

**Bulk Calculations –
Solution
BCS 10B**

Release Notes
Maintenance Level 02

Listing of delivery content
shipped with BCS CSP02

Notes:

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Introduction

As described in the BCS 10B Release Notes for maintenance level 00 http://www.quantityware.com/data/BCS_10B_ReleaseNotes_00.pdf, the QuantityWare products BCP and BCG are technically delivered in a single package via a single component BCS (Bulk Calculations – Solution).

The BCS 10B Release Notes for maintenance level 01 (CSP01) can be found here: http://www.quantityware.com/data/BCS_10B_ReleaseNotes_01.pdf

In this document we described the functional and usability enhancements that will be delivered with BCS CSP02.

Planned delivery of CSP02 for BCS 10B on ERP 6.0 is 31/12/2012.

Application and Usage Specific Features

CTP & CTG: Two New Products

Understanding the Energy Industries' needs and requirements, QuantityWare will be releasing two new products:

- Compliance & Transparency - Petroleum (CTP)
- Compliance & Transparency - Gas (CTG)

These products will be delivered in December 2012 as a part of the Bulk Calculations - Solution (BCS) component support package 02.

Designed exclusively for "installed base" SAP Oil & Gas customers utilizing existing quantity conversion calculation methods such as "ASTM/API executables" or in-house developments, CTP and CTG allow customers to:

- Define, manage, execute and analyze reference bulk quantity calculation scenarios in all their SAP Oil & Gas ERP systems
- Enable access to some of the most powerful calculation & documentation tools available within the proven QuantityWare Measurement Cockpits for both petroleum (including associated liquid products) and gas products.

These features provide business organizations with reassurance as to the fulfillment of their legal and contractual responsibilities, while providing their GRC-authorities with a comfortable, flexible, accurate and reliable tool which:

- Allows corporations to demonstrate Governance of the most essential of all topics for an energy company - bulk quantity conversions in a truly transparent manner
- Allows Risk assessment of calculation changes and possible differences, as well as actively mitigating certain existing risks
- Allows Compliance to business-defined calculation requirements to be assessed and reported "in-system".

The original product announcement can be found here:

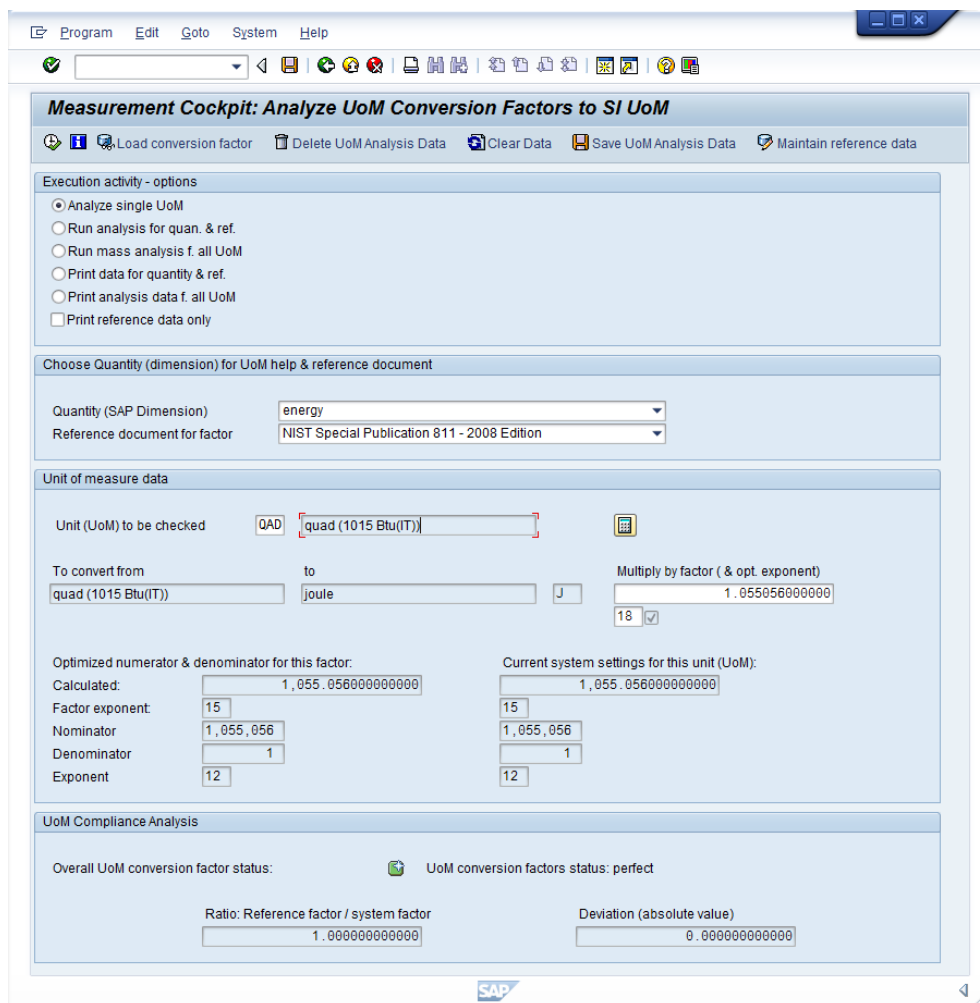
http://www.quantityware.com/_data/NI_CTP_and_CTG_announcement.pdf

BCP/CTP & BCG/CTG Functionality

The Petroleum Measurement Cockpit (PMC for BCP & CTP) and Gas Measurement Cockpit (GMC for BCG & CTG) are the single access point to BCP,CTP, BCG and CTG functionality for your petroleum and gas measurement experts. The following PMC and GMC enhancements are delivered with BCS CSP02.

New UoM Compliance Analysis Tool and Test

The UoM Compliance Tool enables definition of validated UoM conversion factors, which are defined in measurement standards as well as manual or automated comparison of the validated reference conversion factors with your system settings. QuantityWare delivers more than 500 validated UoM reference conversion factors as part of the BCS template BC sets for all four products.

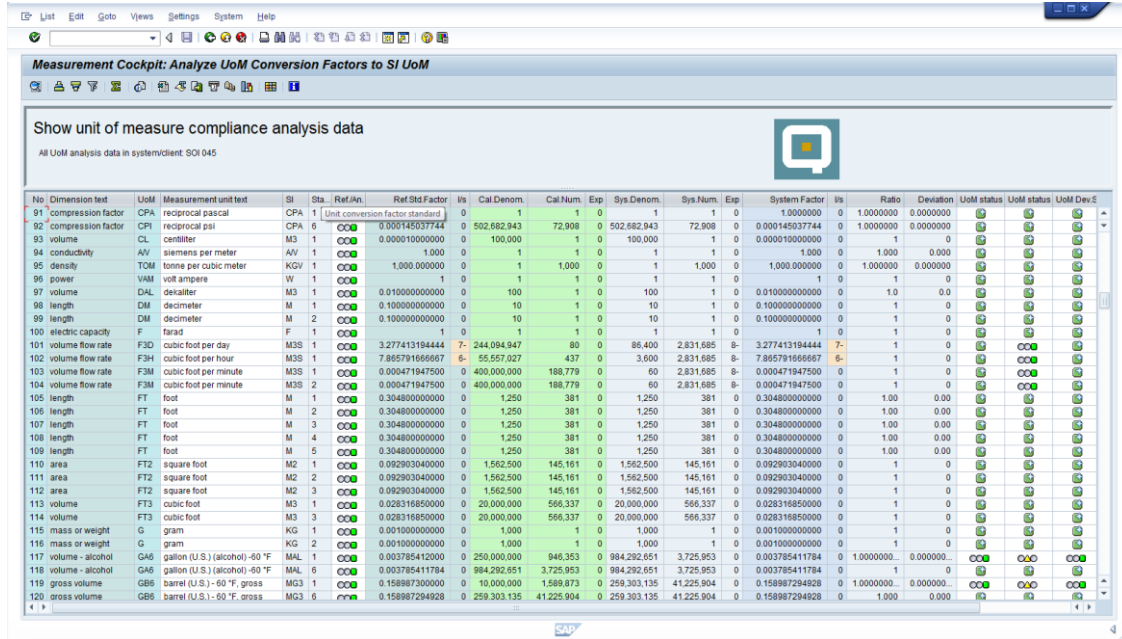


The screenshot shows the SAP Measurement Cockpit interface for analyzing UoM conversion factors. The title bar reads "Measurement Cockpit: Analyze UoM Conversion Factors to SI UoM". The interface includes a menu bar (Program, Edit, Goto, System, Help) and a toolbar with various icons. Below the title bar, there are several sections:

- Execution activity - options:** A list of radio buttons and checkboxes for different analysis options:
 - Analyze single UoM
 - Run analysis for quan. & ref.
 - Run mass analysis f. all UoM
 - Print data for quantity & ref.
 - Print analysis data f. all UoM
 - Print reference data only
- Choose Quantity (dimension) for UoM help & reference document:** Two dropdown menus:
 - Quantity (SAP Dimension): energy
 - Reference document for factor: NIST Special Publication 811 - 2008 Edition
- Unit of measure data:** A section for defining conversion parameters:
 - Unit (UoM) to be checked: QAD quad (1015 Btu(IT))
 - To convert from: quad (1015 Btu(IT))
 - to: joule
 - Multiply by factor (& opt. exponent): 1.05505600000000
 - Exponent: 18
- Optimized numerator & denominator for this factor:** A table comparing calculated values with current system settings:

Parameter	Calculated	Current system settings for this unit (UoM)
Factor exponent	15	15
Nominator	1,055,056	1,055,056
Denominator	1	1
Exponent	12	12
- UoM Compliance Analysis:** Summary of the analysis results:
 - Overall UoM conversion factor status: UoM conversion factors status: perfect
 - Ratio: Reference factor / system factor: 1.000000000000
 - Deviation (absolute value): 0.000000000000

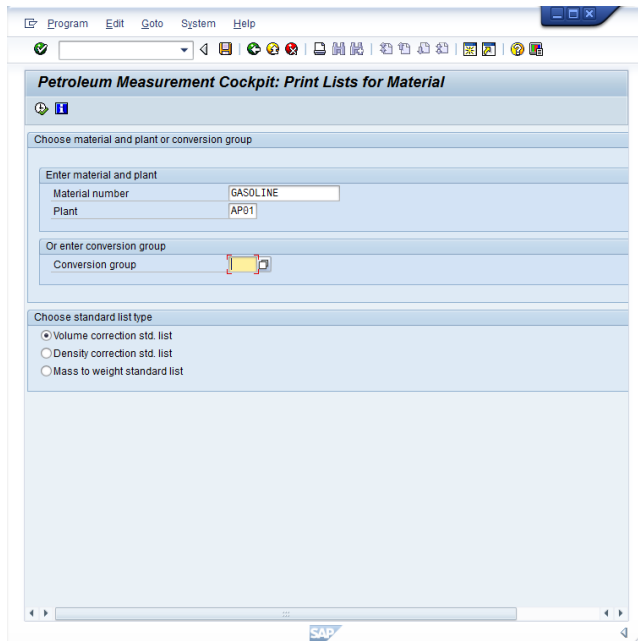
You achieve 100% compliance in this important area of quantity conversion configurations with the UoM Compliance Analysis Test Report:



No.	Dimension test	UoM	Measurement unit test	SI	Sta.	Ref. (in)	Ref. (SI) Factor	UoM	Cal. Denom.	Cal. Num.	Exp.	Sys. Denom.	Sys. Num.	Exp.	System Factor	UoM	Ratio	Deviation	UoM status	UoM status	UoM Dev.
91	compression factor	CPA	reciprocal pascal	CPA	1	Unit conversion factor standard	0	502.682.943	72.908	1	0	502.682.943	72.908	0	0.000145037744	0	1.0000000	0.0000000	OK	OK	OK
92	compression factor	CPA	reciprocal psi	CPA	6	0.000145037744	0	100.000	1	0	0	100.000	1	0	0.000010000000	0	1.0000000	0.0000000	OK	OK	OK
93	volume	CL	centiliter	M3	1	0.000010000000	0	100.000	1	0	0	100.000	1	0	0.000010000000	0	1.0000000	0.0000000	OK	OK	OK
94	conductivity	AVV	siemens per meter	AVV	1	1.000	0	1	1	0	0	1	1	0	1.000	0	1.0000000	0.0000000	OK	OK	OK
95	density	TOM	tonne per cubic meter	KGV	1	1.000	0	1	1.000	0	0	1.000	0	0	1.0000000	0	1.0000000	0.0000000	OK	OK	OK
96	power	VAM	volt ampere	W	1	1.000	0	1	1	0	0	1	1	0	1.000	0	1.0000000	0.0000000	OK	OK	OK
97	volume	DAL	dekiliter	M3	1	0.100000000000	0	100	1	0	0	100	1	0	0.100000000000	0	1.0000000	0.0000000	OK	OK	OK
98	length	DM	decimeter	M	1	0.100000000000	0	10	1	0	0	10	1	0	0.100000000000	0	1.0000000	0.0000000	OK	OK	OK
99	length	DM	decimeter	M	2	0.100000000000	0	10	1	0	0	10	1	0	0.100000000000	0	1.0000000	0.0000000	OK	OK	OK
100	electric capacity	F	farad	F	1	1.000	0	1	1	0	0	1	1	0	1.000	0	1.0000000	0.0000000	OK	OK	OK
101	volume flow rate	F3D	cubic foot per day	M3S	1	3.277413194444	7	244.094.947	80	0	0	86.400	2.831.685	8	3.277413194444	7	1.0000000	0.0000000	OK	OK	OK
102	volume flow rate	F3H	cubic foot per hour	M3S	1	7.865791666667	6	55.557.027	437	0	0	3.600	2.831.685	8	7.865791666667	6	1.0000000	0.0000000	OK	OK	OK
103	volume flow rate	F3M	cubic foot per minute	M3S	1	0.000471947500	0	400.000.000	188.779	0	0	60	2.831.685	8	0.000471947500	0	1.0000000	0.0000000	OK	OK	OK
104	volume flow rate	F3M	cubic foot per minute	M3S	2	0.000471947500	0	400.000.000	188.779	0	0	60	2.831.685	8	0.000471947500	0	1.0000000	0.0000000	OK	OK	OK
105	length	FT	foot	M	1	0.304800000000	0	1.250	381	0	0	1.250	381	0	0.304800000000	0	1.0000000	0.0000000	OK	OK	OK
106	length	FT	foot	M	2	0.304800000000	0	1.250	381	0	0	1.250	381	0	0.304800000000	0	1.0000000	0.0000000	OK	OK	OK
107	length	FT	foot	M	3	0.304800000000	0	1.250	381	0	0	1.250	381	0	0.304800000000	0	1.0000000	0.0000000	OK	OK	OK
108	length	FT	foot	M	4	0.304800000000	0	1.250	381	0	0	1.250	381	0	0.304800000000	0	1.0000000	0.0000000	OK	OK	OK
109	length	FT	foot	M	5	0.304800000000	0	1.250	381	0	0	1.250	381	0	0.304800000000	0	1.0000000	0.0000000	OK	OK	OK
110	area	FT2	square foot	M2	1	0.092903040000	0	1.562.500	145.161	0	0	1.562.500	145.161	0	0.092903040000	0	1.0000000	0.0000000	OK	OK	OK
111	area	FT2	square foot	M2	2	0.092903040000	0	1.562.500	145.161	0	0	1.562.500	145.161	0	0.092903040000	0	1.0000000	0.0000000	OK	OK	OK
112	area	FT2	square foot	M2	3	0.092903040000	0	1.562.500	145.161	0	0	1.562.500	145.161	0	0.092903040000	0	1.0000000	0.0000000	OK	OK	OK
113	volume	FT3	cubic foot	M3	1	0.028316850000	0	20.000.000	566.337	0	0	20.000.000	566.337	0	0.028316850000	0	1.0000000	0.0000000	OK	OK	OK
114	volume	FT3	cubic foot	M3	3	0.028316850000	0	20.000.000	566.337	0	0	20.000.000	566.337	0	0.028316850000	0	1.0000000	0.0000000	OK	OK	OK
115	mass or weight	G	gram	KG	1	0.001000000000	0	1.000	1	0	0	1.000	1	0	0.001000000000	0	1.0000000	0.0000000	OK	OK	OK
116	mass or weight	G	gram	KG	2	0.001000000000	0	1.000	1	0	0	1.000	1	0	0.001000000000	0	1.0000000	0.0000000	OK	OK	OK
117	volume - alcohol	G46	gallon (U.S.) (alcohol) -60 °F	MAL	1	0.003785411784	0	250.000.000	945.353	0	0	984.292.651	3.725.953	0	0.003785411784	0	1.0000000	0.0000000	OK	OK	OK
118	volume - alcohol	G46	gallon (U.S.) (alcohol) -60 °F	MAL	6	0.003785411784	0	984.292.651	3.725.953	0	0	984.292.651	3.725.953	0	0.003785411784	0	1.0000000	0.0000000	OK	OK	OK
119	gross volume	GB6	barrel (U.S.) - 60 °F, gross	MG3	1	0.158987294528	0	10.000.000	1.589.873	0	0	259.303.135	41.225.904	0	0.158987294528	0	1.0000000	0.0000000	OK	OK	OK
120	gross volume	GB6	barrel (U.S.) - 60 °F, gross	MG3	6	0.158987294528	0	259.303.135	41.225.904	0	0	259.303.135	41.225.904	0	0.158987294528	0	1.0000000	0.0000000	OK	OK	OK

Standard Lists for Materials

For your material at plant level, you are now able to determine the assigned volume correction standard list and mass-to-weight standard list directly, you simply enter the material and plant and decide which list type you wish to print, and the system automatically determines the correct lists for the material and plant:



Petroleum Measurement Cockpit: Print Lists for Material

Choose material and plant or conversion group

Enter material and plant

Material number: GASOLINE

Plant: AP01

Or enter conversion group

Conversion group: [Icon]

Choose standard list type

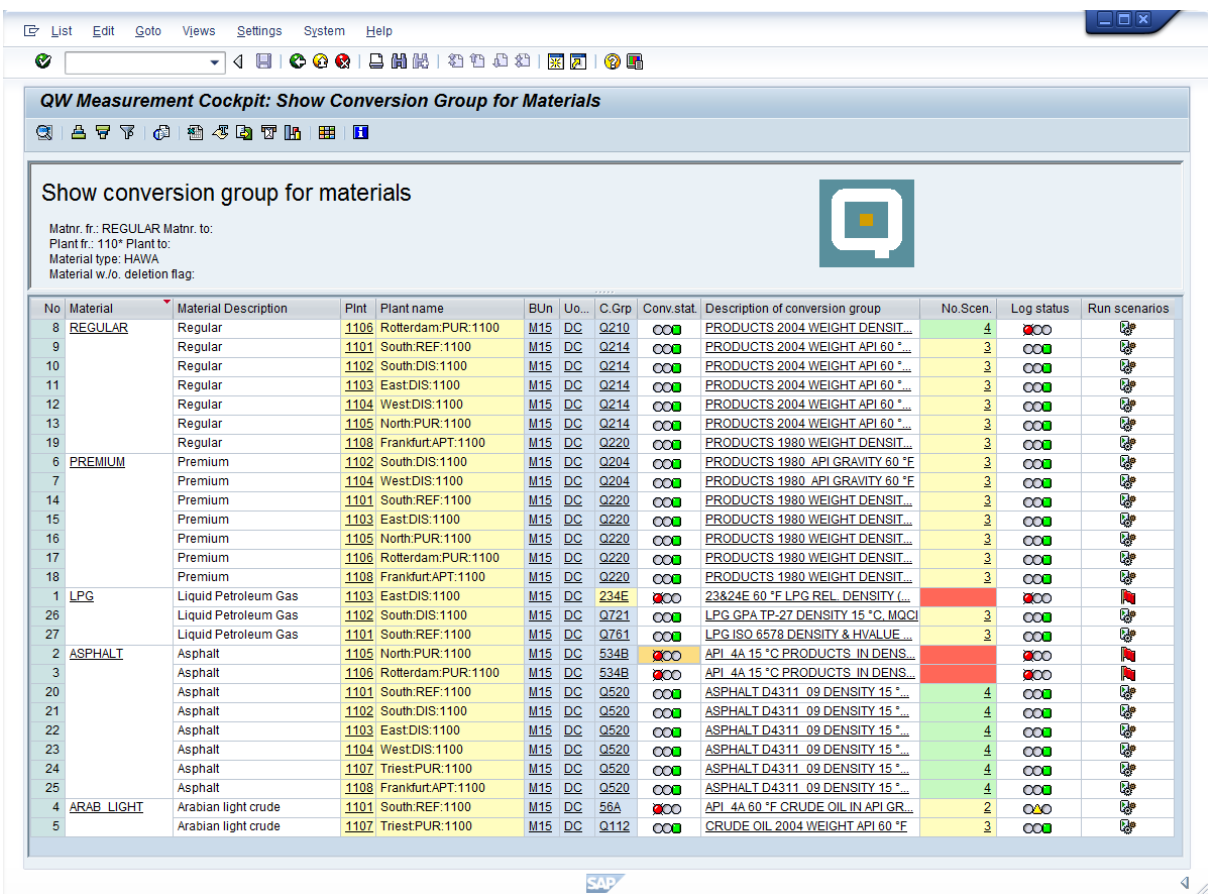
Volume correction std. list

Density correction std. list

Mass to weight standard list

Enhanced Material/Plant/Conversion Group Reporting

Via the central product assignment report, you display for your bulk oil & gas materials the assignment of conversion groups to materials and plants. With CSP02, the QuantityWare test scenario tools and the extended conversion group checks are now tightly integrated into this report. Once you have selected for a range of materials the conversion group assignments, the conversion group status and the test scenario status is readily available to the Petroleum or Gas Measurement Specialist, who is responsible for the correctness of production quantity conversions; navigation to all status details is available with one click, as well as navigation to display the material master and relevant material movement document (if authority is assigned). Test scenarios can be executed directly from this comprehensive overview list, such that a complete status for all quantity conversion calculations in production is readily available:



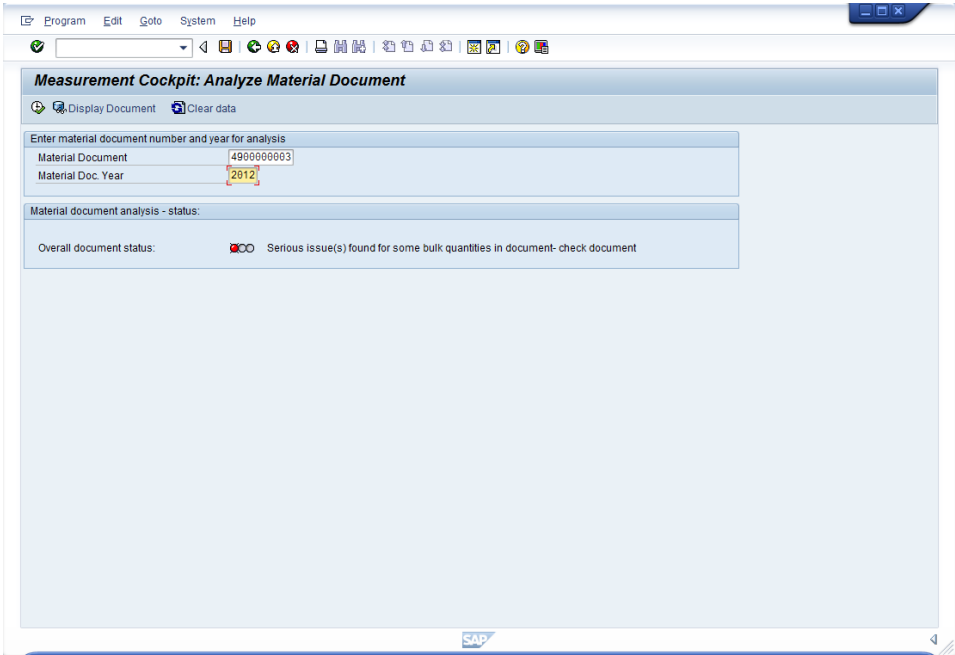
QW Measurement Cockpit: Show Conversion Group for Materials

Matnr. fr.: REGULAR Matnr. to:
Plant fr.: 110* Plant to:
Material type: HAWA
Material w.o. deletion flag:

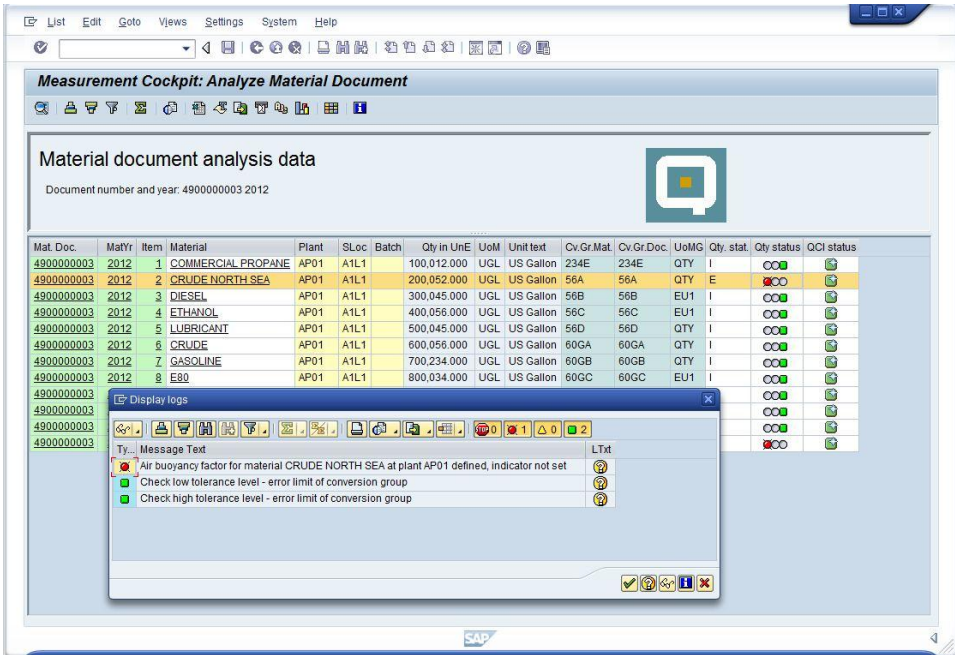
No	Material	Material Description	Plnt	Plant name	BUn	Uo...	C.Grp	Conv.stat.	Description of conversion group	No.Scen.	Log status	Run scenarios
8	REGULAR	Regular	1106	Rotterdam:PUR:1100	M15	DC	Q210	OO	PRODUCTS 2004 WEIGHT DENSIT...	4	OO	OO
9		Regular	1101	South:REF:1100	M15	DC	Q214	OO	PRODUCTS 2004 WEIGHT API 60 *...	2	OO	OO
10		Regular	1102	South:DIS:1100	M15	DC	Q214	OO	PRODUCTS 2004 WEIGHT API 60 *...	3	OO	OO
11		Regular	1103	East:DIS:1100	M15	DC	Q214	OO	PRODUCTS 2004 WEIGHT API 60 *...	3	OO	OO
12		Regular	1104	West:DIS:1100	M15	DC	Q214	OO	PRODUCTS 2004 WEIGHT API 60 *...	3	OO	OO
13		Regular	1105	North:PUR:1100	M15	DC	Q214	OO	PRODUCTS 2004 WEIGHT API 60 *...	3	OO	OO
19		Regular	1108	Frankfurt:APT:1100	M15	DC	Q220	OO	PRODUCTS 1980 WEIGHT DENSIT...	3	OO	OO
6	PREMIUM	Premium	1102	South:DIS:1100	M15	DC	Q204	OO	PRODUCTS 1980 API GRAVITY 60 *F	3	OO	OO
7		Premium	1104	West:DIS:1100	M15	DC	Q204	OO	PRODUCTS 1980 API GRAVITY 60 *F	3	OO	OO
14		Premium	1101	South:REF:1100	M15	DC	Q220	OO	PRODUCTS 1980 WEIGHT DENSIT...	3	OO	OO
15		Premium	1103	East:DIS:1100	M15	DC	Q220	OO	PRODUCTS 1980 WEIGHT DENSIT...	3	OO	OO
16		Premium	1105	North:PUR:1100	M15	DC	Q220	OO	PRODUCTS 1980 WEIGHT DENSIT...	3	OO	OO
17		Premium	1106	Rotterdam:PUR:1100	M15	DC	Q220	OO	PRODUCTS 1980 WEIGHT DENSIT...	3	OO	OO
18		Premium	1108	Frankfurt:APT:1100	M15	DC	Q220	OO	PRODUCTS 1980 WEIGHT DENSIT...	3	OO	OO
1	LPG	Liquid Petroleum Gas	1103	East:DIS:1100	M15	DC	234E	OO	23&24E 60 *F LPG REL. DENSITY (...)	3	OO	OO
26		Liquid Petroleum Gas	1102	South:DIS:1100	M15	DC	Q721	OO	LPG GPA TP-27 DENSITY 15 *C. MQCI	3	OO	OO
27		Liquid Petroleum Gas	1101	South:REF:1100	M15	DC	Q761	OO	LPG ISO 6578 DENSITY & HVALUE...	3	OO	OO
2	ASPHALT	Asphalt	1105	North:PUR:1100	M15	DC	534B	OO	API 4A 15 *C PRODUCTS IN DENS...	4	OO	OO
3		Asphalt	1106	Rotterdam:PUR:1100	M15	DC	534B	OO	API 4A 15 *C PRODUCTS IN DENS...	4	OO	OO
20		Asphalt	1101	South:REF:1100	M15	DC	Q520	OO	ASPHALT D4311_09 DENSITY 15 *...	4	OO	OO
21		Asphalt	1102	South:DIS:1100	M15	DC	Q520	OO	ASPHALT D4311_09 DENSITY 15 *...	4	OO	OO
22		Asphalt	1103	East:DIS:1100	M15	DC	Q520	OO	ASPHALT D4311_09 DENSITY 15 *...	4	OO	OO
23		Asphalt	1104	West:DIS:1100	M15	DC	Q520	OO	ASPHALT D4311_09 DENSITY 15 *...	4	OO	OO
24		Asphalt	1107	Triest:PUR:1100	M15	DC	Q520	OO	ASPHALT D4311_09 DENSITY 15 *...	4	OO	OO
25		Asphalt	1108	Frankfurt:APT:1100	M15	DC	Q520	OO	ASPHALT D4311_09 DENSITY 15 *...	4	OO	OO
4	ARAB_LIGHT	Arabian light crude	1101	South:REF:1100	M15	DC	56A	OO	API 4A 60 *F CRUDE OIL IN API GR...	2	OO	OO
5		Arabian light crude	1107	Triest:PUR:1100	M15	DC	Q112	OO	CRUDE OIL 2004 WEIGHT API 60 *F	3	OO	OO

New Business Document Analysis Tool

You can now analyze your business documents (material documents, physical inventory document, deliveries) via the PMC or GMC: Your inventory manager reports that a customer has issued a complaint which he traced back to a material document. You enter the material document number and year and simply press the “Return” key. The overall analysis result is immediately displayed:



If issues are found, you select “Execute” (F8) and a detailed analysis list is displayed:



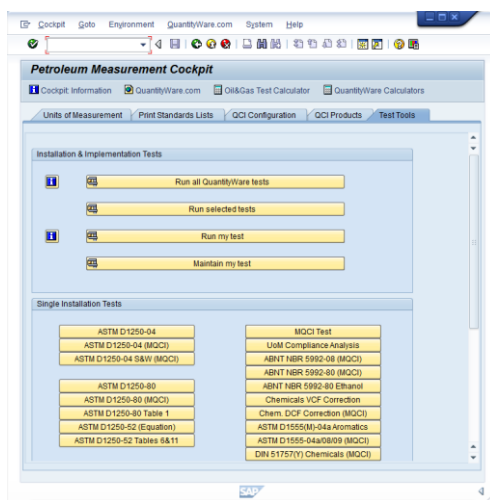
BCP/CTP & BCG/CTG Usability

Reflecting the constructive and important feedback from customers and consultants who work with the Petroleum and Gas Measurement Cockpit, the following PMC and GMC usability enhancements are delivered with BCS CSP02:

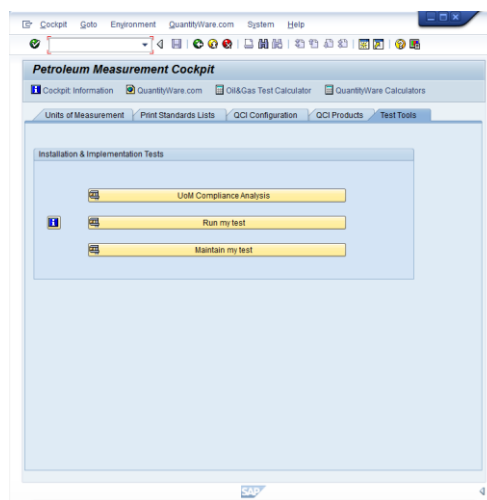
Enhanced Usability

PMC and GMC functions which are only relevant in client 045 are not visible in other clients, simplifying the user experience:

Template Client (045)



Non-Template Client



License Validity Reporting

New license expiration messages within the PMC or GMC (made available as pre-shipment with QuantityWare note 000040)

Customizing Transport Optimization

Automatic inclusion of complete conversion group customizing into one customizing transport via PMC or GMC (made available as pre-shipment with QuantityWare note 000040)

CTS Tool Renovation

Harmonization of all transport collection tools (Usage of customizing requests and standard SAP dialog, also for test scenarios/ made available as pre-shipment with QuantityWare note 000040)

Enhanced Measurement Cockpit Navigation

Improved – direct - navigation between PMC and GMC functions

BCP and BCG Corrections

QuantityWare notes 000036, 37, 38, 39, 40, 41, 42 and 43 are contained in CSP02:

Note Number	Short Text	Link
000036	BCG 10B Gas Property Calculator ignores UoM conversion	http://www.quantityware.com/_data/note-000036.pdf
000037	BCS 10B QuantityWare BC set UoM definitions	http://www.quantityware.com/_data/note-000037.pdf
000038	BCP 10B ASTM D4311-04 incorrect list printing	http://www.quantityware.com/_data/note-000038.pdf
000039	BCS 10B Advanced Development – Conversion Group Transport Builder	http://www.quantityware.com/_data/note-000039.pdf
000040	BCS 10B Harmonization of Transport Collection Tools/License Warning	http://www.quantityware.com/_data/note-000040.pdf
000041	BCS 10B Short Dump during PDF List Printing	http://www.quantityware.com/_data/note-000041.pdf
000042	BCS 10B ASTM D633-2011: User Interface (UI) confirmation/Linear model list printing correction	http://www.quantityware.com/_data/note-000042.pdf
000043	BCS 10B Gas Measurement Cockpit – minor corrections	http://www.quantityware.com/_data/note-000043.pdf

In addition to these corrections and advanced developments - delivered already as individual notes - the following corrections within the PMC and GMC are provided:

- ➔ The performance of the central material/plant/conversion group analysis report (access via PMC or GMC -> “Conversion group for materials”) has been enhanced – new join-select statements to directly select all relevant MARC table entries for bulk materials

- ➔ Functions /QTYW/BCP_CALC_CTPL, /QTYW/BCP_CALC_CTPL_CHEM and /QTYW/BCP_CALC_LPG: New result parameters VCF1 and VCF2 have been added, such that SAP QCI conversion group calculations also provide a VCF “observed to base” as additional result

- The ASTM Table 1 print has been enhanced. ASTM Table 1 (2008) provides factors with up to 10 decimal places; up until this correction, the display was restricted to 8 decimals
- Removal of several STOP statements during ALV list details display. If a configuration issue is reported via a warning “W” or information “I” message in the ALV lists, a short dump may occur due to an incorrect STOP statement which cannot be processed in that ALV context

Summary

The release of CSP02 marks an important step in the usability of the QuantityWare solution and its support of efforts to apply GRC and transparency principles to an unassuming but vital area of corporate business. The fundamental responsibilities of transparency and reliability are often not visibly demonstrated in this area, however if the bulk calculations figures are not transparently calculated and explainable, the entire business construct of financial accounting and its associated GRC efforts has a structural weakness which could result in extensive losses, in revenue and corporate respectability.