Completion Services

Release notes

CSD (Completion String Design) version 8

Introduction

CSD has been in use at major oil companies since 1992 which means that we just celebrated the 20th anniversary of the software. New versions have been released periodically over the years and in May 2013 version 8 will be released. Our goal is, as always, to make the software as user friendly as possible but at the same time allow the users to be able to create well schematics with all the details that are necessary. In this document you will find information about some of the new features – get in touch on info@csd.as if you have any questions or comments.

Below is a screenshot from CSD version 3.0 from 1994/1995. As you can see we have stuck to our concept but we have come a long way by making the application a lot easier to use and by adding more useful functionality.

Dynamic attributes

One challenge in previous versions of CSD has been that some elements in the string change status from time to time. This can be a one-time incident (e.g. a disappearing plug) or something that is repeated several times (e.g. a sliding sleeve that is open or closed). In the past this has been solved by putting information into the Comment column in CSD but still the symbol in the schematic could lead to misunderstandings. This has now been solved with the new feature "**Dynamic attribute**". The administrator in CSD will now be able to define which of the symbols that should have a Dynamic attribute and it will be flexible. Any symbol can be defined as a dynamic attribute symbol, it will be possible to set up as many values as needed and each of the values can have a separate symbol.

Take sliding sleeve as an example. This can be defined as dynamic attribute symbol and the administrator will define that it can have values Open or Closed. Each of values will be connected to a symbol. When the user highlights a sliding sleeve in the schematic, he/she will get an option in the Properties dialog as seen below.
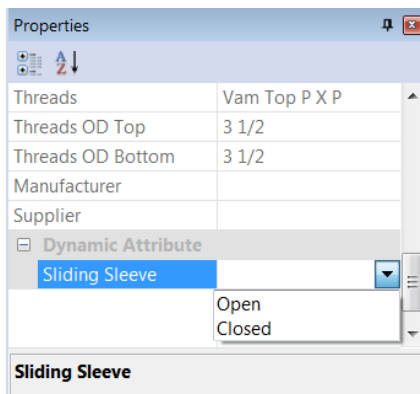
When the sliding sleeve is open it can look like this:
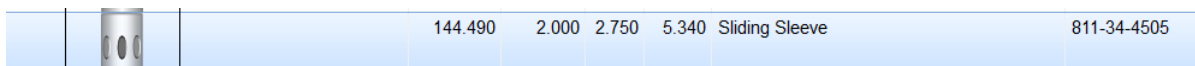
When it is closed it can have a different symbol to indicate to the users that the status has changed:
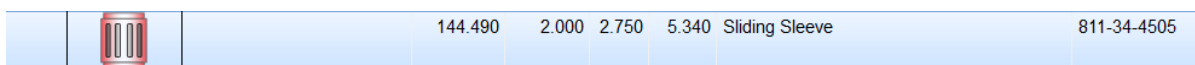
Get in touch with us when CSD version 8 has been installed and we will help you set this up for the various symbols.

Control line functionality

The control line functionality in CSD has been a bit too simple for advanced wells. In version 8 we have added more functionality and users will see these changed in the Control line dialog. The new features are:

- Position: choose if you want the control line on the left or right hand side

- Style: choose if you want the control line to be solid line, dash line etc

- Thickness: how thick should it be to be more visible on the schematic

- Color: choose which ever color you want

Together with "Connected to second element" we are sure that we will be able to fulfill most control line challenges that you may have experienced in CSD. If you need further functionality please let us know.
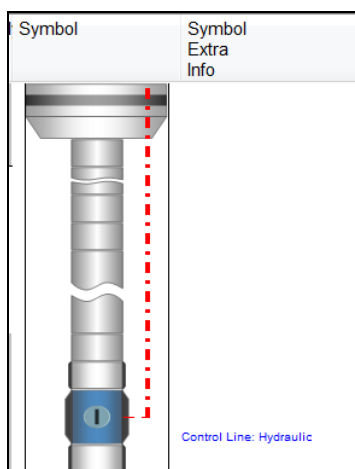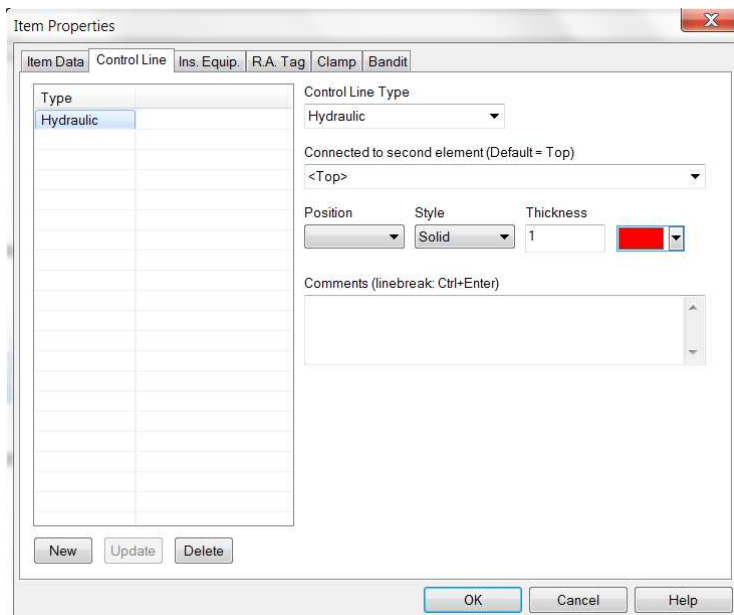
Report templates – fully customizable CSD report headers

The layout of the report of a schematic in CSD has not changed that much over the years. We have gotten feedbacks that different companies would like to see different information in the report heading but until now this has been very static. But in version 8 we have made the headers and the report customizable and this means that you have lots of option. Maybe you would like to have a larger cell for the company logo? Maybe you would like to have it in different colors? Maybe you would like to see other information in the report heading (e.g. max dogleg, water depth, top perforation depth etc). It will also be possible for us to put on watermarks and hence you can have a large "Plan" watermark on Planned drawings and a large "Actual" watermark on the final schematic.

Before version 8 the final schematic was known as "Existing" – this has now been made flexible so if you want to use terminology like "Final", "As run" or "Actual" we can fix this.

Demo Field		Actual	Page: 1 / 3	Completion Services
Demo Well 1 (Main Wellbore)		Completion Report	Opr.Finish.Date: 01.10.2012	
Version: 1.02	Tub.Inst.Date: 01.09.2012		Revision: 1.00	Prep. By: Gard Karlsen
Rig: Ocean Rover	Status: Oil Producer		Last Update: 08.03.2013 04:42:09	
Comments: 8 to 12klbs overpull to close IB4 and snap-out BS1 collet shifter. Then, the seal assembly can be pulled out from PBR.				

The new report templates functionality also allows us to deal with another challenge: a company standard for schematics. When a user saves a schematic today this is automatically saved as an image and displayed in Cdim (the CSD web viewer). This means that different users saved schematics with different setups and it was not displayed in a uniform way in Cdim. We can now have a company standard template which will be used for Cdim and the user will be able to choose if he wants to print with the company setup or his/her personal setup.

Paste information

If you have a lot of information available in e.g Excel or txt format it can be useful to paste this information into CSD. Due to this we have made it possible to paste in information into Perforation and survey data dialogs. Use the button called Paste to paste in the information.

Add annotation

Add annotation has been added to make the Sketch in CSD even better. As before you can choose which elements that you want to see by using the toolbox. But you can also add additional information by clicking the right mouse button and choosing "Add annotation". The text that you type in will be placed according to the depth inserted in properties. You can also change the background color in Properties.

Note that codes have been introduced in Sketch. This means that you can use a code like <MD_TOP> instead of typing in the MD top depth in numbers. Other codes that are valid are: <DESCRIPTION>, <MD_BOTTOM>, <SIZE>, <TYPE>, <TVD_TOP> and <TVD_BOTTOM>. Additional ones can be made on request.
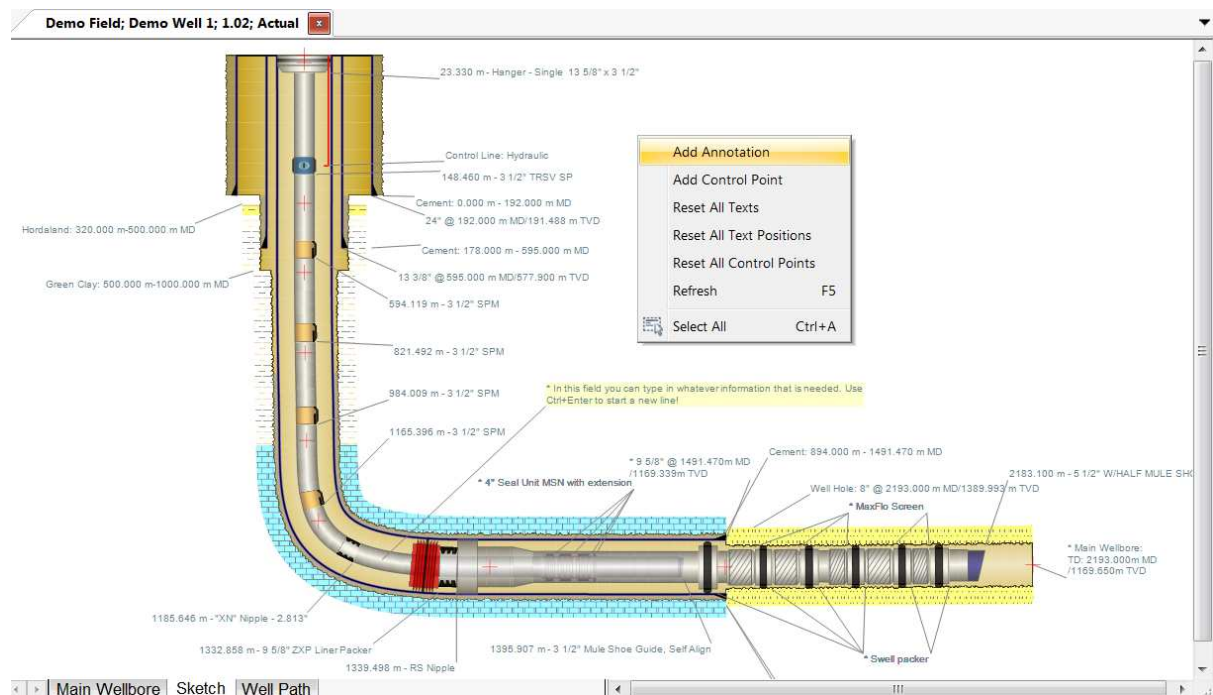
Improved integration possibilities

Some of the data in CSD are also stored in other databases. Due to this we have gotten requests regarding sharing of information and integration towards other applications. We have run a pilot project at Statoil to retrieve information from the drilling database and import this into CSD – the data in question is perforations, casings, wellhole etc. But it is also important to keep in mind that with CSD web services we are able to share CSD information with other systems and portals. Get in touch with us if you want to look into how we can integrate CSD with other applications in your company.

Improved Excel report functionality and accessibility

In version 8 of CSD the special reports will be listed in the new Explorer. We can make various special reports that retrieve information from the database and presents the data in Excel. Once you have produced the report once and saved it you can re-open this and the data will be refreshed.
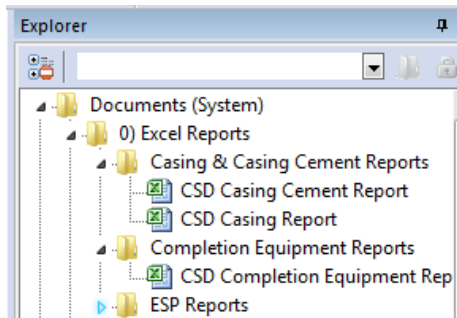
Additional features in version 7.8 and 7.9

- Improved built in, real time QA checklist regarding CSD completion schematics

- Logging of changes in CSD. In Options, Log you can see a log of what users have been doing from logging in to CSD , saving a schematic etc. But we also keep a copy of the entire schematic every time you save. This means that we can restore information if someone has tampered with your data

- New country level: if you have operations in several countries you can now group fields on a country level.
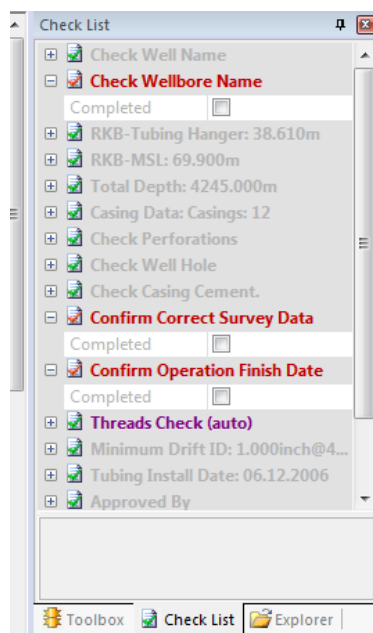
Planned release date for CSD 8.0 is May 17th, 2013.