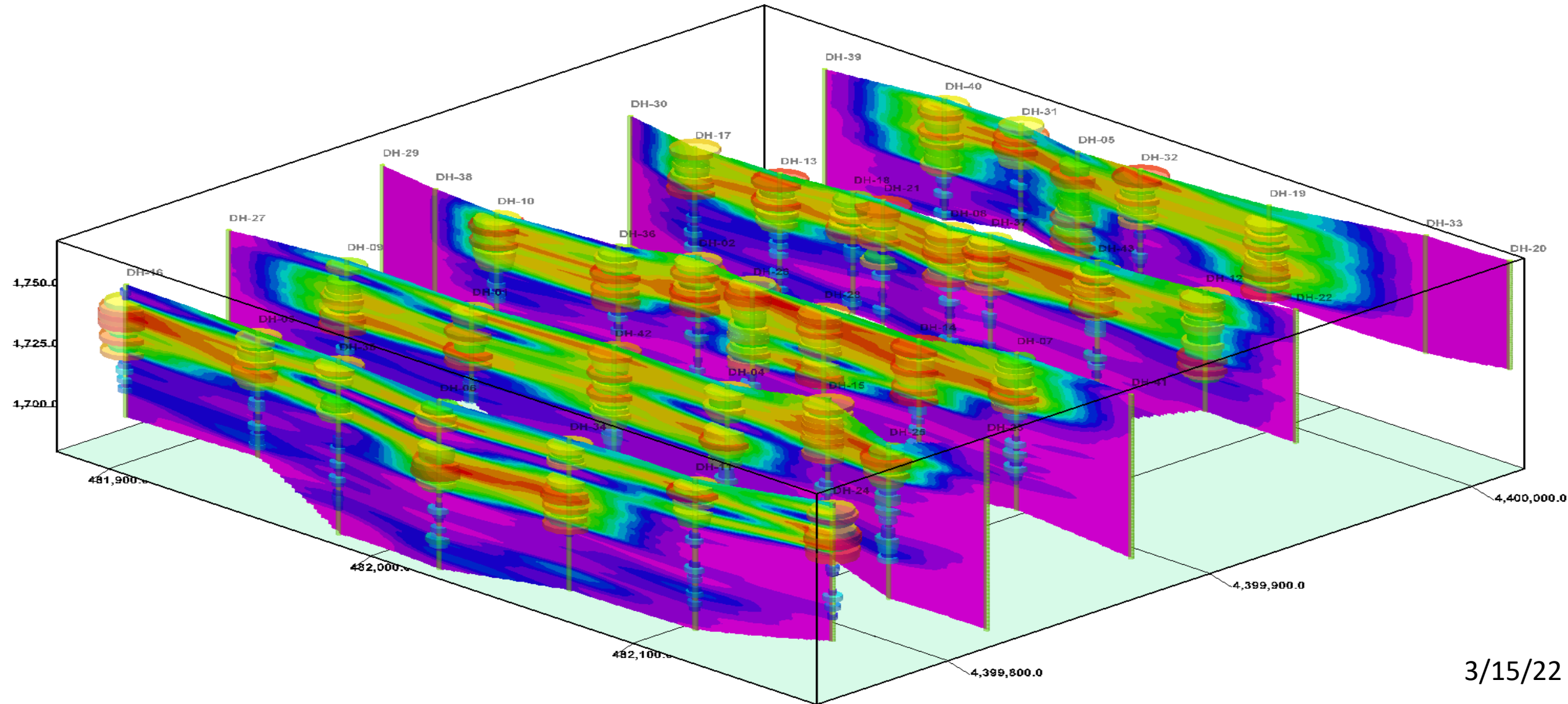


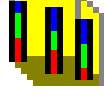



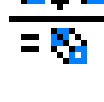





A RockWorks2022 Playlist for Creating Mass Flux Transects Based on Direct Push Data



The strategy shown within this Playlist was used to create mass flux transects for TCE and RDX groundwater contaminants.

- ☒  Plot 3D K Logs
- ☒  Plot 3D TCE Logs
- ☒  Plot 3D RDX Logs
- ☒  Interpolate K Model
- ☒  Interpolate TCE Model
- ☒  Interpolate RDX Model
- ☒  Create TCE Mass Flux Model
- ☒  Create RDX Mass Flux Model
- ☒  Create TCE Transects
- ☒  Create RDX Transects

RockWorks 2022
Version 2022.3.7

Project Folder: C:\Users\Jim\Documents\RockWorks Data\FNOP\

Playlist (FNOP) Datasheet (untitled) Project Manager Borehole Manager

File Edit View Video Help

Borehole Data QuickMap

Location
Orientation
Lithology
Stratigraphy
I-Data
I-Text
T-Data
P-Data
P-Text
Colors
Fractures
Water Levels
Symbols
Patterns
Bitmaps
Vectors
Construction

Depth	K	Gamma	Resistivity
0.0	0.6900702	74.1	188.2
0.0	0.0351053	34.5	57.6
0.6	0.6354062	73.6	177.3
0.9	0.609328	54.8	172.1
1.2	0.4478435	43.2	139.9
1.5	0.9162487	17.5	233.3
1.8	0.9077232	14.1	231.6
2.1	0.9057172	11.3	231.2
2.4	0.9458375	17.2	239.2
2.7	0.8665998	16.9	223.4
3.0	0.9669007	0.8	243.4
3.3	0.9643932	7.3	242.9
3.6	0.940321	15.0	238.1
3.9	0.9267803	13.0	235.4
4.2	0.8660983	12.0	223.3
4.5	0.9799398	6.6	246.0

The hydraulic conductivity (K) data can be typed directly into the RockWorks Borehole Manager, pasted from the Windows clipboard, imported from Excel files, or imported in a batch fashion using the RockWorks ***Geoprobe DI (Direct Image) Import*** option.

Next, the geochemical analyses were saved within the Borehole Manager / I-Data table.

RockWorks 2022
Version 2022.3.7

Project Folder: C:\Users\Jim\Documents\RockWorks Data\FNOP\

Playlist (FNOP) Datasheet (untitled) Project Manager **Borehole Manager**

File Edit View Video Help

Borehole

- ☒ DH-01
- ☒ DH-02
- ☒ DH-03
- ☒ DH-04
- ☒ DH-05
- ☒ DH-06
- ☒ DH-07
- ☒ DH-08
- ☒ DH-09
- ☒ DH-10
- ☒ DH-11
- ☒ DH-12
- ☒ DH-13
- ☒ DH-14
- ☒ DH-15
- ☒ DH-16
- ☒ DH-17
- ☒ DH-18
- ☒ DH-19
- ☒ DH-20
- ☒ DH-21
- ☒ DH-22
- ☒ DH-23
- ☒ DH-24
- ☒ DH-25

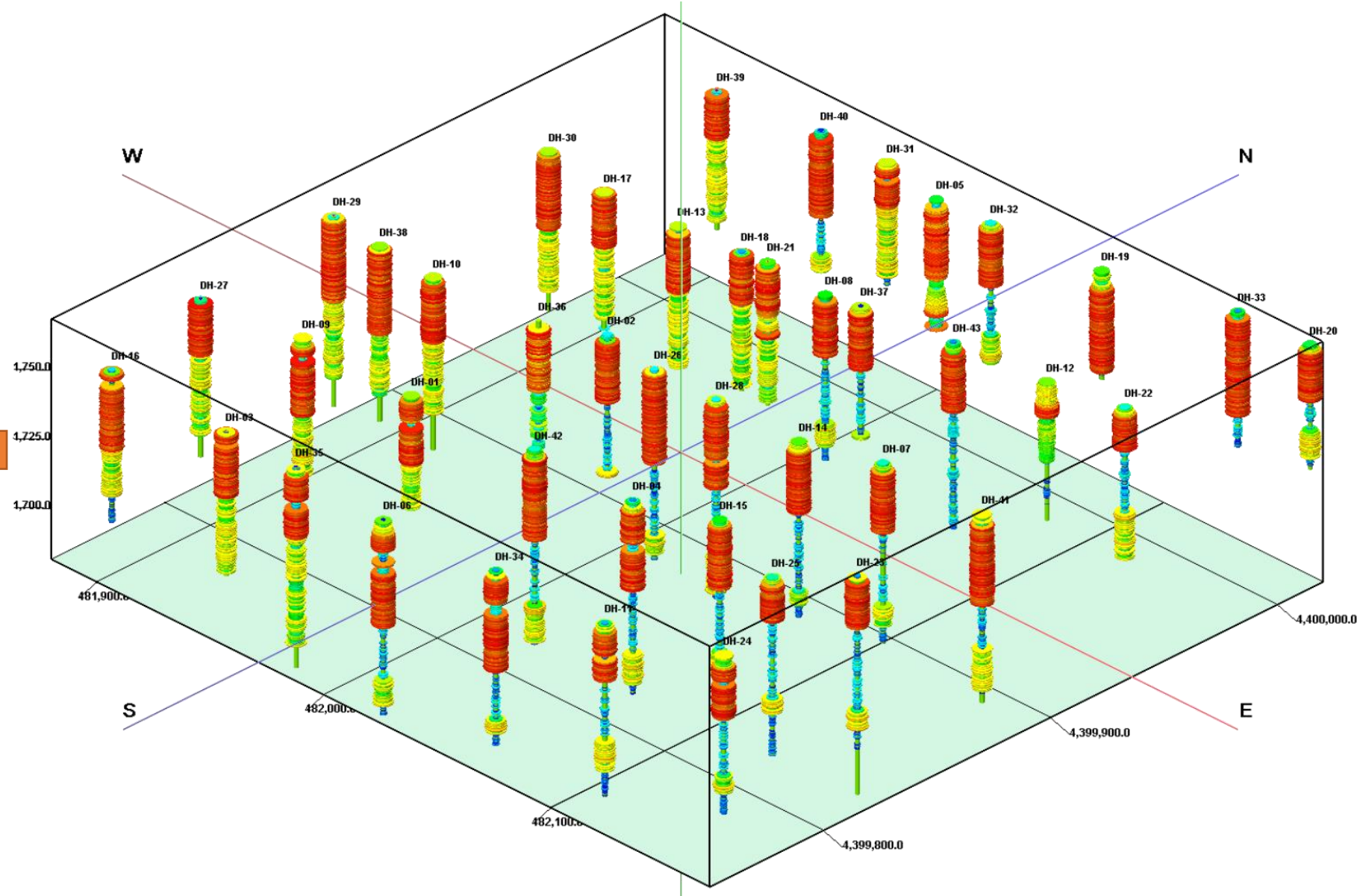
Borehole Data QuickMap











Location
Orientation
Lithology
Stratigraphy
I-Data
I-Text
T-Data
P-Data
P-Text
Colors
Fractures
Water Levels
Symbols
Patterns
Bitmaps
Vectors
Construction
Production

Datasheet	I-Data Types	Tab Manager	From Elevation	
Top Depth	Base Depth	TCE	RDX	PCB
0.0	1.0		0.84	
1.5	3.0	74.0	3.33	26.0
3.0	4.0	101.0	2.49	0.0
4.6	6.0	71.0	0.05	29.0
6.1	7.0	63.0	0.05	37.0
7.6	9.0	8.0	0.05	92.0
9.1	10.0	7.0	0.02	93.0
10.7	12.0	94.0	0.05	6.0
12.2	13.0	82.0	0.05	18.0
13.7	15.0	63.0	0.03	37.0
15.2	16.0	69.0	0.03	31.0
16.8	18.0	61.0	0.06	39.0
18.3	19.0	98.0	0.02	2.0
19.8	21.0	64.0	0.09	36.0
21.3	22.0	93.0	0.01	7.0
22.9	24.0	94.0	0.07	6.0
24.4	25.0	31.0	0.08	69.0
25.9	27.0	24.0	0.05	76.0
27.4	29.0	4.0	0.05	96.0

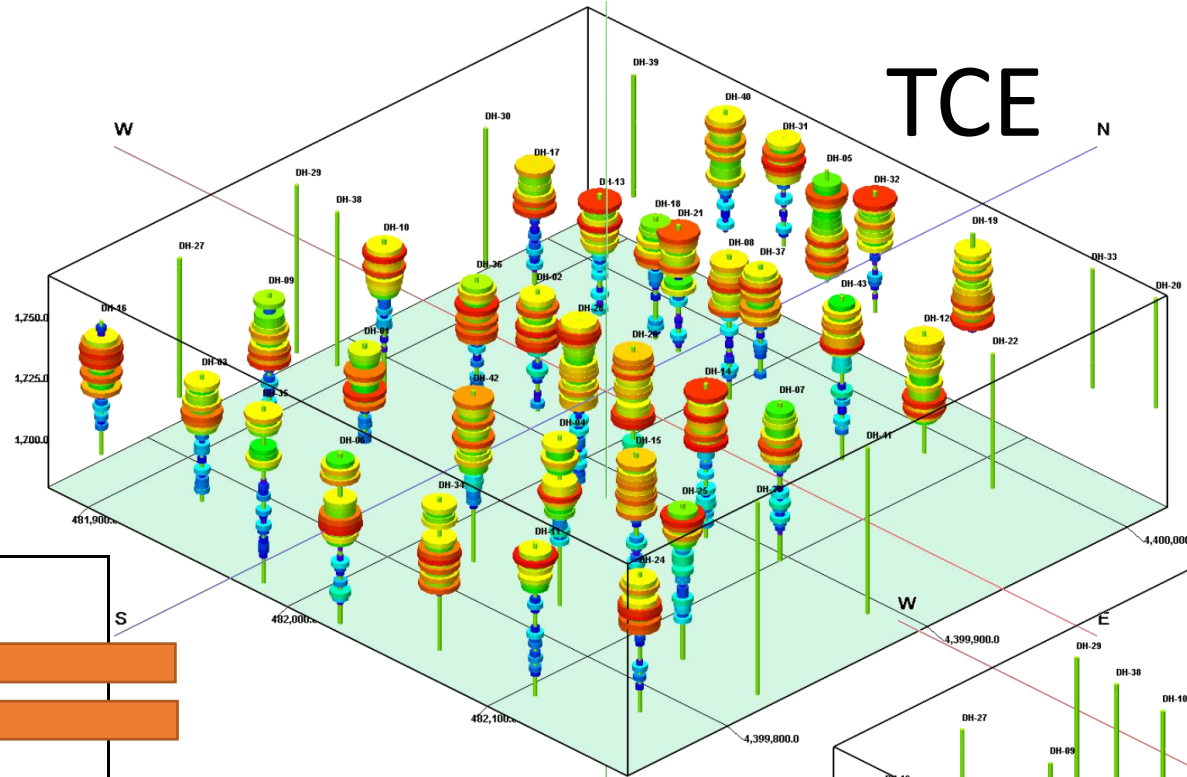
This data can be typed directly into the RockWorks Borehole Manager, pasted from the Windows clipboard, or imported from Excel files.

The *Borehole Operations / Striplogs / 3D Striplogs* program was then used to plot the K data as color-coded spindles.

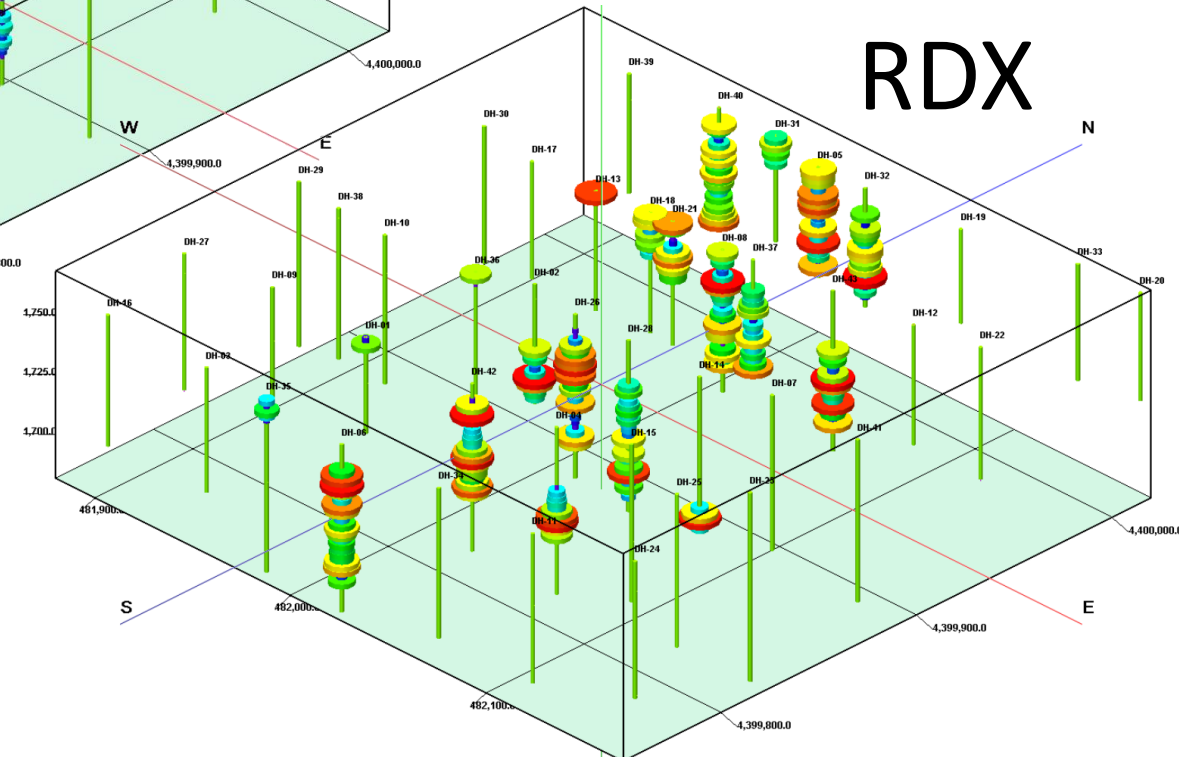


- ☒  Plot 3D K Logs
- ☒  Plot 3D TCE Logs
- ☒  Plot 3D RDX Logs
- ☒  Interpolate K Model
- ☒  Interpolate TCE Model
- ☒  Interpolate RDX Model
- ☒  Create TCE Mass Flux Model
- ☒  Create RDX Mass Flux Model
- ☒  Create TCE Transects
- ☒  Create RDX Transects

Next, the *Borehole Operations / Striplogs / 3D Striplogs* program was used to plot the TCE & RDX data as color-coded spindles.



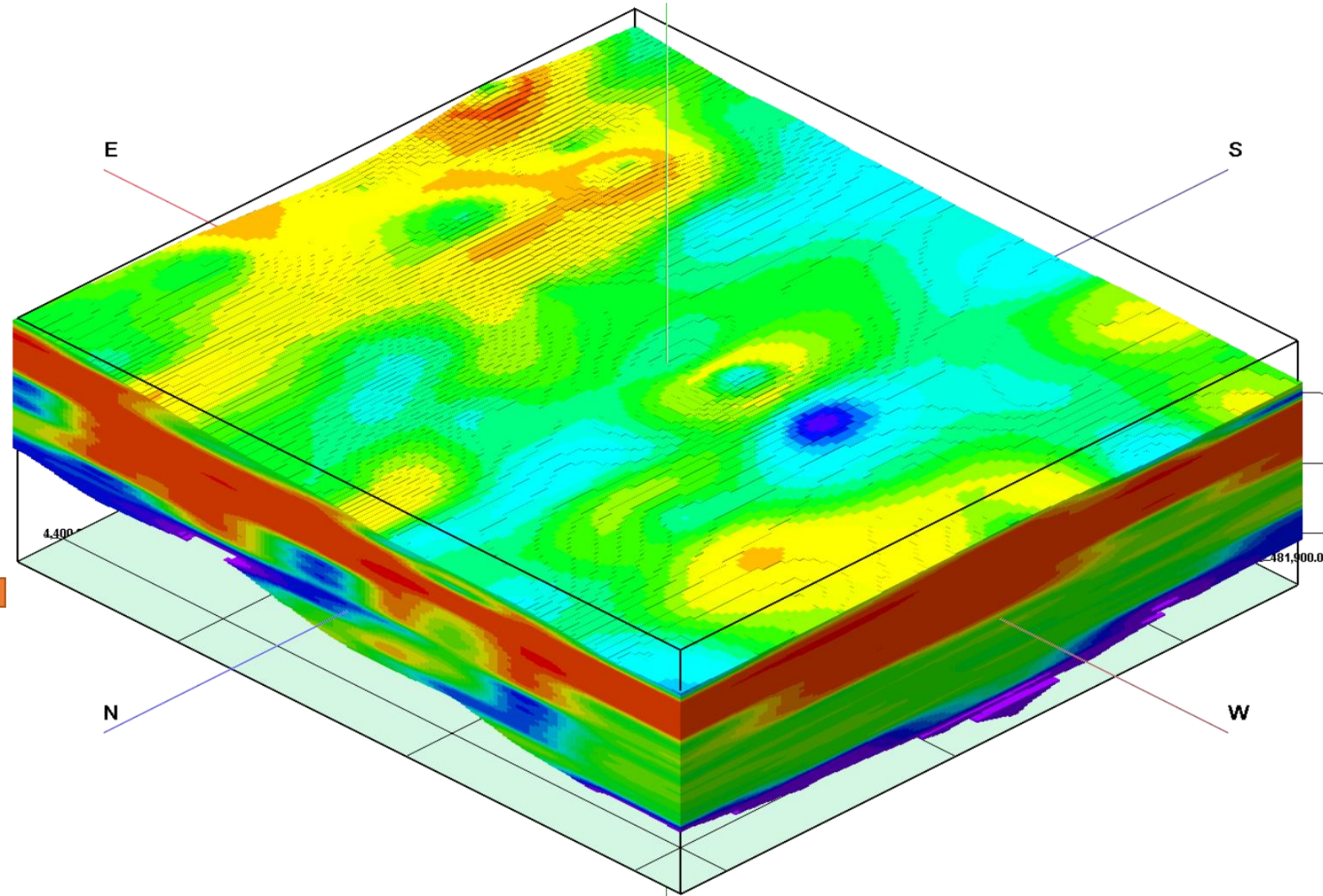
TCE













RDX

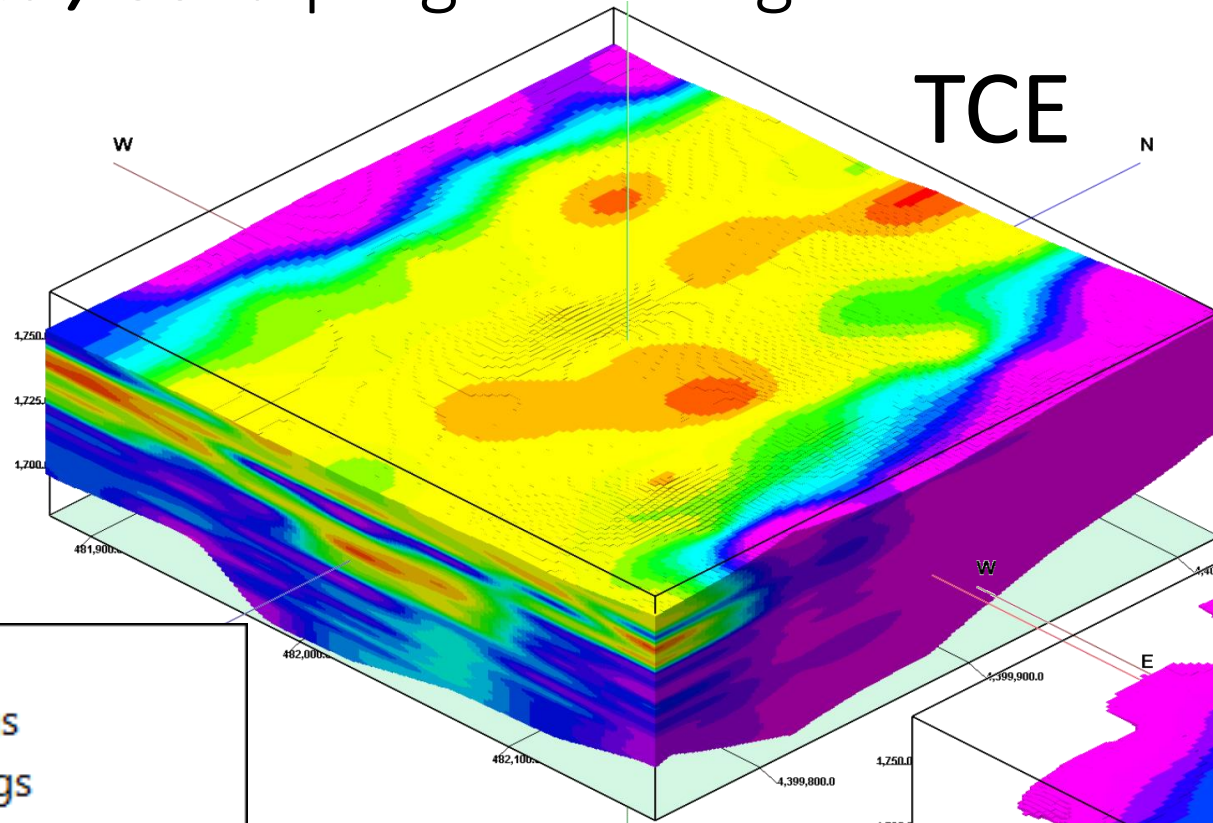
- ☒ Plot 3D K Logs
- ☒ Plot 3D TCE Logs
- ☒ Plot 3D RDX Logs
- ☒ Interpolate K Model
- ☒ Interpolate TCE Model
- ☒ Interpolate RDX Model
- ☒ Create TCE Mass Flux Model
- ☒ Create RDX Mass Flux Model
- ☒ Create TCE Transects
- ☒ Create RDX Transects

The K data was then modeled with the *Borehole Operations / P-Data / Solid* program using the *IDW-Anisotropic* algorithm.

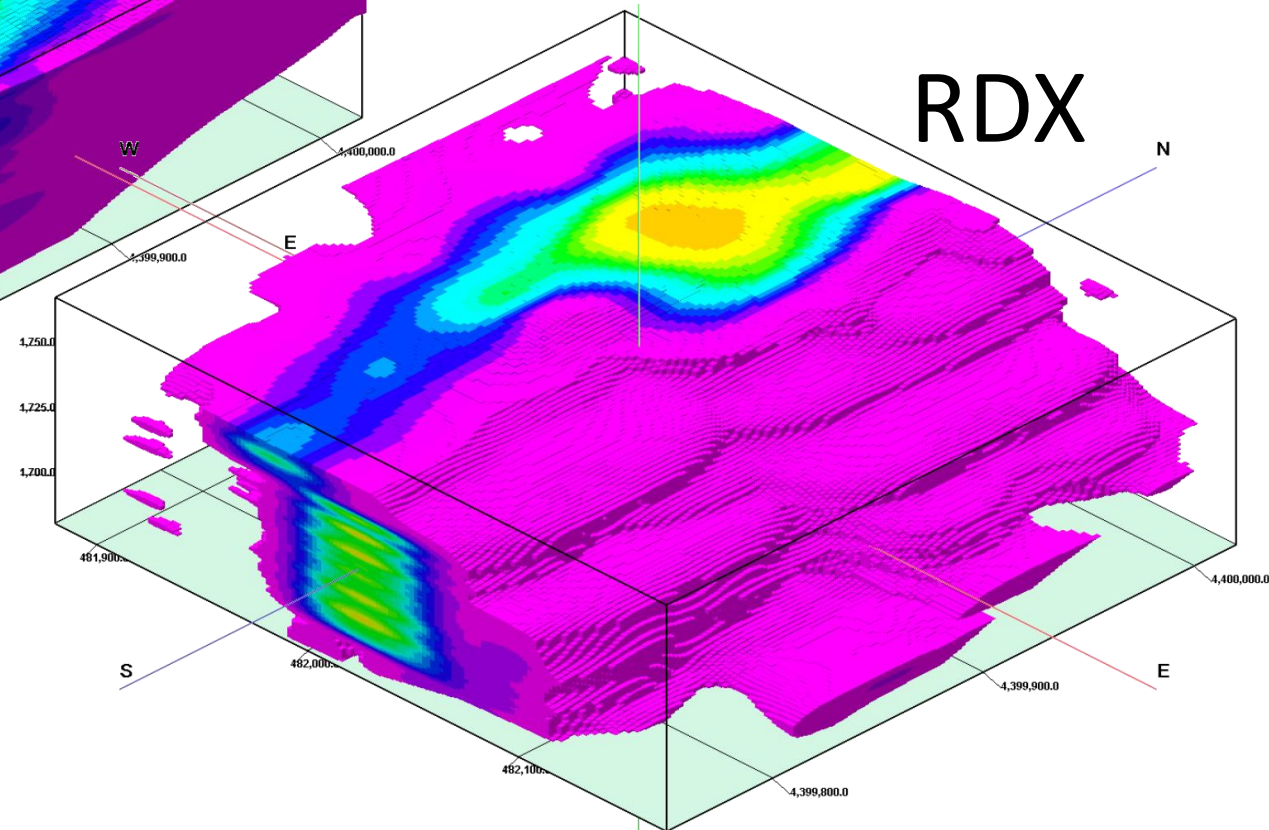


- ☒  Plot 3D K Logs
- ☒  Plot 3D TCE Logs
- ☒  Plot 3D RDX Logs
- ☒  Interpolate K Model
- ☒  Interpolate TCE Model
- ☒  Interpolate RDX Model
- ☒  Create TCE Mass Flux Model
- ☒  Create RDX Mass Flux Model
- ☒  Create TCE Transects
- ☒  Create RDX Transects











Next, the TCE & RDX data were modeled with the *Borehole Operations / I-Data / Solid* program using the *IDW-Anisotropic* algorithm.



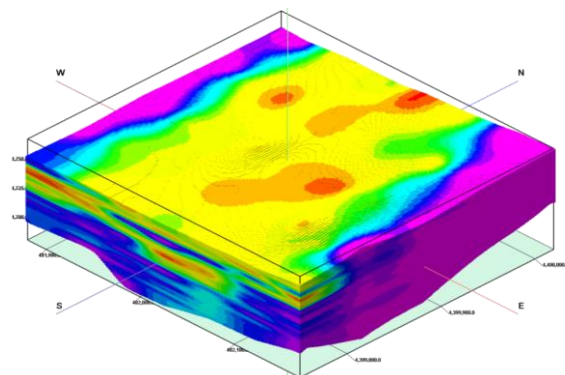
TCE



RDX

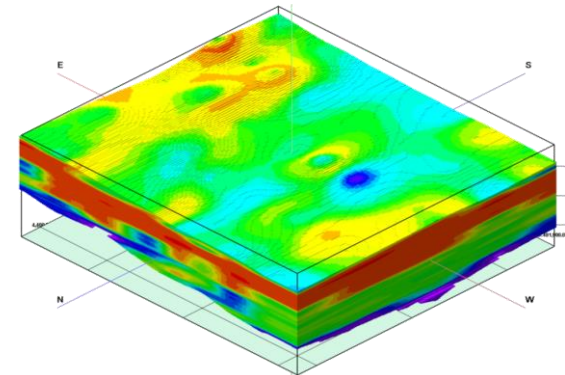
- ☒  Plot 3D K Logs
- ☒  Plot 3D TCE Logs
- ☒  Plot 3D RDX Logs
- ☒  Interpolate K Model
- ☒  Interpolate TCE Model
- ☒  Interpolate RDX Model
- ☒  Create TCE Mass Flux Model
- ☒  Create RDX Mass Flux Model
- ☒  Create TCE Transects
- ☒  Create RDX Transects

The *ModOps / Solid / Math / Solid Math* program was then used to independently multiply the TCE & RDX models by the K model to produce TCE & RDX mass flux models.



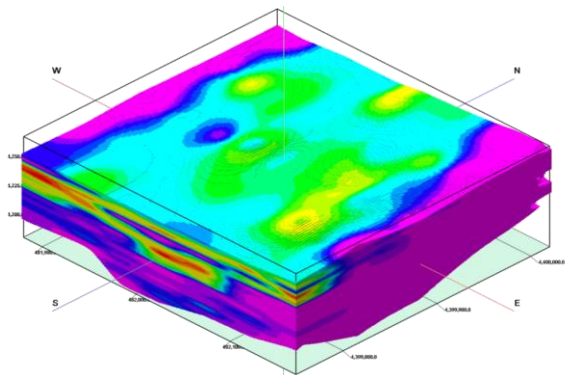
TCE Model

X

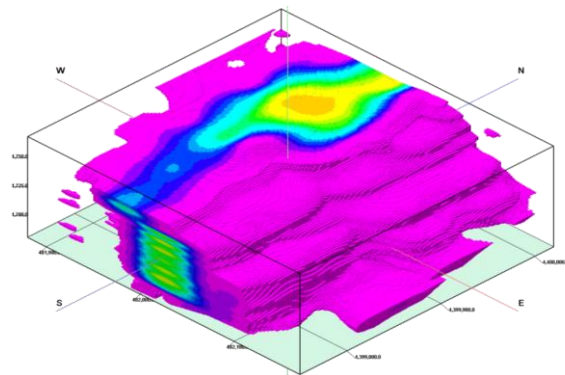


K Model

=

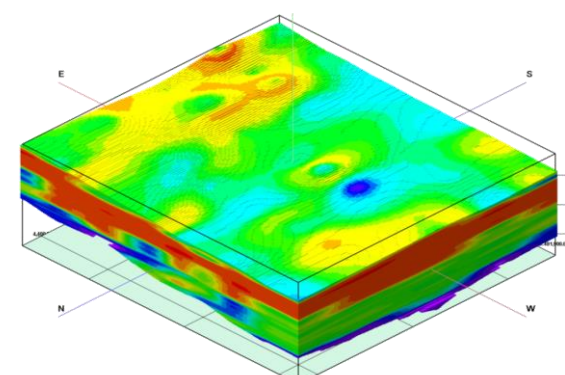


TCE Mass Flux Model



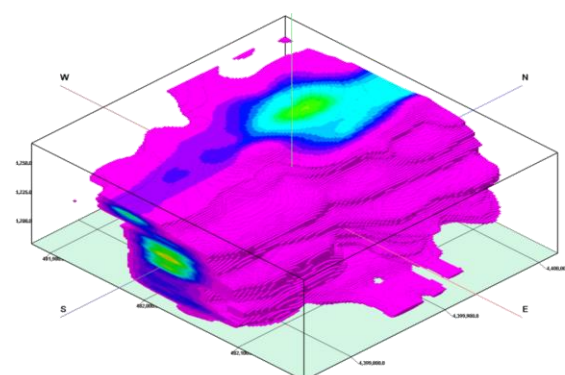
RDX Model

X



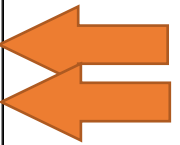
K Model

=

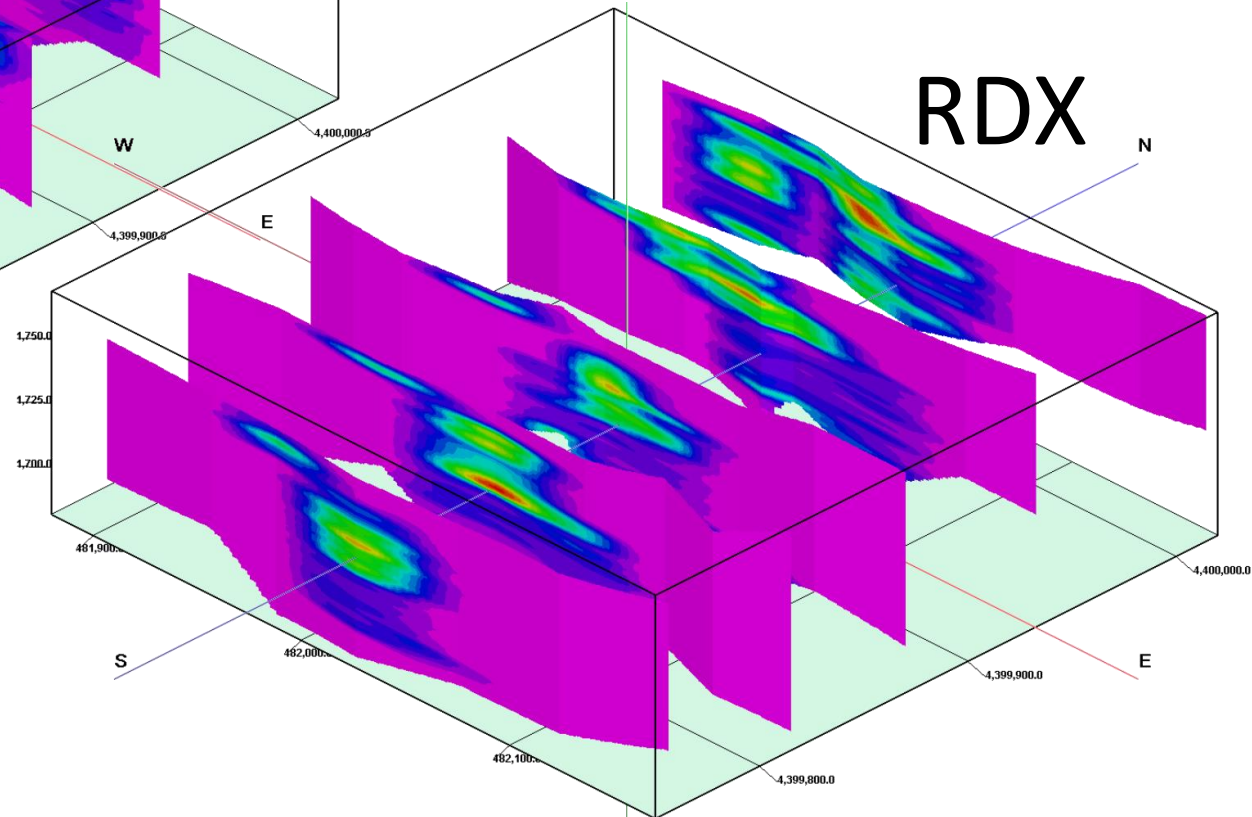
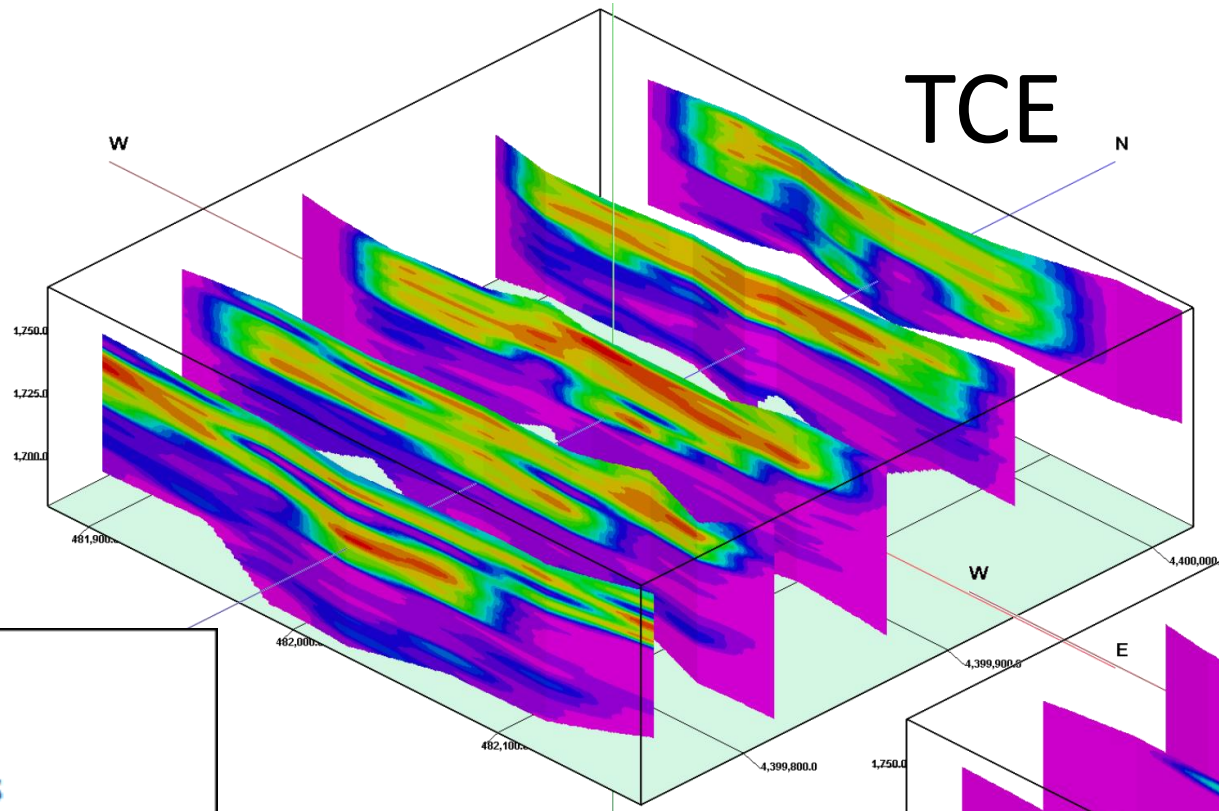












RDX Mass Flux Model

- ☒ Plot 3D K Logs
- ☒ Plot 3D TCE Logs
- ☒ Plot 3D RDX Logs
- ☒ Interpolate K Model
- ☒ Interpolate TCE Model
- ☒ Interpolate RDX Model
- ☒ Create TCE Mass Flux Model
- ☒ Create RDX Mass Flux Model
- ☒ Create TCE Transects
- ☒ Create RDX Transects



Finally, the *ModOps / Solid / Fence* program was used to create TCE & RDX mass flux transects based on the TCE & RDX mass flux models.



- ☒  Plot 3D K Logs
- ☒  Plot 3D TCE Logs
- ☒  Plot 3D RDX Logs
- ☒  Interpolate K Model
- ☒  Interpolate TCE Model
- ☒  Interpolate RDX Model
- ☒  Create TCE Mass Flux Model
- ☒  Create RDX Mass Flux Model
- ☒  Create TCE Transects
- ☒  Create RDX Transects