Unpacking the 3rd D in 3D
Re-imagining the graph

ESRI USER CONFERENCE
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Why are we here?

**focus**

/ˈfɔːkəs/ (noun)

1. the center of interest or activity.
   - synonyms: center, focal point, central point, center of attention, hub, pivot, nucleus, heart, core, cornerstone, linchpin, cynosure
   - "schools are a focus of community life"

2. the state or quality of having or producing clear visual definition.
   - synonyms: focal point, point of convergence

**perception**

/perˈsepSH(ə)n/ (noun)

-the ability to see, hear, or become aware of something through the senses.
- "the normal limits to human perception"

- the state of being or process of becoming aware of something through the senses.
- "the perception of pain"

- a way of regarding, understanding, or interpreting something; a mental impression.
- "Hollywood's perception of the tastes of the American public"

**reinterpret**

/reɪˈɪnˌtərpɛt/ (verb)

- Interpret (something) in a new or different way.
Planar GIS  Can we do this?  Yes we can!  Profile GIS
Linear Referencing
• Route
• Events
• Measures

Legend
- L00 - Surface
- L01 - Upper Tertiary Aquifer
- L02 - Upper Middle Tertiary Aquifer
- L03 - Lower Middle Tertiary Aquifer
- L04 - Lower Tertiary Aquifer
- L99 - Basement

Profile GIS
One dataset - (aquifer profiles)
Why aren’t we using ESRI graphing capability?

- We want a graph that is data not a picture
- We want to be able to exaggerate in both dimensions
- We want to close the loop

Source: ESRI

Why aren’t we using 3D?

- Focus is the 3rd D
- Scale differences
- Perspective is not great for measuring
- Solids hide information
- Special tech / expertise / $ required
And now back to the problem…

need to understand the underground conditions

Drill Bores & Collect Available Information

Process and Present

Interpret

draw cross section in CAD by hand

What if the alignment changes?

Ground Services Data

Process takes a couple of hours
We are going to....

Create Data + GIS Automation + Reduce Time + Reduce Effort + Increase Volume + Add Value

Loop Back
The process diagram…

Events along a route

Cross Section

Bore Stratigraphy

Route Events  DTM Extraction  Profile Projection
Demo Video
• Metrics
  – Was: Few Hours
  – Now: Few Minutes
• Reduced effort
• Increased production volume
• Add value
  – Graphs re-imagined as data
• Loop back
Future Development

• Self-service desktop tool
• Online geoprocessing service
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