Soil Remediation Success Stories

Hollywood Cleaners
DSCA Site #32–0014

A Cleaner
DSCA Site #60–0001
Hollywood Cleaners – Durham, NC
Hollywood Cleaners – Chronology

- Tingen’s Cleaners pre-1987
- Hollywood Cleaners from ~1987 to 2009
  - One PERC dry-to-dry machine
- April 2006 – PCE (10 mg/kg) identified in soil near dry-cleaning machine
- June 2007 – Hollywood Cleaners petitions into DSCA Program
- 2007 to 2010 – Active assessment activities conducted by DSCA Program
- 2011 and 2012 – Delays due to Petitioner non-payment and abandonment of facility
Hollywood Cleaners – PCE in Soil

- Maximum detected PCE concentration = 10 mg/kg
Hollywood Cleaners – PCE in Groundwater

- Maximum detected PCE concentration = 66 µg/L
- Possible increasing concentrations over time
- Not delineated
Hollywood Cleaners – Vapor Intrusion

**Hollywood Cleaners**
- Sub-slab vapor PCE = up to 3,200,000 µg/m³
- Indoor air PCE = up to 780 µg/m³
- Hazard Index = 4.5

**Adjacent Tenant**
- Sub-slab vapor PCE = up to 330 µg/m³
- Indoor air PCE = up to 370 µg/m³
- Hazard Index = 2.15
Hollywood Cleaners – Interim Action

Purpose

- Address unacceptable vapor intrusion risks at the site
- Facilitate sale of the property / Reuse of the tenant space

Selected Interim Action

- Soil excavation
- Installation of passive venting system (for future use, if needed)
Hollywood Cleaners – Interim Action

Purpose

- Address unacceptable vapor intrusion risks at the site
- Prevent further leaching from soil to groundwater
- Facilitate sale of the property / Reuse of the tenant space

Selected Interim Action

- Soil excavation
- Installation of passive venting system (for future use, if needed)
Hollywood Cleaners – Interim Action
Hollywood Cleaners – Interim Action

Summary

- Removed ~ 116 tons of PCE-impacted soil
- Installed passive sub-slab venting system (if needed in future)

Post-Excavation Results

- Soil: risk-based goal achieved
- Indoor air:
  - Concentrations reduced by an order of magnitude
  - Hazard index values less than 1 (range from 0.24 to 0.51)
- Groundwater: additional delineation and plume stability sampling planned

Property was sold in August 2013

Former dry-cleaning space is being marketed for new tenant
A Cleaners – Charlotte, NC

- PERC dry-cleaning facility from 1971 to 2013
A Cleaners – PCE in Soil

- Up to 1,600 mg/kg PCE
A Cleaners – PCE in Groundwater

- Up to 134 mg/L PCE
- PCE concentrations increasing downgradient
A Cleaners – Interim Action

2012

- **Goal:** Reduce further leaching from soil to groundwater
  - Limit further plume migration
  - Protect water supply well
- Facility is active with no known plans for redevelopment
- Soil vapor extraction selected as interim action

2013

- Property owner announces plans for redevelopment
- Facility will be demolished and new convenient store constructed
- Additional Goal: Protect against future vapor intrusion
- New interim action: Excavation and soil blending
A Cleaners – Interim Action

Soil Excavation and In Situ Soil Blending

- Excavate impacted soil from 0 to 4 ft
- Blend chemical oxidant from 4 ft to 20 ft

Advantages

- Remove surficial soil impacts
- Aggressively treat subsurface soil impacts
- Treat shallow groundwater impacts
A Cleaners – Interim Action
A Cleaners – Interim Action

**Summary**

- Excavated ~ 380 tons of PCE-impacted soil
- Treated ~ 650 cubic yards of PCE-impacted soil in place with ~ 12,000 lbs of potassium permanganate
- Blended 5 wt % Portland to stabilize soil after treatment

**Results**

- Soil excavation samples: risk-based goal achieved
- Post-blending samples: no VOCs detected
- Groundwater: future sampling planned

**Property currently being redeveloped**