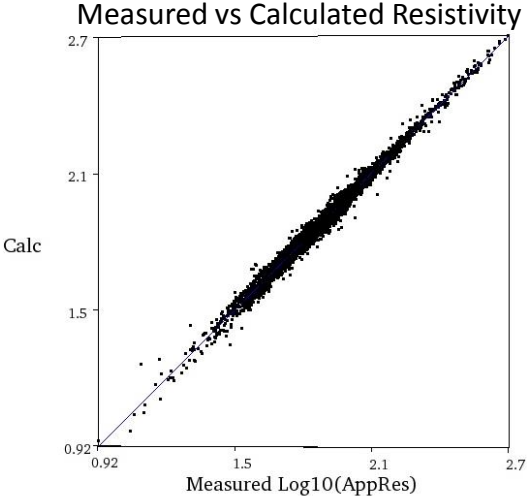
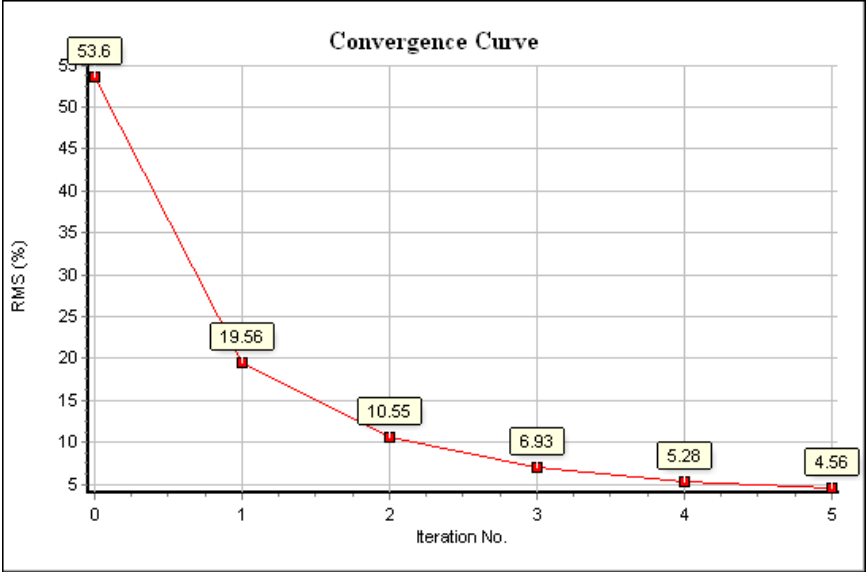


# 3D Resistivity Imaging of Geotechnical Properties at a Construction Site



2121 Geosciences Dr. Austin, TX, 78726 USA  
 Tel.: +1 (512) 335-3338 | Fax: +1 (512) 258-9958  
 Email: sales@agiusa.com | Web: www.agiusa.com



Iteration No. 5. RMS = 4.6%. L2 = 0.8

Full 3D Model of 83,912 m<sup>3</sup>  
 560 total electrodes installed  
 7,188 resistivity measurements  
 Finite Element Cells = 89,964

## Raw Data Quality

AGI EarthImager 3D

- Number of data over Max AppRes = 0
- Number of data below Min AppRes (abs) = 0
- Number of data below Min Voltage = 0
- Number of data below Min V/I = 0
- Number of data over Max Repeat Error = 0
- Number of data over Max Recip. Error = 0
- Number of surface data below Min AppRes (w/ Neg) = 0
- Number of negative AppRes data = 0
- Number of reciprocal data to be removed = 0
- Number of duplicates = 0

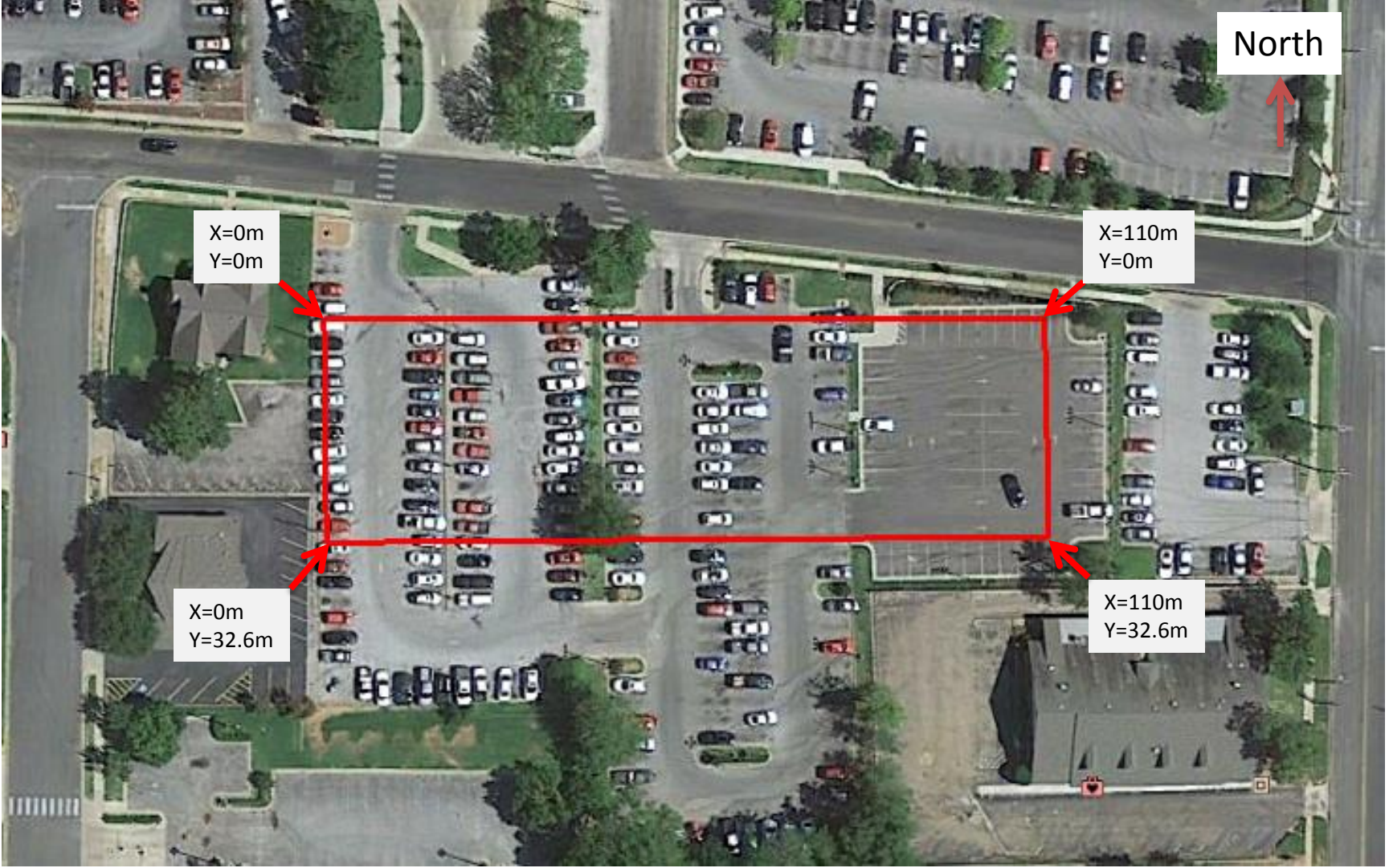
- Number of data flagged for removal = 0
- Data points to be removed = 7188 (0.0 %)

OK

These plots show that the raw data are very clean and the resulting finite element model fits the raw data well



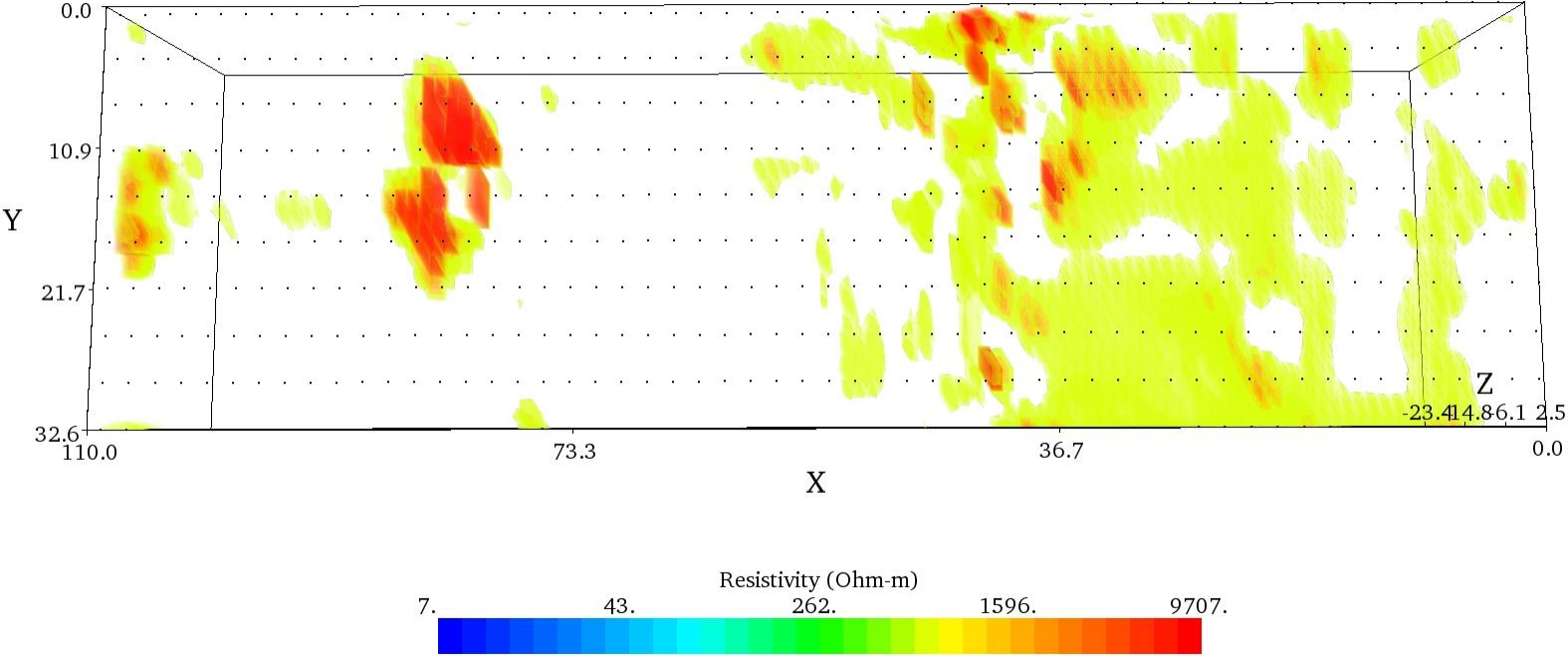
# 3D Resistivity Imaging of Geotechnical Properties at a Construction Site



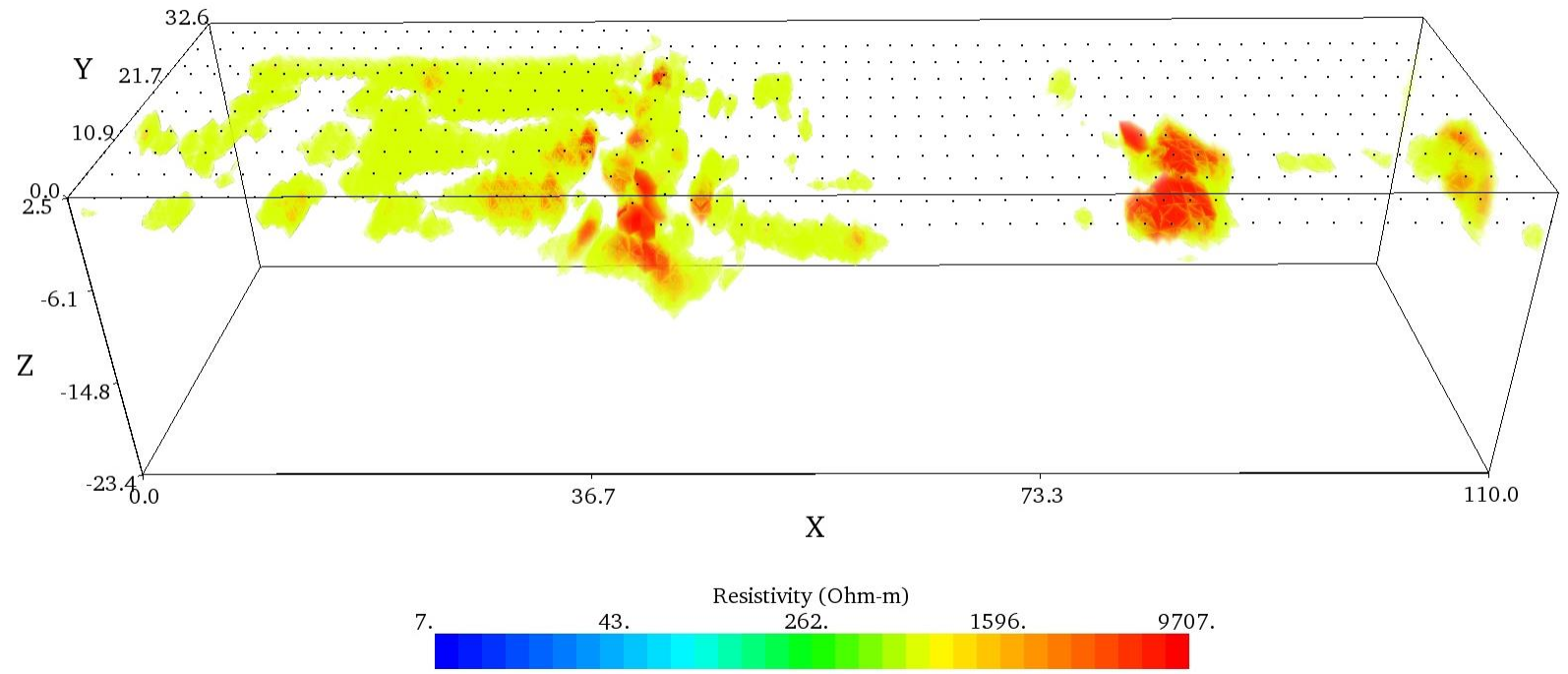
Data courtesy of McCarthy Building Companies, Inc.



Resistivity values closely associated with Sandy Clay found in boreholes



Resistivity values closely associated with Sandy Clay found in boreholes

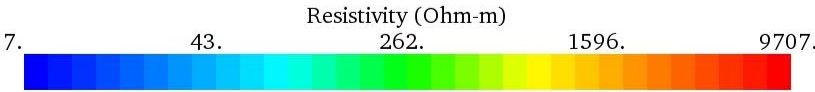
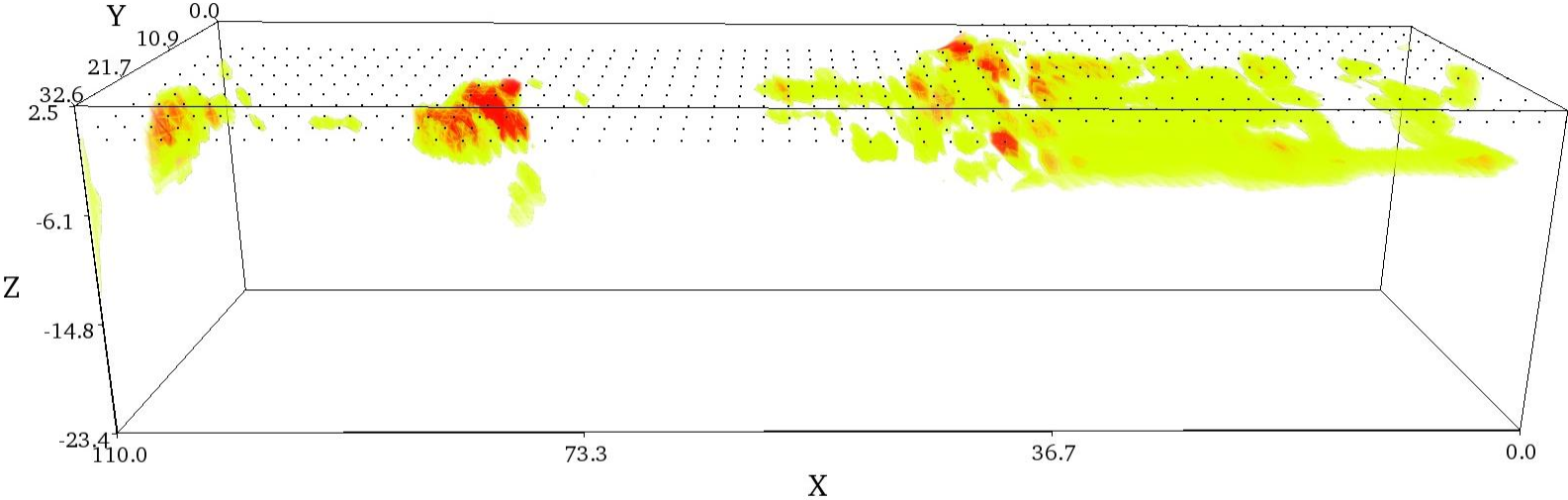


Data courtesy of McCarthy Building Companies, Inc.

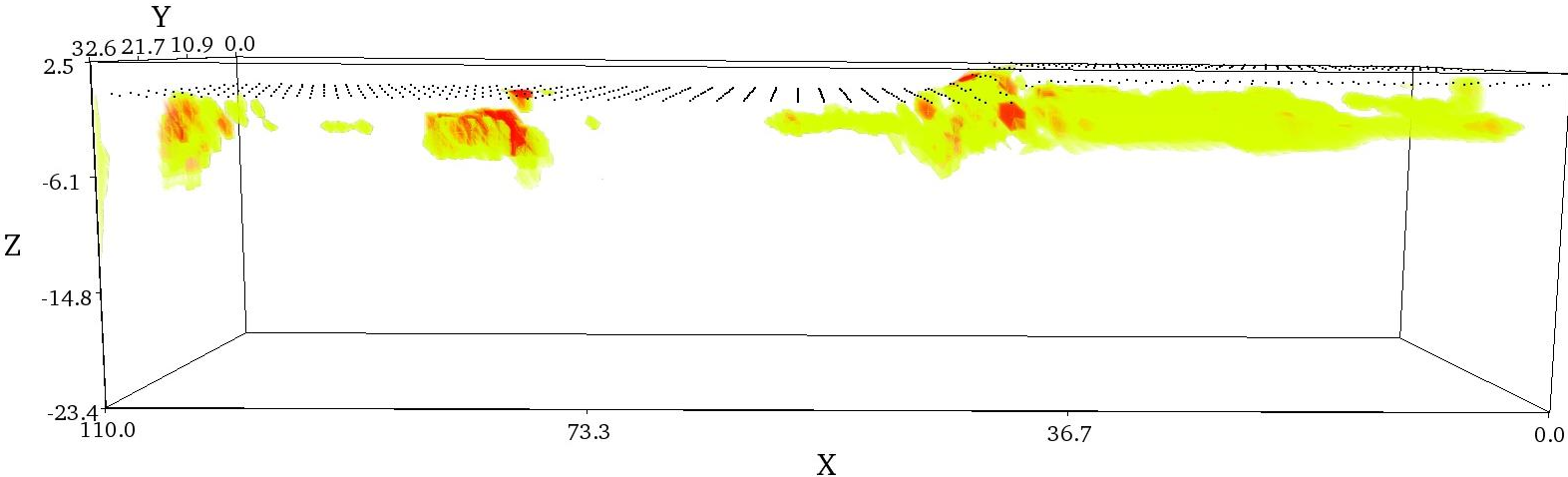




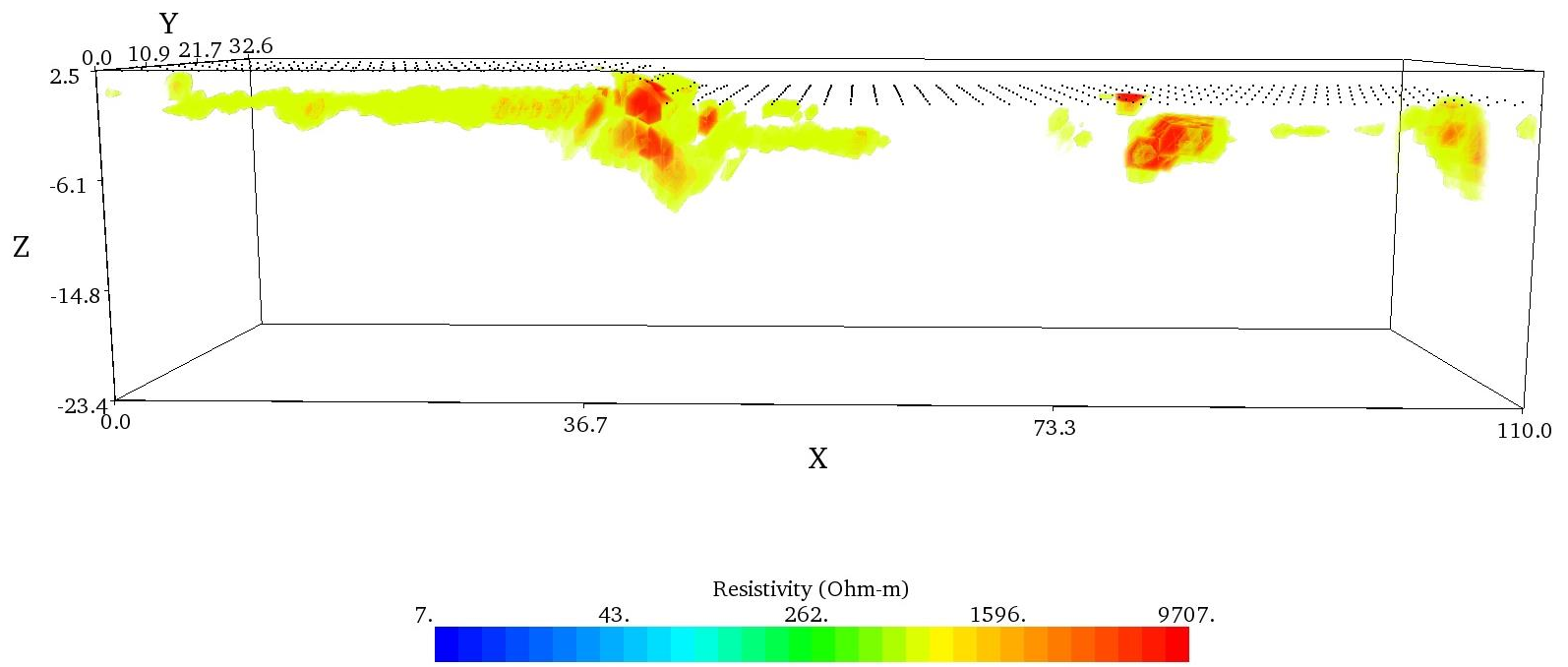
Resistivity values closely associated with Sandy Clay found in boreholes



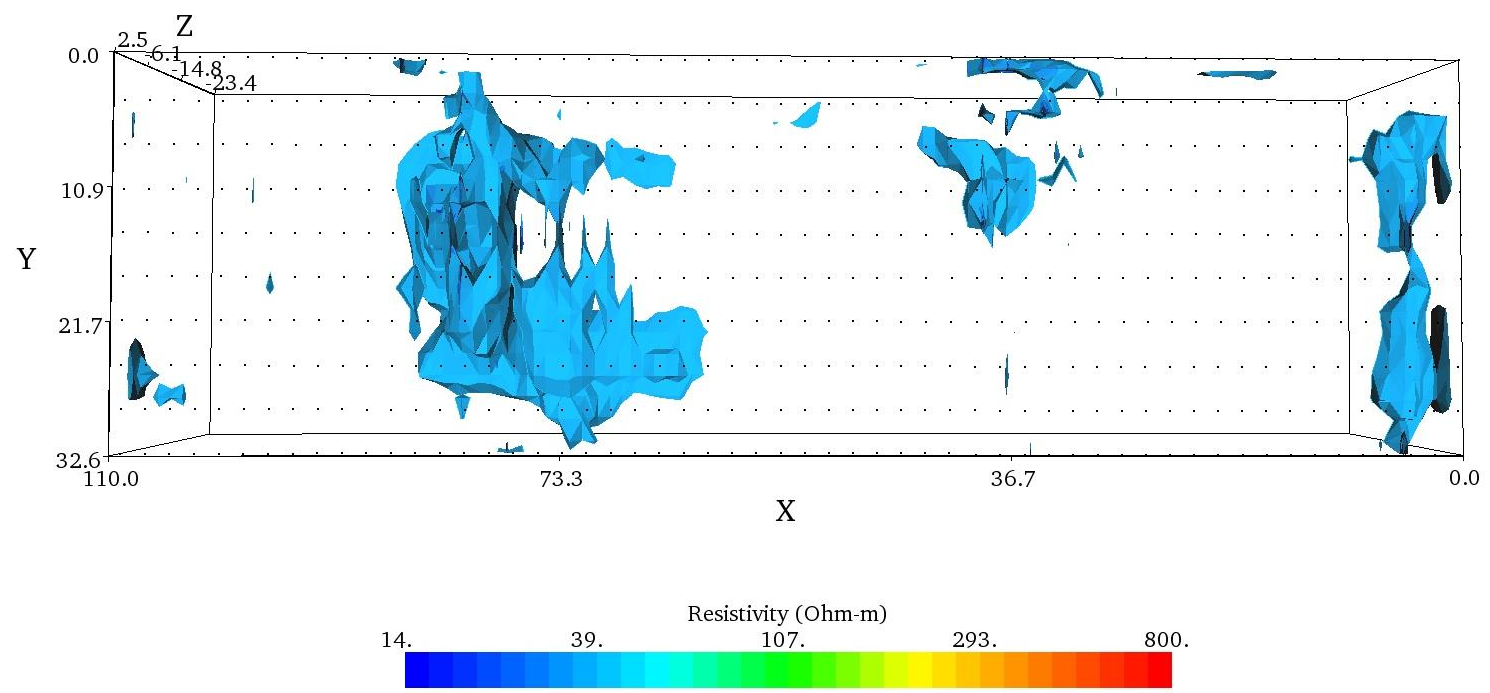
Resistivity values closely associated with Sandy Clay found in boreholes



Resistivity values closely associated with Sandy Clay found in boreholes

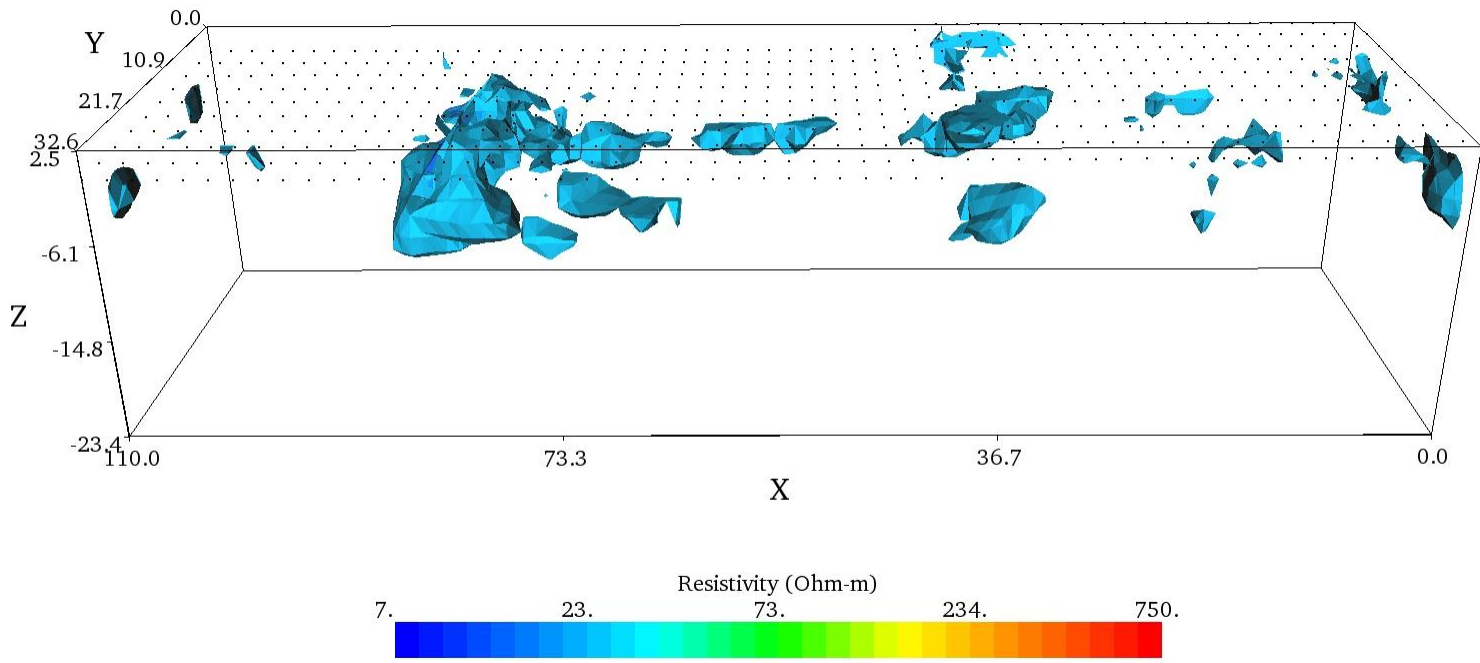


Resistivity values closely associated with Clays found in boreholes

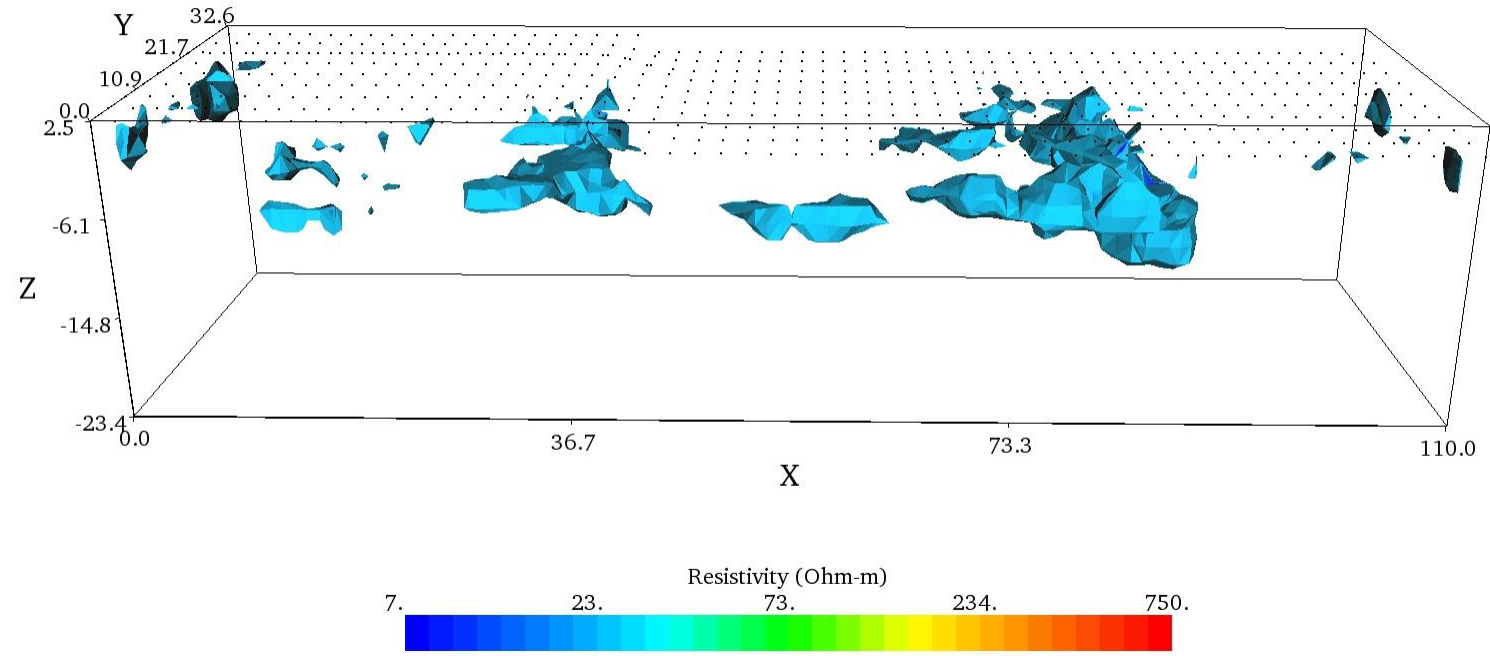




Resistivity values closely associated with Clays found in boreholes

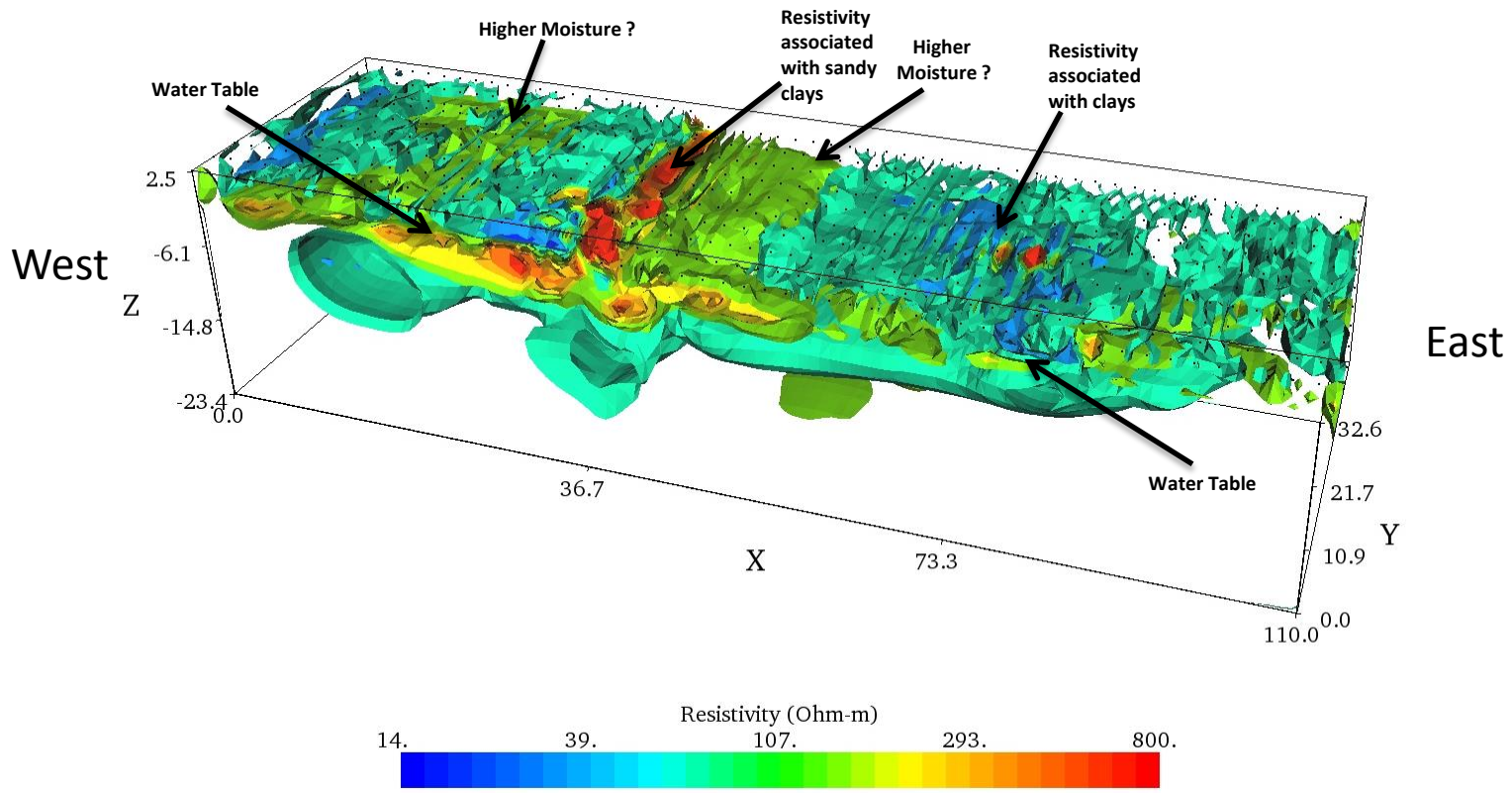


Resistivity values closely associated with Clays found in boreholes



# 3D Resistivity Imaging of Geotechnical Properties at a Construction Site

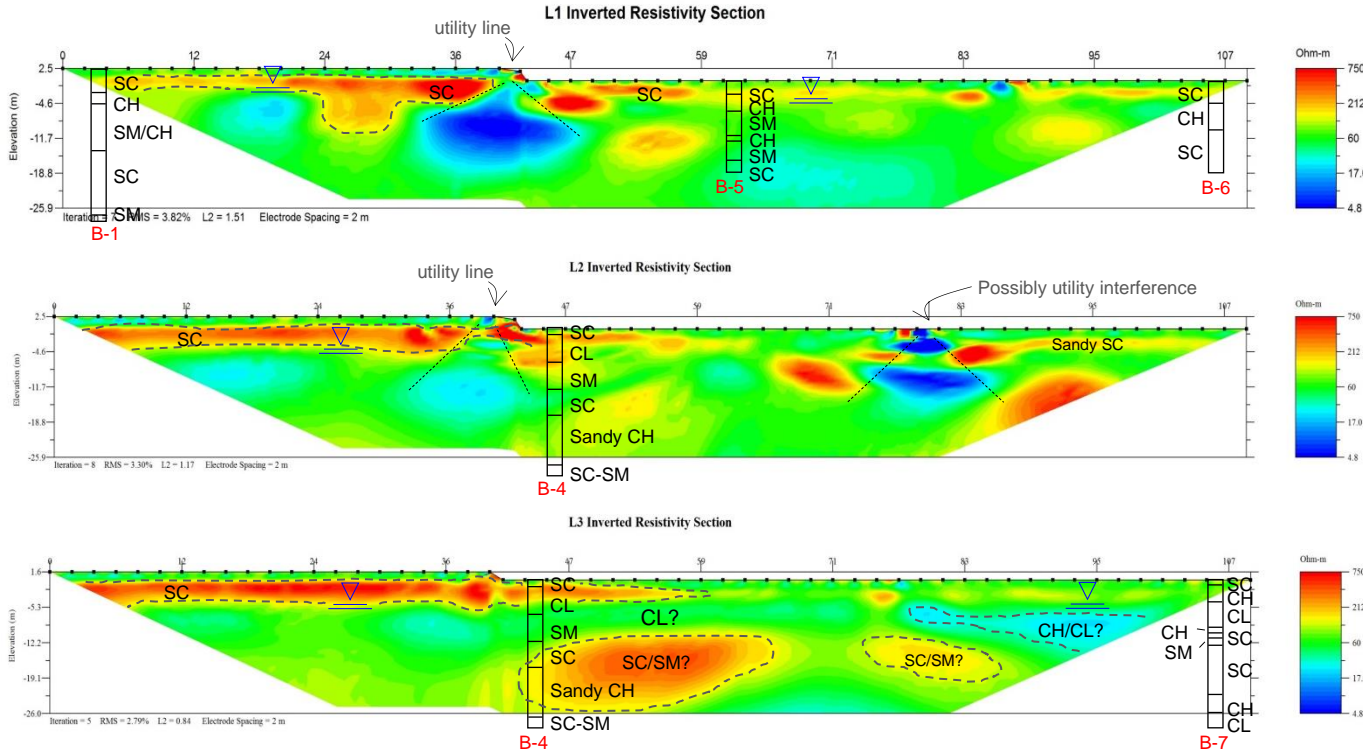
All resistivity values as iso-contours



Data courtesy of McCarthy Building Companies, Inc.



# 3D Resistivity Imaging of Geotechnical Properties at a Construction Site



## Key to Soil terms

**SC:** Clayey sands, sand-clay mixtures

**CH:** Inorganic clays of high plasticity, fat clays

**SM:** Silty sands, sand-silt mixtures

**CL:** Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays

**Date:** March 30, 2017

**Site:** East Texas, USA-Undisclosed Hospital Parking Garage

**Equipment:** SuperSting R8 WiFi with SwitchBox 56 with passive land cables spaced at 2m. Dipole-Dipole, Strong-Gradient and Dipole-Gradient arrays

**Software:** EarthImager 2D with a finite element inversion model

**Results:** Electrical resistivity imaging successfully delineated the presence of expansive clays and clayey-sands and a shallow water table in a fine-grained soil environment in previously undocumented areas. Available upfront borings correlate well with ERI survey results.



# 3D Resistivity Imaging of Geotechnical Properties at a Construction Site



Drilling of asphalt/concrete for electrode stake installation



Installing electrode stake in asphalt/concrete for ERI survey



Installation of passive cable for ERI survey



Data courtesy of McCarthy Building Companies, Inc.

