COMPASS 5000.1
Release Notes

Landmark

Contents

HALLIBURTON

Introduction

This document contains important information and last minute changes related to COMPASS 5000.1 that is not documented elsewhere. COMPASS 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

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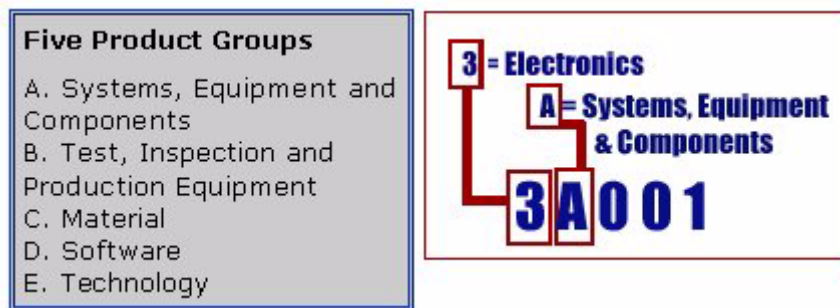
The URL is: http://www.bis.doc.gov

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

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.

For **5000.1**, the following enhancements were made to COMPASS:

- Formation surfaces are now supported; this includes GOCAD Tsurf files, OpenWorks faults and fault planes
- Live graphs have been replaced with Wall Plot Composer-based plots
- Changes made to Data Boxes to simplify target data selection and add additional options
- COMPASS adds appropriate default values if values are not specified
- Definitive Survey locking implemented (see General Integration Enhancements for details)
- Implemented the Draw Wellpaths From Sidetrack Depth feature for 3D View
- Various bug fixes were done

For **2003.21**, the following enhancements were made to COMPASS:

The 2003.21 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 COMPASS 2003.21 release.

- The display of certain information on reports can be configured.
- It is now possible to print, or print preview from the Survey and Plan Editors.
- It is now possible to adjust the measured, inclination, and/or azimuth for one or more rows of survey data.
- Using the Wall Plot Composer, it is possible to plot the wellpath for a sidetrack from the surface or from the tie-on point.
- Multiple point targets can be imported at one time using the Target Import Wizard.
- Using the Target Editor, it is now possible to specify the inclination and azimuth to enter the target. Each time the target is planned to, this inclination and azimuth will be used to enter the target.
- The column order on the Survey and Plan Editors can be changed.
- When a new wellbore is created, it will inherit the Anticollision Color List of the last wellbore

associated with the same well.

- When WELLPLAN drill string data is imported into the Plan Optimizer, additional operating parameters will also be imported. (i.e. Torque at Bit, weight on bit, etc.)

- Targets can be assigned to additional hierarchical data levels, including Project, Site, Well, Wellbore, and Design.

- 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.

- 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.

- Raw Magnetic Data can be imported.

- A Favorites tab has been added to the online help to "bookmark" frequently used help topics for easy access.

Fixed Problems

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

781765   2D Varying Curvature plot missing data.

767507   Change History can be turned off using EDM System Setting.

752507   When you perform an Instant Survey in Compass, the Well Explorer does not display anything below Well level. Wellbore and Design are missing until the user refreshes the Well Explorer tree.

753689   User comments in Change History are not saved.

754232   When saving a Wall Plot Composer template, changes to the lease line color or adding fill patterns are not saved.

734201   COMPASS does not retain the slot assignment when the slot name is changed.

757457   COMPASS does not honor regional settings for decimal mark.

754687   COMPASS loses survey data when hiding the CL column.

752569   Crash after copied folder is deleted.

753209   Depth slice view in tRaveling Cylinder incorrectly displays errors.

730000   Survey program optimizer incorrectly handled confidence limits for horizontal drilling targets.

783888   Error in project ahead calculations.

754229   Fill functionality needed on lease line import.

748519   Data will not be imported when using Field Office Transfer to import data created using Instant Plan in COMPASS because COMPASS does not assign a Tight group.

754218   Plan data is lost when a target is updated with the Plan Editor open.

749440   Saved well slot assignments created using Optimize are lost when Template Editor is closed.

781759   Indicate in the online help that Angus Jamieson's algorithm for Varying Curvature is used.

The following problems were either fixed or have workarounds for the COMPASS 5000.0.0 release:

751695   When using Citrix, a wpc file (Wall Plot Composer file) located on the local C: drive cannot be opened. Workaround: Place the file on a network drive, or the Citrix local drive before opening.

752697   After a virtual folder has been created (using the Folder Properties dialog), the Ok and Apply buttons are still accessible even though the folder has already been saved using the name specified.

753492   When Design Targets are selected (via Report Options), and using a new MSDE database (not an upgraded database from a previous version), the Target section will be missing from five reports including: Standard Plan, Standard Plan - Geographic, Standard Survey - Geographic, Error Ellipse Survey, and Survey Traveling Cylinder Columns reports. Workaround: Use the EDM Administration Utility to add (overwrite) these reports to the MSDE database.

753610   When using a new MSDE database (not an upgraded database from a previous version), the "Order Targets By" setting on the Report Options dialog is not honored on five reports including: Standard Plan, Standard Plan - Geographic, Standard Survey - Geographic, Error Ellipse Survey, and Survey Traveling Cylinder Columns reports. Workaround: Use the EDM Administration Utility to add (overwrite) these reports to the MSDE database.

The following problems were either fixed or have workarounds for the COMPASS 2003.21.0 release:

704457   COMPASS should not allow the addition of survey stations after projections have been appended.

714096   Platform icon displayed in slot template optimizer.

723272   Compass crashes in Section or Plan View if you try to print while displaying more than one design.

726411   When using Citrix, there is an error when attaching a file located on user's local drive(s).

729514   Slot Optimizer, moving well back to site assigns well to a random slot in Well Properties.

730663   The cost fields are editable when the survey tool is locked.

731187   The Change Date field in the Wellbore Properties > Change History tab is not large enough to accommodate the date and time. The time is truncated.

731224   Online Help: Survey Properties need information on SAGD Wells Survey Type

731343   When using Citrix, there is an error when importing a file located on user's local drive(s).

731479   When using the COMPASS - OpenWorks link to transfer surveys, the survey points were coming in as individual surveys (one point per survey) instead of one survey with multiple data points.

732233   Migrating data with a large number of change history entries caused COMPASS to become unresponsive, or have poor performance.

732234   Disable audit history for Compute All Wellpaths functionality.

732235   COMPASS should honor tight group access during the post-migration process.

732256   Turn off Change History entries for "unlock all" functionality.

732521   COMPASS becomes unresponsive during post-migration processing.

732758   Compass Export file generation East instead of West longitudes.

734188   COMPASS does not save transfer files with the proper extension.

734586   An OpenWorks error occurs (Instance exists, cannot insert) when using Live Link to export plan and project targets from COMPASS.

735147   Manual planning section from TracPlanner are not coming into COMPASS via Live Link.

738408   Survey station magnetic field values in reports are incorrect.

738673   Reports do not reflect survey tool program settings.

749183   COMPASS becomes unresponsive when exporting multiple wells.

Known Problems

The following are known problems for the COMPASS 5000.1 release:

716966   Negative air gap for offshore wells when sea level is below MSL (Caspian Sea).

720317   User locked out of properties dialog when another application has a design open in the case of same user same machine.

726056   Crash when entering a very large MD in plan editor.

729931   COMPASS MD plots do not shift with Datum flip in Datum tool bar.

737594   Cannot create pie shaped targets.

742632   When a sidetrack is open, original hole annotations are not visible on plots.

753642   COMPASS crashes when adding offsets to lease lines in WPC while working in hosted environment (i.e. Team Workspace).

754449   Target section missing from COMPASS Custom Survey Report when Design Targets selected.

754840   Some annotations close to TD are not displayed on plots.

755115   COMPASS crashes after about every 9 to 10 imports.

761308   Survey program optimization not giving correct results.

763154   Deleted Actual plan appears when choosing offset design.

764048   Application crashes while activating wellbore with two surveys open.

765422   COMPASS hangs if deleting a company with large number of projects.

765426   Anticollision results are affected if zero casing is entered.

765480   9i Openwells causes COMPASS to crash upon closing it.

766902   COMPASS hangs when exporting a site with the find dialog open.

770416   Live Link, not importing "manual planning" sections from TracPlanner when Auto Export Plan on save is active.

772293   COMPASS crashes when plots containing polylines are selected and deleted.

773397   Oracle: Unable to see projects in COMPASS well explorer tree when use_risk field is not NULL.

775102   COMPASS crashes on Citrix when creating a lookahead plan or doing a project ahead from a survey.

777898   Draw wellpath from sidetrack option is not working for 3D Live view.

779594   Using intermediate survey station as "tie in point" has problems.

779656   Locking a survey via the properties dialog in the survey editor does not save or enable the save button.

782153   Error models can be imported into a locked Company.

782441   Unable to delete a project with a large number of pads, wells and targets.

782875   Cannot save or append a projection when you project ahead from an existing plan.

783908   Delete Point from Line functionality in Section and Plan views can disable plots.

784187   Size of fonts in background plots increases each time the active plot is displayed in print preview or print option selected.

784429   When a gyro survey is run back into the original well, COMPASS doesn't seem to work properly.

784358   Exported DXF file cannot be loaded into AutoCad.

The following are known problems for the COMPASS 5000.0.0 release:

745714   COMPASS crashes when the Properties dialog of an offset wellbore is accessed, and the Ladder and Travelling Cylinder plots are open.

752508   When SAM forces a Read only on a survey because it is in use, it doesn't release the Read Only when Closed.

770100   The optimizer results on Notepad are not matching with the optimized plan. N/S and E/W data are not matching; it appears that location is not updated for the optimized plan on Notepad as per new location.

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

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

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
South Korea   00308-61-0046
Taiwan   0080-161-1350
Thailand   001-800-611-2784

Toll Free from local area:
Vietnam: 84-8-9191901
India: 91-11-622-1885 (c/o Samit Enterprises)

District Support Offices

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

21-337-7239
Email: support@lgc.com

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

213 2137 7239
Email: support@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: support@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
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: support@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

7-495-960-2926
7-495-960-2927
(ask for Landmark Technical Support)
Fax: 7-095-755-8301
Email: support@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: support@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
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	http://www.macrovision.com
Microsoft SQL Server 2005 home page	http://www.microsoft.com/sql/default.asp
Adobe Acrobat Reader	http://www.adobe.com
Microsoft SQL Server 2005 Express	http://www.microsoft.com/sql/editions/express/default.mspx

Trademarks

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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