

# CASE STUDY

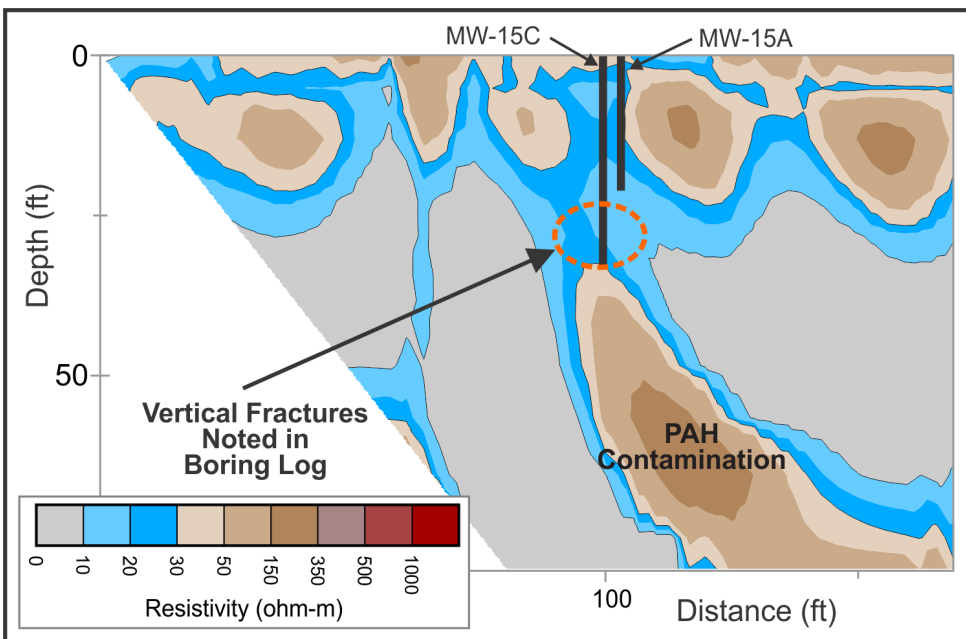
## PAH/NAPL IN BEDROCK AT MGP SITE



### Project Overview:

A former Manufactured Gas Plant (MGP) site is now neighborhood playground. Coal tar and other polyaromatic hydrocarbons (PAH) related contamination exist in the subsurface near a pond. Site geology consists of porous media to ~20 feet BGS; underlain by fractured dolomite and sandstone.

Aestus used its GeoTrax Survey™ scanning technology to scan through the playground/park/streets to image below ground hydrogeology/contaminant distribution. This work was performed without disturbing playground or the adjoining residential neighborhood.



### Targeted Confirmation Sampling Confirmed Downgradient Pathways:

- Less weathered PAH contamination was confirmed anomalous zone (resistive brown blob-shaped anomaly) via drilling (MW 15C)
- Clean zone (normal resistivity) above this contamination was confirmed via drilling (MW15A)
- Other anomalous zones exist in site data (both resistive and conductive anomalies) that likely represent discrete pockets in shallow alluvium and deeper bedrock zones.

## RESULTS

- Located PAH/NAPL in bedrock fractures near source zone
- Confirmed downgradient aqueous phase PAH contamination using GeoTrax Survey™ drilling targets
- Identified the presence of discrete contamination migration pathways
- Distinguished both weathered and unweathered zones of impacts
- Updated CSM provides roadmap for remedial design

## WHAT MAKES AESTUS SUPERIOR

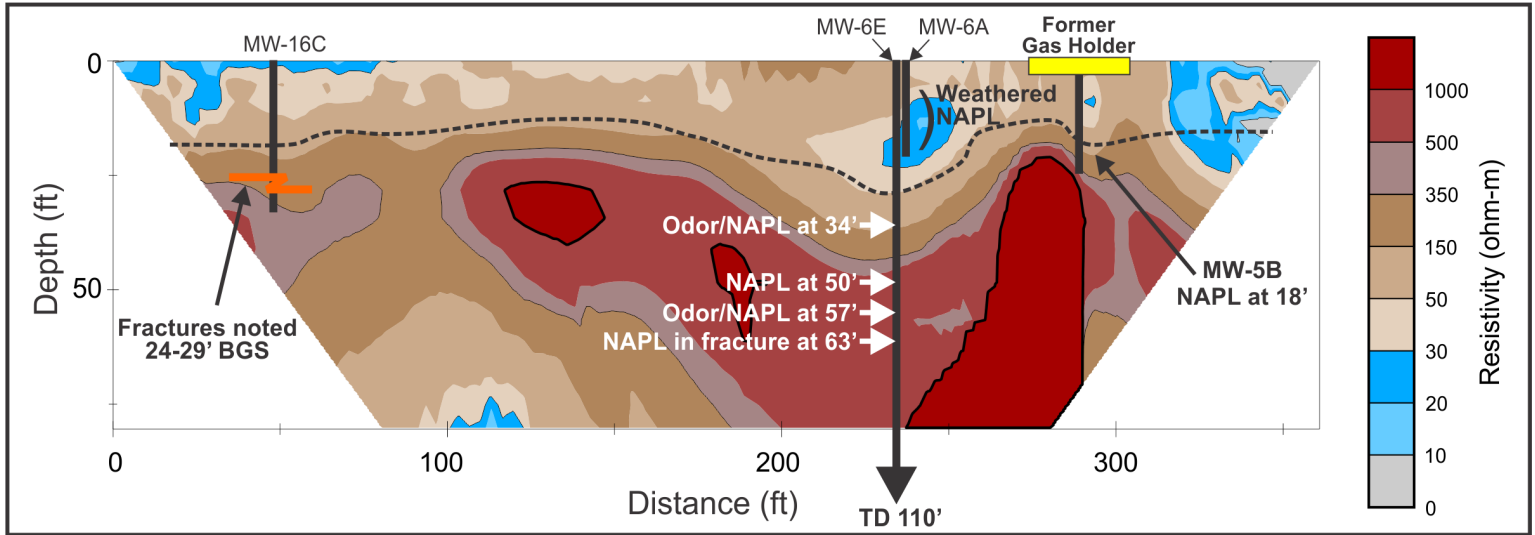
- Far more accurate than traditional methods
- Images enable targeted drilling, monitoring and remediation
- Geology independent
- Utilizing Oklahoma State University intellectual property
- Faster site closure at a lower cost

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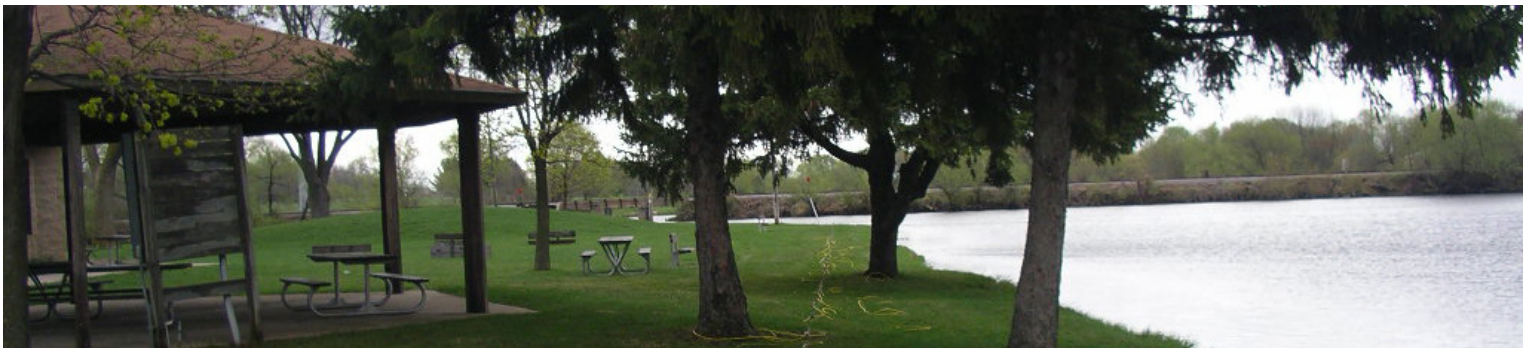
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### Vertical Migration of DNAPL Near Former Gas Holder Source Also Confirmed:



- GeoTrax Survey™ image generally shows difference in alluvial geology in upper ~20 feet with more electrically conductive silts/clays (blue and light brown zones) versus underlying fractured dolomite rock with higher resistivity's (dark brown zones)
- Image shows highest resistivity below the former gas holder location indicating likely presence of unweathered PAH/NAPL impacts (burgundy zones); PAH/NAPL confirmed at MW-5B
- PAH/NAPL contamination confirmed in borehole for MW-6E in zones coincident with higher resistivity (burgundy zones)
- Highly conductive anomaly (blue zone) is coincident with presence of weathered PAH/NAPL in alluvium soil boring during installation of monitoring well MW-6A
- Image implies that resistive zones extend below the bottom of the image and deeper PAH/NAPL impacts were confirmed via drilling



Discover how Aestus can provide you with better data to make better decisions and improve your results.