



Geophysics

Powerful seismic interpretation for your play

Release Notes

GVERSE Geophysics 2022.1

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Introduction

We are pleased to announce the release of GVERSE® Geophysics 2022.1

This document provides an introduction to the Geophysics software features and benefits. It also lists the changes available in this release.

What is GVERSE Geophysics?

GVERSE Geophysics is a new, intuitive and easy-to-use seismic interpretation system with powerful 3D visualization and interpretation capabilities. GVERSE Geophysics enables geoscientists to execute end-to-end workflows for basic interpretation and more advanced geophysical tasks. The Geophysics software is part of the GVERSE application suite (<http://www.gverse.com>).

GVERSE consists of geoscience and engineering solutions focused on workflow optimization and enhancing productivity of teams working on diverse geological and geophysical projects.

Main Features

In-Depth Horizon Interpretation

Access multiple picking modes to mark picks & track horizons across multiple 2D and 3D surveys.

- QC features like confidence, pick order, pick type & pick relationships.
- Multi-Z horizon picking for 2D data.
- Snapping, smoothing, merging, dip & azimuth calculations and other operations.

Rapid Fault Picking & Analysis

Detect and automatically pick all faults in a volume or pick manually with flexible picking and editing tools for vertical, horizontal & three-dimensional seismic displays.

- Rose diagrams for faster analysis & decisions.
- Correlation windows & fault projection to assist picking in noisy data.
- Fault polygons & heave calculations.

Cutting Edge Geobody Analysis

Pick structures on seismic volumes as geobodies. Interpolate picks, track signatures to automatically detect and extract geobodies from seismic data.

- Calculate volumetrics, map thicknesses, convert to horizons, compute attributes.
- Drape data on geobodies or show intersections on sections.
- Create layers to bring geobodies to other GeoGraphix apps.

Integrated Well Top Picking

- Add new or adjust existing picks for formation tops and fault cuts in a well directly from GVERSE Geophysics.
- View and interact with multiple observations for each formation or fault in a well.

Comprehensive Synthetic Modeling

Create or edit synthetic seismograms in SynView – an integrated editor with no extra license required.

- Adjust and update synthetic with undo-redo in SynView or in 3D.
- Create and edit wavelets or extract from seismic.
- Calibrate, estimate, process and edit input curves.
- Drift, correlation and spectrum analyses. Calculate optimum time and phase shifts.
- Work with deviated wells.

Robust, Reliable Depth Conversion

Experience fast & reliable depth conversion with an extensive set of options suitable for all of your depth conversion requirements.

- Half-a-dozen types of velocity models including ability to use velocity cubes as models.
- Unique 3 component horizons & comprehensive conversion options.
- Dynamic depth conversion to keep backdrops in GVERSE Geo+ up to date.
- Depth Mode to instantly convert time scenes to depth.
- Variety of velocity QC tools.

Effortless Data Management

Perform rapid interpretation in large 2D, 3D or combination projects with our 64-bit architecture. Versatile SEG-Y readers built to handle most commonly encountered scenarios.

Interactive Mistie Analysis

Easily balance 2D, 3D and 2D-3D datasets and auto-calculate phase, gain & time relationships.

- Add, edit and search shifts in a single location.
- Import and export shift values.
- Interactive line balancing to match lines quickly & easily.

Blazing Fast 3D Environment

Use an engine built for subsurface data to view your seismic, wells and other data in 3D. The LOD format does not compromise performance even with very large seismic files. Voxels, blending, selective transparency and other advanced features let you visualize structures for deeper insights and better decisions for your play.

Versatile Seismic and Well Displays

Feature rich vertical, horizontal & three-dimensional seismic viewers with detailed well data posting.

- Load data into RAM for faster visualization.
- Wiggles, power spectrums, phase rotation, filters & other processing tools.
- Default color palettes based on data type.
- Display wellbores, tops and observations, well logs, production and microseismic data.

Attribute & Surface Calculations

Compute attributes with multiple options in an easy to use interface.

- Flexible windowing options.
- Integration with Zone Manager.
- Surface-to-surface calculations.
- Extract seismic data at well locations.

Crossplot Seismic, Attributes & Logs

Create scatter plots for seismic, surfaces and well logs for insight into relationships between data.

- Crossplots for sections, horizons, geobodies, wells or volumes.
- Select and display anomalies on maps & 3D.
- Complete annotation toolset.

Intelligent Facies Classification

Use the power of machine learning and neural networks to classify facies on horizons with automatic waveform classification by a self-organizing maps algorithm.

Indigenous Mapping Capability

Fulfill most of your mapping needs with a built-in mapping framework or leverage the full capabilities of our mapping tools with seamless integration with GeoAtlas.

- Multiple base maps with unique set of display parameters and color palettes.
- Comprehensive gridding and contouring options for maps and surfaces.
- Export or import layers to and from other GeoGraphix apps.

Ease of Use & True Mobility

Leverage the latest in technology to minimize your learning curve and focus on what's important.

No more digging through tons of menus and dialogs to find what you are looking for. A true multi-screen, ribbon-based interface puts everything you need right in front of you. GVERSE

Geophysics supports remote, desktop and mobile environments to accommodate some of the industry's largest regional projects while reducing the need for IT support.

Benefits

Full Integration: Maximize your investment with full integration between our geological, geophysical and mapping tools. Access most everyday workflows within the base package & license.

Superior Visualization: Gain deeper insights into subsurface structures and data in our specialized 2D & 3D viewers. Our fast and highly intuitive viewers offer all tools for efficient interpretation workflows.

Speed & Performance: Work with large seismic files and hundreds of thousands of wells without compromising performance even on off-the-shelf hardware.

Accuracy & Reliability: Make quick, accurate structural or stratigraphic interpretations with an extensive toolset for horizon, fault and geobody interpretation.

On-The-Fly Attributes: Obtain a better understanding of your seismic data with on-the-fly attribute computation.

Ease of Use: Leverage a simple, intuitive UI to focus solely on making decisions that matter.

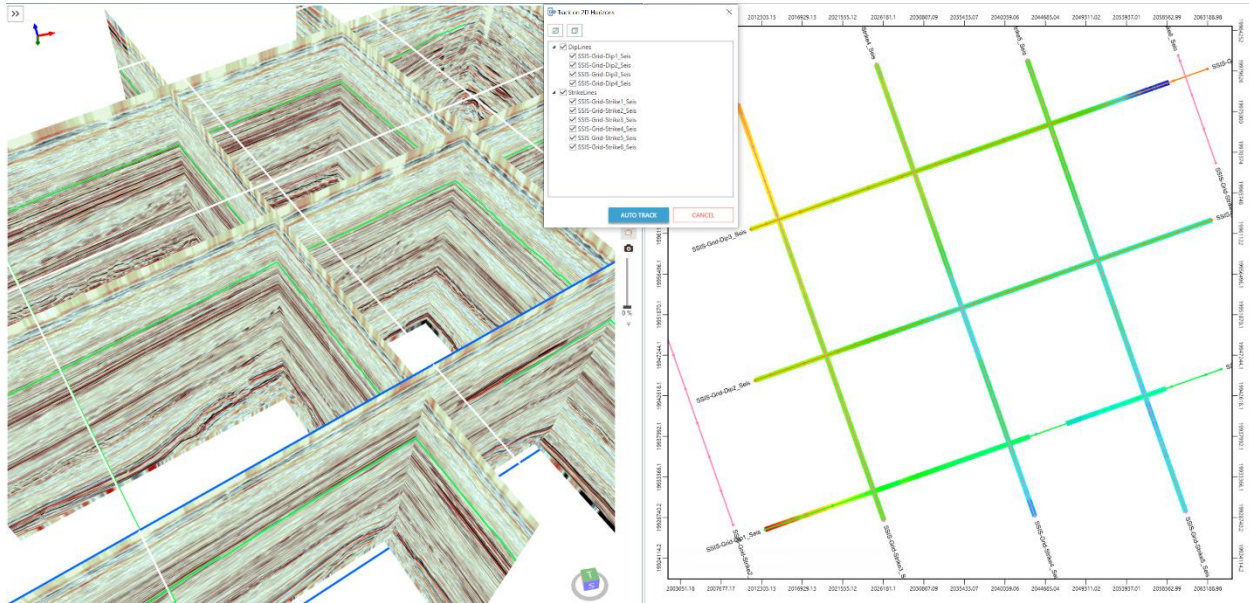
Installing GVERSE Geophysics

GVERSE Geophysics along with its 3D module, is installed seamlessly as part of the GeoGraphix installation. For system prerequisites and installation instructions, refer to the GeoGraphix Installation Guide on the GVERSE GeoGraphix Support Portal > Knowledge Center > [Release Notes and Installation Guides](#) page.

What's New in GVERSE Geophysics 2022.1

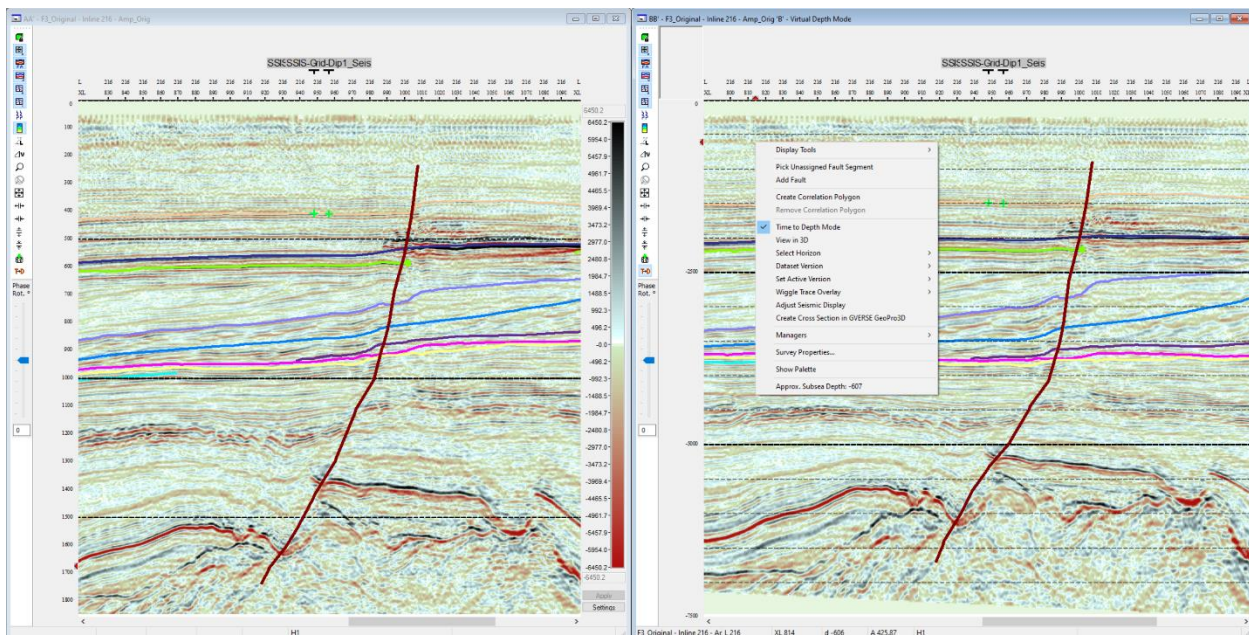
Autopicker for 2D Lines

Use the new 2D line horizon tracker to automatically track and pick events across intersecting 2D lines. The tracker honors any time, phase or amplitude shifts applied to the data.



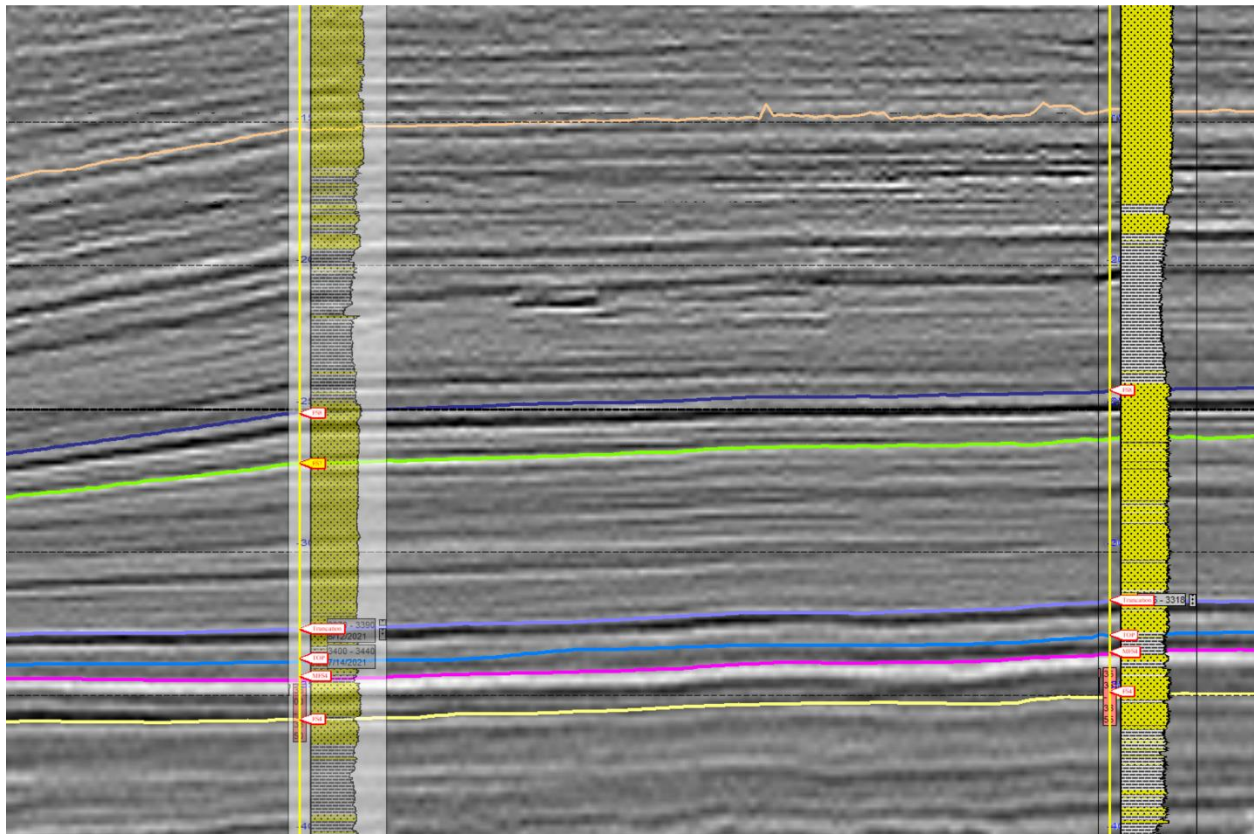
Depth Mode for Time Interpretations

See how a seismic line would appear in depth using the new Depth Mode view. All data including seismic and any horizons, faults and wells are converted on-the-fly using the velocity model.



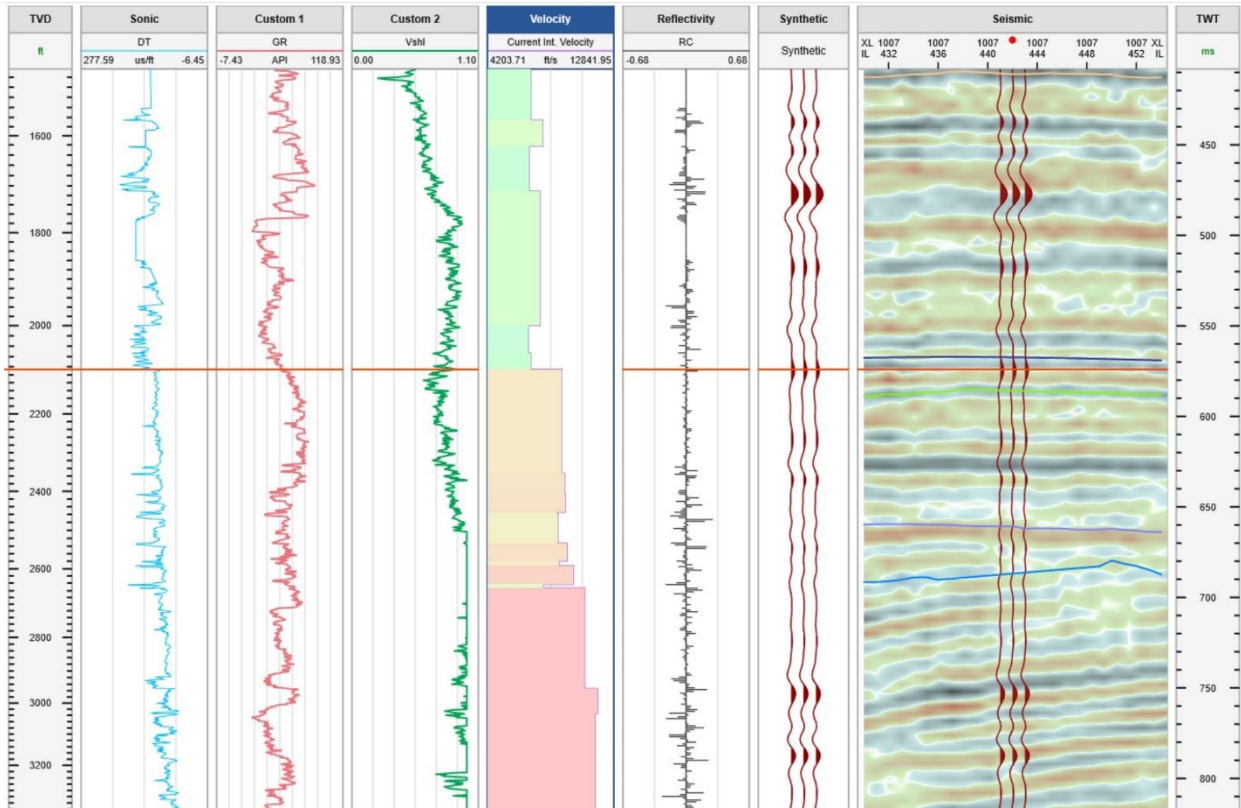
Log Template on Seismic Sections

Apply GVERSE Petrophysics templates to wells on seismic sections. All template features like area fills, data postings, curve and track properties, and real-time UDE calculations are supported.



Custom Tracks and Scales for SynView

Add up to 5 custom tracks in addition to the sonic and density tracks to display other curves from a well. Cursor tracking between tracks and configurable scales and grid lines for improved usability.



Other Features

- View velocity model values on seismic sections.
- Edit log values directly in SynView.
- Despiking, upscale and edit log curves in intervals.
- Import differently formatted time-depth tables.
- One-click display setting match for objects in the 3D scene.
- Create clones of interpretation objects.
- Snap interpolated picks to events when filling gaps in horizons.
- Sync active horizon and fault color between 2D and 3D views.
- Horizon, fault and geobody colors are added with the respective entities in the trees.


Fixed Issues

ID	Description
237966	GeoQuest 3D horizon with names exceeding 16 characters could not be imported to a GVERSE Geophysics interpretation. This issue has been fixed.
235721	Seismic data for the displayed version could not be subset to minimum time. This issue has been fixed.
230073	In certain scenarios, scrolling arbitrary lines to different position on Main Map View in GVERSE Geophysics caused the application to crash due to a memory leak. This issue has been fixed.
230062	Setting a default color palette for all horizons using the Default Color Map Settings dialog did not work for newly created horizons. This issue has been fixed.
216001	In a specific case, there was an issue in time to depth computation. This resulted in a mismatch between depth converted horizon and seismic. This issue has been fixed.

Third Party Applications

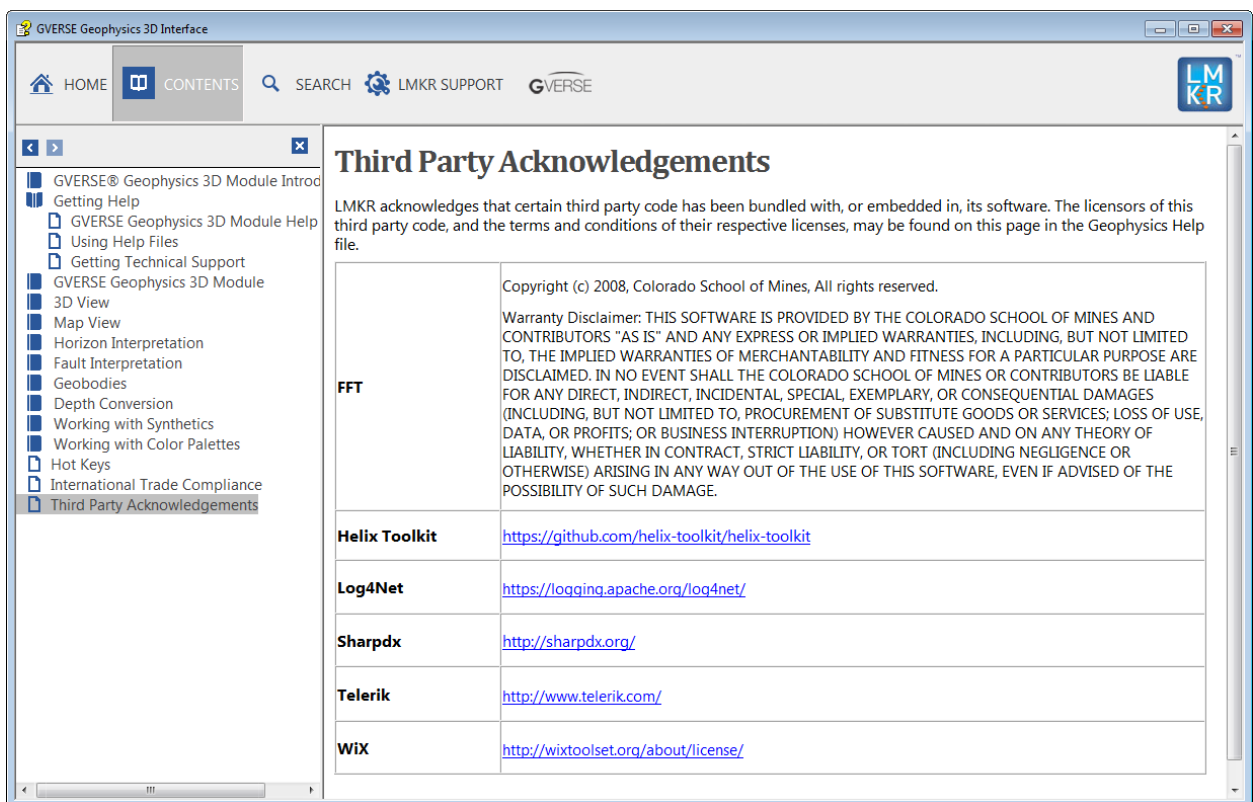
We acknowledge that certain third party code has been bundled with, or embedded in, our software. The licensors of this third party code, and the terms and conditions of their respective licenses, may be found in the Geophysics help file.

To access the 3rd party license agreements:

1. Either press <F1> or click the **Help** button  located at the top right corner.

The Help window displays.

2. In the **Contents** pane, locate the **Third Party Acknowledgements** help topic as shown in the image below.



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 here (if available) represent our 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 support@lmkr.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

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.

EAR - Export Administration Regulation - The EAR is a set of regulations that are administered by the Bureau of Industry and Security, which is part of the US Commerce Department. In general, the EAR govern whether a person may export a thing from the U.S., re-export the thing from a foreign country, or transfer a thing from one person to another in a foreign country. The EAR apply to physical things (sometimes referred to as "commodities") as well as technology and software.

The EAR number and the License type for this product are included in the table below. Also included is the date the table was last updated.

Product/Component/R5000	EAR Number	License	Last Updated On
GVERSE Geophysics	EAR99	EAR	04/03/2018

Contacting GVERSE GeoGraphix Support

We are committed to providing the highest level of technical customer support in the industry. With an average tenure of more than thirteen years, our highly trained and experienced staff of technical analysts is comprised of geoscientists, engineers, land professionals, petrophysicists, and system specialists.

Please refer to our Customer Support timings mentioned below to ensure that you have access to our support analysts assigned to your region. When getting in touch with GVERSE GeoGraphix support, please remember that real-time support will not be available during bank holidays or after office hours. If you do get in touch with GVERSE GeoGraphix Support outside of work hours, please leave a voice message with a brief description of the issue that you are facing. Your voice message will be used to automatically create a support case for you. This will enable our analysts to attend to your issue and provide you with a resolution as soon as possible

North & South America	Europe, Middle East & Africa
<p>Monday – Friday 8 am – 6 pm CST* Toll Free (US/Canada) : +1 855 449 5657</p> <p>Colombia: +57 1381 4908</p> <p>United States: +1 303 295 0020</p> <p>Canada: +1 587 233 4004</p> <p><i>*Excluding bank holidays</i></p>	<p>UK: Monday – Friday 8 am – 5 pm* +44 20 3608 8042</p> <p>UAE: Sunday – Thursday (Dubai GMT+4) 8 am – 5 pm* +971 4 3727 999</p> <p><i>*Excluding bank holidays</i></p>
Asia Pacific & Australian Continent	Southwest Asian Countries
<p>Malaysia: Monday – Friday (Kuala Lumpur GMT+8) 9 am – 6 pm* +60 32 300 8777</p> <p><i>*Excluding bank holidays</i></p>	<p>Pakistan: Monday – Friday (Islamabad GMT+5) 9 am – 6 pm* +92 51 209 7400</p> <p><i>*Excluding bank holidays</i></p>

Helpful Links

Name	Website Address
GVERSE Homepage	http://www.gverse.com