Real-Time View 5000.1
Release Notes

Landmark

Contents

HALLIBURTON

Introduction

This document contains important information and last minute changes related to Real-Time View 5000.1 that is not documented elsewhere. Real-Time View 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 Software

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

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
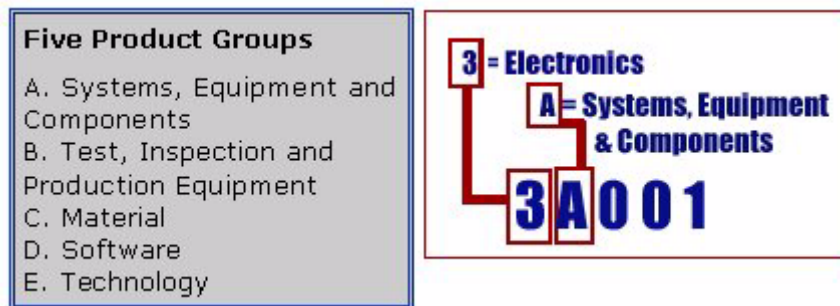
Installation

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

5000.1 Release

The 5000.1 release of Real-Time View added a number of new features that includes improved integration with EDT application through the common Well Explorer, better access to log curve visualization, and a more streamlined approach to ASCII and LAS log file import.

The following features were added to the 5000.1 release:

- Well Explorer added to Real-Time View to enhance usability and leverage EDT integration with other drilling applications

- Drag and Drop individual log curves from the Well Explorer onto the log track in the log viewing area

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

- Added new toolbar buttons

- Removed some File menu commands

- Added new View menu command

Well Explorer

Located by default on the left side of the application window, the Well Explorer functions much like the Microsoft® Windows Explorer. Specifically, it is organized as a hierarchical data tree, and you can browse the EDM database at seven descending levels, though this varies

between applications. The Well Explorer implementation in Real-Time View exposes logs, and any associated curves, from the Wellbore level.
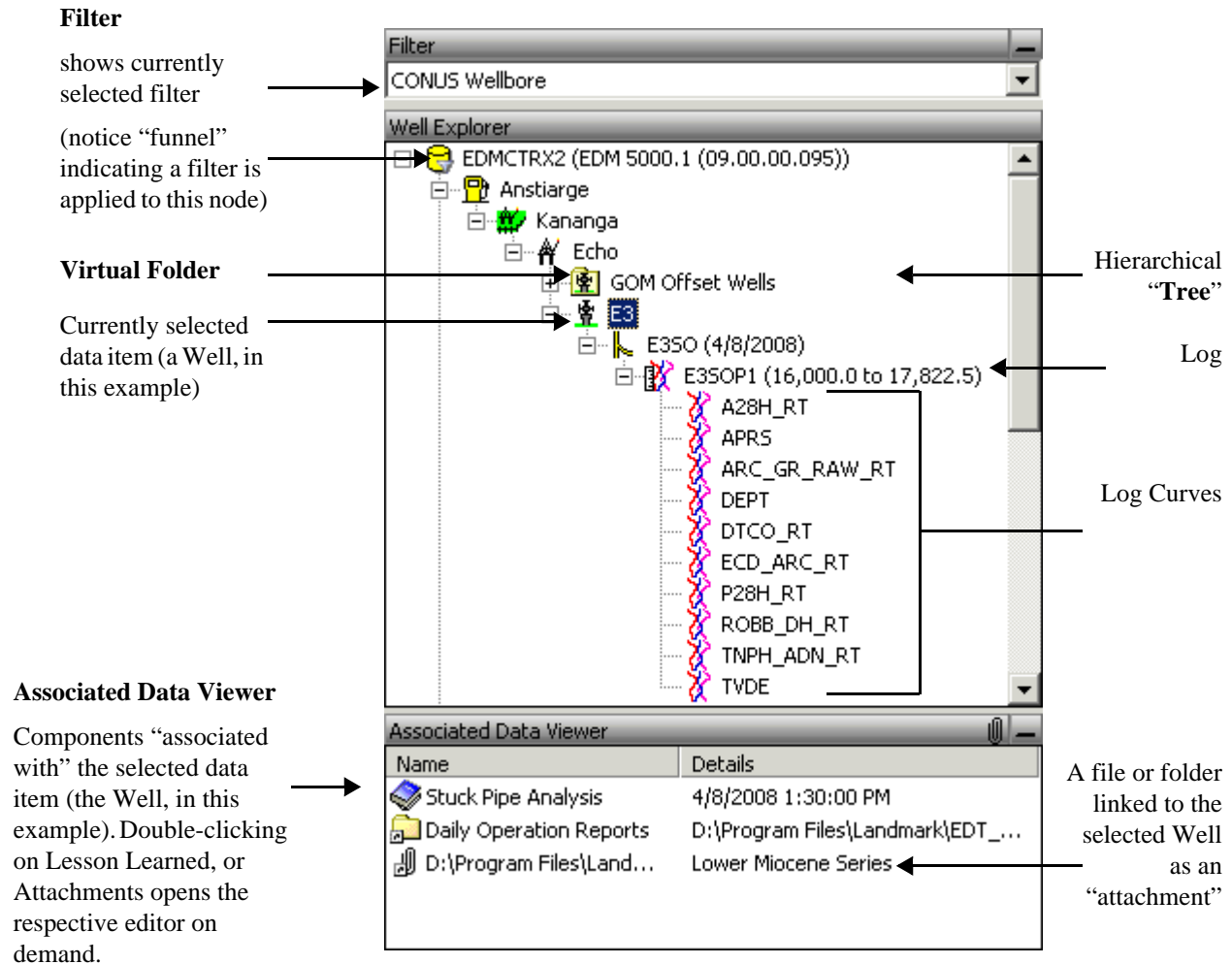
Filter

shows currently selected filter

(notice "funnel" indicating a filter is applied to this node)

Virtual Folder

Currently selected data item (a Well, in this example)

Hierarchical "**Tree**"

Log

Log Curves

Associated Data Viewer

Components "associated with" the selected data item (the Well, in this example). Double-clicking on Lesson Learned, or Attachments opens the respective editor on demand.

A file or folder linked to the selected Well as an "attachment"

Figure 1: Well Explorer in Real-Time View

The following special features are associated with the Well Explorer in Real-Time View:

- 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).
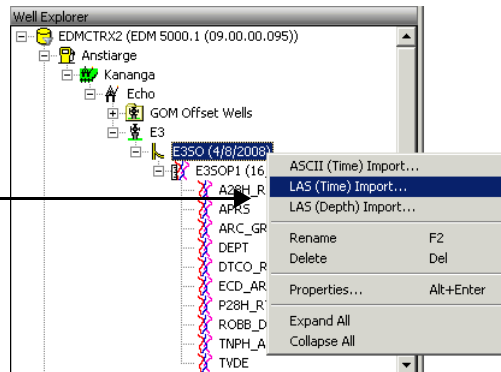
Open command from Log level.

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.
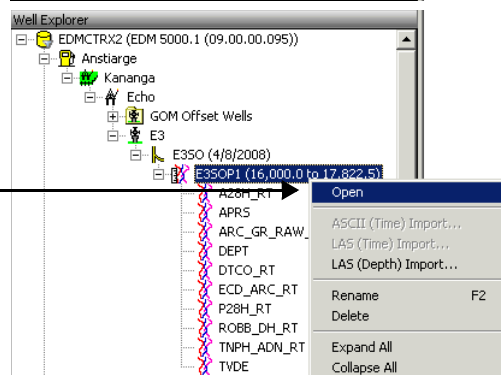

Figure 2: Open and Import Commands Available from Well Explorer

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

New Real-Time View toolbar buttons

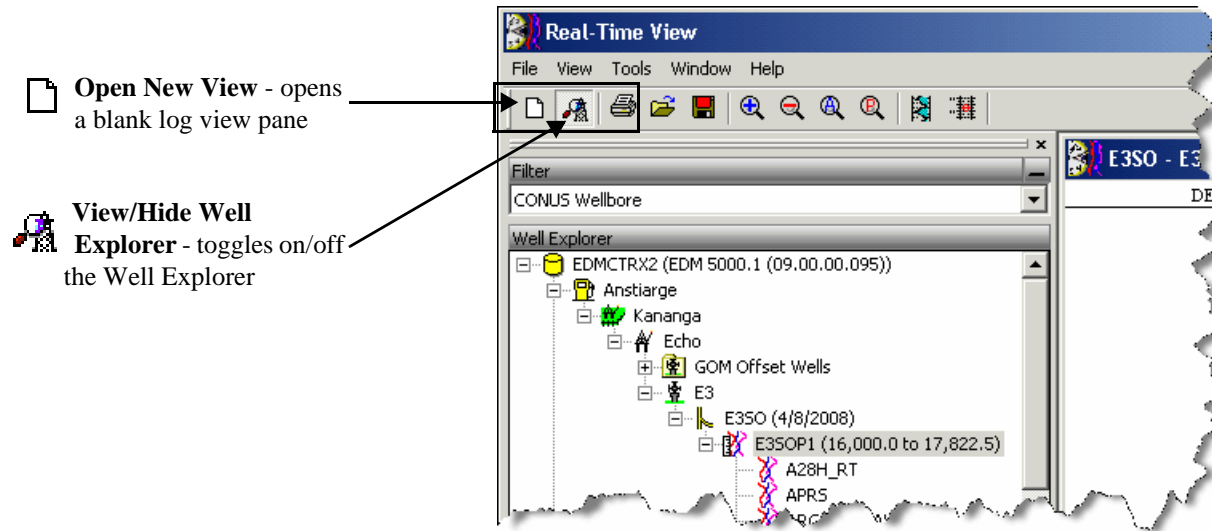Two new buttons were added to the main interface, as seen below.

Open New View - opens
a blank log view pane

**View/Hide Well
Explorer** - toggles on/off
the Well Explorer

Figure 3: New Toolbar Buttons

Removed File menu commands

With the addition of the Well Explorer, the following File menu commands were removed to support a new view/import log workflow from the Well Explorer.

- Open

- ASCII Import

- LAS Import

- LAS (Depth) Import

New View menu command

A new menu command was added to the View menu: Show Well Explorer.
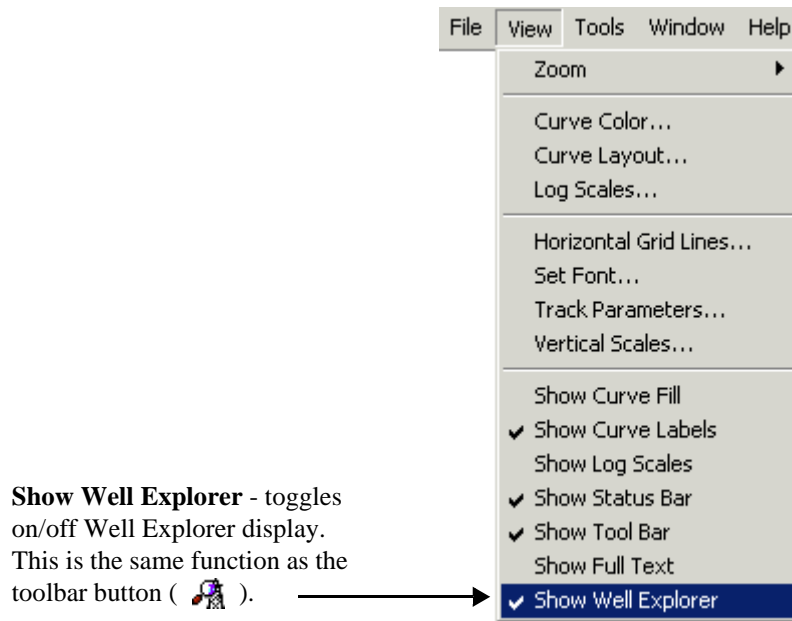
Show Well Explorer - toggles
on/off Well Explorer display.
This is the same function as the
toolbar button ( ).

Figure 4: New View Menu Command

EDT 5000.1 Common Well Explorer Enhancements

Major changes for this release include:

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)

Location Uncertainty and Azimuth Reference added to Site Properties Dialog

Figure 5: 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.
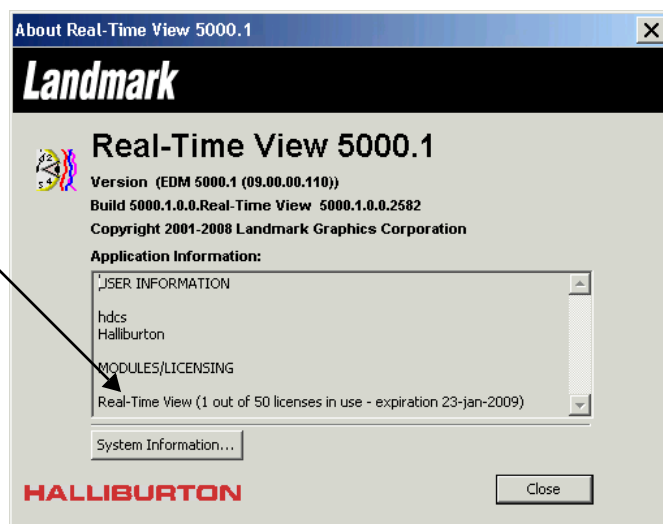
Figure 6: License Expiry

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.
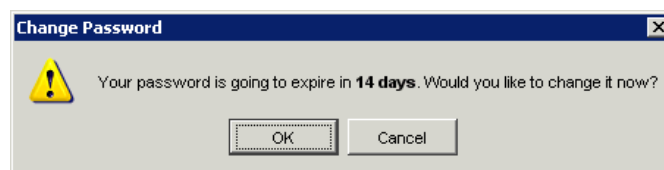
Figure 7: Password Expiry Notice

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.

Formation Data Available from Associated Data Viewer in WELLPLAN

Formation icon now displays in WELLPLAN's Associated Data Viewer when a Design is selected on the Well Explorer. If you double-click on the icon, the Formation Properties table (Surge module > Case > Formation Properties) opens.

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 Release

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.

2003.21.0 Release

The 2003.21 release of Real-Time View sees the introduction of a number of key new features which enables operators to more effectively manage both time-based and depth-based log data within their Engineer's Desktop environment.

The following features were added to the 2003.21 release:

- Depth-based Log Data Storage and Visualization

- Log Header & Curve Editor

- Internationalization

- Wellplan Integration

Depth-Based Log Storage and Visualization

The first two releases of Real-Time View provided log visualization support for time-based logs only. In this release, Real-Time View also supports depth-based logs. A new LAS import feature is available for Depth-based logs so that log files available in that format can be imported, stored in EDM and visualized within Real-Time View.
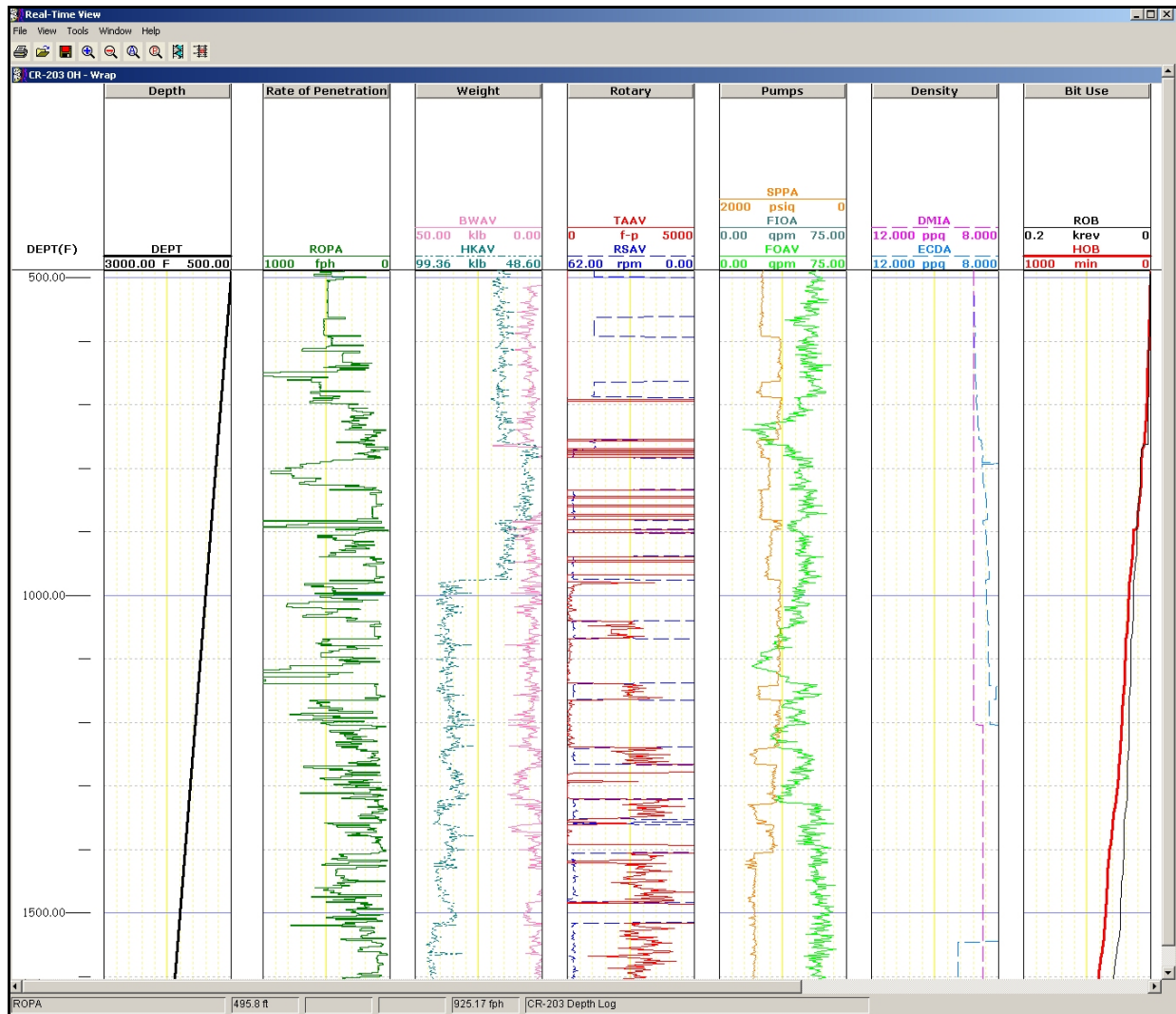
Figure 8: Real-Time View Displaying Depth-based Log Data Set

Log & Curve Header Editor

For active logs, a new Log Header Editor feature is available from the Tools menu (Tools > Edit Log Header…). This feature enables engineers to review and edit Log and Curve Header information inaccessible in previous versions of Real-Time View. The new editor consists of two tabs:

• Log Header – Log Header details

• Log Curve Header – Log Curve Details
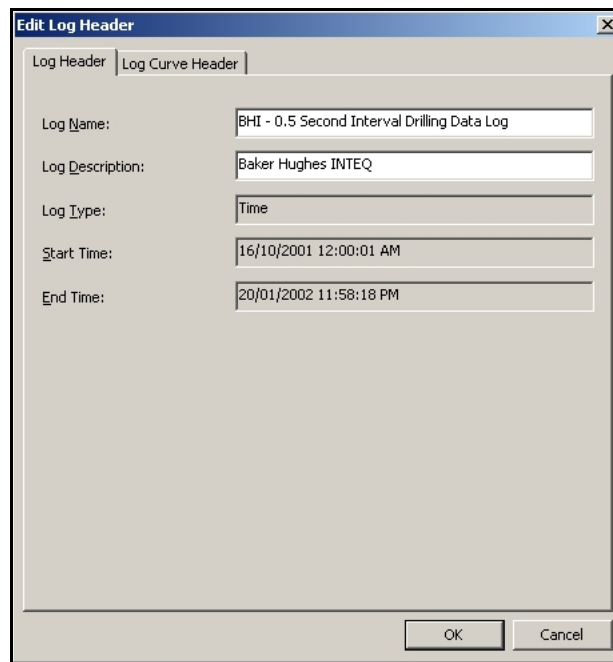
Figure 9: Log Header Editor

The Log Header tab enables the engineer to review and edit the Log Name and the Log Description, these are shown in the header areas of the log templates.

The Log Curve Editor enables the engineer to review and edit the Log Curve mnemonic, Description and Units label. The Curve Editor also enables the engineer to delete Curves which are no longer required to be stored in the database.
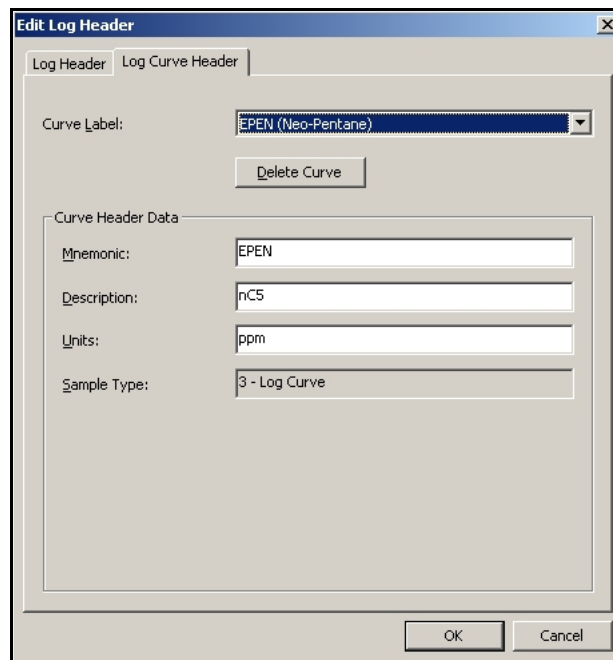
Figure 10: Log Curve Header Editor

Internationalization

Along with other Engineer's Desktop applications, Real-Time View has been extended to enable the user interface text to be translated into other languages. For more information on this feature, contact Landmark Support.

WELLPLAN Integration

One of the integration features available in this release is to use Real-Time View template viewer to display Depth-based drilling data logs within WELLPLAN. Real-time data imported into EDM via OpenWire can now be displayed inside WELLPLAN for a particular Design/ Case. This provides the engineer with a valuable reference when comparing predicted actual loads against those actually measured during well construction.
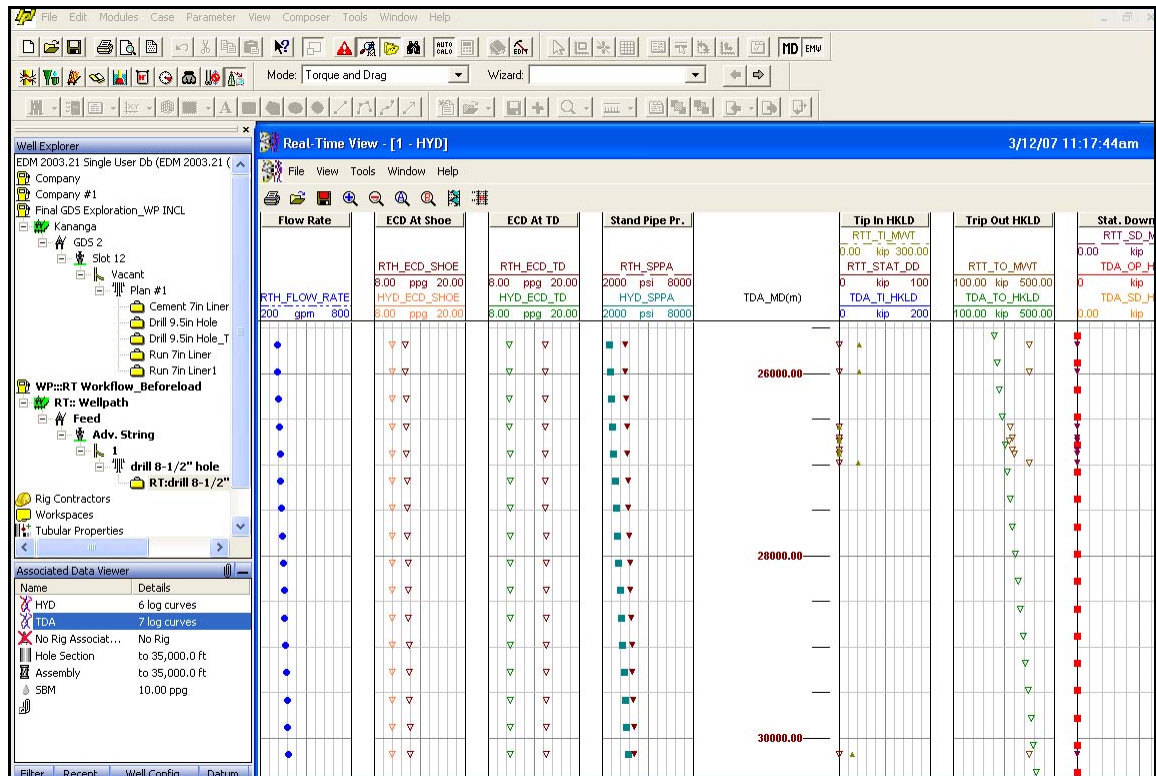
Figure 11: WELLPLAN Torque/Drag Analysis aided with Real-Time View Drilling Data Log Visualization.

Note:

Real-Time View will not show computed results from WELLPLAN unless the user accesses the computed results in that application and performs a Save operation.

Problems Fixed

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

| Defect No.	Description
720354	If you launch multiple Log Viewer applications from different Daily Operations in succession, the Log Viewer crashes
720356	Importing multiple logs at the same time to different nodes from multiple or same instances causes Out of Memory exception
731084	Need to restart RTV to view Lessons Learned; Reload Data does not work
731107	At any given time, if NPT is going on (Nested NPT) and there is no End specified, RTV Equipment Failure should not show the End Time as Start Time
731727	RTV not showing Fluids in Mud Check track from OpenWire 2003.0.7.1
733574	Once curve does not exist in RTV and corresponding message is displayed, the same entry should be removed from Recent Menu list
733575	Track Labels not saved when moving from one Track to another in Track Parameters
737553	If we create BHA Run and BHA Operation with same Time. The values in RTV are displayed wrong & mixed values.
744271	Help cannot be launched after clicking Help button in Time Shift dialog.
745518	There is a "%d" displayed in Delete confirmation message.
746602	No Help support provided for new Log Editor feature
750757	ALL (ALL Unplanned Operations) is different from All in Time Summary Filter
751892	File menu Recent list does not show units for Depth-based logs
751975	Provide one message only if data invoked from MRU does not exists any more
751977	Display text truncated in UI - need to print full name in Curve Display Parameters for Normal and Symbol
751980	After File Import, RTV should expand the Well bore node and put focus on the log that was imported successfully
751981	RTV wont show any data if LAS Depth file is imported again
751992	Need proper error message for LAS Depth Calculation errors
752032	RTV not taking "ARC Gamma Ray, Real-Time" as Track Label
752051	RTV vanishes/crashes from screen after importing a LAS Depth file on top of an ASCII file
752213	Next Day and Last Day buttons still can be clicked when Last Day data is displayed.
752216	When you select LAS(Depth) Import, LAS(TIME) file can be imported.

Defect No.	Description
752224	ACSII Import help is launched when you click help in LAS file import window.
753159	Math Calculator doesn't work when input Chinese Description and Chinese Output name in Function.
753180	There is no relevant help document for Define Data Points Connection in RTV.
753182	After inserting, the button should be "Hide" in Define Curve Fills.
753546	RTV crashes after clicking Delete button in Math Calculator dialog 3 times.
753550	ASCII(TIME) log file with the invalid date still can be imported in RTV.
753553	After importing an invalid date ASCII file in append mode, the previous data cannot be displayed normally anymore.
753554	RTV crashed when select Curve layout after inserting a row in Horizontal Grid Lines.
753559	There is a minus displayed in the notification when you modify a value in Horizontal Grid Lines dialog.
753647	Unit is displayed inconsistent in RTV when SI unit system selected in Well level.
753668	Unit is displayed truncated in Horizontal Grid Lines dialog.
753874	LAS Depth Files not showing data for a trajectory data LAS file
753877	Default to Screen Settings is always disabled by default in the Set Fonts properties dialog
753878	Log Curve Labels and Text Track Labels do not have a mechanism to change Font Colors in Set Fonts dialog; i.e, the entire 'Effects' area is missing
753880	ASCII (Time) + LAS (Depth) file: Right click Select Curves to Display crashes the app
753882	Need to warn users if something got changed in template prior to closing a log
753883	Dragging and dropping a track automatically draws grid/border
755143	When cancel to open the second log file, the previous opened log will be closed automatically.
755145	A series Memory Exception will pop up after doing some operations with RTV.
755148	The decimal point is displayed as "." in the curve in Hungarian OS. (I18N-Hungarian)
755149	The decimal point "," cannot be recognized in the imported file. (I18N-Hungarian)
755778	RTV will not copy over new files if 2003.21 is installed on top of 2003.16.1.0 (LAS Depth not possible)
762343	RTV disappears from screen after opening a specific LAS file
762344	RTV does not import a specific ASCII file - Invalid File Detected

Defect No.	Description
770534	Licensing - EDT Licensing does not take advantage of the functionality that will warn users that their license is set to expire in x days
776358	RTV launches even with no EDM license and shows incorrect licensing usage for Real- Time View licenses in use and for check out
777164	There are some conflicts in "Math Calculator" chapter of help document.

The following problems were either fixed or have workarounds for the 5000.0 and 2003.21.0 releases.

Defect No.	Description
719113	Need support for depth-based drilling data logs and mud logs.
727046	Provide direct editors to RT_LOG_HEADER and RT_LOG_CURVE_HEADER entities
734453	RTV crashes if Relation not entered for a curve in Define Curve Fill
737554	In RTV "Lessons Learned" track is showing wrong time.
744272	There is no notification displayed when input an invalid value in Time Shift Dialog.
744371	Window Close (X) button is not working in Math Calculator window.
744395	Next Day option is not working for first time,once we click Last Day option and click First Day option then only Next Day Option is working.
746583	Changing Curve Label directly and click OK results in Curve Label being lost
750479	RTV crashed, when launch it via Daily Operations if there is no data for the current day.
751888	"feets/inch" text shown in Horizontal Grid Lines dialog
751889	Changing Horizontal Grid Line parameters does not work - get "Minimum one entry is required" dialog which prevents changes being applied.
751893	Log Editor header for depth-based logs does not show units for the depth-range figures

Known Problems

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

Defect No.	Description
730561	Bit Op MD value is not being unit converted
750482	The data cannot be displayed with the current Unit in RTV after changing the unit in OpenWells.
750483	RTV cannot be launched with the current Datum when launching it via Daily Operations.
751894	RTV requires better Units support for displaying depths
753165	Using RTV after 15-20 minutes, Opening a log will take almost 100% CPU usage
779382	LAS imports always fail because the expected format defined in the importLAS.ini file is not the same as the file being imported. Need to proactively inform the user describing why the import failed.
779982	Real Time Viewer, Well Explorer, lock the Properties dialog and move to next tab and click OK is not locking the Properties dialog.
781757	Missing Search toolbar button in Real-Time View
782051	Remove Fluids from Associated Data Viewer

The following are known problems for the Engineer's Desktop 5000.0 and 2003.21.0 releases.

Defect No.	Description
705527	Add an Apply button in the Select Curves To Display dialog in order to view main log curve data as and when users make changes
719099	Require line data reader as per Wellplan
719100	Provide local zoom in feature over log area
719101	Need to be able to view curves from any real-time logs in 1 template
719105	Require horizontal display in addition to vertical display
719108	Require more interactive methods for template editing
719112	Require Survey Track(s) and Data Boxes
719286	Log curves update automatically when new data is written to EDM
720354	If you launch multiple Log Viewer applications from different Daily Operations in succession, the Log Viewer crashes
720360	Add a Print Preview option
720362	Need to have an Export to Picture or some standard formats

Defect No.	Description
720365	Need to be able to change the Template and track background
729385	Load Data dialog should enable user to specify a time interval to load data
730126	OpenWells Operations Data Tracks are not showing Units adjacent to numeric values.
730561	Bit Op MD value is not being unit converted
731097	Need RTV to display User Name and Datum information in Status Bar
731102	If launched from RTV show values for OW tracks with current Datum used in DO DEF display and not default datum
751120	RTV doesn't update automatically if user change the active unit system in WELLPLAN (Need to close RTV and relaunch)
751285	RTV will not show Computed results unless user accesses the computed results in WP and does a Save (Imp, Needs to be documented)
751887	Need RTV to support ASCII file import for Depth-based Logs
751892	File menu Recent list does not show units for Depth-based logs
751894	RTV requires better Units support for displaying depths
751972	Once a File is not found from MRU, it should be removed from MRU
751975	Provide one message only if data invoked from MRU does not exists any more
751980	After File Import, RTV should expand the Well bore node and put focus on the log that was imported successfully
752051	RTV vanishes/crashes from screen after importing a LAS Depth file on top of an ASCII file
752216	When you select LAS(Depth) Import, LAS(TIME) file can be imported.

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

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

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:
eame_helpdesk@lgc.com
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
Fax: 61-8-9481-1580
Email:
apsupport@lgc.com
FSU_support@lgc.com

Toll-Free from:
China: 10-800-6100-253
Indonesia: 001-803-61284
Japan: 00531-61-0021
Malaysia   1800-803-687
New Zealand   0800-400-555
Philippines   1800-1611-0207
South Korea   00308-61-0046
Taiwan   0080-161-1350
Thailand   001-800-611-2784

Toll Free from local area:
Vietnam: 84-8-9191901

District Support Offices

Algeria (Algiers)
8:30 am - 4:30 pm Local Time
Saturday - Wednesday excluding holidays

213 21 37 72 39
Email: eame_helpdesk@lgc.com

Angola (Luanda)
8:00 am - 5:00 pm Local Time
Monday - Friday, excluding holidays

1-817-493-5900
Fax: 1-817-493-560
Email: eame_helpdesk@lgc.com

Argentina (Buenos Aires)
9:00 am - 6:00 pm
Local time

54-11-4312-8411
Toll Free 0800-800-5263
Fax: 54-11-4311-9566
Email: soporte@lgc.com

Australia (Perth)
8:00 am - 5:00 pm Local Time
Monday - Friday, excluding holidays

61-8-9481-4488
Toll Free 1800-448-488
Fax: 61-8-9481-1580
Email: apsupport@lgc.com

Brazil (Rio de Janeiro)
8:00 am - 5:30 pm
Local Time

55-21-3974-4000 or
Toll Free 0800-891-0837
Fax: 55-21-3974-4002
Email: soporte@lgc.com

Brunei (Bandar Seri Bagawan)
8:30 am - 5:30 pm Local Time
Monday - Friday, excluding holidays

67-3-233-5319
Email: apsupport@lgc.com

Canada (Calgary)
7:30 am - 5:30 pm Central Standard Time
Monday-Friday, excluding holidays

Toll Free 1-877-435-7542
(1-877-HELP-LGC)
Fax: 403-262-1929 (Calgary, Canada)
Fax: 713-830-2168 (Houston, TX)
Email: support@lgc.com

Chile (TAO TAC, Houston, Texas)
Local normal business hours

Toll Free 800-201-898
Fax: 1-713-839-3646
Email: soporte@lgc.com

Colombia (Bogota)
8:00 am - 5:00 pm
Local Time

57-1-326-4000
57-1-326-6710
Toll Free 01800-915-4743
Fax: 57-1-326-6717
Email: soporte@lgc.com

Ecuador (Quito)
8:00 am - 5:00 pm
Local Time

59-32-226-1844
Toll Free from Quito (02)226-1908
Fax: 59-32-226-2590
Email: soporte@lgc.com

Egypt (Cairo)
8:00 am - 4:00 pm Local Time
Saturday - Wednesday, excluding holidays

20-2-759-1717
(ask for Landmark Technical Support)
Email: eame_helpdesk@lgc.com

India (New Delhi)
9:00 am - 5:30 pm Local Time
Local Business Days, excluding holidays

91-11-622-1885
(c/o Samit Enterprises)
Fax: 91-11-647-9246
Email: apsupport@lgc.com

Indonesia (Jakarta)
7:30 am - 4:30 pm Local Time
Monday - Friday, excluding holidays

62-21-3003-9039 or
Toll Free 001-803-61284
Fax: 62-21-3003-9088
Email: apsupport@lgc.com

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

Toll Free 00531-61-0021
Email: apsupport@lgc.com

Malaysia (Kuala Lumpur)
8:30 am - 5:30 pm Local Time
Monday - Friday, excluding holidays

603-2164-1121 or
Toll Free 1-800-803-687
Fax: 603-2164-1135
Email: apsupport@lgc.com

Mexico (Reynosa)
8:00 am - 6:00 pm
Local Time

52-555-208-3533
52-555-208-3868
Toll Free 001-888-438-1296
Local Office Fax: 52-555-514-7646
Support Fax: 1-713-839-3646
Email: soporte@lgc.com

New Zealand (New Plymouth)
8:00 am - 5:00 pm Local Time
Monday - Friday, excluding holidays

61-6-755-2318
Toll Free 0800-400-555
Fax: 64-6-755-2407
Email: apsupport@lgc.com

Nigeria (Lagos)
8:00 am - 5:00 pm Local Time
Monday - Friday, excluding holidays

234-1-461-0780
(ask for Landmark Technical Support)
Fax: 234-1-262-0769
Email: eame_helpdesk@lgc.com

People's Republic of China (Beijing)
9:00 am - 5:30 pm Local Time
Monday - Friday, excluding holidays

86-10-8486-4501
Toll Free 10-800-6100-253 or
10-800-810-0209
Fax: 86-10-8486-4819
Email bjsupport@lgc.com
or apsupport@lgc.com

Peru (Lima)
Local normal business hours

Toll Free 0800-51634
Fax: 001-713-839-9646
Email: soporte@lgc.com

Russia (Moscow)
7:00 am - 5:00 pm Local Time
Local Business Days, excluding holidays

7-095-960-2926
7-095-960-2927
(ask for Landmark Technical Support)
Fax: 7-095-755-8301
Email: eame_helpdesk@lgc.com

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

Toll Free 00308-61-0046
Email: apsupport@lgc.com

Taiwan
8:30 am - 5:30 pm Local Time
Monday-Friday, excluding holidays

Toll Free 00801-61-1350
Email: apsupport@lgc.com

Thailand (Bangkok)
8:00 am - 5:00pm Local Time
Monday - Friday, excluding holidays

66-2-278-8100
Toll Free 001-800-611-2784
Fax: 66-2-278-8199
Email: apsupport@lgc.com

Trinidad & Tobago (TAO TAC, Houston, TX)
7:00 am - 5:00 pm Central Standard Time
(Houston, TX)
Local normal business hours

Toll Free: 1-888-438-1296
Fax: 1-713-839-3646
Email: soporte@lgc.com

United Arab Emirates (Dubai)
7:00 am - 5:00 pm Local Time
Local Business Days, excluding holidays

+971-4-3036446
(ask for Landmark Technical Support)
Fax: +971-4-3315837
Email:
gulf_support@lgc.com
eame_helpdesk@lgc.com

United Kingdom
8:00 am - 5:30 pm Local Time
Monday - Friday, excluding holidays

44-1372-868686 (Leatherhead)
Fax: 44-1372-868601 (Leatherhead)
Fax 44-1224-723260 (Aberdeen)
Email: eame_helpdesk@lgc.com

United States (Anchorage)
7:30 am - 5:30 pm Central Standard Time
Monday - Friday, excluding holidays

Toll Free 1-877-435-7542
(1-877-HELP-LGC)
Fax: 907-275-2655
Email: support@lgc.com

United States (Denver)
7:30 am - 5:30 pm Central Standard Time
Monday - Friday, excluding holidays

Toll Free 1-877-435-7542
(1-877-HELP-LGC)
Fax: 303-796-0807
Email: support@lgc.com

United States (Houston)
7:30 am - 5:30 pm Central Standard Time
Monday - Friday, excluding holidays

713-839-2200
Toll Free 1-877-435-7542
(1-877-HELP-LGC)
Fax: 713-839-2168
Email: support@lgc.com

Venezuela (Caracas)
8:00 am - 5:00 pm
Local Time

58-212-953-0774
Toll Free 0-800-526-3627
Fax: 58-212-952-3845
Email: soporte@lgc.com

Vietnam (Ho Chi Minh City)
8:00 am - 5:00 pm Local Time
Monday - Friday, excluding holidays

84-8-910-1901
Toll Free 84-8-9191901
Fax: 84-8-910-1902
Email: apsupport@lgc.com

Helpful internet links are shown below.

Name	Website Address
Landmark Graphics home page	http://www.lgc.com
Landmark Graphics FTP Site	ftp://ftp.lgc.com
Oracle home page	http://www.oracle.com

Name	Website Address
FLEXlm license management software home page	http://www.macrovision.com/support/by_category/Software_Licensing.shtml
Microsoft SQL Server home page	http://www.microsoft.com/sql/default.asp
Adobe Acrobat Reader	http://www.adobe.com
Microsoft MSDE	http://www.microsoft.com/sql/default.asp

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3D Drill View, 3D Drill View KM, 3DFS, 3D Surveillance, 3DView, Active Field Surveillance, Active Reservoir Surveillance, ADC, Advanced Data Transfer, ARIES, ARIES DecisionSuite, AssetConnect, Asset Decision Solutions, Asset Development Center, AssetDirector, Asset Journal, AssetLink, AssetLink Advisor, AssetLink Director, AssetLink Observer, AssetObserver, AssetObserver Advisor, Asset Performance, AssetPlanner, AssetSolver, AssetSolver Online, AssetView, BLITZPAK, CasingLife, CasingSeat, COMPASS, Corporate Data Archiver, Corporate Data Store, Data Analyzer, DataManager, DataStar, DBPlot, Decision Management System, DecisionSpace, DecisionsSpace 3D Drill View KM, DecisionSpace AssetLink, DecisionSpace AssetPlanner, DecisionSpace AssetSolver, DecisionSpace AssetView 2D, DecisionSpace AssetView 3D, DecisionSpace Atomic Meshing, DecisionSpace Decision Management Systems(DMS), DecisionSpace for Production, DecisionSpace Infrastructure, DecisionSpace Nexus, DecisionSpace PowerModel, DecisionSpace PrecisionTarget, DecisionSpace Reservoir, DecisionSpace TracPlanner, DecisionSpace Well Seismic Fusion, DecisionSpace WellSolver, DecisionSuite, DepthTeam, Depth Team, DepthTeam Explorer, Depth Team Explorer, DepthTeam Express, Depth Team Express, DepthTeam Extreme, Depth Team Extreme, DepthTeam Interpreter, Depth Team Interpreter, Desktop Navigator, DESKTOP-PVT, DESKTOP-VIP, DEX, DIMS, Discovery, Discovery Asset, Discovery FrameBuilder, DMS, Drillability Suite, Drilling Desktop, DrillModel, Drill-to-the-Earth Model, DSS, Dynamic Reservoir Management, Dynamic Surveillance System, EarthCube, EDM, EDT, eLandmark, Engineer's Data Model, Engineer's Desktop, Engineer's Link, ESP, Event Similarity Prediction, ezFault, ezModel, ezSurface, ezTracker, FastTrack, FG+, FieldPlan, Field Scenario Planner, FZAP!, GeoAtlas, GeoDataLoad, GeoGraphix, GeoGraphix Exploration System, GeoLink, GeoProbe GF DataServer, GES, GES97, GESXplorer, GMAplus, GMI Imager, GRIDGENR, Handheld Field Operator, HHFO, I^2 Enterprise, iDIMS, IsoMap, iWellFile, i Wellfile, KnowledgeSource, Landmark, Landmark Decision Center, Landmark & Design, Landmark Logo and Design, Landscape, Lattix, LeaseMap, LMK Resources, LogEdit, LogM, LogPrep, Make Great Decisions, MathPack, MIMIC, MIMIC+, Model Builder, MyLandmark, Nexus, Object MP, OpenBooks, OpenJournal, OpenSGM, OpenVision, OpenWells, OpenWire, OpenWorks, OpenWorks Development Kit, OpenWorks Well File, OpenWorks Production, PAL, Parallel-VIP, PetroBank, PetroBank Explorer, PetroBank Master Data Store, PetroWorks, PetroWorks Asset, PetroWorks Pro, PetroWorks ULTRA, PlotView, Point Gridding Plus, Pointing Dispatcher, PostStack, PostStack ESP, PostStack Family, PowerCalculator, PowerExplorer, PowerExplorer Connect, PowerGrid, PowerHub, Power Interpretation, PowerJournal, PowerModel, PowerView, PrecisionTarget, Presgraf, PRIZM, Production Asset Manager, Production, PROFILE, Project Administrator, ProMAGIC, ProMAGIC Connect, ProMAGIC Server, ProMAX, ProMAX 2D, ProMAX 3D, ProMAX 3DPSDM, ProMax 4D, ProMax Family, ProMAX MVA, ProMAX VSP, pSTAx, Query Builder, Quick, Quick+, QUICKDIF, QuickWell, QuickWell+, QUIKRAY, QUIKSHOT, QUIKVSP, RAVE, RAYMAP, RAYMAP+, Real Freedom, Real Time Asset Management Center, Real Time Decision Center, Real Time Operations Center, Real Time Production Surveillance, Real Time Surveillance, Real-Time View, Reference Data Manager, Reservoir Framework Builder, RESev, ResMap, RightTime, RTOC, SCAN, SeisCube, SeisMap, SeisModel, SeisSpace, SeisVision, SeisWell, SeisWorks, SeisWorks 2D, SeisWorks 3D, SeisWorks PowerCalculator, SeisWorks PowerJournal, SeisWorks PowerSection, SeisWorks PowerView, SeisXchange, Semblance Computation and Analysis, Sierra Family, SigmaView, SimConnect, SimConvert, SimDataStudio, SimResults, SimResults+, SimResults+3D, SIVA+, SLAM, smartSECTION, Spatializer, SpecDecomp, StrataAmp, StrataMap, StrataModel, StrataSim, StrataWorks, StratWorks, StratWorks 3D, StreamCalc, StressCheck, STRUCT, Structure Cube, Surf & Connect, SynTool, SystemStart, SystemStart for Clients, SystemStart for Servers, System Start for Servers, SystemStart for Storage, Tanks & Tubes, TDQ, Team Workspace, TERAS, The Engineer's Desktop, Total Drilling Performance, TOW/cs, TOW/cs Revenue Interface, TracPlanner, TracPlanner Xpress, Trend Form Gridding, Turbo Synthetics, VESPA, VESPA+, VIP, VIP-COMP, VIP-CORE, VIPDataStudio, VIP-DUAL, VIP-ENCORE, VIP-EXECUTIVE, VIP-Local Grid Refinement, VIP-THERM, WavX, Web Editor, Wellbase, Wellbore Planner, Wellbore Planner Connect, WELLCAT, Well Cost, WELLPLAN, Well Seismic Fusion, WellSolver, WellXchange, WOW, Xsection, You're in Control. Experience the difference, ZAP!, and Z-MAP Plus are trademarks, registered trademarks or service marks of Landmark Graphics Corporation.

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