

# StressCheck 5000.1

## Release Notes

***Landmark***

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**HALLIBURTON**

# Introduction

This document contains important information and last minute changes related to StressCheck 5000.1 that is not documented elsewhere. StressCheck is an application in the Engineer's Desktop 5000.1 release, which provides major new functionality in support of the Drilling and Completions applications on the shared EDM data model.

## System Requirements

For details, refer to the 'System Requirements' section of the *Engineer's Desktop 5000.1 Drilling Summary Level Release Notes*.

## Third Party Applications

Landmark uses various third-party applications in the development of its software.

Landmark acknowledges that certain third party code has been bundled with, or embedded in, Landmark's software. The licensors of this third party code, and the terms and conditions of their respective licenses, may be found at the following location:

[InstallDir]\Documentation\Third\_Party.pdf.

Refer to the *Engineer's Desktop 5000.1 Drilling Summary Level Release Notes* to view a table describing a complete list of the third-party applications that are in Engineer's Desktop Release 5000.1.

## International Trade Compliance

This application is manufactured or designed using U.S. origin technology and is therefore subject to the export control laws of the United States. Any use or further disposition of such items is subject to U.S. law. Exports from the United States and any re-export thereafter may require a formal export license authorization from the government. If there are doubts about the requirements of the applicable law, it is recommended that the buyer obtain qualified legal advice. These items cannot be used in the design, production, use, or storage of chemical, biological, or nuclear weapons, or missiles of any kind.

The ECCNs provided in Release Notes represent Landmark Graphics' opinion of the correct classification for the product today (based on the original software and/or original hardware). Classifications are subject to change. If you have any questions or need assistance please contact us at [FHOUEXP@halliburton.com](mailto:FHOUEXP@halliburton.com)

Under the U.S. Export Administration Regulations (EAR), the U.S. Government assigns your organization or client, as exporter/importer of record, responsibility for determining the correct authorization for the item at the time of export/import. Restrictions may apply to shipments based on the products, the customer, or the country of destination, and an export license may be required by the Department of Commerce prior to shipment. The U.S. Bureau of Industry and Security provides a website to assist you with determining the need for a license and with information regarding where to obtain help.

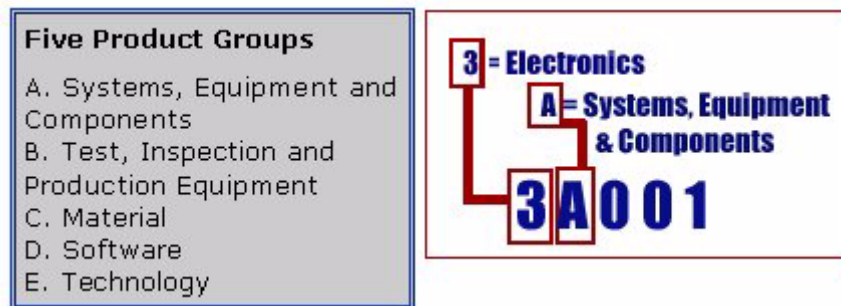
The URL is: <http://www.bis.doc.gov>

## Definitions

CCATS (Commodity Classification Automated Tracking System) - the tracking number assigned by the U.S. Bureau of Industry and Security (BIS) to products formally reviewed and classified by the government. The CCATS provides information concerning export/re-export authorizations, available exceptions, and conditions.

ECCN - Export Control Classification Number - The ECCN is an alpha-numeric code, e.g., 3A001, that describes a particular item or type of item, and shows the controls placed on that item. The CCL (Commerce Control List) is divided into ten broad categories, and each category is further subdivided into five product groups.

The CCL is available on the EAR Website at [http://www.access.gpo.gov/bis/ear/ear\\_data.html#ccl](http://www.access.gpo.gov/bis/ear/ear_data.html#ccl)



# Installation

Refer to the “Installation” section of the *Engineer’s Desktop 5000.1 Drilling Summary Level Release Notes*.

**IMPORTANT:**

- EDT 5000.1 is a new product. If you are currently using an EDM database version that is 2003.14 - 5000.0.0, you must install 5000.1, then upgrade your database using the new Multi-Version Database Upgrade Utility (EDMPatchDB.exe).
- EDT 5000.1 can co-exist with previous versions of EDT on the same machine. However, LAM 5000 will not co-exist with previous versions of LAM (FLEXlm license server) on the same machine. Previous versions of LAM must be uninstalled before you install the 5000.1 release. To run EDT 5000.1 and a previous version of the EDT applications on the same machine, you must point one or both versions of EDT to a LAM server located on a remote machine, since only one version of LAM can run locally.

Refer to the *EDT Drilling Installation Guide* for complete details.

## Licensing

There have been significant changes to licensing for the 5000.1 release. For details, refer to the Licensing section of the *Engineer's Desktop 5000.1 Drilling Summary Level Release Notes*.



## Database Upgrade (SQL Server 2005, SQL Server 2005 Express, and Oracle)

Refer to the “Upgrading the Database” section of the *Engineer’s Desktop 5000.1 Drilling Summary Level Release Notes* for information on upgrading your EDM database to the 5000.1 version.

**You must upgrade your existing EDM database(s) BEFORE using 5000.1**

You must upgrade versions of your database(s) created with earlier versions of the software before running the 5000.1 software.

## Enhancements and New Functionality

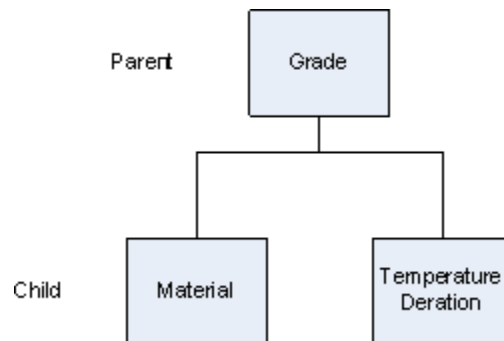
The 5000.1 release of Engineer's Desktop supports the Microsoft Vista operating system, has new LAM (FLEXnet Publisher) licensing—including the Mobile Checkout utility which gives you the ability to “borrow” a license for offsite work—and contains some critical bug fixes.

In addition, the following enhancements were added to the StressCheck 5000.1 release.

- Temperature Deration is now related as a child of Grade in the database. This accommodates changes to the Temperature Deration schedule for a Grade *without changing the Material*.
- Added Tubular Properties import/export logic, and custom Tubular Properties are now stored in inventories associated with each Design. Tubular Properties from a Design can now be exported/imported to the Well Explorer independently or as part of export/import of pipe/connections to catalogs
- Bug fixes from 2003.16.1.X patches have been rolled into this release

### ***Temperature Deration***

Temperature Deration is now a child of Grade instead of Material, so both Material and Temperature Deration are children of Grade. This allows changes to the Temperature Deration schedule for a Grade to be changed *without* changing the Material.



**Figure 1 :** Parent-Child Relationship of Grade, Material, Temperature Deration

### ***Import/Export Logic for Grades***

The logic used when exporting grades from the inventories to the EDM Tubular Properties or importing from the EDM Tubular Properties to the inventories has been enhanced. Also, inventories for Grades, Materials, and Temperature Deration have been added so that custom Tubular Properties do not clutter up the EDM database.

The figures below show the full logic applied to import/export of Pipes/Connections and associated Tubular Properties in several parts. Logic specified with dashed line borders will be implemented in future releases, but is not included with this release.

The operations that employ import/export logic are:

- Export/Import Strings (Pipe/Casing) and Connections
- Export/Import Grades, Materials, and Temperature Derations

Exporting/Importing Grades, Materials, and Temperature Derations follows the same logic as importing/exporting Strings.

Exporting/Importing Materials and Temperature Derations are done by association while exporting Grades.

Grade, Material, and Temperature Deration inventories are stored under Tubular menu options per Design so users can create the Tubular Properties in the Design without affecting common EDM Tubular Properties tables in the Well Explorer.

The logic checks for the existence of the Tubular Properties Name, Grade, Material, and Temperature Deration (when exporting Grades from inventories to EDM Tubular Properties, or importing from EDM Tubular Properties to the inventories). If the Name, Grade, Material, and/or Temperature Deration exist, the logic prevents creation of duplicates. If the Name, Grade, Material, and/or Temperature Deration do not exist, the Tubular Properties are created. If the Tubular Properties Name exists, but the Grade, Material, and/or Temperature Deration do not match, the export/import operation is stopped.

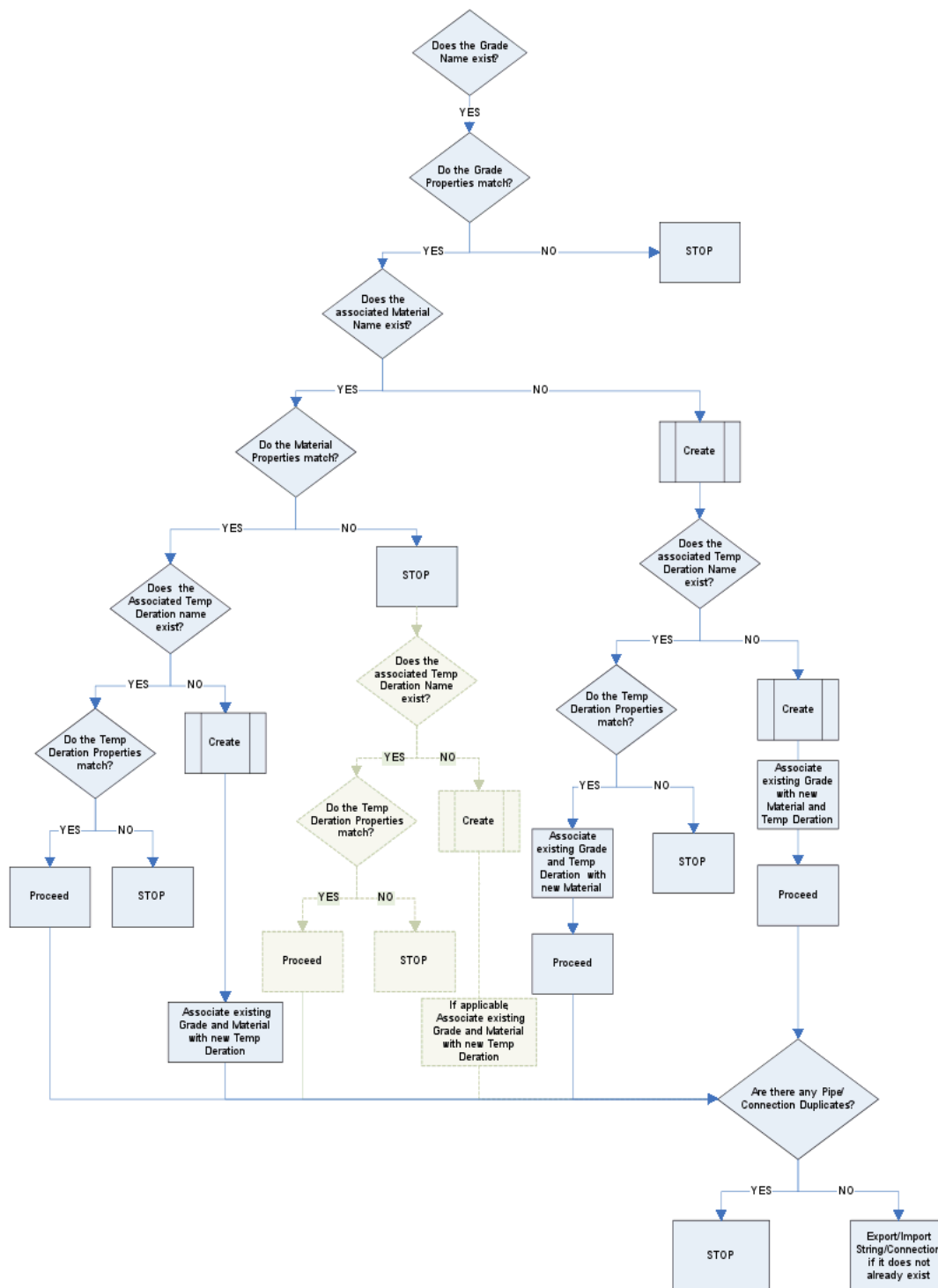
**Check existing Tubular Properties**

It is always a good practice prior to exporting/importing a string or connection, to check the contents of the common Grades/Materials/Temperature Derations in the Well Explorer and the Design.

For a full view of the logic applied to Export to Catalog and Import to Inventory operations, see the “Import from Catalog Dialog” topic in *StressCheck Help*.

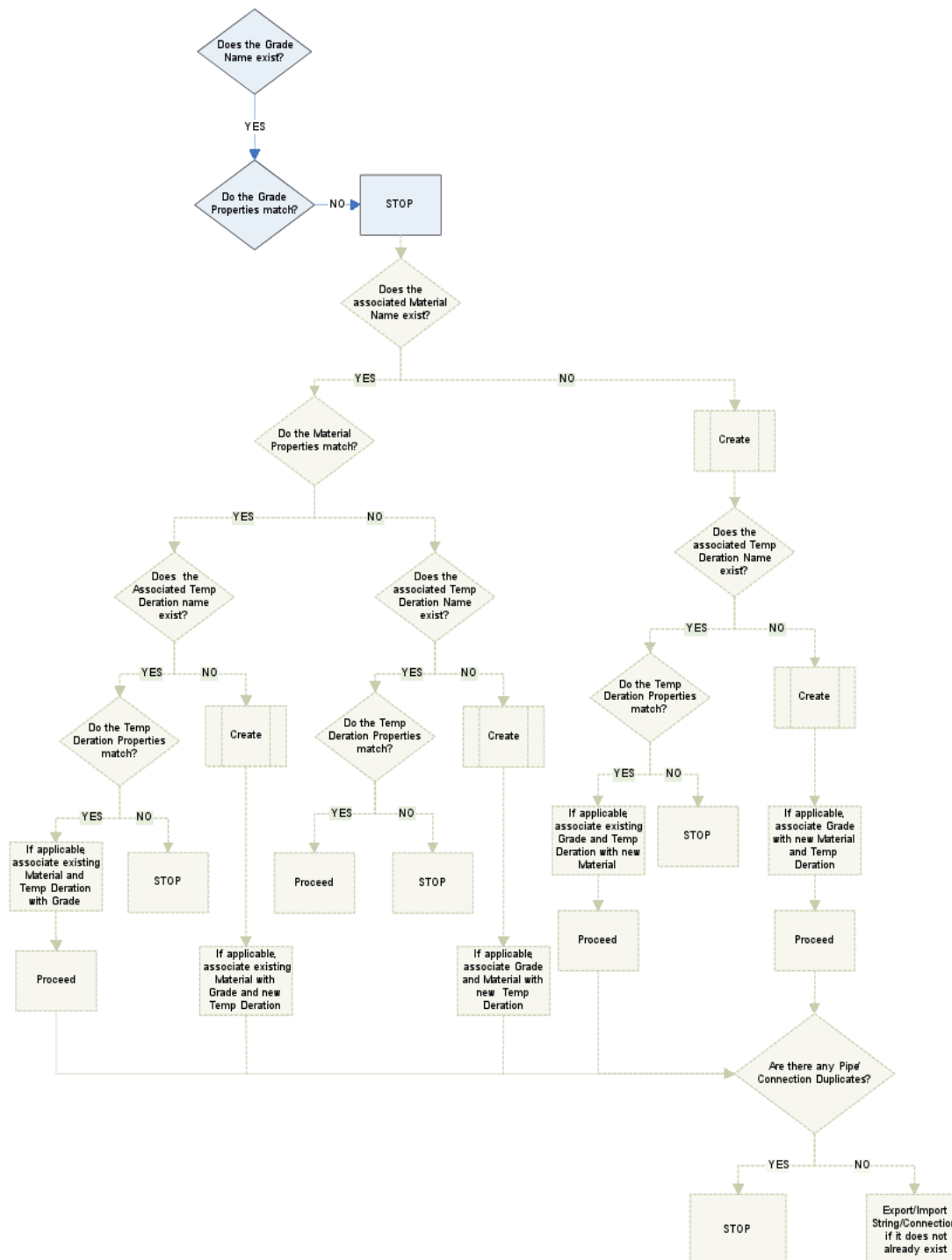
## Exporting/Importing Strings (Pipe/Casing) and Connections

The following shows a case where the Grade Name exists and Grade Properties match.



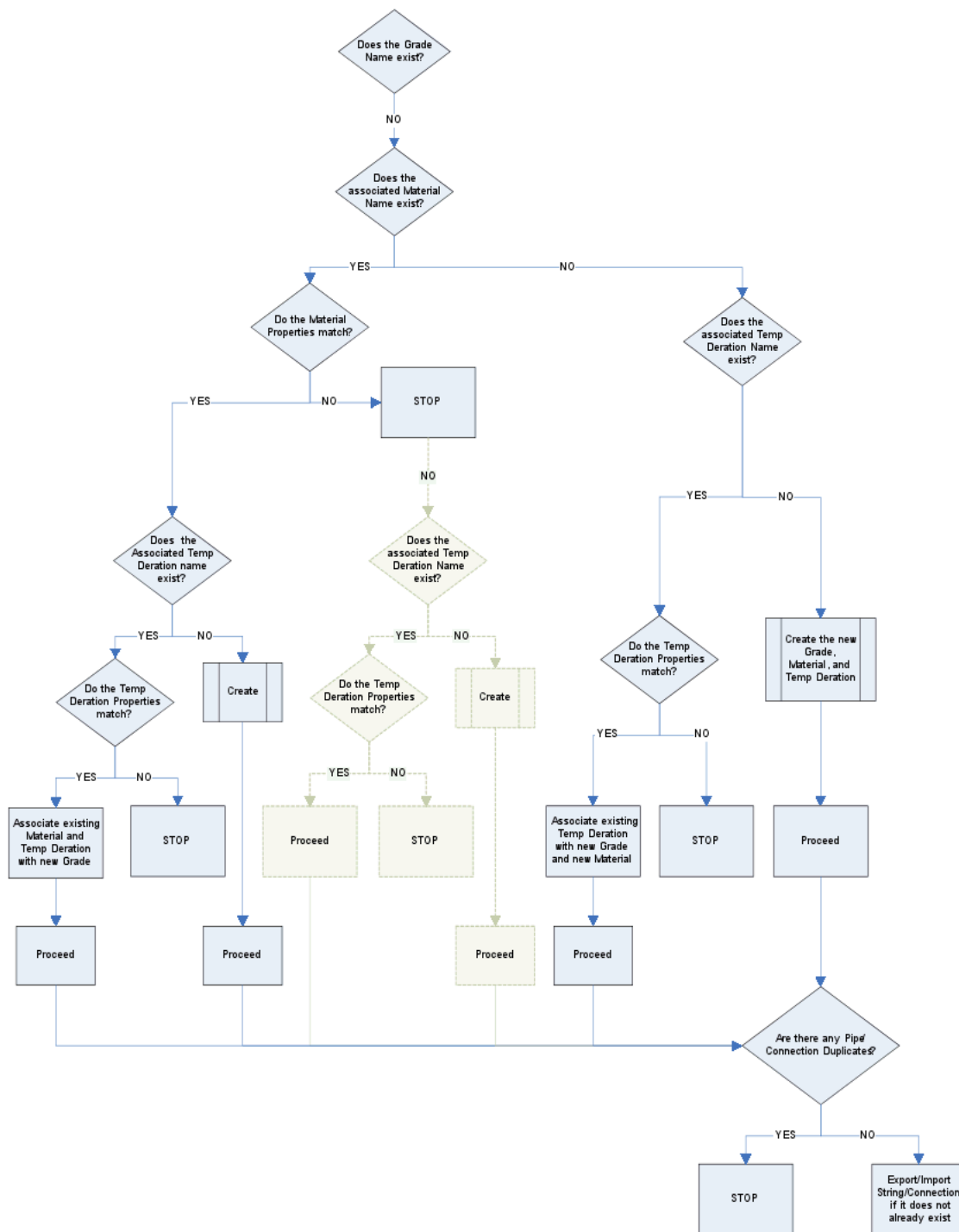
**Figure 2 : Grade Name Exists and Grade Properties Match**

The following shows a case where the Grade Name exists but the Grade Properties do not match. Currently the import/export operation will not occur.



**Figure 3 : Grade Name Exists and Grade Properties Do Not Match**

The following shows a case where the Grade Name does not exist.





**Figure 4 : Grade Name Does Not Exist**

## EDT 5000.1 Common Well Explorer Enhancements

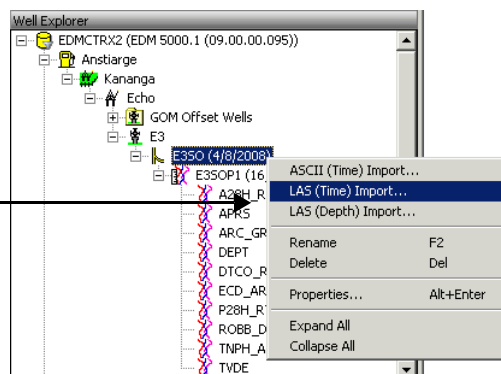
Major changes for this release include:

### Real-Time View

Well Explorer added to Real-Time View with the following special features:

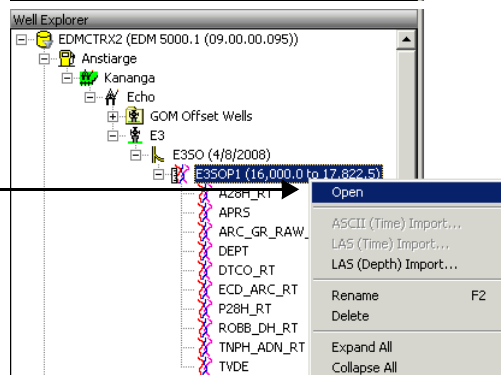
- New icons added for log (  ) and log curves (  ). Logs can now be opened by double-clicking on the Log icon in the Well Explorer.
- Drag and Drop individual log curves onto the log viewing area.
- ASCII, LAS (Time), and LAS (Depth) log import from the Wellbore level right-click menu. The functions are now accessed via context menu commands from the Well Explorer. For more information, see the “Well Explorer Right-Click Menus” topic in *Real-Time View Help*.

**Import** commands from Wellbore level. Types of log available to import include ASCII (Time), LAS (Time), and LAS (Depth).



**Open** command from Log level.

Also, the log import menu commands are shown. The type of log determines which import command is enabled. In this example, the log is LAS depth.



**Figure 5** Open and Import Commands Available from Well Explorer

- Logs can be opened, imported, renamed, and deleted from the Well Explorer

## Location Information

Location Tab added to Well Properties dialog, with additional information added to the Location Tab on the Site Properties dialog.

Location tab added to Well Properties Dialog (read only in all applications except WELLPLAN)

The screenshot shows the 'Well Properties' dialog box with the 'Location' tab selected. The dialog has four tabs: 'General', 'Depth Reference', 'Location', and 'Audit Info'. The 'Location' tab contains the following fields:

- Wellhead Location** (Location for slant wells is the well reference point: (not the slip table))
  - ☒ Slot: Name: [dropdown]
  - ☐ Offset from Site: North: [0.0] ft East: [0.0] ft
  - ☐ Map: Northing: [ ] m Easting: [ ] m
  - ☐ Geographic: Latitude: [ ] Longitude: [ ]
- Location Uncertainty**: Radius of Uncertainty: [0.0] ft (0.0 sigma)
- Convergence**: [ ] °
- Scale Factor**: [0.0]

Buttons at the bottom: OK, Cancel, Apply, Help.

Location Uncertainty and Azimuth Reference added to Site Properties Dialog

The screenshot shows the 'Site Properties' dialog box with the 'Location' tab selected. The dialog has three tabs: 'General', 'Location', and 'Audit Info'. The 'Location' tab contains the following fields:

- Location**: Lease Name: [ ], County: [ ], State/Province: [ ], Country: [ ]
- Centre Location**:
  - ☒ None: Use Local Co-ordinates Only Scale Factor: 0.0
  - ☐ Map: Northing: [ ] m Easting: [ ] m
  - ☐ Geographic: Latitude: [ ] Longitude: [ ]
  - Lease Line: +FSL/-FNL: [ ] ft +FWL/-FEL: [ ] ft
- Location Uncertainty**: Radius of Uncertainty: [0.0] ft (0.0 sigma) Slot Radius: [ ] in
- Azimuth Reference**: North Reference: ☒ True ☐ Grid Convergence Angle: [ ] ° (from True North)

Buttons at the bottom: OK, Cancel, Apply, Help.

**Figure 6** Location Information Changes



## Tubular Properties Changes

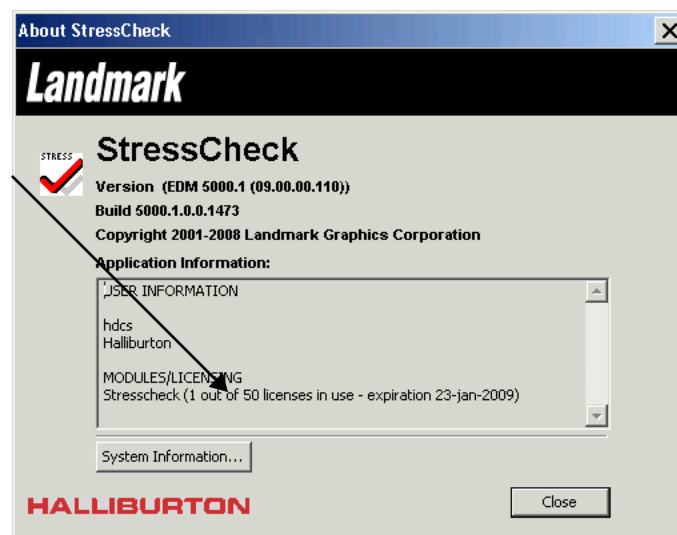
The following changes were made to Tubular Properties:

- Temperature Deration, Anistropic Radial Yield, and Anistropic Hoop Yield moved from Material Properties to Grade Properties
- XML import/exports enhanced to not carryover unnecessary tubular properties that are not used by corresponding assemblies

## Licensing Expiration

License Expiry option now available, configured through the LAM Environment variable.

License expiration information shown in the **Help > About** dialog.

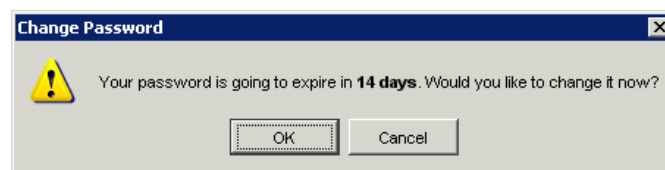


**Figure 7** License Expiry

## Password Expiration

Password Expiry option now available for EDM users, configured through the EDM Administration Utility. EDM Administrators have the option to set an expiration on user passwords. This option is configured in the EDM Administration utility.

Starting 14 days prior to the password expiry, the user receives the following message each time they log in, and can change the password or defer the notification an additional day.



**Figure 8** Password Expiry Notice

## **WITSML Import and Export**

Ability to import/export WITSML 1.2.0 and 1.3.1 files via COMPASS and OpenWells. For more information, see OpenWells and COMPASS Help.

## **Catalogs**

Catalogs were added for Well Completion components, and support for these catalogs was added to OpenWells, PROFILE, WELLPLAN, and Catalog Editor.

## **EDM Administration Utility Enhanced User Management**

Added EDM Security > Users node > Sort Users right-click menu command to the EDM Administration Utility. EDM Administrators can now sort users by User Name or Full Name. For more information, see EDM Administration Utility Help.

## ***5000.0.0 and 2003.21 Enhancements***

The 5000.0.0 release of Engineer's Desktop supports the Microsoft Vista operating system, has new LAM (FLEXnet Publisher) licensing, and contains some critical bug fixes.

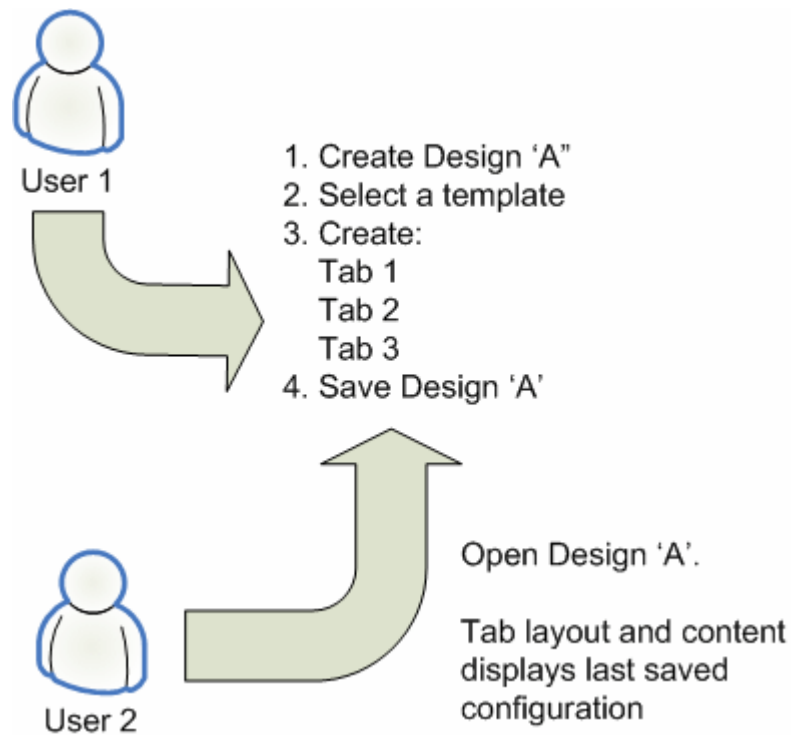
In addition, the following enhancements were added to the previous 2003.21.0 release.

- Default Tabs added (tabs are saved at the Design level)
- Option to change default well schematic view to the classic (pre-2003.14) well schematic
- Support for regional settings

### **Default Tabs (Tab Saved at Design Level)**

In the past, tab layout was saved by individual users. With this release, when a Design is saved the tab layout and content is saved as the default view setting for the Design. The new tab settings become the view for all other users who open the Design.

The figure below shows StressCheck's tab logic and how the last saved configuration overrides the current view.



## Classic Well Schematic

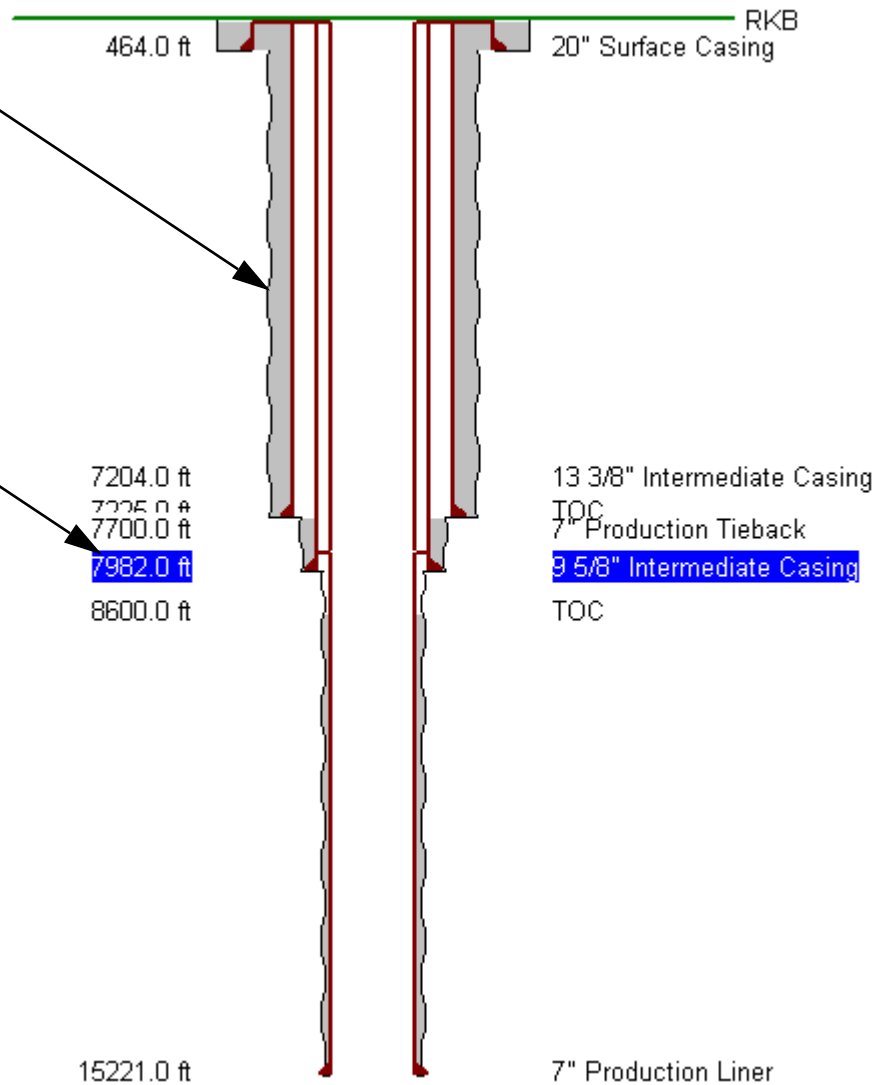
When StressCheck is installed, the default schematic view displays. To change to the Classic view, select **Tools > Options** and activate the **Classic Schematic View** checkbox. Deactivation of this checkbox will return the schematic display to the default setting.

In the example shown below, the currently selected string is indicated with a blue background on the string name. To select another string, click on the string text in the schematic.

**Right-click** on the schematic to open a drop-down menu of options you can apply to the entire schematic.

One option is **Properties**.

**Click on** the depth label to select the "current string"



## Support for Regional Settings

StressCheck is now designed to support languages in all regions of the world. A number of EDM and StressCheck features enable customers to use and configure StressCheck to meet their regional requirements. Configuration of the EDM Administration Utility to support internationalization and usage of other languages in StressCheck does not impact other applications such as COMPASS or WELLPLAN.

StressCheck is designed to work with the current Windows Regional Options locale. This enables number fields to be displayed in a manner consistent with usage in the local region. StressCheck provides comprehensive multi-language support in order to enable use in other languages. All Latin fonts are supported as well as non-Latin fonts such as Cyrillic and Chinese.

The environment variable, EnableMultiLanguage must be set to 'true', to allow a multi-language input system, such as Chinese, to work correctly with StressCheck.

## **Common Well Explorer Enhancements**

For the EDT 2003.21 release, the Common Well Explorer includes the following enhancements:

- Added Well Explorer Virtual Folders to the Well Explorer tree. These folders allow users to organize data items (such as Projects, Wells, Designs, etc.) in a customizable hierarchy. Virtual Folders can be up to three levels deep.
- Integrated WITSML v. 1.2 support to allow the creation of OpenWire 2003.0.8 pipelines from the Well Explorer tree to load data into the EDM database directly from a remote WITSML server.
- OpenWire 2003.0.8 can be launched directly from the Well Explorer with a right-click menu command at the Database level.
- Formations added to the Associated Data Viewer to allow formations to be copied between Designs.
- New assemblies added to the Associated Data Viewer with copy/paste functionality: Casing, Tubing, and Drillstrings. Not valid for Actual Designs.

## **General Integration Enhancements**

- Catalogs added for Well Completion components, and support for these catalogs was added to OpenWells, PROFILE, WELLPLAN, and Catalog Editor

# Problems Fixed

## 5000.1 Release

The following problems were either fixed or have workarounds for the 5000.1 release.

Defect/Enhancement No.	Description
720091	A second pipe catalog with same Properties as the API Casing/Tubing catalog does not appear as expected in the Import from Catalog dialog.
750190	Need to have a global inventory (no editable by Engineer in the Business Unit except EPTG Engineers with the right access. This include pipe inventory or pipe catalog, as wells as grades and associated tables (material, deration).
754023	Cannot change grades when the first four symbols are the same, i.e. C-110_IMP cannot be changed to C-110.
754067	File Import (SCK file) does not respect EDM security
755499	Pressure test = Pressure test Axial Safety factor in 16.1.1.(2) does not match 2000. Max dogleg is not applied in calculations.
756244	The triaxial results still does not match the issue is at below TOC depth. Apparently 2000 is correct. In 2000 there is a discontinuity at 1948 in axial load for 20" surface casing
756355	A vertical well in StressCheck 2000 does not apply the maximum dog leg that version 2003.16.1 applies. Once max dogleg is removed, SF matches between StressCheck 2000 and 2003.16.1.1.
756651	Difference in Lowest axial safety factor reported between StressCheck version 2000 and 2003.16.1
756663	After import sck file it shows that "Shut in" is checked to be use in Collapse Calculation and "Evacuate" is checked for burst calculation
756984	The addition of an extra row in survey editor causes all min. safety factors to not match between builds
757903	Incorrect default temperature profile in 16.1 for lost return with mud drop scenario
758299	StressCheck 2000 version vertical well is shown as a deviated well in version 2003.16.1. Once the wellpath definition is the same in both versions, the results match.
760856	Pipe with wall thickness other than 87.5% are imported with the wall thickness field blank
762289	EDM 2003.16.1.4 Custom Loads Pressure Issue - Save as
764307	Copy and paste from Excel to the Material Table
764309	System Template export function failed
764887	WELLPLAN User Defined WorkSpace VS StressCheck User Defined Template

Defect/Enhancement No.	Description
766440	Save As of the Design crashes the application.
766929	Imported special pipe from catalog is not honored in StressCheck
768241	Datum Shifts - Slant Well Behavior - Design incorrectly opens at a new datum although a warning correctly tells the user that the Design can be opened at the original datum only.
770535	Licensing - EDT Licensing does not take advantage of the functionality that will warn users that their license is set to expire in x days
775238	Differences in Min Safety Factors
780524	Inconsistency of Triaxial Graphs and results
781055	Connection table: Connection safety factor only reports the lowest safety factor in tension while the String summary table reports the absolute lowest safety factor (from tension and compression).
781893	Application does not refresh imported special connections in connection pick list. User has to refresh the views to make available recently imported special connection
781895	StressCheck does not refresh results while changing tubular properties
783023	Save As is very slow in StressCheck

## 5000.0 Release

The following problems were either fixed or have workarounds for the 5000.0 release.

Defect/Enhancement No.	Description
115729	Axial tensile failure wrongfully selected in Minimum Cost algorithm.
167928	Axial loads seem to be using incorrect dogleg from 2256.5 m down.
174922	The axial force with bending calculation for the negative neutral point depth row.
174924	Implement the fix for defects 138642 and 174922 for all triaxial.
174958	Addition of bending forces should only take place in the intervals.
622708	Production Tieback not seeing the drilling loads.
630955	Incorrect error message: "Drill string OD larger than hole size and or casing ID."
719732	Von Mises stress displayed inside the DLP envelope is shown outside the Exact Von Mises envelope.
728474	Saving - Shutting down StressCheck with multiple Designs that contain unsaved changes open results in only the changes for one Design being saved.
734548	Unable to delete one row at a time.
741085	Burst Pressure Profile Plot - legends do not match lines.

Defect/Enhancement No.	Description
744393	The tabulated Triaxial Factors and the Design Limits plots are correct. However, the VON MISES Equivalent Stress plot shows points out of the envelope limits.
747718	Wrong label applied to minimum safety factor while selecting multiple custom loads for collapse.
747720	Unable to export in SCK format when the Design name includes “effective date” information.
747798	Custom load data is lost when importing XML files generated in version 2003.16.0.
747955	Increased number of rows observed in tabular results views in StressCheck 2003.21.0 when compared with version 2003.16.0.
749170	Importing SCK file containing other grade material and temp deration info other than standard API writes non standard (Temperature deration, material and grade) information to locked tubular properties tables.
750932	Difference in Triaxial file comparison when importing StressCheck 2003.16.1 XML file into version 2003.21.0
751575	Discrepancy in Absolute safety factor.
753104	Gas Kick default temperatures are different between StressCheck 2000 and version 2003.16.1.
756388	StressCheck crashes when trying to display Classic schematic view.
756664	Issue with grade name with more than 16 characters.
763825	VAM SLIJ-II connection are not available in picklist.
766222	Axial Loads - Pre-Cement Static Load help content incorrect



## Known Problems

The following are known problems for the Engineer's Desktop 5000.1 release.

Defect/Enhancement No.	Description
730994	Design Limits Plot: Only one section of multi-section strings is printed.
730996	Von Mises Equivalent Stress Plot: Only one section of multi-section strings is printed.
741615	Convert Depth: Keyboard input of the decimal point is not accepted.
741620	Convert Units: The unit "ft" is displayed three times in the dialog.
747744	Internationalization: Correct delimiter is not immediately displayed in the plot and spreadsheet views. Possible refresh issue.
748933	Casing and Tubing Scheme spreadsheet: Inputs into the Shoe Depth, TOC Depth, and MW at Shoe fields are not "accepted" until the user switches tabs.
751255	Ellipse graph tries to change graph scales. Right click for properties, the graph scale ranges are in wrong units (both X & Y axes are in "ft" instead of kip and psi).
753096	Copy casing assemblies or tubing assemblies from a source Design to a target "Opened Design" does not display the pasted assemblies unless the targeted Design is closed and reopened.
757716	Pressure test load calculation is incorrect when applying plug option.
762571	StressCheck Permeable Zones issue where Burst design load line does not appear to be correct.
769221	Well Schematic does not generate until the user deliberately re-selects it from the menu when running StressCheck on Microsoft Vista.
772411	Additional filters are required while exporting importing tubular properties/pipe and connections.
773271	Differences in one of the depth in Collapse Load - Temperature Tab.
775741	The default value for MW for the next hole section for DrillAhead Burst load case is incorrect.
775742	The default value for MW for the next hole section for DrillAhead Collapse load case is incorrect.
775743	MMS report field can be overwritten as indicated in the help, but when the report is printed the report is regenerated to give default values for certain fields.
775752	Design Limits plot re-scales and changes the X and Y ranges.
775753	The default value for max mud weight for gas kick load case should change according to the influx depth value.
775965	The default value for "Pore Pressure @ Lost Returns Depth" in "Lost Returns with Mud Drop" collapse load case does not refresh in certain scenarios when the lost returns depth is changed.

Defect/Enhancement No.	Description
775971	Changing mud weight in Casing Scheme does not automatically change the default values for mud weights in external pressure profile such as “Fluid Gradients with Pore pressure” for burst and collapse load cases.
776902	The border size in the Well Schematic shows twice the size of the previous release in CasingSeat and StressCheck.
778248	When entering too large a pipe OD, an error message for Gas Kick Profile is properly received. However, the error message is still received after deactivating the Gas Kick Profile option.
778359	Defaults design factors not recognized in Design Parameters.
778537	Print Preview of Wallplot does not display XY plot correctly.
778928	When you freeze a line, then change the current string, the legend and plot still shows the line.
781646	Wall Plot Composer template does not update when changing current string.
783811	Citrix - Intermittent “Memory could not be read” error

# Contacting Support

Landmark operates Technical Assistance Centers (TACs) in Australia, the United Kingdom, and the United States. Additional support is also provided through local support offices around the world. Local support office information is listed below. If problems cannot be resolved at the district level, our escalation team is called to resolve your incidents quickly.

Support information is always available on the Landmark Graphics Support internet page located at: <http://css.lgc.com/CustomerSupport/CustomerSupportHome.jsp>.

## Technical Assistance Centers

### North America

7:30 am - 5:30 pm Central Standard Time  
Monday - Friday, excluding holidays

**713-839-2200 (Houston, TX, USA)**

**Toll Free 1-877-435-7542**

**(1-877-HELP-LGC)**

Fax: 713-839-2168 (Houston, TX)

Fax: 907-275-2655 (Anchorage, AK)

Fax: 303-796-0807 (Denver, CO)

Fax: 403-262-1929 (Calgary, Canada)

Email: [support@lgc.com](mailto:support@lgc.com)

### Latin America

(Spanish, Portuguese, English)

7:00 am - 5:00 pm Central Standard Time

Local normal business hours

**1-713-839-3405 (Houston, TX, USA)**

Fax: 713-839-3646

Email: [soporte@lgc.com](mailto:soporte@lgc.com)

Toll Free from:

Argentina: 0800-800-5263

Brazil: 0800-891-0837

Chile: 800-201-898

Colombia: 01800-915-4743

Mexico: 001-888-438-1296

Peru: 0800-51634

Trinidad: 1-888-438-1296

Venezuela: 0-800-526-3627

Toll Free from local area:

Ecuador (Quito) (02)226-1908

### Europe, Africa, Middle East

8:00 am - 5:30 pm Local Time

Monday - Friday, excluding holidays

**44-1372-868686 (Leatherhead, UK)**

Fax: 44-1372-868601 (Leatherhead, UK)

Fax: 44-1224-723260 (Aberdeen, UK)

Email:

[eamc\\_helpdesk@lgc.com](mailto:eamc_helpdesk@lgc.com)

[ssasupport@lgc.com](mailto:ssasupport@lgc.com) (Southern Africa)

**Asia, Pacific**

8:00 am - 5:00 pm Local Time  
Monday-Friday, excluding holidays

**61-8-9481-4488 (Perth, Australia)****Toll-free 1-800-448-488**

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South Korea 00308-61-0046

Taiwan 0080-161-1350

Thailand 001-800-611-2784

Toll Free from local area:

Vietnam: 84-8-9191901

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Saturday - Wednesday excluding holidays

**213 21 37 72 39**Email: [eame\\_helpdesk@lgc.com](mailto:eame_helpdesk@lgc.com)**Angola (Luanda)**

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Email: [soporte@lgc.com](mailto:soporte@lgc.com)**Australia (Perth)**

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(1-877-HELP-LGC)**

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Email: [support@lgc.com](mailto:support@lgc.com)

**Chile (TAO TAC, Houston, Texas)**

Local normal business hours

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Local Time

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57-1-326-6710  
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Support Fax: 1-713-839-3646

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Fax: 86-10-8486-4819

Email [bjsupport@lgc.com](mailto:bjsupport@lgc.com)or [apsupport@lgc.com](mailto:apsupport@lgc.com)**Peru (Lima)**

Local normal business hours

**Toll Free 0800-51634**

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Monday - Friday, excluding holidays

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Fax: 66-2-278-8199

Email: [apsupport@lgc.com](mailto:apsupport@lgc.com)

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(Houston, TX)  
Local normal business hours

**Toll Free: 1-888-438-1296**

Fax: 1-713-839-3646  
Email: [soporte@lgc.com](mailto:soporte@lgc.com)

**United Arab Emirates (Dubai)**

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Local Business Days, excluding holidays

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Email:  
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