	18DEC16	15.6903	0.1012	0.6
143191480_16	23	09DEC16	17DEC16	15.4261	0.0864	0.6
143191480_17	21	14JAN17	28JAN17	15.4714	0.0956	0.6


2015-2016 QC Chart for Hemoglobin (g/dL) (Lvl 3)
16.0
15.5
15.0
14.5
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

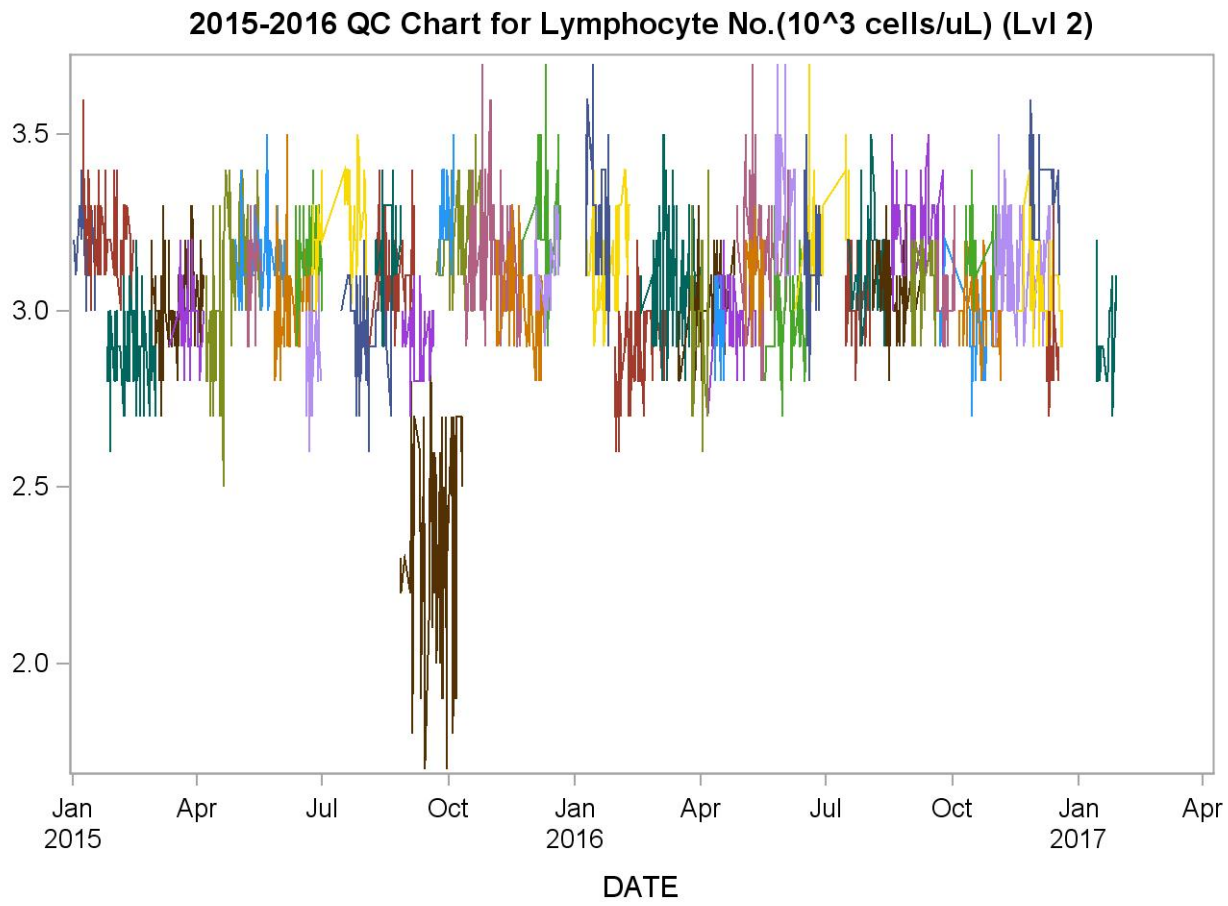
2015-2016 Summary Statistics and QC Chart for Lymphocyte No.(10^3 cells/uL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	1.7294	0.0470	2.7
123170340_15	63	09JAN15	14FEB15	1.6667	0.0622	3.7
123170390_15	87	26JAN15	08MAR15	1.8034	0.0493	2.7
123170430_15	74	27FEB15	06APR15	1.6730	0.0531	3.2
123170460_15	30	19MAR15	06APR15	1.6300	0.0466	2.9
123170510_15	78	08APR15	18MAY15	1.7038	0.0409	2.4
123170540_15	36	29APR15	04JUN15	1.6111	0.0398	2.5
123170560_15	21	08MAY15	18MAY15	1.6429	0.0507	3.1
123170600_15	76	28MAY15	28JUN15	1.7158	0.0434	2.5
123170620_15	32	12JUN15	01JUL15	1.6219	0.0420	2.6
123170650_15	25	20JUN15	30JUN15	1.7840	0.0473	2.6
123170660_15	46	24JUN15	02AUG15	1.7804	0.0401	2.3
123170700_15	45	15JUL15	20AUG15	1.6822	0.0490	2.9
123170720_15	57	04AUG15	06SEP15	1.7368	0.0555	3.2
123170730_15	30	09AUG15	27AUG15	1.7167	0.0379	2.2
123170760_15	59	27AUG15	11OCT15	1.6119	0.0458	2.8
123170770_15	40	29AUG15	20SEP15	1.6025	0.0357	2.2
123170790_15	42	22SEP15	24OCT15	1.6762	0.0576	3.4
123170820_15	22	25SEP15	05OCT15	1.7273	0.0456	2.6
123170860_15	94	14OCT15	23NOV15	1.6250	0.0581	3.6
123170890_15	52	05NOV15	10DEC15	1.6712	0.0498	3.0
123170930_15	37	24NOV15	21DEC15	1.6703	0.0777	4.7
123170940_15	36	03DEC15	20DEC15	1.6972	0.0291	1.7
123170990_16	43	09JAN16	26JAN16	1.6140	0.0467	2.9
123170980_16	53	10JAN16	10FEB16	1.6679	0.0581	3.5
123171020_16	87	30JAN16	07MAR16	1.5977	0.0482	3.0
123171060_16	78	18FEB16	02APR16	1.6167	0.0590	3.7
123171080_16	51	16MAR16	26APR16	1.8157	0.0464	2.6
123171100_16	31	25MAR16	07APR16	1.6065	0.0250	1.6
123171110_16	44	06APR16	11MAY16	1.7000	0.0431	2.5
123171120_16	22	12APR16	18APR16	1.6136	0.0351	2.2
123171130_16	54	28APR16	05JUN16	1.6296	0.0690	4.2
123171150_16	28	04MAY16	17MAY16	1.5821	0.0476	3.0
123171160_16	47	18MAY16	20JUN16	1.6809	0.0770	4.6
123171170_16	27	26MAY16	09JUN16	1.5444	0.0577	3.7
123171190_16	29	09JUN16	16JUL16	1.7069	0.0258	1.5
123171210_16	32	16JUN16	28JUN16	1.8719	0.0523	2.8
123171240_16	37	16JUL16	02AUG16	1.7351	0.0484	2.8
123171250_16	37	18JUL16	15AUG16	1.6865	0.0713	4.2
123171270_16	42	04AUG16	08SEP16	1.6881	0.0593	3.5
123171300_16	73	18AUG16	25SEP16	1.6589	0.0495	3.0
123171320_16	39	01SEP16	19SEP16	1.6538	0.0790	4.8
123171350_16	35	20SEP16	03OCT16	1.8600	0.0553	3.0
123171340_16	53	22SEP16	30OCT16	1.6566	0.0605	3.7
123171360_16	44	06OCT16	10NOV16	1.7068	0.0728	4.3
123171390_16	28	11OCT16	02NOV16	1.6393	0.0567	3.5
123171410_16	84	01NOV16	11DEC16	1.7286	0.0528	3.1
123171430_16	45	17NOV16	21DEC16	1.6933	0.0939	5.5
123171460_16	31	26NOV16	18DEC16	1.6710	0.0461	2.8
123171480_16	22	09DEC16	17DEC16	1.6682	0.0568	3.4
123171480_17	21	14JAN17	28JAN17	1.7095	0.0889	5.2


2015-2016 QC Chart for Lymphocyte No.(10^3 cells/uL) (Lvl 1)
2.0
1.9
1.8
1.7
1.6
1.5
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

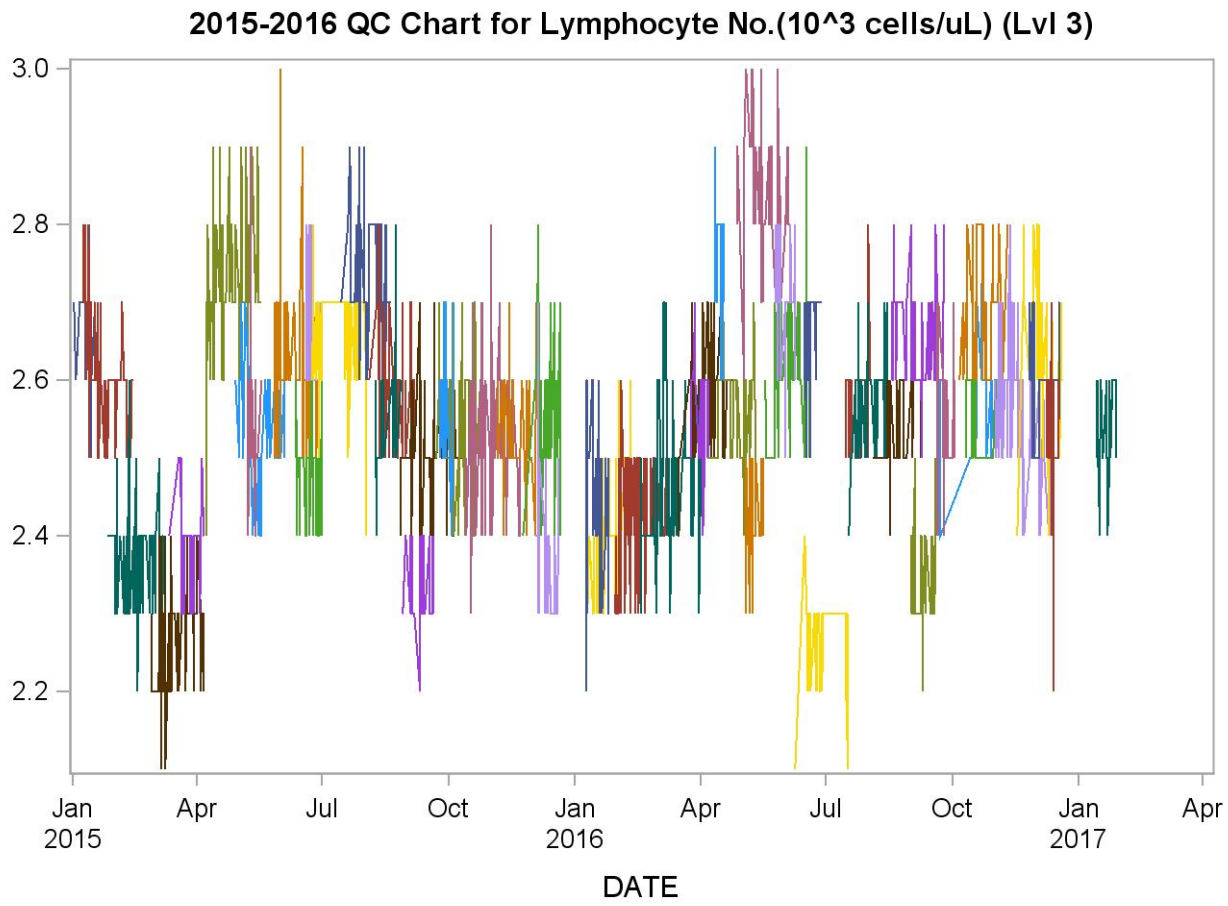
2015-2016 Summary Statistics and QC Chart for Lymphocyte No.(10^3 cells/uL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	3.1652	0.1071	3.4
133180340_15	69	09JAN15	14FEB15	3.2087	0.1121	3.5
133180390_15	87	26JAN15	08MAR15	2.8943	0.1071	3.7
133180430_15	79	27FEB15	06APR15	3.0101	0.1226	4.1
133180460_15	39	12MAR15	06APR15	2.9897	0.1119	3.7
133180510_15	82	08APR15	18MAY15	3.0280	0.2014	6.7
133180540_15	41	29APR15	04JUN15	3.1732	0.1096	3.5
133180560_15	22	08MAY15	18MAY15	3.1182	0.1259	4.0
133180600_15	79	28MAY15	27JUN15	3.0399	0.1264	4.2
133180620_15	44	12JUN15	01JUL15	3.1614	0.1146	3.6
133180650_15	27	20JUN15	30JUN15	2.8556	0.1281	4.5
133180660_15	48	24JUN15	02AUG15	3.2479	0.1111	3.4
133180700_15	50	15JUL15	20AUG15	2.9720	0.1294	4.4
133180720_15	58	04AUG15	06SEP15	3.1241	0.1233	3.9
133180730_15	30	09AUG15	27AUG15	3.1600	0.1303	4.1
133180760_15	67	27AUG15	11OCT15	2.3463	0.3086	13.2
133180770_15	43	29AUG15	20SEP15	2.9163	0.0871	3.0
133180790_15	47	22SEP15	24OCT15	3.2106	0.1289	4.0
133180820_15	22	25SEP15	05OCT15	3.2773	0.1066	3.3
133180860_15	104	14OCT15	23NOV15	3.1938	0.1613	5.0
133180890_15	56	05NOV15	10DEC15	3.0268	0.1213	4.0
133180930_15	41	24NOV15	21DEC15	3.2585	0.1516	4.7
133180940_15	36	03DEC15	20DEC15	3.1111	0.0919	3.0
133180990_16	42	09JAN16	26JAN16	3.2976	0.1760	5.3
133180980_16	57	10JAN16	10FEB16	3.1439	0.1376	4.4
133181020_16	91	30JAN16	07MAR16	2.8802	0.1157	4.0
133181060_16	87	18FEB16	02APR16	3.0920	0.1586	5.1
133181080_16	51	16MAR16	26APR16	2.9941	0.1223	4.1
133181110_16	31	25MAR16	07APR16	2.9677	0.1739	5.9
133181100_16	47	06APR16	11MAY16	2.9872	0.1013	3.4
133181120_16	22	12APR16	18APR16	2.9455	0.0963	3.3
133181130_16	57	28APR16	05JUN16	3.1719	0.1645	5.2
133181140_16	28	04MAY16	17MAY16	3.1036	0.0999	3.2
133181160_16	51	18MAY16	20JUN16	2.9961	0.1371	4.6
133181170_16	29	26MAY16	09JUN16	3.3241	0.1662	5.0
133181190_16	35	09JUN16	18JUL16	3.2086	0.1560	4.9
133181210_16	35	16JUN16	28JUN16	3.1086	0.1358	4.4
133181240_16	37	16JUL16	02AUG16	3.0622	0.1139	3.7
133181250_16	44	18JUL16	15AUG16	3.1227	0.1198	3.8
133181270_16	46	04AUG16	08SEP16	3.0543	0.1187	3.9
133181300_16	76	18AUG16	25SEP16	3.2250	0.1109	3.4
133181320_16	38	01SEP16	19SEP16	3.0789	0.0935	3.0
133181350_16	34	20SEP16	03OCT16	3.0500	0.1022	3.4
133181340_16	30	22SEP16	30OCT16	2.9567	0.1135	3.8
133181360_16	45	06OCT16	10NOV16	3.0178	0.1093	3.6
133181390_16	27	11OCT16	02NOV16	3.1704	0.1068	3.4
133181410_16	82	01NOV16	11DEC16	3.1354	0.1231	3.9
133181430_16	50	17NOV16	21DEC16	3.0500	0.1129	3.7
133181460_16	31	26NOV16	18DEC16	3.3355	0.1082	3.2
133181480_16	23	09DEC16	17DEC16	2.8870	0.1325	4.6
133181480_17	22	14JAN17	28JAN17	2.9045	0.1253	4.3


2015-2016 QC Chart for Lymphocyte No.(10^3 cells/uL) (Lvl 2)
3.5
3.0
2.5
2.0
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

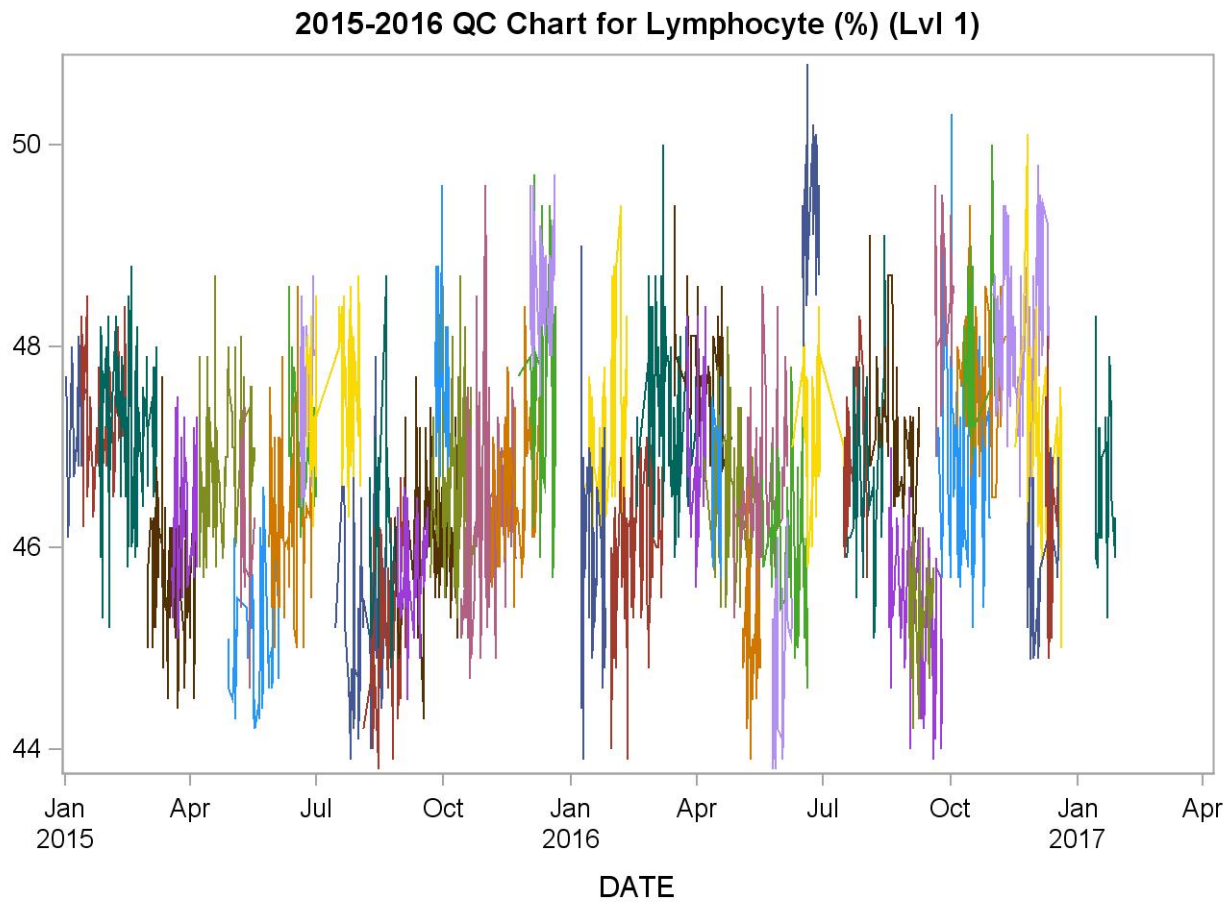
2015-2016 Summary Statistics and QC Chart for Lymphocyte No.(10^3 cells/uL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	16	02JAN15	17JAN15	2.6750	0.0683	2.6
143190340_15	63	09JAN15	14FEB15	2.6111	0.0785	3.0
143190390_15	80	26JAN15	08MAR15	2.3713	0.0620	2.6
143190430_15	76	27FEB15	06APR15	2.2618	0.0711	3.1
143190460_15	31	12MAR15	06APR15	2.3871	0.0619	2.6
143190510_15	88	08APR15	18MAY15	2.7205	0.0899	3.3
143190540_15	45	29APR15	04JUN15	2.5444	0.0755	3.0
143190560_15	23	08MAY15	18MAY15	2.5348	0.1071	4.2
143190600_15	85	28MAY15	28JUN15	2.6235	0.0840	3.2
143190620_15	34	12JUN15	01JUL15	2.4765	0.0699	2.8
143190650_15	26	20JUN15	30JUN15	2.6808	0.0749	2.8
143190660_15	47	24JUN15	02AUG15	2.6511	0.0748	2.8
143190700_15	45	15JUL15	20AUG15	2.7311	0.0793	2.9
143190720_15	55	04AUG15	06SEP15	2.6036	0.0793	3.0
143190730_15	31	09AUG15	27AUG15	2.5548	0.0768	3.0
143190760_15	63	27AUG15	11OCT15	2.5063	0.0780	3.1
143190770_15	40	29AUG15	20SEP15	2.3350	0.0533	2.3
143190790_15	42	22SEP15	24OCT15	2.5524	0.0862	3.4
143190820_15	27	25SEP15	05OCT15	2.5741	0.0813	3.2
143190860_15	93	14OCT15	23NOV15	2.5199	0.0838	3.3
143190890_15	42	05NOV15	04DEC15	2.5357	0.0692	2.7
143190930_15	36	24NOV15	21DEC15	2.5528	0.0941	3.7
143190940_15	37	03DEC15	20DEC15	2.3838	0.0800	3.4
143190990_16	41	09JAN16	26JAN16	2.4268	0.1001	4.1
143190980_16	51	10JAN16	10FEB16	2.4118	0.0791	3.3
143191020_16	87	30JAN16	07MAR16	2.4126	0.0744	3.1
143191060_16	84	18FEB16	02APR16	2.4762	0.0952	3.8
143191080_16	50	16MAR16	26APR16	2.5820	0.0748	2.9
143191100_16	30	25MAR16	07APR16	2.5633	0.0615	2.4
143191110_16	44	06APR16	11MAY16	2.5659	0.0645	2.5
143191120_16	20	12APR16	18APR16	2.7300	0.0733	2.7
143191130_16	54	28APR16	05JUN16	2.8370	0.0896	3.2
143191140_16	28	04MAY16	17MAY16	2.4214	0.0630	2.6
143191160_16	47	18MAY16	20JUN16	2.6234	0.0786	3.0
143191170_16	27	26MAY16	09JUN16	2.7074	0.0781	2.9
143191190_16	31	09JUN16	17JUL16	2.2613	0.0667	3.0
143191210_16	32	16JUN16	28JUN16	2.6500	0.0622	2.3
143191240_16	38	16JUL16	02AUG16	2.5737	0.0601	2.3
143191250_16	41	18JUL16	15AUG16	2.5683	0.0687	2.7
143191270_16	40	04AUG16	08SEP16	2.5325	0.0526	2.1
143191300_16	72	18AUG16	25SEP16	2.6556	0.0625	2.4
143191320_16	38	01SEP16	19SEP16	2.3553	0.0645	2.7
143191350_16	33	20SEP16	03OCT16	2.5485	0.0795	3.1
143191340_16	27	22SEP16	30OCT16	2.5778	0.0801	3.1
143191360_16	43	06OCT16	10NOV16	2.6884	0.0762	2.8
143191390_16	28	11OCT16	02NOV16	2.5464	0.0508	2.0
143191410_16	82	01NOV16	11DEC16	2.5732	0.0832	3.2
143191430_16	52	17NOV16	21DEC16	2.6423	0.0936	3.5
143191460_16	31	26NOV16	18DEC16	2.5968	0.0706	2.7
143191480_16	23	09DEC16	17DEC16	2.5217	0.0951	3.8
143191480_17	21	14JAN17	28JAN17	2.5333	0.0658	2.6


2015-2016 QC Chart for Lymphocyte No.(10^3 cells/uL) (Lvl 3)
3.0
2.8
2.6
2.4
2.2
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

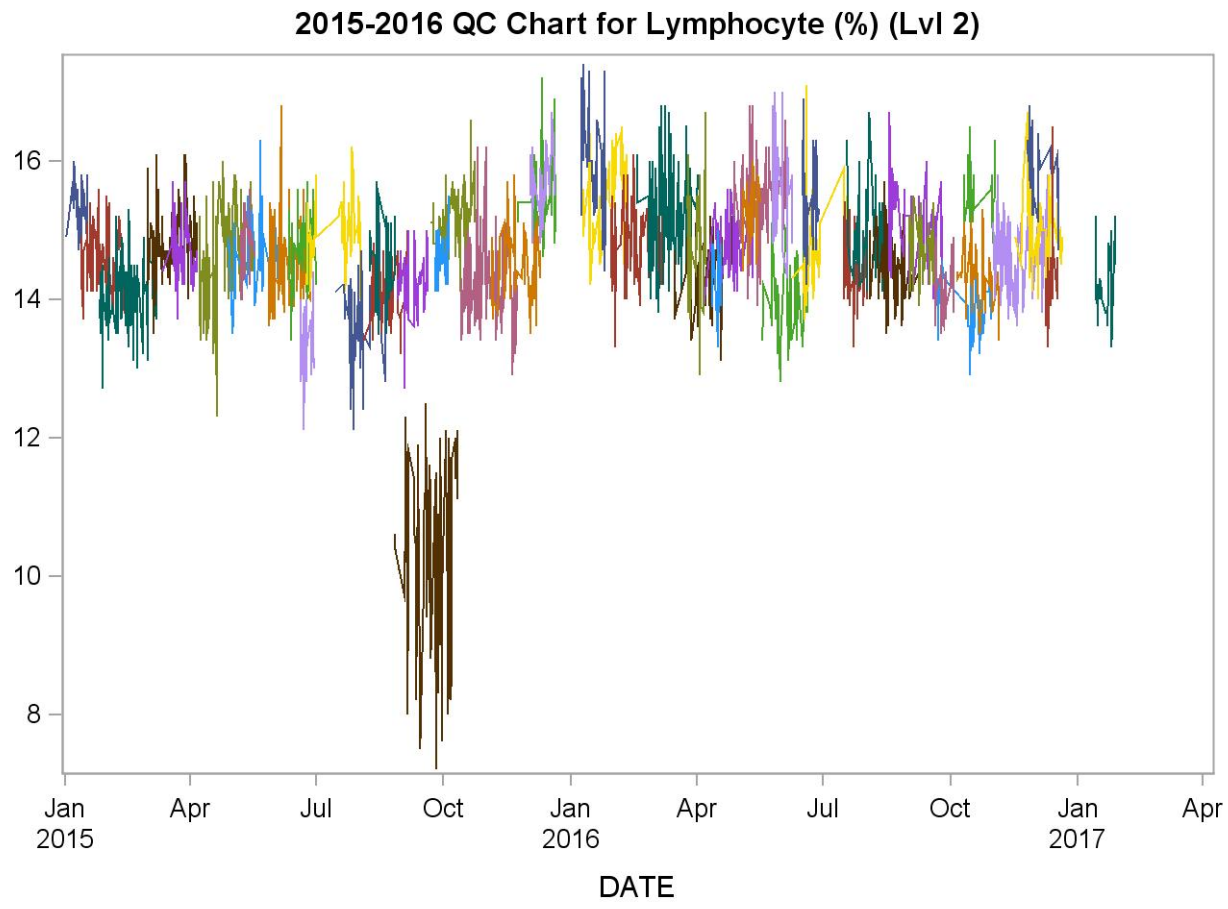
2015-2016 Summary Statistics and QC Chart for Lymphocyte (%) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	47.3235	0.5298	1.1
123170340_15	52	13JAN15	14FEB15	47.2269	0.5172	1.1
123170390_15	85	26JAN15	08MAR15	47.0941	0.7023	1.5
123170430_15	71	02MAR15	06APR15	45.7352	0.5955	1.3
123170460_15	29	19MAR15	06APR15	46.4034	0.6673	1.4
123170510_15	78	08APR15	18MAY15	46.8321	0.6500	1.4
123170540_15	35	29APR15	04JUN15	45.0686	0.6443	1.4
123170560_15	21	08MAY15	18MAY15	46.1048	0.6241	1.4
123170600_15	76	28MAY15	28JUN15	46.3039	0.7036	1.5
123170620_15	32	12JUN15	01JUL15	46.9719	0.5232	1.1
123170650_15	25	20JUN15	30JUN15	47.5720	0.6242	1.3
123170660_15	47	24JUN15	02AUG15	47.5915	0.6685	1.4
123170700_15	44	15JUL15	20AUG15	45.1682	0.8212	1.8
123170720_15	56	04AUG15	06SEP15	45.2714	0.7114	1.6
123170730_15	30	09AUG15	27AUG15	46.2433	0.7262	1.6
123170760_15	59	27AUG15	11OCT15	46.1678	0.6689	1.4
123170770_15	40	29AUG15	20SEP15	45.7950	0.5282	1.2
123170790_15	42	22SEP15	24OCT15	46.6405	0.8931	1.9
123170820_15	22	25SEP15	05OCT15	47.6682	0.7181	1.5
123170860_15	94	14OCT15	23NOV15	46.3410	0.9069	2.0
123170890_15	52	05NOV15	10DEC15	46.5981	0.6335	1.4
123170930_15	35	24NOV15	21DEC15	47.6600	1.0514	2.2
123170940_15	36	03DEC15	20DEC15	48.5806	0.5585	1.1
123170990_16	43	09JAN16	26JAN16	45.7605	0.9688	2.1
123170980_16	53	10JAN16	10FEB16	47.1226	0.8038	1.7
123171020_16	87	30JAN16	07MAR16	45.9109	0.6872	1.5
123171060_16	77	18FEB16	02APR16	47.4143	0.7500	1.6
123171080_16	51	16MAR16	26APR16	47.7333	0.5520	1.2
123171100_16	31	25MAR16	07APR16	46.9581	0.7013	1.5
123171110_16	44	06APR16	11MAY16	46.5727	0.6739	1.4
123171120_16	22	12APR16	18APR16	46.6091	0.5631	1.2
123171130_16	54	28APR16	05JUN16	46.5593	0.6946	1.5
123171150_16	28	04MAY16	17MAY16	45.0571	0.6506	1.4
123171160_16	47	18MAY16	20JUN16	45.9894	0.6608	1.4
123171170_16	26	26MAY16	09JUN16	44.8923	0.8158	1.8
123171190_16	29	09JUN16	16JUL16	47.1586	0.6378	1.4
123171210_16	32	16JUN16	28JUN16	49.3594	0.6334	1.3
123171240_16	37	16JUL16	02AUG16	46.8649	0.6356	1.4
123171250_16	37	18JUL16	15AUG16	46.7811	0.8103	1.7
123171270_16	42	04AUG16	08SEP16	47.1310	0.6598	1.4
123171300_16	73	18AUG16	25SEP16	45.3986	0.6844	1.5
123171320_16	38	01SEP16	19SEP16	45.4000	0.4793	1.1
123171350_16	35	20SEP16	03OCT16	48.4629	0.6146	1.3
123171340_16	53	22SEP16	30OCT16	46.8245	0.9072	1.9
123171360_16	44	06OCT16	10NOV16	47.6977	0.6428	1.3
123171390_16	28	11OCT16	02NOV16	48.0250	0.8141	1.7
123171410_16	84	01NOV16	11DEC16	48.1738	0.6880	1.4
123171430_16	45	17NOV16	21DEC16	46.9133	0.9054	1.9
123171460_16	31	26NOV16	18DEC16	45.9323	0.6019	1.3
123171480_16	22	09DEC16	17DEC16	46.2000	0.8182	1.8
123171480_17	21	14JAN17	28JAN17	46.6286	0.7577	1.6


2015-2016 QC Chart for Lymphocyte (%) (Lvl 1)
50
48
46
44
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

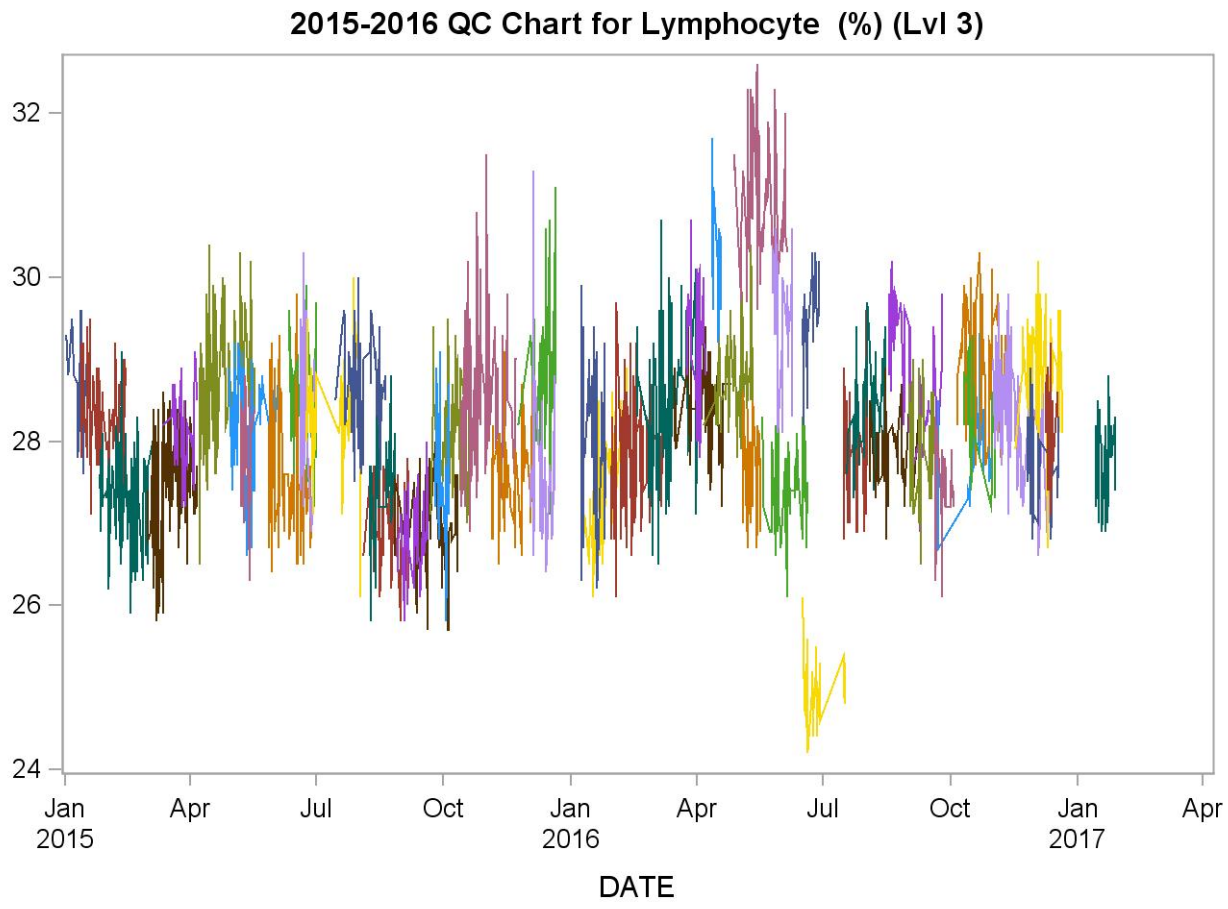
2015-2016 Summary Statistics and QC Chart for Lymphocyte (%) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	15.2130	0.3806	2.5
133180340_15	56	13JAN15	14FEB15	14.5768	0.4456	3.1
133180390_15	87	26JAN15	08MAR15	14.0218	0.4652	3.3
133180430_15	75	02MAR15	06APR15	14.8107	0.4999	3.4
133180460_15	39	12MAR15	06APR15	14.7359	0.4848	3.3
133180510_15	82	08APR15	18MAY15	14.5012	0.7364	5.1
133180540_15	41	29APR15	04JUN15	14.6610	0.5024	3.4
133180560_15	22	08MAY15	18MAY15	14.7818	0.4915	3.3
133180600_15	79	28MAY15	27JUN15	14.5418	0.5585	3.8
133180620_15	44	12JUN15	01JUL15	14.7636	0.4716	3.2
133180650_15	27	20JUN15	30JUN15	13.2519	0.5087	3.8
133180660_15	48	24JUN15	02AUG15	15.0042	0.4612	3.1
133180700_15	50	15JUL15	20AUG15	13.7660	0.5965	4.3
133180720_15	58	04AUG15	06SEP15	14.1414	0.4484	3.2
133180730_15	30	09AUG15	27AUG15	14.5833	0.5509	3.8
133180760_15	68	27AUG15	11OCT15	10.2897	1.3937	13.5
133180770_15	43	29AUG15	20SEP15	14.1628	0.4424	3.1
133180790_15	47	22SEP15	24OCT15	15.1319	0.5251	3.5
133180820_15	22	25SEP15	05OCT15	14.6727	0.3881	2.6
133180860_15	104	14OCT15	23NOV15	14.4058	0.6363	4.4
133180890_15	56	05NOV15	10DEC15	14.5054	0.4893	3.4
133180930_15	41	24NOV15	21DEC15	15.6049	0.5792	3.7
133180940_15	36	03DEC15	20DEC15	15.7083	0.4325	2.8
133180990_16	42	09JAN16	26JAN16	16.0357	0.7197	4.5
133180980_16	57	10JAN16	10FEB16	15.3895	0.5719	3.7
133181020_16	91	30JAN16	07MAR16	14.8231	0.4908	3.3
133181060_16	87	18FEB16	02APR16	15.2345	0.6963	4.6
133181080_16	51	16MAR16	26APR16	14.2941	0.4982	3.5
133181110_16	31	25MAR16	07APR16	14.8129	0.7715	5.2
133181100_16	47	06APR16	11MAY16	14.8000	0.4075	2.8
133181120_16	22	12APR16	18APR16	14.2273	0.4002	2.8
133181130_16	57	28APR16	05JUN16	15.4439	0.6406	4.1
133181140_16	28	04MAY16	17MAY16	15.2036	0.4150	2.7
133181160_16	51	18MAY16	20JUN16	14.0098	0.5416	3.9
133181170_16	29	26MAY16	09JUN16	15.6966	0.7204	4.6
133181190_16	35	09JUN16	18JUL16	14.7571	0.6409	4.3
133181210_16	35	16JUN16	28JUN16	15.2514	0.5818	3.8
133181240_16	37	16JUL16	02AUG16	14.5270	0.5279	3.6
133181250_16	44	18JUL16	15AUG16	14.9318	0.5786	3.9
133181270_16	46	04AUG16	08SEP16	14.4217	0.5072	3.5
133181300_16	76	18AUG16	25SEP16	15.0487	0.5106	3.4
133181320_16	38	01SEP16	19SEP16	14.7158	0.4030	2.7
133181350_16	34	20SEP16	03OCT16	14.1853	0.3901	2.8
133181340_16	30	22SEP16	30OCT16	13.8333	0.4080	2.9
133181360_16	45	06OCT16	10NOV16	14.3333	0.4462	3.1
133181390_16	27	11OCT16	02NOV16	15.5148	0.4007	2.6
133181410_16	82	01NOV16	11DEC16	14.6451	0.4924	3.4
133181430_16	50	17NOV16	21DEC16	14.9440	0.5284	3.5
133181460_16	31	26NOV16	18DEC16	15.8323	0.4354	2.8
133181480_16	23	09DEC16	17DEC16	14.3087	0.6550	4.6
133181480_17	22	14JAN17	28JAN17	14.2091	0.5227	3.7


2015-2016 QC Chart for Lymphocyte (%) (Lvl 2)
16
14
12
10
8
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Lymphocyte (%) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	28.7824	0.6356	2.2
143190340_15	50	13JAN15	14FEB15	28.3460	0.5545	2.0
143190390_15	80	26JAN15	08MAR15	27.2838	0.5689	2.1
143190430_15	73	02MAR15	06APR15	27.3603	0.6720	2.5
143190460_15	31	12MAR15	06APR15	28.0710	0.4880	1.7
143190510_15	88	08APR15	18MAY15	28.6852	0.7576	2.6
143190540_15	45	29APR15	04JUN15	28.2489	0.6006	2.1
143190560_15	23	08MAY15	18MAY15	27.7696	0.6664	2.4
143190600_15	86	28MAY15	28JUN15	27.7314	0.7966	2.9
143190620_15	34	12JUN15	01JUL15	28.5441	0.6387	2.2
143190650_15	26	20JUN15	30JUN15	28.5000	0.8207	2.9
143190660_15	47	24JUN15	02AUG15	28.3766	0.6481	2.3
143190700_15	45	15JUL15	20AUG15	28.7111	0.6084	2.1
143190720_15	55	04AUG15	06SEP15	26.9327	0.4769	1.8
143190730_15	31	09AUG15	27AUG15	27.4161	0.6573	2.4
143190760_15	63	27AUG15	11OCT15	26.9429	0.5541	2.1
143190770_15	40	29AUG15	20SEP15	26.8725	0.4766	1.8
143190790_15	42	22SEP15	24OCT15	28.2048	0.6879	2.4
143190820_15	27	25SEP15	05OCT15	27.7074	0.7457	2.7
143190860_15	93	14OCT15	23NOV15	28.5952	0.8838	3.1
143190890_15	42	05NOV15	04DEC15	27.6190	0.5952	2.2
143190930_15	36	24NOV15	21DEC15	28.9194	0.8847	3.1
143190940_15	37	03DEC15	20DEC15	27.5919	0.8513	3.1
143190990_16	41	09JAN16	26JAN16	28.0610	0.9154	3.3
143190980_16	51	10JAN16	10FEB16	27.4922	0.6881	2.5
143191020_16	87	30JAN16	07MAR16	27.8299	0.6292	2.3
143191060_16	84	18FEB16	02APR16	28.5250	0.8146	2.9
143191080_16	50	16MAR16	26APR16	28.4680	0.5464	1.9
143191100_16	30	25MAR16	07APR16	29.2000	0.7158	2.5
143191110_16	44	06APR16	11MAY16	28.7136	0.5329	1.9
143191120_16	20	12APR16	18APR16	30.0850	0.6029	2.0
143191130_16	57	28APR16	05JUN16	30.9737	0.7520	2.4
143191140_16	28	04MAY16	17MAY16	27.5643	0.5485	2.0
143191160_16	47	18MAY16	20JUN16	27.4809	0.5420	2.0
143191170_16	27	26MAY16	09JUN16	29.5926	0.6731	2.3
143191190_16	27	16JUN16	17JUL16	24.9889	0.4209	1.7
143191210_16	32	16JUN16	28JUN16	29.4563	0.4970	1.7
143191240_16	38	16JUL16	02AUG16	27.7684	0.6130	2.2
143191250_16	41	18JUL16	15AUG16	28.4268	0.5899	2.1
143191270_16	40	04AUG16	08SEP16	27.8800	0.4653	1.7
143191300_16	72	18AUG16	25SEP16	28.8153	0.7154	2.5
143191320_16	38	01SEP16	19SEP16	27.9447	0.6026	2.2
143191350_16	33	20SEP16	03OCT16	27.3394	0.5018	1.8
143191340_16	27	22SEP16	30OCT16	28.0407	0.6715	2.4
143191360_16	44	06OCT16	10NOV16	28.9545	0.7059	2.4
143191390_16	28	11OCT16	02NOV16	28.2357	0.5612	2.0
143191410_16	82	01NOV16	11DEC16	28.3305	0.6805	2.4
143191430_16	52	17NOV16	21DEC16	28.7577	0.6708	2.3
143191460_16	31	26NOV16	18DEC16	27.6774	0.5542	2.0
143191480_16	23	09DEC16	17DEC16	28.1217	0.5846	2.1
143191480_17	21	14JAN17	28JAN17	27.7905	0.5603	2.0


2015-2016 QC Chart for Lymphocyte (%) (Lvl 3)
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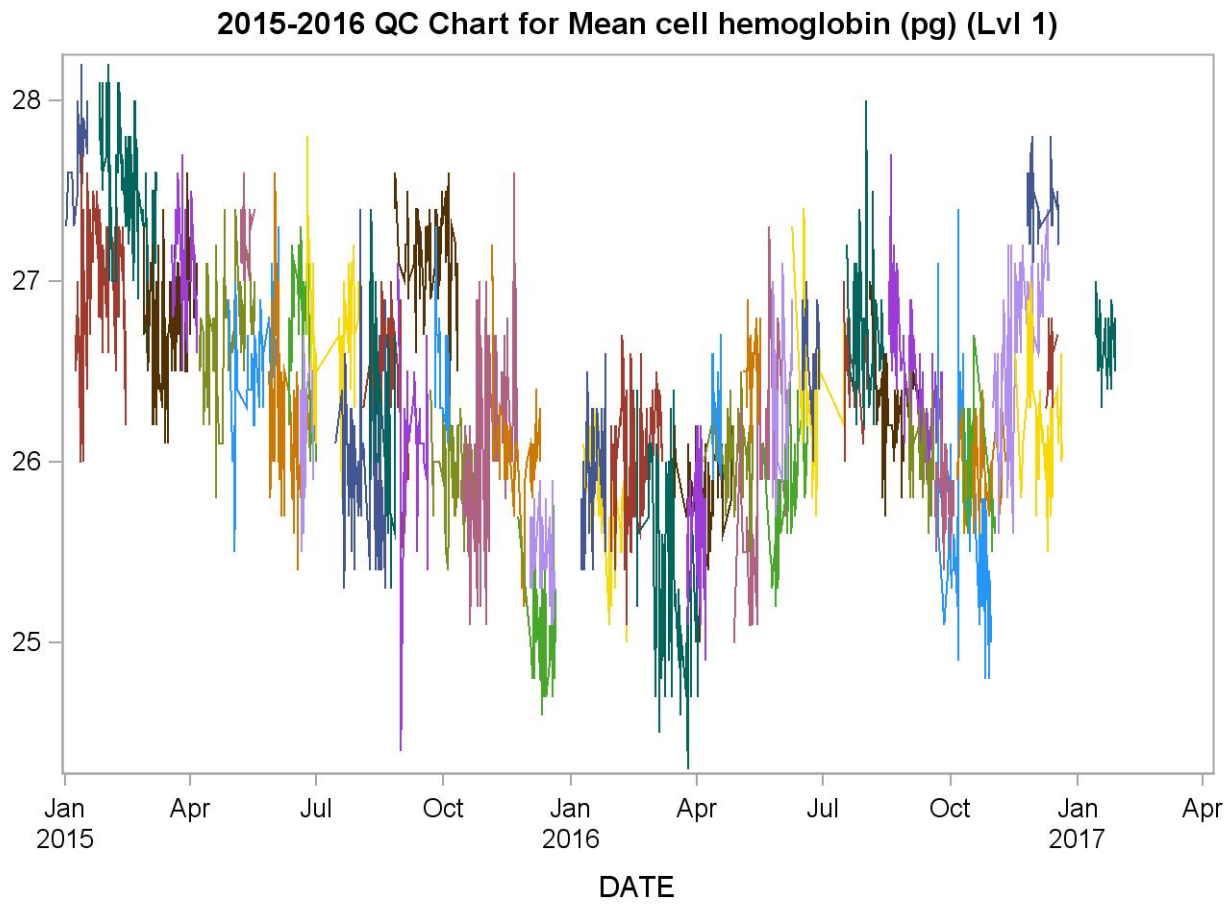
2015-2016 Summary Statistics and QC Chart for Mean cell hemoglobin (pg) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	27.7059	0.2461	0.9
123170340_15	67	09JAN15	14FEB15	26.9567	0.3974	1.5
123170390_15	87	26JAN15	08MAR15	27.5310	0.3468	1.3
123170430_15	74	27FEB15	06APR15	26.7757	0.3217	1.2
123170460_15	30	19MAR15	06APR15	27.0700	0.2793	1.0
123170510_15	78	08APR15	18MAY15	26.7000	0.2856	1.1
123170540_15	36	29APR15	04JUN15	26.5139	0.3712	1.4
123170560_15	21	08MAY15	18MAY15	27.2476	0.1601	0.6
123170600_15	77	28MAY15	28JUN15	26.2727	0.3455	1.3
123170620_15	32	12JUN15	01JUL15	26.6531	0.4656	1.7
123170650_15	25	20JUN15	30JUN15	26.1880	0.3180	1.2
123170660_15	47	24JUN15	02AUG15	26.7298	0.3759	1.4
123170700_15	45	15JUL15	20AUG15	25.9689	0.4611	1.8
123170720_15	58	04AUG15	06SEP15	26.4879	0.3429	1.3
123170730_15	30	09AUG15	27AUG15	26.2933	0.4820	1.8
123170760_15	59	27AUG15	11OCT15	27.1542	0.2750	1.0
123170770_15	40	29AUG15	20SEP15	26.1525	0.4679	1.8
123170790_15	42	22SEP15	24OCT15	25.9143	0.2646	1.0
123170820_15	22	25SEP15	05OCT15	26.5500	0.2668	1.0
123170860_15	94	14OCT15	23NOV15	26.0277	0.4987	1.9
123170890_15	52	05NOV15	10DEC15	26.0385	0.3425	1.3
123170930_15	37	24NOV15	21DEC15	25.1054	0.3316	1.3
123170940_15	36	03DEC15	20DEC15	25.5139	0.2072	0.8
123170990_16	43	09JAN16	26JAN16	25.8488	0.3188	1.2
123170980_16	55	10JAN16	10FEB16	25.7182	0.2881	1.1
123171020_16	89	30JAN16	07MAR16	25.9933	0.3187	1.2
123171060_16	78	18FEB16	02APR16	25.4590	0.5221	2.1
123171080_16	52	16MAR16	26APR16	25.8519	0.2461	1.0
123171100_16	31	25MAR16	07APR16	25.5903	0.3380	1.3
123171110_16	44	06APR16	11MAY16	26.0500	0.2205	0.8
123171120_16	22	12APR16	18APR16	26.2727	0.2492	0.9
123171130_16	55	28APR16	05JUN16	25.8345	0.5285	2.0
123171150_16	28	04MAY16	17MAY16	26.5179	0.1827	0.7
123171160_16	47	18MAY16	20JUN16	25.8787	0.3277	1.3
123171170_16	27	26MAY16	09JUN16	26.3296	0.3550	1.3
123171190_16	29	09JUN16	16JUL16	26.4483	0.4695	1.8
123171210_16	32	16JUN16	28JUN16	26.6375	0.2324	0.9
123171240_16	37	16JUL16	02AUG16	26.5432	0.2280	0.9
123171250_16	37	18JUL16	15AUG16	26.7135	0.4001	1.5
123171270_16	42	04AUG16	08SEP16	26.3119	0.2596	1.0
123171300_16	74	18AUG16	25SEP16	26.5270	0.3532	1.3
123171320_16	39	01SEP16	19SEP16	26.0692	0.2041	0.8
123171350_16	35	20SEP16	03OCT16	25.8286	0.2037	0.8
123171340_16	52	22SEP16	30OCT16	25.7173	0.5364	2.1
123171360_16	44	06OCT16	10NOV16	25.9932	0.2182	0.8
123171390_16	28	11OCT16	02NOV16	25.9714	0.2827	1.1
123171410_16	84	01NOV16	11DEC16	26.5619	0.4357	1.6
123171430_16	45	17NOV16	21DEC16	26.2000	0.3097	1.2
123171460_16	31	26NOV16	18DEC16	27.4161	0.1753	0.6
123171480_16	22	09DEC16	17DEC16	26.5455	0.1595	0.6
123171480_17	21	14JAN17	28JAN17	26.6476	0.1914	0.7


2015-2016 QC Chart for Mean cell hemoglobin (pg) (Lvl 1)
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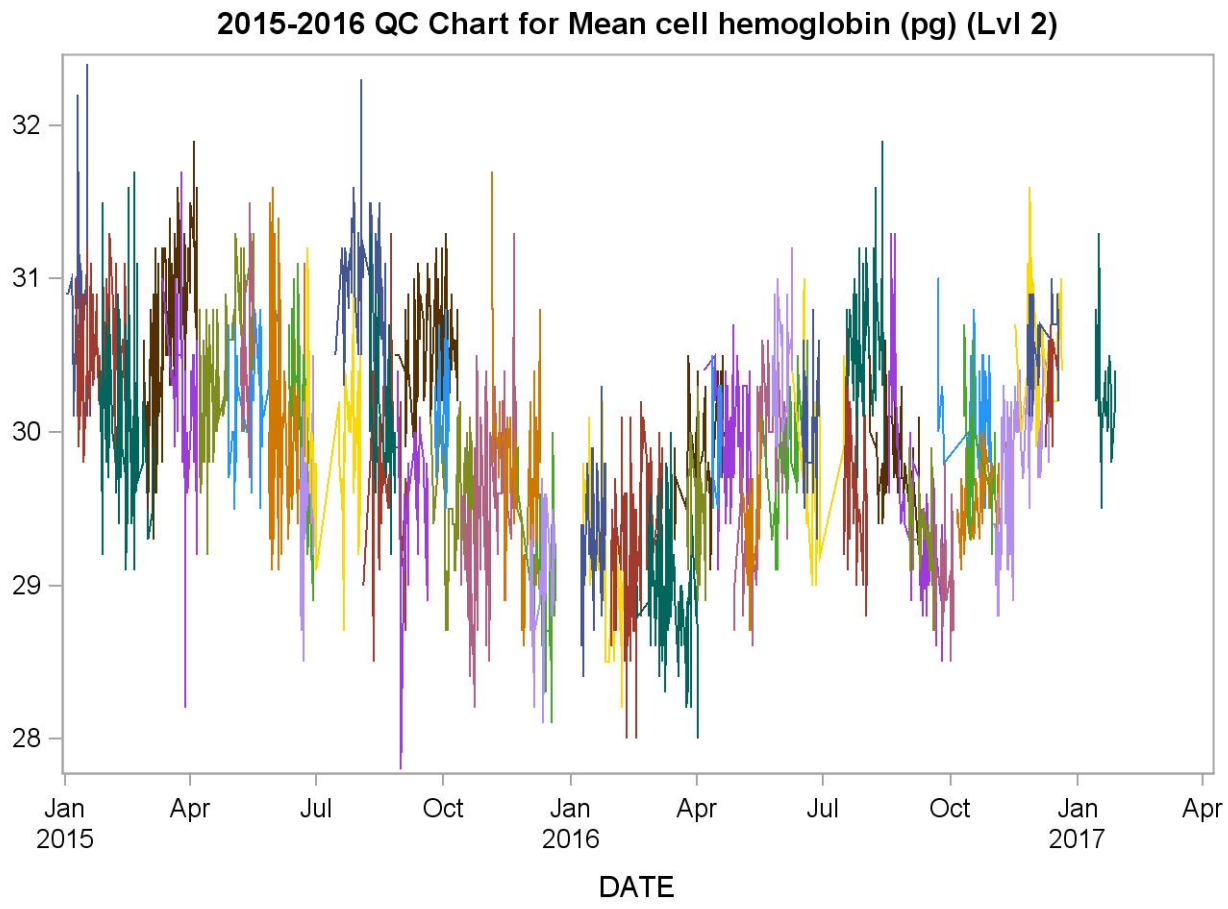
2015-2016 Summary Statistics and QC Chart for Mean cell hemoglobin (pg) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	30.9696	0.5896	1.9
133180340_15	70	09JAN15	14FEB15	30.5486	0.3542	1.2
133180390_15	86	26JAN15	08MAR15	30.0593	0.5178	1.7
133180430_15	80	27FEB15	06APR15	30.6138	0.5580	1.8
133180460_15	39	12MAR15	06APR15	30.2282	0.5776	1.9
133180510_15	82	08APR15	18MAY15	30.3829	0.4067	1.3
133180540_15	41	29APR15	04JUN15	30.1805	0.3894	1.3
133180560_15	22	08MAY15	18MAY15	30.6318	0.4529	1.5
133180600_15	79	28MAY15	27JUN15	30.1190	0.6331	2.1
133180620_15	44	12JUN15	01JUL15	30.1500	0.6193	2.1
133180650_15	26	20JUN15	30JUN15	29.4923	0.4445	1.5
133180660_15	49	24JUN15	02AUG15	29.8816	0.4859	1.6
133180700_15	50	15JUL15	20AUG15	31.0340	0.3988	1.3
133180720_15	58	04AUG15	06SEP15	29.6534	0.5171	1.7
133180730_15	30	09AUG15	27AUG15	30.2733	0.4608	1.5
133180760_15	67	27AUG15	11OCT15	30.5731	0.3600	1.2
133180770_15	43	29AUG15	20SEP15	29.5465	0.4447	1.5
133180790_15	47	22SEP15	24OCT15	29.5021	0.3920	1.3
133180820_15	22	25SEP15	05OCT15	30.1318	0.3272	1.1
133180860_15	104	14OCT15	23NOV15	29.4284	0.5580	1.9
133180890_15	56	05NOV15	10DEC15	29.7589	0.6301	2.1
133180930_15	41	24NOV15	21DEC15	28.9951	0.4312	1.5
133180940_15	36	03DEC15	20DEC15	28.9833	0.3668	1.3
133180990_16	42	09JAN16	26JAN16	29.2214	0.4240	1.5
133180980_16	58	10JAN16	10FEB16	29.1672	0.4354	1.5
133181020_16	95	30JAN16	07MAR16	29.2316	0.4532	1.6
133181060_16	88	18FEB16	02APR16	28.9341	0.3874	1.3
133181080_16	51	16MAR16	26APR16	29.8471	0.3215	1.1
133181110_16	31	25MAR16	07APR16	29.4774	0.3481	1.2
133181100_16	47	06APR16	11MAY16	29.9851	0.3816	1.3
133181120_16	22	12APR16	18APR16	29.9364	0.2574	0.9
133181130_16	57	28APR16	05JUN16	29.6860	0.5194	1.7
133181140_16	28	04MAY16	17MAY16	29.3893	0.3131	1.1
133181160_16	51	18MAY16	20JUN16	29.8686	0.3787	1.3
133181170_16	30	26MAY16	09JUN16	30.3967	0.3548	1.2
133181190_16	35	09JUN16	18JUL16	29.9543	0.4655	1.6
133181210_16	35	16JUN16	28JUN16	30.0286	0.3295	1.1
133181240_16	37	16JUL16	02AUG16	29.6568	0.4180	1.4
133181250_16	45	18JUL16	15AUG16	30.5889	0.4534	1.5
133181270_16	46	04AUG16	08SEP16	29.7935	0.2839	1.0
133181300_16	76	18AUG16	25SEP16	29.7658	0.7061	2.4
133181320_16	38	01SEP16	19SEP16	29.3711	0.2567	0.9
133181350_16	34	20SEP16	03OCT16	29.0912	0.2621	0.9
133181340_16	30	22SEP16	30OCT16	30.0967	0.4295	1.4
133181360_16	45	06OCT16	10NOV16	29.5756	0.2460	0.8
133181390_16	28	11OCT16	02NOV16	29.8143	0.3535	1.2
133181410_16	82	01NOV16	11DEC16	29.7829	0.4703	1.6
133181430_16	50	17NOV16	21DEC16	30.5660	0.3972	1.3
133181460_16	31	26NOV16	18DEC16	30.6065	0.2658	0.9
133181480_16	23	09DEC16	17DEC16	30.2783	0.2540	0.8
133181480_17	22	14JAN17	28JAN17	30.2818	0.3594	1.2


2015-2016 QC Chart for Mean cell hemoglobin (pg) (Lvl 2)
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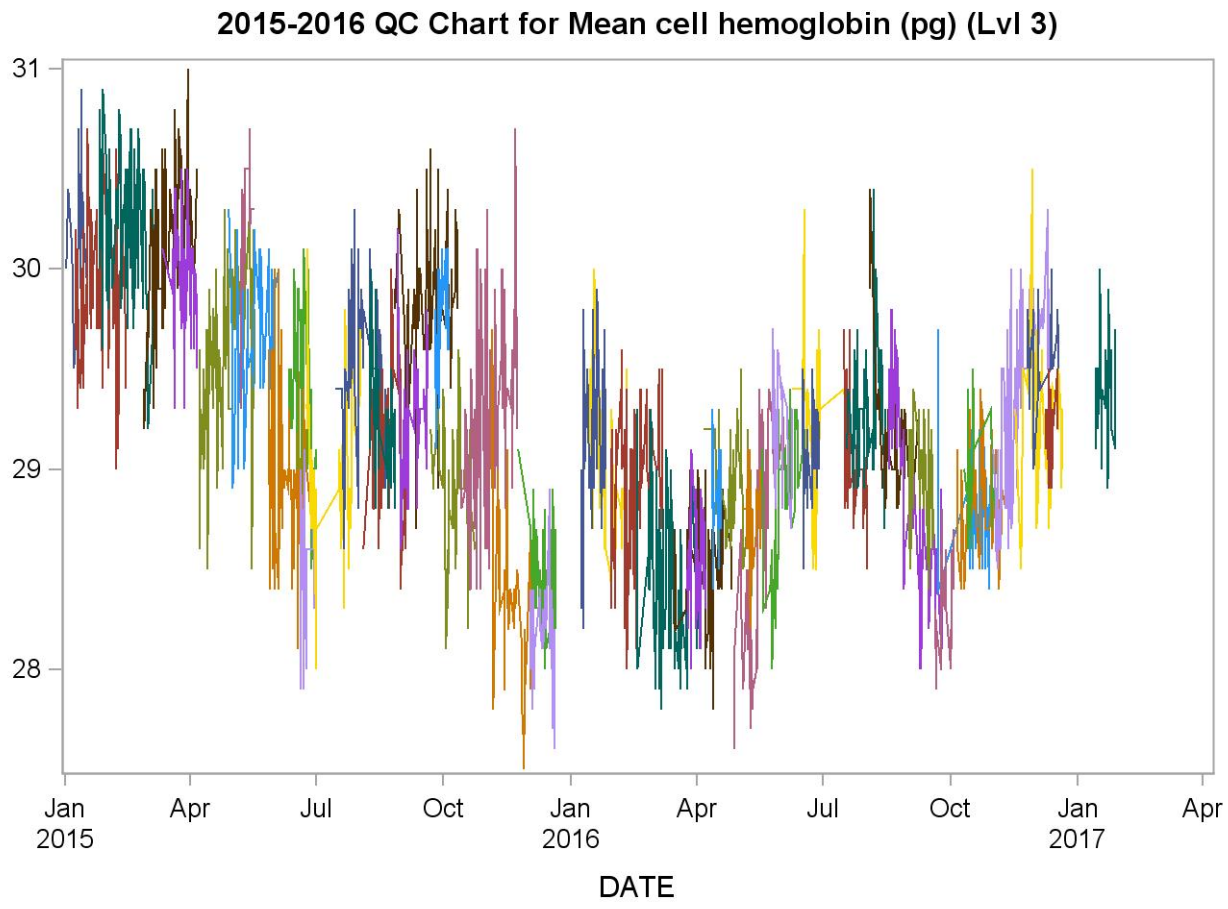
2015-2016 Summary Statistics and QC Chart for Mean cell hemoglobin (pg) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	16	02JAN15	17JAN15	30.2125	0.3704	1.2
143190340_15	63	09JAN15	14FEB15	29.8889	0.3655	1.2
143190390_15	80	26JAN15	08MAR15	30.1763	0.3319	1.1
143190430_15	76	27FEB15	06APR15	30.0947	0.3713	1.2
143190460_15	31	12MAR15	06APR15	29.9452	0.3275	1.1
143190510_15	90	08APR15	18MAY15	29.5200	0.3822	1.3
143190540_15	45	29APR15	04JUN15	29.6489	0.3559	1.2
143190560_15	23	08MAY15	18MAY15	30.1913	0.2968	1.0
143190600_15	86	28MAY15	28JUN15	29.1000	0.4070	1.4
143190620_15	34	12JUN15	01JUL15	29.3676	0.4233	1.4
143190650_15	26	20JUN15	30JUN15	28.4500	0.3114	1.1
143190660_15	47	24JUN15	02AUG15	29.0660	0.4631	1.6
143190700_15	46	15JUL15	20AUG15	29.5696	0.3312	1.1
143190720_15	55	04AUG15	06SEP15	29.1491	0.3589	1.2
143190730_15	31	09AUG15	27AUG15	29.3194	0.3198	1.1
143190760_15	63	27AUG15	11OCT15	29.8206	0.3502	1.2
143190770_15	40	29AUG15	20SEP15	29.2625	0.3663	1.3
143190790_15	42	22SEP15	24OCT15	28.8690	0.3119	1.1
143190820_15	27	25SEP15	05OCT15	29.7222	0.2913	1.0
143190860_15	94	14OCT15	23NOV15	29.1537	0.4805	1.6
143190890_15	42	05NOV15	04DEC15	28.3024	0.4251	1.5
143190930_15	36	24NOV15	21DEC15	28.4250	0.2698	0.9
143190940_15	37	03DEC15	20DEC15	28.1811	0.2283	0.8
143190990_16	41	09JAN16	26JAN16	29.0244	0.4194	1.4
143190980_16	54	10JAN16	10FEB16	28.9648	0.3939	1.4
143191020_16	91	30JAN16	07MAR16	28.9154	0.3419	1.2
143191060_16	85	18FEB16	02APR16	28.4424	0.3469	1.2
143191080_16	51	16MAR16	26APR16	28.5000	0.2661	0.9
143191100_16	31	25MAR16	07APR16	28.4806	0.2600	0.9
143191110_16	45	06APR16	11MAY16	28.8778	0.2636	0.9
143191120_16	20	12APR16	18APR16	28.8700	0.2273	0.8
143191130_16	57	28APR16	05JUN16	28.6088	0.5242	1.8
143191140_16	28	04MAY16	17MAY16	28.7286	0.2175	0.8
143191160_16	47	18MAY16	20JUN16	28.9149	0.3401	1.2
143191170_16	27	26MAY16	09JUN16	29.1889	0.2621	0.9
143191190_16	31	09JUN16	17JUL16	29.2226	0.4177	1.4
143191210_16	32	16JUN16	28JUN16	29.0844	0.2187	0.8
143191240_16	38	16JUL16	02AUG16	29.0368	0.2624	0.9
143191250_16	41	18JUL16	15AUG16	29.2707	0.3196	1.1
143191270_16	40	04AUG16	08SEP16	29.1275	0.3242	1.1
143191300_16	72	18AUG16	25SEP16	28.9181	0.4576	1.6
143191320_16	38	01SEP16	19SEP16	28.9447	0.2424	0.8
143191350_16	33	20SEP16	03OCT16	28.3030	0.2243	0.8
143191340_16	27	22SEP16	30OCT16	28.8778	0.3523	1.2
143191360_16	44	06OCT16	10NOV16	28.8659	0.2524	0.9
143191390_16	28	11OCT16	02NOV16	28.9964	0.2396	0.8
143191410_16	82	01NOV16	11DEC16	29.3293	0.4370	1.5
143191430_16	52	17NOV16	21DEC16	29.2635	0.3413	1.2
143191460_16	31	26NOV16	18DEC16	29.5548	0.1997	0.7
143191480_16	23	09DEC16	17DEC16	29.1913	0.1782	0.6
143191480_17	21	14JAN17	28JAN17	29.3810	0.2857	1.0


2015-2016 QC Chart for Mean cell hemoglobin (pg) (Lvl 3)
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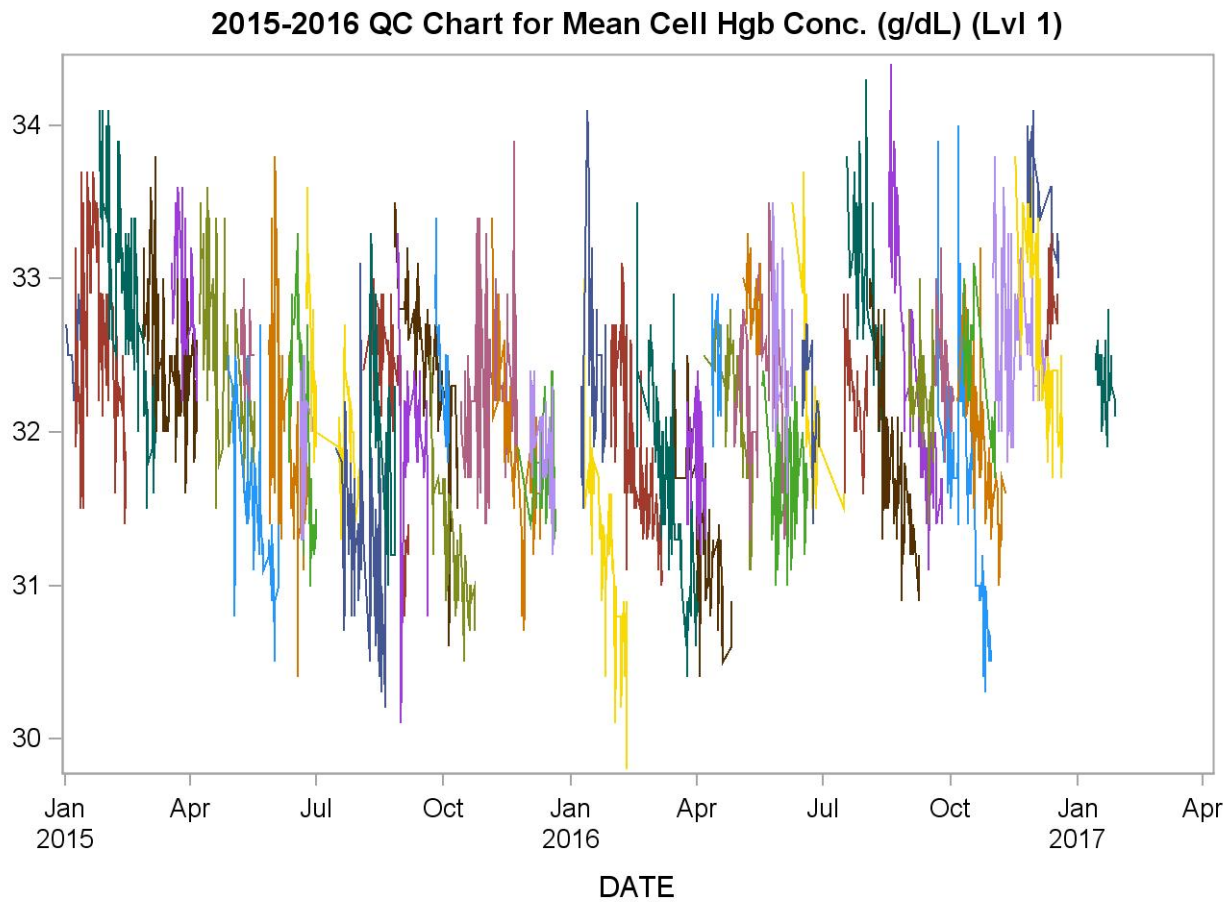
2015-2016 Summary Statistics and QC Chart for Mean Cell Hgb Conc. (g/dL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	32.6588	0.1970	0.6
123170340_15	67	09JAN15	14FEB15	32.6179	0.6142	1.9
123170390_15	87	26JAN15	08MAR15	32.9391	0.6225	1.9
123170430_15	74	27FEB15	06APR15	32.5203	0.4338	1.3
123170460_15	30	19MAR15	06APR15	32.8800	0.3800	1.2
123170510_15	78	08APR15	18MAY15	32.5090	0.4738	1.5
123170540_15	36	29APR15	04JUN15	31.5222	0.5467	1.7
123170560_15	21	08MAY15	18MAY15	32.5476	0.2015	0.6
123170600_15	77	28MAY15	28JUN15	31.9857	0.5617	1.8
123170620_15	32	12JUN15	01JUL15	32.0875	0.6617	2.1
123170650_15	25	20JUN15	30JUN15	31.9840	0.3508	1.1
123170660_15	47	24JUN15	02AUG15	32.1851	0.5449	1.7
123170700_15	45	15JUL15	20AUG15	31.2844	0.5494	1.8
123170720_15	58	04AUG15	06SEP15	32.3069	0.5788	1.8
123170730_15	30	09AUG15	27AUG15	32.0433	0.5550	1.7
123170760_15	59	27AUG15	11OCT15	32.4678	0.4478	1.4
123170770_15	40	29AUG15	20SEP15	32.0650	0.5484	1.7
123170790_15	42	22SEP15	24OCT15	31.2048	0.3793	1.2
123170820_15	22	25SEP15	05OCT15	32.4455	0.3377	1.0
123170860_15	94	14OCT15	23NOV15	32.2176	0.5021	1.6
123170890_15	52	05NOV15	10DEC15	31.9058	0.5143	1.6
123170930_15	37	24NOV15	21DEC15	31.8189	0.3230	1.0
123170940_15	36	03DEC15	20DEC15	31.9389	0.2861	0.9
123170990_16	43	09JAN16	26JAN16	32.2767	0.4937	1.5
123170980_16	55	10JAN16	10FEB16	31.1509	0.5865	1.9
123171020_16	89	30JAN16	07MAR16	31.9449	0.4929	1.5
123171060_16	78	18FEB16	02APR16	31.7385	0.6457	2.0
123171080_16	52	16MAR16	26APR16	31.4404	0.5278	1.7
123171100_16	31	25MAR16	07APR16	31.7677	0.3516	1.1
123171110_16	44	06APR16	11MAY16	32.2227	0.4356	1.4
123171120_16	22	12APR16	18APR16	32.4273	0.2694	0.8
123171130_16	55	28APR16	05JUN16	32.2145	0.4688	1.5
123171150_16	28	04MAY16	17MAY16	32.8714	0.2123	0.6
123171160_16	47	18MAY16	20JUN16	31.6957	0.3520	1.1
123171170_16	27	26MAY16	09JUN16	32.5704	0.4331	1.3
123171190_16	29	09JUN16	16JUL16	32.2310	0.6359	2.0
123171210_16	32	16JUN16	28JUN16	32.2969	0.3177	1.0
123171240_16	37	16JUL16	02AUG16	32.3324	0.3292	1.0
123171250_16	37	18JUL16	15AUG16	32.8865	0.5912	1.8
123171270_16	42	04AUG16	08SEP16	31.7262	0.5383	1.7
123171300_16	74	18AUG16	25SEP16	32.5500	0.7958	2.4
123171320_16	39	01SEP16	19SEP16	32.2795	0.2984	0.9
123171350_16	35	20SEP16	03OCT16	32.4314	0.3037	0.9
123171340_16	52	22SEP16	30OCT16	31.7135	0.7779	2.5
123171360_16	44	06OCT16	10NOV16	31.9432	0.4896	1.5
123171390_16	28	11OCT16	02NOV16	32.3964	0.3677	1.1
123171410_16	84	01NOV16	11DEC16	32.5607	0.3865	1.2
123171430_16	45	17NOV16	21DEC16	32.5667	0.5701	1.8
123171460_16	31	26NOV16	18DEC16	33.5677	0.2903	0.9
123171480_16	22	09DEC16	17DEC16	32.8500	0.2283	0.7
123171480_17	21	14JAN17	28JAN17	32.3381	0.2312	0.7


2015-2016 QC Chart for Mean Cell Hgb Conc. (g/dL) (Lvl 1)
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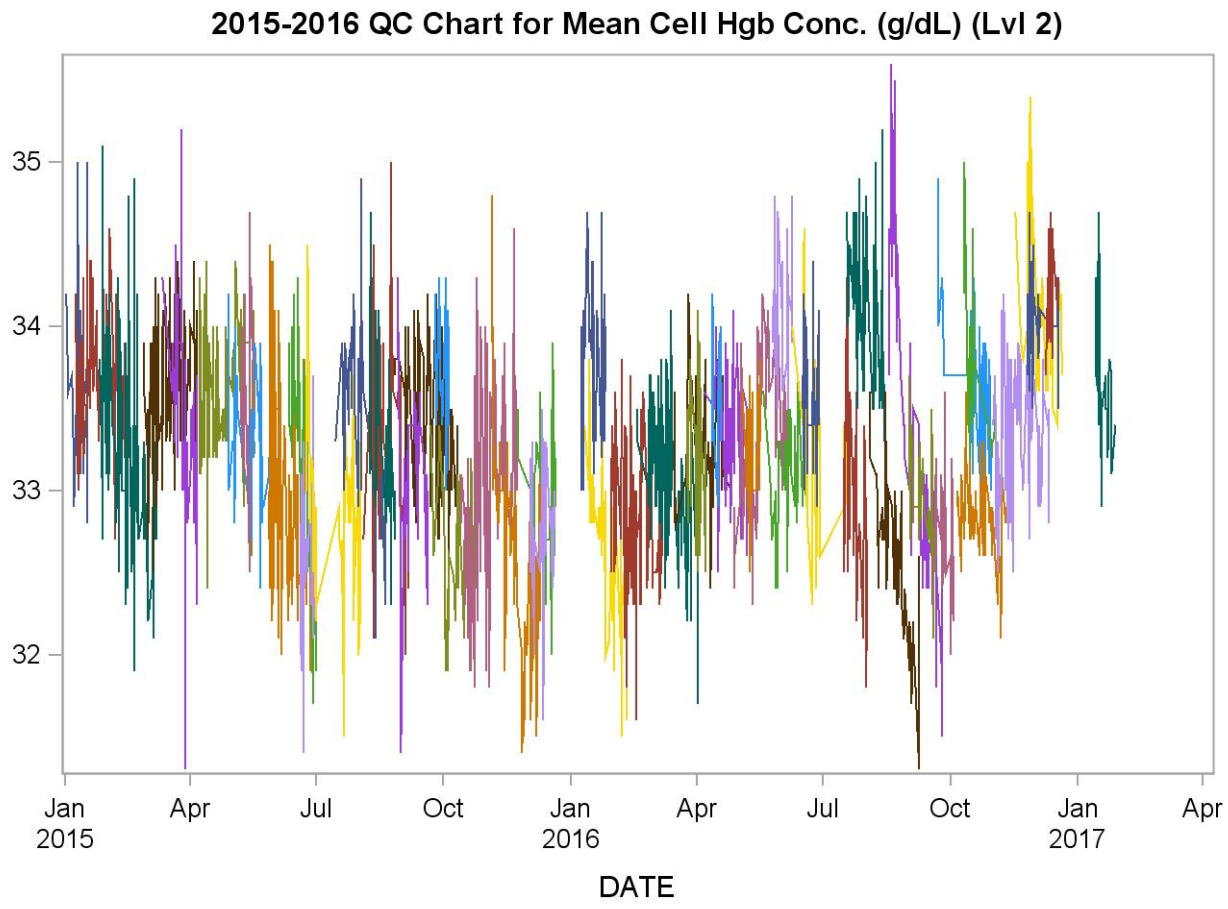
2015-2016 Summary Statistics and QC Chart for Mean Cell Hgb Conc. (g/dL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	33.7391	0.5945	1.8
133180340_15	70	09JAN15	14FEB15	33.7386	0.4001	1.2
133180390_15	86	26JAN15	08MAR15	33.2360	0.6064	1.8
133180430_15	80	27FEB15	06APR15	33.6075	0.4212	1.3
133180460_15	39	12MAR15	06APR15	33.5000	0.6561	2.0
133180510_15	82	08APR15	18MAY15	33.5927	0.3896	1.2
133180540_15	41	29APR15	04JUN15	33.2390	0.3930	1.2
133180560_15	22	08MAY15	18MAY15	33.7273	0.4949	1.5
133180600_15	79	28MAY15	27JUN15	32.9956	0.6412	1.9
133180620_15	44	12JUN15	01JUL15	33.2091	0.7074	2.1
133180650_15	26	20JUN15	30JUN15	32.5692	0.4748	1.5
133180660_15	49	24JUN15	02AUG15	32.8673	0.5383	1.6
133180700_15	50	15JUL15	20AUG15	33.5180	0.4715	1.4
133180720_15	58	04AUG15	06SEP15	33.3103	0.5797	1.7
133180730_15	30	09AUG15	27AUG15	33.4400	0.5062	1.5
133180760_15	67	27AUG15	11OCT15	33.4537	0.4315	1.3
133180770_15	43	29AUG15	20SEP15	33.1023	0.5073	1.5
133180790_15	47	22SEP15	24OCT15	32.5298	0.3978	1.2
133180820_15	22	25SEP15	05OCT15	33.7591	0.3404	1.0
133180860_15	104	14OCT15	23NOV15	32.9260	0.5891	1.8
133180890_15	56	05NOV15	10DEC15	32.6696	0.7294	2.2
133180930_15	41	24NOV15	21DEC15	32.9634	0.3706	1.1
133180940_15	36	03DEC15	20DEC15	32.7111	0.3686	1.1
133180990_16	42	09JAN16	26JAN16	33.7024	0.4285	1.3
133180980_16	58	10JAN16	10FEB16	32.7224	0.5305	1.6
133181020_16	95	30JAN16	07MAR16	32.8326	0.4067	1.2
133181060_16	88	18FEB16	02APR16	33.0580	0.4226	1.3
133181080_16	51	16MAR16	26APR16	33.2882	0.3445	1.0
133181110_16	31	25MAR16	07APR16	33.1645	0.4239	1.3
133181100_16	47	06APR16	11MAY16	33.3362	0.4193	1.3
133181120_16	22	12APR16	18APR16	33.5818	0.2938	0.9
133181130_16	57	28APR16	05JUN16	33.3439	0.4759	1.4
133181140_16	28	04MAY16	17MAY16	33.2857	0.3251	1.0
133181160_16	51	18MAY16	20JUN16	33.1078	0.3340	1.0
133181170_16	30	26MAY16	09JUN16	34.1000	0.3742	1.1
133181190_16	35	09JUN16	18JUL16	33.3000	0.5207	1.6
133181210_16	35	16JUN16	28JUN16	33.5886	0.3660	1.1
133181240_16	37	16JUL16	02AUG16	33.0243	0.5267	1.6
133181250_16	45	18JUL16	15AUG16	34.0711	0.5238	1.5
133181270_16	46	04AUG16	08SEP16	32.5217	0.4988	1.5
133181300_16	76	18AUG16	25SEP16	33.5961	1.0724	3.2
133181320_16	38	01SEP16	19SEP16	32.9921	0.2963	0.9
133181350_16	34	20SEP16	03OCT16	32.7912	0.3137	1.0
133181340_16	30	22SEP16	30OCT16	33.6633	0.4937	1.5
133181360_16	45	06OCT16	10NOV16	32.8400	0.2903	0.9
133181390_16	28	11OCT16	02NOV16	33.7000	0.4216	1.3
133181410_16	82	01NOV16	11DEC16	33.3183	0.4007	1.2
133181430_16	50	17NOV16	21DEC16	34.1600	0.4924	1.4
133181460_16	31	26NOV16	18DEC16	34.0774	0.2906	0.9
133181480_16	23	09DEC16	17DEC16	34.1522	0.2890	0.8
133181480_17	22	14JAN17	28JAN17	33.6409	0.4102	1.2


2015-2016 QC Chart for Mean Cell Hgb Conc. (g/dL) (Lvl 2)
35
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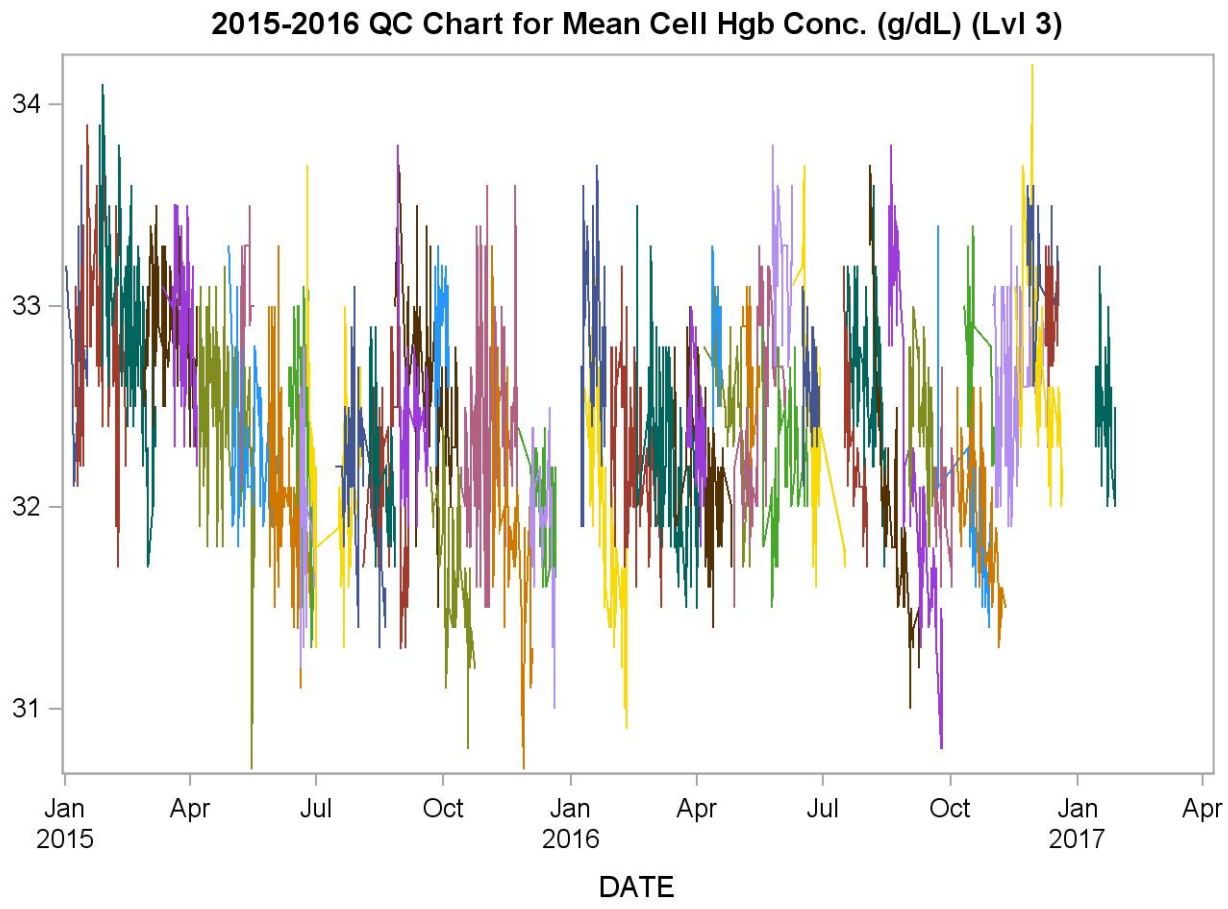
2015-2016 Summary Statistics and QC Chart for Mean Cell Hgb Conc. (g/dL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	16	02JAN15	17JAN15	32.8688	0.3962	1.2
143190340_15	63	09JAN15	14FEB15	32.8381	0.4481	1.4
143190390_15	80	26JAN15	08MAR15	32.9175	0.4660	1.4
143190430_15	76	27FEB15	06APR15	32.9461	0.3031	0.9
143190460_15	31	12MAR15	06APR15	32.8871	0.4105	1.2
143190510_15	90	08APR15	18MAY15	32.4933	0.3940	1.2
143190540_15	45	29APR15	04JUN15	32.2844	0.3451	1.1
143190560_15	23	08MAY15	18MAY15	33.0391	0.2904	0.9
143190600_15	86	28MAY15	28JUN15	32.1663	0.4598	1.4
143190620_15	34	12JUN15	01JUL15	32.3471	0.5333	1.6
143190650_15	26	20JUN15	30JUN15	31.9462	0.4012	1.3
143190660_15	47	24JUN15	02AUG15	32.2064	0.4887	1.5
143190700_15	46	15JUL15	20AUG15	32.1674	0.3766	1.2
143190720_15	55	04AUG15	06SEP15	32.1836	0.4220	1.3
143190730_15	31	09AUG15	27AUG15	32.2452	0.3335	1.0
143190760_15	63	27AUG15	11OCT15	32.6381	0.3961	1.2
143190770_15	40	29AUG15	20SEP15	32.4650	0.4240	1.3
143190790_15	42	22SEP15	24OCT15	31.6333	0.3419	1.1
143190820_15	27	25SEP15	05OCT15	32.8407	0.2978	0.9
143190860_15	94	14OCT15	23NOV15	32.2904	0.4919	1.5
143190890_15	42	05NOV15	04DEC15	31.8310	0.5039	1.6
143190930_15	36	24NOV15	21DEC15	31.9694	0.2516	0.8
143190940_15	37	03DEC15	20DEC15	31.9405	0.2901	0.9
143190990_16	41	09JAN16	26JAN16	32.6854	0.4187	1.3
143190980_16	54	10JAN16	10FEB16	31.9056	0.5159	1.6
143191020_16	91	30JAN16	07MAR16	32.2846	0.3409	1.1
143191060_16	85	18FEB16	02APR16	32.2553	0.4037	1.3
143191080_16	51	16MAR16	26APR16	32.1980	0.3490	1.1
143191100_16	31	25MAR16	07APR16	32.3645	0.2627	0.8
143191110_16	45	06APR16	11MAY16	32.4511	0.3217	1.0
143191120_16	20	12APR16	18APR16	32.8550	0.2564	0.8
143191130_16	57	28APR16	05JUN16	32.4737	0.4253	1.3
143191140_16	28	04MAY16	17MAY16	32.6964	0.2365	0.7
143191160_16	47	18MAY16	20JUN16	32.2340	0.2995	0.9
143191170_16	27	26MAY16	09JUN16	33.1778	0.3093	0.9
143191190_16	31	09JUN16	17JUL16	32.3935	0.5597	1.7
143191210_16	32	16JUN16	28JUN16	32.6406	0.2340	0.7
143191240_16	38	16JUL16	02AUG16	32.3316	0.3449	1.1
143191250_16	41	18JUL16	15AUG16	32.6024	0.3953	1.2
143191270_16	40	04AUG16	08SEP16	31.8975	0.5521	1.7
143191300_16	72	18AUG16	25SEP16	32.3986	0.8099	2.5
143191320_16	38	01SEP16	19SEP16	32.4658	0.2878	0.9
143191350_16	33	20SEP16	03OCT16	32.0515	0.2399	0.7
143191340_16	27	22SEP16	30OCT16	32.0259	0.4266	1.3
143191360_16	44	06OCT16	10NOV16	31.9773	0.3608	1.1
143191390_16	28	11OCT16	02NOV16	32.7429	0.3436	1.0
143191410_16	82	01NOV16	11DEC16	32.6000	0.3355	1.0
143191430_16	52	17NOV16	21DEC16	32.7096	0.4577	1.4
143191460_16	31	26NOV16	18DEC16	33.2194	0.2315	0.7
143191480_16	23	09DEC16	17DEC16	32.9522	0.2150	0.7
143191480_17	21	14JAN17	28JAN17	32.4667	0.3261	1.0


2015-2016 QC Chart for Mean Cell Hgb Conc. (g/dL) (Lvl 3)
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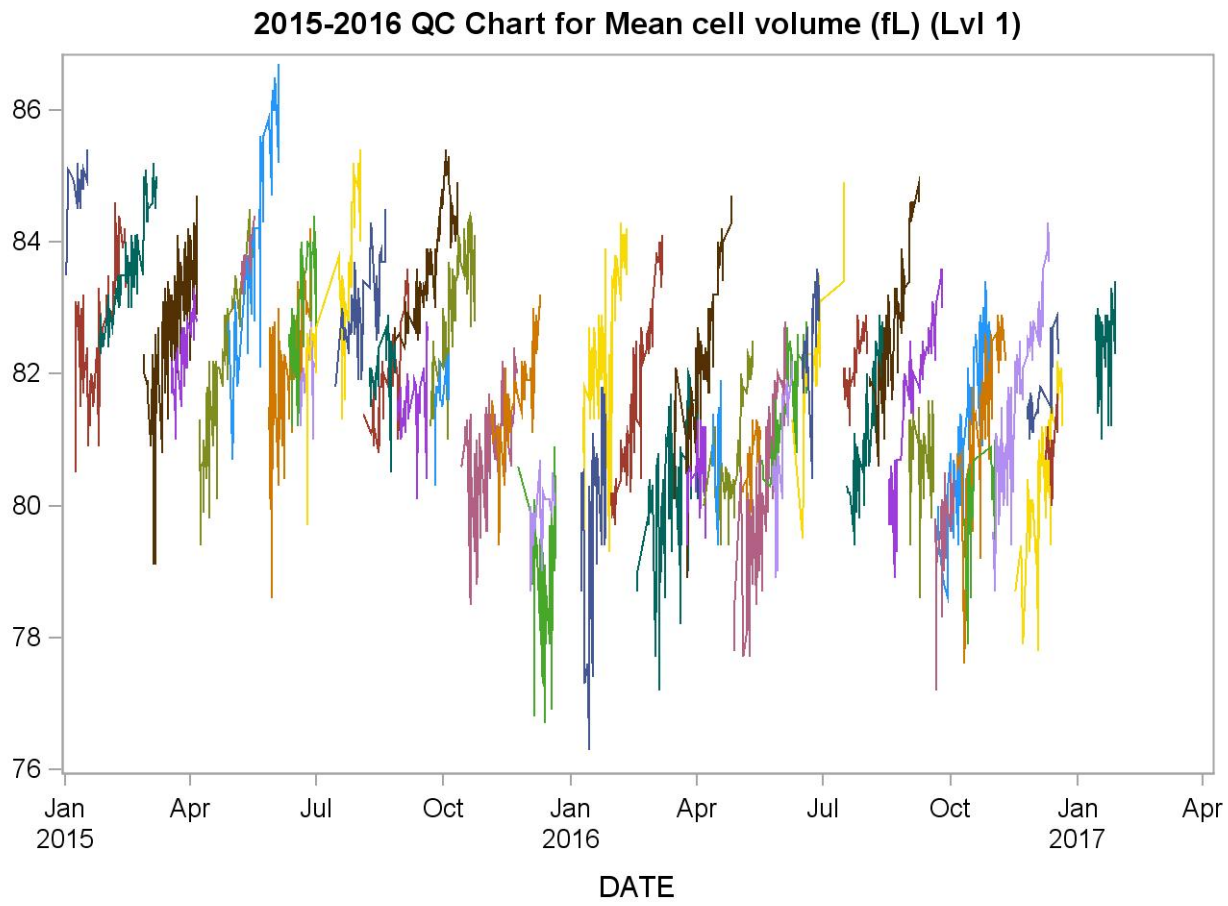
2015-2016 Summary Statistics and QC Chart for Mean cell volume (fL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	84.8353	0.4212	0.5
123170340_15	67	09JAN15	14FEB15	82.6597	0.8938	1.1
123170390_15	87	26JAN15	08MAR15	83.5897	0.7471	0.9
123170430_15	74	27FEB15	06APR15	82.3446	1.1181	1.4
123170460_15	30	19MAR15	06APR15	82.3367	0.5308	0.6
123170510_15	78	08APR15	18MAY15	82.1564	1.2127	1.5
123170540_15	36	29APR15	04JUN15	84.1500	1.5683	1.9
123170560_15	21	08MAY15	18MAY15	83.7000	0.2793	0.3
123170600_15	77	28MAY15	28JUN15	82.1494	0.9777	1.2
123170620_15	32	12JUN15	01JUL15	83.1094	0.8920	1.1
123170650_15	25	20JUN15	30JUN15	81.8760	0.3467	0.4
123170660_15	47	24JUN15	02AUG15	83.0404	1.1205	1.3
123170700_15	45	15JUL15	20AUG15	83.0244	0.6076	0.7
123170720_15	58	04AUG15	06SEP15	81.9862	0.6929	0.8
123170730_15	30	09AUG15	27AUG15	82.0567	0.4554	0.6
123170760_15	59	27AUG15	11OCT15	83.6644	0.8374	1.0
123170770_15	40	29AUG15	20SEP15	81.5800	0.5105	0.6
123170790_15	42	22SEP15	24OCT15	83.0571	0.9004	1.1
123170820_15	22	25SEP15	05OCT15	81.8136	0.4302	0.5
123170860_15	94	14OCT15	23NOV15	80.7899	0.7738	1.0
123170890_15	52	05NOV15	10DEC15	81.6115	0.7134	0.9
123170930_15	37	24NOV15	21DEC15	78.9216	1.0344	1.3
123170940_15	36	03DEC15	20DEC15	79.8694	0.3702	0.5
123170990_16	43	09JAN16	26JAN16	80.1023	1.2781	1.6
123170980_16	56	10JAN16	10FEB16	82.6161	1.1911	1.4
123171020_16	91	30JAN16	07MAR16	81.3577	1.2296	1.5
123171060_16	78	18FEB16	02APR16	80.2090	0.9736	1.2
123171080_16	52	16MAR16	26APR16	82.2308	1.2580	1.5
123171100_16	31	25MAR16	07APR16	80.5000	0.4669	0.6
123171110_16	44	06APR16	11MAY16	80.8568	0.8536	1.1
123171120_16	22	12APR16	18APR16	81.0182	0.5491	0.7
123171130_16	55	28APR16	05JUN16	80.1782	1.3412	1.7
123171150_16	28	04MAY16	17MAY16	80.6821	0.4047	0.5
123171160_16	47	18MAY16	20JUN16	81.6362	0.7583	0.9
123171170_16	27	26MAY16	09JUN16	80.7963	0.8197	1.0
123171190_16	29	09JUN16	16JUL16	82.0793	0.9256	1.1
123171210_16	32	16JUN16	28JUN16	82.4781	0.5779	0.7
123171240_16	37	16JUL16	02AUG16	82.0838	0.4133	0.5
123171250_16	37	18JUL16	15AUG16	81.2081	0.9613	1.2
123171270_16	42	04AUG16	08SEP16	82.9214	1.1308	1.4
123171300_16	74	18AUG16	25SEP16	81.5203	1.1916	1.5
123171320_16	39	01SEP16	19SEP16	80.7641	0.6268	0.8
123171350_16	35	20SEP16	03OCT16	79.6457	0.6303	0.8
123171340_16	53	22SEP16	30OCT16	81.0887	1.1570	1.4
123171360_16	44	06OCT16	10NOV16	81.3705	1.0888	1.3
123171390_16	28	11OCT16	02NOV16	80.1286	0.6537	0.8
123171410_16	84	01NOV16	11DEC16	81.5786	1.1049	1.4
123171430_16	45	17NOV16	21DEC16	80.4622	1.0722	1.3
123171460_16	31	26NOV16	18DEC16	81.6968	0.5456	0.7
123171480_16	22	09DEC16	17DEC16	80.8000	0.3651	0.5
123171480_17	21	14JAN17	28JAN17	82.4286	0.7309	0.9


2015-2016 QC Chart for Mean cell volume (fL) (Lvl 1)
86
84
82
80
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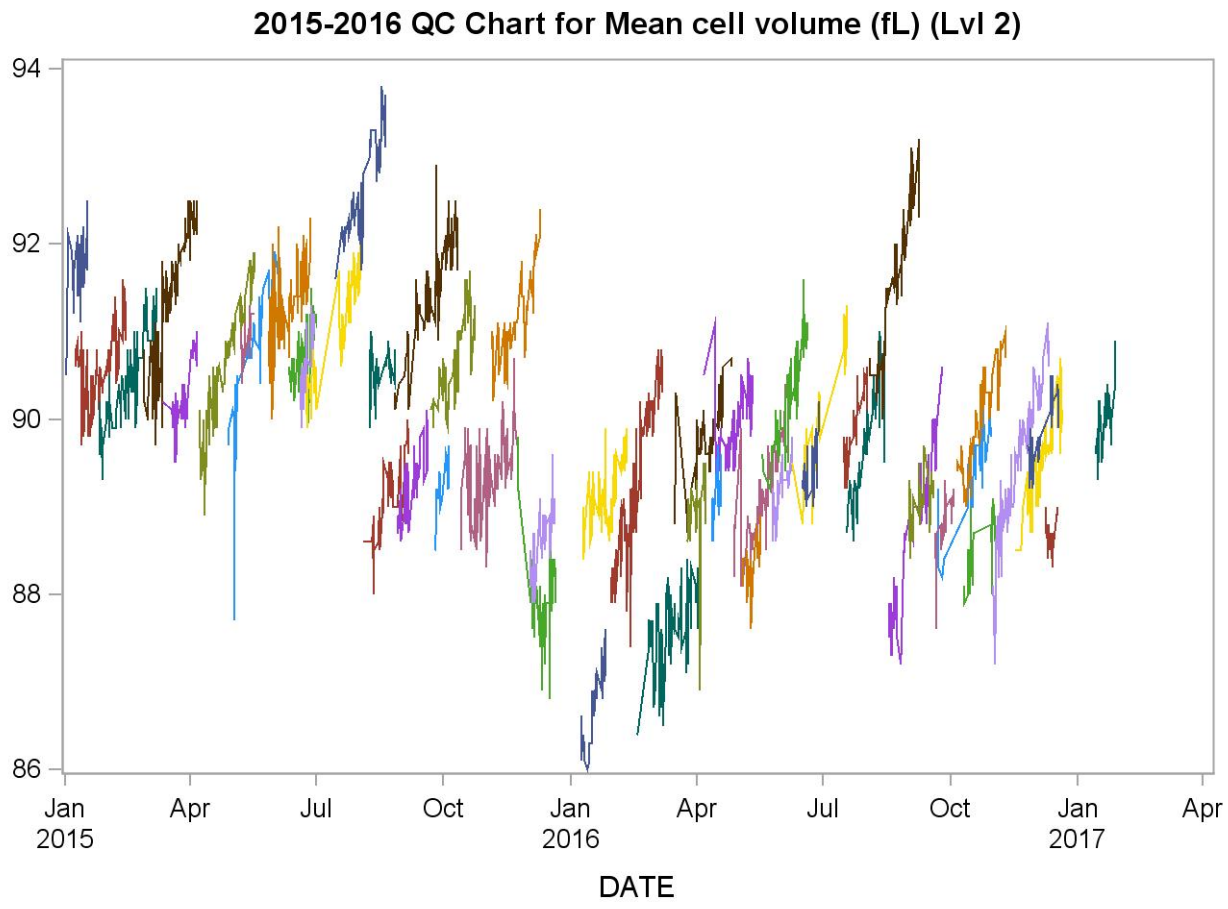
DATE

2015-2016 Summary Statistics and QC Chart for Mean cell volume (fL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	91.7913	0.4481	0.5
133180340_15	70	09JAN15	14FEB15	90.5429	0.3977	0.4
133180390_15	87	26JAN15	08MAR15	90.4402	0.4982	0.6
133180430_15	80	27FEB15	06APR15	91.0913	0.8213	0.9
133180460_15	39	12MAR15	06APR15	90.2436	0.3719	0.4
133180510_15	82	08APR15	18MAY15	90.4598	0.7269	0.8
133180540_15	41	29APR15	04JUN15	90.8220	0.8214	0.9
133180560_15	22	08MAY15	18MAY15	90.8045	0.2591	0.3
133180600_15	79	28MAY15	27JUN15	91.2911	0.4786	0.5
133180620_15	44	12JUN15	01JUL15	90.7841	0.3341	0.4
133180650_15	26	20JUN15	30JUN15	90.5231	0.3278	0.4
133180660_15	49	24JUN15	02AUG15	90.9224	0.6114	0.7
133180700_15	50	15JUL15	20AUG15	92.6200	0.4990	0.5
133180720_15	58	04AUG15	06SEP15	89.0345	0.4644	0.5
133180730_15	30	09AUG15	27AUG15	90.5133	0.2583	0.3
133180760_15	68	27AUG15	11OCT15	91.4338	0.5949	0.7
133180770_15	44	29AUG15	20SEP15	89.2500	0.3580	0.4
133180790_15	47	22SEP15	24OCT15	90.6894	0.4979	0.5
133180820_15	22	25SEP15	05OCT15	89.2273	0.3089	0.3
133180860_15	104	14OCT15	23NOV15	89.4000	0.4457	0.5
133180890_15	56	05NOV15	10DEC15	91.0929	0.5077	0.6
133180930_15	41	24NOV15	21DEC15	87.9341	0.5855	0.7
133180940_15	36	03DEC15	20DEC15	88.5917	0.3775	0.4
133180990_16	42	09JAN16	26JAN16	86.6929	0.4414	0.5
133180980_16	58	10JAN16	10FEB16	89.1500	0.3633	0.4
133181020_16	95	30JAN16	07MAR16	89.0168	0.8460	1.0
133181060_16	88	18FEB16	02APR16	87.5284	0.4392	0.5
133181080_16	51	16MAR16	26APR16	89.6490	0.5353	0.6
133181110_16	31	25MAR16	07APR16	88.9161	0.4420	0.5
133181100_16	47	06APR16	11MAY16	89.9447	0.4138	0.5
133181120_16	22	12APR16	18APR16	89.0909	0.2617	0.3
133181130_16	57	28APR16	05JUN16	89.0509	0.5203	0.6
133181140_16	28	04MAY16	17MAY16	88.3179	0.2894	0.3
133181160_16	51	18MAY16	20JUN16	90.2412	0.5650	0.6
133181170_16	30	26MAY16	09JUN16	89.1467	0.3115	0.3
133181190_16	35	09JUN16	18JUL16	89.9143	0.6567	0.7
133181210_16	35	16JUN16	28JUN16	89.4343	0.2849	0.3
133181240_16	37	16JUL16	02AUG16	89.8216	0.3959	0.4
133181250_16	45	18JUL16	15AUG16	89.7800	0.6269	0.7
133181270_16	46	04AUG16	08SEP16	91.6130	0.8344	0.9
133181300_16	76	18AUG16	25SEP16	88.6066	0.9134	1.0
133181320_16	38	01SEP16	19SEP16	89.0105	0.2911	0.3
133181350_16	34	20SEP16	03OCT16	88.7265	0.3287	0.4
133181340_16	30	22SEP16	30OCT16	89.3733	0.5085	0.6
133181360_16	45	06OCT16	10NOV16	90.0600	0.5483	0.6
133181390_16	28	11OCT16	02NOV16	88.4643	0.3456	0.4
133181410_16	82	01NOV16	11DEC16	89.3646	0.7523	0.8
133181430_16	50	17NOV16	21DEC16	89.4860	0.5027	0.6
133181460_16	31	26NOV16	18DEC16	89.7774	0.3703	0.4
133181480_16	23	09DEC16	17DEC16	88.6391	0.1852	0.2
133181480_17	22	14JAN17	28JAN17	90.0091	0.3611	0.4


2015-2016 QC Chart for Mean cell volume (fL) (Lvl 2)
94
92
90
88
86
Jan
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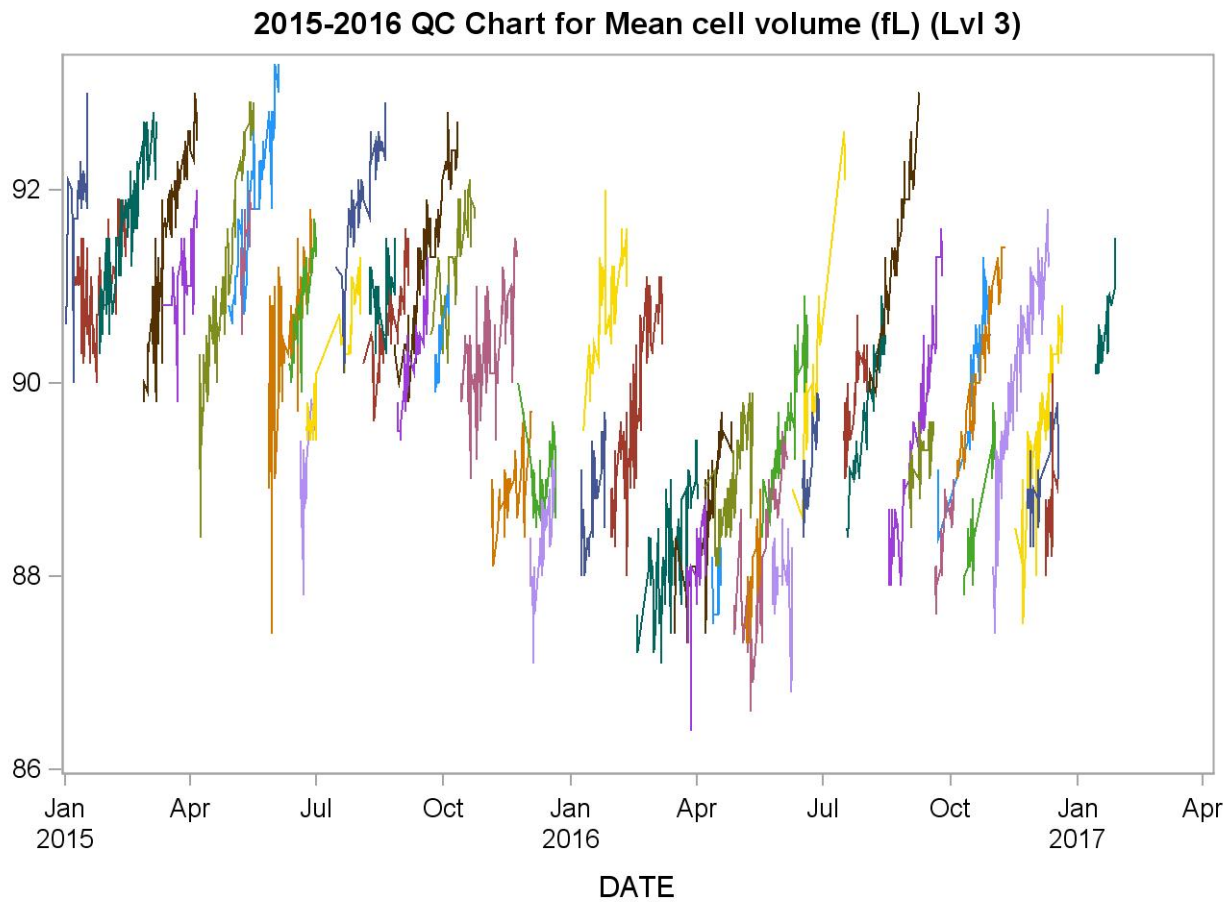
2017
Apr
DATE

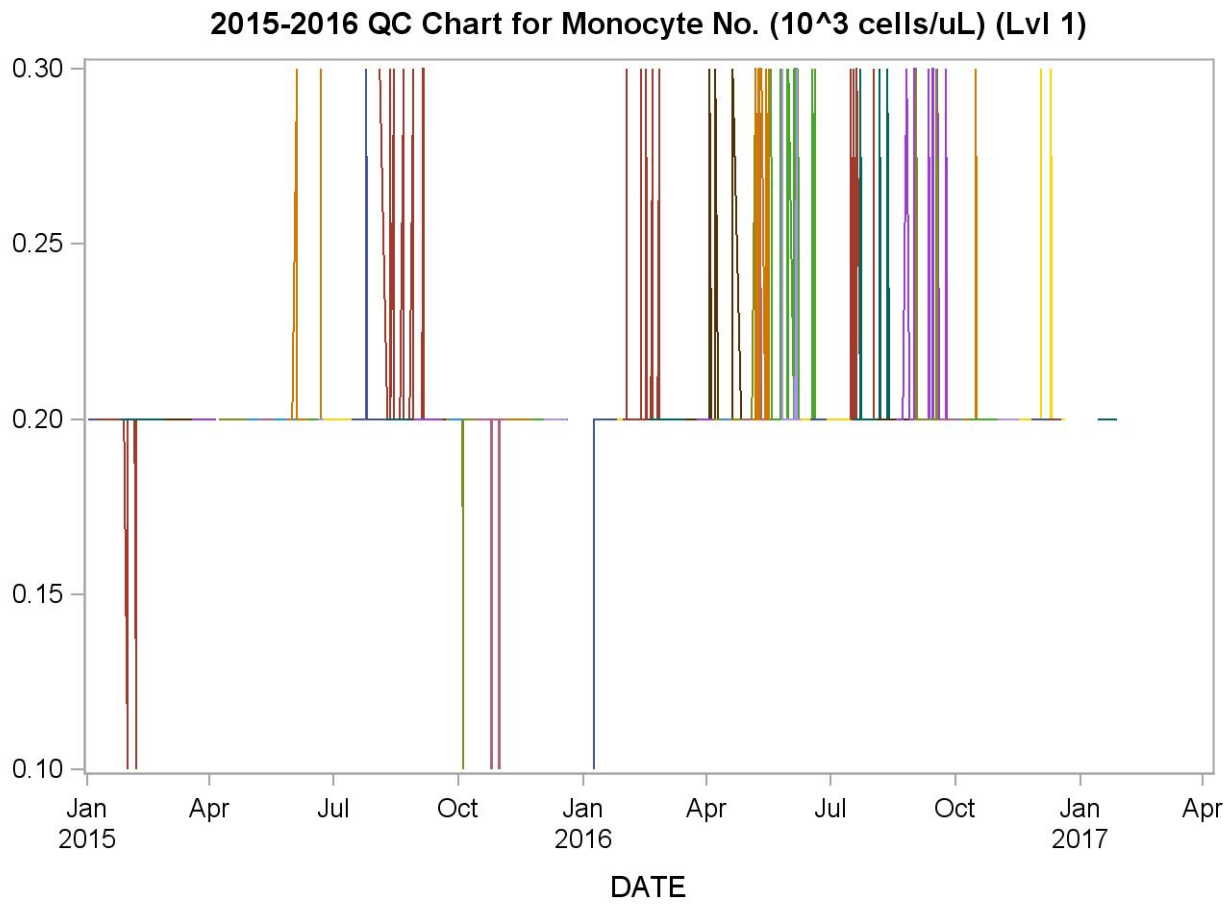
2015-2016 Summary Statistics and QC Chart for Mean cell volume (fL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	91.8176	0.6541	0.7
143190340_15	63	09JAN15	14FEB15	90.9825	0.4478	0.5
143190390_15	80	26JAN15	08MAR15	91.6625	0.6323	0.7
143190430_15	76	27FEB15	06APR15	91.3355	0.8648	0.9
143190460_15	31	12MAR15	06APR15	91.0613	0.4522	0.5
143190510_15	90	08APR15	18MAY15	90.8578	1.0661	1.2
143190540_15	45	29APR15	04JUN15	91.8489	0.7512	0.8
143190560_15	23	08MAY15	18MAY15	91.4130	0.3647	0.4
143190600_15	86	28MAY15	28JUN15	90.4820	0.7027	0.8
143190620_15	34	12JUN15	01JUL15	90.8000	0.4911	0.5
143190650_15	26	20JUN15	30JUN15	89.0269	0.4181	0.5
143190660_15	47	24JUN15	02AUG15	90.2170	0.5787	0.6
143190700_15	46	15JUL15	20AUG15	91.9022	0.5402	0.6
143190720_15	55	04AUG15	06SEP15	90.5509	0.4622	0.5
143190730_15	31	09AUG15	27AUG15	90.9194	0.2845	0.3
143190760_15	63	27AUG15	11OCT15	91.3825	0.7378	0.8
143190770_15	40	29AUG15	20SEP15	90.1600	0.4367	0.5
143190790_15	42	22SEP15	24OCT15	91.2429	0.5365	0.6
143190820_15	27	25SEP15	05OCT15	90.4778	0.3490	0.4
143190860_15	94	14OCT15	23NOV15	90.3085	0.4927	0.5
143190890_15	42	05NOV15	04DEC15	88.8810	0.3704	0.4
143190930_15	36	24NOV15	21DEC15	88.9528	0.3435	0.4
143190940_15	37	03DEC15	20DEC15	88.2243	0.4901	0.6
143190990_16	41	09JAN16	26JAN16	88.8024	0.4730	0.5
143190980_16	54	10JAN16	10FEB16	90.8019	0.5236	0.6
143191020_16	91	30JAN16	07MAR16	89.5659	0.8253	0.9
143191060_16	85	18FEB16	02APR16	88.2000	0.5285	0.6
143191080_16	51	16MAR16	26APR16	88.5216	0.6531	0.7
143191100_16	31	25MAR16	07APR16	87.9968	0.4438	0.5
143191110_16	45	06APR16	11MAY16	89.0044	0.5563	0.6
143191120_16	20	12APR16	18APR16	87.9100	0.2447	0.3
143191130_16	57	28APR16	05JUN16	88.0930	0.7392	0.8
143191140_16	28	04MAY16	17MAY16	87.8571	0.4113	0.5
143191160_16	47	18MAY16	20JUN16	89.6915	0.5959	0.7
143191170_16	27	26MAY16	09JUN16	87.9667	0.3648	0.4
143191190_16	31	09JUN16	17JUL16	90.2516	1.0598	1.2
143191210_16	32	16JUN16	28JUN16	89.1156	0.3911	0.4
143191240_16	38	16JUL16	02AUG16	89.7921	0.3872	0.4
143191250_16	41	18JUL16	15AUG16	89.7585	0.6233	0.7
143191270_16	40	04AUG16	08SEP16	91.3475	0.8373	0.9
143191300_16	72	18AUG16	25SEP16	89.2639	0.9913	1.1
143191320_16	38	01SEP16	19SEP16	89.1763	0.2908	0.3
143191350_16	33	20SEP16	03OCT16	88.2939	0.3799	0.4
143191340_16	27	22SEP16	30OCT16	90.1630	0.6252	0.7
143191360_16	44	06OCT16	10NOV16	90.2636	0.6972	0.8
143191390_16	28	11OCT16	02NOV16	88.5679	0.5341	0.6
143191410_16	82	01NOV16	11DEC16	89.9659	0.8474	0.9
143191430_16	52	17NOV16	21DEC16	89.4673	0.7519	0.8
143191460_16	31	26NOV16	18DEC16	88.9871	0.3973	0.4
143191480_16	24	09DEC16	17DEC16	88.6458	0.4149	0.5
143191480_17	21	14JAN17	28JAN17	90.5381	0.3640	0.4


2015-2016 QC Chart for Mean cell volume (fL) (Lvl 3)
92
90
88
86
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

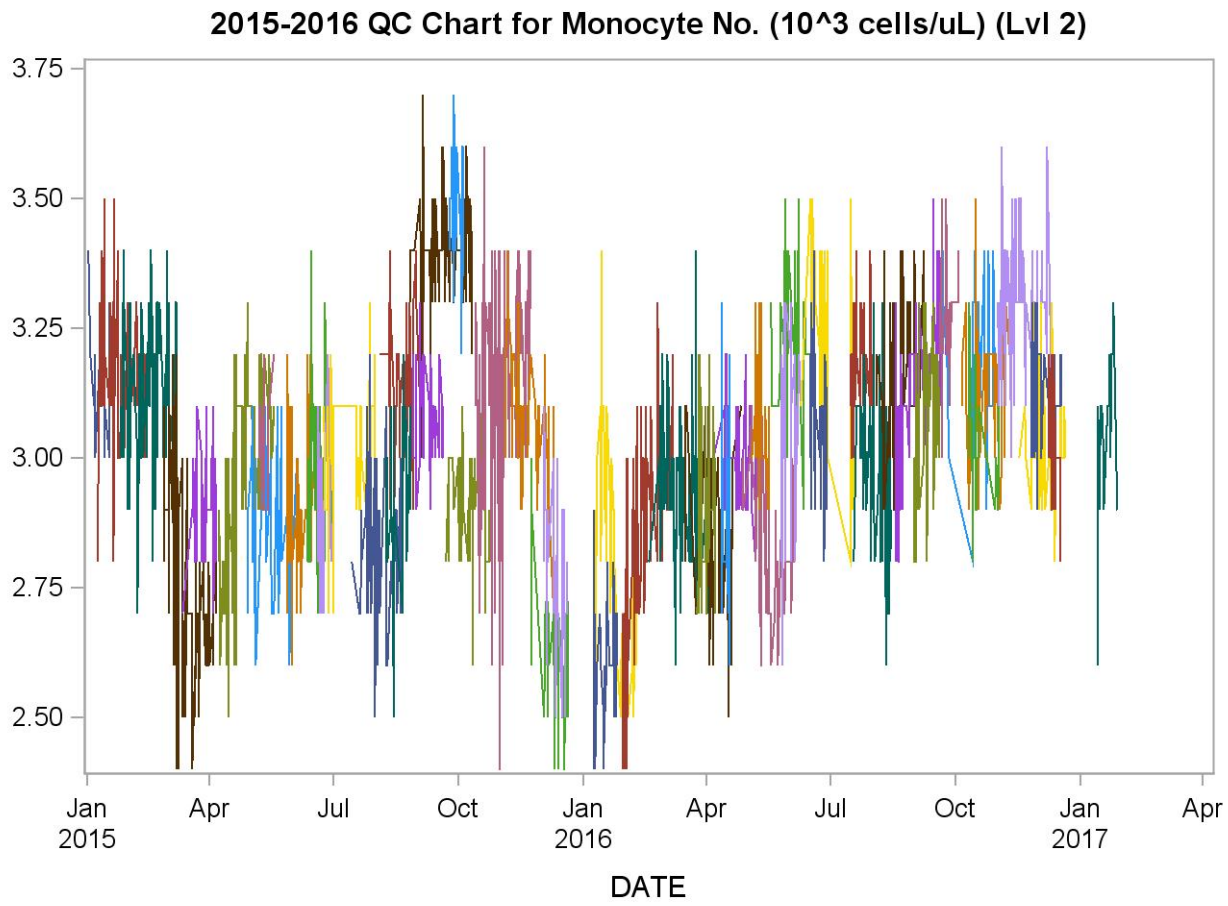
2015-2016 Summary Statistics and QC Chart for Monocyte No. (10^3 cells/uL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	0.2000	0.0000	0.0
123170340_15	65	09JAN15	14FEB15	0.1969	0.0174	8.8
123170390_15	86	26JAN15	08MAR15	0.2000	0.0000	0.0
123170430_15	74	27FEB15	06APR15	0.2000	0.0000	0.0
123170460_15	30	19MAR15	06APR15	0.2000	0.0000	0.0
123170510_15	78	08APR15	18MAY15	0.2000	0.0000	0.0
123170540_15	36	29APR15	04JUN15	0.2000	0.0000	0.0
123170560_15	21	08MAY15	18MAY15	0.2000	0.0000	0.0
123170600_15	76	28MAY15	28JUN15	0.2026	0.0161	8.0
123170620_15	32	12JUN15	01JUL15	0.2000	0.0000	0.0
123170650_15	25	20JUN15	30JUN15	0.2000	0.0000	0.0
123170660_15	46	24JUN15	02AUG15	0.2000	0.0000	0.0
123170700_15	45	15JUL15	20AUG15	0.2022	0.0149	7.4
123170720_15	57	04AUG15	06SEP15	0.2140	0.0350	16.4
123170730_15	30	09AUG15	27AUG15	0.2000	0.0000	0.0
123170760_15	59	27AUG15	11OCT15	0.2000	0.0000	0.0
123170770_15	40	29AUG15	20SEP15	0.2000	0.0000	0.0
123170790_15	42	22SEP15	24OCT15	0.1976	0.0154	7.8
123170820_15	22	25SEP15	05OCT15	0.2000	0.0000	0.0
123170860_15	94	14OCT15	23NOV15	0.1957	0.0203	10.4
123170890_15	52	05NOV15	10DEC15	0.2000	0.0000	0.0
123170930_15	37	24NOV15	21DEC15	0.2000	0.0000	0.0
123170940_15	36	03DEC15	20DEC15	0.2000	0.0000	0.0
123170990_16	43	09JAN16	26JAN16	0.1977	0.0152	7.7
123170980_16	53	10JAN16	10FEB16	0.2000	0.0000	0.0
123171020_16	87	30JAN16	07MAR16	0.2057	0.0234	11.4
123171060_16	78	18FEB16	02APR16	0.2000	0.0000	0.0
123171080_16	51	16MAR16	26APR16	0.2059	0.0238	11.5
123171100_16	31	25MAR16	07APR16	0.2000	0.0000	0.0
123171110_16	44	06APR16	11MAY16	0.2045	0.0211	10.3
123171120_16	22	12APR16	18APR16	0.2000	0.0000	0.0
123171130_16	54	28APR16	05JUN16	0.2056	0.0231	11.2
123171150_16	28	04MAY16	17MAY16	0.2321	0.0476	20.5
123171160_16	47	18MAY16	20JUN16	0.2213	0.0414	18.7
123171170_16	27	26MAY16	09JUN16	0.2074	0.0267	12.9
123171190_16	29	09JUN16	16JUL16	0.2000	0.0000	0.0
123171210_16	32	16JUN16	28JUN16	0.2000	0.0000	0.0
123171240_16	37	16JUL16	02AUG16	0.2135	0.0347	16.2
123171250_16	37	18JUL16	15AUG16	0.2081	0.0277	13.3
123171270_16	42	04AUG16	08SEP16	0.2000	0.0000	0.0
123171300_16	73	18AUG16	25SEP16	0.2123	0.0331	15.6
123171320_16	38	01SEP16	19SEP16	0.2053	0.0226	11.0
123171350_16	35	20SEP16	03OCT16	0.2000	0.0000	0.0
123171340_16	53	22SEP16	30OCT16	0.2000	0.0000	0.0
123171360_16	44	06OCT16	10NOV16	0.2023	0.0151	7.5
123171390_16	28	11OCT16	02NOV16	0.2000	0.0000	0.0
123171410_16	84	01NOV16	11DEC16	0.2000	0.0000	0.0
123171430_16	45	17NOV16	21DEC16	0.2044	0.0208	10.2
123171460_16	31	26NOV16	18DEC16	0.2000	0.0000	0.0
123171480_16	22	09DEC16	17DEC16	0.2000	0.0000	0.0
123171480_17	21	14JAN17	28JAN17	0.2000	0.0000	0.0


2015-2016 QC Chart for Monocyte No. (10^3 cells/uL) (Lvl 1)
0.30
0.25
0.20
0.15
0.10
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

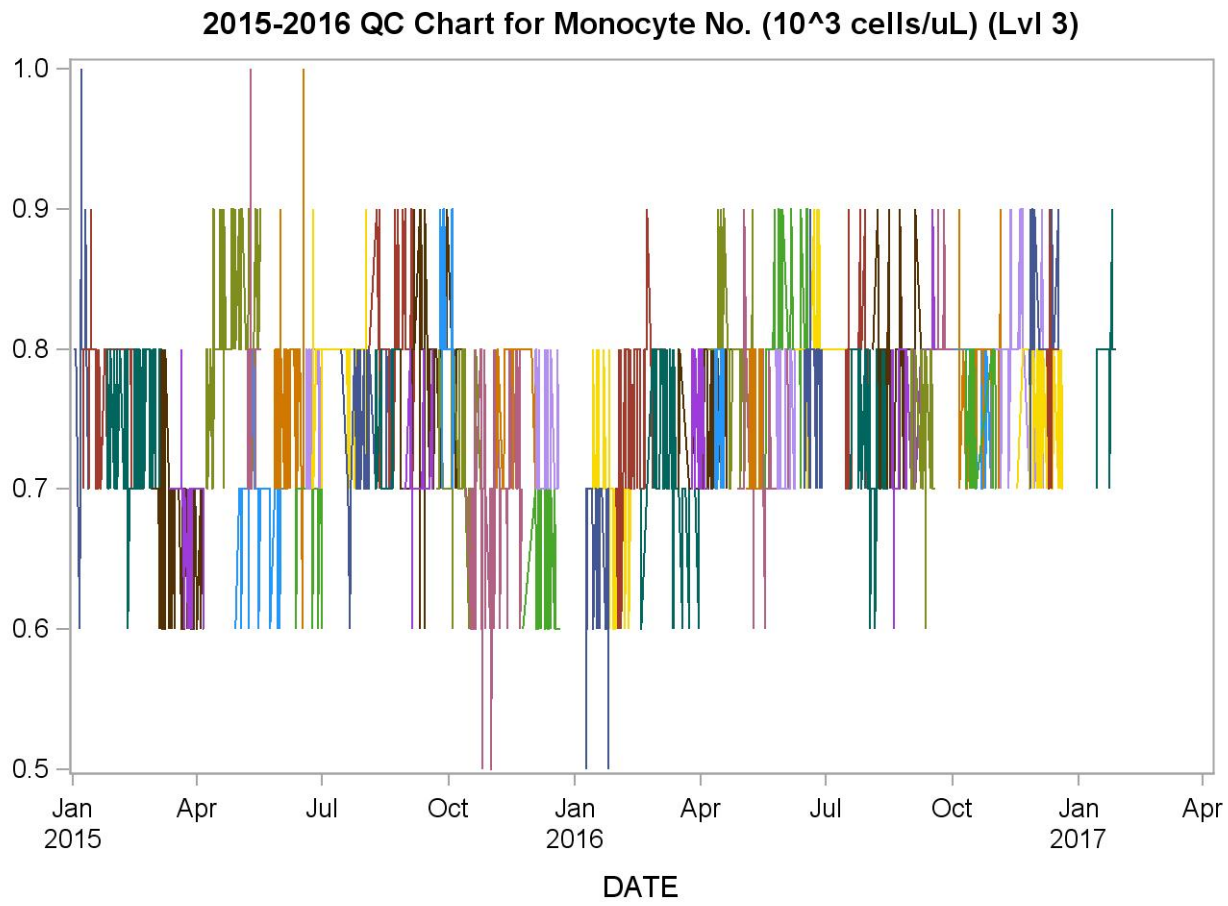
2015-2016 Summary Statistics and QC Chart for Monocyte No. (10^3 cells/uL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	3.1348	0.0982	3.1
133180340_15	69	09JAN15	14FEB15	3.1652	0.1433	4.5
133180390_15	87	26JAN15	08MAR15	3.1391	0.1376	4.4
133180430_15	78	27FEB15	06APR15	2.7782	0.1938	7.0
133180460_15	39	12MAR15	06APR15	2.8897	0.1071	3.7
133180510_15	82	08APR15	18MAY15	2.9220	0.1846	6.3
133180540_15	41	29APR15	04JUN15	2.8512	0.1362	4.8
133180560_15	22	08MAY15	18MAY15	3.0318	0.0894	2.9
133180600_15	78	28MAY15	27JUN15	2.9045	0.1185	4.1
133180620_15	44	12JUN15	01JUL15	2.9795	0.1391	4.7
133180650_15	27	20JUN15	30JUN15	2.8815	0.1360	4.7
133180660_15	48	24JUN15	02AUG15	2.9771	0.1276	4.3
133180700_15	49	15JUL15	20AUG15	2.8082	0.1552	5.5
133180720_15	58	04AUG15	06SEP15	3.1483	0.1246	4.0
133180730_15	30	09AUG15	27AUG15	2.9033	0.1564	5.4
133180760_15	67	27AUG15	11OCT15	3.4060	0.1153	3.4
133180770_15	43	29AUG15	20SEP15	3.0837	0.0898	2.9
133180790_15	47	22SEP15	24OCT15	2.9213	0.1062	3.6
133180820_15	22	25SEP15	05OCT15	3.4682	0.1211	3.5
133180860_15	99	14OCT15	23NOV15	3.0717	0.2395	7.8
133180890_15	56	05NOV15	10DEC15	3.0946	0.1341	4.3
133180930_15	41	24NOV15	21DEC15	2.6220	0.1388	5.3
133180940_15	36	03DEC15	20DEC15	2.8000	0.1414	5.1
133180990_16	42	09JAN16	26JAN16	2.6000	0.1126	4.3
133180980_16	57	10JAN16	10FEB16	2.7930	0.2008	7.2
133181020_16	91	30JAN16	07MAR16	2.8429	0.1827	6.4
133181060_16	87	18FEB16	02APR16	2.9276	0.1335	4.6
133181080_16	51	16MAR16	26APR16	2.8745	0.1521	5.3
133181110_16	31	25MAR16	07APR16	2.8871	0.1628	5.6
133181100_16	47	06APR16	11MAY16	3.0213	0.0954	3.2
133181120_16	22	12APR16	18APR16	2.8727	0.1751	6.1
133181130_16	57	28APR16	05JUN16	2.8316	0.1391	4.9
133181140_16	28	04MAY16	17MAY16	3.0607	0.1100	3.6
133181160_16	51	18MAY16	20JUN16	3.2255	0.1246	3.9
133181170_16	29	26MAY16	09JUN16	3.0586	0.1722	5.6
133181190_16	34	09JUN16	18JUL16	3.2294	0.1801	5.6
133181210_16	35	16JUN16	28JUN16	3.0771	0.1262	4.1
133181240_16	37	16JUL16	02AUG16	3.1676	0.1107	3.5
133181250_16	44	18JUL16	15AUG16	2.9591	0.1560	5.3
133181270_16	46	04AUG16	08SEP16	3.1565	0.1409	4.5
133181300_16	76	18AUG16	25SEP16	3.1053	0.1565	5.0
133181320_16	38	01SEP16	19SEP16	3.0711	0.1374	4.5
133181350_16	34	20SEP16	03OCT16	3.2735	0.0994	3.0
133181340_16	30	22SEP16	30OCT16	3.2067	0.1530	4.8
133181360_16	45	06OCT16	10NOV16	3.1444	0.1289	4.1
133181390_16	27	11OCT16	02NOV16	3.0111	0.1121	3.7
133181410_16	82	01NOV16	11DEC16	3.2976	0.1257	3.8
133181430_16	50	17NOV16	21DEC16	3.0460	0.1147	3.8
133181460_16	31	26NOV16	18DEC16	3.1323	0.1077	3.4
133181480_16	22	09DEC16	17DEC16	3.0227	0.1066	3.5
133181480_17	22	14JAN17	28JAN17	3.0455	0.1471	4.8


2015-2016 QC Chart for Monocyte No. (10^3 cells/uL) (Lvl 2)
3.75
3.50
3.25
3.00
2.75
2.50
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

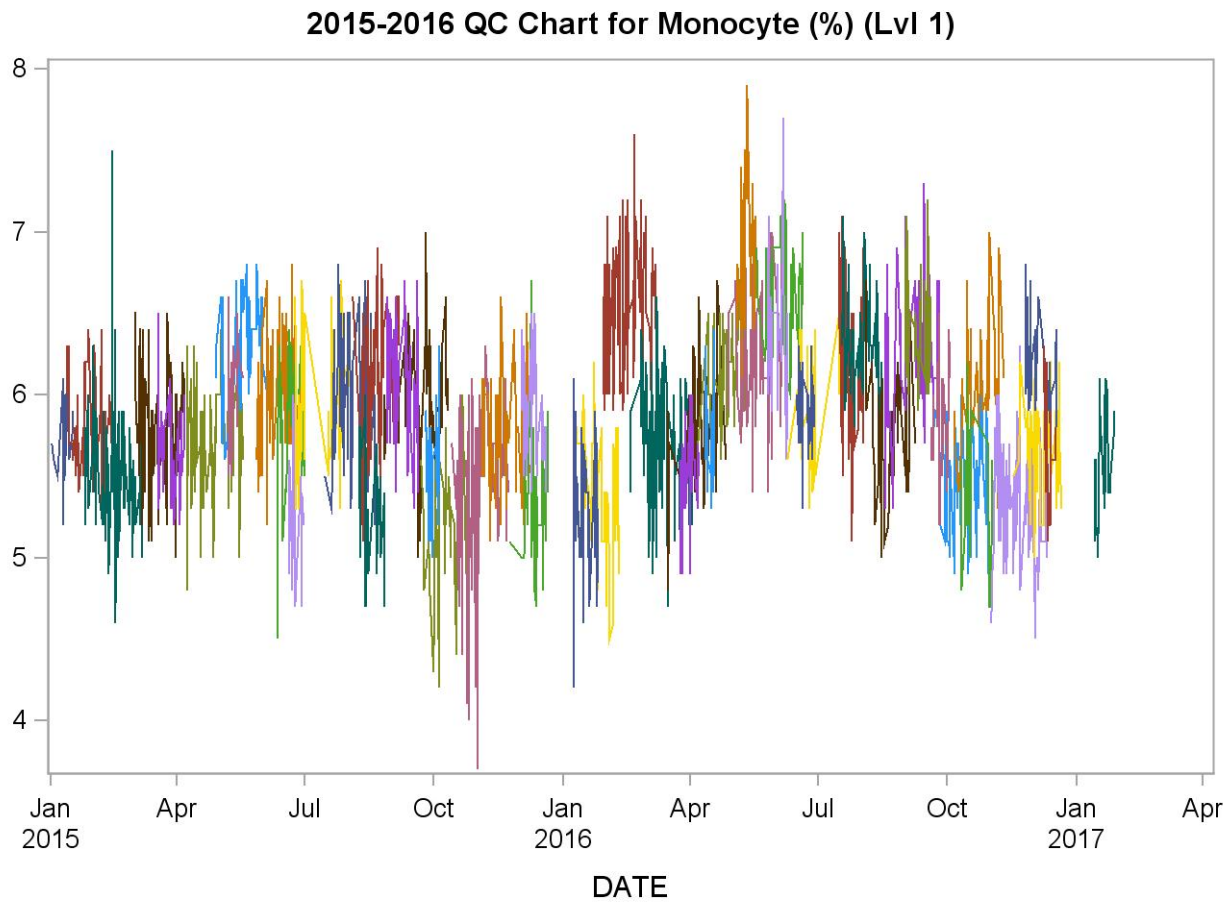
2015-2016 Summary Statistics and QC Chart for Monocyte No. (10^3 cells/uL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	0.7941	0.0827	10.4
143190340_15	63	09JAN15	14FEB15	0.7857	0.0396	5.0
143190390_15	80	26JAN15	08MAR15	0.7400	0.0518	7.0
143190430_15	76	27FEB15	06APR15	0.6671	0.0551	8.3
143190460_15	31	12MAR15	06APR15	0.6871	0.0428	6.2
143190510_15	89	08APR15	18MAY15	0.8213	0.0612	7.4
143190540_15	45	29APR15	04JUN15	0.6889	0.0438	6.4
143190560_15	23	08MAY15	18MAY15	0.7652	0.0714	9.3
143190600_15	86	28MAY15	28JUN15	0.7558	0.0606	8.0
143190620_15	34	12JUN15	01JUL15	0.6912	0.0379	5.5
143190650_15	26	20JUN15	30JUN15	0.7423	0.0504	6.8
143190660_15	47	24JUN15	02AUG15	0.7872	0.0448	5.7
143190700_15	45	15JUL15	20AUG15	0.7267	0.0495	6.8
143190720_15	55	04AUG15	06SEP15	0.8109	0.0497	6.1
143190730_15	31	09AUG15	27AUG15	0.7419	0.0502	6.8
143190760_15	63	27AUG15	11OCT15	0.7841	0.0627	8.0
143190770_15	40	29AUG15	20SEP15	0.7100	0.0379	5.3
143190790_15	42	22SEP15	24OCT15	0.7190	0.0505	7.0
143190820_15	27	25SEP15	05OCT15	0.8148	0.0602	7.4
143190860_15	93	14OCT15	23NOV15	0.6753	0.0732	10.8
143190890_15	42	05NOV15	04DEC15	0.7833	0.0377	4.8
143190930_15	36	24NOV15	21DEC15	0.6389	0.0494	7.7
143190940_15	36	03DEC15	20DEC15	0.7333	0.0478	6.5
143190990_16	41	09JAN16	26JAN16	0.6390	0.0586	9.2
143190980_16	51	10JAN16	10FEB16	0.6941	0.0506	7.3
143191020_16	87	30JAN16	07MAR16	0.7517	0.0588	7.8
143191060_16	84	18FEB16	02APR16	0.7202	0.0597	8.3
143191080_16	50	16MAR16	26APR16	0.7500	0.0505	6.7
143191100_16	30	25MAR16	07APR16	0.7433	0.0504	6.8
143191110_16	44	06APR16	11MAY16	0.8000	0.0482	6.0
143191120_16	20	12APR16	18APR16	0.7600	0.0503	6.6
143191130_16	57	28APR16	05JUN16	0.7281	0.0559	7.7
143191140_16	28	04MAY16	17MAY16	0.7607	0.0497	6.5
143191160_16	47	18MAY16	20JUN16	0.8213	0.0508	6.2
143191170_16	27	26MAY16	09JUN16	0.7481	0.0509	6.8
143191190_16	31	09JUN16	17JUL16	0.7968	0.0482	6.0
143191210_16	32	16JUN16	28JUN16	0.7813	0.0471	6.0
143191240_16	38	16JUL16	02AUG16	0.7895	0.0509	6.4
143191250_16	41	18JUL16	15AUG16	0.7463	0.0596	8.0
143191270_16	40	04AUG16	08SEP16	0.7825	0.0594	7.6
143191300_16	72	18AUG16	25SEP16	0.7611	0.0545	7.2
143191320_16	38	01SEP16	19SEP16	0.7342	0.0534	7.3
143191350_16	32	20SEP16	03OCT16	0.8094	0.0296	3.7
143191340_16	27	22SEP16	30OCT16	0.7741	0.0447	5.8
143191360_16	44	06OCT16	10NOV16	0.7795	0.0509	6.5
143191390_16	28	11OCT16	02NOV16	0.7607	0.0497	6.5
143191410_16	82	01NOV16	11DEC16	0.8000	0.0416	5.2
143191430_16	52	17NOV16	21DEC16	0.7654	0.0480	6.3
143191460_16	31	26NOV16	18DEC16	0.8161	0.0454	5.6
143191480_16	22	09DEC16	17DEC16	0.7864	0.0468	5.9
143191480_17	21	14JAN17	28JAN17	0.7952	0.0384	4.8


2015-2016 QC Chart for Monocyte No. (10^3 cells/uL) (Lvl 3)
1.0
0.9
0.8
0.7
0.6
0.5
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Monocyte (%) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	5.7412	0.2526	4.4
123170340_15	52	13JAN15	14FEB15	5.8692	0.2790	4.8
123170390_15	86	26JAN15	08MAR15	5.5628	0.3723	6.7
123170430_15	71	02MAR15	06APR15	5.7986	0.3572	6.2
123170460_15	30	19MAR15	06APR15	5.7100	0.2998	5.3
123170510_15	78	08APR15	18MAY15	5.6987	0.3177	5.6
123170540_15	36	29APR15	04JUN15	6.3306	0.3003	4.7
123170560_15	21	08MAY15	18MAY15	6.0238	0.3097	5.1
123170600_15	76	28MAY15	28JUN15	5.9658	0.3400	5.7
123170620_15	32	12JUN15	01JUL15	5.8656	0.3989	6.8
123170650_15	25	20JUN15	30JUN15	5.2400	0.3279	6.3
123170660_15	47	24JUN15	02AUG15	5.9511	0.3753	6.3
123170700_15	45	15JUL15	20AUG15	6.0067	0.4153	6.9
123170720_15	57	04AUG15	06SEP15	6.0298	0.4301	7.1
123170730_15	30	09AUG15	27AUG15	5.3167	0.3742	7.0
123170760_15	59	27AUG15	11OCT15	5.9797	0.3517	5.9
123170770_15	40	29AUG15	20SEP15	6.0025	0.3752	6.3
123170790_15	42	22SEP15	24OCT15	5.1214	0.3979	7.8
123170820_15	22	25SEP15	05OCT15	5.6000	0.3690	6.6
123170860_15	94	14OCT15	23NOV15	5.4053	0.4952	9.2
123170890_15	52	05NOV15	10DEC15	5.7904	0.3291	5.7
123170930_15	37	24NOV15	21DEC15	5.3405	0.3775	7.1
123170940_15	36	03DEC15	20DEC15	5.8917	0.3184	5.4
123170990_16	43	09JAN16	26JAN16	5.3419	0.4043	7.6
123170980_16	53	10JAN16	10FEB16	5.3736	0.3643	6.8
123171020_16	87	30JAN16	07MAR16	6.5678	0.3780	5.8
123171060_16	78	18FEB16	02APR16	5.7038	0.3903	6.8
123171080_16	51	16MAR16	26APR16	5.7353	0.3405	5.9
123171100_16	31	25MAR16	07APR16	5.5323	0.2937	5.3
123171110_16	44	06APR16	11MAY16	6.1545	0.3129	5.1
123171120_16	22	12APR16	18APR16	5.7955	0.3047	5.3
123171130_16	54	28APR16	05JUN16	6.2722	0.4049	6.5
123171150_16	28	04MAY16	17MAY16	6.8786	0.4475	6.5
123171160_16	47	18MAY16	20JUN16	6.6404	0.3268	4.9
123171170_16	27	26MAY16	09JUN16	6.3926	0.4287	6.7
123171190_16	29	09JUN16	16JUL16	5.9172	0.3219	5.4
123171210_16	32	16JUN16	28JUN16	5.8969	0.2321	3.9
123171240_16	37	16JUL16	02AUG16	6.1757	0.4597	7.4
123171250_16	37	18JUL16	15AUG16	6.2676	0.3180	5.1
123171270_16	42	04AUG16	08SEP16	5.7762	0.3539	6.1
123171300_16	73	18AUG16	25SEP16	6.2479	0.3993	6.4
123171320_16	38	01SEP16	19SEP16	6.3816	0.2930	4.6
123171350_16	35	20SEP16	03OCT16	5.8171	0.3213	5.5
123171340_16	53	22SEP16	30OCT16	5.4811	0.3223	5.9
123171360_16	44	06OCT16	10NOV16	6.0477	0.3461	5.7
123171390_16	28	11OCT16	02NOV16	5.3143	0.3546	6.7
123171410_16	84	01NOV16	11DEC16	5.3619	0.3397	6.3
123171430_16	45	17NOV16	21DEC16	5.7356	0.3365	5.9
123171460_16	31	26NOV16	18DEC16	6.1613	0.2692	4.4
123171480_16	22	09DEC16	17DEC16	5.6273	0.3615	6.4
123171480_17	21	14JAN17	28JAN17	5.5857	0.3410	6.1


2015-2016 QC Chart for Monocyte (%) (Lvl 1)
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Jan
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Jan
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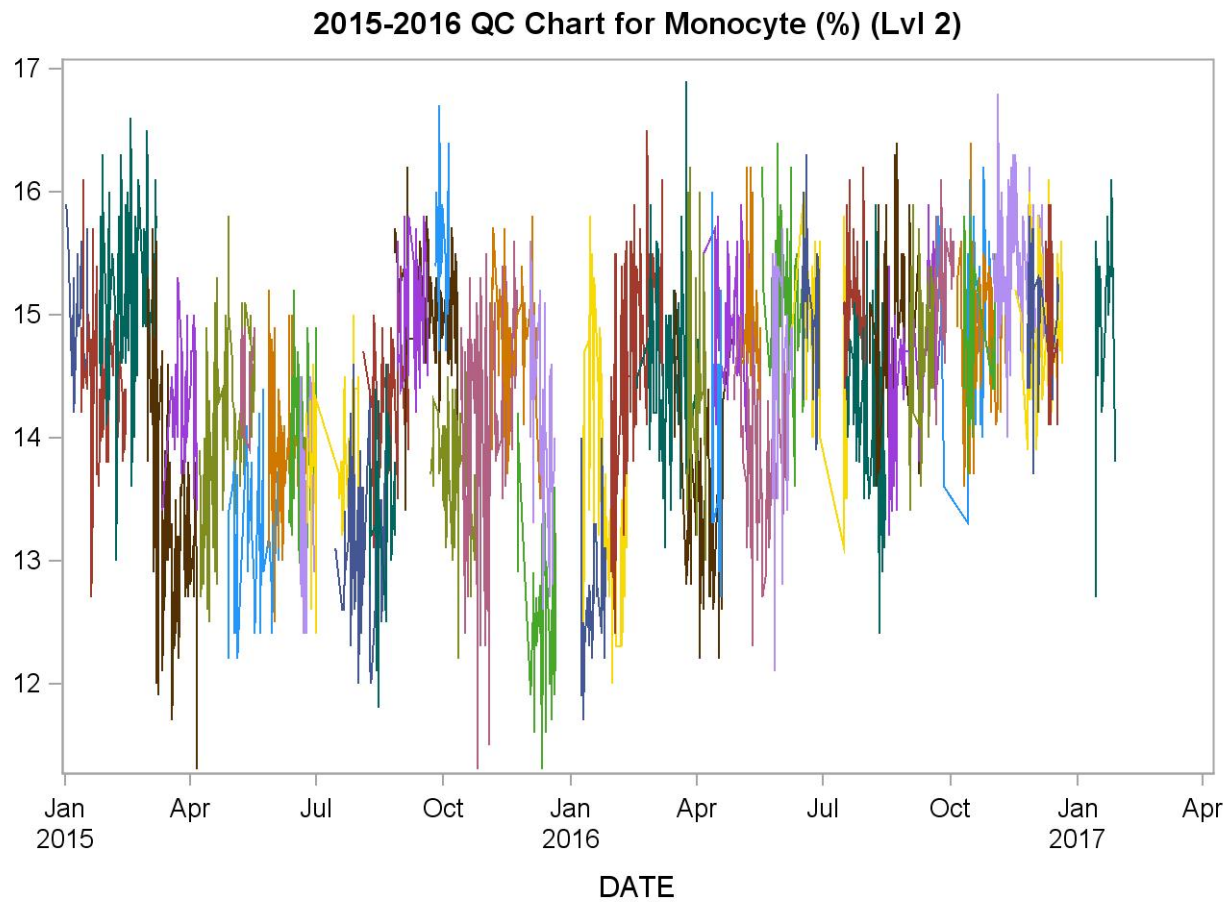
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Monocyte (%) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	15.0609	0.4325	2.9
133180340_15	56	13JAN15	14FEB15	14.4607	0.5739	4.0
133180390_15	87	26JAN15	08MAR15	15.2310	0.6524	4.3
133180430_15	75	02MAR15	06APR15	13.5653	0.9855	7.3
133180460_15	39	12MAR15	06APR15	14.2462	0.4745	3.3
133180510_15	82	08APR15	18MAY15	13.9720	0.7337	5.3
133180540_15	41	29APR15	04JUN15	13.1415	0.5486	4.2
133180560_15	22	08MAY15	18MAY15	14.4091	0.3146	2.2
133180600_15	78	28MAY15	27JUN15	13.8744	0.4950	3.6
133180620_15	44	12JUN15	01JUL15	13.9682	0.5561	4.0
133180650_15	27	20JUN15	30JUN15	13.3444	0.6060	4.5
133180660_15	48	24JUN15	02AUG15	13.7458	0.5434	4.0
133180700_15	49	15JUL15	20AUG15	13.0347	0.6346	4.9
133180720_15	58	04AUG15	06SEP15	14.2672	0.5141	3.6
133180730_15	30	09AUG15	27AUG15	13.3800	0.6348	4.7
133180760_15	68	27AUG15	11OCT15	14.9912	0.4971	3.3
133180770_15	43	29AUG15	20SEP15	15.0070	0.4194	2.8
133180790_15	47	22SEP15	24OCT15	13.7766	0.4904	3.6
133180820_15	22	25SEP15	05OCT15	15.5227	0.4879	3.1
133180860_15	96	14OCT15	23NOV15	13.9807	0.9573	6.8
133180890_15	56	05NOV15	10DEC15	14.8286	0.5077	3.4
133180930_15	41	24NOV15	21DEC15	12.5439	0.6637	5.3
133180940_15	36	03DEC15	20DEC15	14.2167	0.6934	4.9
133180990_16	42	09JAN16	26JAN16	12.6857	0.5196	4.1
133180980_16	57	10JAN16	10FEB16	13.7193	0.9135	6.7
133181020_16	91	30JAN16	07MAR16	14.6209	0.7999	5.5
133181060_16	87	18FEB16	02APR16	14.4529	0.6326	4.4
133181080_16	51	16MAR16	26APR16	13.6922	0.7236	5.3
133181110_16	31	25MAR16	07APR16	14.3935	0.8370	5.8
133181100_16	47	06APR16	11MAY16	15.0021	0.4734	3.2
133181120_16	22	12APR16	18APR16	13.8636	0.8009	5.8
133181130_16	57	28APR16	05JUN16	13.7684	0.5711	4.1
133181140_16	28	04MAY16	17MAY16	15.0321	0.4869	3.2
133181160_16	51	18MAY16	20JUN16	15.0902	0.5533	3.7
133181170_16	29	26MAY16	09JUN16	14.4517	0.8344	5.8
133181190_16	34	09JUN16	18JUL16	14.8294	0.7578	5.1
133181210_16	35	16JUN16	28JUN16	15.1029	0.5084	3.4
133181240_16	37	16JUL16	02AUG16	15.0027	0.4896	3.3
133181250_16	44	18JUL16	15AUG16	14.1591	0.7167	5.1
133181270_16	46	04AUG16	08SEP16	14.9391	0.6451	4.3
133181300_16	76	18AUG16	25SEP16	14.4671	0.5832	4.0
133181320_16	38	01SEP16	19SEP16	14.6868	0.6037	4.1
133181350_16	34	20SEP16	03OCT16	15.2441	0.4076	2.7
133181340_16	30	22SEP16	30OCT16	15.0033	0.7073	4.7
133181360_16	45	06OCT16	10NOV16	14.8978	0.5739	3.9
133181390_16	27	11OCT16	02NOV16	14.7333	0.5704	3.9
133181410_16	81	01NOV16	11DEC16	15.4062	0.4920	3.2
133181430_16	50	17NOV16	21DEC16	14.8680	0.5339	3.6
133181460_16	31	26NOV16	18DEC16	14.9194	0.4969	3.3
133181480_16	22	09DEC16	17DEC16	14.9409	0.5483	3.7
133181480_17	22	14JAN17	28JAN17	14.9227	0.7508	5.0


2015-2016 QC Chart for Monocyte (%) (Lvl 2)
17
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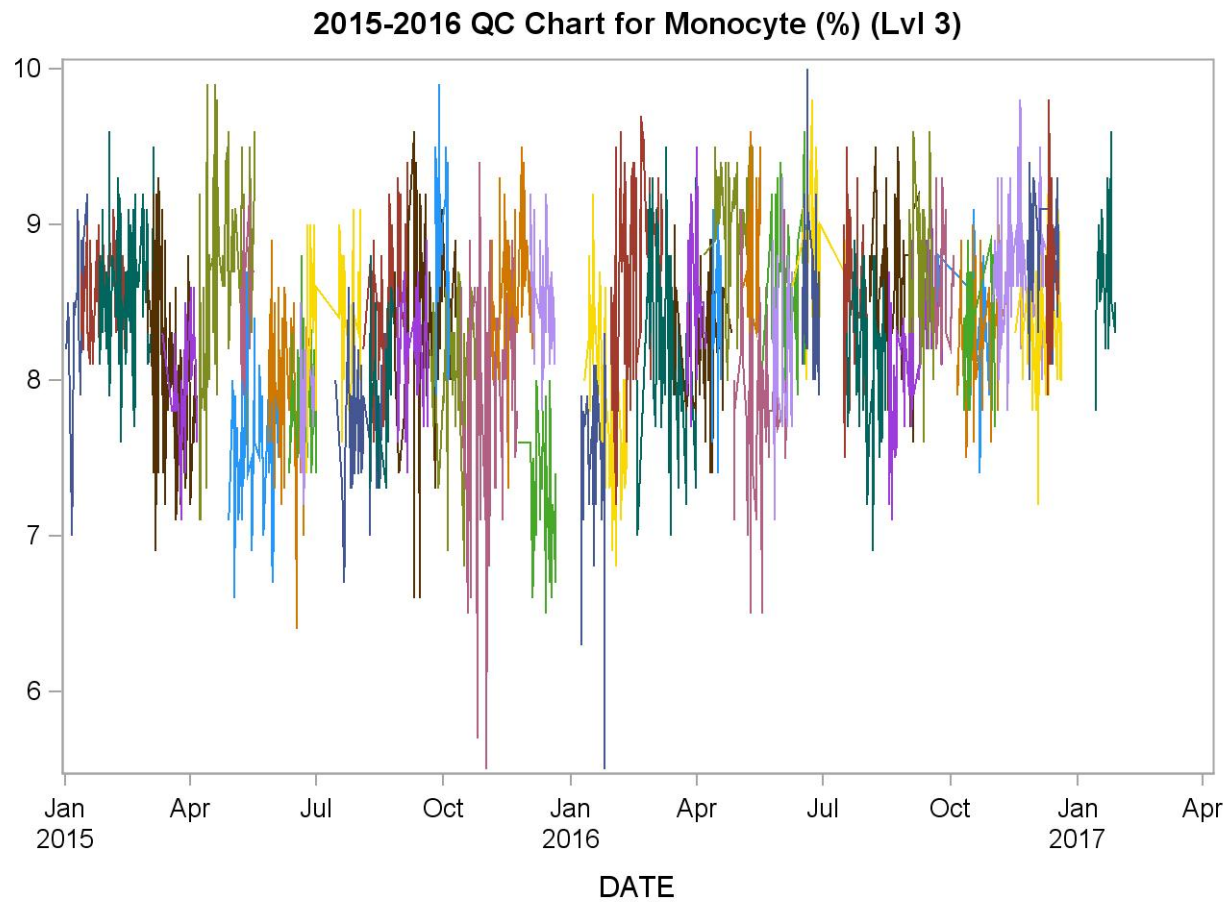
Jan
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Monocyte (%) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	8.4529	0.5100	6.0
143190340_15	50	13JAN15	14FEB15	8.5360	0.2891	3.4
143190390_15	80	26JAN15	08MAR15	8.5625	0.3947	4.6
143190430_15	73	02MAR15	06APR15	8.0658	0.5583	6.9
143190460_15	31	12MAR15	06APR15	7.9677	0.3350	4.2
143190510_15	89	08APR15	18MAY15	8.6865	0.5802	6.7
143190540_15	45	29APR15	04JUN15	7.5978	0.4610	6.1
143190560_15	23	08MAY15	18MAY15	8.4304	0.3807	4.5
143190600_15	86	28MAY15	28JUN15	7.9622	0.3845	4.8
143190620_15	34	12JUN15	01JUL15	7.9029	0.3380	4.3
143190650_15	26	20JUN15	30JUN15	7.8654	0.2952	3.8
143190660_15	47	24JUN15	02AUG15	8.3809	0.3949	4.7
143190700_15	45	15JUL15	20AUG15	7.6867	0.3969	5.2
143190720_15	55	04AUG15	06SEP15	8.4200	0.4223	5.0
143190730_15	31	09AUG15	27AUG15	7.9516	0.4257	5.4
143190760_15	63	27AUG15	11OCT15	8.3937	0.5483	6.5
143190770_15	40	29AUG15	20SEP15	8.2000	0.3427	4.2
143190790_15	42	22SEP15	24OCT15	8.0190	0.4284	5.3
143190820_15	27	25SEP15	05OCT15	8.8741	0.5035	5.7
143190860_15	93	14OCT15	23NOV15	7.7285	0.7427	9.6
143190890_15	42	05NOV15	04DEC15	8.6048	0.4282	5.0
143190930_15	36	24NOV15	21DEC15	7.2528	0.4074	5.6
143190940_15	36	03DEC15	20DEC15	8.5417	0.3333	3.9
143190990_16	41	09JAN16	26JAN16	7.4073	0.5424	7.3
143190980_16	51	10JAN16	10FEB16	7.9216	0.5364	6.8
143191020_16	87	30JAN16	07MAR16	8.6529	0.5574	6.4
143191060_16	84	18FEB16	02APR16	8.2988	0.5365	6.5
143191080_16	50	16MAR16	26APR16	8.2420	0.3892	4.7
143191100_16	30	25MAR16	07APR16	8.5533	0.4150	4.9
143191110_16	44	06APR16	11MAY16	8.9955	0.3821	4.2
143191120_16	20	12APR16	18APR16	8.4200	0.4641	5.5
143191130_16	57	28APR16	05JUN16	7.9070	0.5351	6.8
143191140_16	28	04MAY16	17MAY16	8.8321	0.3954	4.5
143191160_16	47	18MAY16	20JUN16	8.6660	0.3996	4.6
143191170_16	27	26MAY16	09JUN16	8.2296	0.4975	6.0
143191190_16	31	09JUN16	17JUL16	8.7581	0.4319	4.9
143191210_16	32	16JUN16	28JUN16	8.6281	0.4327	5.0
143191240_16	38	16JUL16	02AUG16	8.4658	0.4480	5.3
143191250_16	41	18JUL16	15AUG16	8.2024	0.4819	5.9
143191270_16	40	04AUG16	08SEP16	8.6125	0.4530	5.3
143191300_16	72	18AUG16	25SEP16	8.2056	0.4633	5.6
143191320_16	38	01SEP16	19SEP16	8.6974	0.4220	4.9
143191350_16	32	20SEP16	03OCT16	8.6781	0.3452	4.0
143191340_16	27	22SEP16	30OCT16	8.3704	0.3760	4.5
143191360_16	44	06OCT16	10NOV16	8.3136	0.3752	4.5
143191390_16	28	11OCT16	02NOV16	8.3643	0.3644	4.4
143191410_16	82	01NOV16	11DEC16	8.7415	0.3725	4.3
143191430_16	52	17NOV16	21DEC16	8.3654	0.3824	4.6
143191460_16	31	26NOV16	18DEC16	8.7710	0.3626	4.1
143191480_16	23	09DEC16	17DEC16	8.6870	0.4566	5.3
143191480_17	21	14JAN17	28JAN17	8.6857	0.4127	4.8


2015-2016 QC Chart for Monocyte (%) (Lvl 3)
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Jan
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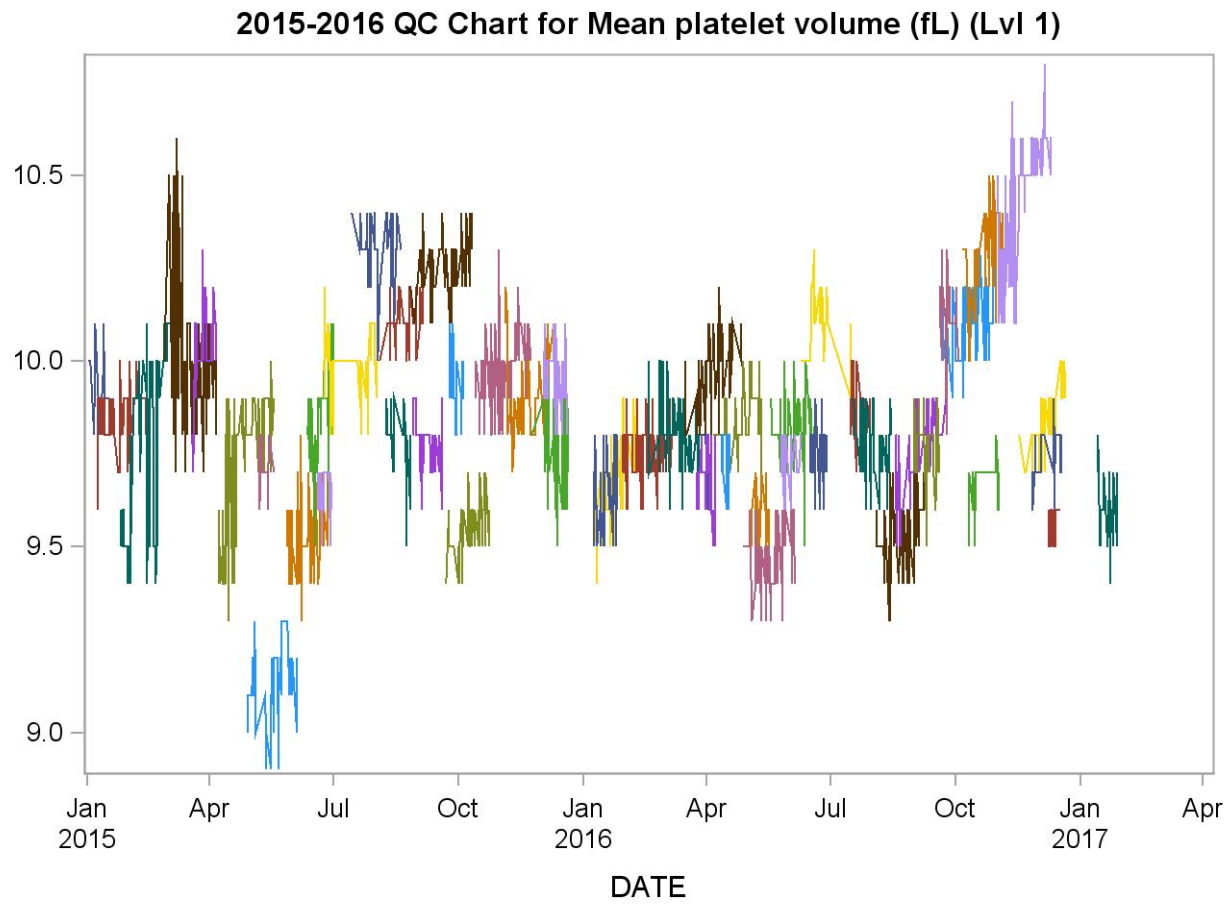
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Mean platelet volume (fL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	9.9176	0.0951	1.0
123170340_15	67	09JAN15	14FEB15	9.8552	0.0764	0.8
123170390_15	87	26JAN15	08MAR15	9.7655	0.2425	2.5
123170430_15	74	27FEB15	06APR15	10.0811	0.2470	2.5
123170460_15	30	19MAR15	06APR15	10.0467	0.1279	1.3
123170510_15	78	08APR15	18MAY15	9.7051	0.1844	1.9
123170540_15	36	29APR15	04JUN15	9.1222	0.1098	1.2
123170560_15	21	08MAY15	18MAY15	9.7143	0.0573	0.6
123170600_15	77	28MAY15	28JUN15	9.5260	0.0979	1.0
123170620_15	32	12JUN15	01JUL15	9.8469	0.1270	1.3
123170650_15	25	20JUN15	30JUN15	9.6160	0.0554	0.6
123170660_15	47	24JUN15	02AUG15	9.9702	0.0931	0.9
123170700_15	45	15JUL15	20AUG15	10.2956	0.0903	0.9
123170720_15	58	04AUG15	06SEP15	10.1034	0.0529	0.5
123170730_15	30	09AUG15	27AUG15	9.7867	0.0819	0.8
123170760_15	59	27AUG15	11OCT15	10.2576	0.0792	0.8
123170770_15	40	29AUG15	20SEP15	9.7750	0.0742	0.8
123170790_15	42	22SEP15	24OCT15	9.5476	0.0804	0.8
123170820_15	22	25SEP15	05OCT15	9.9273	0.0827	0.8
123170860_15	94	14OCT15	23NOV15	9.9612	0.0995	1.0
123170890_15	52	05NOV15	10DEC15	9.9135	0.1030	1.0
123170930_15	37	24NOV15	21DEC15	9.7649	0.1230	1.3
123170940_15	36	03DEC15	20DEC15	9.9500	0.0845	0.8
123170990_16	43	09JAN16	26JAN16	9.6721	0.1008	1.0
123170980_16	56	10JAN16	10FEB16	9.6946	0.1119	1.2
123171020_16	91	30JAN16	07MAR16	9.7665	0.0738	0.8
123171060_16	78	18FEB16	02APR16	9.8141	0.0963	1.0
123171080_16	52	16MAR16	26APR16	9.9654	0.1064	1.1
123171100_16	31	25MAR16	07APR16	9.6839	0.0860	0.9
123171110_16	44	06APR16	11MAY16	9.8432	0.0789	0.8
123171120_16	22	12APR16	18APR16	9.7318	0.0646	0.7
123171130_16	55	28APR16	05JUN16	9.4764	0.0922	1.0
123171150_16	28	04MAY16	17MAY16	9.5964	0.0637	0.7
123171160_16	47	18MAY16	20JUN16	9.8213	0.0999	1.0
123171170_16	27	26MAY16	09JUN16	9.7296	0.0669	0.7
123171190_16	29	09JUN16	16JUL16	10.1207	0.0861	0.9
123171210_16	32	16JUN16	28JUN16	9.7500	0.0762	0.8
123171240_16	37	16JUL16	02AUG16	9.8514	0.0731	0.7
123171250_16	37	18JUL16	15AUG16	9.7703	0.0939	1.0
123171270_16	42	04AUG16	08SEP16	9.5357	0.1100	1.2
123171300_16	74	18AUG16	25SEP16	9.7459	0.1125	1.2
123171320_16	39	01SEP16	19SEP16	9.7615	0.0935	1.0
123171350_16	35	20SEP16	03OCT16	10.1114	0.0993	1.0
123171340_16	53	22SEP16	30OCT16	10.1057	0.1008	1.0
123171360_16	44	06OCT16	10NOV16	10.2727	0.1086	1.1
123171390_16	28	11OCT16	02NOV16	9.6571	0.0690	0.7
123171410_16	84	01NOV16	11DEC16	10.4048	0.1803	1.7
123171430_16	45	17NOV16	21DEC16	9.8378	0.0834	0.8
123171460_16	31	26NOV16	18DEC16	9.7194	0.0654	0.7
123171480_16	22	09DEC16	17DEC16	9.5545	0.0510	0.5
123171480_17	21	14JAN17	28JAN17	9.6000	0.1000	1.0


2015-2016 QC Chart for Mean platelet volume (fL) (Lvl 1)
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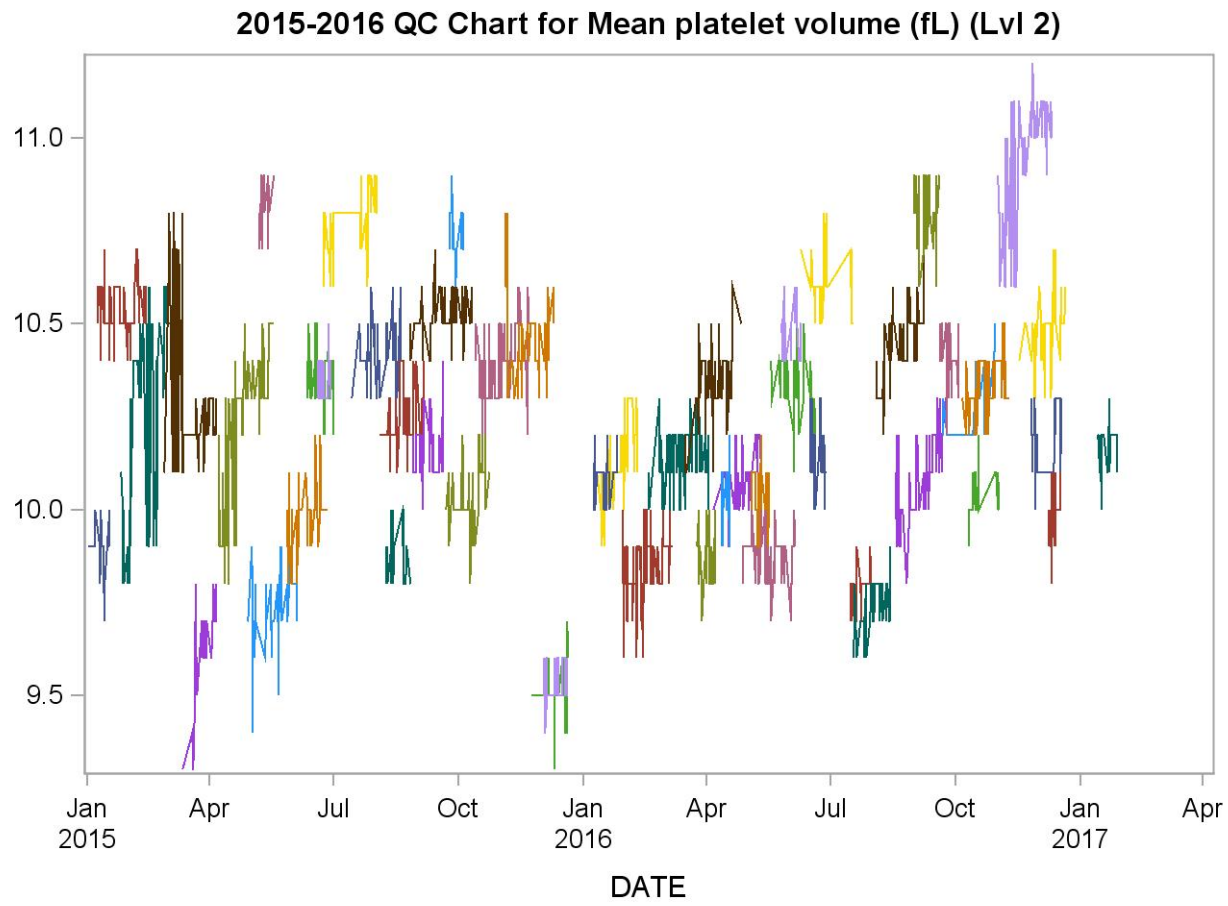
Apr
DATE

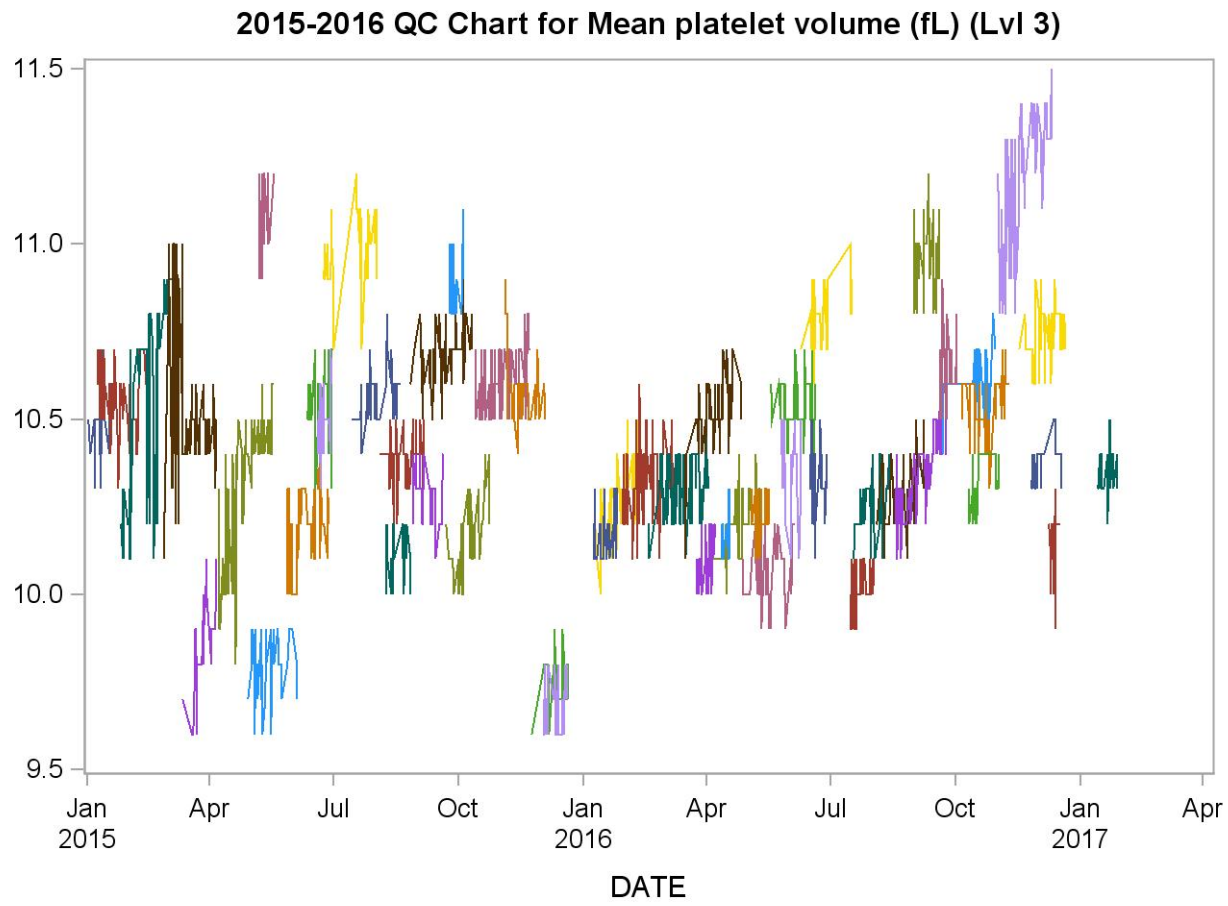
2015-2016 Summary Statistics and QC Chart for Mean platelet volume (fL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	9.8870	0.0694	0.7
133180340_15	70	09JAN15	14FEB15	10.5443	0.0754	0.7
133180390_15	87	26JAN15	08MAR15	10.2230	0.2675	2.6
133180430_15	80	27FEB15	06APR15	10.3538	0.2402	2.3
133180460_15	39	12MAR15	06APR15	9.6282	0.1255	1.3
133180510_15	82	08APR15	18MAY15	10.1939	0.2093	2.1
133180540_15	41	29APR15	04JUN15	9.7317	0.1035	1.1
133180560_15	22	08MAY15	18MAY15	10.8273	0.0767	0.7
133180600_15	79	28MAY15	27JUN15	9.9563	0.0886	0.9
133180620_15	44	12JUN15	01JUL15	10.3523	0.0762	0.7
133180650_15	26	20JUN15	30JUN15	10.3538	0.0582	0.6
133180660_15	49	24JUN15	02AUG15	10.7694	0.0847	0.8
133180700_15	50	15JUL15	20AUG15	10.4200	0.0833	0.8
133180720_15	58	04AUG15	06SEP15	10.2517	0.0800	0.8
133180730_15	30	09AUG15	27AUG15	9.8833	0.0699	0.7
133180760_15	68	27AUG15	11OCT15	10.5309	0.0675	0.6
133180770_15	44	29AUG15	20SEP15	10.1523	0.0762	0.8
133180790_15	47	22SEP15	24OCT15	10.0447	0.0855	0.9
133180820_15	22	25SEP15	05OCT15	10.7455	0.0671	0.6
133180860_15	104	14OCT15	23NOV15	10.4019	0.0812	0.8
133180890_15	56	05NOV15	10DEC15	10.4411	0.1141	1.1
133180930_15	41	24NOV15	21DEC15	9.5171	0.0667	0.7
133180940_15	36	03DEC15	20DEC15	9.5306	0.0577	0.6
133180990_16	42	09JAN16	26JAN16	10.0810	0.0552	0.5
133180980_16	58	10JAN16	10FEB16	10.1086	0.1064	1.1
133181020_16	95	30JAN16	07MAR16	9.8432	0.0871	0.9
133181060_16	88	18FEB16	02APR16	10.1318	0.0824	0.8
133181080_16	51	16MAR16	26APR16	10.3255	0.1181	1.1
133181110_16	31	25MAR16	07APR16	9.8742	0.0729	0.7
133181100_16	47	06APR16	11MAY16	10.0872	0.0824	0.8
133181120_16	22	12APR16	18APR16	10.0136	0.0774	0.8
133181130_16	57	28APR16	05JUN16	9.8737	0.0695	0.7
133181140_16	28	04MAY16	17MAY16	10.0179	0.0772	0.8
133181160_16	51	18MAY16	20JUN16	10.3373	0.0824	0.8
133181170_16	30	26MAY16	09JUN16	10.4833	0.0648	0.6
133181190_16	35	09JUN16	18JUL16	10.6029	0.0785	0.7
133181210_16	35	16JUN16	28JUN16	10.1429	0.0850	0.8
133181240_16	37	16JUL16	02AUG16	9.7811	0.0518	0.5
133181250_16	45	18JUL16	15AUG16	9.7356	0.0679	0.7
133181270_16	46	04AUG16	08SEP16	10.4565	0.0958	0.9
133181300_16	76	18AUG16	25SEP16	10.0711	0.1164	1.2
133181320_16	38	01SEP16	19SEP16	10.8105	0.0863	0.8
133181350_16	34	20SEP16	03OCT16	10.4265	0.0790	0.8
133181340_16	30	22SEP16	30OCT16	10.3100	0.0803	0.8
133181360_16	45	06OCT16	10NOV16	10.3289	0.0869	0.8
133181390_16	28	11OCT16	02NOV16	10.0429	0.0634	0.6
133181410_16	82	01NOV16	11DEC16	10.8915	0.1861	1.7
133181430_16	50	17NOV16	21DEC16	10.4740	0.0922	0.9
133181460_16	31	26NOV16	18DEC16	10.1806	0.0833	0.8
133181480_16	23	09DEC16	17DEC16	9.9826	0.0834	0.8
133181480_17	22	14JAN17	28JAN17	10.1591	0.0666	0.7


2015-2016 QC Chart for Mean platelet volume (fL) (Lvl 2)
11.0
10.5
10.0
9.5
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Mean platelet volume (fL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	10.4824	0.1074	1.0
143190340_15	63	09JAN15	14FEB15	10.5635	0.0938	0.9
143190390_15	80	26JAN15	08MAR15	10.5350	0.2788	2.6
143190430_15	76	27FEB15	06APR15	10.5776	0.2485	2.3
143190460_15	31	12MAR15	06APR15	9.8710	0.1270	1.3
143190510_15	90	08APR15	18MAY15	10.2400	0.2054	2.0
143190540_15	45	29APR15	04JUN15	9.8000	0.0905	0.9
143190560_15	23	08MAY15	18MAY15	11.0739	0.1096	1.0
143190600_15	86	28MAY15	28JUN15	10.1855	0.0985	1.0
143190620_15	34	12JUN15	01JUL15	10.5441	0.1078	1.0
143190650_15	26	20JUN15	30JUN15	10.5038	0.0916	0.9
143190660_15	47	24JUN15	02AUG15	10.9638	0.1092	1.0
143190700_15	46	15JUL15	20AUG15	10.5717	0.0750	0.7
143190720_15	55	04AUG15	06SEP15	10.3891	0.0737	0.7
143190730_15	31	09AUG15	27AUG15	10.1129	0.0670	0.7
143190760_15	63	27AUG15	11OCT15	10.6794	0.0826	0.8
143190770_15	40	29AUG15	20SEP15	10.2875	0.0723	0.7
143190790_15	42	22SEP15	24OCT15	10.1667	0.1052	1.0
143190820_15	27	25SEP15	05OCT15	10.8815	0.0834	0.8
143190860_15	94	14OCT15	23NOV15	10.6021	0.0842	0.8
143190890_15	42	05NOV15	04DEC15	10.5810	0.0917	0.9
143190930_15	36	24NOV15	21DEC15	9.7417	0.0806	0.8
143190940_15	37	03DEC15	20DEC15	9.6865	0.0673	0.7
143190990_16	41	09JAN16	26JAN16	10.1854	0.0727	0.7
143190980_16	54	10JAN16	10FEB16	10.2741	0.1102	1.1
143191020_16	91	30JAN16	07MAR16	10.3143	0.1006	1.0
143191060_16	85	18FEB16	02APR16	10.3012	0.0880	0.9
143191080_16	51	16MAR16	26APR16	10.5039	0.1232	1.2
143191100_16	31	25MAR16	07APR16	10.0935	0.0772	0.8
143191110_16	45	06APR16	11MAY16	10.2111	0.0885	0.9
143191120_16	20	12APR16	18APR16	10.1800	0.0696	0.7
143191130_16	57	28APR16	05JUN16	10.0684	0.0848	0.8
143191140_16	28	04MAY16	17MAY16	10.2179	0.0670	0.7
143191160_16	47	18MAY16	20JUN16	10.5340	0.0760	0.7
143191170_16	27	26MAY16	09JUN16	10.3519	0.1156	1.1
143191190_16	31	09JUN16	17JUL16	10.7774	0.0920	0.9
143191210_16	32	16JUN16	28JUN16	10.3281	0.0991	1.0
143191240_16	38	16JUL16	02AUG16	10.0053	0.0769	0.8
143191250_16	41	18JUL16	15AUG16	10.2707	0.0873	0.9
143191270_16	40	04AUG16	08SEP16	10.3050	0.0959	0.9
143191300_16	72	18AUG16	25SEP16	10.3194	0.1182	1.1
143191320_16	38	01SEP16	19SEP16	10.9658	0.0994	0.9
143191350_16	33	20SEP16	03OCT16	10.6364	0.0895	0.8
143191340_16	27	22SEP16	30OCT16	10.6111	0.1013	1.0
143191360_16	44	06OCT16	10NOV16	10.5273	0.0872	0.8
143191390_16	28	11OCT16	02NOV16	10.3000	0.0667	0.6
143191410_16	82	01NOV16	11DEC16	11.1427	0.2000	1.8
143191430_16	52	17NOV16	21DEC16	10.7385	0.0820	0.8
143191460_16	31	26NOV16	18DEC16	10.3774	0.0717	0.7
143191480_16	24	09DEC16	17DEC16	10.1458	0.0884	0.9
143191480_17	21	14JAN17	28JAN17	10.3524	0.0750	0.7


2015-2016 QC Chart for Mean platelet volume (fL) (Lvl 3)
11.5
11.0
10.5
10.0
9.5
Jan
2015
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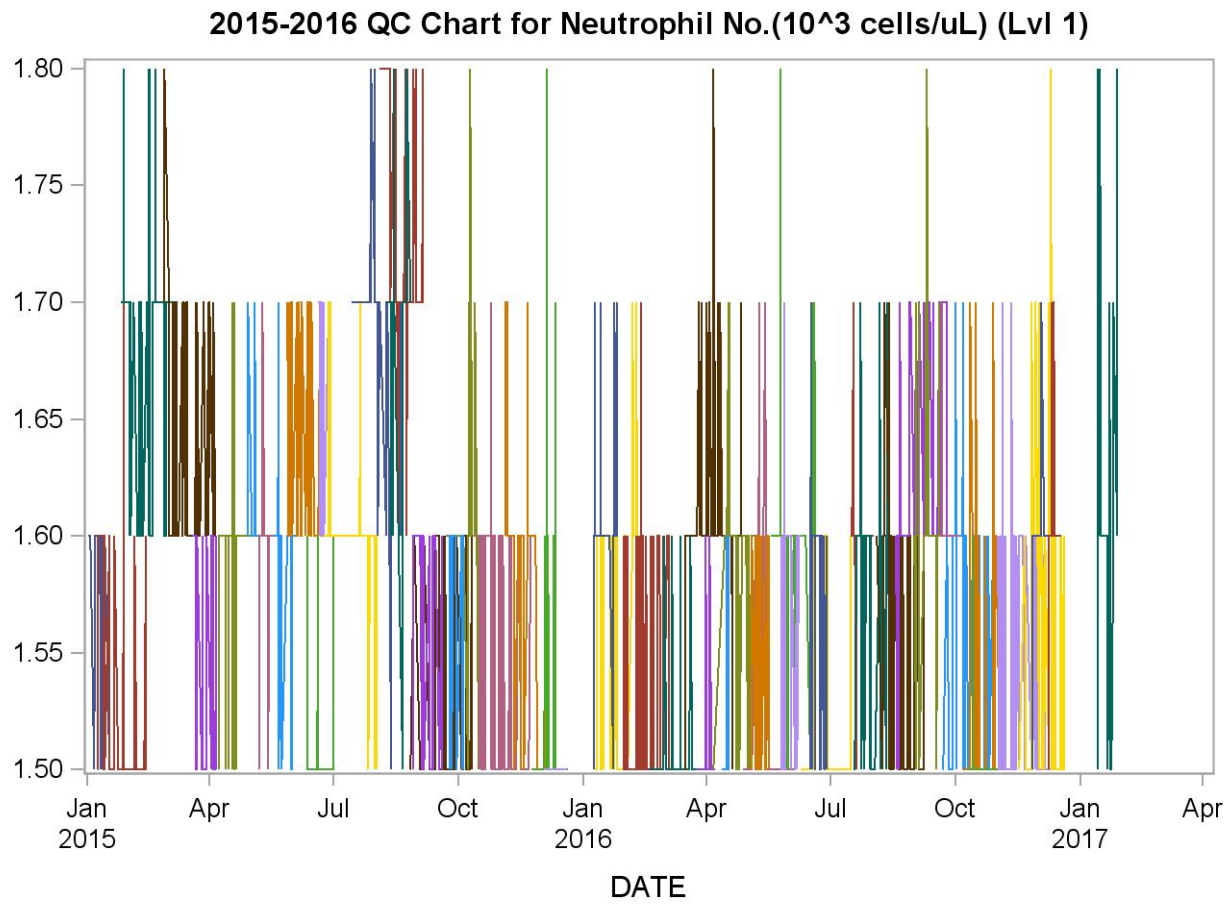
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Neutrophil No.(10^3 cells/uL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	1.5765	0.0437	2.8
123170340_15	64	09JAN15	14FEB15	1.5281	0.0487	3.2
123170390_15	85	26JAN15	08MAR15	1.6824	0.0492	2.9
123170430_15	74	27FEB15	06APR15	1.6324	0.0500	3.1
123170460_15	29	19MAR15	06APR15	1.5448	0.0506	3.3
123170510_15	78	08APR15	18MAY15	1.5936	0.0336	2.1
123170540_15	36	29APR15	04JUN15	1.6000	0.0478	3.0
123170560_15	21	08MAY15	18MAY15	1.5952	0.0384	2.4
123170600_15	75	28MAY15	28JUN15	1.6347	0.0479	2.9
123170620_15	32	12JUN15	01JUL15	1.5094	0.0296	2.0
123170650_15	25	20JUN15	30JUN15	1.6560	0.0507	3.1
123170660_15	46	24JUN15	02AUG15	1.6000	0.0365	2.3
123170700_15	45	15JUL15	20AUG15	1.6978	0.0499	2.9
123170720_15	57	04AUG15	06SEP15	1.7368	0.0555	3.2
123170730_15	30	09AUG15	27AUG15	1.6933	0.0521	3.1
123170760_15	59	27AUG15	11OCT15	1.5288	0.0457	3.0
123170770_15	40	29AUG15	20SEP15	1.5575	0.0501	3.2
123170790_15	42	22SEP15	24OCT15	1.5976	0.0517	3.2
123170820_15	22	25SEP15	05OCT15	1.5636	0.0492	3.1
123170860_15	94	14OCT15	23NOV15	1.5521	0.0523	3.4
123170890_15	52	05NOV15	10DEC15	1.5692	0.0579	3.7
123170930_15	25	24NOV15	21DEC15	1.5480	0.0770	5.0
123170940_15	32	03DEC15	20DEC15	1.5000	0.0000	0.0
123170990_16	43	09JAN16	26JAN16	1.6023	0.0408	2.5
123170980_16	52	10JAN16	10FEB16	1.5615	0.0565	3.6
123171020_16	87	30JAN16	07MAR16	1.5276	0.0475	3.1
123171060_16	57	18FEB16	01APR16	1.5070	0.0258	1.7
123171080_16	51	16MAR16	26APR16	1.6176	0.0555	3.4
123171100_16	24	25MAR16	07APR16	1.5083	0.0282	1.9
123171110_16	44	06APR16	11MAY16	1.5773	0.0522	3.3
123171120_16	22	12APR16	18APR16	1.5091	0.0294	1.9
123171130_16	46	28APR16	04JUN16	1.5217	0.0513	3.4
123171150_16	28	04MAY16	17MAY16	1.5393	0.0497	3.2
123171160_16	47	18MAY16	20JUN16	1.5979	0.0531	3.3
123171170_16	27	26MAY16	09JUN16	1.5519	0.0580	3.7
123171190_16	29	09JUN16	16JUL16	1.5655	0.0484	3.1
123171210_16	32	16JUN16	28JUN16	1.5625	0.0554	3.5
123171240_16	37	16JUL16	02AUG16	1.6000	0.0236	1.5
123171250_16	37	18JUL16	15AUG16	1.5595	0.0644	4.1
123171270_16	41	04AUG16	08SEP16	1.5561	0.0594	3.8
123171300_16	73	18AUG16	25SEP16	1.6274	0.0534	3.3
123171320_16	38	01SEP16	19SEP16	1.6079	0.0539	3.4
123171350_16	35	20SEP16	03OCT16	1.6029	0.0169	1.1
123171340_16	53	22SEP16	30OCT16	1.5660	0.0553	3.5
123171360_16	43	06OCT16	10NOV16	1.5302	0.0599	3.9
123171390_16	24	11OCT16	02NOV16	1.5042	0.0204	1.4
123171410_16	82	01NOV16	11DEC16	1.5378	0.0536	3.5
123171430_16	44	17NOV16	21DEC16	1.5750	0.0751	4.8
123171460_16	31	26NOV16	18DEC16	1.6000	0.0258	1.6
123171480_16	22	09DEC16	17DEC16	1.6091	0.0426	2.6
123171480_17	21	14JAN17	28JAN17	1.6143	0.0964	6.0


2015-2016 QC Chart for Neutrophil No.(10^3 cells/uL) (Lvl 1)
1.80
1.75
1.70
1.65
1.60
1.55
1.50
Jan
2015
Apr
Jul
Oct
Jan
2016
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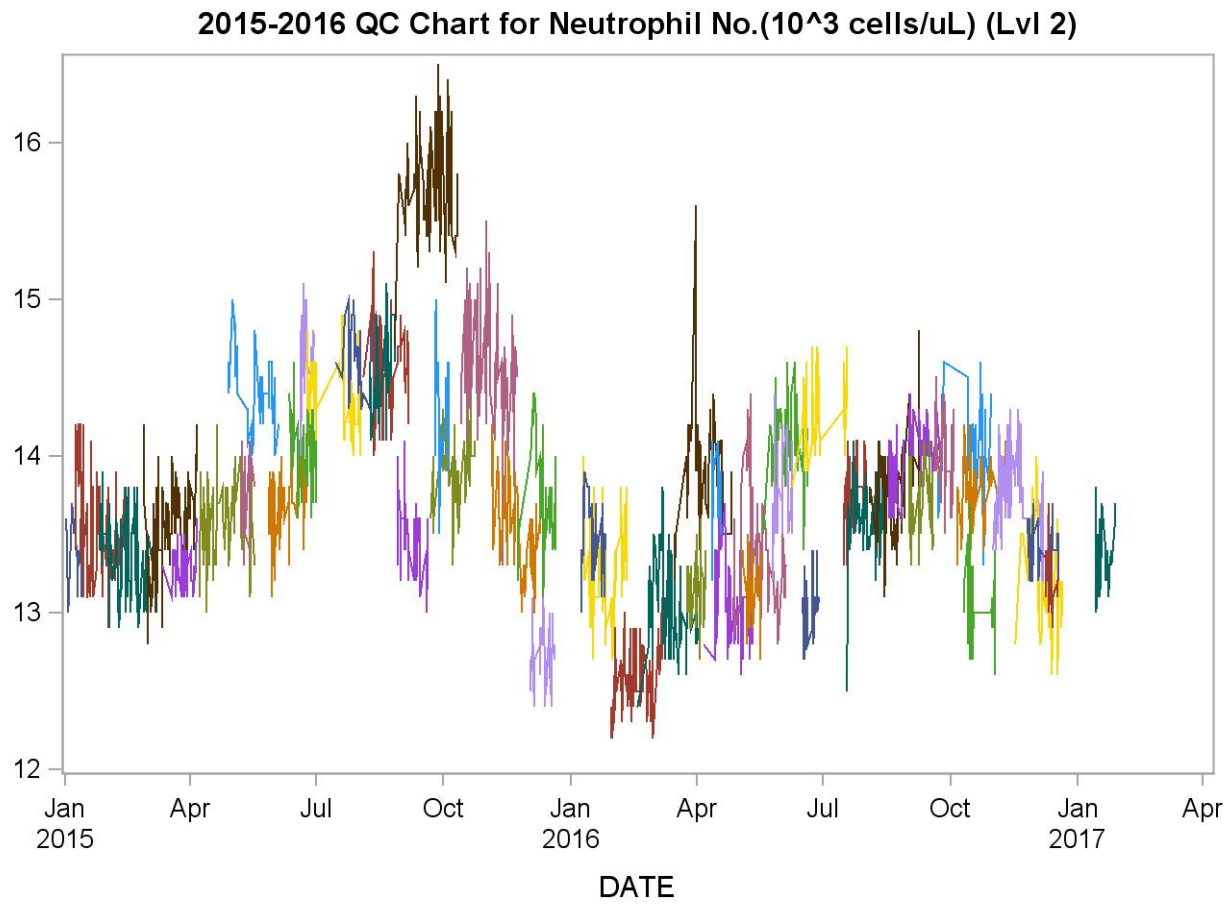
Jan
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for Neutrophil No.(10^3 cells/uL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	13.3913	0.1929	1.4
133180340_15	69	09JAN15	14FEB15	13.5246	0.3108	2.3
133180390_15	87	26JAN15	08MAR15	13.3839	0.2420	1.8
133180430_15	79	27FEB15	06APR15	13.5101	0.2790	2.1
133180460_15	39	12MAR15	06APR15	13.3026	0.1405	1.1
133180510_15	82	08APR15	18MAY15	13.5524	0.2337	1.7
133180540_15	41	29APR15	04JUN15	14.4293	0.2492	1.7
133180560_15	22	08MAY15	18MAY15	13.7000	0.2225	1.6
133180600_15	78	28MAY15	27JUN15	13.7000	0.2083	1.5
133180620_15	44	12JUN15	01JUL15	14.0727	0.2366	1.7
133180650_15	27	20JUN15	30JUN15	14.6556	0.2326	1.6
133180660_15	48	24JUN15	02AUG15	14.3896	0.2354	1.6
133180700_15	50	15JUL15	20AUG15	14.6200	0.2241	1.5
133180720_15	58	04AUG15	06SEP15	14.6310	0.3267	2.2
133180730_15	30	09AUG15	27AUG15	14.4833	0.2506	1.7
133180760_15	67	27AUG15	11OCT15	15.7149	0.3714	2.4
133180770_15	43	29AUG15	20SEP15	13.4837	0.2278	1.7
133180790_15	47	22SEP15	24OCT15	13.9468	0.2439	1.7
133180820_15	22	25SEP15	05OCT15	14.2909	0.3558	2.5
133180860_15	104	14OCT15	23NOV15	14.6697	0.3813	2.6
133180890_15	56	05NOV15	10DEC15	13.5964	0.3122	2.3
133180930_15	41	24NOV15	21DEC15	13.7805	0.3280	2.4
133180940_15	36	03DEC15	20DEC15	12.7028	0.1828	1.4
133180990_16	42	09JAN16	26JAN16	13.4357	0.2304	1.7
133180980_16	57	10JAN16	10FEB16	13.2614	0.3052	2.3
133181020_16	86	30JAN16	07MAR16	12.6012	0.2084	1.7
133181060_16	87	18FEB16	02APR16	13.0701	0.2829	2.2
133181080_16	51	16MAR16	26APR16	13.9176	0.3670	2.6
133181110_16	31	25MAR16	07APR16	13.1484	0.2096	1.6
133181100_16	47	06APR16	11MAY16	13.0532	0.2653	2.0
133181120_16	22	12APR16	18APR16	13.7682	0.2212	1.6
133181130_16	57	28APR16	05JUN16	13.4351	0.3618	2.7
133181140_16	28	04MAY16	17MAY16	13.1429	0.1894	1.4
133181160_16	51	18MAY16	20JUN16	14.0980	0.2588	1.8
133181170_16	29	26MAY16	09JUN16	13.7586	0.2872	2.1
133181190_16	34	09JUN16	18JUL16	14.2412	0.2463	1.7
133181210_16	35	16JUN16	28JUN16	13.0457	0.1900	1.5
133181240_16	37	16JUL16	02AUG16	13.7432	0.2115	1.5
133181250_16	44	18JUL16	15AUG16	13.6000	0.2676	2.0
133181270_16	46	04AUG16	08SEP16	13.7630	0.2969	2.2
133181300_16	76	18AUG16	25SEP16	14.0039	0.2248	1.6
133181320_16	38	01SEP16	19SEP16	13.6632	0.2174	1.6
133181350_16	34	20SEP16	03OCT16	14.0324	0.2306	1.6
133181340_16	30	22SEP16	30OCT16	14.0733	0.2912	2.1
133181360_16	45	06OCT16	10NOV16	13.7667	0.2164	1.6
133181390_16	27	11OCT16	02NOV16	13.0444	0.2736	2.1
133181410_16	82	01NOV16	11DEC16	13.7695	0.2697	2.0
133181430_16	50	17NOV16	21DEC16	13.2280	0.3201	2.4
133181460_16	31	26NOV16	18DEC16	13.4516	0.1630	1.2
133181480_16	22	09DEC16	17DEC16	13.2000	0.1826	1.4
133181480_17	22	14JAN17	28JAN17	13.3773	0.2202	1.6


2015-2016 QC Chart for Neutrophil No.(10^3 cells/uL) (Lvl 2)
16
15
14
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Jan
2015
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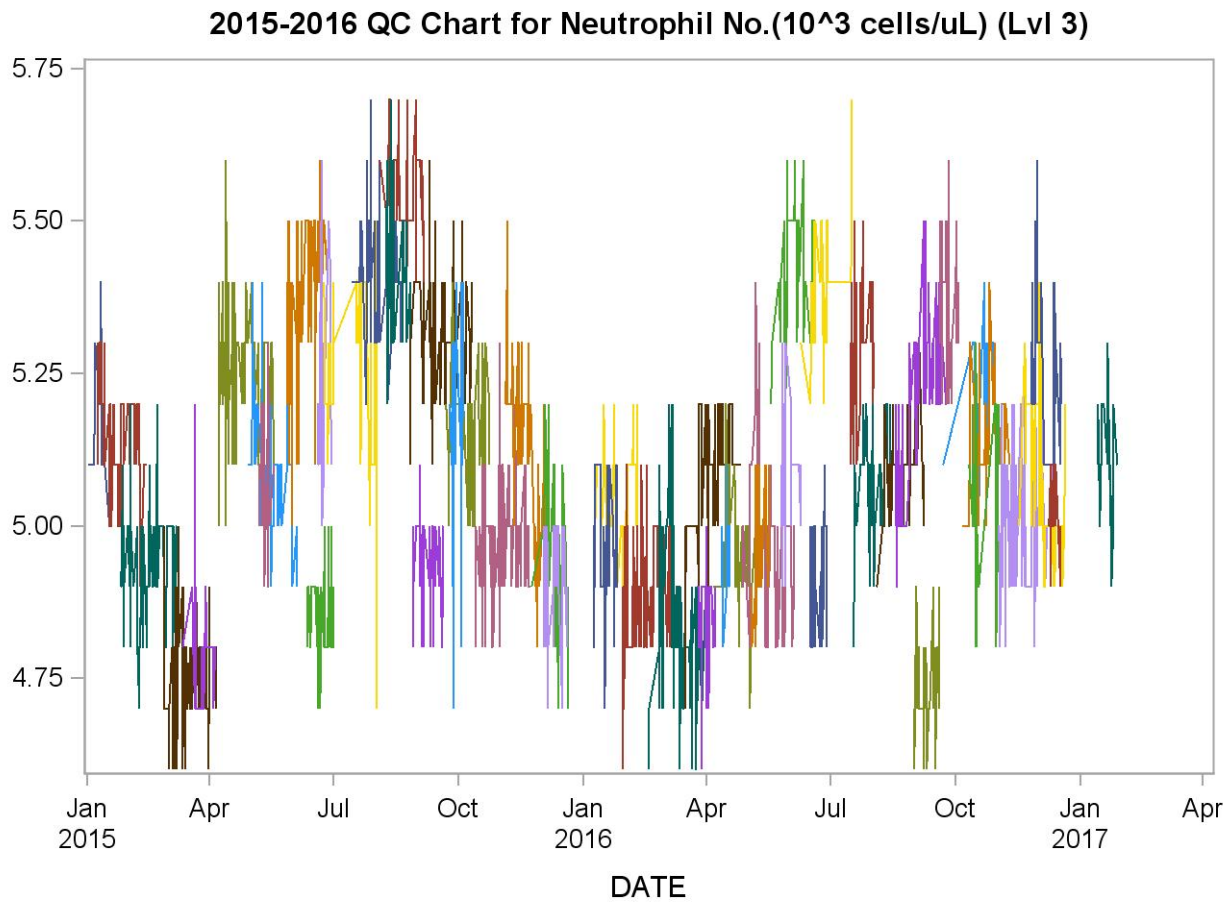
Jan
2017
Apr
DATE

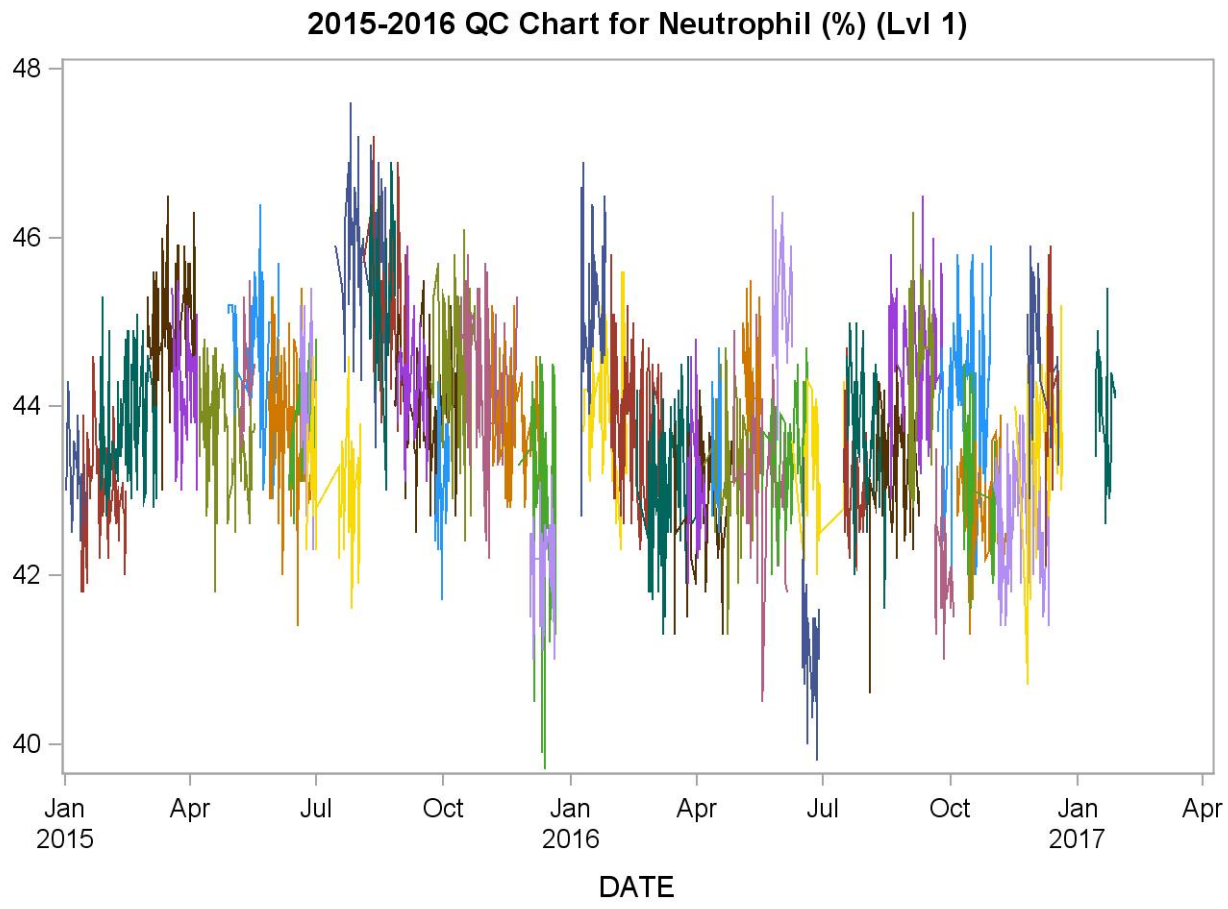
2015-2016 Summary Statistics and QC Chart for Neutrophil No.(10^3 cells/uL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	16	02JAN15	17JAN15	5.1625	0.1147	2.2
143190340_15	63	09JAN15	14FEB15	5.1413	0.0891	1.7
143190390_15	80	26JAN15	08MAR15	4.9400	0.0963	1.9
143190430_15	76	27FEB15	06APR15	4.7579	0.0913	1.9
143190460_15	31	12MAR15	06APR15	4.7903	0.1012	2.1
143190510_15	88	08APR15	18MAY15	5.2500	0.0994	1.9
143190540_15	45	29APR15	04JUN15	5.0956	0.1086	2.1
143190560_15	22	08MAY15	18MAY15	5.0864	0.1125	2.2
143190600_15	84	28MAY15	28JUN15	5.3292	0.1304	2.4
143190620_15	34	12JUN15	01JUL15	4.8500	0.0749	1.5
143190650_15	26	20JUN15	30JUN15	5.2500	0.1503	2.9
143190660_15	47	24JUN15	02AUG15	5.2532	0.1300	2.5
143190700_15	45	15JUL15	20AUG15	5.3933	0.1053	2.0
143190720_15	47	04AUG15	06SEP15	5.5553	0.0880	1.6
143190730_15	31	09AUG15	27AUG15	5.4065	0.1124	2.1
143190760_15	63	27AUG15	11OCT15	5.3143	0.0981	1.8
143190770_15	40	29AUG15	20SEP15	4.9425	0.0813	1.6
143190790_15	42	22SEP15	24OCT15	5.1667	0.0954	1.8
143190820_15	26	25SEP15	05OCT15	5.1731	0.1710	3.3
143190860_15	93	14OCT15	23NOV15	4.9677	0.0946	1.9
143190890_15	42	05NOV15	04DEC15	5.1500	0.1330	2.6
143190930_15	36	24NOV15	21DEC15	4.9667	0.1265	2.5
143190940_15	36	03DEC15	20DEC15	4.9000	0.0862	1.8
143190990_16	41	09JAN16	26JAN16	4.9561	0.1001	2.0
143190980_16	51	10JAN16	10FEB16	5.0373	0.0871	1.7
143191020_16	87	30JAN16	07MAR16	4.8897	0.0977	2.0
143191060_16	84	18FEB16	02APR16	4.8500	0.1384	2.9
143191080_16	50	16MAR16	26APR16	5.0900	0.1165	2.3
143191100_16	30	25MAR16	07APR16	4.8400	0.0814	1.7
143191110_16	44	06APR16	11MAY16	4.9727	0.0949	1.9
143191120_16	20	12APR16	18APR16	4.9350	0.0671	1.4
143191130_16	57	28APR16	05JUN16	4.9825	0.1390	2.8
143191140_16	28	04MAY16	17MAY16	4.9786	0.0917	1.8
143191160_16	46	18MAY16	20JUN16	5.4152	0.0965	1.8
143191170_16	27	26MAY16	09JUN16	5.0889	0.1013	2.0
143191190_16	31	09JUN16	17JUL16	5.3968	0.1080	2.0
143191210_16	32	16JUN16	28JUN16	4.8969	0.0861	1.8
143191240_16	38	16JUL16	02AUG16	5.2868	0.1018	1.9
143191250_16	41	18JUL16	15AUG16	5.0780	0.0909	1.8
143191270_16	40	04AUG16	08SEP16	5.0825	0.0958	1.9
143191300_16	72	18AUG16	25SEP16	5.1806	0.1370	2.6
143191320_16	35	01SEP16	19SEP16	4.7457	0.0919	1.9
143191350_16	32	20SEP16	03OCT16	5.3656	0.1035	1.9
143191340_16	27	22SEP16	30OCT16	5.2111	0.0892	1.7
143191360_16	43	06OCT16	10NOV16	5.1488	0.0985	1.9
143191390_16	28	11OCT16	02NOV16	5.0500	0.1374	2.7
143191410_16	82	01NOV16	11DEC16	5.0232	0.1058	2.1
143191430_16	52	17NOV16	21DEC16	5.0827	0.1339	2.6
143191460_16	31	26NOV16	18DEC16	5.2742	0.1182	2.2
143191480_16	22	09DEC16	17DEC16	5.0409	0.0666	1.3
143191480_17	21	14JAN17	28JAN17	5.1048	0.0921	1.8


2015-2016 QC Chart for Neutrophil No.(10^3 cells/uL) (Lvl 3)
5.75
5.50
5.25
5.00
4.75
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

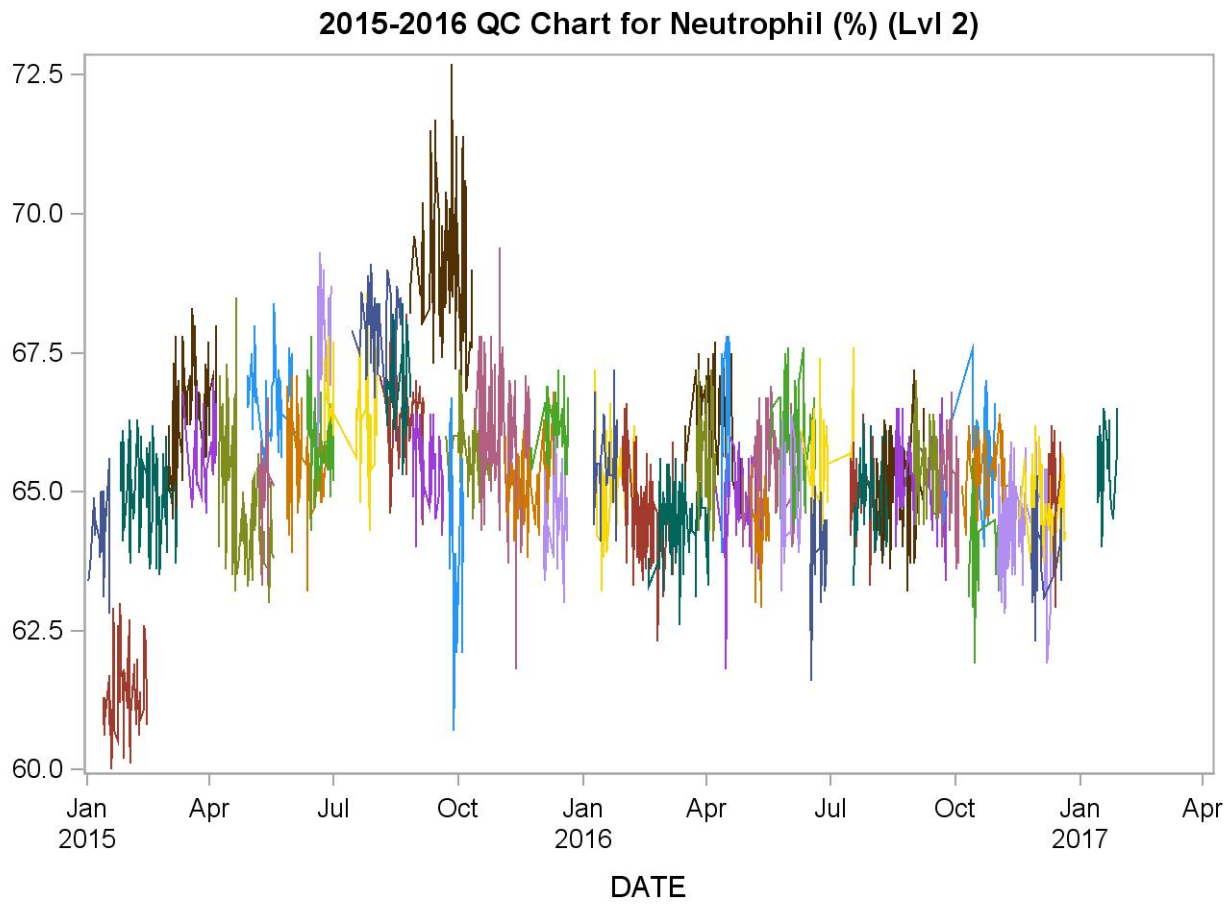
2015-2016 Summary Statistics and QC Chart for Neutrophil (%) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	43.1353	0.5219	1.2
123170340_15	52	13JAN15	14FEB15	42.9500	0.5596	1.3
123170390_15	85	26JAN15	08MAR15	43.8682	0.6494	1.5
123170430_15	71	02MAR15	06APR15	44.9127	0.6425	1.4
123170460_15	29	19MAR15	06APR15	44.1000	0.7051	1.6
123170510_15	78	08APR15	18MAY15	43.7154	0.6425	1.5
123170540_15	36	29APR15	04JUN15	44.7722	0.7397	1.7
123170560_15	21	08MAY15	18MAY15	44.2476	0.4844	1.1
123170600_15	76	28MAY15	28JUN15	43.9184	0.8259	1.9
123170620_15	32	12JUN15	01JUL15	43.7875	0.5204	1.2
123170650_15	25	20JUN15	30JUN15	44.0920	0.7831	1.8
123170660_15	47	24JUN15	02AUG15	43.1277	0.6543	1.5
123170700_15	45	15JUL15	20AUG15	45.8333	0.8208	1.8
123170720_15	57	04AUG15	06SEP15	45.3281	0.8082	1.8
123170730_15	30	09AUG15	27AUG15	45.2533	0.8148	1.8
123170760_15	59	27AUG15	11OCT15	43.9288	0.6494	1.5
123170770_15	40	29AUG15	20SEP15	44.2275	0.5657	1.3
123170790_15	42	22SEP15	24OCT15	44.5262	0.8909	2.0
123170820_15	22	25SEP15	05OCT15	43.1636	0.6222	1.4
123170860_15	94	14OCT15	23NOV15	44.3447	0.7612	1.7
123170890_15	52	05NOV15	10DEC15	43.8481	0.6015	1.4
123170930_15	36	24NOV15	21DEC15	42.9639	1.3001	3.0
123170940_15	36	03DEC15	20DEC15	42.1222	0.5324	1.3
123170990_16	43	09JAN16	26JAN16	45.3721	0.8424	1.9
123170980_16	53	10JAN16	10FEB16	43.9811	0.7414	1.7
123171020_16	87	30JAN16	07MAR16	43.9316	0.7403	1.7
123171060_16	77	18FEB16	02APR16	43.0727	0.7733	1.8
123171080_16	51	16MAR16	26APR16	42.8039	0.7384	1.7
123171100_16	31	25MAR16	07APR16	43.0677	0.6988	1.6
123171110_16	44	06APR16	11MAY16	43.2864	0.7300	1.7
123171120_16	22	12APR16	18APR16	43.5227	0.6241	1.4
123171130_16	54	28APR16	05JUN16	43.1352	0.7898	1.8
123171150_16	28	04MAY16	17MAY16	44.2964	0.6009	1.4
123171160_16	47	18MAY16	20JUN16	43.4489	0.6567	1.5
123171170_16	27	26MAY16	09JUN16	45.0778	0.7089	1.6
123171190_16	29	09JUN16	16JUL16	43.2828	0.6856	1.6
123171210_16	32	16JUN16	28JUN16	41.1438	0.6604	1.6
123171240_16	37	16JUL16	02AUG16	43.1514	0.6367	1.5
123171250_16	37	18JUL16	15AUG16	43.5486	0.8047	1.8
123171270_16	42	04AUG16	08SEP16	43.3476	0.7346	1.7
123171300_16	73	18AUG16	25SEP16	44.5795	0.6837	1.5
123171320_16	38	01SEP16	19SEP16	44.5368	0.7677	1.7
123171350_16	35	20SEP16	03OCT16	42.0800	0.5422	1.3
123171340_16	53	22SEP16	30OCT16	44.2811	0.9174	2.1
123171360_16	44	06OCT16	10NOV16	42.7568	0.5671	1.3
123171390_16	28	11OCT16	02NOV16	42.9893	0.8043	1.9
123171410_16	84	01NOV16	11DEC16	42.6917	0.6736	1.6
123171430_16	45	17NOV16	21DEC16	43.6556	0.8787	2.0
123171460_16	31	26NOV16	18DEC16	44.4258	0.7019	1.6
123171480_16	22	09DEC16	17DEC16	44.3818	0.9053	2.0
123171480_17	21	14JAN17	28JAN17	43.9381	0.6881	1.6


2015-2016 QC Chart for Neutrophil (%) (Lvl 1)
48
46
44
42
40
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

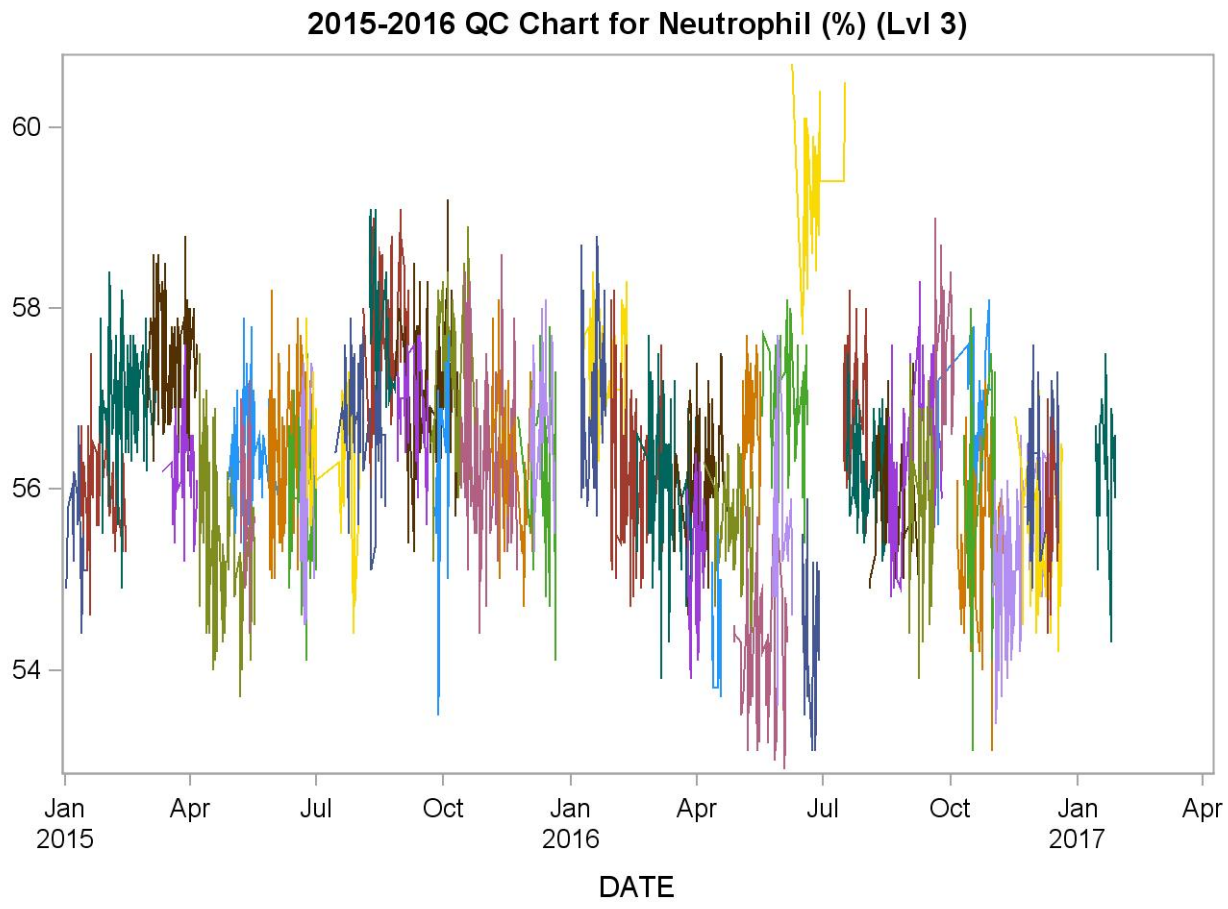
2015-2016 Summary Statistics and QC Chart for Neutrophil (%) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	64.3391	0.7024	1.1
133180340_15	56	13JAN15	14FEB15	61.3339	0.6903	1.1
133180390_15	87	26JAN15	08MAR15	65.0138	0.7140	1.1
133180430_15	75	02MAR15	06APR15	66.3667	0.8611	1.3
133180460_15	39	12MAR15	06APR15	65.6308	0.5939	0.9
133180510_15	82	08APR15	18MAY15	64.8939	1.1683	1.8
133180540_15	41	29APR15	04JUN15	66.5707	0.6638	1.0
133180560_15	22	08MAY15	18MAY15	65.0636	0.7823	1.2
133180600_15	78	28MAY15	27JUN15	65.4654	0.7343	1.1
133180620_15	44	12JUN15	01JUL15	65.9455	0.7765	1.2
133180650_15	27	20JUN15	30JUN15	67.9556	0.8924	1.3
133180660_15	48	24JUN15	02AUG15	66.5313	0.8075	1.2
133180700_15	50	15JUL15	20AUG15	67.8800	0.6987	1.0
133180720_15	58	04AUG15	06SEP15	66.3483	0.6974	1.1
133180730_15	30	09AUG15	27AUG15	66.9033	0.7885	1.2
133180760_15	68	27AUG15	11OCT15	69.1265	1.3110	1.9
133180770_15	43	29AUG15	20SEP15	65.4395	0.6064	0.9
133180790_15	47	22SEP15	24OCT15	65.7617	0.6368	1.0
133180820_15	22	25SEP15	05OCT15	64.1136	1.5006	2.3
133180860_15	104	14OCT15	23NOV15	66.2524	1.2139	1.8
133180890_15	56	05NOV15	10DEC15	65.1732	0.6038	0.9
133180930_15	41	24NOV15	21DEC15	66.1122	0.5474	0.8
133180940_15	36	03DEC15	20DEC15	64.3861	0.6745	1.0
133180990_16	42	09JAN16	26JAN16	65.4048	0.6871	1.1
133180980_16	57	10JAN16	10FEB16	65.0439	0.7243	1.1
133181020_16	91	30JAN16	07MAR16	64.6747	0.8359	1.3
133181060_16	87	18FEB16	02APR16	64.4563	0.6617	1.0
133181080_16	51	16MAR16	26APR16	66.3431	0.7854	1.2
133181110_16	31	25MAR16	07APR16	65.6226	0.8217	1.3
133181100_16	47	06APR16	11MAY16	64.7404	0.7809	1.2
133181120_16	22	12APR16	18APR16	66.5273	1.0048	1.5
133181130_16	57	28APR16	05JUN16	65.3860	0.7379	1.1
133181140_16	28	04MAY16	17MAY16	64.3750	0.6053	0.9
133181160_16	51	18MAY16	20JUN16	65.9431	0.8460	1.3
133181170_16	29	26MAY16	09JUN16	64.9310	0.8234	1.3
133181190_16	34	09JUN16	18JUL16	65.5088	0.8110	1.2
133181210_16	35	16JUN16	28JUN16	63.9543	0.7586	1.2
133181240_16	37	16JUL16	02AUG16	65.0811	0.6096	0.9
133181250_16	44	18JUL16	15AUG16	65.0159	0.6894	1.1
133181270_16	46	04AUG16	08SEP16	65.0109	0.9007	1.4
133181300_16	76	18AUG16	25SEP16	65.3474	0.6819	1.0
133181320_16	38	01SEP16	19SEP16	65.4684	0.7215	1.1
133181350_16	34	20SEP16	03OCT16	65.2882	0.7430	1.1
133181340_16	30	22SEP16	30OCT16	65.7133	0.8178	1.2
133181360_16	45	06OCT16	10NOV16	65.2378	0.6365	1.0
133181390_16	27	11OCT16	02NOV16	63.7963	0.8764	1.4
133181410_16	82	01NOV16	11DEC16	64.3902	0.7771	1.2
133181430_16	50	17NOV16	21DEC16	64.6800	0.6679	1.0
133181460_16	31	26NOV16	18DEC16	63.9516	0.6777	1.1
133181480_16	22	09DEC16	17DEC16	65.1773	0.7030	1.1
133181480_17	22	14JAN17	28JAN17	65.4364	0.6779	1.0


2015-2016 QC Chart for Neutrophil (%) (Lvl 2)
72.5
70.0
67.5
65.0
62.5
60.0
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

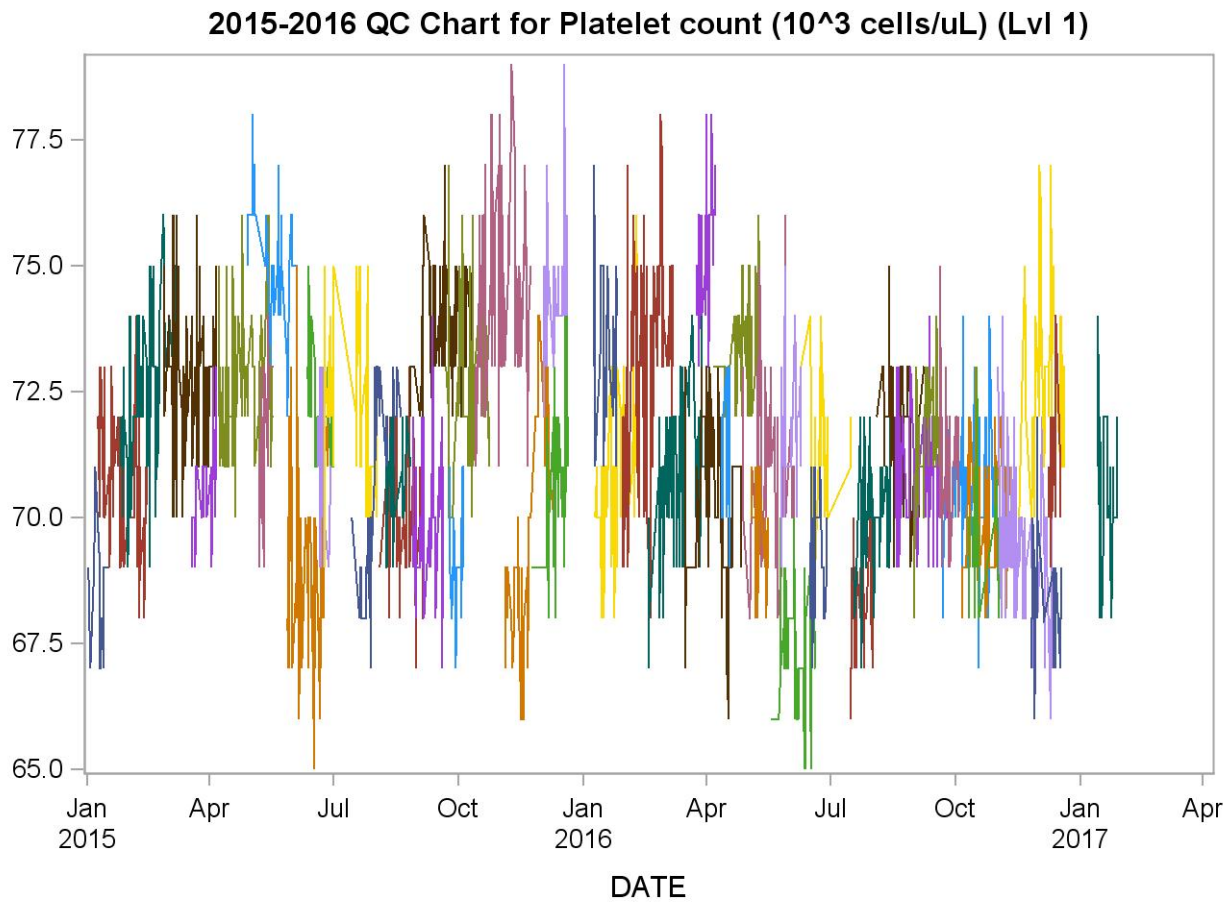
2015-2016 Summary Statistics and QC Chart for Neutrophil (%) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	55.5118	0.6244	1.1
143190340_15	50	13JAN15	14FEB15	56.0280	0.5451	1.0
143190390_15	80	26JAN15	08MAR15	56.9550	0.6240	1.1
143190430_15	73	02MAR15	06APR15	57.4904	0.6044	1.1
143190460_15	31	12MAR15	06APR15	56.2613	0.5590	1.0
143190510_15	88	08APR15	18MAY15	55.4455	0.8162	1.5
143190540_15	45	29APR15	04JUN15	56.3644	0.5694	1.0
143190560_15	23	08MAY15	18MAY15	56.1304	0.7576	1.3
143190600_15	86	28MAY15	28JUN15	56.5023	0.7214	1.3
143190620_15	34	12JUN15	01JUL15	55.8765	0.7600	1.4
143190650_15	26	20JUN15	30JUN15	55.9615	0.9402	1.7
143190660_15	46	24JUN15	02AUG15	56.3174	0.6993	1.2
143190700_15	45	15JUL15	20AUG15	56.7222	0.6782	1.2
143190720_15	55	04AUG15	06SEP15	57.8491	0.6711	1.2
143190730_15	31	09AUG15	27AUG15	57.8032	0.6317	1.1
143190760_15	63	27AUG15	11OCT15	57.1095	0.7783	1.4
143190770_15	40	29AUG15	20SEP15	56.9650	0.5097	0.9
143190790_15	42	22SEP15	24OCT15	57.0952	0.8219	1.4
143190820_15	24	25SEP15	05OCT15	56.0833	0.9929	1.8
143190860_15	93	14OCT15	23NOV15	56.3962	0.8111	1.4
143190890_15	42	05NOV15	04DEC15	56.2738	0.7616	1.4
143190930_15	36	24NOV15	21DEC15	56.3389	0.8446	1.5
143190940_15	36	03DEC15	20DEC15	56.7278	0.6309	1.1
143190990_16	41	09JAN16	26JAN16	57.0829	0.8191	1.4
143190980_16	51	10JAN16	10FEB16	57.3314	0.6032	1.1
143191020_16	87	30JAN16	07MAR16	56.2598	0.8159	1.5
143191060_16	84	18FEB16	02APR16	55.9679	0.7467	1.3
143191080_16	50	16MAR16	26APR16	56.1380	0.7125	1.3
143191100_16	30	25MAR16	07APR16	55.1933	0.6873	1.2
143191110_16	44	06APR16	11MAY16	55.6591	0.5275	0.9
143191120_16	20	12APR16	18APR16	54.5100	0.5486	1.0
143191130_16	57	28APR16	05JUN16	54.1456	0.7251	1.3
143191140_16	28	04MAY16	17MAY16	56.8357	0.5639	1.0
143191160_16	47	18MAY16	20JUN16	56.9128	0.6768	1.2
143191170_16	27	26MAY16	09JUN16	55.5259	0.8291	1.5
143191190_16	31	09JUN16	17JUL16	59.3774	0.7383	1.2
143191210_16	32	16JUN16	28JUN16	54.3781	0.6724	1.2
143191240_16	38	16JUL16	02AUG16	57.0132	0.6165	1.1
143191250_16	41	18JUL16	15AUG16	56.1561	0.5523	1.0
143191270_16	40	04AUG16	08SEP16	55.9650	0.6830	1.2
143191300_16	72	18AUG16	25SEP16	56.2903	0.7521	1.3
143191320_16	38	01SEP16	19SEP16	55.9000	0.9058	1.6
143191350_16	32	20SEP16	03OCT16	57.5156	0.7270	1.3
143191340_16	27	22SEP16	30OCT16	56.8444	0.6583	1.2
143191360_16	44	06OCT16	10NOV16	55.4136	0.8220	1.5
143191390_16	28	11OCT16	02NOV16	55.8500	1.1013	2.0
143191410_16	82	01NOV16	11DEC16	55.3098	0.7753	1.4
143191430_16	52	17NOV16	21DEC16	55.5808	0.6911	1.2
143191460_16	31	26NOV16	18DEC16	56.2613	0.7623	1.4
143191480_16	23	09DEC16	17DEC16	55.9130	0.6811	1.2
143191480_17	21	14JAN17	28JAN17	56.0952	0.7697	1.4


2015-2016 QC Chart for Neutrophil (%) (Lvl 3)
60
58
56
54
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

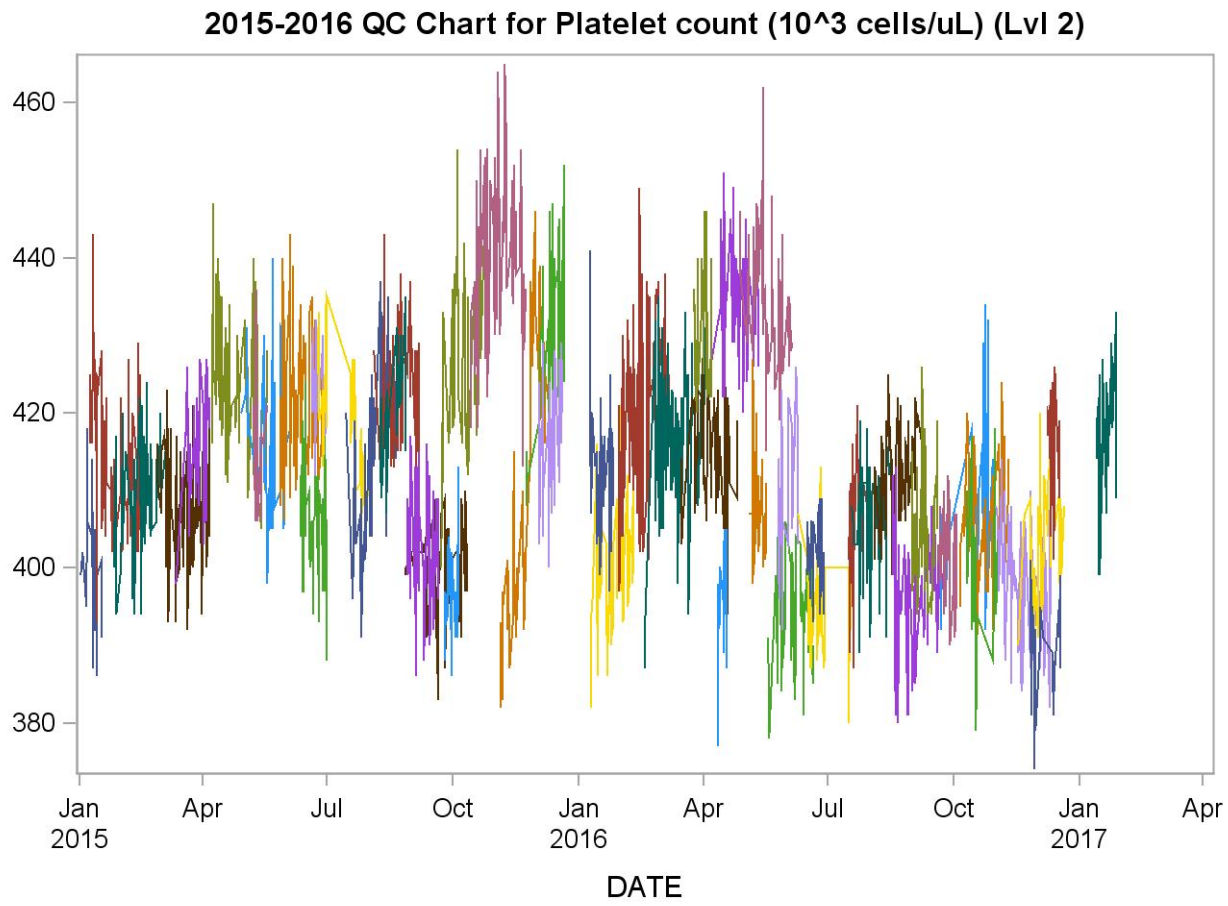
2015-2016 Summary Statistics and QC Chart for Platelet count (10^3 cells/uL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	68.4706	1.0676	1.6
123170340_15	67	09JAN15	14FEB15	70.7612	1.3494	1.9
123170390_15	87	26JAN15	08MAR15	72.6782	1.4587	2.0
123170430_15	74	27FEB15	06APR15	72.6486	1.4376	2.0
123170460_15	30	19MAR15	06APR15	70.6333	1.0662	1.5
123170510_15	78	08APR15	18MAY15	72.6026	1.3323	1.8
123170540_15	35	29APR15	04JUN15	75.1714	1.2244	1.6
123170560_15	21	08MAY15	18MAY15	71.7143	1.4880	2.1
123170600_15	77	28MAY15	28JUN15	69.3506	1.7974	2.6
123170620_15	32	12JUN15	01JUL15	72.0625	0.9817	1.4
123170650_15	25	20JUN15	30JUN15	71.0000	1.2583	1.8
123170660_15	47	24JUN15	02AUG15	72.4043	1.7024	2.4
123170700_15	45	15JUL15	20AUG15	70.7778	1.7306	2.4
123170720_15	58	04AUG15	06SEP15	70.2069	1.3080	1.9
123170730_15	30	09AUG15	27AUG15	70.5667	0.9353	1.3
123170760_15	59	27AUG15	11OCT15	73.7458	1.1233	1.5
123170770_15	40	29AUG15	20SEP15	70.0500	1.4133	2.0
123170790_15	42	22SEP15	24OCT15	72.7619	1.6050	2.2
123170820_15	22	25SEP15	05OCT15	69.1364	1.1253	1.6
123170860_15	94	14OCT15	23NOV15	74.7234	1.7001	2.3
123170890_15	52	05NOV15	10DEC15	69.7500	2.2998	3.3
123170930_15	37	24NOV15	21DEC15	70.5676	1.4821	2.1
123170940_15	36	03DEC15	20DEC15	74.3611	1.3555	1.8
123170990_16	43	09JAN16	26JAN16	73.7209	1.5326	2.1
123170980_16	56	10JAN16	10FEB16	71.2500	1.6760	2.4
123171020_16	91	30JAN16	07MAR16	72.9011	1.9723	2.7
123171060_16	78	18FEB16	02APR16	70.9359	1.5062	2.1
123171080_16	52	16MAR16	26APR16	70.1538	1.6256	2.3
123171100_16	31	25MAR16	07APR16	75.4194	1.2048	1.6
123171110_16	44	06APR16	11MAY16	73.3864	1.1251	1.5
123171120_16	22	12APR16	18APR16	71.1364	1.2458	1.8
123171130_16	55	28APR16	05JUN16	71.1091	1.6064	2.3
123171150_16	28	04MAY16	17MAY16	69.7143	0.8968	1.3
123171160_16	47	18MAY16	20JUN16	67.2766	1.3303	2.0
123171170_16	27	26MAY16	09JUN16	71.9259	1.4122	2.0
123171190_16	29	09JUN16	16JUL16	71.2759	1.3335	1.9
123171210_16	32	16JUN16	28JUN16	69.1563	1.1103	1.6
123171240_16	37	16JUL16	02AUG16	68.3243	1.0289	1.5
123171250_16	37	18JUL16	15AUG16	70.0541	1.2681	1.8
123171270_16	42	04AUG16	08SEP16	71.9048	1.2457	1.7
123171300_16	74	18AUG16	25SEP16	70.8378	1.2053	1.7
123171320_16	39	01SEP16	19SEP16	71.4103	1.2715	1.8
123171350_16	35	20SEP16	03OCT16	71.0857	1.3799	1.9
123171340_16	53	22SEP16	30OCT16	70.6226	1.4037	2.0
123171360_16	44	06OCT16	10NOV16	70.1591	1.3458	1.9
123171390_16	28	11OCT16	02NOV16	69.6786	1.1564	1.7
123171410_16	84	01NOV16	11DEC16	69.4881	1.3665	2.0
123171430_16	45	17NOV16	21DEC16	72.8444	1.7575	2.4
123171460_16	31	26NOV16	18DEC16	68.3548	1.1120	1.6
123171480_16	22	09DEC16	17DEC16	71.0455	1.2527	1.8
123171480_17	21	14JAN17	28JAN17	70.2857	1.5538	2.2


2015-2016 QC Chart for Platelet count (10^3 cells/uL) (Lvl 1)
77.5
75.0
72.5
70.0
67.5
65.0
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

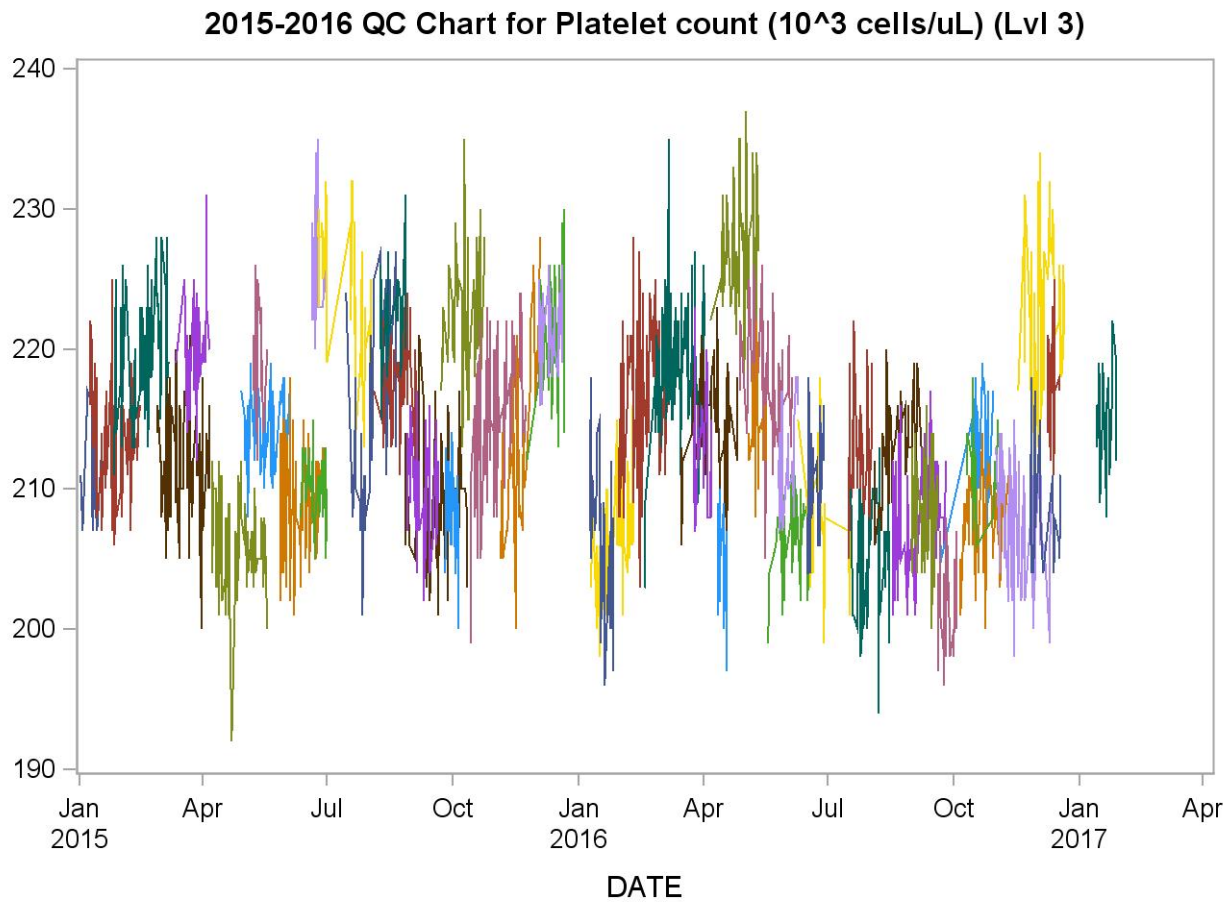
2015-2016 Summary Statistics and QC Chart for Platelet count (10^3 cells/uL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	398.7391	7.6230	1.9
133180340_15	70	09JAN15	14FEB15	413.9857	8.6853	2.1
133180390_15	87	26JAN15	08MAR15	409.9655	6.2959	1.5
133180430_15	80	27FEB15	06APR15	408.3750	6.8147	1.7
133180460_15	39	12MAR15	06APR15	416.1538	7.1545	1.7
133180510_15	82	08APR15	18MAY15	424.2195	7.8221	1.8
133180540_15	41	29APR15	04JUN15	417.8780	8.7155	2.1
133180560_15	22	08MAY15	18MAY15	415.3182	6.8618	1.7
133180600_15	79	28MAY15	27JUN15	423.7089	8.1148	1.9
133180620_15	44	12JUN15	01JUL15	404.9318	7.1671	1.8
133180650_15	26	20JUN15	30JUN15	423.2308	5.9485	1.4
133180660_15	49	24JUN15	02AUG15	419.8980	7.9458	1.9
133180700_15	50	15JUL15	20AUG15	414.6800	10.7123	2.6
133180720_15	58	04AUG15	06SEP15	424.4138	7.7483	1.8
133180730_15	30	09AUG15	27AUG15	418.8667	6.7606	1.6
133180760_15	67	27AUG15	11OCT15	399.8209	5.6754	1.4
133180770_15	44	29AUG15	20SEP15	402.8864	7.3776	1.8
133180790_15	47	22SEP15	24OCT15	428.4468	11.1039	2.6
133180820_15	22	25SEP15	05OCT15	396.3182	6.0819	1.5
133180860_15	104	14OCT15	23NOV15	440.1538	9.9374	2.3
133180890_15	56	05NOV15	10DEC15	408.5179	16.5837	4.1
133180930_15	41	24NOV15	21DEC15	430.0976	10.8185	2.5
133180940_15	36	03DEC15	20DEC15	416.6944	7.0663	1.7
133180990_16	42	09JAN16	26JAN16	414.5000	9.4488	2.3
133180980_16	58	10JAN16	10FEB16	399.3966	8.0958	2.0
133181020_16	95	30JAN16	07MAR16	419.6632	10.6707	2.5
133181060_16	88	18FEB16	02APR16	416.8295	8.5072	2.0
133181080_16	51	16MAR16	26APR16	414.0196	7.4337	1.8
133181110_16	31	25MAR16	07APR16	431.3548	7.1905	1.7
133181100_16	47	06APR16	11MAY16	434.5106	8.1584	1.9
133181120_16	22	12APR16	18APR16	394.7273	6.9978	1.8
133181130_16	57	28APR16	05JUN16	434.5088	7.9555	1.8
133181140_16	28	04MAY16	17MAY16	408.1071	6.4368	1.6
133181160_16	51	18MAY16	20JUN16	393.3529	6.5569	1.7
133181170_16	30	26MAY16	09JUN16	409.8333	8.8125	2.2
133181190_16	35	09JUN16	18JUL16	394.5714	7.5509	1.9
133181210_16	35	16JUN16	28JUN16	401.8000	4.2689	1.1
133181240_16	37	16JUL16	02AUG16	405.8108	6.9035	1.7
133181250_16	45	18JUL16	15AUG16	406.5333	7.1877	1.8
133181270_16	46	04AUG16	08SEP16	413.2174	6.0696	1.5
133181300_16	76	18AUG16	25SEP16	395.6184	7.5683	1.9
133181320_16	38	01SEP16	19SEP16	405.1053	7.3330	1.8
133181350_16	34	20SEP16	03OCT16	401.7941	5.1273	1.3
133181340_16	30	22SEP16	30OCT16	407.3000	11.0583	2.7
133181360_16	45	06OCT16	10NOV16	406.2889	7.7683	1.9
133181390_16	28	11OCT16	02NOV16	399.5000	8.7834	2.2
133181410_16	82	01NOV16	11DEC16	398.5366	7.4024	1.9
133181430_16	50	17NOV16	21DEC16	403.2800	7.5188	1.9
133181460_16	31	26NOV16	18DEC16	388.5806	5.9317	1.5
133181480_16	23	09DEC16	17DEC16	415.0435	7.0548	1.7
133181480_17	22	14JAN17	28JAN17	417.0000	9.1963	2.2


2015-2016 QC Chart for Platelet count (10^3 cells/uL) (Lvl 2)
460
440
420
400
380
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

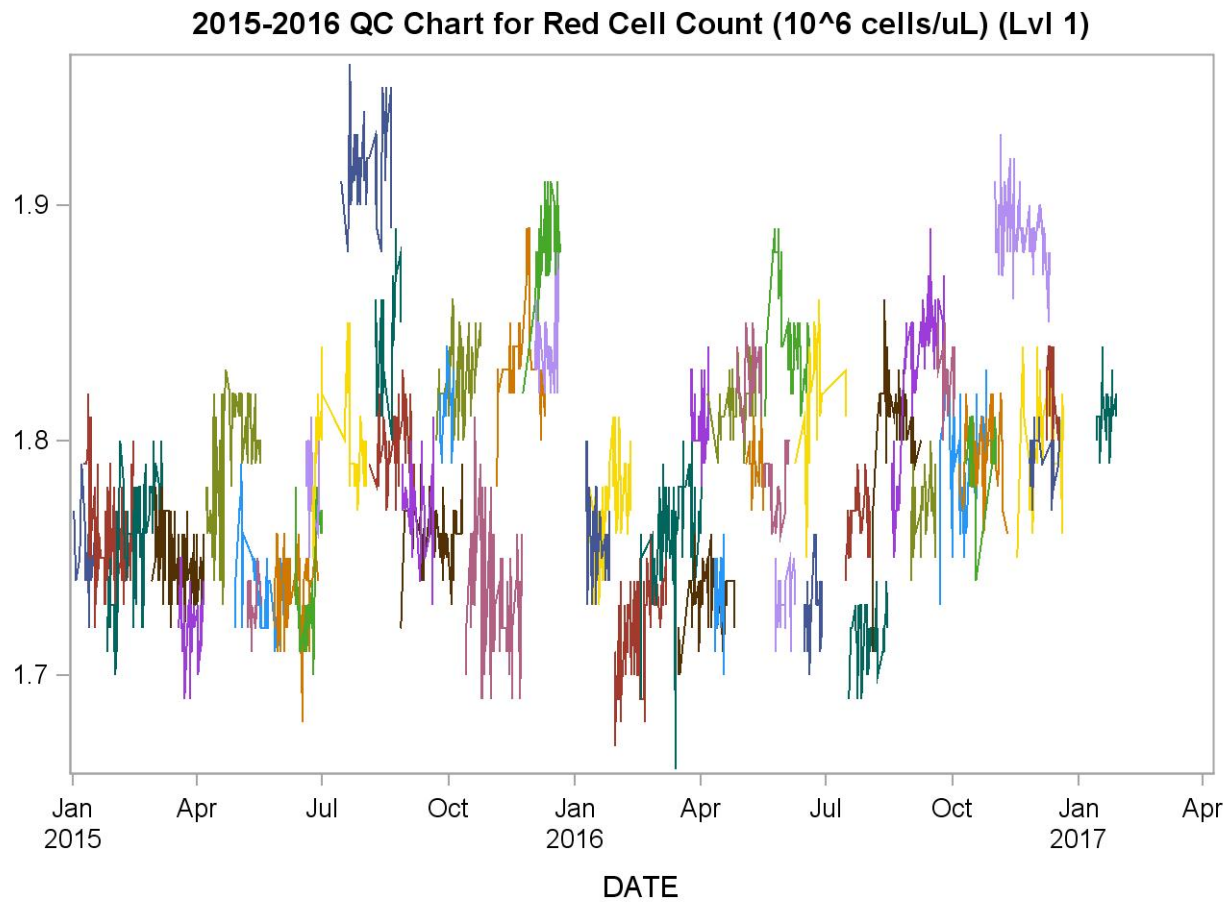
2015-2016 Summary Statistics and QC Chart for Platelet count (10^3 cells/uL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	211.2941	3.9807	1.9
143190340_15	63	09JAN15	14FEB15	213.7302	4.0089	1.9
143190390_15	80	26JAN15	08MAR15	219.1625	3.8956	1.8
143190430_15	76	27FEB15	06APR15	211.7763	3.9652	1.9
143190460_15	31	12MAR15	06APR15	219.7097	3.8488	1.8
143190510_15	90	08APR15	18MAY15	206.2444	3.2544	1.6
143190540_15	45	29APR15	04JUN15	214.2000	3.1880	1.5
143190560_15	23	08MAY15	18MAY15	219.3478	3.6006	1.6
143190600_15	85	28MAY15	28JUN15	208.9294	3.5982	1.7
143190620_15	34	12JUN15	01JUL15	210.2353	2.3492	1.1
143190650_15	26	20JUN15	30JUN15	226.7308	3.9249	1.7
143190660_15	47	24JUN15	02AUG15	224.3191	5.1377	2.3
143190700_15	46	15JUL15	20AUG15	215.4565	6.6121	3.1
143190720_15	55	04AUG15	06SEP15	217.4182	3.0713	1.4
143190730_15	31	09AUG15	27AUG15	222.1613	3.1843	1.4
143190760_15	63	27AUG15	11OCT15	209.3968	4.1135	2.0
143190770_15	40	29AUG15	20SEP15	210.0750	3.4447	1.6
143190790_15	42	22SEP15	24OCT15	222.7619	4.5199	2.0
143190820_15	27	25SEP15	05OCT15	207.9259	3.5074	1.7
143190860_15	94	14OCT15	23NOV15	215.3351	4.4283	2.1
143190890_15	42	05NOV15	04DEC15	213.7857	6.5650	3.1
143190930_15	36	24NOV15	21DEC15	220.9444	4.3421	2.0
143190940_15	37	03DEC15	20DEC15	221.2973	2.9046	1.3
143190990_16	41	09JAN16	26JAN16	207.7805	5.1986	2.5
143190980_16	54	10JAN16	10FEB16	207.0185	4.3934	2.1
143191020_16	91	30JAN16	07MAR16	216.2747	5.2410	2.4
143191060_16	85	18FEB16	02APR16	218.6588	5.0416	2.3
143191080_16	51	16MAR16	26APR16	214.3529	3.4631	1.6
143191100_16	31	25MAR16	07APR16	213.0000	3.9412	1.9
143191110_16	45	06APR16	11MAY16	227.2222	4.3322	1.9
143191120_16	20	12APR16	18APR16	204.1500	3.3916	1.7
143191130_16	57	28APR16	05JUN16	217.4211	3.8217	1.8
143191140_16	28	04MAY16	17MAY16	214.7857	3.1074	1.4
143191160_16	47	18MAY16	20JUN16	207.5319	3.3741	1.6
143191170_16	27	26MAY16	09JUN16	212.8519	3.1342	1.5
143191190_16	31	09JUN16	17JUL16	208.0645	4.1387	2.0
143191210_16	32	16JUN16	28JUN16	210.0000	3.5831	1.7
143191240_16	38	16JUL16	02AUG16	211.8158	3.7766	1.8
143191250_16	41	18JUL16	15AUG16	205.4634	4.1659	2.0
143191270_16	40	04AUG16	08SEP16	213.2250	3.1500	1.5
143191300_16	72	18AUG16	25SEP16	207.6944	3.6948	1.8
143191320_16	38	01SEP16	19SEP16	208.4737	3.7470	1.8
143191350_16	33	20SEP16	03OCT16	202.0909	3.3761	1.7
143191340_16	27	22SEP16	30OCT16	213.4444	4.1726	2.0
143191360_16	44	06OCT16	10NOV16	207.8864	3.1858	1.5
143191390_16	28	11OCT16	02NOV16	210.8571	2.6347	1.2
143191410_16	82	01NOV16	11DEC16	207.3293	3.5592	1.7
143191430_16	52	17NOV16	21DEC16	223.4423	5.3994	2.4
143191460_16	31	26NOV16	18DEC16	208.9355	4.2185	2.0
143191480_16	23	09DEC16	17DEC16	218.2174	3.4766	1.6
143191480_17	21	14JAN17	28JAN17	215.4762	3.5443	1.6


2015-2016 QC Chart for Platelet count (10^3 cells/uL) (Lvl 3)
240
230
220
210
200
190
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

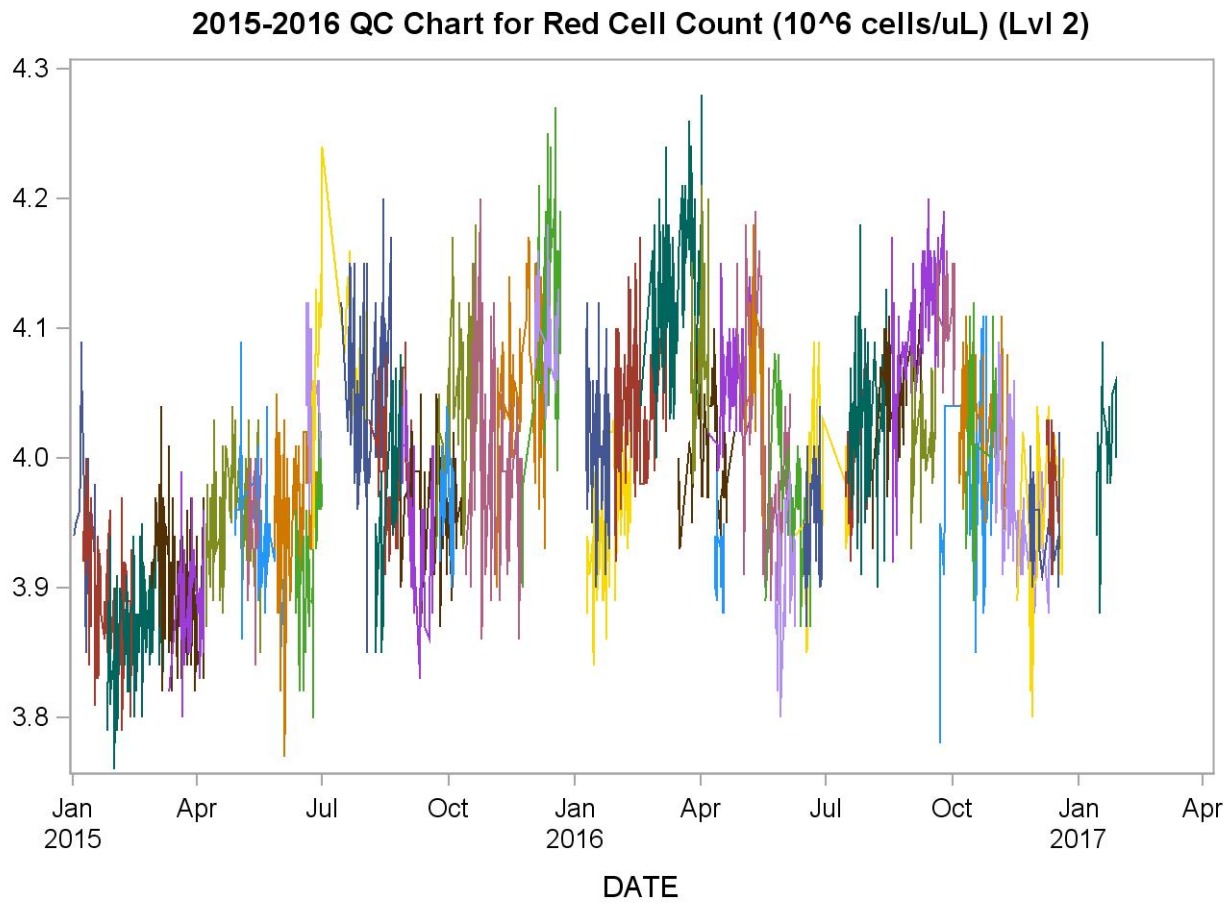
2015-2016 Summary Statistics and QC Chart for Red Cell Count (10^6 cells/uL) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	1.7506	0.0164	0.9
123170340_15	67	09JAN15	14FEB15	1.7634	0.0223	1.3
123170390_15	86	26JAN15	08MAR15	1.7548	0.0246	1.4
123170430_15	74	27FEB15	06APR15	1.7522	0.0157	0.9
123170460_15	29	19MAR15	06APR15	1.7210	0.0150	0.9
123170510_15	78	08APR15	18MAY15	1.7912	0.0256	1.4
123170540_15	36	29APR15	04JUN15	1.7372	0.0198	1.1
123170560_15	21	08MAY15	18MAY15	1.7290	0.0100	0.6
123170600_15	76	28MAY15	28JUN15	1.7378	0.0145	0.8
123170620_15	32	12JUN15	01JUL15	1.7397	0.0249	1.4
123170650_15	25	20JUN15	30JUN15	1.7836	0.0155	0.9
123170660_15	47	24JUN15	02AUG15	1.8002	0.0230	1.3
123170700_15	45	15JUL15	20AUG15	1.9196	0.0182	0.9
123170720_15	58	04AUG15	06SEP15	1.7969	0.0143	0.8
123170730_15	30	09AUG15	27AUG15	1.8427	0.0216	1.2
123170760_15	59	27AUG15	11OCT15	1.7590	0.0142	0.8
123170770_15	40	29AUG15	20SEP15	1.7715	0.0175	1.0
123170790_15	42	22SEP15	24OCT15	1.8302	0.0166	0.9
123170820_15	22	25SEP15	05OCT15	1.8136	0.0129	0.7
123170860_15	93	14OCT15	23NOV15	1.7411	0.0257	1.5
123170890_15	52	05NOV15	10DEC15	1.8350	0.0207	1.1
123170930_15	37	24NOV15	21DEC15	1.8811	0.0201	1.1
123170940_15	36	03DEC15	20DEC15	1.8403	0.0138	0.8
123170990_16	43	09JAN16	26JAN16	1.7635	0.0186	1.1
123170980_16	56	10JAN16	10FEB16	1.7738	0.0190	1.1
123171020_16	91	30JAN16	07MAR16	1.7181	0.0204	1.2
123171060_16	78	18FEB16	02APR16	1.7572	0.0230	1.3
123171080_16	52	16MAR16	26APR16	1.7315	0.0145	0.8
123171100_16	31	25MAR16	07APR16	1.8100	0.0139	0.8
123171110_16	44	06APR16	11MAY16	1.8155	0.0121	0.7
123171120_16	22	12APR16	18APR16	1.7323	0.0160	0.9
123171130_16	55	28APR16	05JUN16	1.8024	0.0262	1.5
123171150_16	28	04MAY16	17MAY16	1.7911	0.0099	0.6
123171160_16	47	18MAY16	20JUN16	1.8466	0.0227	1.2
123171170_16	27	26MAY16	09JUN16	1.7319	0.0111	0.6
123171190_16	29	09JUN16	16JUL16	1.8176	0.0267	1.5
123171210_16	32	16JUN16	28JUN16	1.7269	0.0142	0.8
123171240_16	37	16JUL16	02AUG16	1.7662	0.0116	0.7
123171250_16	37	18JUL16	15AUG16	1.7170	0.0129	0.8
123171270_16	42	04AUG16	08SEP16	1.8086	0.0223	1.2
123171300_16	74	18AUG16	25SEP16	1.8193	0.0358	2.0
123171320_16	39	01SEP16	19SEP16	1.7692	0.0142	0.8
123171350_16	35	20SEP16	03OCT16	1.8309	0.0120	0.7
123171340_16	53	22SEP16	30OCT16	1.7902	0.0221	1.2
123171360_16	44	06OCT16	10NOV16	1.7948	0.0158	0.9
123171390_16	28	11OCT16	02NOV16	1.7918	0.0142	0.8
123171410_16	84	01NOV16	11DEC16	1.8898	0.0134	0.7
123171430_16	45	17NOV16	21DEC16	1.8024	0.0212	1.2
123171460_16	31	26NOV16	18DEC16	1.7932	0.0105	0.6
123171480_16	22	09DEC16	17DEC16	1.8236	0.0133	0.7
123171480_17	21	14JAN17	28JAN17	1.8105	0.0120	0.7


2015-2016 QC Chart for Red Cell Count (10^6 cells/uL) (Lvl 1)
1.9
1.8
1.7
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

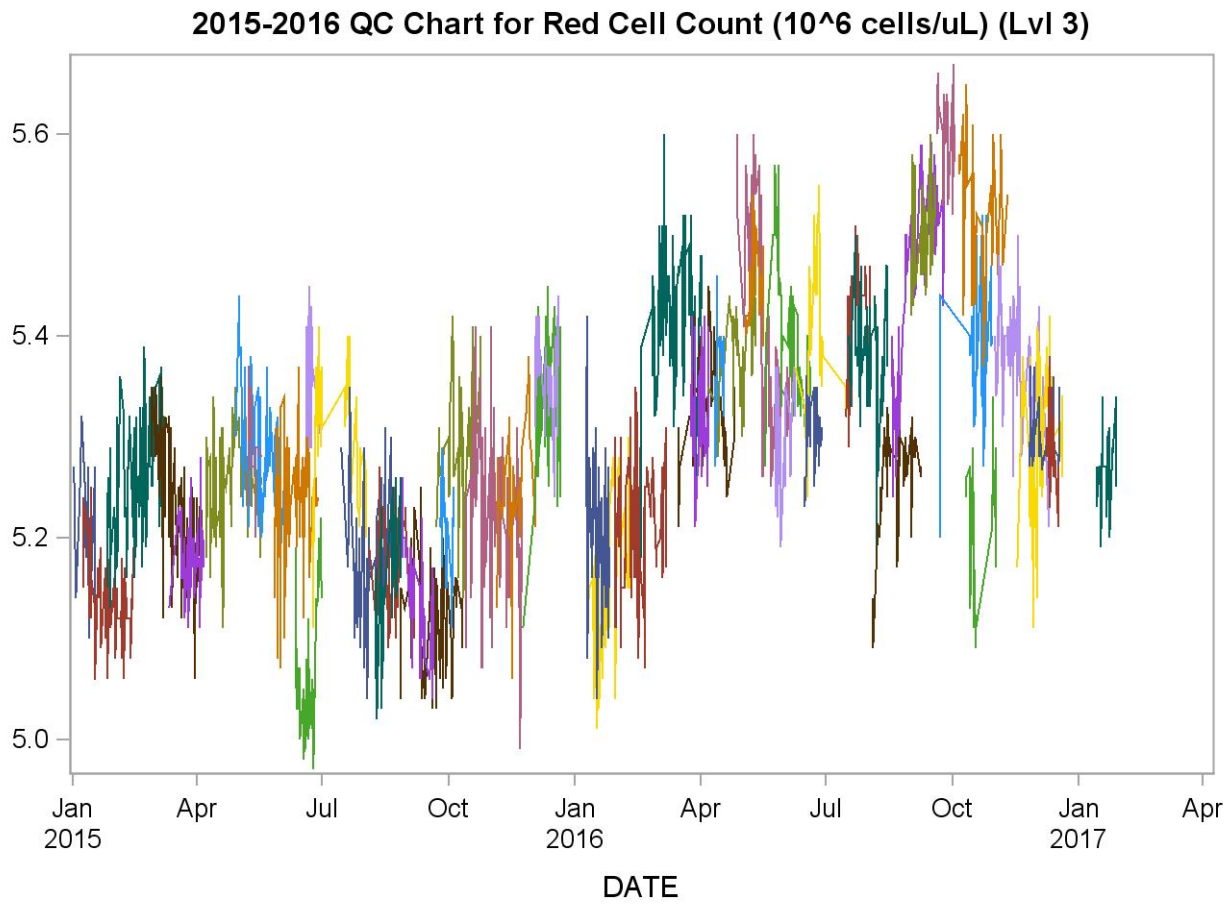
2015-2016 Summary Statistics and QC Chart for Red Cell Count (10^6 cells/uL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	3.9404	0.0572	1.5
133180340_15	70	09JAN15	14FEB15	3.8899	0.0480	1.2
133180390_15	85	26JAN15	08MAR15	3.8685	0.0429	1.1
133180430_15	80	27FEB15	06APR15	3.9121	0.0512	1.3
133180460_15	39	12MAR15	06APR15	3.8933	0.0409	1.0
133180510_15	82	08APR15	18MAY15	3.9535	0.0399	1.0
133180540_15	41	29APR15	04JUN15	3.9537	0.0505	1.3
133180560_15	22	08MAY15	18MAY15	3.9409	0.0420	1.1
133180600_15	79	28MAY15	27JUN15	3.9499	0.0519	1.3
133180620_15	44	12JUN15	01JUL15	3.9089	0.0639	1.6
133180650_15	26	20JUN15	30JUN15	4.0465	0.0419	1.0
133180660_15	49	24JUN15	02AUG15	4.0829	0.0539	1.3
133180700_15	50	15JUL15	20AUG15	4.0476	0.0678	1.7
133180720_15	58	04AUG15	06SEP15	3.9959	0.0455	1.1
133180730_15	30	09AUG15	27AUG15	3.9380	0.0641	1.6
133180760_15	67	27AUG15	11OCT15	3.9596	0.0379	1.0
133180770_15	44	29AUG15	20SEP15	3.9398	0.0535	1.4
133180790_15	47	22SEP15	24OCT15	4.0606	0.0637	1.6
133180820_15	22	25SEP15	05OCT15	3.9655	0.0349	0.9
133180860_15	102	14OCT15	23NOV15	4.0046	0.0687	1.7
133180890_15	56	05NOV15	10DEC15	4.0520	0.0592	1.5
133180930_15	41	24NOV15	21DEC15	4.1129	0.0859	2.1
133180940_15	36	03DEC15	20DEC15	4.1014	0.0336	0.8
133180990_16	42	09JAN16	26JAN16	4.0176	0.0614	1.5
133180980_16	58	10JAN16	10FEB16	3.9453	0.0561	1.4
133181020_16	95	30JAN16	07MAR16	4.0451	0.0447	1.1
133181060_16	88	18FEB16	02APR16	4.1323	0.0589	1.4
133181080_16	51	16MAR16	26APR16	4.0084	0.0412	1.0
133181110_16	31	25MAR16	07APR16	4.0871	0.0594	1.5
133181100_16	47	06APR16	11MAY16	4.0621	0.0410	1.0
133181120_16	22	12APR16	18APR16	3.9209	0.0252	0.6
133181130_16	57	28APR16	05JUN16	4.0270	0.0859	2.1
133181140_16	28	04MAY16	17MAY16	4.0736	0.0436	1.1
133181160_16	51	18MAY16	20JUN16	3.9729	0.0566	1.4
133181170_16	30	26MAY16	09JUN16	3.9067	0.0481	1.2
133181190_16	35	09JUN16	18JUL16	3.9780	0.0542	1.4
133181210_16	35	16JUN16	28JUN16	3.9500	0.0376	1.0
133181240_16	37	16JUL16	02AUG16	4.0011	0.0409	1.0
133181250_16	45	18JUL16	15AUG16	4.0367	0.0621	1.5
133181270_16	46	04AUG16	08SEP16	4.0511	0.0395	1.0
133181300_16	76	18AUG16	25SEP16	4.0826	0.0640	1.6
133181320_16	38	01SEP16	19SEP16	4.0174	0.0370	0.9
133181350_16	34	20SEP16	03OCT16	4.1103	0.0298	0.7
133181340_16	30	22SEP16	30OCT16	3.9693	0.0831	2.1
133181360_16	45	06OCT16	10NOV16	4.0327	0.0405	1.0
133181390_16	28	11OCT16	02NOV16	4.0125	0.0579	1.4
133181410_16	82	01NOV16	11DEC16	3.9691	0.0488	1.2
133181430_16	50	17NOV16	21DEC16	3.9522	0.0570	1.4
133181460_16	31	26NOV16	18DEC16	3.9445	0.0317	0.8
133181480_16	23	09DEC16	17DEC16	3.9870	0.0328	0.8
133181480_17	22	14JAN17	28JAN17	4.0036	0.0435	1.1


2015-2016 QC Chart for Red Cell Count (10^6 cells/uL) (Lvl 2)
4.3
4.2
4.1
4.0
3.9
3.8
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

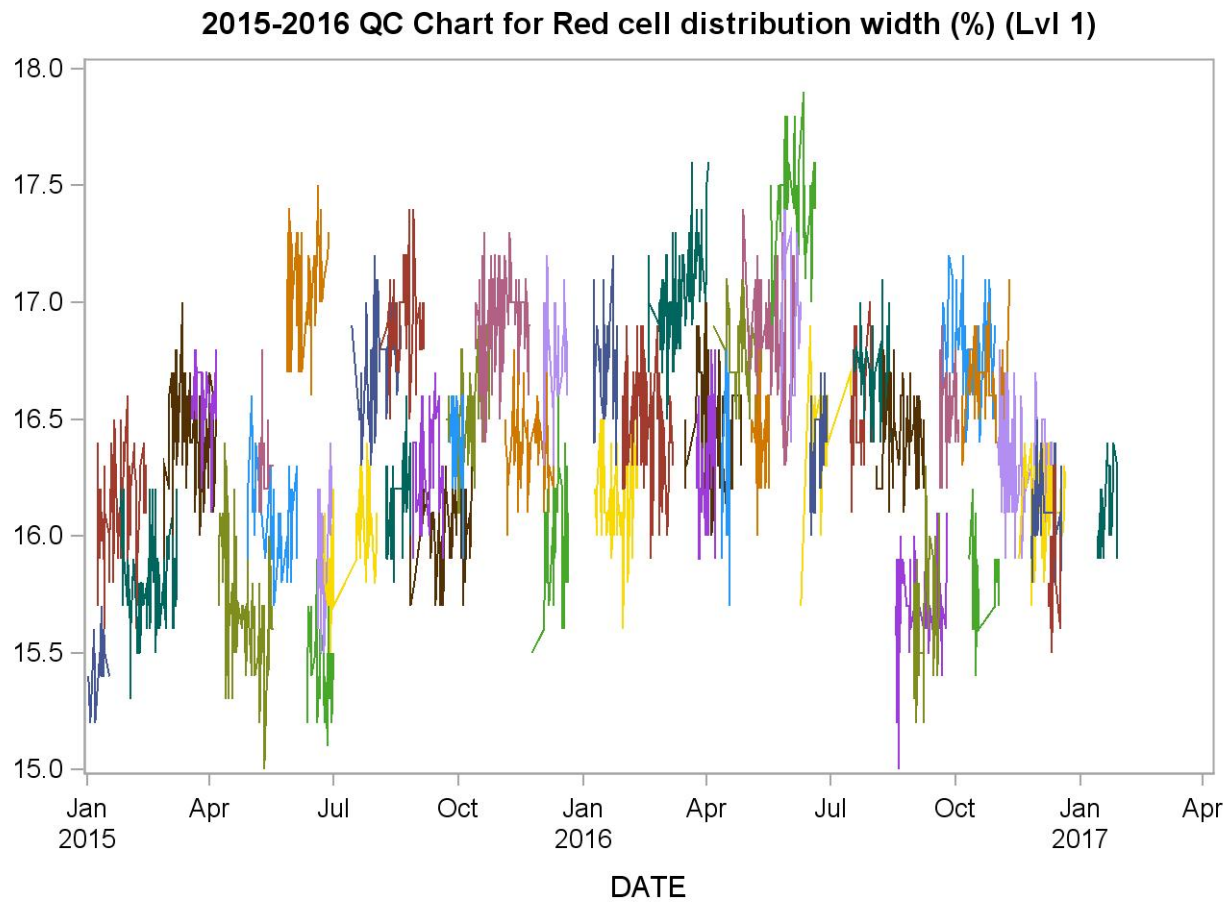
2015-2016 Summary Statistics and QC Chart for Red Cell Count (10^6 cells/uL) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	5.2124	0.0637	1.2
143190340_15	63	09JAN15	14FEB15	5.1495	0.0473	0.9
143190390_15	80	26JAN15	08MAR15	5.2613	0.0607	1.2
143190430_15	76	27FEB15	06APR15	5.2425	0.0673	1.3
143190460_15	31	12MAR15	06APR15	5.1810	0.0423	0.8
143190510_15	90	08APR15	18MAY15	5.2517	0.0479	0.9
143190540_15	45	29APR15	04JUN15	5.2931	0.0610	1.2
143190560_15	23	08MAY15	18MAY15	5.2983	0.0459	0.9
143190600_15	85	28MAY15	28JUN15	5.2187	0.0617	1.2
143190620_15	34	12JUN15	01JUL15	5.0794	0.0682	1.3
143190650_15	26	20JUN15	30JUN15	5.3608	0.0472	0.9
143190660_15	47	24JUN15	02AUG15	5.2996	0.0657	1.2
143190700_15	46	15JUL15	20AUG15	5.1696	0.0689	1.3
143190720_15	55	04AUG15	06SEP15	5.1775	0.0482	0.9
143190730_15	31	09AUG15	27AUG15	5.1400	0.0653	1.3
143190760_15	63	27AUG15	11OCT15	5.1197	0.0503	1.0
143190770_15	40	29AUG15	20SEP15	5.1420	0.0523	1.0
143190790_15	42	22SEP15	24OCT15	5.3010	0.0641	1.2
143190820_15	27	25SEP15	05OCT15	5.2089	0.0448	0.9
143190860_15	94	14OCT15	23NOV15	5.2309	0.0761	1.5
143190890_15	42	05NOV15	04DEC15	5.2581	0.0587	1.1
143190930_15	36	24NOV15	21DEC15	5.3358	0.0736	1.4
143190940_15	37	03DEC15	20DEC15	5.3668	0.0411	0.8
143190990_16	41	09JAN16	26JAN16	5.2300	0.0849	1.6
143190980_16	54	10JAN16	10FEB16	5.1731	0.0717	1.4
143191020_16	91	30JAN16	07MAR16	5.2160	0.0583	1.1
143191060_16	85	18FEB16	02APR16	5.4225	0.0681	1.3
143191080_16	51	16MAR16	26APR16	5.3300	0.0535	1.0
143191100_16	31	25MAR16	07APR16	5.3332	0.0547	1.0
143191110_16	45	06APR16	11MAY16	5.3904	0.0467	0.9
143191120_16	20	12APR16	18APR16	5.3655	0.0390	0.7
143191130_16	57	28APR16	05JUN16	5.4179	0.1046	1.9
143191140_16	28	04MAY16	17MAY16	5.4550	0.0386	0.7
143191160_16	47	18MAY16	20JUN16	5.3998	0.0668	1.2
143191170_16	27	26MAY16	09JUN16	5.2937	0.0526	1.0
143191190_16	31	09JUN16	17JUL16	5.4000	0.0742	1.4
143191210_16	32	16JUN16	28JUN16	5.3091	0.0333	0.6
143191240_16	38	16JUL16	02AUG16	5.4105	0.0495	0.9
143191250_16	41	18JUL16	15AUG16	5.3863	0.0608	1.1
143191270_16	40	04AUG16	08SEP16	5.2643	0.0501	1.0
143191300_16	72	18AUG16	25SEP16	5.4363	0.1003	1.8
143191320_16	38	01SEP16	19SEP16	5.5068	0.0453	0.8
143191350_16	33	20SEP16	03OCT16	5.6042	0.0415	0.7
143191340_16	27	22SEP16	30OCT16	5.3930	0.0812	1.5
143191360_16	44	06OCT16	10NOV16	5.5166	0.0586	1.1
143191390_16	28	11OCT16	02NOV16	5.2146	0.0609	1.2
143191410_16	82	01NOV16	11DEC16	5.3729	0.0505	0.9
143191430_16	52	17NOV16	21DEC16	5.3133	0.0666	1.3
143191460_16	31	26NOV16	18DEC16	5.3048	0.0332	0.6
143191480_16	23	09DEC16	17DEC16	5.2843	0.0412	0.8
143191480_17	21	14JAN17	28JAN17	5.2648	0.0406	0.8


2015-2016 QC Chart for Red Cell Count (10^6 cells/uL) (Lvl 3)
5.6
5.4
5.2
5.0
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

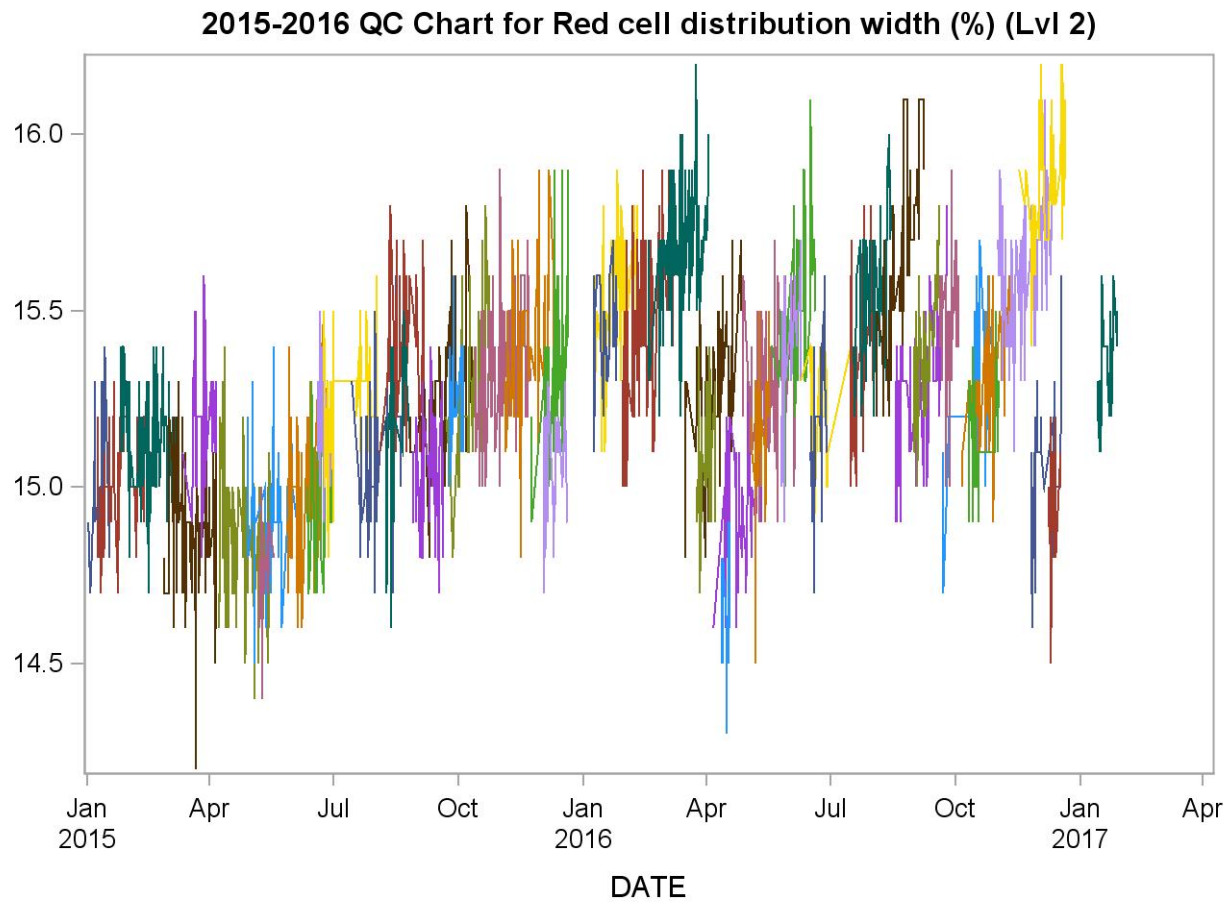
2015-2016 Summary Statistics and QC Chart for Red cell distribution width (%) (Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	15.4588	0.1326	0.9
123170340_15	67	09JAN15	14FEB15	16.1075	0.2134	1.3
123170390_15	87	26JAN15	08MAR15	15.7908	0.1884	1.2
123170430_15	74	27FEB15	06APR15	16.4473	0.2102	1.3
123170460_15	30	19MAR15	06APR15	16.5467	0.1756	1.1
123170510_15	78	08APR15	18MAY15	15.7103	0.2556	1.6
123170540_15	36	29APR15	04JUN15	16.0528	0.1920	1.2
123170560_15	21	08MAY15	18MAY15	16.3190	0.1537	0.9
123170600_15	77	28MAY15	28JUN15	17.0481	0.2011	1.2
123170620_15	32	12JUN15	01JUL15	15.4531	0.1866	1.2
123170650_15	25	20JUN15	30JUN15	15.9200	0.2363	1.5
123170660_15	47	24JUN15	02AUG15	15.9809	0.1918	1.2
123170700_15	45	15JUL15	20AUG15	16.7267	0.2126	1.3
123170720_15	58	04AUG15	06SEP15	16.8983	0.1896	1.1
123170730_15	30	09AUG15	27AUG15	16.1300	0.1968	1.2
123170760_15	59	27AUG15	11OCT15	16.0322	0.1706	1.1
123170770_15	40	29AUG15	20SEP15	16.2950	0.2025	1.2
123170790_15	42	22SEP15	24OCT15	16.5381	0.2012	1.2
123170820_15	22	25SEP15	05OCT15	16.3818	0.1790	1.1
123170860_15	94	14OCT15	23NOV15	16.9362	0.2037	1.2
123170890_15	52	05NOV15	10DEC15	16.3865	0.1681	1.0
123170930_15	37	24NOV15	21DEC15	16.0027	0.2500	1.6
123170940_15	36	03DEC15	20DEC15	16.7472	0.2184	1.3
123170990_16	43	09JAN16	26JAN16	16.6814	0.2085	1.2
123170980_16	56	10JAN16	10FEB16	16.2125	0.2089	1.3
123171020_16	91	30JAN16	07MAR16	16.4907	0.2167	1.3
123171060_16	78	18FEB16	02APR16	17.0256	0.2153	1.3
123171080_16	52	16MAR16	26APR16	16.4212	0.2420	1.5
123171100_16	31	25MAR16	07APR16	16.2645	0.2443	1.5
123171110_16	44	06APR16	11MAY16	16.8114	0.1845	1.1
123171120_16	22	12APR16	18APR16	16.2273	0.2529	1.6
123171130_16	55	28APR16	05JUN16	16.8909	0.2375	1.4
123171150_16	28	04MAY16	17MAY16	16.4036	0.1815	1.1
123171160_16	47	18MAY16	20JUN16	17.4277	0.2113	1.2
123171170_16	27	26MAY16	09JUN16	16.9852	0.2670	1.6
123171190_16	29	09JUN16	16JUL16	16.4310	0.2407	1.5
123171210_16	32	16JUN16	28JUN16	16.3438	0.1950	1.2
123171240_16	37	16JUL16	02AUG16	16.5622	0.2126	1.3
123171250_16	37	18JUL16	15AUG16	16.6784	0.1766	1.1
123171270_16	42	04AUG16	08SEP16	16.4524	0.1991	1.2
123171300_16	74	18AUG16	25SEP16	15.6743	0.1895	1.2
123171320_16	39	01SEP16	19SEP16	15.6615	0.2561	1.6
123171350_16	35	20SEP16	03OCT16	16.5457	0.1945	1.2
123171340_16	53	22SEP16	30OCT16	16.8000	0.1971	1.2
123171360_16	44	06OCT16	10NOV16	16.6614	0.1728	1.0
123171390_16	28	11OCT16	02NOV16	15.7857	0.1799	1.1
123171410_16	84	01NOV16	11DEC16	16.3083	0.1977	1.2
123171430_16	45	17NOV16	21DEC16	16.1156	0.1745	1.1
123171460_16	31	26NOV16	18DEC16	16.1000	0.1826	1.1
123171480_16	22	09DEC16	17DEC16	15.9545	0.2721	1.7
123171480_17	21	14JAN17	28JAN17	16.1190	0.1778	1.1


2015-2016 QC Chart for Red cell distribution width (%) (Lvl 1)
18.0
17.5
17.0
16.5
16.0
15.5
15.0
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

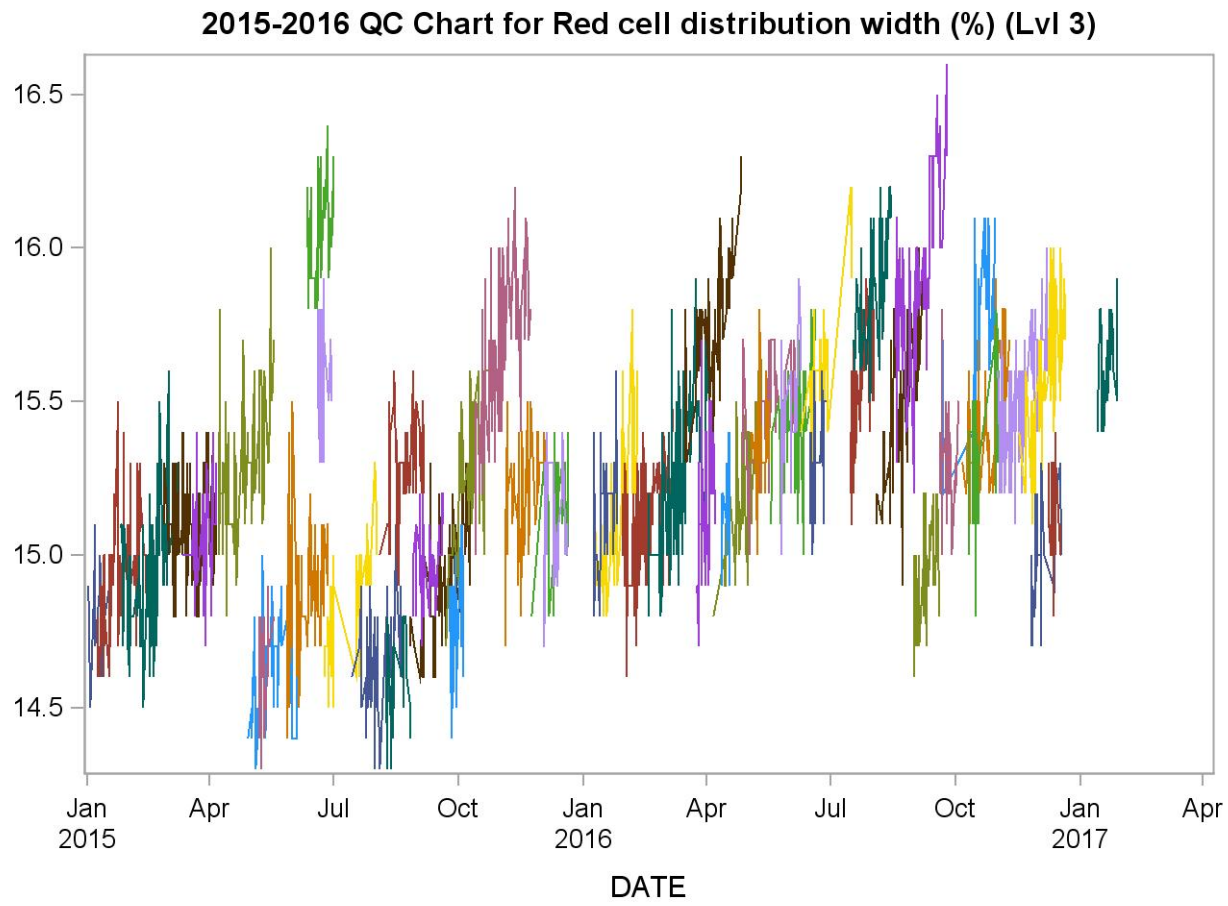
2015-2016 Summary Statistics and QC Chart for Red cell distribution width (%) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	15.0261	0.1764	1.2
133180340_15	70	09JAN15	14FEB15	15.0214	0.1454	1.0
133180390_15	87	26JAN15	08MAR15	15.1161	0.1562	1.0
133180430_15	80	27FEB15	06APR15	14.9063	0.1830	1.2
133180460_15	39	12MAR15	06APR15	15.1795	0.1824	1.2
133180510_15	82	08APR15	18MAY15	14.8366	0.1947	1.3
133180540_15	41	29APR15	04JUN15	14.9512	0.1777	1.2
133180560_15	22	08MAY15	18MAY15	14.7955	0.1327	0.9
133180600_15	79	28MAY15	27JUN15	15.0070	0.1908	1.3
133180620_15	44	12JUN15	01JUL15	14.9545	0.1470	1.0
133180650_15	26	20JUN15	30JUN15	15.2115	0.1505	1.0
133180660_15	49	24JUN15	02AUG15	15.2592	0.1802	1.2
133180700_15	50	15JUL15	20AUG15	15.1080	0.1967	1.3
133180720_15	58	04AUG15	06SEP15	15.4241	0.1750	1.1
133180730_15	30	09AUG15	27AUG15	15.1133	0.2209	1.5
133180760_15	68	27AUG15	11OCT15	15.2647	0.1835	1.2
133180770_15	44	29AUG15	20SEP15	15.0159	0.1554	1.0
133180790_15	47	22SEP15	24OCT15	15.2787	0.2136	1.4
133180820_15	22	25SEP15	05OCT15	15.2682	0.1359	0.9
133180860_15	104	14OCT15	23NOV15	15.3481	0.1751	1.1
133180890_15	56	05NOV15	10DEC15	15.4143	0.2004	1.3
133180930_15	41	24NOV15	21DEC15	15.3610	0.2417	1.6
133180940_15	36	03DEC15	20DEC15	15.0417	0.1500	1.0
133180990_16	42	09JAN16	26JAN16	15.4048	0.1324	0.9
133180980_16	58	10JAN16	10FEB16	15.5310	0.1769	1.1
133181020_16	95	30JAN16	07MAR16	15.4558	0.2102	1.4
133181060_16	88	18FEB16	02APR16	15.6795	0.1883	1.2
133181080_16	51	16MAR16	26APR16	15.2569	0.1993	1.3
133181110_16	31	25MAR16	07APR16	15.1032	0.1622	1.1
133181100_16	47	06APR16	11MAY16	14.9723	0.1850	1.2
133181120_16	22	12APR16	18APR16	14.6727	0.1579	1.1
133181130_16	57	28APR16	05JUN16	15.2982	0.1866	1.2
133181140_16	28	04MAY16	17MAY16	15.1607	0.1912	1.3
133181160_16	51	18MAY16	20JUN16	15.5039	0.2236	1.4
133181170_16	30	26MAY16	09JUN16	15.3567	0.1888	1.2
133181190_16	35	09JUN16	18JUL16	15.2286	0.1526	1.0
133181210_16	35	16JUN16	28JUN16	15.1657	0.1830	1.2
133181240_16	37	16JUL16	02AUG16	15.3676	0.2135	1.4
133181250_16	45	18JUL16	15AUG16	15.5778	0.1987	1.3
133181270_16	46	04AUG16	08SEP16	15.6652	0.2496	1.6
133181300_16	76	18AUG16	25SEP16	15.2855	0.1909	1.2
133181320_16	38	01SEP16	19SEP16	15.3816	0.1843	1.2
133181350_16	34	20SEP16	03OCT16	15.4265	0.1814	1.2
133181340_16	30	22SEP16	30OCT16	15.2867	0.2255	1.5
133181360_16	45	06OCT16	10NOV16	15.3044	0.1796	1.2
133181390_16	28	11OCT16	02NOV16	15.1393	0.1595	1.1
133181410_16	82	01NOV16	11DEC16	15.5768	0.1738	1.1
133181430_16	50	17NOV16	21DEC16	15.8500	0.1669	1.1
133181460_16	31	26NOV16	18DEC16	15.0387	0.2246	1.5
133181480_16	23	09DEC16	17DEC16	14.9565	0.1727	1.2
133181480_17	22	14JAN17	28JAN17	15.3500	0.1406	0.9


2015-2016 QC Chart for Red cell distribution width (%) (Lvl 2)
16.0
15.5
15.0
14.5
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

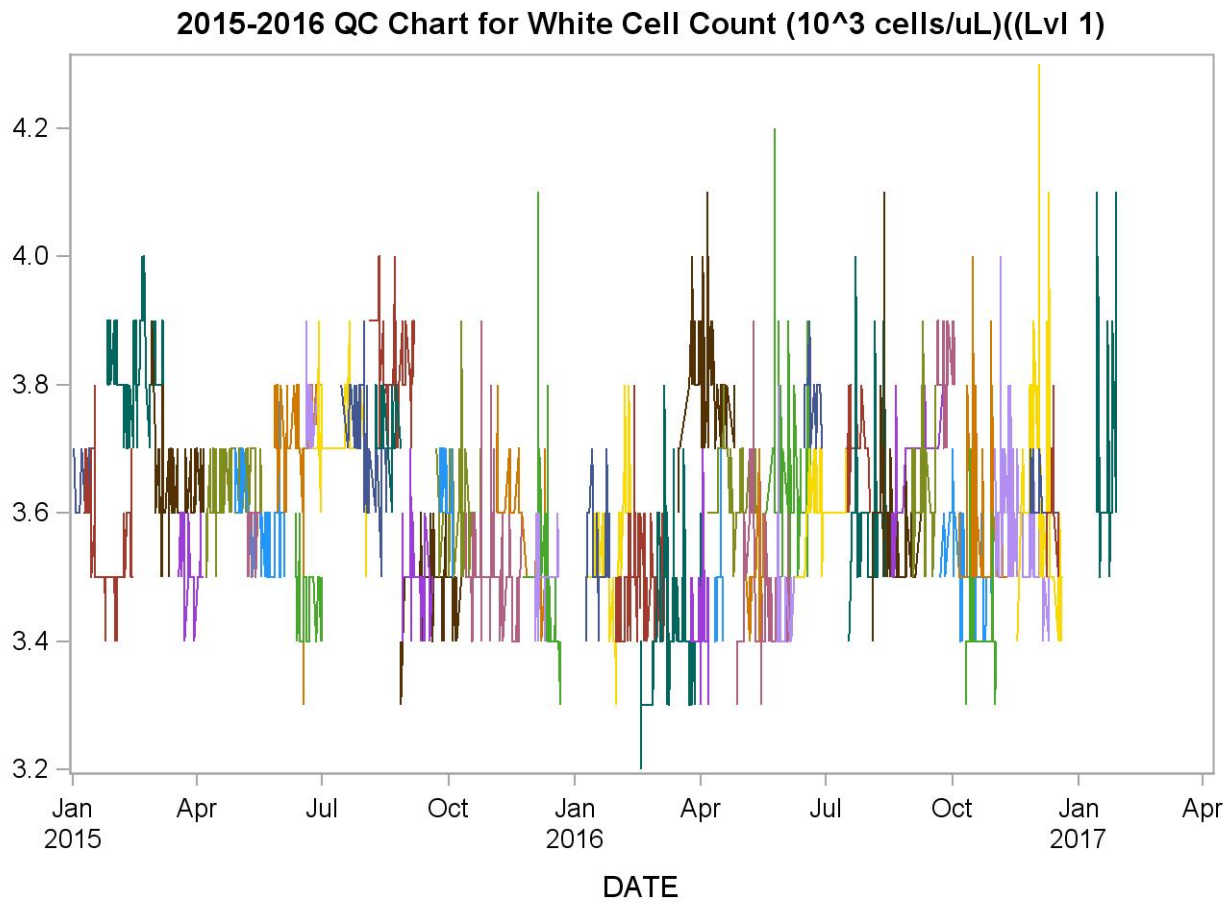
2015-2016 Summary Statistics and QC Chart for Red cell distribution width (%) (Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	17	02JAN15	17JAN15	14.8294	0.1532	1.0
143190340_15	63	09JAN15	14FEB15	14.9317	0.1950	1.3
143190390_15	80	26JAN15	08MAR15	14.9550	0.2012	1.3
143190430_15	76	27FEB15	06APR15	15.1145	0.1564	1.0
143190460_15	31	12MAR15	06APR15	15.0677	0.1815	1.2
143190510_15	90	08APR15	18MAY15	15.2644	0.2090	1.4
143190540_15	45	29APR15	04JUN15	14.6156	0.1705	1.2
143190560_15	23	08MAY15	18MAY15	14.6391	0.1559	1.1
143190600_15	86	28MAY15	28JUN15	14.8529	0.1857	1.3
143190620_15	34	12JUN15	01JUL15	16.0559	0.1580	1.0
143190650_15	26	20JUN15	30JUN15	15.5654	0.1832	1.2
143190660_15	47	24JUN15	02AUG15	14.8574	0.1931	1.3
143190700_15	46	15JUL15	20AUG15	14.6609	0.1868	1.3
143190720_15	55	04AUG15	06SEP15	15.2745	0.1590	1.0
143190730_15	31	09AUG15	27AUG15	14.5581	0.1409	1.0
143190760_15	63	27AUG15	11OCT15	14.9222	0.1896	1.3
143190770_15	40	29AUG15	20SEP15	14.9750	0.1373	0.9
143190790_15	42	22SEP15	24OCT15	15.2786	0.2203	1.4
143190820_15	27	25SEP15	05OCT15	14.7556	0.1847	1.3
143190860_15	94	14OCT15	23NOV15	15.6436	0.2461	1.6
143190890_15	42	05NOV15	04DEC15	15.1810	0.1903	1.3
143190930_15	36	24NOV15	21DEC15	15.1250	0.1697	1.1
143190940_15	37	03DEC15	20DEC15	15.1000	0.1764	1.2
143190990_16	41	09JAN16	26JAN16	15.1561	0.1898	1.3
143190980_16	54	10JAN16	10FEB16	15.1796	0.2277	1.5
143191020_16	91	30JAN16	07MAR16	15.1154	0.1659	1.1
143191060_16	85	18FEB16	02APR16	15.2765	0.2510	1.6
143191080_16	51	16MAR16	26APR16	15.7529	0.2120	1.3
143191100_16	31	25MAR16	07APR16	15.1645	0.2169	1.4
143191110_16	45	06APR16	11MAY16	15.2044	0.2121	1.4
143191120_16	20	12APR16	18APR16	15.1500	0.1395	0.9
143191130_16	57	28APR16	05JUN16	15.4544	0.1513	1.0
143191140_16	28	04MAY16	17MAY16	15.3750	0.1481	1.0
143191160_16	47	18MAY16	20JUN16	15.4660	0.1948	1.3
143191170_16	27	26MAY16	09JUN16	15.4444	0.1867	1.2
143191190_16	31	09JUN16	17JUL16	15.6258	0.2607	1.7
143191210_16	32	16JUN16	28JUN16	15.3250	0.1586	1.0
143191240_16	38	16JUL16	02AUG16	15.5053	0.1931	1.2
143191250_16	41	18JUL16	15AUG16	15.8805	0.2076	1.3
143191270_16	40	04AUG16	08SEP16	15.5050	0.2601	1.7
143191300_16	72	18AUG16	25SEP16	15.9139	0.2855	1.8
143191320_16	38	01SEP16	19SEP16	14.9237	0.1618	1.1
143191350_16	33	20SEP16	03OCT16	15.3091	0.1756	1.1
143191340_16	27	22SEP16	30OCT16	15.7704	0.2447	1.6
143191360_16	44	06OCT16	10NOV16	15.4455	0.2074	1.3
143191390_16	28	11OCT16	02NOV16	15.3286	0.2242	1.5
143191410_16	82	01NOV16	11DEC16	15.5037	0.1849	1.2
143191430_16	52	17NOV16	21DEC16	15.5442	0.2279	1.5
143191460_16	31	26NOV16	18DEC16	14.9774	0.1707	1.1
143191480_16	24	09DEC16	17DEC16	15.1167	0.1465	1.0
143191480_17	21	14JAN17	28JAN17	15.6429	0.1502	1.0


2015-2016 QC Chart for Red cell distribution width (%) (Lvl 3)
16.5
16.0
15.5
15.0
14.5
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for White Cell Count (10^3 cells/uL)((Lvl 1)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
123170290_15	17	02JAN15	17JAN15	3.6588	0.0618	1.7
123170340_15	65	09JAN15	14FEB15	3.5415	0.0748	2.1
123170390_15	86	26JAN15	08MAR15	3.8372	0.0687	1.8
123170430_15	74	27FEB15	06APR15	3.6324	0.0704	1.9
123170460_15	29	19MAR15	06APR15	3.5172	0.0539	1.5
123170510_15	78	08APR15	18MAY15	3.6372	0.0561	1.5
123170540_15	36	29APR15	04JUN15	3.5889	0.0708	2.0
123170560_15	21	08MAY15	18MAY15	3.5667	0.0483	1.4
123170600_15	77	28MAY15	28JUN15	3.7143	0.0738	2.0
123170620_15	32	12JUN15	01JUL15	3.4719	0.0581	1.7
123170650_15	25	20JUN15	30JUN15	3.7560	0.0583	1.6
123170660_15	46	24JUN15	02AUG15	3.7261	0.0681	1.8
123170700_15	45	15JUL15	20AUG15	3.7178	0.0747	2.0
123170720_15	58	04AUG15	06SEP15	3.8414	0.0817	2.1
123170730_15	30	09AUG15	27AUG15	3.7367	0.0556	1.5
123170760_15	59	27AUG15	11OCT15	3.4932	0.0583	1.7
123170770_15	40	29AUG15	20SEP15	3.5125	0.0686	2.0
123170790_15	42	22SEP15	24OCT15	3.5976	0.0780	2.2
123170820_15	22	25SEP15	05OCT15	3.6273	0.0631	1.7
123170860_15	94	14OCT15	23NOV15	3.5096	0.0749	2.1
123170890_15	52	05NOV15	10DEC15	3.5827	0.0785	2.2
123170930_15	37	24NOV15	21DEC15	3.5000	0.1453	4.2
123170940_15	36	03DEC15	20DEC15	3.5056	0.0532	1.5
123170990_16	43	09JAN16	26JAN16	3.5209	0.0638	1.8
123170980_16	56	10JAN16	10FEB16	3.5375	0.0964	2.7
123171020_16	91	30JAN16	07MAR16	3.4819	0.0725	2.1
123171060_16	77	18FEB16	02APR16	3.4299	0.1027	3.0
123171080_16	52	16MAR16	26APR16	3.7865	0.0991	2.6
123171100_16	31	25MAR16	07APR16	3.4226	0.0717	2.1
123171110_16	44	06APR16	11MAY16	3.6364	0.0574	1.6
123171120_16	22	12APR16	18APR16	3.4818	0.0664	1.9
123171130_16	55	28APR16	05JUN16	3.4782	0.1182	3.4
123171150_16	28	04MAY16	17MAY16	3.5000	0.0544	1.6
123171160_16	47	18MAY16	20JUN16	3.6574	0.1247	3.4
123171170_16	27	26MAY16	09JUN16	3.4519	0.0893	2.6
123171190_16	29	09JUN16	16JUL16	3.6138	0.0581	1.6
123171210_16	32	16JUN16	28JUN16	3.7844	0.0515	1.4
123171240_16	37	16JUL16	02AUG16	3.7027	0.0499	1.3
123171250_16	37	18JUL16	15AUG16	3.5865	0.1251	3.5
123171270_16	42	04AUG16	08SEP16	3.5714	0.1111	3.1
123171300_16	74	18AUG16	25SEP16	3.6554	0.0813	2.2
123171320_16	39	01SEP16	19SEP16	3.6205	0.0801	2.2
123171350_16	35	20SEP16	03OCT16	3.8171	0.0568	1.5
123171340_16	53	22SEP16	30OCT16	3.5208	0.0743	2.1
123171360_16	44	06OCT16	10NOV16	3.5659	0.1256	3.5
123171390_16	28	11OCT16	02NOV16	3.4286	0.0810	2.4
123171410_16	84	01NOV16	11DEC16	3.5869	0.0902	2.5
123171430_16	45	17NOV16	21DEC16	3.6178	0.1850	5.1
123171460_16	31	26NOV16	18DEC16	3.6097	0.0301	0.8
123171480_16	22	09DEC16	17DEC16	3.6091	0.0610	1.7
123171480_17	21	14JAN17	28JAN17	3.6810	0.1914	5.2


2015-2016 QC Chart for White Cell Count (10^3 cells/uL)((Lvl 1)
4.2
4.0
3.8
3.6
3.4
3.2
Jan
2015
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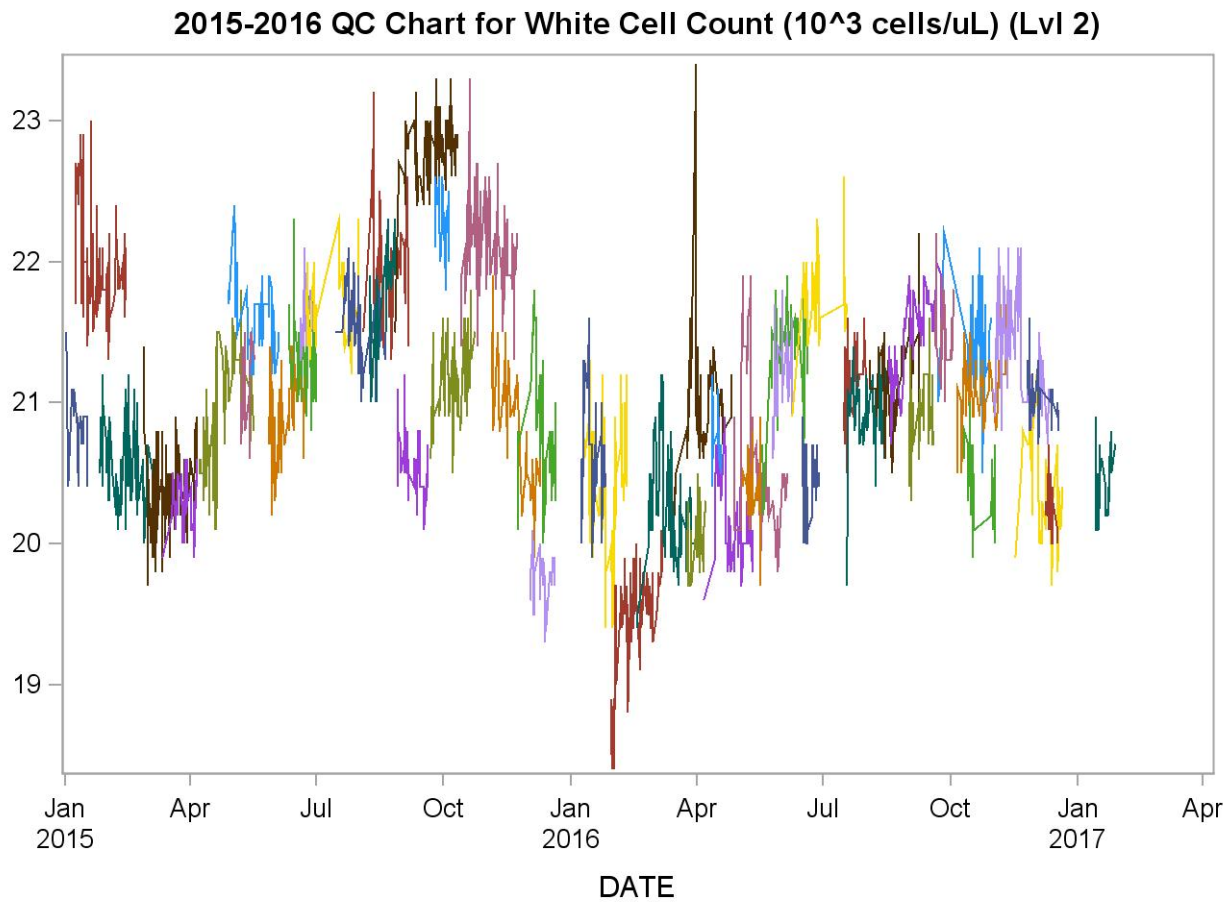
DATE

2015-2016 Summary Statistics and QC Chart for White Cell Count (10^3 cells/uL) (Lvl 2)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
133180290_15	23	02JAN15	17JAN15	20.8130	0.2492	1.2
133180340_15	70	09JAN15	14FEB15	21.9971	0.3730	1.7
133180390_15	87	26JAN15	08MAR15	20.5931	0.2701	1.3
133180430_15	80	27FEB15	06APR15	20.3588	0.2988	1.5
133180460_15	39	12MAR15	06APR15	20.2821	0.1805	0.9
133180510_15	82	08APR15	18MAY15	20.8805	0.3949	1.9
133180540_15	41	29APR15	04JUN15	21.6634	0.3152	1.5
133180560_15	22	08MAY15	18MAY15	21.0545	0.2595	1.2
133180600_15	79	28MAY15	27JUN15	20.9266	0.2863	1.4
133180620_15	44	12JUN15	01JUL15	21.3341	0.2744	1.3
133180650_15	27	20JUN15	30JUN15	21.5741	0.2030	0.9
133180660_15	49	24JUN15	02AUG15	21.6469	0.2542	1.2
133180700_15	50	15JUL15	20AUG15	21.5340	0.2471	1.1
133180720_15	58	04AUG15	06SEP15	22.0466	0.4126	1.9
133180730_15	30	09AUG15	27AUG15	21.6567	0.3319	1.5
133180760_15	67	27AUG15	11OCT15	22.7597	0.3167	1.4
133180770_15	44	29AUG15	20SEP15	20.6000	0.2272	1.1
133180790_15	47	22SEP15	24OCT15	21.2085	0.3020	1.4
133180820_15	22	25SEP15	05OCT15	22.2909	0.2369	1.1
133180860_15	104	14OCT15	23NOV15	22.1351	0.3240	1.5
133180890_15	56	05NOV15	10DEC15	20.8714	0.4418	2.1
133180930_15	41	24NOV15	21DEC15	20.8537	0.4501	2.2
133180940_15	36	03DEC15	20DEC15	19.7361	0.1854	0.9
133180990_16	42	09JAN16	26JAN16	20.5452	0.3631	1.8
133180980_16	58	10JAN16	10FEB16	20.3983	0.4343	2.1
133181020_16	95	30JAN16	07MAR16	19.4495	0.3721	1.9
133181060_16	88	18FEB16	02APR16	20.2818	0.3719	1.8
133181080_16	51	16MAR16	26APR16	20.9706	0.4597	2.2
133181110_16	31	25MAR16	07APR16	20.0419	0.2248	1.1
133181100_16	47	06APR16	11MAY16	20.1511	0.3209	1.6
133181120_16	22	12APR16	18APR16	20.6955	0.1988	1.0
133181130_16	57	28APR16	05JUN16	20.5667	0.5204	2.5
133181140_16	28	04MAY16	17MAY16	20.4071	0.2243	1.1
133181160_16	51	18MAY16	20JUN16	21.3804	0.3213	1.5
133181170_16	30	26MAY16	09JUN16	21.1700	0.2781	1.3
133181190_16	35	09JUN16	18JUL16	21.7371	0.2840	1.3
133181210_16	35	16JUN16	28JUN16	20.4143	0.2545	1.2
133181240_16	37	16JUL16	02AUG16	21.1351	0.2584	1.2
133181250_16	45	18JUL16	15AUG16	20.9089	0.2795	1.3
133181270_16	46	04AUG16	08SEP16	21.1717	0.3060	1.4
133181300_16	76	18AUG16	25SEP16	21.4342	0.3122	1.5
133181320_16	38	01SEP16	19SEP16	20.8763	0.2625	1.3
133181350_16	34	20SEP16	03OCT16	21.4971	0.2492	1.2
133181340_16	30	22SEP16	30OCT16	21.4100	0.3863	1.8
133181360_16	45	06OCT16	10NOV16	21.1022	0.2615	1.2
133181390_16	28	11OCT16	02NOV16	20.4393	0.2793	1.4
133181410_16	82	01NOV16	11DEC16	21.3878	0.3426	1.6
133181430_16	50	17NOV16	21DEC16	20.4400	0.3603	1.8
133181460_16	31	26NOV16	18DEC16	21.0323	0.1851	0.9
133181480_16	23	09DEC16	17DEC16	20.2217	0.1783	0.9
133181480_17	22	14JAN17	28JAN17	20.4409	0.2462	1.2


2015-2016 QC Chart for White Cell Count (10^3 cells/uL) (Lvl 2)
23
22
21
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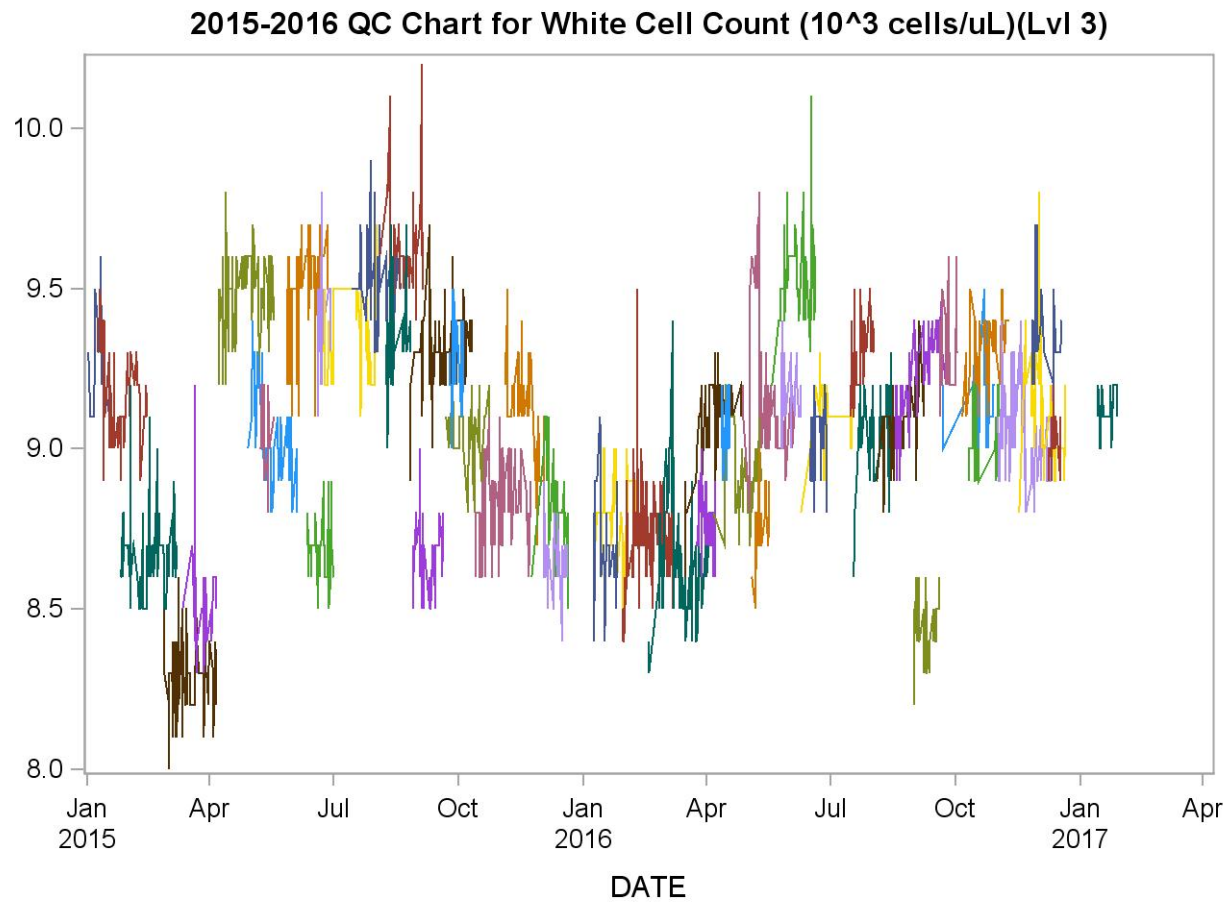
Jul
Oct
Jan
2017
Apr
DATE

2015-2016 Summary Statistics and QC Chart for White Cell Count (10^3 cells/uL)(Lvl 3)

Lot	N	Start Date	End Date	Mean	Standard Deviation	Coefficient of Variation
143190290_15	16	02JAN15	17JAN15	9.3000	0.1549	1.7
143190340_15	63	09JAN15	14FEB15	9.1778	0.1349	1.5
143190390_15	80	26JAN15	08MAR15	8.6775	0.1321	1.5
143190430_15	76	27FEB15	06APR15	8.2789	0.1192	1.4
143190460_15	31	12MAR15	06APR15	8.5161	0.1594	1.9
143190510_15	90	08APR15	18MAY15	9.4622	0.1241	1.3
143190540_15	44	29APR15	04JUN15	9.0500	0.1517	1.7
143190560_15	22	08MAY15	18MAY15	9.0364	0.1136	1.3
143190600_15	84	28MAY15	28JUN15	9.4351	0.1536	1.6
143190620_15	34	12JUN15	01JUL15	8.6824	0.0968	1.1
143190650_15	26	20JUN15	30JUN15	9.4000	0.1497	1.6
143190660_15	47	24JUN15	02AUG15	9.3404	0.1228	1.3
143190700_15	46	15JUL15	20AUG15	9.5109	0.1418	1.5
143190720_15	55	04AUG15	06SEP15	9.6800	0.1840	1.9
143190730_15	31	09AUG15	27AUG15	9.3484	0.1480	1.6
143190760_15	63	27AUG15	11OCT15	9.3159	0.1273	1.4
143190770_15	40	29AUG15	20SEP15	8.6725	0.1109	1.3
143190790_15	42	22SEP15	24OCT15	9.0452	0.0993	1.1
143190820_15	27	25SEP15	05OCT15	9.2741	0.1457	1.6
143190860_15	94	14OCT15	23NOV15	8.8106	0.1291	1.5
143190890_15	42	05NOV15	04DEC15	9.1643	0.1511	1.6
143190930_15	36	24NOV15	21DEC15	8.8250	0.1592	1.8
143190940_15	37	03DEC15	20DEC15	8.6514	0.0961	1.1
143190990_16	41	09JAN16	26JAN16	8.6561	0.1566	1.8
143190980_16	54	10JAN16	10FEB16	8.8037	0.1331	1.5
143191020_16	91	30JAN16	07MAR16	8.7143	0.1786	2.0
143191060_16	85	18FEB16	02APR16	8.6729	0.2008	2.3
143191080_16	51	16MAR16	26APR16	9.0667	0.1571	1.7
143191100_16	31	25MAR16	07APR16	8.7806	0.1014	1.2
143191110_16	45	06APR16	11MAY16	8.9333	0.1398	1.6
143191120_16	20	12APR16	18APR16	9.0600	0.1046	1.2
143191130_16	57	28APR16	05JUN16	9.1982	0.2318	2.5
143191140_16	28	04MAY16	17MAY16	8.7679	0.1156	1.3
143191160_16	47	18MAY16	20JUN16	9.5277	0.1528	1.6
143191170_16	27	26MAY16	09JUN16	9.1630	0.1043	1.1
143191190_16	31	09JUN16	17JUL16	9.1000	0.1291	1.4
143191210_16	32	16JUN16	28JUN16	9.0031	0.1092	1.2
143191240_16	38	16JUL16	02AUG16	9.2816	0.1159	1.2
143191250_16	41	18JUL16	15AUG16	9.0488	0.1325	1.5
143191270_16	40	04AUG16	08SEP16	9.0725	0.1240	1.4
143191300_16	72	18AUG16	25SEP16	9.2097	0.1549	1.7
143191320_16	38	01SEP16	19SEP16	8.4474	0.1033	1.2
143191350_16	33	20SEP16	03OCT16	9.3212	0.1219	1.3
143191340_16	27	22SEP16	30OCT16	9.1889	0.1251	1.4
143191360_16	43	06OCT16	10NOV16	9.3116	0.1096	1.2
143191390_16	28	11OCT16	02NOV16	9.0357	0.1096	1.2
143191410_16	82	01NOV16	11DEC16	9.0829	0.1430	1.6
143191430_16	52	17NOV16	21DEC16	9.1462	0.1935	2.1
143191460_16	31	26NOV16	18DEC16	9.3774	0.1203	1.3
143191480_16	23	09DEC16	17DEC16	9.0261	0.0752	0.8
143191480_17	21	14JAN17	28JAN17	9.1143	0.0655	0.7


2015-2016 QC Chart for White Cell Count (10^3 cells/uL)(Lvl 3)
10.0
9.5
9.0
8.5
8.0
Jan
2015
Apr
Jul
Oct
Jan
2016
Apr
Jul
Oct
Jan
2017
Apr
DATE

Reference

UniCel DxH 800 Coulter Cellular Analysis System Instructions for Use. Beckman Coulter, Inc. Fullerton, CA 92835. www.BeckmanCoulter.com.