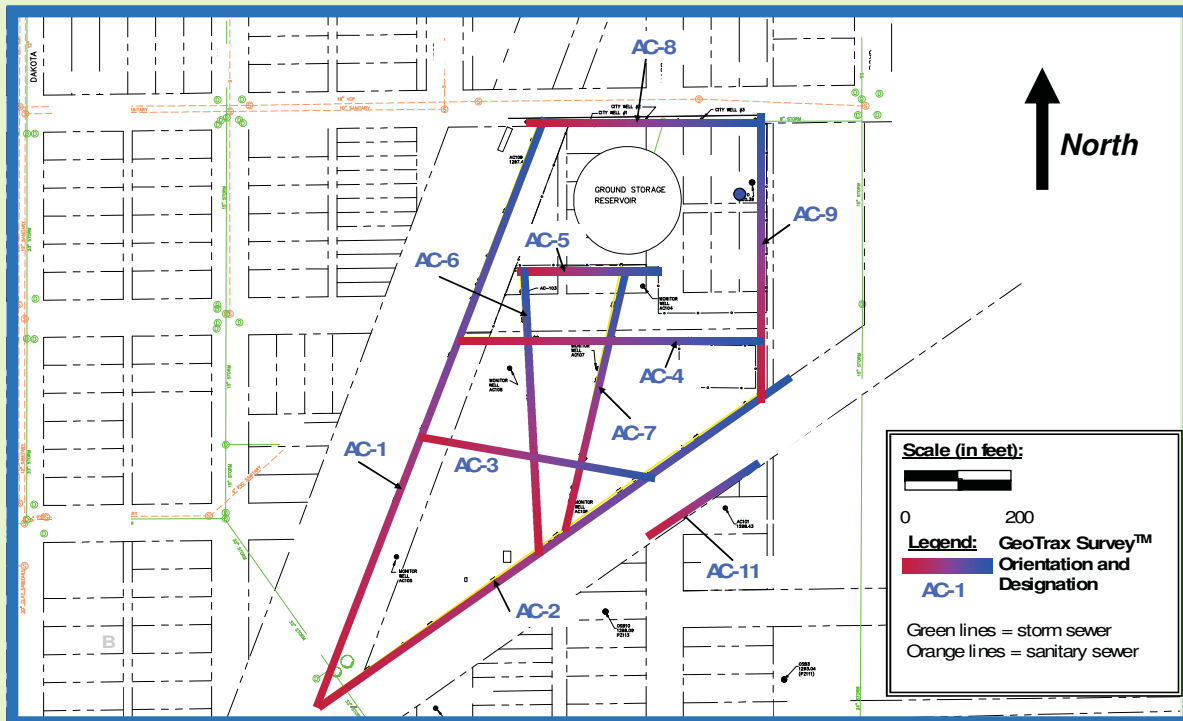




Locating DNAPLs at Former MGP Site

GeoTrax Survey™ Case Study (Page 1 of 5)



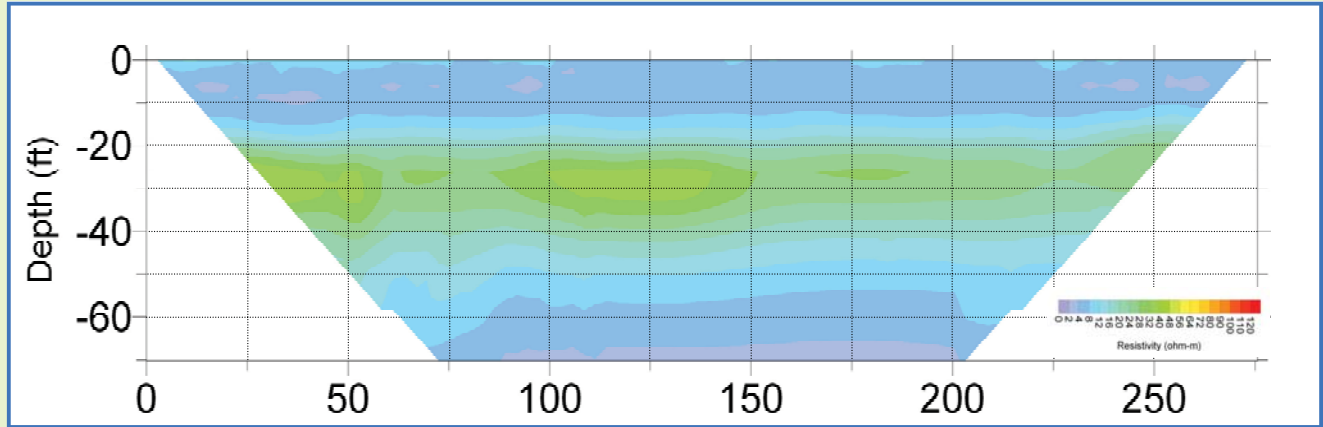
GeoTrax Survey™ Transects in Plan View

This former gas manufacturing plant facility was known to have dense non-aqueous phase liquid (DNAPL) contamination (i.e., coal tar/creosote). The coal tar materials were migrating off-site and into nearby storm sewer and sanitary pipelines but the migration pathways were unknown and could not be located via drilling. Aestus surveyed the perimeter and interior of this site and determined where contaminants existed in the subsurface and where DNAPL migration was likely occurring. As shown in subsequent pages of this case study, Aestus successfully located zones containing DNAPL and related dissolved phase contamination. Our survey data and confirmation borings indicate that more highly resistive AND conductive anomalies relative to background surveys shown on page 2) are coincident with the presence of DNAPL related contamination. The highly conductive zones are believed to be areas that have experienced higher levels of naturally occurring bio-remediation.

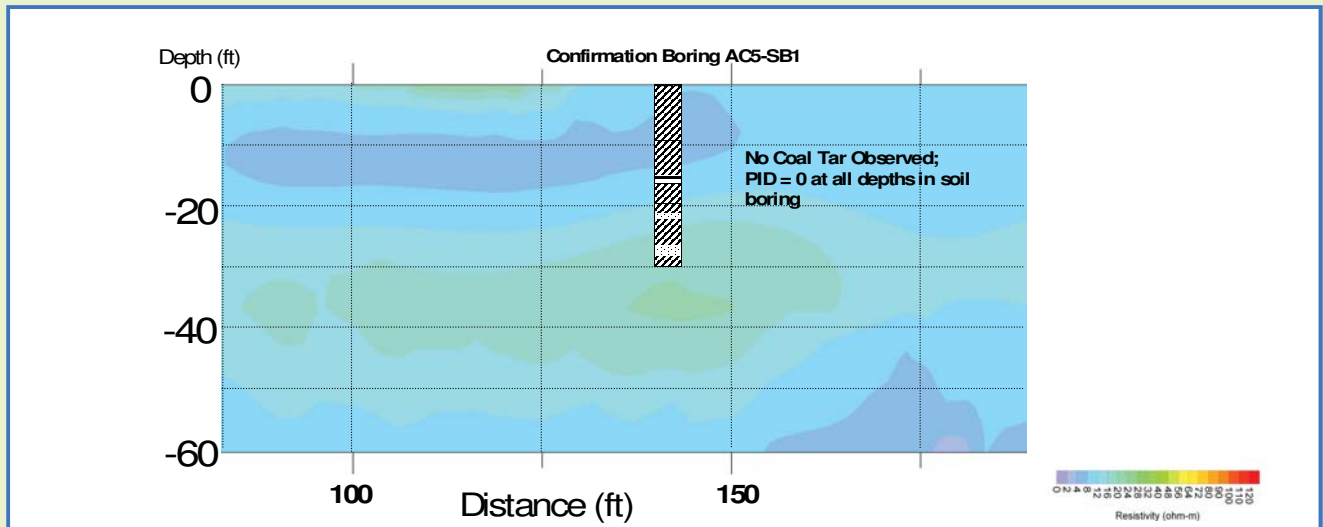


Locating DNAPLs at Former MGP Site

GeoTrax Survey™ Case Study (Page 2 of 5)



Background Survey Performed in a Nearby Off-Site Area



On-Site Survey in Clean Area
Excerpt from GeoTrax Survey™ Image AC5 (see Plan View Map)

Bottom Line:

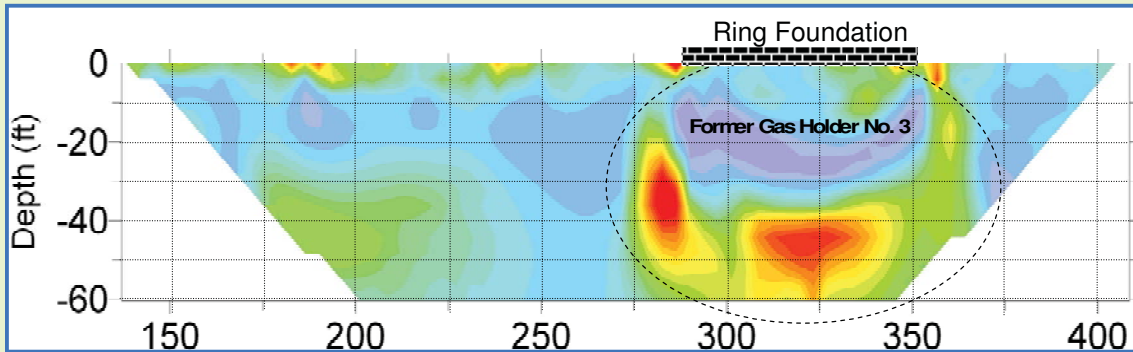
- Upper image shows “pancake-like” native geology in background survey which is anomaly-free
- Lower image shows on-site area which appeared anomaly-free and was drilled and confirmed by our client to be free of subsurface contamination.



Locating DNAPLs at Former MGP Site

GeoTrax Survey™ Case Study (Page 3 of 5)

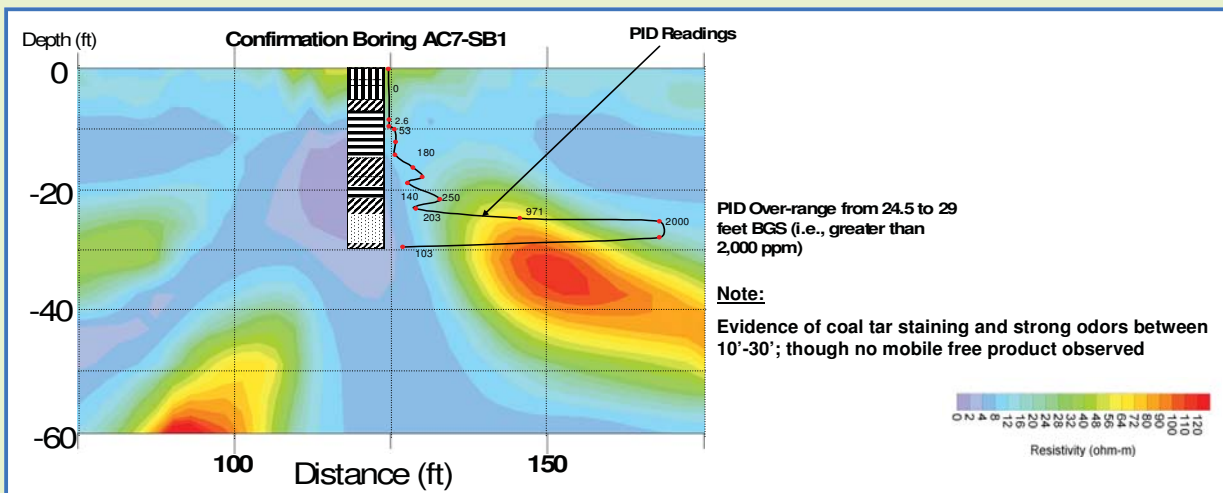
West GeoTrax Survey™ AC3-B Survey Orientation East



Full GeoTrax Survey™ Image at Former Gas Holder Location

Bottom Line:

- Image shows significant subsurface anomalies consistent with location of former gas holder based on surface features (ring foundation location) and historical site data
- Both conductive and resistive anomalies appear in tandem which are consistent with confirmed zones of subsurface contamination at other areas on this site



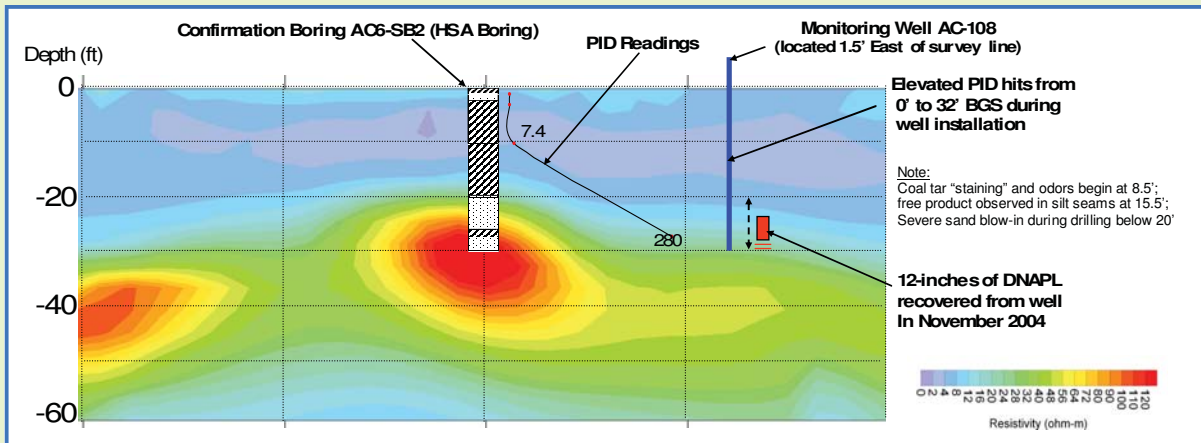
Excerpt from GeoTrax Survey™ Image AC7 (see Plan View Map)

Bottom Line:

- Extremely conductive anomaly (purple) consistent with presence of coal tar staining
- High PID detections also consistent with location of adjacent resistive anomaly
- Confirmation data collected by Aestus' client (large consulting firm)

Locating DNAPLs at Former MGP Site

GeoTrax Survey™ Case Study (Page 4 of 5)

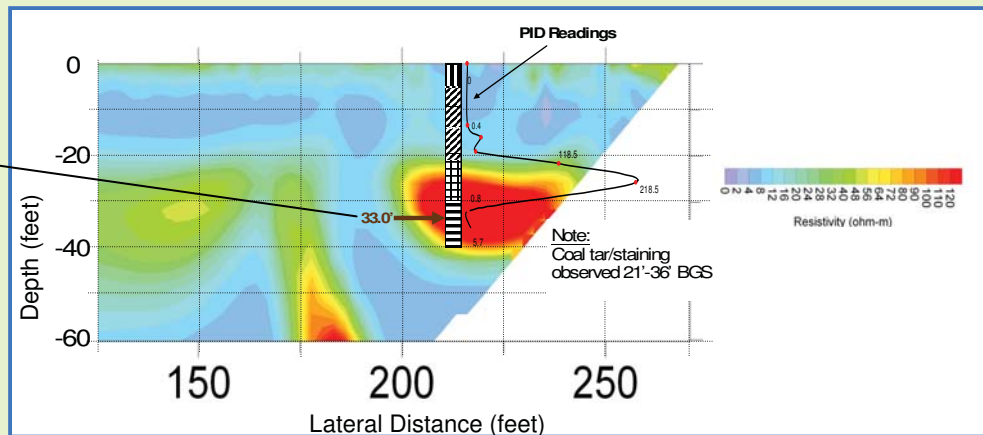


Excerpt from GeoTrax Survey™ Transect AC6 (see Plan View Map)

Bottom Line:

- Image shows both conductive (purple) and resistive anomalies (red); both were confirmed by our client to be consistent with presence of subsurface contamination
- Resistive and conductive anomalies appear in tandem which is consistent with the images shown on Page 3 of this case study.

Sample ID	AC2-SB1-33
Sample Type	Soil
Sample Collection Date	6/30/2004
VOCs (8260B)	Results (mg/kg)
Dilution Factor	1
Benzene	<0.24
Toluene	<0.057
Ethylbenzene	0.072
Xylenes (total)	0.36
SVOCs (8270C)	Results (mg/kg)
Dilution Factor	1
Acenaphthene	<0.940
Acenaphthylene	0.190 J
Anthracene	0.140 J
Benzo(a)anthracene	0.049 J
Benzo(a)pyrene	<0.940
Benzo(b)fluoranthene	<0.940
Benzo(ghi)perylene	<0.940
Benzo(k)fluoranthene	<0.940
Chrysene	0.041 J
Dibenz(a,h)anthracene	<0.940
Fluoranthene	0.120 J
Fluorene	0.150 J
Indeno(1,2,3-cd)pyrene	<0.940
1-Methylnaphthalene	0.460 J
2-Methylnaphthalene	0.670 J
Naphthalene	2.6
Phenanthrene	0.420 J
Pyrene	0.160 J
TPH - DRO (8015B)	Results (mg/kg)
Dilution Factor	1
TPH-DRO	9.1 J



Excerpt from GeoTrax Survey™ Transect AC2 (see Plan View Map)

Bottom Line:

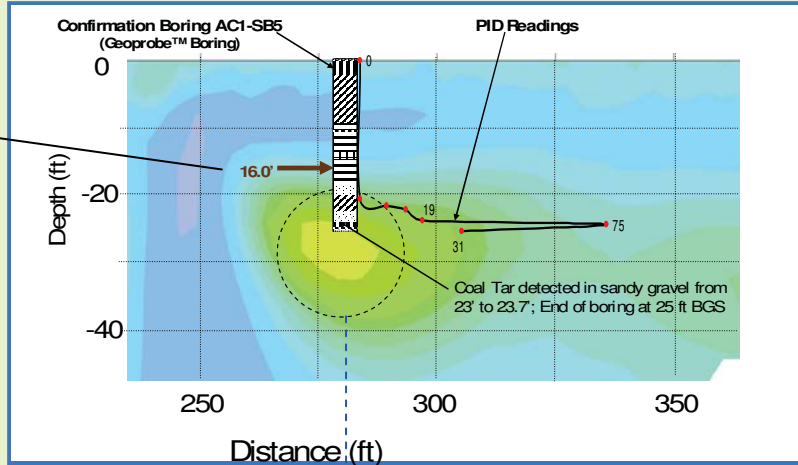
- Resistive anomaly (red) consistent with presence of coal tar (see note above) and PID detections
- Soil sample shows that GeoTrax Survey™ images detect low concentrations of contaminants

Locating DNAPLs at Former MGP Site

GeoTrax Survey™ Case Study (Page 5 of 5)

Excerpt from GeoTrax Survey™ Transect AC1 (see Plan View Map)

Sample ID	AC1-SB5-16
Sample Type	Soil
Sample Collection Date	6/29/2004
VOCs (8260B) Results (mg/kg)	
Dilution Factor	1
Benzene	0.0069
Toluene	0.0058
Ethylbenzene	0.0017
Xylenes (total)	0.0025
SVOCs (8270C) Results (mg/kg)	
Dilution Factor	1
Acenaphthene	<0.46
Acenaphthylene	<0.46
Anthracene	<0.46
Benzo(a)anthracene	<0.46
Benzo(a)pyrene	<0.46
Benzo(b)fluoranthene	<0.46
Benzo(ghi)perylene	<0.46
Benzo(k)fluoranthene	<0.46
Chrysene	<0.46
Dibenz(a,h)anthracene	<0.46
Fluoranthene	<0.46
Fluorene	<0.46
Indeno(1,2,3-cd)pyrene	<0.46
1-Methylnaphthalene	<0.46
2-Methylnaphthalene	<0.46
Naphthalene	<0.46
Phenanthrene	<0.46
Pyrene	<0.46
TPH - DRO (8015B) Results (mg/kg)	
Dilution Factor	1
TPH-DRO	0.0037 J

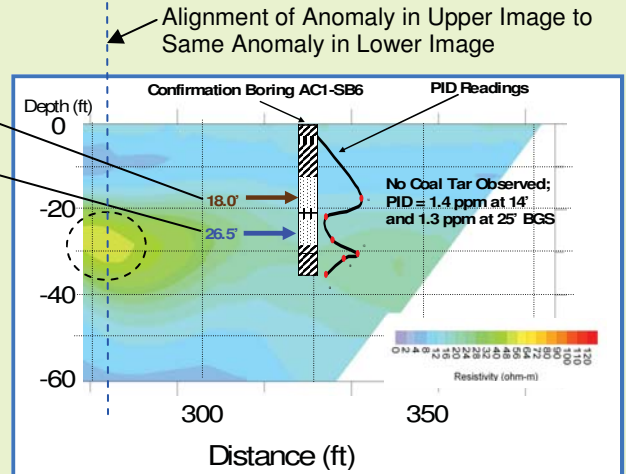


Bottom Line:

- More resistive anomaly is consistent with presence of coal tar and PID detections as confirmed by confirmation drilling performed by our client (large consulting firm)
- Soil sample shows that GeoTrax Survey™ images detect low concentrations of contaminants

Sample ID	AC1-SB5-18
Sample Type	Soil
Sample Collection Date	6/30/2004
VOCs (8260B) Results (mg/kg)	
Dilution Factor	1
Benzene	0.0020
Toluene	0.0027
Ethylbenzene	0.0015
Xylenes (total)	0.0012
SVOCs (8270C) Results (mg/kg)	
Dilution Factor	1
Acenaphthene	<0.39
Acenaphthylene	<0.39
Anthracene	<0.39
Benzo(a)anthracene	<0.39
Benzo(a)pyrene	<0.39
Benzo(b)fluoranthene	<0.39
Benzo(ghi)perylene	<0.39
Benzo(k)fluoranthene	<0.39
Chrysene	<0.39
Dibenz(a,h)anthracene	<0.39
Fluoranthene	<0.39
Fluorene	<0.39
Indeno(1,2,3-cd)pyrene	<0.39
1-Methylnaphthalene	<0.39
2-Methylnaphthalene	<0.39
Naphthalene	<0.39
Phenanthrene	<0.39
Pyrene	<0.39
TPH - DRO (8015B) Results (mg/kg)	
Dilution Factor	1
TPH-DRO	0.87 J

Well ID	AC1-SB6-GW
Sample Type	Groundwater
Sample Collection Date	6/30/2004
VOCs (8260B) Results (ug/L)	
Benzene	1.2
Toluene	1.3
Ethylbenzene	<1
Xylenes (total)	<1
SVOCs (8270C) Results (ug/L)	
Acenaphthene	<10
Acenaphthylene	<10
Anthracene	<10
Benzo(a)anthracene	<10
Benzo(a)pyrene	<10
Benzo(b)fluoranthene	<10
Benzo(ghi)perylene	<10
Benzo(k)fluoranthene	<10
Chrysene	<10
Dibenz(a,h)anthracene	<10
Fluoranthene	<10
Fluorene	<10
Indeno(1,2,3-cd)pyrene	<10
1-Methylnaphthalene	<10
2-Methylnaphthalene	<10
Naphthalene	<10
Phenanthrene	<10
Pyrene	<10
TPH - DRO (8015B) Results (ug/L)	
TPH-DRO	60 J



Excerpt from GeoTrax Survey™ Transect AC1 (see Plan View Map)

Bottom Line:

- Image shows resistivity values dropping to near background levels (blue color) as concentrations of dissolved phase and soil contaminants drop to low parts per billion (ppb) levels and PID values drop to low parts per million (ppm) levels