
UST Release – Subsurface Investigation & Vapor Abatement Public Presentation Gunnison, Utah

Environmental Response Team

- Division of Environmental Response and Remediation (DERR) John Menatti, & Doug Hansen
- Wasatch Environmental Inc. – UST Consultant and Environmental Contractor
- RMEC Environmental, Inc. – Frank DeRosso, CIH
- J&J Environmental – John Liu, Vapor Barrier System
- Jack Riding Engineering – Sparge Curtain
- Carlisle Excavating – Excavation Contractor
- Catalytic Combustion Corp. – Environmental Equipment
Catalytic Oxidizers
- Bio-West
- Remedy, Inc. – Lance Hess Air Emissions Support /Oversight
(City Oversight)

DERR UST Abatement Program



Gunnison 3 Phase Response



Emergency Response Actions

- Tank Removal
- Investigation Process
- SVE (Soil Vapor Extraction) Systems
- Air Emissions
- System Overview

Emergency Response / Removal of Fuel Tanks

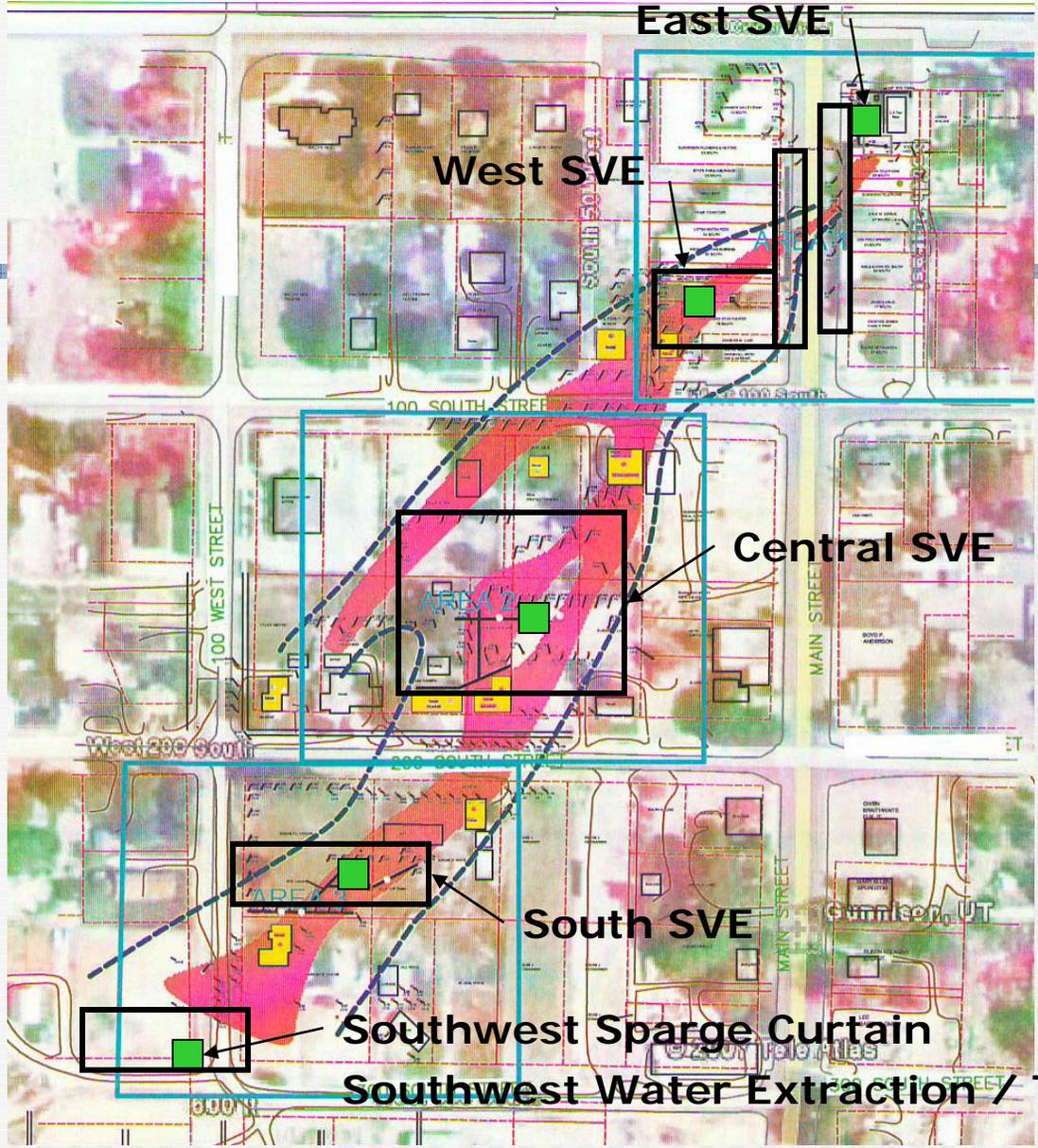


- Excavation of –
 - Two 6K Gallon Tanks
 - One 12K Tanks
 - Aug. 21st & 22nd, 2007

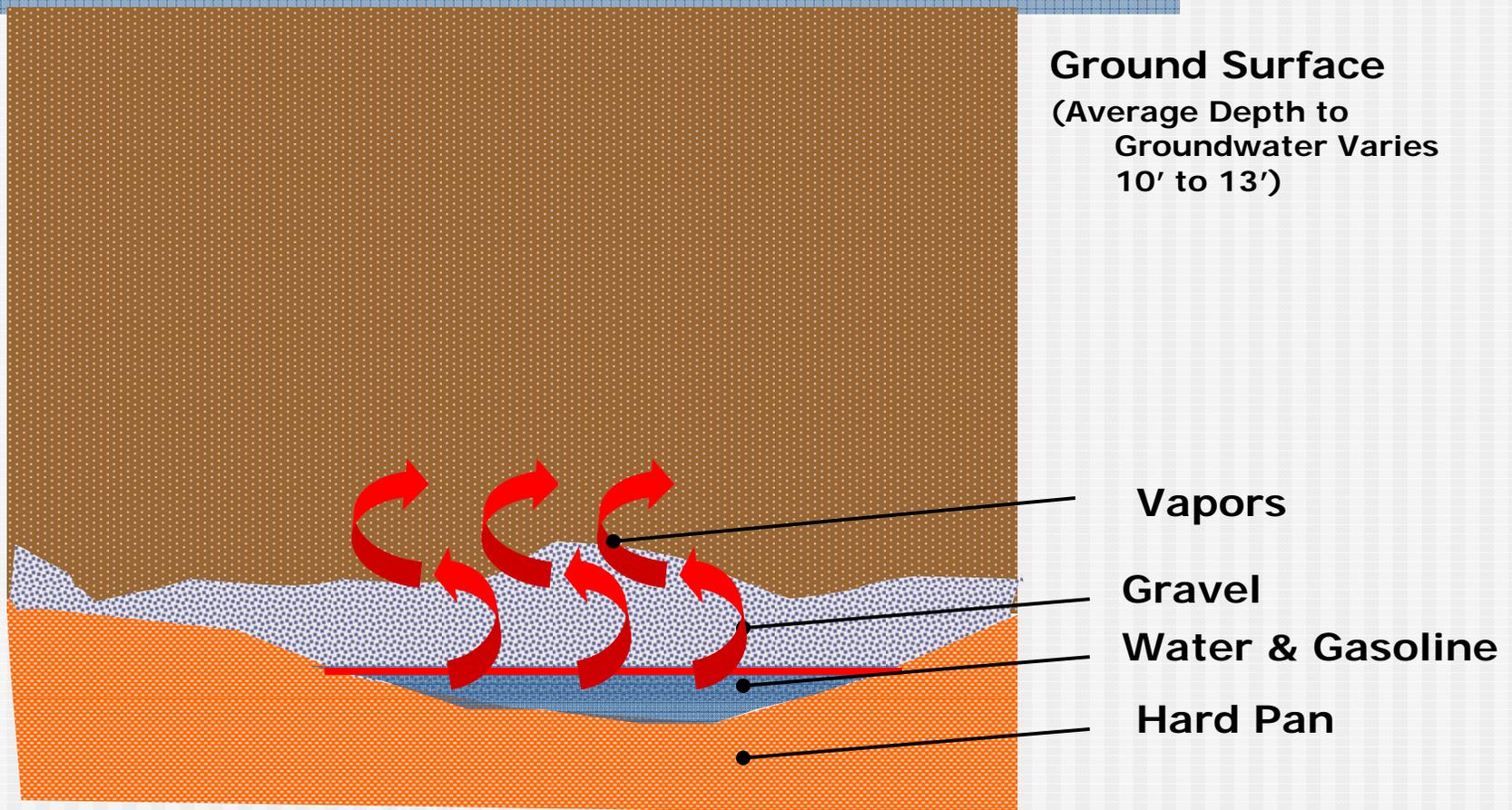
Investigation Remediation

- Site Investigations
 - 235 borings
- Groundwater Monitoring Wells
 - 9 - GWM have been installed
- Soil Vapor Extraction Systems (SVE)
 - 5 – systems / 4 in operation

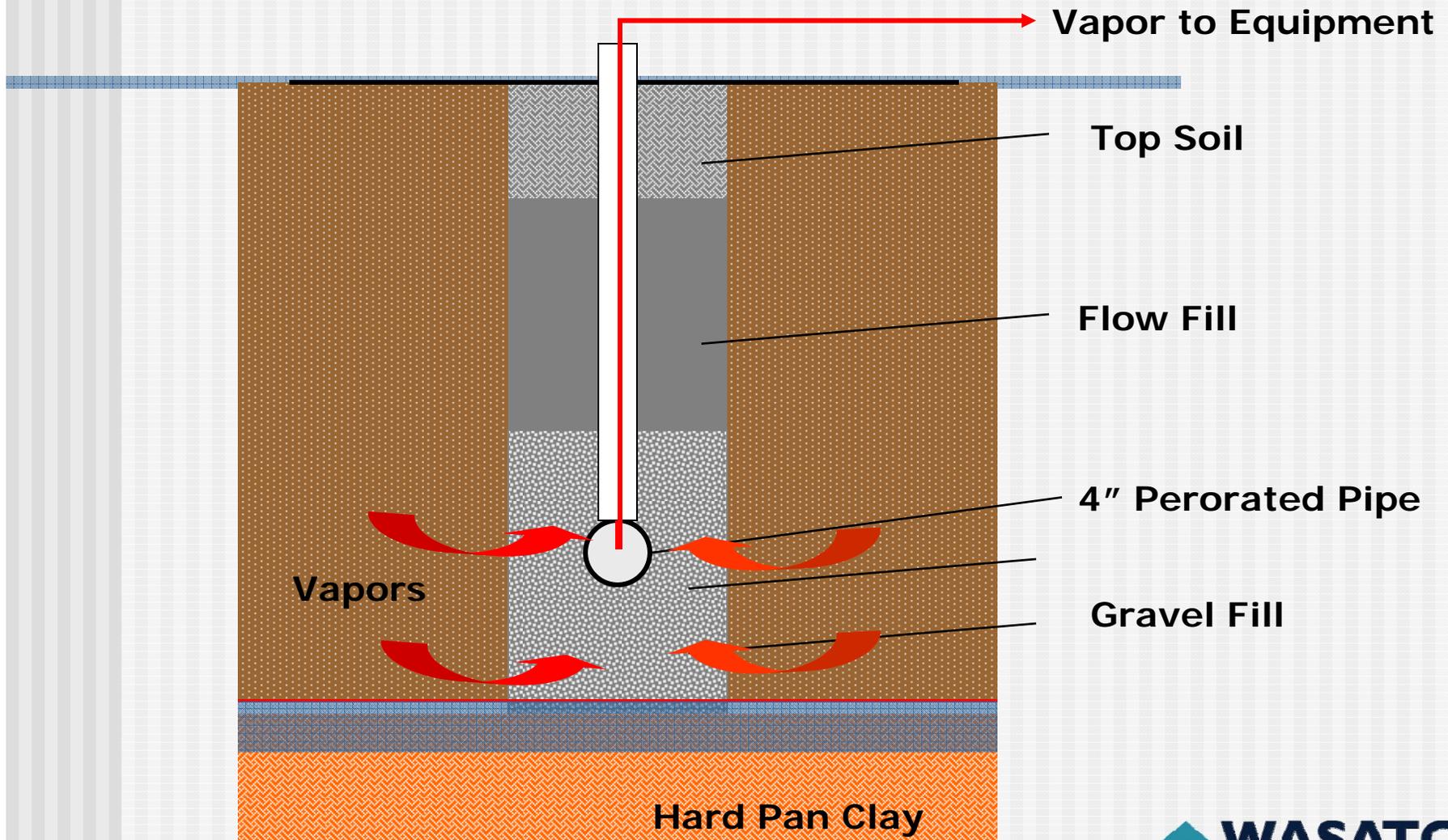
Current Abatement System Sites



Existing Subsurface Geology - Cross Section



Typical SVE Trench System



Vapor Extraction Abatement

- Soil Vapor Extraction Trench Installation to date includes;
 - Installation of over 960L.F. of piping
 - Excavation & disposal of 1,833 Tons of soil
 - Imported 985 C.Y of gravel fill
 - Installed 514 C.Y. of concrete flow fill
- Five – Extraction Systems Installed

SVE System Equipment



- Equipment Shed
- 5 to 10 HP Blower discharging 150 to 300 CFM of air
- 3 Phase Power Supply – (Not a typical residential power)
- System controls / Monitoring
- Engineer Supply and Discharge Piping

Catalytic Oxidizer



- Vapor emissions require treatment
- Catalytic Oxidizer treats vapor to zero emissions

East SVE System Installation



West SVE Installation



South Site - SVE System



System start up November 2007

Central Site - SVE System



- Construction of a 24'x26' Shed
- Installation of Flame-Ox Catalytic system
- Install additional trenches
- Power supply and Natural Gas utilities
- Current system – temporarily operating on generator

Southwest SVE System

Current installation –

- SVE / Sparging Curtain – 95' trench
- Combined SVE and water sparging system acting as a barrier
- Three wells installed to monitor the groundwater and provide treatment
- Scheduled Start-up January 10th

Current SVE Abatement Status

System	Removal Gallons
East SVE/ CAT-OX	1,405
West SVE CAT-OX	1,937
Central SVE CAT-OX	616
South SVE CAT OX	100
Total Gallons Removed	4,058

- Calculations by Catalytic Combustion based on hours of operation, temperature & flow rate

Air Emissions Testing

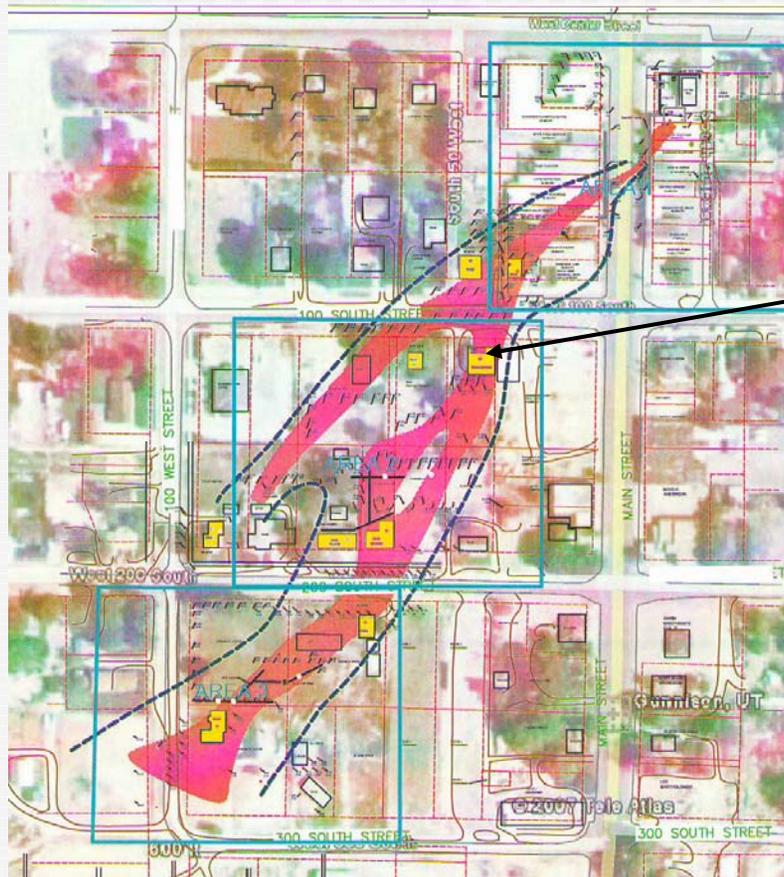
- Air sampling continues in residences and businesses
- Over 50 samples have been tested
- Lance Hess (Remedy) will continue to respond to requests for sampling

Vapor Ventilation System

Current installation –

- 9 homes are equipped with vapor ventilation systems
- System evacuates potential vapors coming into the home from the basement or crawl space

Vapor Ventilation System



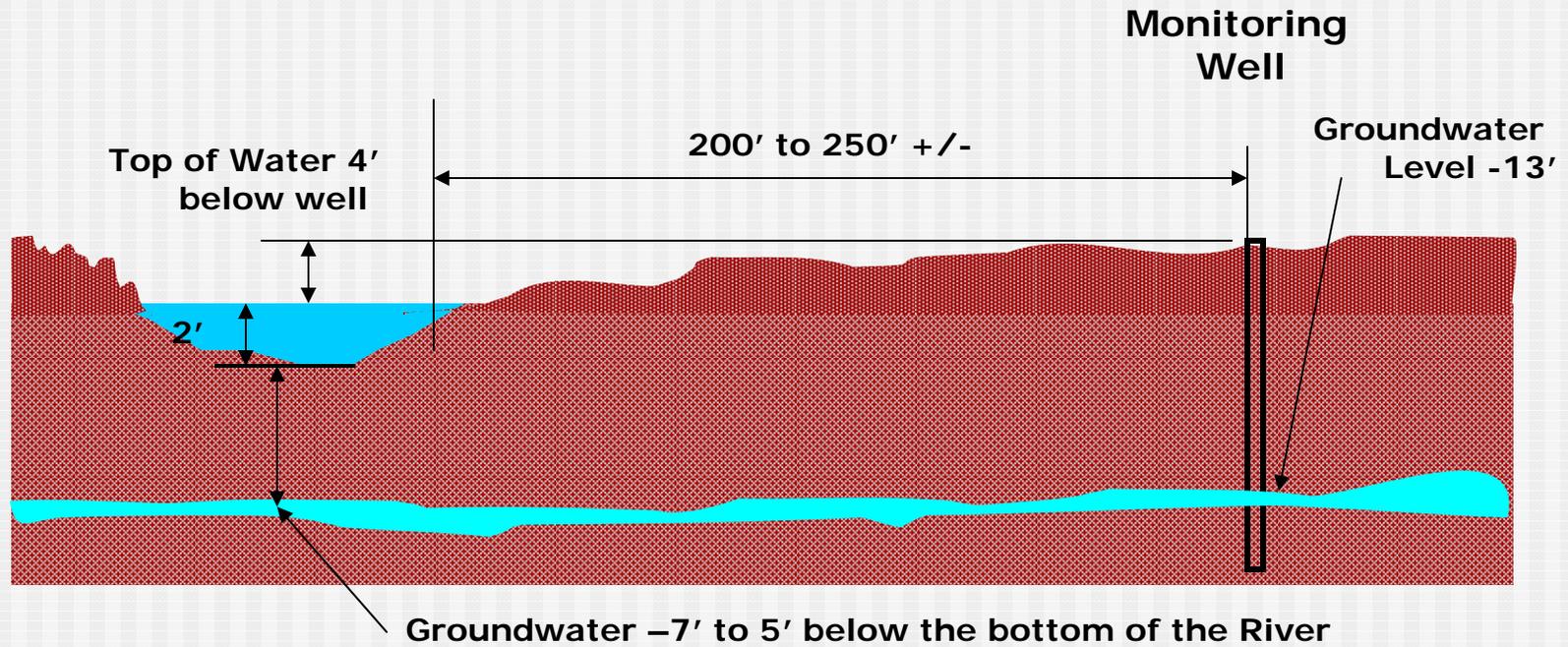
- Homes marked in yellow have systems installed

Ventilation Systems

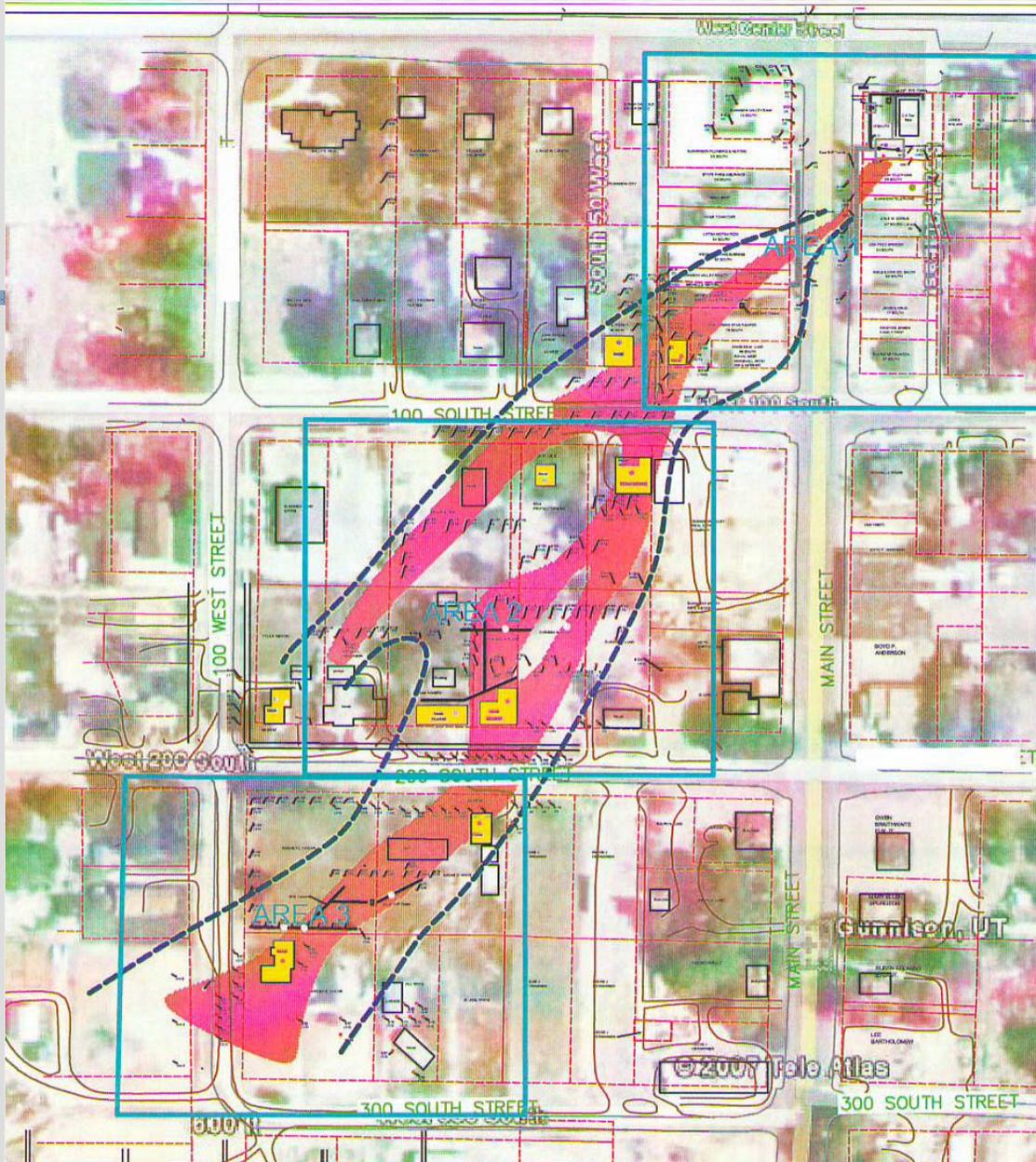


- Fan draws air from a sealed barrier placed in the crawl space or foundation and vents fumes to the outside.

San Pitch River - Cross Section



Plume Path



- Further investigation may modify this depiction of the plume path

Plume Investigation Activities

- The gasoline is migrating along old stream beds and/or low spots of an underlying hard pan
- Nine groundwater monitoring wells have been installed
- Additional borings and wells planned for installation this month

Upcoming Activities

1. Complete construction of the central system
2. Increase cat-ox system at West SVE
3. Lengthen trenches at West SVE both to the south and west
4. Installation of trenches for Central system
5. Continued probing and investigation of plume
6. Remedy (Lance Hess) continued air monitoring in residences and businesses

Communication / Support

- City Council / Support
- Action Items
- Ongoing Reporting to DERR and Gunnison City
- Schedule next meeting – February