Prospective Software Validation

Software validation provides documented evidence that software performs as intended. QW 5.0 version 5.00.0628 has been validated per the protocol established by Busitech and agreed to by its primary customer representatives. Any discrepancies discovered in the validation process that could not be resolved by the product release date will clearly be identified in the validation report and corrected in future versions.

QW 5.0 is highly configurable to the customer's application. Some customers also develop custom installation programs (for example, with customer defined calculations). The customer may need to also validate their installation and application of QW 5.0 version 5.00.0628 , particularly when QW 5.0 version 5.00.0628 is used directly in the control of regulated products. This additional validation, if needed, is the responsibility of the customer.

Busitech provides this validation so that customers can have confidence in Busitech products and comply with their needs to use validated software.

Busitech programming code is proprietary to Busitech and not available for customer review. All code is based on Visual Basic 6, a commercially released Microsoft language and fully compatible with Windows 95, 98, 2000, XP and NT.

Validation Process

The validation protocol (also known as a test plan) lays out the tests and success criteria required by the validation process. Validation testing is typically organized into 3 steps:

INSTALLATION QUALIFICATION (IQ)	- static checks
OPERATIONAL QUALIFICATION (OQ)	- dynamic testing
PERFORMANCE QUALIFICATION (PQ)	- application verification

Busitech only does IQ and OQ. PQ if necessary is the responsibility of the customer.

The validation report presents the test data relative to success criteria and documents any discrepancies.

The validation process is repeated with each released version. Busitech maintains the right to shorten the validation process or reapply the previous validation when programming changes are known to have not changed specific areas of the program, as is the case with some maintenance releases.

Validation Protocol

Installation Qualification (IQ)

Objectives and Success Criteria

The installation program provided by Busitech will ensure that

- All the right programs (of the right version) are in the right folders.
- All the Busitech components (dll and ocx) are in the right folders.

Key risks

- Wrong version files are installed.
- Necessary files are not successfully installed.
- Note: the customer may choose to not use the Busitech install program or the customer may tamper with the files after installation. These changes are the responsibility of the customer to validate.

Steps & Checks

1. The software will be installed onto a PC (which does not currently have QW 5.0 installed) using the Busitech install program.
2. All files will be verified (relative to a master file list) as to their presence, location. version number and compile date. Note that user can choose to change the default location and name of the folders.
3. A listing of Busitech installed files will be included in the validation report, showing the version number and compile date of each program.

Validation Report

Installation Qualification (IQ)

Objectives and Success Criteria

The installation program provided by Busitech will ensure that

All the right programs (of the right version) are in the right folders.
All the Busitech components (dll and ocx) are in the right folders

Steps & Checks

- The software will be installed onto a PC (which does not currently have QW 5.0 installed) using the Busitech install program.
  (Completed by Noel Windle May 3, 2005)
- All files will be verified as to their presence (relative to a master file list), location and compile date. (Completed by Noel Windle May 3, 2005)

All programs and files will be verified (relative to a master file list) as to their presence, location, version number and compile date. A listing of Busitech installed programs and files is shown below, showing the version number and compile dates.

File	MM/DD/YY	Version
Files installed in C:\Busitech\QW 5.0 (default)		
HEADER.GIF	04/06/05	Not Applicable
INSTALL.LOG (created at install time)		Not Applicable
QW.EXE	05/02/05	5.0.0.628
QW50.CNT	12/04/05	Not Applicable
QW50.HLP	12/04/05	Not Applicable
QWADD.EXE	03/24/05	5.0.0.15
QWAPPL.EXE	04/22/05	5.0.0.63
QWCONCOM.EXE	10/10/02	5.00.0019
QWGLOBAL.EXE	04/22/05	5.0.0.63
QWLAUNCH.CNT	02/16/05	Not Applicable
QWLAUNCH.EXE	04/27/05	5.00.0036
QWLAUNCH.HLP	02/16/05	Not Applicable
QWLAUNCH.IQW	02/26/04	Not Applicable
QWMERGE.CNT	02/16/05	Not Applicable
QWMERGE.EXE	03/11/05	5.00.0031
QWMERGE.HLP	02/16/05	Not Applicable
QWPOPUP.EXE	04/22/05	5.0.0.63
QWREGIST.EXE	01/11/02	1.00.0001
QWREPORT.EXE	01/18/05	5.00.0025
QWRS232.EXE	09/29/04	5.00.0012
QWRS232SETUP	05/18/03	5.00.0024
QWSCHEDULE.EXE	04/13/05	1.0.0.54
QWSETUP.CNT	02/16/05	Not Applicable
QWSETUP.EXE	04/22/05	5.0.0.63

QWSETUP.HLP	02/16/05	Not Applicable
QWTOOL.EXE	05/03/05	5.0.0.134
QWTRIGGER.EXE	03/11/05	1.0.0.5
QWUPDATE.DOC	10/29/04	Not Applicable
QWUTILITIES.EXE	03/14/05	5.0.0.23
QWVERSION.EXE	04/25/05	5.0.0.3
QWVERSION.IQW	05/03/05	Not Applicable
QWXLTOQW.CNT	02/16/05	Not Applicable
QWXLTOQW.EXE	03/30/05	5.0.0.24
QWXLTOQW.HLP	02/16/05	Not Applicable
RELEASE.HTM	05/04/05	Not Applicable
UNWISE.EXE	12/27/96	Not Applicable
Files installed in C:\Busitech\QW 5.0\PocketQW (default)		
PocketQW.Arm 1100 (4K) v3.00.CAB	01/20/04	Not Applicable
PocketQW.I486 (4K) v3.00.CAB	01/20/04	Not Applicable
PocketQWSetup.exe	11/12/04	1.0.8
PocketQWSync.avi	03/28/03	Not Applicable
PocketQWSync.exe	07/09/04	1.00.0008
PocketQW.INI	11/26/04	Not Applicable
SETUP.INI	08/19/04	Not Applicable
Files installed in C:\Busitech\QW 5.0\Samples (default)		
8433.GIF	05/03/02	Not Applicable
CRITICAL.QPD	27/05/02	Not Applicable
CRITICAL.QPI	27/05/02	Not Applicable
CRITICAL.QPT	27/05/02	Not Applicable
DTCAUSES.QPD	14/04/98	Not Applicable
DTCAUSES.QPI	14/04/98	Not Applicable
DTCAUSES.QPT	08/06/94	Not Applicable
DTREASON.QPD	14/04/98	Not Applicable
DTREASON.QPI	14/04/98	Not Applicable
DTREASON.QPT	08/06/94	Not Applicable
FAILURE.QVM	06/23/02	Not Applicable
FAILURE.QWA	02/25/03	Not Applicable
FAILURE.QWD	02/25/03	Not Applicable
FAILURE.QWI	02/25/03	Not Applicable
FAILURE.QWT	03/09/05	Not Applicable
FAILURE.QWX	02/25/03	Not Applicable
FAILURE.V1	06/06/02	Not Applicable
FAILURE.V2	06/06/02	Not Applicable
FAILURE.V3	02/25/03	Not Applicable
FAILURE.V4	02/25/03	Not Applicable

FAILURE.V5	02/25/03	Not Applicable
FAILURE.V6	02/25/03	Not Applicable
KEYWORDS.KEY	12/18/03	Not Applicable
MONITOR.COA	07/25/03	Not Applicable
MONITOR.JPG	07/23/03	Not Applicable
MONITOR.QVM	07/25/03	Not Applicable
MONITOR.QWD	09/18/02	Not Applicable
MONITOR.QWI	09/18/02	Not Applicable
MONITOR.QWT	03/09/05	Not Applicable
MONITOR.QWX	12/03/04	Not Applicable
MONITOR.V1	06/21/02	Not Applicable
MONITOR.V10	09/18/02	Not Applicable
MONITOR.V11	09/18/02	Not Applicable
MONITOR.V12	09/18/02	Not Applicable
MONITOR.V13	09/18/02	Not Applicable
MONITOR.V14	09/18/02	Not Applicable
MONITOR.V15	06/23/02	Not Applicable
MONITOR.V16	07/25/03	Not Applicable
MONITOR.V2	06/21/02	Not Applicable
MONITOR.V3	06/21/02	Not Applicable
MONITOR.V4	06/21/02	Not Applicable
MONITOR.V5	09/18/02	Not Applicable
MONITOR.V6	06/21/02	Not Applicable
MONITOR.V7	06/21/02	Not Applicable
MONITOR.V8	09/18/02	Not Applicable
MONITOR.V9	09/18/02	Not Applicable
OFFQUAL.QPD	04/12/05	Not Applicable
OFFQUAL.QPI	04/12/05	Not Applicable
OFFQUAL.QPT	04/12/05	Not Applicable
PM 002.HTM	05/03/02	Not Applicable
PM 003.HTM	05/03/02	Not Applicable
PM 004.HTM	05/03/02	Not Applicable
PM 005.HTM	05/03/02	Not Applicable
PM 006.HTM	05/03/02	Not Applicable
PM 007.HTM	05/03/02	Not Applicable
PM 008.HTM	05/03/02	Not Applicable
PM 009.HTM	05/03/02	Not Applicable
PM 010.HTM	05/03/02	Not Applicable

PM 011.HTM	05/03/02	Not Applicable
PM 012.HTM	05/03/02	Not Applicable
PM 013.HTM	05/03/02	Not Applicable
PM 014.HTM	05/03/02	Not Applicable
PM 015.HTM	05/03/02	Not Applicable
PM 016.HTM	05/03/02	Not Applicable
PM 017.HTM	05/03/02	Not Applicable
PM 018.HTM	05/03/02	Not Applicable
PM 019.HTM	05/03/02	Not Applicable
PM 020.HTM	05/03/02	Not Applicable
PM 021.HTM	05/03/02	Not Applicable
PM001.HTM	05/03/02	Not Applicable
PRODUCTS.QPD	05/27/02	Not Applicable
PRODUCTS.QPI	05/27/02	Not Applicable
PRODUCTS.QPT	05/27/02	Not Applicable
Quality Root Cause Tracking & Analysis.KEY	12/18/03	Not Applicable
Quality Root Cause Tracking & Analysis.QVM	06/23/02	Not Applicable
Quality Root Cause Tracking & Analysis.QWD	04/22/05	Not Applicable
Quality Root Cause Tracking & Analysis.QWI	04/22/05	Not Applicable
Quality Root Cause Tracking & Analysis.QWT	04/22/05	Not Applicable
Quality Root Cause Tracking & Analysis.V1	04/22/05	Not Applicable
Quality Root Cause Tracking & Analysis.V2	04/22/05	Not Applicable
Quality Root Cause Tracking & Analysis.V3	04/22/05	Not Applicable
Quality Root Cause Tracking & Analysis.V4	04/22/05	Not Applicable
Quality Root Cause Tracking & Analysis.V5	04/22/05	Not Applicable
Quality Root Cause Tracking & Analysis.V6	04/22/05	Not Applicable
Quality Root Cause Tracking & Analysis.V7	04/22/05	Not Applicable
QWWAVE.JPG	05/03/02	Not Applicable
SHIFT.IO	05/27/02	Not Applicable
SHIFT.QPD	05/27/02	Not Applicable
SHIFT.QPI	05/27/02	Not Applicable
SHIFT.QPT	05/27/02	Not Applicable
TEAM.IO	06/24/02	Not Applicable
TEAM.QPD	05/27/02	Not Applicable
TEAM.QPI	05/27/02	Not Applicable
TEAM.QPT	05/27/02	Not Applicable
TEMPGAUGE.JPG	05/03/02	Not Applicable
VISCO.JPG	05/03/02	Not Applicable

WHENWAS.QPD	05/27/02	Not Applicable
WHENWAS.QPI	05/27/02	Not Applicable
WHENWAS.QPT	05/27/02	Not Applicable
WHEREWAS.QPD	05/27/02	Not Applicable
WHEREWAS.QPI	05/27/02	Not Applicable
WHEREWAS.QPT	05/27/02	Not Applicable
Files installed in C:\Windows\System		
ASYCFILT.DLL	06/19/03	2.40.4522
CHILKATMHT.DLL	07/07/03	2.9.6.1
COMCAT.DLL(**only if NOT Win/NT**)	06/19/03	5.0.2195.1
COMCT332.OCX	05/22/00	6.07.8862
COMDLG32.OCX	05/06/99	6.00.84.18
CTL3D32.DLL (**only if Win/NT**)	12/07/99	2.31.000
EXPSRV.DLL	07/22/02	6.72.9414
MSCOMCT2.OCX	05/22/00	6.00.88.4
MSCOMCTL.OCX	05/22/00	6.00.88.62
MSCOMM32.OCX	06/24/98	6.00.81.69
MSFLXGRD.OCX	05/22/00	6.00.84.18
MSJET35.DLL	04/13/99	3.51.2723.0
MSJINT35.DLL	04/24/98	3.51.0623.0
MSJTER35.DLL	04/24/98	3.51.0623.0
MSMAPI32.OCX	06/24/98	6.00.81.69
MSMASK32.OCX	05/22/00	6.00.84.18
MSRD2X35.DLL	04/24/98	3.51.0623.0
MSREPL35.DLL	04/13/99	3.51.2404.0
MSSCRIPT.OCX	07/22/02	1.0.0.7615
MSVBVM60.DLL	06/19/03	6.00.96.90
MSVCRT.DLL	07/22/02	6.1.9359.0
MSVCRT40.DLL	12/07/99	4.2000.6201
MSWINSCK.OCX	05/22/00	6.0.88.4
MSXBSE.35.DLL	04/24/98	3.51.0623.0
OLEAUT32.DLL	06/19/03	2.40.4522
OLEPRO32.DLL	06/19/03	5.0.4522
OPCDAAUTO.DLL	07/25/01	2.0.3
PTXSCP.OCX	10/29/99	1.0.0.38
QWACCESS.DLL	05/02/05	5.00.0379
QWCHARTS.OCX	04/12/05	5.00.1809
QWCOMSRV.EXE	04/28/05	5.00.0047
QWDLG.DLL	04/29/04	5.00.0151
QWFILELOCKSVC.DOC	04/14/05	Not Applicable
QWFILELOCKSVC.EXE	05/02/05	1.0.0.0
QWLAUNCH.DLL	11/09/04	5.00.0007
QWLIB.DLL	05/22/02	5.00.0032
QWLICENSE.DLL	05/31/04	5.00.0031

QWLOGVIEW.DLL	08/07/03	1.00.0002
QWPACIFIER.OCX	05/14/03	5.00.0004
QWPOPUP.OCX	04/22/05	5.00.0063
QWREGIST.EXE	01/11/02	1.0.1
QWREP.DLL	04/22/05	5.00.0475
QWREPORT.OCX	01/18/05	5.00.0150
QWRULES.SYS	10/28/02	Not Applicable
QWSCRIPT.QWX	05/14/04	Not Applicable
QWSCRIPTS.SYS	06/28/02	Not Applicable
QWSECURE.QWX	05/03/02	Not Applicable
QWSELECT.DLL	05/03/05	5.00.0366
QWSTATS.SYS	04/08/04	Not Applicable
QWTEXT.DLL	12/19/03	5.00.0019
QWTOOL.DLL	05/03/05	5.00.0134
QWUNITS.SYS	10/15/02	Not Applicable
QWUPDATE.DOC	10/29/04	Not Applicable
QWUPDATE.OCX	04/13/05	5.00.0270
QWVARINFO.OCX	03/24/05	5.00.0068
SSSPLT30.OCX	03/04/02	3.0.3..8
STDOLE2.TLB	06/19/03	2.40.4522
TABCTL32.OCX	05/22/00	6.00.88.4
TDBG7.OCX	12/15/00	7.0.0254
VB5DB.DLL	06/18/98	6.00.81.69
VBAJET32.DLL	07/22/02	6.1.8268
VSFLEX7L.OCX	03/22/02	7.0.1.151
Files installed in Program Files\Common Files\Microsoft Shared\DAO\ **if it exists otherwise installed in** C:\Windows\System		
DAO350.DLL	04/27/98	3.51.1608.0

Existing files are overwritten only if Date, Time and internal version numbers of the files being installed are newer.

Registry Entries

HKEY_LOCAL_MACHINE
SOFTWARE
BUSITECH
PRODUCTS
QW50 InstallDir (default is C:\Busitech\QW50)
LicenseNo
ProductDesc
ProductDescLong
RegName1
RegName2

QWREP LicenseNo
QWSETUP

Operational Qualification -OQ

Objectives and Success Criteria

- All key features of this software will perform as intended.
- All statistics will calculate as intended by Busitech, and be consistent between screens.
- All statistical control alarms on the Prioritize screen will be correct.
- All colors will be consistent throughout the program.
- Calculated Targets & Control Limits will be accurately calculated and drawn.

Key risks

- Customer receives false signals…wrong or missing alarms, wrong colors or wrong calculated control limits.
- Customer makes incorrect conclusions…inaccurate statistics, color zones or calculated control limits.
- Features do not work properly or as intended.

Steps & Checks

1. The software will be brought up using a standardized template, database and views designed for the purpose of validation. This is kept constant between QW 5.0 versions to make it easy to identify problems.
2. Busitech has a program called "BenchMark" specifically designed to automatically validate all statistical calculations using a test database. The output from this program will be attached to the validation report.
3. All key functions and features of the software will be checked on each screen manually. Successful completion of these checks (who and when checked) will be confirmed on the validation report.
4. The consistency of alarms and colors will be checked for at least 10 variables between all screens (control, prioritize, relate, compare, log). A view is used to test different combinations of calculated targets and limits on the same variables. The consistency of alarms, colors and control limit calculations is confirmed on the validation report (who and when checked).

Operational Qualification -IQ

Objectives and Success Criteria

- All features of this software will perform as intended.
- All statistics will calculate as intended, and be consistent between screens.
- All statistical control alarms on the Prioritize screen will be correct.
- All colors will be consistent throughout the program.
- Calculated Targets & Control Limits will be accurately calculated and drawn.

Steps & Checks

- The software will be brought up using a standardized template, database and views designed for the purpose of validation. This is kept constant between QW 5.0 versions to make it easy to identify problems. Busitech has a program specifically designed to automatically validate all statistical calculations using the standardized template and database. See QW 5.0 Statistics Validation Report below.
- All functions and features of the software will be checked on each screen manually. (Completed by Noel Windle May 3, 2005)
- The consistency of alarms and colors will be checked for at least 10 variables between all screens (control, prioritize, relate, compare, log). A view is used to test different combinations of calculated targets and limits on the same variable. The consistency of alarms, colors and control limit calculations is confirmed on the validation report. (Completed by Noel Windle May 3, 2005)

BenchMark Generated QW 5.0 Statistics Validation Report

QW 50628 05/03/2005 12:33:10

Variable	Statistic	Benchmark	Value	Test
v3 - FFFFFFF	N	99	99	PASS
v3 - FFFFFFF	T-Dev	59.729	59.729	PASS
v3 - FFFFFFF	S-pop	456.346	456.346	PASS
v3 - FFFFFFF	C-SD	306.926	306.926	PASS
v3 - FFFFFFF	S-mr	261.622	261.622	PASS
v3 - FFFFFFF	Max	2304.83	2304.83	PASS
v3 - FFFFFFF	Avg + 4S	2335.114	2335.114	PASS
v3 - FFFFFFF	Avg + 3S	1878.768	1878.768	PASS
v3 - FFFFFFF	Avg + 1.5S	1194.248	1194.248	PASS
v3 - FFFFFFF	Avg	509.729	509.729	PASS
v3 - FFFFFFF	C-AVG	509.729	509.729	PASS
v3 - FFFFFFF	Avg - 1.5S	-174.79	-174.79	PASS
v3 - FFFFFFF	Avg - 3S	-859.31	-859.31	PASS
v3 - FFFFFFF	Avg - 4S	-1315.656	-1315.656	PASS
v3 - FFFFFFF	Min	-860.08	-860.08	PASS
v3 - FFFFFFF	M	473.71	473.71	PASS
v3 - FFFFFFF	OS%	6.061	6.061	PASS
v3 - FFFFFFF	OSppm	60606	60606	PASS

v3 - FFFFFFF	CS%	3.29	3.29	PASS
v3 - FFFFFFF	CSppm	32900	32900	PASS
v3 - FFFFFFF	Cr	1.4	1.4	PASS
v3 - FFFFFFF	Tz	0.1	0.1	PASS
v3 - FFFFFFF	Cpk	0.7	0.7	PASS
v3 - FFFFFFF	%CV	89.527	89.527	PASS
v3 - FFFFFFF	R-AVG	346.213	346.213	PASS
v3 - FFFFFFF	R-UCL	1131.078	1131.078	PASS
v3 - FFFFFFF	R-UWL	738.646	738.646	PASS
v3 - FFFFFFF	R-LWL	-46.219	-46.219	PASS
v3 - FFFFFFF	Rule			PASS
v3 - FFFFFFF	Sum	50463.17	50463.17	PASS
v3 - FFFFFFF	LV	2188.27	2188.27	PASS
v3 - FFFFFFF	Sigma	4.3	4.3	PASS
v3 - FFFFFFF	CP	0.71	0.71	PASS
v3 - FFFFFFF	O < LWL%	10.101	10.101	PASS
v3 - FFFFFFF	O < LWL ppm	101010	101010	PASS
v3 - FFFFFFF	C < LWL%	21.77	21.77	PASS
v3 - FFFFFFF	C < LWL ppm	217700	217700	PASS
v3 - FFFFFFF	O < LCL%	3.03	3.03	PASS
v3 - FFFFFFF	O < LCL ppm	30303	30303	PASS
v3 - FFFFFFF	C < LCL%	13.14	13.14	PASS
v3 - FFFFFFF	C < LCL ppm	131400	131400	PASS
v4 - CCCCCCC	N	99	99	PASS
v4 - CCCCCCC	T-Dev			PASS
v4 - CCCCCCC	S-pop	456.346	456.346	PASS
v4 - CCCCCCC	C-SD	204.69	204.69	PASS
v4 - CCCCCCC	S-mr	261.622	261.622	PASS
v4 - CCCCCCC	Max	2304.83	2304.83	PASS
v4 - CCCCCCC	Avg + 4S	2335.114	2335.114	PASS
v4 - CCCCCCC	Avg + 3S	1878.768	1878.768	PASS
v4 - CCCCCCC	Avg + 1.5S	1194.248	1194.248	PASS
v4 - CCCCCCC	Avg	509.729	509.729	PASS
v4 - CCCCCCC	C-AVG	670.461	670.461	PASS
v4 - CCCCCCC	Avg - 1.5S	-174.79	-174.79	PASS
v4 - CCCCCCC	Avg - 3S	-859.31	-859.31	PASS
v4 - CCCCCCC	Avg - 4S	-1315.656	-1315.656	PASS
v4 - CCCCCCC	Min	-860.08	-860.08	PASS
v4 - CCCCCCC	M	473.71	473.71	PASS
v4 - CCCCCCC	OS%			PASS
v4 - CCCCCCC	OSppm			PASS
v4 - CCCCCCC	CS%			PASS
v4 - CCCCCCC	CSppm			PASS
v4 - CCCCCCC	Cr			PASS
v4 - CCCCCCC	Tz			PASS
v4 - CCCCCCC	Cpk			PASS
v4 - CCCCCCC	%CV	89.527	89.527	PASS
v4 - CCCCCCC	R-AVG	346.213	346.213	PASS

v4 - CCCCCCC	R-UCL	1131.078	1131.078	PASS
v4 - CCCCCCC	R-UWL	738.646	738.646	PASS
v4 - CCCCCCC	R-LWL	-46.219	-46.219	PASS
v4 - CCCCCCC	Rule			PASS
v4 - CCCCCCC	Sum	50463.17	50463.17	PASS
v4 - CCCCCCC	LV	2188.27	2188.27	PASS
v4 - CCCCCCC	Sigma			PASS
v4 - CCCCCCC	CP			PASS
v4 - CCCCCCC	O < LWL%			PASS
v4 - CCCCCCC	O < LWL ppm			PASS
v4 - CCCCCCC	C < LWL%			PASS
v4 - CCCCCCC	C < LWL ppm			PASS
v4 - CCCCCCC	O < LCL%			PASS
v4 - CCCCCCC	O < LCL ppm			PASS
v4 - CCCCCCC	C < LCL%			PASS
v4 - CCCCCCC	C < LCL ppm			PASS
v5 - BBBBBBB	N	99	99	PASS
v5 - BBBBBBB	T-Dev			PASS
v5 - BBBBBBB	S-pop			PASS
v5 - BBBBBBB	C-SD			PASS
v5 - BBBBBBB	S-mr			PASS
v5 - BBBBBBB	Max			PASS
v5 - BBBBBBB	Avg + 4S			PASS
v5 - BBBBBBB	Avg + 3S			PASS
v5 - BBBBBBB	Avg + 1.5S			PASS
v5 - BBBBBBB	Avg			PASS
v5 - BBBBBBB	C-AVG			PASS
v5 - BBBBBBB	Avg - 1.5S			PASS
v5 - BBBBBBB	Avg - 3S			PASS
v5 - BBBBBBB	Avg - 4S			PASS
v5 - BBBBBBB	Min			PASS
v5 - BBBBBBB	M			PASS
v5 - BBBBBBB	OS%			PASS
v5 - BBBBBBB	OSppm			PASS
v5 - BBBBBBB	CS%			PASS
v5 - BBBBBBB	CSppm			PASS
v5 - BBBBBBB	Cr			PASS
v5 - BBBBBBB	Tz			PASS
v5 - BBBBBBB	Cpk			PASS
v5 - BBBBBBB	%CV			PASS
v5 - BBBBBBB	R-AVG			PASS
v5 - BBBBBBB	R-UCL			PASS
v5 - BBBBBBB	R-UWL			PASS
v5 - BBBBBBB	R-LWL			PASS
v5 - BBBBBBB	Rule			PASS
v5 - BBBBBBB	Sum			PASS
v5 - BBBBBBB	LV	2188.27	2188.27	PASS
v5 - BBBBBBB	Sigma			PASS

v5 - BBBBBBB	CP			PASS
v5 - BBBBBBB	O < LWL%			PASS
v5 - BBBBBBB	O < LWL ppm			PASS
v5 - BBBBBBB	C < LWL%			PASS
v5 - BBBBBBB	C < LWL ppm			PASS
v5 - BBBBBBB	O < LCL%			PASS
v5 - BBBBBBB	O < LCL ppm			PASS
v5 - BBBBBBB	C < LCL%			PASS
v5 - BBBBBBB	C < LCL ppm			PASS
v6 - FFCFCFF	N	99	99	PASS
v6 - FFCFCFF	T-Dev	59.729	59.729	PASS
v6 - FFCFCFF	S-pop	456.346	456.346	PASS
v6 - FFCFCFF	C-SD	575.277	575.277	PASS
v6 - FFCFCFF	S-mr	261.622	261.622	PASS
v6 - FFCFCFF	Max	2304.83	2304.83	PASS
v6 - FFCFCFF	Avg + 4S	2335.114	2335.114	PASS
v6 - FFCFCFF	Avg + 3S	1878.768	1878.768	PASS
v6 - FFCFCFF	Avg + 1.5S	1194.248	1194.248	PASS
v6 - FFCFCFF	Avg	509.729	509.729	PASS
v6 - FFCFCFF	C-AVG	462.569	462.569	PASS
v6 - FFCFCFF	Avg - 1.5S	-174.79	-174.79	PASS
v6 - FFCFCFF	Avg - 3S	-859.31	-859.31	PASS
v6 - FFCFCFF	Avg - 4S	-1315.656	-1315.656	PASS
v6 - FFCFCFF	Min	-860.08	-860.08	PASS
v6 - FFCFCFF	M	473.71	473.71	PASS
v6 - FFCFCFF	OS%	7.071	7.071	PASS
v6 - FFCFCFF	OSppm	70707	70707	PASS
v6 - FFCFCFF	CS%	14.64	14.64	PASS
v6 - FFCFCFF	CSppm	146400	146400	PASS
v6 - FFCFCFF	Cr	1.83	1.83	PASS
v6 - FFCFCFF	Tz	0.1	0.1	PASS
v6 - FFCFCFF	Cpk	0.37	0.37	PASS
v6 - FFCFCFF	%CV	89.527	89.527	PASS
v6 - FFCFCFF	R-AVG	346.213	346.213	PASS
v6 - FFCFCFF	R-UCL	1131.078	1131.078	PASS
v6 - FFCFCFF	R-UWL	738.646	738.646	PASS
v6 - FFCFCFF	R-LWL	-46.219	-46.219	PASS
v6 - FFCFCFF	Rule			PASS
v6 - FFCFCFF	Sum	50463.17	50463.17	PASS
v6 - FFCFCFF	LV	2188.27	2188.27	PASS
v6 - FFCFCFF	Sigma	3.3	3.3	PASS
v6 - FFCFCFF	CP	0.55	0.55	PASS
v6 - FFCFCFF	O < LWL%			PASS
v6 - FFCFCFF	O < LWL ppm			PASS
v6 - FFCFCFF	C < LWL%			PASS
v6 - FFCFCFF	C < LWL ppm			PASS
v6 - FFCFCFF	O < LCL%	10.101	10.101	PASS
v6 - FFCFCFF	O < LCL ppm	101010	101010	PASS

v6 - FFCFCFF	C < LCL%	21.77	21.77	PASS
v6 - FFCFCFF	C < LCL ppm	217700	217700	PASS
v7 - FFFFBBB	N	99	99	PASS
v7 - FFFFBBB	T-Dev	59.729	59.729	PASS
v7 - FFFFBBB	S-pop	456.346	456.346	PASS
v7 - FFFFBBB	C-SD	393.554	393.554	PASS
v7 - FFFFBBB	S-mr	261.622	261.622	PASS
v7 - FFFFBBB	Max	2304.83	2304.83	PASS
v7 - FFFFBBB	Avg + 4S	2335.114	2335.114	PASS
v7 - FFFFBBB	Avg + 3S	1878.768	1878.768	PASS
v7 - FFFFBBB	Avg + 1.5S	1194.248	1194.248	PASS
v7 - FFFFBBB	Avg	509.729	509.729	PASS
v7 - FFFFBBB	C-AVG	356.537	356.537	PASS
v7 - FFFFBBB	Avg - 1.5S	-174.79	-174.79	PASS
v7 - FFFFBBB	Avg - 3S	-859.31	-859.31	PASS
v7 - FFFFBBB	Avg - 4S	-1315.656	-1315.656	PASS
v7 - FFFFBBB	Min	-860.08	-860.08	PASS
v7 - FFFFBBB	M	473.71	473.71	PASS
v7 - FFFFBBB	OS%	4.04	4.04	PASS
v7 - FFFFBBB	OSppm	40404	40404	PASS
v7 - FFFFBBB	CS%	1.5	1.5	PASS
v7 - FFFFBBB	CSppm	15000	15000	PASS
v7 - FFFFBBB	Cr	1.3	1.3	PASS
v7 - FFFFBBB	Tz	0.1	0.1	PASS
v7 - FFFFBBB	Cpk	0.72	0.72	PASS
v7 - FFFFBBB	%CV	89.527	89.527	PASS
v7 - FFFFBBB	R-AVG	346.213	346.213	PASS
v7 - FFFFBBB	R-UCL	1131.078	1131.078	PASS
v7 - FFFFBBB	R-UWL	738.646	738.646	PASS
v7 - FFFFBBB	R-LWL	-46.219	-46.219	PASS
v7 - FFFFBBB	Rule			PASS
v7 - FFFFBBB	Sum	50463.17	50463.17	PASS
v7 - FFFFBBB	LV	2188.27	2188.27	PASS
v7 - FFFFBBB	Sigma	4.6	4.6	PASS
v7 - FFFFBBB	CP	0.77	0.77	PASS
v7 - FFFFBBB	O < LWL%			PASS
v7 - FFFFBBB	O < LWL ppm			PASS
v7 - FFFFBBB	C < LWL%			PASS
v7 - FFFFBBB	C < LWL ppm			PASS
v7 - FFFFBBB	O < LCL%			PASS
v7 - FFFFBBB	O < LCL ppm			PASS
v7 - FFFFBBB	C < LCL%			PASS
v7 - FFFFBBB	C < LCL ppm			PASS
v8 - BBBFFFF	N	99	99	PASS
v8 - BBBFFFF	T-Dev	59.729	59.729	PASS
v8 - BBBFFFF	S-pop	456.346	456.346	PASS
v8 - BBBFFFF	C-SD	208.54	208.54	PASS
v8 - BBBFFFF	S-mr	261.622	261.622	PASS

v8 - BBBFFFF	Max	2304.83	2304.83	PASS
v8 - BBBFFFF	Avg + 4S	2335.114	2335.114	PASS
v8 - BBBFFFF	Avg + 3S	1878.768	1878.768	PASS
v8 - BBBFFFF	Avg + 1.5S	1194.248	1194.248	PASS
v8 - BBBFFFF	Avg	509.729	509.729	PASS
v8 - BBBFFFF	C-AVG	686.472	686.472	PASS
v8 - BBBFFFF	Avg - 1.5S	-174.79	-174.79	PASS
v8 - BBBFFFF	Avg - 3S	-859.31	-859.31	PASS
v8 - BBBFFFF	Avg - 4S	-1315.656	-1315.656	PASS
v8 - BBBFFFF	Min	-860.08	-860.08	PASS
v8 - BBBFFFF	M	473.71	473.71	PASS
v8 - BBBFFFF	OS%	2.02	2.02	PASS
v8 - BBBFFFF	OSppm	20202	20202	PASS
v8 - BBBFFFF	CS%	1.79	1.79	PASS
v8 - BBBFFFF	CSppm	17900	17900	PASS
v8 - BBBFFFF	Cr	1.52	1.52	PASS
v8 - BBBFFFF	Tz	0.1	0.1	PASS
v8 - BBBFFFF	Cpk	0.7	0.7	PASS
v8 - BBBFFFF	%CV	89.527	89.527	PASS
v8 - BBBFFFF	R-AVG	346.213	346.213	PASS
v8 - BBBFFFF	R-UCL	1131.078	1131.078	PASS
v8 - BBBFFFF	R-UWL	738.646	738.646	PASS
v8 - BBBFFFF	R-LWL	-46.219	-46.219	PASS
v8 - BBBFFFF	Rule			PASS
v8 - BBBFFFF	Sum	50463.17	50463.17	PASS
v8 - BBBFFFF	LV	2188.27	2188.27	PASS
v8 - BBBFFFF	Sigma	3.9	3.9	PASS
v8 - BBBFFFF	CP	0.66	0.66	PASS
v8 - BBBFFFF	O < LWL%	10.101	10.101	PASS
v8 - BBBFFFF	O < LWL ppm	101010	101010	PASS
v8 - BBBFFFF	C < LWL%	21.77	21.77	PASS
v8 - BBBFFFF	C < LWL ppm	217700	217700	PASS
v8 - BBBFFFF	O < LCL%	3.03	3.03	PASS
v8 - BBBFFFF	O < LCL ppm	30303	30303	PASS
v8 - BBBFFFF	C < LCL%	13.14	13.14	PASS
v8 - BBBFFFF	C < LCL ppm	131400	131400	PASS
v9 - CCCCBBB	N	99	99	PASS
v9 - CCCCBBB	T-Dev			PASS
v9 - CCCCBBB	S-pop	456.346	456.346	PASS
v9 - CCCCBBB	C-SD	456.346	456.346	PASS
v9 - CCCCBBB	S-mr	261.622	261.622	PASS
v9 - CCCCBBB	Max	2304.83	2304.83	PASS
v9 - CCCCBBB	Avg + 4S	2335.114	2335.114	PASS
v9 - CCCCBBB	Avg + 3S	1878.768	1878.768	PASS
v9 - CCCCBBB	Avg + 1.5S	1194.248	1194.248	PASS
v9 - CCCCBBB	Avg	509.729	509.729	PASS
v9 - CCCCBBB	C-AVG	509.729	509.729	PASS
v9 - CCCCBBB	Avg - 1.5S	-174.79	-174.79	PASS

v9 - CCCCBBB	Avg - 3S	-859.31	-859.31	PASS
v9 - CCCCBBB	Avg - 4S	-1315.656	-1315.656	PASS
v9 - CCCCBBB	Min	-860.08	-860.08	PASS
v9 - CCCCBBB	M	473.71	473.71	PASS
v9 - CCCCBBB	OS%			PASS
v9 - CCCCBBB	OSppm			PASS
v9 - CCCCBBB	CS%			PASS
v9 - CCCCBBB	CSppm			PASS
v9 - CCCCBBB	Cr			PASS
v9 - CCCCBBB	Tz			PASS
v9 - CCCCBBB	Cpk			PASS
v9 - CCCCBBB	%CV	89.527	89.527	PASS
v9 - CCCCBBB	R-AVG	346.213	346.213	PASS
v9 - CCCCBBB	R-UCL	1131.078	1131.078	PASS
v9 - CCCCBBB	R-UWL	738.646	738.646	PASS
v9 - CCCCBBB	R-LWL	-46.219	-46.219	PASS
v9 - CCCCBBB	Rule			PASS
v9 - CCCCBBB	Sum	50463.17	50463.17	PASS
v9 - CCCCBBB	LV	2188.27	2188.27	PASS
v9 - CCCCBBB	Sigma			PASS
v9 - CCCCBBB	CP			PASS
v9 - CCCCBBB	O < LWL%			PASS
v9 - CCCCBBB	O < LWL ppm			PASS
v9 - CCCCBBB	C < LWL%			PASS
v9 - CCCCBBB	C < LWL ppm			PASS
v9 - CCCCBBB	O < LCL%			PASS
v9 - CCCCBBB	O < LCL ppm			PASS
v9 - CCCCBBB	C < LCL%			PASS
v9 - CCCCBBB	C < LCL ppm			PASS
v10 - BBBCCCC	N	99	99	PASS
v10 - BBBCCCC	T-Dev			PASS
v10 - BBBCCCC	S-pop	456.346	456.346	PASS
v10 - BBBCCCC	C-SD	456.346	456.346	PASS
v10 - BBBCCCC	S-mr	261.622	261.622	PASS
v10 - BBBCCCC	Max	2304.83	2304.83	PASS
v10 - BBBCCCC	Avg + 4S	2335.114	2335.114	PASS
v10 - BBBCCCC	Avg + 3S	1878.768	1878.768	PASS
v10 - BBBCCCC	Avg + 1.5S	1194.248	1194.248	PASS
v10 - BBBCCCC	Avg	509.729	509.729	PASS
v10 - BBBCCCC	C-AVG	509.729	509.729	PASS
v10 - BBBCCCC	Avg - 1.5S	-174.79	-174.79	PASS
v10 - BBBCCCC	Avg - 3S	-859.31	-859.31	PASS
v10 - BBBCCCC	Avg - 4S	-1315.656	-1315.656	PASS
v10 - BBBCCCC	Min	-860.08	-860.08	PASS
v10 - BBBCCCC	M	473.71	473.71	PASS
v10 - BBBCCCC	OS%			PASS
v10 - BBBCCCC	OSppm			PASS
v10 - BBBCCCC	CS%			PASS

v10 - BBBCCCC	CSppm			PASS
v10 - BBBCCCC	Cr			PASS
v10 - BBBCCCC	Tz			PASS
v10 - BBBCCCC	Cpk			PASS
v10 - BBBCCCC	%CV	89.527	89.527	PASS
v10 - BBBCCCC	R-AVG	346.213	346.213	PASS
v10 - BBBCCCC	R-UCL	1131.078	1131.078	PASS
v10 - BBBCCCC	R-UWL	738.646	738.646	PASS
v10 - BBBCCCC	R-LWL	-46.219	-46.219	PASS
v10 - BBBCCCC	Rule			PASS
v10 - BBBCCCC	Sum	50463.17	50463.17	PASS
v10 - BBBCCCC	LV	2188.27	2188.27	PASS
v10 - BBBCCCC	Sigma			PASS
v10 - BBBCCCC	CP			PASS
v10 - BBBCCCC	O < LWL%			PASS
v10 - BBBCCCC	O < LWL ppm			PASS
v10 - BBBCCCC	C < LWL%			PASS
v10 - BBBCCCC	C < LWL ppm			PASS
v10 - BBBCCCC	O < LCL%			PASS
v10 - BBBCCCC	O < LCL ppm			PASS
v10 - BBBCCCC	C < LCL%			PASS
v10 - BBBCCCC	C < LCL ppm			PASS
v11 - FFFCFFF	N	99	99	PASS
v11 - FFFCFFF	T-Dev			PASS
v11 - FFFCFFF	S-pop	456.346	456.346	PASS
v11 - FFFCFFF	C-SD	456.346	456.346	PASS
v11 - FFFCFFF	S-mr	261.622	261.622	PASS
v11 - FFFCFFF	Max	2304.83	2304.83	PASS
v11 - FFFCFFF	Avg + 4S	2335.114	2335.114	PASS
v11 - FFFCFFF	Avg + 3S	1878.768	1878.768	PASS
v11 - FFFCFFF	Avg + 1.5S	1194.248	1194.248	PASS
v11 - FFFCFFF	Avg	509.729	509.729	PASS
v11 - FFFCFFF	C-AVG	509.729	509.729	PASS
v11 - FFFCFFF	Avg - 1.5S	-174.79	-174.79	PASS
v11 - FFFCFFF	Avg - 3S	-859.31	-859.31	PASS
v11 - FFFCFFF	Avg - 4S	-1315.656	-1315.656	PASS
v11 - FFFCFFF	Min	-860.08	-860.08	PASS
v11 - FFFCFFF	M	473.71	473.71	PASS
v11 - FFFCFFF	OS%	6.061	6.061	PASS
v11 - FFFCFFF	OSppm	60606	60606	PASS
v11 - FFFCFFF	CS%	3.29	3.29	PASS
v11 - FFFCFFF	CSppm	32900	32900	PASS
v11 - FFFCFFF	Cr	1.4	1.4	PASS
v11 - FFFCFFF	Tz			PASS
v11 - FFFCFFF	Cpk	0.7	0.7	PASS
v11 - FFFCFFF	%CV	89.527	89.527	PASS
v11 - FFFCFFF	R-AVG	346.213	346.213	PASS
v11 - FFFCFFF	R-UCL	1131.078	1131.078	PASS

v11 - FFFCFFF	R-UWL	738.646	738.646	PASS
v11 - FFFCFFF	R-LWL	-46.219	-46.219	PASS
v11 - FFFCFFF	Rule			PASS
v11 - FFFCFFF	Sum	50463.17	50463.17	PASS
v11 - FFFCFFF	LV	2188.27	2188.27	PASS
v11 - FFFCFFF	Sigma	4.3	4.3	PASS
v11 - FFFCFFF	CP	0.71	0.71	PASS
v11 - FFFCFFF	O < LWL%	10.101	10.101	PASS
v11 - FFFCFFF	O < LWL ppm	101010	101010	PASS
v11 - FFFCFFF	C < LWL%	21.77	21.77	PASS
v11 - FFFCFFF	C < LWL ppm	217700	217700	PASS
v11 - FFFCFFF	O < LCL%	3.03	3.03	PASS
v11 - FFFCFFF	O < LCL ppm	30303	30303	PASS
v11 - FFFCFFF	C < LCL%	13.14	13.14	PASS
v11 - FFFCFFF	C < LCL ppm	131400	131400	PASS
v12 - CCCFCCC	N	99	99	PASS
v12 - CCCFCCC	T-Dev	59.729	59.729	PASS
v12 - CCCFCCC	S-pop	456.346	456.346	PASS
v12 - CCCFCCC	C-SD	456.346	456.346	PASS
v12 - CCCFCCC	S-mr	261.622	261.622	PASS
v12 - CCCFCCC	Max	2304.83	2304.83	PASS
v12 - CCCFCCC	Avg + 4S	2335.114	2335.114	PASS
v12 - CCCFCCC	Avg + 3S	1878.768	1878.768	PASS
v12 - CCCFCCC	Avg + 1.5S	1194.248	1194.248	PASS
v12 - CCCFCCC	Avg	509.729	509.729	PASS
v12 - CCCFCCC	C-AVG	509.729	509.729	PASS
v12 - CCCFCCC	Avg - 1.5S	-174.79	-174.79	PASS
v12 - CCCFCCC	Avg - 3S	-859.31	-859.31	PASS
v12 - CCCFCCC	Avg - 4S	-1315.656	-1315.656	PASS
v12 - CCCFCCC	Min	-860.08	-860.08	PASS
v12 - CCCFCCC	M	473.71	473.71	PASS
v12 - CCCFCCC	OS%			PASS
v12 - CCCFCCC	OSppm			PASS
v12 - CCCFCCC	CS%			PASS
v12 - CCCFCCC	CSppm			PASS
v12 - CCCFCCC	Cr			PASS
v12 - CCCFCCC	Tz	0.1	0.1	PASS
v12 - CCCFCCC	Cpk			PASS
v12 - CCCFCCC	%CV	89.527	89.527	PASS
v12 - CCCFCCC	R-AVG	346.213	346.213	PASS
v12 - CCCFCCC	R-UCL	1131.078	1131.078	PASS
v12 - CCCFCCC	R-UWL	738.646	738.646	PASS
v12 - CCCFCCC	R-LWL	-46.219	-46.219	PASS
v12 - CCCFCCC	Rule			PASS
v12 - CCCFCCC	Sum	50463.17	50463.17	PASS
v12 - CCCFCCC	LV	2188.27	2188.27	PASS
v12 - CCCFCCC	Sigma			PASS
v12 - CCCFCCC	CP			PASS

v12 - CCCFCCC	O < LWL%			PASS
v12 - CCCFCCC	O < LWL ppm			PASS
v12 - CCCFCCC	C < LWL%			PASS
v12 - CCCFCCC	C < LWL ppm			PASS
v12 - CCCFCCC	O < LCL%			PASS
v12 - CCCFCCC	O < LCL ppm			PASS
v12 - CCCFCCC	C < LCL%			PASS
v12 - CCCFCCC	C < LCL ppm			PASS
v13 - FCFCFCF	N	99	99	PASS
v13 - FCFCFCF	T-Dev			PASS
v13 - FCFCFCF	S-pop	456.346	456.346	PASS
v13 - FCFCFCF	C-SD	456.346	456.346	PASS
v13 - FCFCFCF	S-mr	261.622	261.622	PASS
v13 - FCFCFCF	Max	2304.83	2304.83	PASS
v13 - FCFCFCF	Avg + 4S	2335.114	2335.114	PASS
v13 - FCFCFCF	Avg + 3S	1878.768	1878.768	PASS
v13 - FCFCFCF	Avg + 1.5S	1194.248	1194.248	PASS
v13 - FCFCFCF	Avg	509.729	509.729	PASS
v13 - FCFCFCF	C-AVG	509.729	509.729	PASS
v13 - FCFCFCF	Avg - 1.5S	-174.79	-174.79	PASS
v13 - FCFCFCF	Avg - 3S	-859.31	-859.31	PASS
v13 - FCFCFCF	Avg - 4S	-1315.656	-1315.656	PASS
v13 - FCFCFCF	Min	-860.08	-860.08	PASS
v13 - FCFCFCF	M	473.71	473.71	PASS
v13 - FCFCFCF	OS%	6.061	6.061	PASS
v13 - FCFCFCF	OSppm	60606	60606	PASS
v13 - FCFCFCF	CS%	3.29	3.29	PASS
v13 - FCFCFCF	CSppm	32900	32900	PASS
v13 - FCFCFCF	Cr	1.4	1.4	PASS
v13 - FCFCFCF	Tz			PASS
v13 - FCFCFCF	Cpk	0.7	0.7	PASS
v13 - FCFCFCF	%CV	89.527	89.527	PASS
v13 - FCFCFCF	R-AVG	346.213	346.213	PASS
v13 - FCFCFCF	R-UCL	1131.078	1131.078	PASS
v13 - FCFCFCF	R-UWL	738.646	738.646	PASS
v13 - FCFCFCF	R-LWL	-46.219	-46.219	PASS
v13 - FCFCFCF	Rule			PASS
v13 - FCFCFCF	Sum	50463.17	50463.17	PASS
v13 - FCFCFCF	LV	2188.27	2188.27	PASS
v13 - FCFCFCF	Sigma	4.3	4.3	PASS
v13 - FCFCFCF	CP	0.71	0.71	PASS
v13 - FCFCFCF	O < LWL%	10.101	10.101	PASS
v13 - FCFCFCF	O < LWL ppm	101010	101010	PASS
v13 - FCFCFCF	C < LWL%	21.77	21.77	PASS
v13 - FCFCFCF	C < LWL ppm	217700	217700	PASS
v13 - FCFCFCF	O < LCL%			PASS
v13 - FCFCFCF	O < LCL ppm			PASS
v13 - FCFCFCF	C < LCL%			PASS

v13 - FCFCFCF	C < LCL ppm			PASS
v14 - CFCFCFC	N	99	99	PASS
v14 - CFCFCFC	T-Dev	59.729	59.729	PASS
v14 - CFCFCFC	S-pop	456.346	456.346	PASS
v14 - CFCFCFC	C-SD	456.346	456.346	PASS
v14 - CFCFCFC	S-mr	261.622	261.622	PASS
v14 - CFCFCFC	Max	2304.83	2304.83	PASS
v14 - CFCFCFC	Avg + 4S	2335.114	2335.114	PASS
v14 - CFCFCFC	Avg + 3S	1878.768	1878.768	PASS
v14 - CFCFCFC	Avg + 1.5S	1194.248	1194.248	PASS
v14 - CFCFCFC	Avg	509.729	509.729	PASS
v14 - CFCFCFC	C-AVG	509.729	509.729	PASS
v14 - CFCFCFC	Avg - 1.5S	-174.79	-174.79	PASS
v14 - CFCFCFC	Avg - 3S	-859.31	-859.31	PASS
v14 - CFCFCFC	Avg - 4S	-1315.656	-1315.656	PASS
v14 - CFCFCFC	Min	-860.08	-860.08	PASS
v14 - CFCFCFC	M	473.71	473.71	PASS
v14 - CFCFCFC	OS%			PASS
v14 - CFCFCFC	OSppm			PASS
v14 - CFCFCFC	CS%			PASS
v14 - CFCFCFC	CSppm			PASS
v14 - CFCFCFC	Cr			PASS
v14 - CFCFCFC	Tz	0.1	0.1	PASS
v14 - CFCFCFC	Cpk			PASS
v14 - CFCFCFC	%CV	89.527	89.527	PASS
v14 - CFCFCFC	R-AVG	346.213	346.213	PASS
v14 - CFCFCFC	R-UCL	1131.078	1131.078	PASS
v14 - CFCFCFC	R-UWL	738.646	738.646	PASS
v14 - CFCFCFC	R-LWL	-46.219	-46.219	PASS
v14 - CFCFCFC	Rule			PASS
v14 - CFCFCFC	Sum	50463.17	50463.17	PASS
v14 - CFCFCFC	LV	2188.27	2188.27	PASS
v14 - CFCFCFC	Sigma			PASS
v14 - CFCFCFC	CP			PASS
v14 - CFCFCFC	O < LWL%			PASS
v14 - CFCFCFC	O < LWL ppm			PASS
v14 - CFCFCFC	C < LWL%			PASS
v14 - CFCFCFC	C < LWL ppm			PASS
v14 - CFCFCFC	O < LCL%	3.03	3.03	PASS
v14 - CFCFCFC	O < LCL ppm	30303	30303	PASS
v14 - CFCFCFC	C < LCL%	13.14	13.14	PASS
v14 - CFCFCFC	C < LCL ppm	131400	131400	PASS
v15 - BFFFFFF	N	99	99	PASS
v15 - BFFFFFF	T-Dev	59.729	59.729	PASS
v15 - BFFFFFF	S-pop	456.346	456.346	PASS
v15 - BFFFFFF	C-SD	456.346	456.346	PASS
v15 - BFFFFFF	S-mr	261.622	261.622	PASS
v15 - BFFFFFF	Max	2304.83	2304.83	PASS

v15 - BFFFFFF	Avg + 4S	2335.114	2335.114	PASS
v15 - BFFFFFF	Avg + 3S	1878.768	1878.768	PASS
v15 - BFFFFFF	Avg + 1.5S	1194.248	1194.248	PASS
v15 - BFFFFFF	Avg	509.729	509.729	PASS
v15 - BFFFFFF	C-AVG	509.729	509.729	PASS
v15 - BFFFFFF	Avg - 1.5S	-174.79	-174.79	PASS
v15 - BFFFFFF	Avg - 3S	-859.31	-859.31	PASS
v15 - BFFFFFF	Avg - 4S	-1315.656	-1315.656	PASS
v15 - BFFFFFF	Min	-860.08	-860.08	PASS
v15 - BFFFFFF	M	473.71	473.71	PASS
v15 - BFFFFFF	OS%	2.02	2.02	PASS
v15 - BFFFFFF	OSppm	20202	20202	PASS
v15 - BFFFFFF	CS%	1.79	1.79	PASS
v15 - BFFFFFF	CSppm	17900	17900	PASS
v15 - BFFFFFF	Cr	1.52	1.52	PASS
v15 - BFFFFFF	Tz	0.1	0.1	PASS
v15 - BFFFFFF	Cpk	0.7	0.7	PASS
v15 - BFFFFFF	%CV	89.527	89.527	PASS
v15 - BFFFFFF	R-AVG	346.213	346.213	PASS
v15 - BFFFFFF	R-UCL	1131.078	1131.078	PASS
v15 - BFFFFFF	R-UWL	738.646	738.646	PASS
v15 - BFFFFFF	R-LWL	-46.219	-46.219	PASS
v15 - BFFFFFF	Rule			PASS
v15 - BFFFFFF	Sum	50463.17	50463.17	PASS
v15 - BFFFFFF	LV	2188.27	2188.27	PASS
v15 - BFFFFFF	Sigma	3.9	3.9	PASS
v15 - BFFFFFF	CP	0.66	0.66	PASS
v15 - BFFFFFF	O < LWL%	10.101	10.101	PASS
v15 - BFFFFFF	O < LWL ppm	101010	101010	PASS
v15 - BFFFFFF	C < LWL%	21.77	21.77	PASS
v15 - BFFFFFF	C < LWL ppm	217700	217700	PASS
v15 - BFFFFFF	O < LCL%	3.03	3.03	PASS
v15 - BFFFFFF	O < LCL ppm	30303	30303	PASS
v15 - BFFFFFF	C < LCL%	13.14	13.14	PASS
v15 - BFFFFFF	C < LCL ppm	131400	131400	PASS
v16 - FBFFFFF	N	99	99	PASS
v16 - FBFFFFF	T-Dev	59.729	59.729	PASS
v16 - FBFFFFF	S-pop	456.346	456.346	PASS
v16 - FBFFFFF	C-SD	456.346	456.346	PASS
v16 - FBFFFFF	S-mr	261.622	261.622	PASS
v16 - FBFFFFF	Max	2304.83	2304.83	PASS
v16 - FBFFFFF	Avg + 4S	2335.114	2335.114	PASS
v16 - FBFFFFF	Avg + 3S	1878.768	1878.768	PASS
v16 - FBFFFFF	Avg + 1.5S	1194.248	1194.248	PASS
v16 - FBFFFFF	Avg	509.729	509.729	PASS
v16 - FBFFFFF	C-AVG	509.729	509.729	PASS
v16 - FBFFFFF	Avg - 1.5S	-174.79	-174.79	PASS
v16 - FBFFFFF	Avg - 3S	-859.31	-859.31	PASS

v16 - FBFFFFF	Avg - 4S	-1315.656	-1315.656	PASS
v16 - FBFFFFF	Min	-860.08	-860.08	PASS
v16 - FBFFFFF	M	473.71	473.71	PASS
v16 - FBFFFFF	OS%	6.061	6.061	PASS
v16 - FBFFFFF	OSppm	60606	60606	PASS
v16 - FBFFFFF	CS%	3.29	3.29	PASS
v16 - FBFFFFF	CSppm	32900	32900	PASS
v16 - FBFFFFF	Cr	1.4	1.4	PASS
v16 - FBFFFFF	Tz	0.1	0.1	PASS
v16 - FBFFFFF	Cpk	0.7	0.7	PASS
v16 - FBFFFFF	%CV	89.527	89.527	PASS
v16 - FBFFFFF	R-AVG	346.213	346.213	PASS
v16 - FBFFFFF	R-UCL	1131.078	1131.078	PASS
v16 - FBFFFFF	R-UWL	738.646	738.646	PASS
v16 - FBFFFFF	R-LWL	-46.219	-46.219	PASS
v16 - FBFFFFF	Rule			PASS
v16 - FBFFFFF	Sum	50463.17	50463.17	PASS
v16 - FBFFFFF	LV	2188.27	2188.27	PASS
v16 - FBFFFFF	Sigma	4.3	4.3	PASS
v16 - FBFFFFF	CP	0.71	0.71	PASS
v16 - FBFFFFF	O < LWL%	10.101	10.101	PASS
v16 - FBFFFFF	O < LWL ppm	101010	101010	PASS
v16 - FBFFFFF	C < LWL%	21.77	21.77	PASS
v16 - FBFFFFF	C < LWL ppm	217700	217700	PASS
v16 - FBFFFFF	O < LCL%	3.03	3.03	PASS
v16 - FBFFFFF	O < LCL ppm	30303	30303	PASS
v16 - FBFFFFF	C < LCL%	13.14	13.14	PASS
v16 - FBFFFFF	C < LCL ppm	131400	131400	PASS
v17 - FFBFFFF	N	99	99	PASS
v17 - FFBFFFF	T-Dev	59.729	59.729	PASS
v17 - FFBFFFF	S-pop	456.346	456.346	PASS
v17 - FFBFFFF	C-SD	456.346	456.346	PASS
v17 - FFBFFFF	S-mr	261.622	261.622	PASS
v17 - FFBFFFF	Max	2304.83	2304.83	PASS
v17 - FFBFFFF	Avg + 4S	2335.114	2335.114	PASS
v17 - FFBFFFF	Avg + 3S	1878.768	1878.768	PASS
v17 - FFBFFFF	Avg + 1.5S	1194.248	1194.248	PASS
v17 - FFBFFFF	Avg	509.729	509.729	PASS
v17 - FFBFFFF	C-AVG	509.729	509.729	PASS
v17 - FFBFFFF	Avg - 1.5S	-174.79	-174.79	PASS
v17 - FFBFFFF	Avg - 3S	-859.31	-859.31	PASS
v17 - FFBFFFF	Avg - 4S	-1315.656	-1315.656	PASS
v17 - FFBFFFF	Min	-860.08	-860.08	PASS
v17 - FFBFFFF	M	473.71	473.71	PASS
v17 - FFBFFFF	OS%	6.061	6.061	PASS
v17 - FFBFFFF	OSppm	60606	60606	PASS
v17 - FFBFFFF	CS%	3.29	3.29	PASS
v17 - FFBFFFF	CSppm	32900	32900	PASS

v17 - FFBFFFF	Cr	1.4	1.4	PASS
v17 - FFBFFFF	Tz	0.1	0.1	PASS
v17 - FFBFFFF	Cpk	0.7	0.7	PASS
v17 - FFBFFFF	%CV	89.527	89.527	PASS
v17 - FFBFFFF	R-AVG	346.213	346.213	PASS
v17 - FFBFFFF	R-UCL	1131.078	1131.078	PASS
v17 - FFBFFFF	R-UWL	738.646	738.646	PASS
v17 - FFBFFFF	R-LWL	-46.219	-46.219	PASS
v17 - FFBFFFF	Rule			PASS
v17 - FFBFFFF	Sum	50463.17	50463.17	PASS
v17 - FFBFFFF	LV	2188.27	2188.27	PASS
v17 - FFBFFFF	Sigma	4.3	4.3	PASS
v17 - FFBFFFF	CP	0.71	0.71	PASS
v17 - FFBFFFF	O < LWL%	10.101	10.101	PASS
v17 - FFBFFFF	O < LWL ppm	101010	101010	PASS
v17 - FFBFFFF	C < LWL%	21.77	21.77	PASS
v17 - FFBFFFF	C < LWL ppm	217700	217700	PASS
v17 - FFBFFFF	O < LCL%	3.03	3.03	PASS
v17 - FFBFFFF	O < LCL ppm	30303	30303	PASS
v17 - FFBFFFF	C < LCL%	13.14	13.14	PASS
v17 - FFBFFFF	C < LCL ppm	131400	131400	PASS
v18 - FFFBFFF	N	99	99	PASS
v18 - FFFBFFF	T-Dev			PASS
v18 - FFFBFFF	S-pop	456.346	456.346	PASS
v18 - FFFBFFF	C-SD	456.346	456.346	PASS
v18 - FFFBFFF	S-mr	261.622	261.622	PASS
v18 - FFFBFFF	Max	2304.83	2304.83	PASS
v18 - FFFBFFF	Avg + 4S	2335.114	2335.114	PASS
v18 - FFFBFFF	Avg + 3S	1878.768	1878.768	PASS
v18 - FFFBFFF	Avg + 1.5S	1194.248	1194.248	PASS
v18 - FFFBFFF	Avg	509.729	509.729	PASS
v18 - FFFBFFF	C-AVG	509.729	509.729	PASS
v18 - FFFBFFF	Avg - 1.5S	-174.79	-174.79	PASS
v18 - FFFBFFF	Avg - 3S	-859.31	-859.31	PASS
v18 - FFFBFFF	Avg - 4S	-1315.656	-1315.656	PASS
v18 - FFFBFFF	Min	-860.08	-860.08	PASS
v18 - FFFBFFF	M	473.71	473.71	PASS
v18 - FFFBFFF	OS%	6.061	6.061	PASS
v18 - FFFBFFF	OSppm	60606	60606	PASS
v18 - FFFBFFF	CS%	3.29	3.29	PASS
v18 - FFFBFFF	CSppm	32900	32900	PASS
v18 - FFFBFFF	Cr	1.4	1.4	PASS
v18 - FFFBFFF	Tz			PASS
v18 - FFFBFFF	Cpk	0.7	0.7	PASS
v18 - FFFBFFF	%CV	89.527	89.527	PASS
v18 - FFFBFFF	R-AVG	346.213	346.213	PASS
v18 - FFFBFFF	R-UCL	1131.078	1131.078	PASS
v18 - FFFBFFF	R-UWL	738.646	738.646	PASS

v18 - FFFBFFF	R-LWL	-46.219	-46.219	PASS
v18 - FFFBFFF	Rule			PASS
v18 - FFFBFFF	Sum	50463.17	50463.17	PASS
v18 - FFFBFFF	LV	2188.27	2188.27	PASS
v18 - FFFBFFF	Sigma	4.3	4.3	PASS
v18 - FFFBFFF	CP	0.71	0.71	PASS
v18 - FFFBFFF	O < LWL%	10.101	10.101	PASS
v18 - FFFBFFF	O < LWL ppm	101010	101010	PASS
v18 - FFFBFFF	C < LWL%	21.77	21.77	PASS
v18 - FFFBFFF	C < LWL ppm	217700	217700	PASS
v18 - FFFBFFF	O < LCL%	3.03	3.03	PASS
v18 - FFFBFFF	O < LCL ppm	30303	30303	PASS
v18 - FFFBFFF	C < LCL%	13.14	13.14	PASS
v18 - FFFBFFF	C < LCL ppm	131400	131400	PASS
v19 - FFFFBFF	N	99	99	PASS
v19 - FFFFBFF	T-Dev	59.729	59.729	PASS
v19 - FFFFBFF	S-pop	456.346	456.346	PASS
v19 - FFFFBFF	C-SD	456.346	456.346	PASS
v19 - FFFFBFF	S-mr	261.622	261.622	PASS
v19 - FFFFBFF	Max	2304.83	2304.83	PASS
v19 - FFFFBFF	Avg + 4S	2335.114	2335.114	PASS
v19 - FFFFBFF	Avg + 3S	1878.768	1878.768	PASS
v19 - FFFFBFF	Avg + 1.5S	1194.248	1194.248	PASS
v19 - FFFFBFF	Avg	509.729	509.729	PASS
v19 - FFFFBFF	C-AVG	509.729	509.729	PASS
v19 - FFFFBFF	Avg - 1.5S	-174.79	-174.79	PASS
v19 - FFFFBFF	Avg - 3S	-859.31	-859.31	PASS
v19 - FFFFBFF	Avg - 4S	-1315.656	-1315.656	PASS
v19 - FFFFBFF	Min	-860.08	-860.08	PASS
v19 - FFFFBFF	M	473.71	473.71	PASS
v19 - FFFFBFF	OS%	6.061	6.061	PASS
v19 - FFFFBFF	OSppm	60606	60606	PASS
v19 - FFFFBFF	CS%	3.29	3.29	PASS
v19 - FFFFBFF	CSppm	32900	32900	PASS
v19 - FFFFBFF	Cr	1.4	1.4	PASS
v19 - FFFFBFF	Tz	0.1	0.1	PASS
v19 - FFFFBFF	Cpk	0.7	0.7	PASS
v19 - FFFFBFF	%CV	89.527	89.527	PASS
v19 - FFFFBFF	R-AVG	346.213	346.213	PASS
v19 - FFFFBFF	R-UCL	1131.078	1131.078	PASS
v19 - FFFFBFF	R-UWL	738.646	738.646	PASS
v19 - FFFFBFF	R-LWL	-46.219	-46.219	PASS
v19 - FFFFBFF	Rule			PASS
v19 - FFFFBFF	Sum	50463.17	50463.17	PASS
v19 - FFFFBFF	LV	2188.27	2188.27	PASS
v19 - FFFFBFF	Sigma	4.3	4.3	PASS
v19 - FFFFBFF	CP	0.71	0.71	PASS
v19 - FFFFBFF	O < LWL%			PASS

v19 - FFFFBFF	O < LWL ppm			PASS
v19 - FFFFBFF	C < LWL%			PASS
v19 - FFFFBFF	C < LWL ppm			PASS
v19 - FFFFBFF	O < LCL%	3.03	3.03	PASS
v19 - FFFFBFF	O < LCL ppm	30303	30303	PASS
v19 - FFFFBFF	C < LCL%	13.14	13.14	PASS
v19 - FFFFBFF	C < LCL ppm	131400	131400	PASS
v20 - FFFFFBF	N	99	99	PASS
v20 - FFFFFBF	T-Dev	59.729	59.729	PASS
v20 - FFFFFBF	S-pop	456.346	456.346	PASS
v20 - FFFFFBF	C-SD	456.346	456.346	PASS
v20 - FFFFFBF	S-mr	261.622	261.622	PASS
v20 - FFFFFBF	Max	2304.83	2304.83	PASS
v20 - FFFFFBF	Avg + 4S	2335.114	2335.114	PASS
v20 - FFFFFBF	Avg + 3S	1878.768	1878.768	PASS
v20 - FFFFFBF	Avg + 1.5S	1194.248	1194.248	PASS
v20 - FFFFFBF	Avg	509.729	509.729	PASS
v20 - FFFFFBF	C-AVG	509.729	509.729	PASS
v20 - FFFFFBF	Avg - 1.5S	-174.79	-174.79	PASS
v20 - FFFFFBF	Avg - 3S	-859.31	-859.31	PASS
v20 - FFFFFBF	Avg - 4S	-1315.656	-1315.656	PASS
v20 - FFFFFBF	Min	-860.08	-860.08	PASS
v20 - FFFFFBF	M	473.71	473.71	PASS
v20 - FFFFFBF	OS%	6.061	6.061	PASS
v20 - FFFFFBF	OSppm	60606	60606	PASS
v20 - FFFFFBF	CS%	3.29	3.29	PASS
v20 - FFFFFBF	CSppm	32900	32900	PASS
v20 - FFFFFBF	Cr	1.4	1.4	PASS
v20 - FFFFFBF	Tz	0.1	0.1	PASS
v20 - FFFFFBF	Cpk	0.7	0.7	PASS
v20 - FFFFFBF	%CV	89.527	89.527	PASS
v20 - FFFFFBF	R-AVG	346.213	346.213	PASS
v20 - FFFFFBF	R-UCL	1131.078	1131.078	PASS
v20 - FFFFFBF	R-UWL	738.646	738.646	PASS
v20 - FFFFFBF	R-LWL	-46.219	-46.219	PASS
v20 - FFFFFBF	Rule			PASS
v20 - FFFFFBF	Sum	50463.17	50463.17	PASS
v20 - FFFFFBF	LV	2188.27	2188.27	PASS
v20 - FFFFFBF	Sigma	4.3	4.3	PASS
v20 - FFFFFBF	CP	0.71	0.71	PASS
v20 - FFFFFBF	O < LWL%	10.101	10.101	PASS
v20 - FFFFFBF	O < LWL ppm	101010	101010	PASS
v20 - FFFFFBF	C < LWL%	21.77	21.77	PASS
v20 - FFFFFBF	C < LWL ppm	217700	217700	PASS
v20 - FFFFFBF	O < LCL%			PASS
v20 - FFFFFBF	O < LCL ppm			PASS
v20 - FFFFFBF	C < LCL%			PASS
v20 - FFFFFBF	C < LCL ppm			PASS

v21 - FFFFFFB	N	99	99	PASS
v21 - FFFFFFB	T-Dev	59.729	59.729	PASS
v21 - FFFFFFB	S-pop	456.346	456.346	PASS
v21 - FFFFFFB	C-SD	456.346	456.346	PASS
v21 - FFFFFFB	S-mr	261.622	261.622	PASS
v21 - FFFFFFB	Max	2304.83	2304.83	PASS
v21 - FFFFFFB	Avg + 4S	2335.114	2335.114	PASS
v21 - FFFFFFB	Avg + 3S	1878.768	1878.768	PASS
v21 - FFFFFFB	Avg + 1.5S	1194.248	1194.248	PASS
v21 - FFFFFFB	Avg	509.729	509.729	PASS
v21 - FFFFFFB	C-AVG	509.729	509.729	PASS
v21 - FFFFFFB	Avg - 1.5S	-174.79	-174.79	PASS
v21 - FFFFFFB	Avg - 3S	-859.31	-859.31	PASS
v21 - FFFFFFB	Avg - 4S	-1315.656	-1315.656	PASS
v21 - FFFFFFB	Min	-860.08	-860.08	PASS
v21 - FFFFFFB	M	473.71	473.71	PASS
v21 - FFFFFFB	OS%	4.04	4.04	PASS
v21 - FFFFFFB	OSppm	40404	40404	PASS
v21 - FFFFFFB	CS%	1.5	1.5	PASS
v21 - FFFFFFB	CSppm	15000	15000	PASS
v21 - FFFFFFB	Cr	1.3	1.3	PASS
v21 - FFFFFFB	Tz	0.1	0.1	PASS
v21 - FFFFFFB	Cpk	0.72	0.72	PASS
v21 - FFFFFFB	%CV	89.527	89.527	PASS
v21 - FFFFFFB	R-AVG	346.213	346.213	PASS
v21 - FFFFFFB	R-UCL	1131.078	1131.078	PASS
v21 - FFFFFFB	R-UWL	738.646	738.646	PASS
v21 - FFFFFFB	R-LWL	-46.219	-46.219	PASS
v21 - FFFFFFB	Rule			PASS
v21 - FFFFFFB	Sum	50463.17	50463.17	PASS
v21 - FFFFFFB	LV	2188.27	2188.27	PASS
v21 - FFFFFFB	Sigma	4.6	4.6	PASS
v21 - FFFFFFB	CP	0.77	0.77	PASS
v21 - FFFFFFB	O < LWL%	10.101	10.101	PASS
v21 - FFFFFFB	O < LWL ppm	101010	101010	PASS
v21 - FFFFFFB	C < LWL%	21.77	21.77	PASS
v21 - FFFFFFB	C < LWL ppm	217700	217700	PASS
v21 - FFFFFFB	O < LCL%	3.03	3.03	PASS
v21 - FFFFFFB	O < LCL ppm	30303	30303	PASS
v21 - FFFFFFB	C < LCL%	13.14	13.14	PASS
v21 - FFFFFFB	C < LCL ppm	131400	131400	PASS
v22 - SD 0 Equal USL	N	100	100	PASS
v22 - SD 0 Equal USL	T-Dev	1050	1050	PASS
v22 - SD 0 Equal USL	S-pop	0	0	PASS
v22 - SD 0 Equal USL	C-SD	0	0	PASS
v22 - SD 0 Equal USL	S-mr	0	0	PASS
v22 - SD 0 Equal USL	Max	1500	1500	PASS
v22 - SD 0 Equal USL	Avg + 4S	1500	1500	PASS

v22 - SD 0 Equal USL	Avg + 3S	1500	1500	PASS
v22 - SD 0 Equal USL	Avg + 1.5S	1500	1500	PASS
v22 - SD 0 Equal USL	Avg	1500	1500	PASS
v22 - SD 0 Equal USL	C-AVG	1500	1500	PASS
v22 - SD 0 Equal USL	Avg - 1.5S	1500	1500	PASS
v22 - SD 0 Equal USL	Avg - 3S	1500	1500	PASS
v22 - SD 0 Equal USL	Avg - 4S	1500	1500	PASS
v22 - SD 0 Equal USL	Min	1500	1500	PASS
v22 - SD 0 Equal USL	M	1500	1500	PASS
v22 - SD 0 Equal USL	OS%	0	0	PASS
v22 - SD 0 Equal USL	OSppm	0	0	PASS
v22 - SD 0 Equal USL	CS%			PASS
v22 - SD 0 Equal USL	CSppm			PASS
v22 - SD 0 Equal USL	Cr	0	0	PASS
v22 - SD 0 Equal USL	Tz	1	1	PASS
v22 - SD 0 Equal USL	Cpk			PASS
v22 - SD 0 Equal USL	%CV	0	0	PASS
v22 - SD 0 Equal USL	R-AVG	0	0	PASS
v22 - SD 0 Equal USL	R-UCL	0	0	PASS
v22 - SD 0 Equal USL	R-UWL	0	0	PASS
v22 - SD 0 Equal USL	R-LWL	0	0	PASS
v22 - SD 0 Equal USL	Rule			PASS
v22 - SD 0 Equal USL	Sum	150000	150000	PASS
v22 - SD 0 Equal USL	LV	1500	1500	PASS
v22 - SD 0 Equal USL	Sigma			PASS
v22 - SD 0 Equal USL	CP			PASS
v22 - SD 0 Equal USL	O < LWL%	0	0	PASS
v22 - SD 0 Equal USL	O < LWL ppm	0	0	PASS
v22 - SD 0 Equal USL	C < LWL%			PASS
v22 - SD 0 Equal USL	C < LWL ppm			PASS
v22 - SD 0 Equal USL	O < LCL%	0	0	PASS
v22 - SD 0 Equal USL	O < LCL ppm	0	0	PASS
v22 - SD 0 Equal USL	C < LCL%			PASS
v22 - SD 0 Equal USL	C < LCL ppm			PASS
v23 - SD 0 Equal UCL	N	100	100	PASS
v23 - SD 0 Equal UCL	T-Dev	549	549	PASS
v23 - SD 0 Equal UCL	S-pop	0	0	PASS
v23 - SD 0 Equal UCL	C-SD	0	0	PASS
v23 - SD 0 Equal UCL	S-mr	0	0	PASS
v23 - SD 0 Equal UCL	Max	999	999	PASS
v23 - SD 0 Equal UCL	Avg + 4S	999	999	PASS
v23 - SD 0 Equal UCL	Avg + 3S	999	999	PASS
v23 - SD 0 Equal UCL	Avg + 1.5S	999	999	PASS
v23 - SD 0 Equal UCL	Avg	999	999	PASS
v23 - SD 0 Equal UCL	C-AVG	999	999	PASS
v23 - SD 0 Equal UCL	Avg - 1.5S	999	999	PASS
v23 - SD 0 Equal UCL	Avg - 3S	999	999	PASS
v23 - SD 0 Equal UCL	Avg - 4S	999	999	PASS

v23 - SD 0 Equal UCL	Min	999	999	PASS
v23 - SD 0 Equal UCL	M	999	999	PASS
v23 - SD 0 Equal UCL	OS%	0	0	PASS
v23 - SD 0 Equal UCL	OSppm	0	0	PASS
v23 - SD 0 Equal UCL	CS%			PASS
v23 - SD 0 Equal UCL	CSppm			PASS
v23 - SD 0 Equal UCL	Cr	0	0	PASS
v23 - SD 0 Equal UCL	Tz	1	1	PASS
v23 - SD 0 Equal UCL	Cpk			PASS
v23 - SD 0 Equal UCL	%CV	0	0	PASS
v23 - SD 0 Equal UCL	R-AVG	0	0	PASS
v23 - SD 0 Equal UCL	R-UCL	0	0	PASS
v23 - SD 0 Equal UCL	R-UWL	0	0	PASS
v23 - SD 0 Equal UCL	R-LWL	0	0	PASS
v23 - SD 0 Equal UCL	Rule			PASS
v23 - SD 0 Equal UCL	Sum	99900	99900	PASS
v23 - SD 0 Equal UCL	LV	999	999	PASS
v23 - SD 0 Equal UCL	Sigma			PASS
v23 - SD 0 Equal UCL	CP			PASS
v23 - SD 0 Equal UCL	O < LWL%	0	0	PASS
v23 - SD 0 Equal UCL	O < LWL ppm	0	0	PASS
v23 - SD 0 Equal UCL	C < LWL%			PASS
v23 - SD 0 Equal UCL	C < LWL ppm			PASS
v23 - SD 0 Equal UCL	O < LCL%	0	0	PASS
v23 - SD 0 Equal UCL	O < LCL ppm	0	0	PASS
v23 - SD 0 Equal UCL	C < LCL%			PASS
v23 - SD 0 Equal UCL	C < LCL ppm			PASS
v24 - SD 0 Above TGT	N	100	100	PASS
v24 - SD 0 Above TGT	T-Dev	250.09	250.09	PASS
v24 - SD 0 Above TGT	S-pop	0	0	PASS
v24 - SD 0 Above TGT	C-SD	0	0	PASS
v24 - SD 0 Above TGT	S-mr	0	0	PASS
v24 - SD 0 Above TGT	Max	700.09	700.09	PASS
v24 - SD 0 Above TGT	Avg + 4S	700.09	700.09	PASS
v24 - SD 0 Above TGT	Avg + 3S	700.09	700.09	PASS
v24 - SD 0 Above TGT	Avg + 1.5S	700.09	700.09	PASS
v24 - SD 0 Above TGT	Avg	700.09	700.09	PASS
v24 - SD 0 Above TGT	C-AVG	700.09	700.09	PASS
v24 - SD 0 Above TGT	Avg - 1.5S	700.09	700.09	PASS
v24 - SD 0 Above TGT	Avg - 3S	700.09	700.09	PASS
v24 - SD 0 Above TGT	Avg - 4S	700.09	700.09	PASS
v24 - SD 0 Above TGT	Min	700.09	700.09	PASS
v24 - SD 0 Above TGT	M	700.09	700.09	PASS
v24 - SD 0 Above TGT	OS%	0	0	PASS
v24 - SD 0 Above TGT	OSppm	0	0	PASS
v24 - SD 0 Above TGT	CS%			PASS
v24 - SD 0 Above TGT	CSppm			PASS
v24 - SD 0 Above TGT	Cr	0	0	PASS

v24 - SD 0 Above TGT	Tz	1	1	PASS
v24 - SD 0 Above TGT	Cpk			PASS
v24 - SD 0 Above TGT	%CV	0	0	PASS
v24 - SD 0 Above TGT	R-AVG	0	0	PASS
v24 - SD 0 Above TGT	R-UCL	0	0	PASS
v24 - SD 0 Above TGT	R-UWL	0	0	PASS
v24 - SD 0 Above TGT	R-LWL	0	0	PASS
v24 - SD 0 Above TGT	Rule			PASS
v24 - SD 0 Above TGT	Sum	70009	70009	PASS
v24 - SD 0 Above TGT	LV	700.09	700.09	PASS
v24 - SD 0 Above TGT	Sigma			PASS
v24 - SD 0 Above TGT	CP			PASS
v24 - SD 0 Above TGT	O < LWL%	0	0	PASS
v24 - SD 0 Above TGT	O < LWL ppm	0	0	PASS
v24 - SD 0 Above TGT	C < LWL%			PASS
v24 - SD 0 Above TGT	C < LWL ppm			PASS
v24 - SD 0 Above TGT	O < LCL%	0	0	PASS
v24 - SD 0 Above TGT	O < LCL ppm	0	0	PASS
v24 - SD 0 Above TGT	C < LCL%			PASS
v24 - SD 0 Above TGT	C < LCL ppm			PASS
v25 - SD 0 Equal TGT	N	100	100	PASS
v25 - SD 0 Equal TGT	T-Dev	0	0	PASS
v25 - SD 0 Equal TGT	S-pop	0	0	PASS
v25 - SD 0 Equal TGT	C-SD	0	0	PASS
v25 - SD 0 Equal TGT	S-mr	0	0	PASS
v25 - SD 0 Equal TGT	Max	450	450	PASS
v25 - SD 0 Equal TGT	Avg + 4S	450	450	PASS
v25 - SD 0 Equal TGT	Avg + 3S	450	450	PASS
v25 - SD 0 Equal TGT	Avg + 1.5S	450	450	PASS
v25 - SD 0 Equal TGT	Avg	450	450	PASS
v25 - SD 0 Equal TGT	C-AVG	450	450	PASS
v25 - SD 0 Equal TGT	Avg - 1.5S	450	450	PASS
v25 - SD 0 Equal TGT	Avg - 3S	450	450	PASS
v25 - SD 0 Equal TGT	Avg - 4S	450	450	PASS
v25 - SD 0 Equal TGT	Min	450	450	PASS
v25 - SD 0 Equal TGT	M	450	450	PASS
v25 - SD 0 Equal TGT	OS%	0	0	PASS
v25 - SD 0 Equal TGT	OSppm	0	0	PASS
v25 - SD 0 Equal TGT	CS%			PASS
v25 - SD 0 Equal TGT	CSppm			PASS
v25 - SD 0 Equal TGT	Cr	0	0	PASS
v25 - SD 0 Equal TGT	Tz	0	0	PASS
v25 - SD 0 Equal TGT	Cpk			PASS
v25 - SD 0 Equal TGT	%CV	0	0	PASS
v25 - SD 0 Equal TGT	R-AVG	0	0	PASS
v25 - SD 0 Equal TGT	R-UCL	0	0	PASS
v25 - SD 0 Equal TGT	R-UWL	0	0	PASS
v25 - SD 0 Equal TGT	R-LWL	0	0	PASS

v25 - SD 0 Equal TGT	Rule			PASS
v25 - SD 0 Equal TGT	Sum	45000	45000	PASS
v25 - SD 0 Equal TGT	LV	450	450	PASS
v25 - SD 0 Equal TGT	Sigma			PASS
v25 - SD 0 Equal TGT	CP			PASS
v25 - SD 0 Equal TGT	O < LWL%	0	0	PASS
v25 - SD 0 Equal TGT	O < LWL ppm	0	0	PASS
v25 - SD 0 Equal TGT	C < LWL%			PASS
v25 - SD 0 Equal TGT	C < LWL ppm			PASS
v25 - SD 0 Equal TGT	O < LCL%	0	0	PASS
v25 - SD 0 Equal TGT	O < LCL ppm	0	0	PASS
v25 - SD 0 Equal TGT	C < LCL%			PASS
v25 - SD 0 Equal TGT	C < LCL ppm			PASS
v26 - SD 0 Below TGT	N	100	100	PASS
v26 - SD 0 Below TGT	T-Dev	-250.09	-250.09	PASS
v26 - SD 0 Below TGT	S-pop	0	0	PASS
v26 - SD 0 Below TGT	C-SD	0	0	PASS
v26 - SD 0 Below TGT	S-mr	0	0	PASS
v26 - SD 0 Below TGT	Max	199.91	199.91	PASS
v26 - SD 0 Below TGT	Avg + 4S	199.91	199.91	PASS
v26 - SD 0 Below TGT	Avg + 3S	199.91	199.91	PASS
v26 - SD 0 Below TGT	Avg + 1.5S	199.91	199.91	PASS
v26 - SD 0 Below TGT	Avg	199.91	199.91	PASS
v26 - SD 0 Below TGT	C-AVG	199.91	199.91	PASS
v26 - SD 0 Below TGT	Avg - 1.5S	199.91	199.91	PASS
v26 - SD 0 Below TGT	Avg - 3S	199.91	199.91	PASS
v26 - SD 0 Below TGT	Avg - 4S	199.91	199.91	PASS
v26 - SD 0 Below TGT	Min	199.91	199.91	PASS
v26 - SD 0 Below TGT	M	199.91	199.91	PASS
v26 - SD 0 Below TGT	OS%	0	0	PASS
v26 - SD 0 Below TGT	OSppm	0	0	PASS
v26 - SD 0 Below TGT	CS%			PASS
v26 - SD 0 Below TGT	CSppm			PASS
v26 - SD 0 Below TGT	Cr	0	0	PASS
v26 - SD 0 Below TGT	Tz	-1	-1	PASS
v26 - SD 0 Below TGT	Cpk			PASS
v26 - SD 0 Below TGT	%CV	0	0	PASS
v26 - SD 0 Below TGT	R-AVG	0	0	PASS
v26 - SD 0 Below TGT	R-UCL	0	0	PASS
v26 - SD 0 Below TGT	R-UWL	0	0	PASS
v26 - SD 0 Below TGT	R-LWL	0	0	PASS
v26 - SD 0 Below TGT	Rule			PASS
v26 - SD 0 Below TGT	Sum	19991	19991	PASS
v26 - SD 0 Below TGT	LV	199.91	199.91	PASS
v26 - SD 0 Below TGT	Sigma			PASS
v26 - SD 0 Below TGT	CP			PASS
v26 - SD 0 Below TGT	O < LWL%	0	0	PASS
v26 - SD 0 Below TGT	O < LWL ppm	0	0	PASS

v26 - SD 0 Below TGT	C < LWL%			PASS
v26 - SD 0 Below TGT	C < LWL ppm			PASS
v26 - SD 0 Below TGT	O < LCL%	0	0	PASS
v26 - SD 0 Below TGT	O < LCL ppm	0	0	PASS
v26 - SD 0 Below TGT	C < LCL%			PASS
v26 - SD 0 Below TGT	C < LCL ppm			PASS
v27 - SD 0 Equal LCL	N	100	100	PASS
v27 - SD 0 Equal LCL	T-Dev	-450	-450	PASS
v27 - SD 0 Equal LCL	S-pop	0	0	PASS
v27 - SD 0 Equal LCL	C-SD	0	0	PASS
v27 - SD 0 Equal LCL	S-mr	0	0	PASS
v27 - SD 0 Equal LCL	Max	0	0	PASS
v27 - SD 0 Equal LCL	Avg + 4S	0	0	PASS
v27 - SD 0 Equal LCL	Avg + 3S	0	0	PASS
v27 - SD 0 Equal LCL	Avg + 1.5S	0	0	PASS
v27 - SD 0 Equal LCL	Avg	0	0	PASS
v27 - SD 0 Equal LCL	C-AVG	0	0	PASS
v27 - SD 0 Equal LCL	Avg - 1.5S	0	0	PASS
v27 - SD 0 Equal LCL	Avg - 3S	0	0	PASS
v27 - SD 0 Equal LCL	Avg - 4S	0	0	PASS
v27 - SD 0 Equal LCL	Min	0	0	PASS
v27 - SD 0 Equal LCL	M	0	0	PASS
v27 - SD 0 Equal LCL	OS%	0	0	PASS
v27 - SD 0 Equal LCL	OSppm	0	0	PASS
v27 - SD 0 Equal LCL	CS%			PASS
v27 - SD 0 Equal LCL	CSppm			PASS
v27 - SD 0 Equal LCL	Cr	0	0	PASS
v27 - SD 0 Equal LCL	Tz	-1	-1	PASS
v27 - SD 0 Equal LCL	Cpk			PASS
v27 - SD 0 Equal LCL	%CV	0	0	PASS
v27 - SD 0 Equal LCL	R-AVG	0	0	PASS
v27 - SD 0 Equal LCL	R-UCL	0	0	PASS
v27 - SD 0 Equal LCL	R-UWL	0	0	PASS
v27 - SD 0 Equal LCL	R-LWL	0	0	PASS
v27 - SD 0 Equal LCL	Rule			PASS
v27 - SD 0 Equal LCL	Sum	0	0	PASS
v27 - SD 0 Equal LCL	LV	0	0	PASS
v27 - SD 0 Equal LCL	Sigma			PASS
v27 - SD 0 Equal LCL	CP			PASS
v27 - SD 0 Equal LCL	O < LWL%	100	100	PASS
v27 - SD 0 Equal LCL	O < LWL ppm	1000000	1000000	PASS
v27 - SD 0 Equal LCL	C < LWL%			PASS
v27 - SD 0 Equal LCL	C < LWL ppm			PASS
v27 - SD 0 Equal LCL	O < LCL%	0	0	PASS
v27 - SD 0 Equal LCL	O < LCL ppm	0	0	PASS
v27 - SD 0 Equal LCL	C < LCL%			PASS
v27 - SD 0 Equal LCL	C < LCL ppm			PASS
v28 - SD 0 Equal LSL	N	100	100	PASS

v28 - SD 0 Equal LSL	T-Dev	-900	-900	PASS
v28 - SD 0 Equal LSL	S-pop	0	0	PASS
v28 - SD 0 Equal LSL	C-SD	0	0	PASS
v28 - SD 0 Equal LSL	S-mr	0	0	PASS
v28 - SD 0 Equal LSL	Max	-450	-450	PASS
v28 - SD 0 Equal LSL	Avg + 4S	-450	-450	PASS
v28 - SD 0 Equal LSL	Avg + 3S	-450	-450	PASS
v28 - SD 0 Equal LSL	Avg + 1.5S	-450	-450	PASS
v28 - SD 0 Equal LSL	Avg	-450	-450	PASS
v28 - SD 0 Equal LSL	C-AVG	-450	-450	PASS
v28 - SD 0 Equal LSL	Avg - 1.5S	-450	-450	PASS
v28 - SD 0 Equal LSL	Avg - 3S	-450	-450	PASS
v28 - SD 0 Equal LSL	Avg - 4S	-450	-450	PASS
v28 - SD 0 Equal LSL	Min	-450	-450	PASS
v28 - SD 0 Equal LSL	M	-450	-450	PASS
v28 - SD 0 Equal LSL	OS%	0	0	PASS
v28 - SD 0 Equal LSL	OSppm	0	0	PASS
v28 - SD 0 Equal LSL	CS%			PASS
v28 - SD 0 Equal LSL	CSppm			PASS
v28 - SD 0 Equal LSL	Cr	0	0	PASS
v28 - SD 0 Equal LSL	Tz	-1	-1	PASS
v28 - SD 0 Equal LSL	Cpk			PASS
v28 - SD 0 Equal LSL	%CV	0	0	PASS
v28 - SD 0 Equal LSL	R-AVG	0	0	PASS
v28 - SD 0 Equal LSL	R-UCL	0	0	PASS
v28 - SD 0 Equal LSL	R-UWL	0	0	PASS
v28 - SD 0 Equal LSL	R-LWL	0	0	PASS
v28 - SD 0 Equal LSL	Rule			PASS
v28 - SD 0 Equal LSL	Sum	-45000	-45000	PASS
v28 - SD 0 Equal LSL	LV	-450	-450	PASS
v28 - SD 0 Equal LSL	Sigma			PASS
v28 - SD 0 Equal LSL	CP			PASS
v28 - SD 0 Equal LSL	O < LWL%	100	100	PASS
v28 - SD 0 Equal LSL	O < LWL ppm	1000000	1000000	PASS
v28 - SD 0 Equal LSL	C < LWL%			PASS
v28 - SD 0 Equal LSL	C < LWL ppm			PASS
v28 - SD 0 Equal LSL	O < LCL%	100	100	PASS
v28 - SD 0 Equal LSL	O < LCL ppm	1000000	1000000	PASS
v28 - SD 0 Equal LSL	C < LCL%			PASS
v28 - SD 0 Equal LSL	C < LCL ppm			PASS
v29 - SD 0 Calc Limits	N	100	100	PASS
v29 - SD 0 Calc Limits	T-Dev			PASS
v29 - SD 0 Calc Limits	S-pop	0	0	PASS
v29 - SD 0 Calc Limits	C-SD	0	0	PASS
v29 - SD 0 Calc Limits	S-mr	0	0	PASS
v29 - SD 0 Calc Limits	Max	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	Avg + 4S	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	Avg + 3S	1499.99	1499.99	PASS

v29 - SD 0 Calc Limits	Avg + 1.5S	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	Avg	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	C-AVG	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	Avg - 1.5S	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	Avg - 3S	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	Avg - 4S	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	Min	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	M	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	OS%			PASS
v29 - SD 0 Calc Limits	OSppm			PASS
v29 - SD 0 Calc Limits	CS%			PASS
v29 - SD 0 Calc Limits	CSppm			PASS
v29 - SD 0 Calc Limits	Cr			PASS
v29 - SD 0 Calc Limits	Tz			PASS
v29 - SD 0 Calc Limits	Cpk			PASS
v29 - SD 0 Calc Limits	%CV	0	0	PASS
v29 - SD 0 Calc Limits	R-AVG	0	0	PASS
v29 - SD 0 Calc Limits	R-UCL	0	0	PASS
v29 - SD 0 Calc Limits	R-UWL	0	0	PASS
v29 - SD 0 Calc Limits	R-LWL	0	0	PASS
v29 - SD 0 Calc Limits	Rule			PASS
v29 - SD 0 Calc Limits	Sum	149999	149999	PASS
v29 - SD 0 Calc Limits	LV	1499.99	1499.99	PASS
v29 - SD 0 Calc Limits	Sigma			PASS
v29 - SD 0 Calc Limits	CP			PASS
v29 - SD 0 Calc Limits	O < LWL%			PASS
v29 - SD 0 Calc Limits	O < LWL ppm			PASS
v29 - SD 0 Calc Limits	C < LWL%			PASS
v29 - SD 0 Calc Limits	C < LWL ppm			PASS
v29 - SD 0 Calc Limits	O < LCL%			PASS
v29 - SD 0 Calc Limits	O < LCL ppm			PASS
v29 - SD 0 Calc Limits	C < LCL%			PASS
v29 - SD 0 Calc Limits	C < LCL ppm			PASS
Passed: 1107	**Failed**: 0	**Formatting**: 0		

Known Issues with This Release

QW 5.00.0628 addresses all known issues reported since the last general release (QW 5.00.0531) with the exception of:

1. Printing charts under Windows ME
2. This version of QW5.0 runs under Asian versions of Windows. However, data entered using the Asian double character set is not supported.

Busitech is choosing to go forward with this release of QW 5 to replace the previous version due to significant advantages of this release. Any outstanding items will be prioritized and scheduled for the next or future release of QW 5.

The purpose of listing any known discrepancies is to ensure that:

1. The customer understands these discrepancies and properly considers them in their application.
2. Busitech has documentation on current versions discrepancies that will be prioritized and scheduled for the next of future release of QW 5.

Performance Qualification –PQ - not applicable or by Customer if needed.

QW 5.0 version 5.00.0628 has been properly tested and checked as per the validation protocol. All results match success criteria. All known issues have been identified and communicated to Busitech technical resources to be resolved by the next release.

Validated by:

Noel Windle
Busitech Validation Leader

We indicate that we have reviewed the information and concur with the indicated decision to consider QW 5.0 version 5.00.0628 IQ/OQ validated.

Ray St Denis
Busitech
Technical Director

Date: May 9, 2005