

Lesson 10: Por3Well

Objective: This example is to generate a 3D model of porosity with given markers. A cross section is drawn through the three wells. Two wells are deviated.

Project Panel:

- Start a new project by clicking on the **File** pull down menu and click **New**
- Click the **Next** button on the lower left.

1. Import data and data quality control

Import Panel:

Load marker file first

- Click the pull down list at the top (initially **Not Defined**), then select **MarkerHeader**
- On **Search Path** panel, type in **TESTPOR3.DAT**
- Click **ListFile** button, then put check mark on **TESTPOR3.DAT**
- Click **Preview** button, then select **As Text**
- Click the **Convert** button

Load porosity logs

- Click the pull down list at the top (initially **MarkerHeader**), then select **From Log Data**
- Change the **File Type** select box to **Match Keyword**
- On **Search Path** panel, type in **TESTPOR3.LOG**
- Click **ListFile** button, then put check mark on **TESTPOR3.LOG**
- Click **Preview** button, then select **As Text**
- Click the **Convert** button
- Click the **Next** button on the lower left

DataQC Panel:

- Select bottom right box
- Click **Graph** button, then select **FanSection**

Data Overview: 3325 total points

| Wells | Traces | DataRead | DataNames | Deviate |
|-------|--------|----------|-----------|---------|
| 3 | 3 | 5 | 1 | 2 |

| X Min | X Max | Y Min | Y Max | Z |
|-----------|-----------|-----------|-----------|------|
| 2532307.0 | 2546742.0 | 10206570. | 10207950. | -123 |

| Data Av. | Data S.D. | Data Min | Data Max | Ske |
|-----------|-----------|----------|----------|------|
| 0.9390614 | 0.0971065 | 0.000 | 0.305 | 0.69 |

Duplicate logs (same well & log name)
 Duplicate Location (different well sam
 Inconsistent Location (same well diffe

Steps:
 Project
 Import
 > Data@C
 Variogram
 GridOption
 GridSize
 GridOutput

Project: UNTITLED Well: 3 Trace: 3 Dev: 2 Marker: 2 Matched: 100.000 %

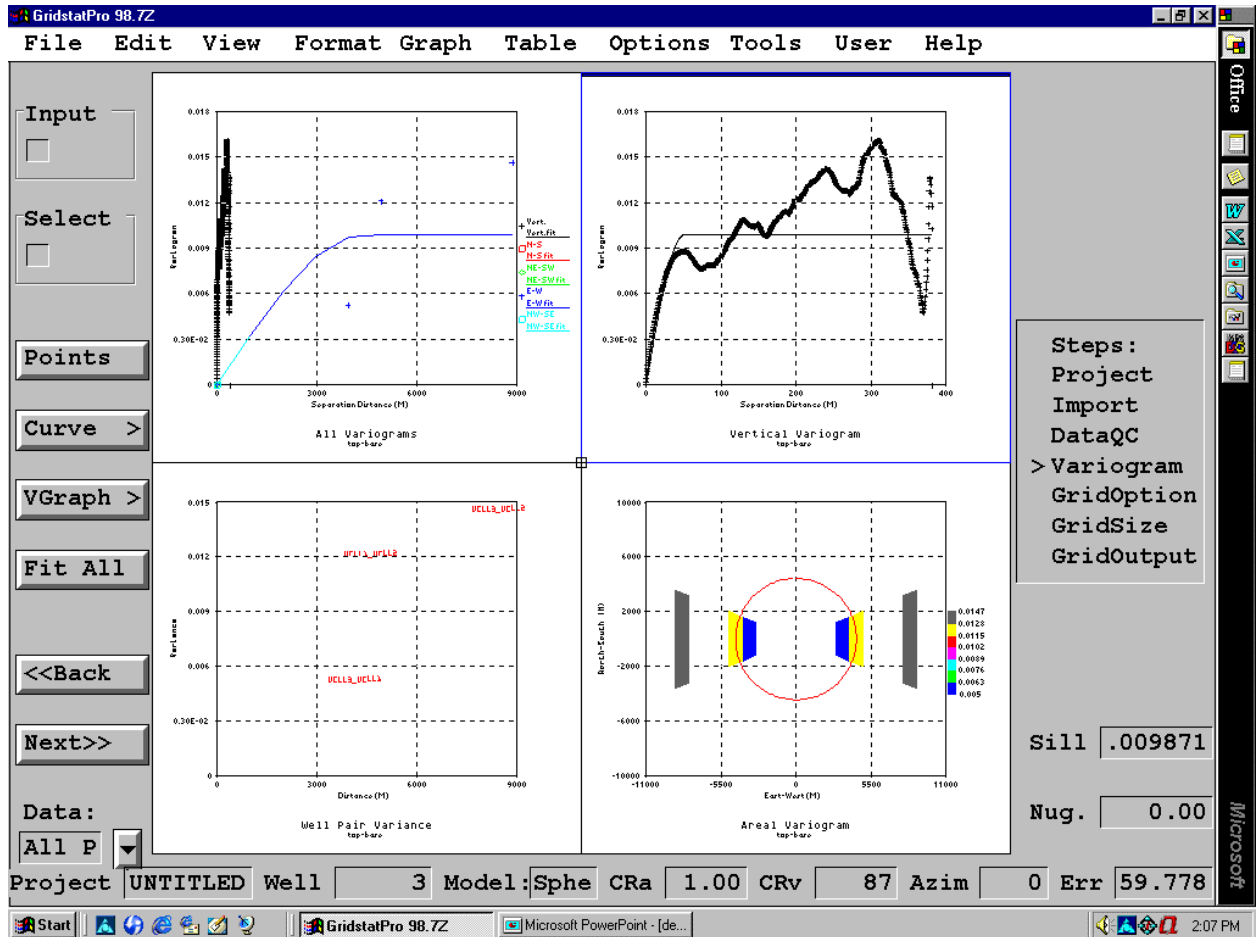
Show deviated wells

- Click **Options** button, then select **FanSection**
- Put a checkmark in front of **Deviated**
- Click **Close** button
- Click the **Next** button on the bottom left

2. Variogram and model fit

Variogram Panel:

- Click **Points** button
- Click **Curve** button, then select **Spherical**



- Click the **Next** button on the bottom left

GridOption Panel:

- Click the **Next** button on the bottom left

3. Build 3D porosity model by Kriging

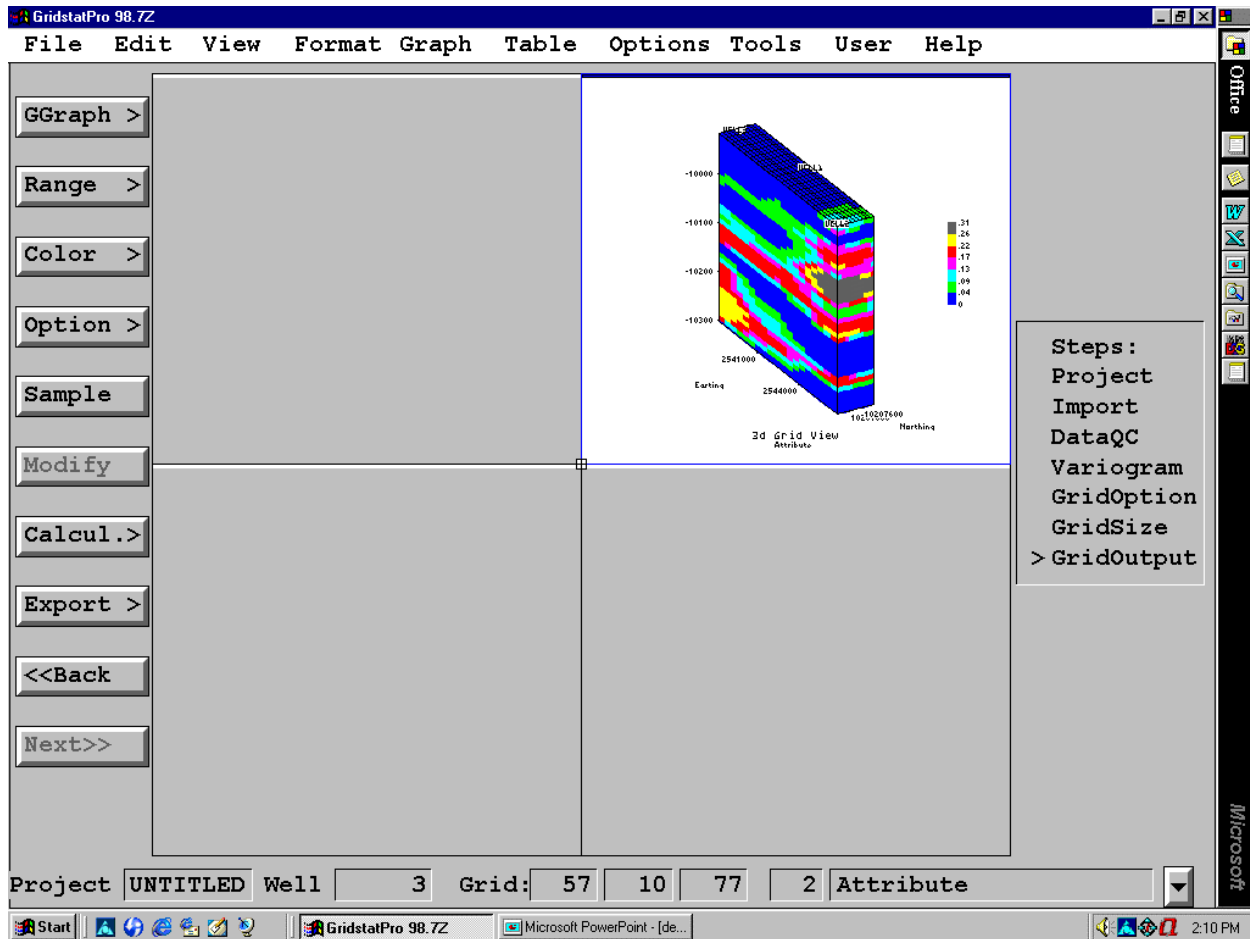
GridSize Panel:

- Change the **X** row, column **Inc.** to 150
- Change the **Y** row, column **Inc.** to 150
- Change the **Z** row, column **Inc.** to 5
- Click the **Start** button
- Click the **Next** button on the bottom left

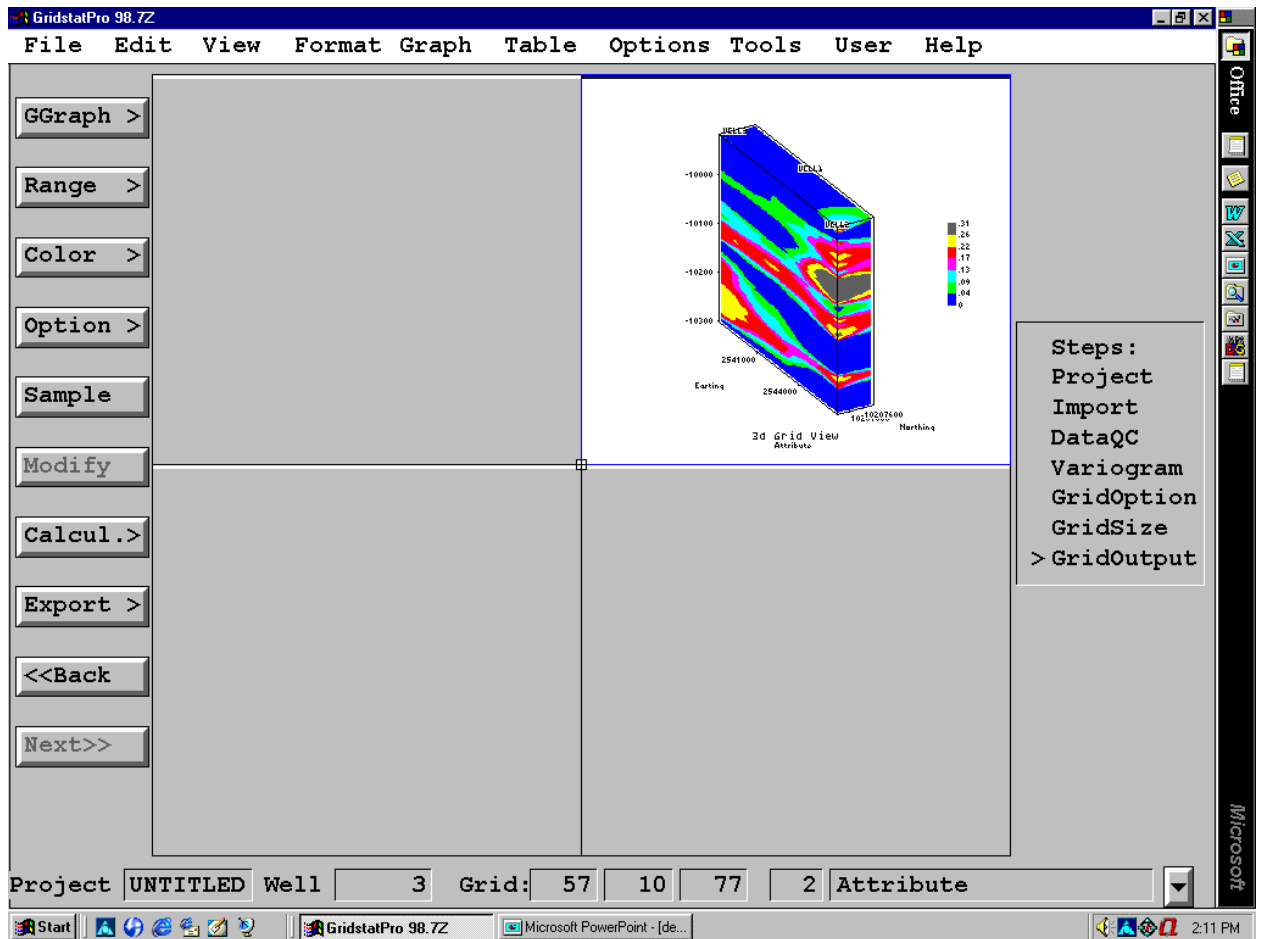
GridOutput Panel:

Display 3D model for porosity grid

- Click **GGraph** button, then select **3D View**

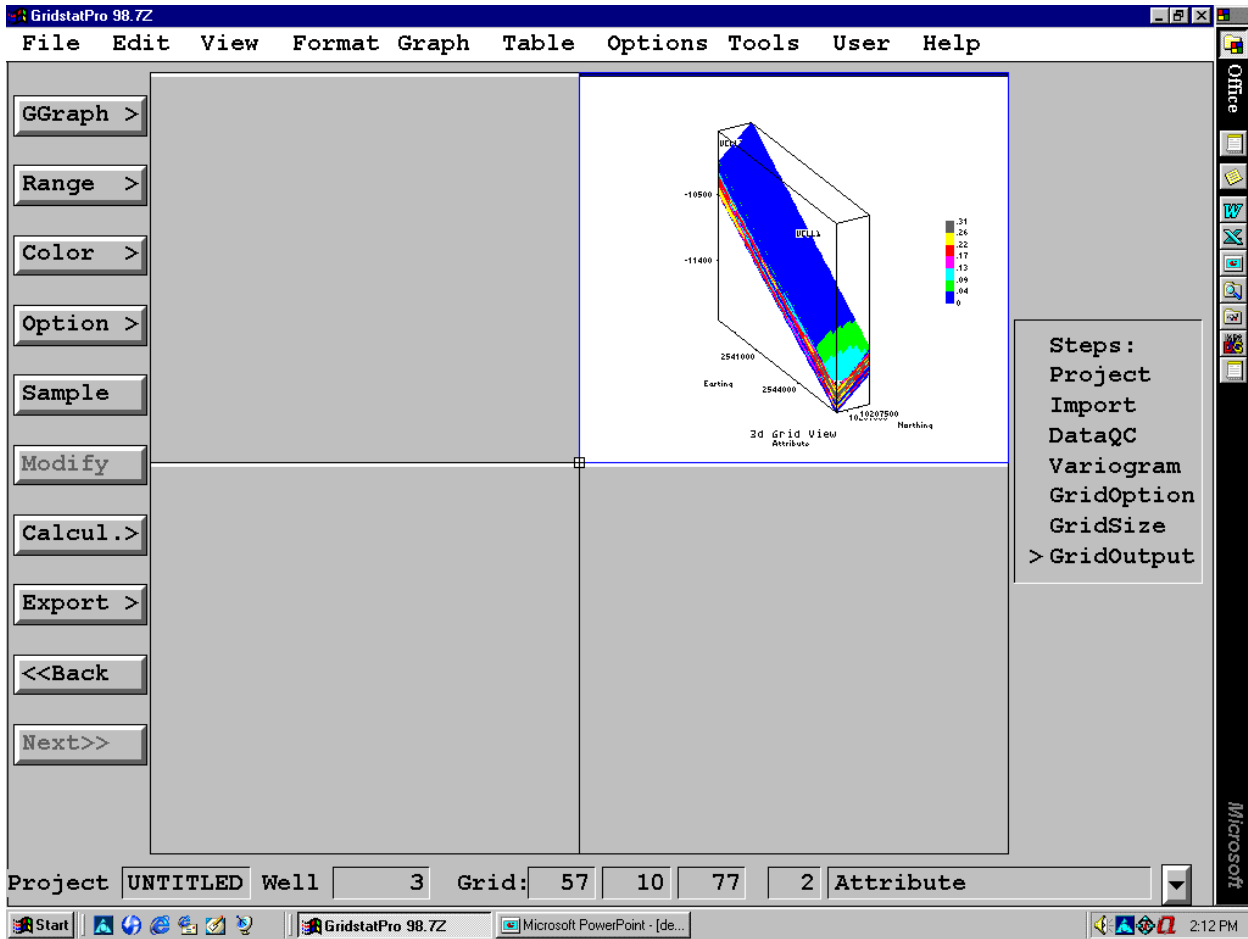


- Click **Option** button, select **FillType**, then select **Contour Fill**
- Click **Range** button, then select **Finest**

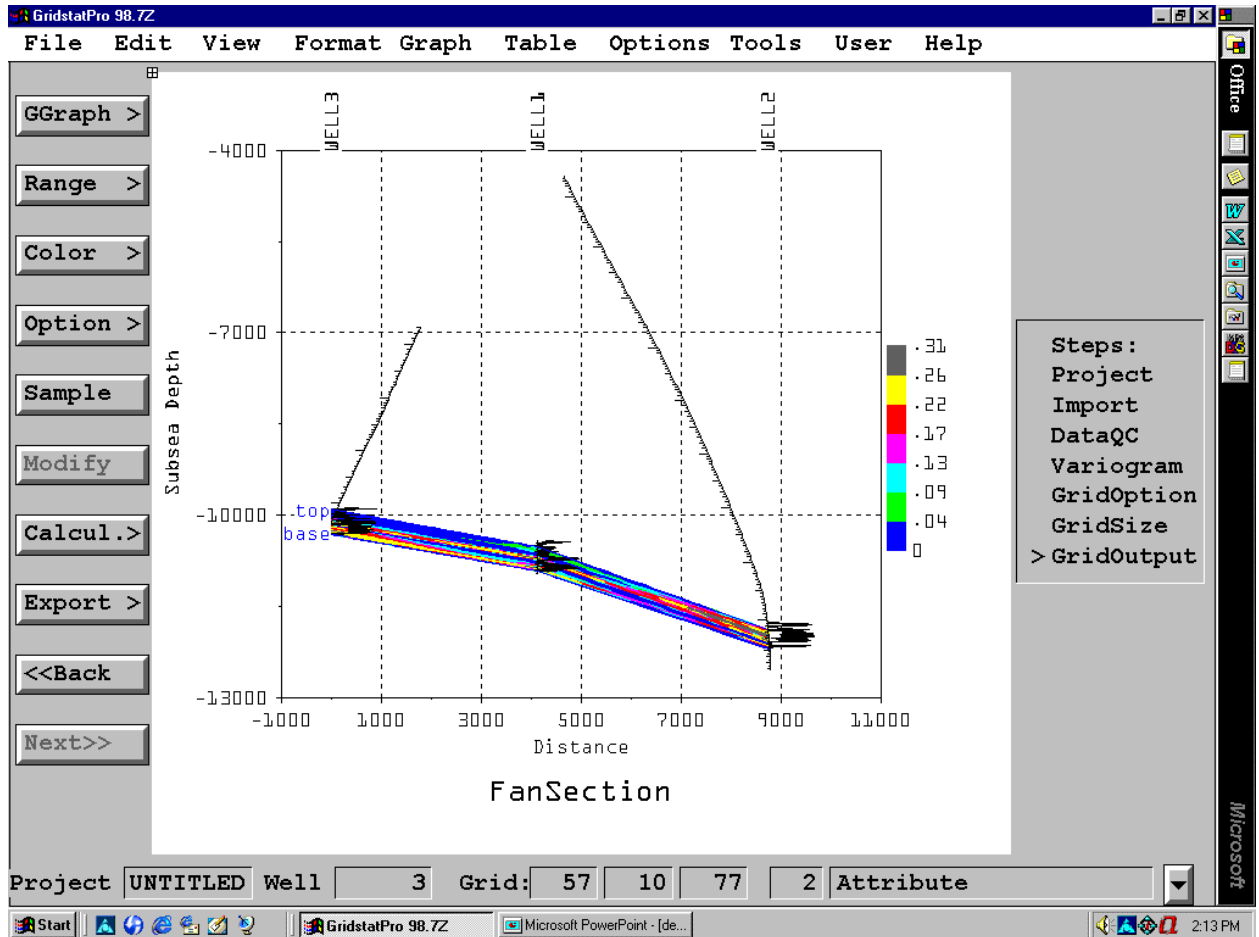


View in structure format

- Click **Option** button, then select **Structure**



- Select the top box on the left
- Click **Graph** button, then select **FanSection**
- Click **View** button, then select **1 Graph**



- Click **Options** button, then select **GridGraph**
- Put a checkmark in front of **Block Center**
- Click **OK** button

