



FieldPlanner

Optimize Your Production

Release Notes

GVERSE FieldPlanner* 2019.2

*Powered by
STI Technology



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Contents

- Introduction 1
- What is GVERSE Field Planner? 1
- Main Features 1
- Benefits 1
- Installing GVERSE Field Planner 2
- What’s New in GVERSE Field Planner 2019.2 2
- Fixed Issue 4
- Third Party Applications 5
- International Trade Compliance 6
- Definitions 6
- Contacting LMKR Support 7

Introduction

LMKR is pleased to announce the release of GVERSE® Field Planner* 2019.2.

This document provides an introduction to GVERSE Field Planner features and benefits. It also lists the changes available in this release.

What is GVERSE Field Planner?



GVERSE Field Planner is a one-of-a-kind, fully automated field planning solution for Oil and Gas exploration. GVERSE Field Planner optimizes well placement by automatically calculating the best pad locations in a lease or drilling unit based on surface, subsurface and engineering constraints. These constraints can be edited to suit individual preferences. The GVERSE Field Planner application is fully integrated with GeoGraphix. GVERSE Field Planner is a part of the GVERSE application suite by LMKR (<http://www.lmkr.com/gverse>).

LMKR GVERSE is a suite of geoscience and engineering solutions that integrate fully with GeoGraphix and are focused on enhancing the productivity of asset teams working on diverse geological and geophysical projects.

Main Features

- Avoid no-go zones – Existing wells, rivers, buildings, and environmentally sensitive areas
- Surface Hazards – Terrain slope (DEM) and custom shapefiles
- Subsurface Hazards – Avoid areas with existing wells
- Engineering – Apply constraints such as well spacing, kickoff depth and heel-to-toe distance
- Lease Areas – Add tracts

Benefits

- Plan hundreds of wells intelligently within minutes
- Flexible enough to take into account surface, lease, and subsurface hazards
- Quickly create, save, and analyze multiple field plan scenarios
- Generate Geoprognois reports
- Analyze field plan scenarios to determine optimal hydrocarbon production
- Assess field economics based on planned wells

* Powered by STI Technology

Installing GVERSE Field Planner

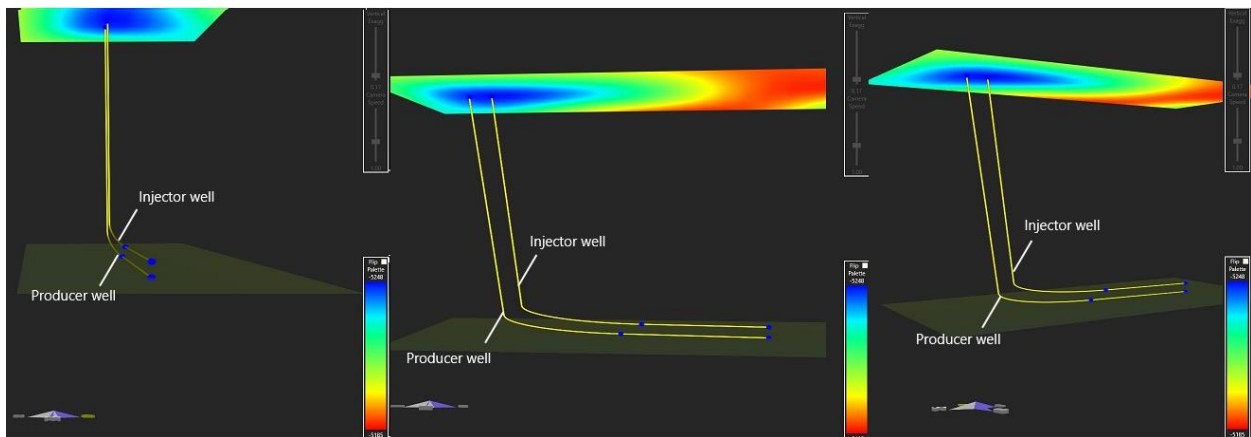
GVERSE Field Planner is installed seamlessly as part of the GeoGraphix installation. For system prerequisites and installation instructions, refer to the GeoGraphix Installation Guide on the LMKR Support Portal > Knowledge Center > [Release Notes and Installation Guides](#) page.

What's New in GVERSE Field Planner 2019.2

Steam Assisted Gravity Drainage (SAGD)

Steam Assisted Gravity Drainage (SAGD) functionality is provided in Field Planner Core. SAGD is a thermal production method for producing heavy oil trapped in tight sands and pore spaces. The oil's viscosity is reduced by injecting high-pressure steam into the reservoir through an injector well. The oil is pushed down within the formation due to gravity and is extracted from a producer well located below the injector.

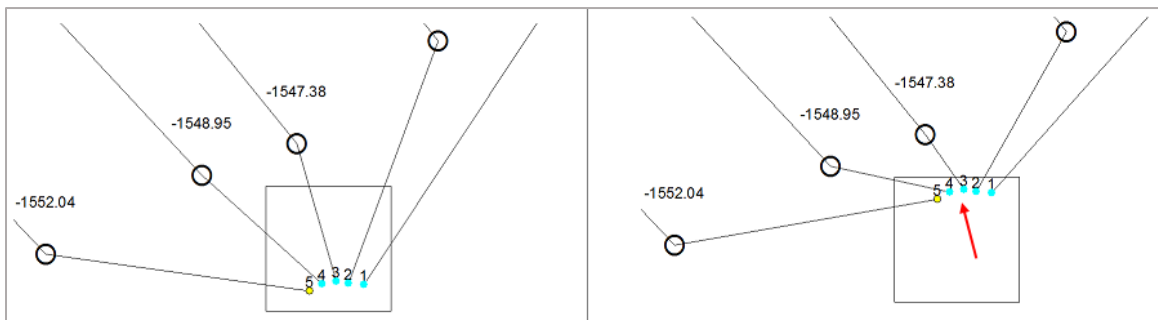
An example of a SAGD field plan is shown in the Pro3D viewer below.



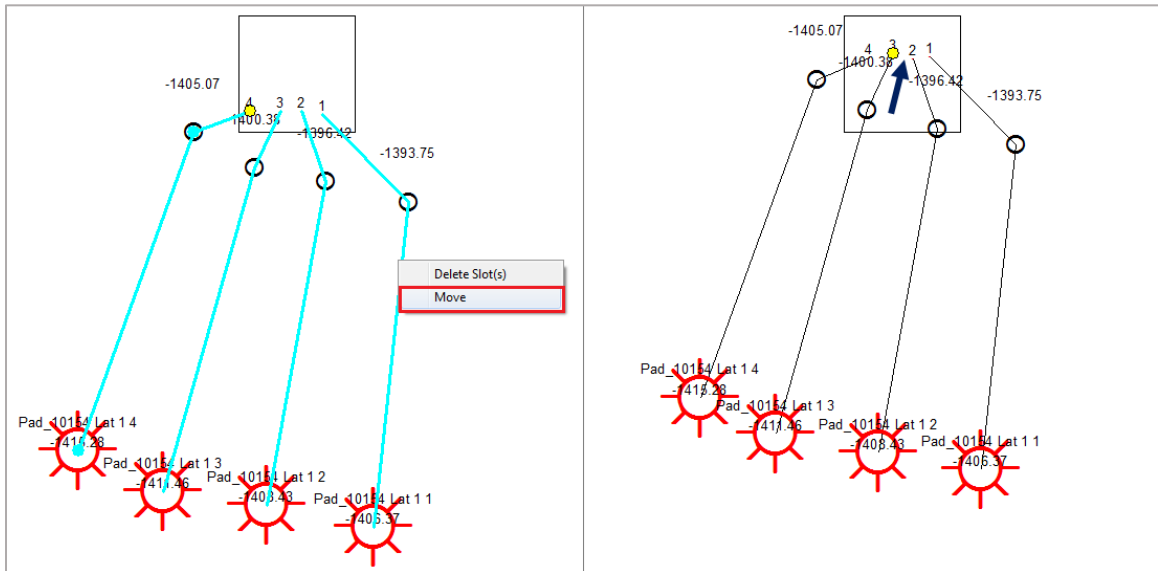
Move Multiple Well Pads, Sticks and Nodes Simultaneously

Multiple nodes, well sticks and well pads can be selected and moved simultaneously using the Pad Options dialog box.

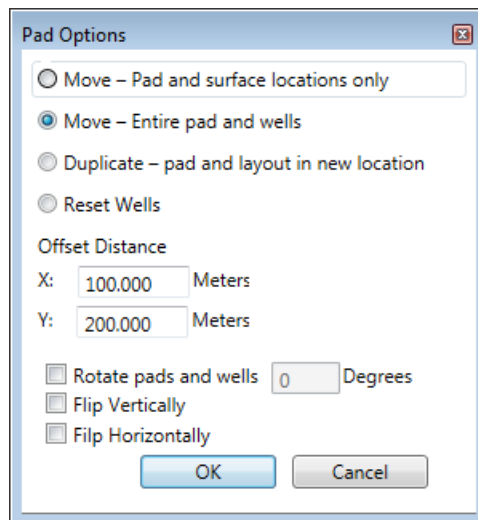
- Select **multiple well nodes** using the <Ctrl> key and right-click. Set the **XOffset** and **YOffset** distance to place the selected nodes at the new location on the map. You can also select and drag and drop multiple nodes to a new location.



- Select **multiple well sticks** using the <Ctrl> key and right-click. Set the **XOffset** and **YOffset** distance to place the selected well sticks at a new location on the map. You can also select and drag and drop multiple well sticks to a new location.



- Select **multiple well pads** using the <Ctrl> key and right-click. In the **Pad Options** dialog box,
 - **Move – Pad and surface locations only** relocates the pads and well surface locations, leaving the landing points and bottom hole locations at their original positions.
 - **Move – Entire pad and wells** moves the pad and associated wells to a new location.
 - **Reset Wells** resets wells to the original layout as defined in the field plan.
 - Define the X and Y coordinates for the new placement position and place the selected pads at an angle in degrees or flip horizontally or vertically at the new position.



Duplicate Multiple Well Pads

Multiple pads and groups of wells can now be selected and duplicated in the field plan using the Pad Options dialog box. Select multiple pads or groups of pads using the <Ctrl> key and right-click. Select **Duplicate – pad and layout in new location**. Set the offset distance as X and Y coordinates and place the duplicated pad(s) at an angle in degrees or flip the duplicated pad(s) horizontally or vertically.

Pad Options

Move – Pad and surface locations only

Move – Entire pad and wells

Duplicate – pad and layout in new location

Reset Wells

Offset Distance

X: 100.000 Meters

Y: 200.000 Meters

Rotate pads and wells 45 Degrees

Flip Vertically

Flip Horizontally

Pad Information

Elevation (m) 0

OK Cancel

Fixed Issue


The following customer reported issue is fixed in this release.

ID	Description
177753	The complex geometry of polygons in a shapefile (if any) converts to a simple geometry when performing geometric operations in Lease Planner. Previously, an error displayed when importing shapefiles with complex geometries and required the user to exit and relaunch the application.

Third Party Applications

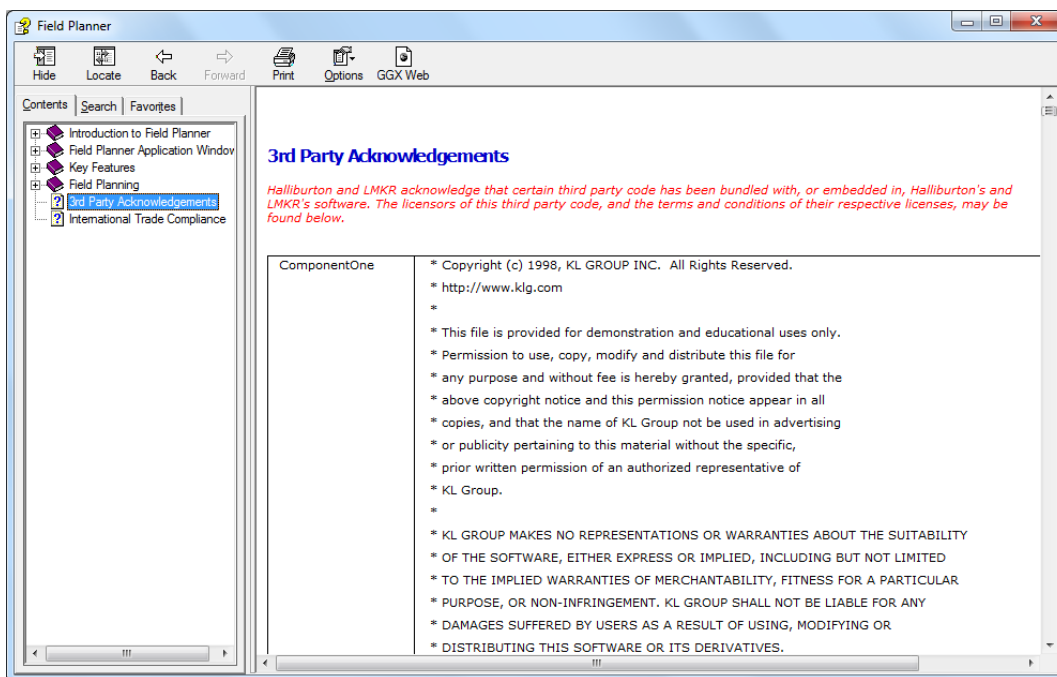
LMKR acknowledges that certain third party code has been bundled with, or embedded in, its software. The licensors of this third party code, and the terms and conditions of their respective licenses, may be found in the help file.

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 **3rd 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 LMKR's 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
GVVERSE Field Planner	EAR99	EAR	09/19/2018

Contacting LMKR Support

LMKR is 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 LMKR 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 LMKR 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 and South America	Europe, Middle East & Africa
<p>Monday – Friday 8 am-6 pm CST* Toll Free (US/Canada) : +1 855 GGX LMKR (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
LMKR Homepage	http://www.lmkr.com
LMKR GVERSE	http://www.lmkr.com/gverse
LMKR Support Portal	http://support.lmkr.com