## **Table of Contents**

| ntroduction                                    |        |
|--|--------|
| Launch the KINGDOM softwarevii                 |        |
| Project Tree xi                                |        |
| Base Map Icon Toolbar xiii                     |        |
| Feature Keys and License Statusxv              |        |
| Typographical Conventions                      |        |
| Chapter 1: Getting Started                     |        |
| Author Copy                                    | )      |
| Copy tab                                       | )      |
| Copy Data to a new Author                      | 3      |
| Select Wells to Display by Query               | ,      |
| Query by Formation Tops                        | ,      |
| Query Wells for Core Reports                   |        |
| Query for Time-Depth Charts                    |        |
| Limit the X/Y Range of a field                 |        |
| Create a Queried Subset of Deep Wells          |        |
| Well Spreadsheet                               |        |
| Order Wells, Display Coordinates and C38 Top   |        |
| Display Surveys by Query                       |        |
| Select Survey Subsets - List or Graphically    |        |
| Select Survey Subsets                          |        |
| Survey Subset Properties                       |        |
| Assign Survey Subset Properties                |        |
| Examine Survey Details                         |        |
| Survey Spreadsheet                             |        |
| Copy to Survey Spreadsheet                     |        |
| User Preferences                               |        |
| OSCI I TOTOTOTOCO                              |        |
| Chapter 2: Navigating the Seismic Survey       |        |
| Display 3D In-Lines and Cross Lines            |        |
| Move 3D Lines on Base Map                      |        |
| Display Line from Vertical Seismic Display     |        |
| Display 2D Line                                |        |
| Display Arbitrary Line                         |        |
| Move Arbitrary Line                            |        |
| Save Arbitrary Line                            |        |
| Select Saved Arbitrary Line                    |        |
| Single Line with Selected Wells Arbitrary Line |        |
| Multiple Across a Single 3D Survey             | )<br>7 |
| Balance Amplitudes                             |        |
| Dalatice Amplitudes                            | ,      |
|  |        |

Horizons Toolbar 4.6
Create Fault Polygons 4.9
Assign Unassigned Fault Polygons 4.12
Generate Automatic Fault Polygons 4.13
Display Options for Fault Polygons 4.14
Associate Fault Polygons with Horizons and Grids 4.14
Auto Picking Horizons 4.16
Basic Autopicking 4.17
Autopick - 3D Hunt 4.19
Polygon Smooth 4.20
Polygon Erase 4.21
Displaying Horizon Amplitudes on the Base Map 4.21
Contouring 4.23
Saving Contours 4.27

iv

Chapter 5: Time-Depth Horizon Conversion

Appendix A: Speed Keys

Appendix B: Context Sensitive Arrow Keys

Appendix C: PAKnotes Tutorial

# Introduction

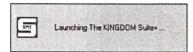
The **KINGDOM** software Courses are designed to be used in a classroom environment and to provide in-depth training for the specified application, in this case, Introduction to 2d/3dPAK.

For more complete information, please refer to the 2d/3dpak — Earthpak Users Manual or to the on-line Help documentation (Help > The KINGDOM Suite Help Topics).

### Launch the KINGDOM software

SMT KINGDOM software is accessed through the Windows Start menu.

- 1. Click on Start > Programs > The KINGDOM Suite 7.5 > The KINGDOM Suite, or use the SMT icon . You can also start the KINGDOM software by double clicking on the projectname>.tks file in the project directory.
- 2. While the **KINGDOM** software is starting, two temporary windows open, one of which is animated and checks off licenses that are available.



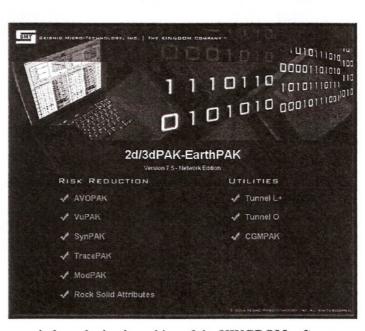


Figure 1 — Temporary windows during launching of the KINGDOM software

3

## **Start Page**

The Start Page window (Figure 1) opens when you first log on to KINGDOM.

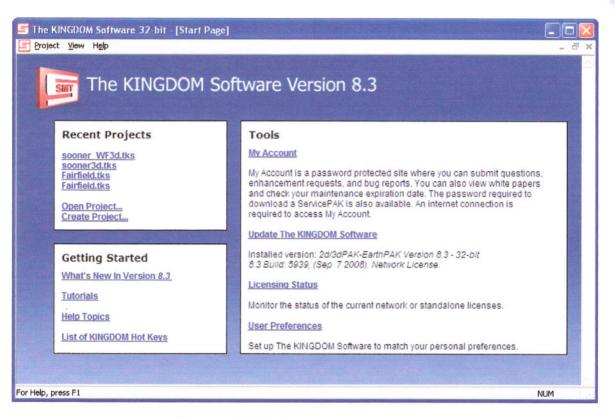


Figure 1 - KINGDOM Software Main Window

The Start Page window displays three areas, each of which allows you to perform specific tasks.

- Recent Projects open recently accessed projects or create a new project.
- Getting Started view What's New features in this version, a list of online Tutorials, online Help Topics, and a List Of KINGDOM Hot Keys.
- Tools sign on to My Account, Update KINGDOM Software, monitor the current Licensing Status, and specify your User Preferences

Note: You can also use the main menu in the Start Page window to perform all these tasks.

A default author name is displayed in the **Select Author** dialog box.

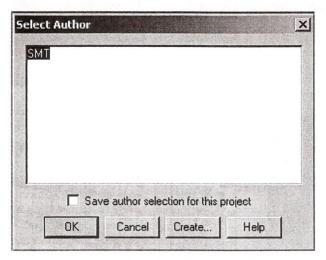


Figure 4 — Select Author dialog box

- In the Select Author dialog box, click on the Create button to open the Author Management dialog box in which you can enter your initials and create a New Author Name.
- 7. Click on OK.
- 8. In the Select Author dialog box, click to select and highlight your initials.
- 9. Click **OK** to open the **Project Tree** and **Base Map** windows (Figure 5 on page x).

Note: After you have started the KINGDOM software choose Project > User Preferences to open the User Preferences dialog box. Click on the Startup tab and, if desired, change the setting for which windows open on Startup.

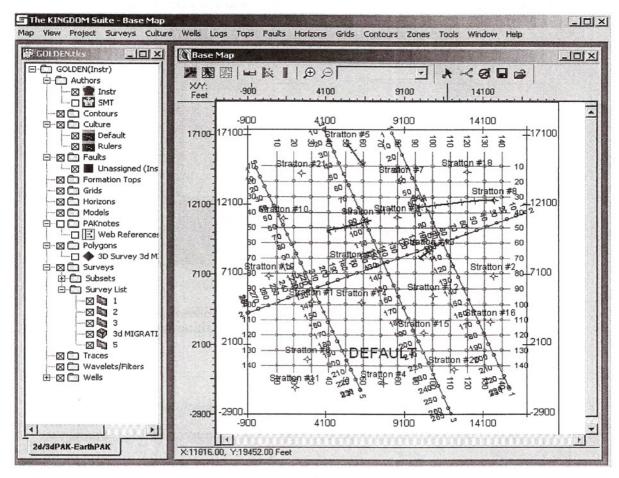


Figure 5 - The KINGDOM Suite Window Showing Project Tree and Base Map

## **Project Tree**

The **Project Tree** is a graphical data manager displayed in Figure 6. There are fourteen data folders contained in the **Project Tree**. Folders are expandable or collapsible by clicking on the plus or minus sign in the box adjacent to the folder in the tree structure. A plus sign indicates that the folder has been populated with data. Expanding a folder will reveal data items and subfolders.

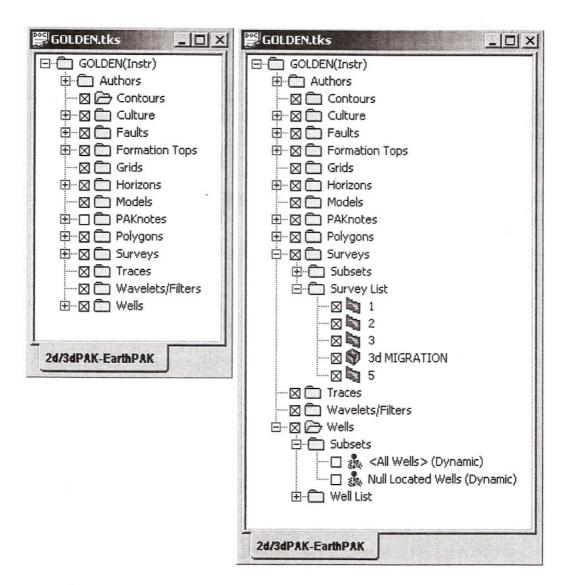


Figure 6 - Project Tree with expanded folders

The Project name is displayed at the top of the **Project Tree** and the current **KINGDOM** license(s) in operation are shown in a tab at the bottom of the **Project Tree**.

To continue this course, you should have 2d3dPAK/EarthPAK on that tab. If 2d3dPAK\EarthPAK is not shown as a tab at the bottom of the Project Tree select from the main menu, Project > Feature Keys to open the License Status dialog box.

Data Managers can be opened by double clicking on a yellow data folder excluding the **Traces** and **Wavelets/Filters** folders. Double clicking on subfolders will open other tools for example, the **Survey > Subsets** folder will open the **Survey Query** tool dialog box and the **Surveys > Survey List** folder will open the **Select Surveys to Display** dialog box.

Additionally, the **Wells > Well List** subfolder contains a listing of individual wells that have been loaded into the project. Individual wells can be expanded showing data that has been loaded into the well such as formation tops, log curves, synthetics and T-D (time to depth) charts.

With the exception of the **Log Curves** subfolder, double clicking on the **Synthetic** subfolder will launch SynPAK (if licensed) and double clicking on the **T-D Charts** subfolders will open the Time-Depth Charts editor.

Other functionality in the Project Tree includes;

- Drop and Drag data items to the Base Map; Contours, Culture, Faults, Grids and Horizons
- Toggle ON and OFF data items displayed on the Base Map; Culture, Polygons, Wells and PAKnotes.

#### **Common KINGDOM Toolbars**

Following are illustrations and explanation of toolbars common to many KINGDOM applications.

#### **Base Map - Viewing Toolbar**

The figure below shows the Viewing toolbar. You can access the Viewing toolbar by choosing **View > Toolbars** from a Base Map and then checking Viewing on the Toolbars dialog box.



Figure 4 Viewing Toolbar for a Base Map

The table below describes the Viewing toolbar icons.

Table 1 Explanation of Viewing ToolbarIcons for a Base Map

| Icon        | Icon Name              | Explanation of Function   |
|-------------|------------------------|---|
|             | Select                 | Opens the Select Data to Display Map dialog box, in which you can select data to display in the Base Map window.  |
| 23          | Compute Contour        | Opens the Select Data to Display Contour dialog box where you can select the information for displaying contours in the Base Map window.  |
| <b>2</b> 23 | Set Contour Parameters | Opens the <b>Contour Parameters</b> dialog box where you can set the parameters for a selected contour.   |
|             | Set Scales             | Opens the <b>Settings</b> dialog box where you can set the scale, latitude/longitude ticks placement, display options, seismic options (slice increments) and the margins for the <b>Base Map</b> window.   |
| LOD         | Level of Detail        | Enables or disables the level of detail. To set up the <b>Level of Detail</b> select <b>Project&gt;Project Options</b> . The various options are on the Level of Detail tab.  |
| N           | Color Bar Editor       | Opens the Color Editor dialog box where you can select another color bar file or edit the existing color bar.   |
|             | Show Color Bar         | Show the currently selected color bar.  |
| €           | Zoom In                | Enlarge an area of the window. Click on this icon and the cursor becomes a magnifying glass and when you click in the window you start the framing of an area. After framing, click again to see an enlarged view of the framed area in the window. |
| Q           | Zoom Out               | Return to the original view.  |

Table 1 Explanation of Viewing ToolbarIcons for a Base Map

| Icon        | Icon Name                        | Explanation of Function   |
|-------------|----------------------------------|---|
| tire.       | Ruler                            | Opens the Ruler dialog box, which allows you to digitize (draw) a line (ruler) in English (feet) or Metric (meters) units. You can digitize a traverse or an enclosure. The length of the traverse or the length of the perimeter of an enclosure (at least three lines) is displayed in miles or kilometers in the Ruler dialog box. |
| Q           | Planimeter Polygon               | Opens the Planimeter dialog box, which allows you to digitize (draw) a polygon in English (feet) or Metric (meters) units. The area within the polygon is displayed in English units (square feet, square miles or acres), or Metric units (square meters, square kilometers or hectares) in the Planimeter dialog box.               |
| <b>△</b> *  | Highlight Wells                  | Opens the <b>Highlight Wells</b> dialog box, which allows you to select subsets of wells that will be highlighted on the base map by a small red square drawn around the well(s).   |
| <u>=</u>    | Post Data on Map                 | Opens the <b>Post Data on Map</b> dialog box, which allows you to select a category of information to post in the Base Map window.  |
| ï.          | Cross Section through<br>Well(s) | Changes mode and allows you to digitize an arbitrary line that connects a series of wells and displays the wells as a cross section with logs and tops.   |
| <u>\$</u> 3 | Post Log Signature Map           | Opens the <b>Post Log Signature</b> dialog box, which allows you to select log curves to display on the <b>Base Map</b> .   |
| Amplitudes  | Current display data type        | Displays the current data type for the data displayed on the base map.  |

#### **Overpost Corrections Toolbar**

In a **Base Map** window, the **Overpost Corrections** toolbar provides options for dragging a posted well annotation to another position on the base map in order to eliminate clutter and improve readability. After annotation is corrected (moved or amended with additional text), it is shown connected to its respective well symbol with a dashed line.

The icons on the Overpost Corrections toolbar in a Base Map window are shown below.



**Figure 5 Overpost Corrections Toolbar** 

The table below describes the Overpost Corrections toolbar icons.

**Table 2 Overpost Corrections Toolbar** 

| lcon | Icon Name                    | Explanation of Function   |
|------|------------------------------|---|
| A    | Enable Posting Data Dragging | Toggle to enable moving well annotation.  |
| ×    | Show Posting Offset          | Toggle to display any moved well annotation.  |
| Ø    | Remove All Posting Offsets   | Deletes any offset annotations.   |
|      | Save Posting Offset Template | Adjust the overposted annotations on the base map and save the offsets as a template. |
| È    | Load Posting Offset Template | Retrieve your saved overposting template.   |

#### **Animation Toolbar**

In a **VuPAK** main window, the **Animation** toolbar (View > Toolbars > Animation) provides options to control animation in the active **VuPAK** display window.

The icons on the Animation toolbar in a VuPAK window are shown below.