U.S. DEPARTMENT OF ENERGY | Savannah River Site

A presentation to the

SRS Citizen's Advisory Board

Facilities Disposition and Site Remediation Committee

M-Area Operable Unit Status Update

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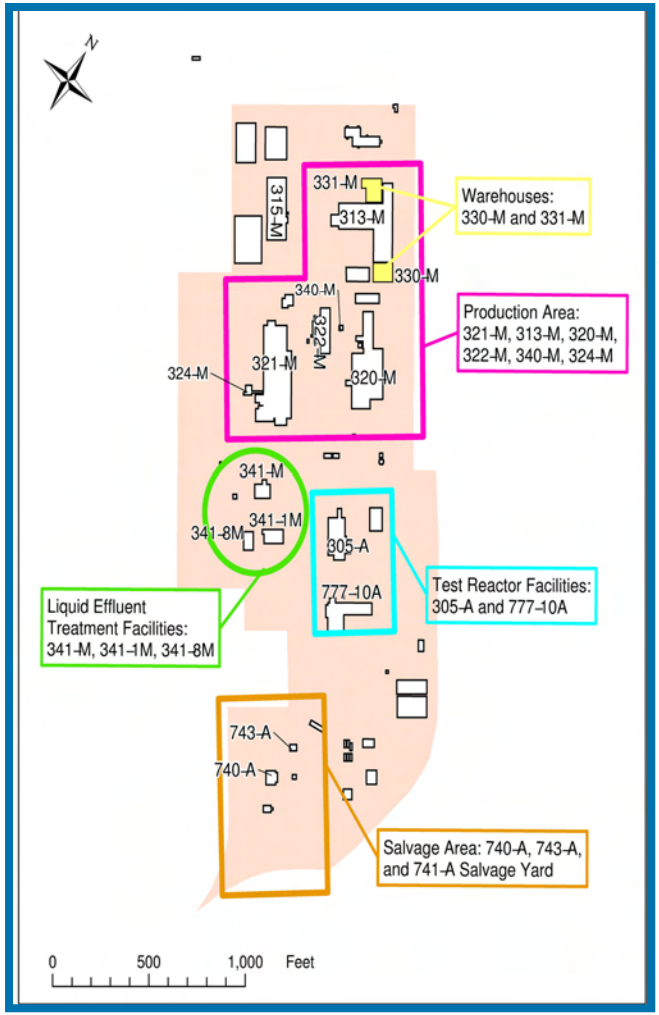
Acronyms

Approx.	Approximate
CMI/RAIP	Corrective Measures Implementation / Remedial Action Implementation Plan
Dia.	Diameter
DOE-SR	Department of Energy - Savannah River
ESD	Explanation of Significant Difference
Ft.	Feet
PAH	Polycyclic aromatic hydrocarbons
PCB	Polychlorinated biphenyls
PCE	Tetrachloroethylene
PPM	Parts Per Million
PRG	Preliminary Remediation Goals
SVE	Soil vapor extraction
TCE	Trichloroethylene
TPY	Tons per year
VOC	Volatile organic compound

Purpose: M-Area Operable Unit Status Update

Liquid Effluent Treatment Facility

Salvage Yard Area



Production Area

Test Reactor Facilities

M-Area Operable Unit - Background

- **Produced and tested uranium fuel and target assemblies from 1952 to 1988**
- **Three major production buildings and one support building:**
  - **313M Slug Production Facility**
  - **320M Alloy Building**
  - **321M Fuel Fabrication Facility**
  - **322M Metallurgical Laboratory**

M-Area Operable Unit - Progress to Date

- Deactivation and decommissioning complete
  - 23 buildings
- Characterization of concrete pads, sumps, process sewers, soil, and vadose zone complete
- Record of Decision issued February 5, 2009
- Corrective Measures Implementation / Remedial Action Implementation Plan (CMI/RAIP) Revision 1 submitted to regulators April 7, 2009
- Early actions in the Production Area and the Salvage Yard completed

M-Area Operable Unit - Early Action Schedule

- **Radiological / mixed contamination removal:**
  February 22 – July 26, 2007
- **PAHs, PCB, and metals removal:**
  July 30 – September 28, 2007
- **Hazardous contamination removal:**
  May 31, 2007 – March 11, 2008

M-Area Operable Unit - Progress to Date

- **Early actions at Buildings 313M, 320M, 321M, 322M**
- **Actions consisted of:**
  - **Removal of sumps used for radiological and volatile organic compound (VOC) processes**
  - **Removal of surface radiological contamination on concrete pads where significant radiological operations took place**
  - **Removal of sewer lines with radiological sludge at 322M (Metallurgical Laboratory)**
  - **Removal of contaminated soils associated with the sumps and sewer lines**

M-Area Operable Unit - Progress to Date (continued)

- **Early Actions at the 741-A Salvage Yard consisted of:**
  - **Removal of surficial soils contaminated with metals (pipes, wires, tire weights, etc.), PAHs (asphalt present) and PCB (old transformers disposal area)**
  - **Hauling of the excavated soils for beneficial use as fill for the soil cover at the A-Area Ash Pile**

M-Area Operable Unit - Progress to Date
(continued)

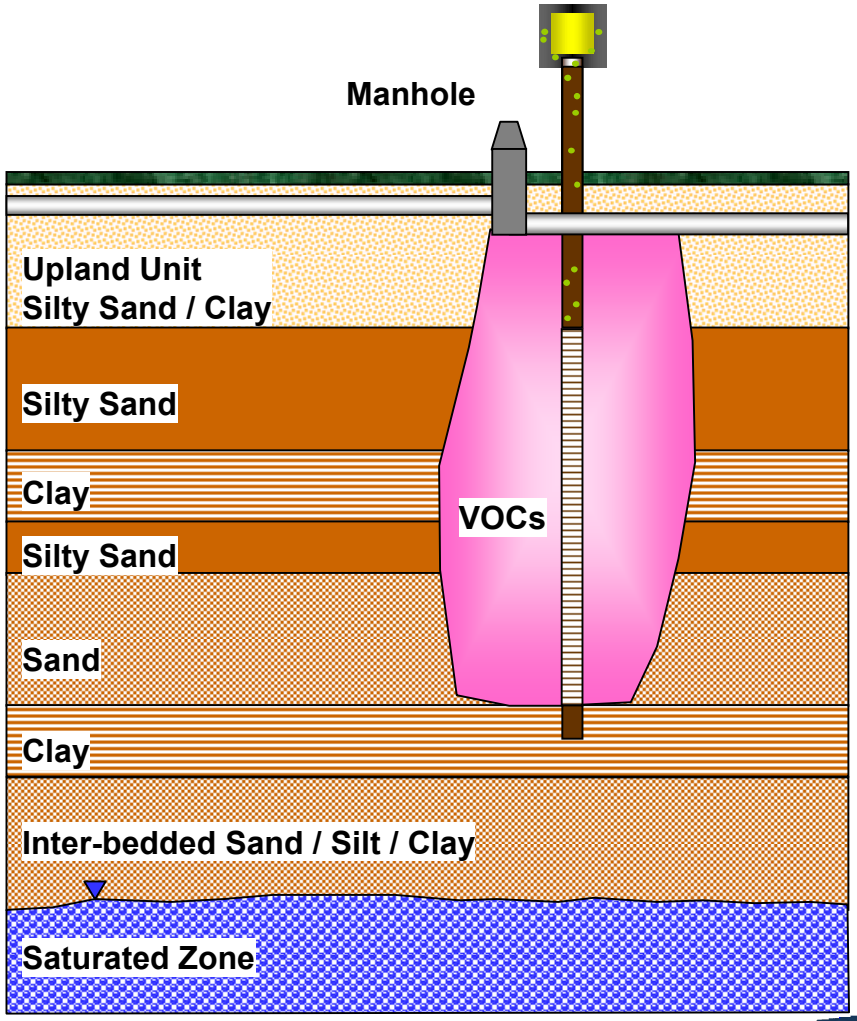
- **Early Action waste volume and disposal path:**
  - **Radiological: 923 cubic yards; SRS E-Area Slit Trenches**
  - **Mixed: 33 cubic yards; Nevada Test Site and Energy Solutions, Utah**
  - **PAHs, PCBs, and metals: 6,000 cubic yards; used as a foundation for the soil cover at the SRS A-Area Ash Pile**
  - **VOC-contaminated soils and concrete: 4,355 CY removed with foundation auger and excavator to be treated on-unit with passive SVE**

M-Area Operable Unit - Now

Planned Final Remedial Action

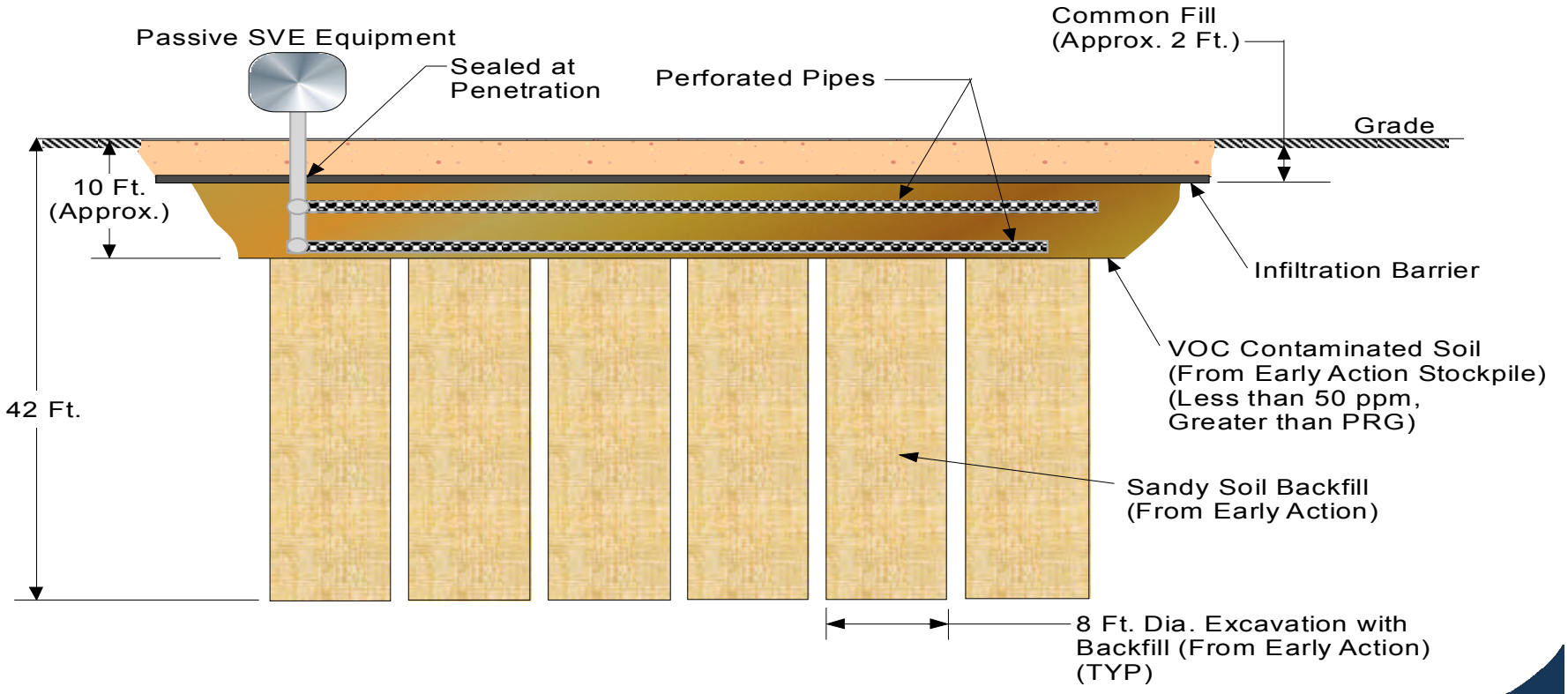
- As of 4/8/09 work being conducted as part of the Recovery Act
- Passive soil vapor extraction (i.e., BaroBalls) to be used to remove VOCs from the vadose zone at 313M, 321M, and 320M and at Manhole 4A locations
- 4,355 cubic yards of VOC-contaminated soils and concrete rubble excavated during the early action to be treated on-unit with passive soil vapor extraction
- Manholes along the process sewer line to be grouted
- Institutional Controls

SVE Wells at 313-M, 320-M and Manhole 4A



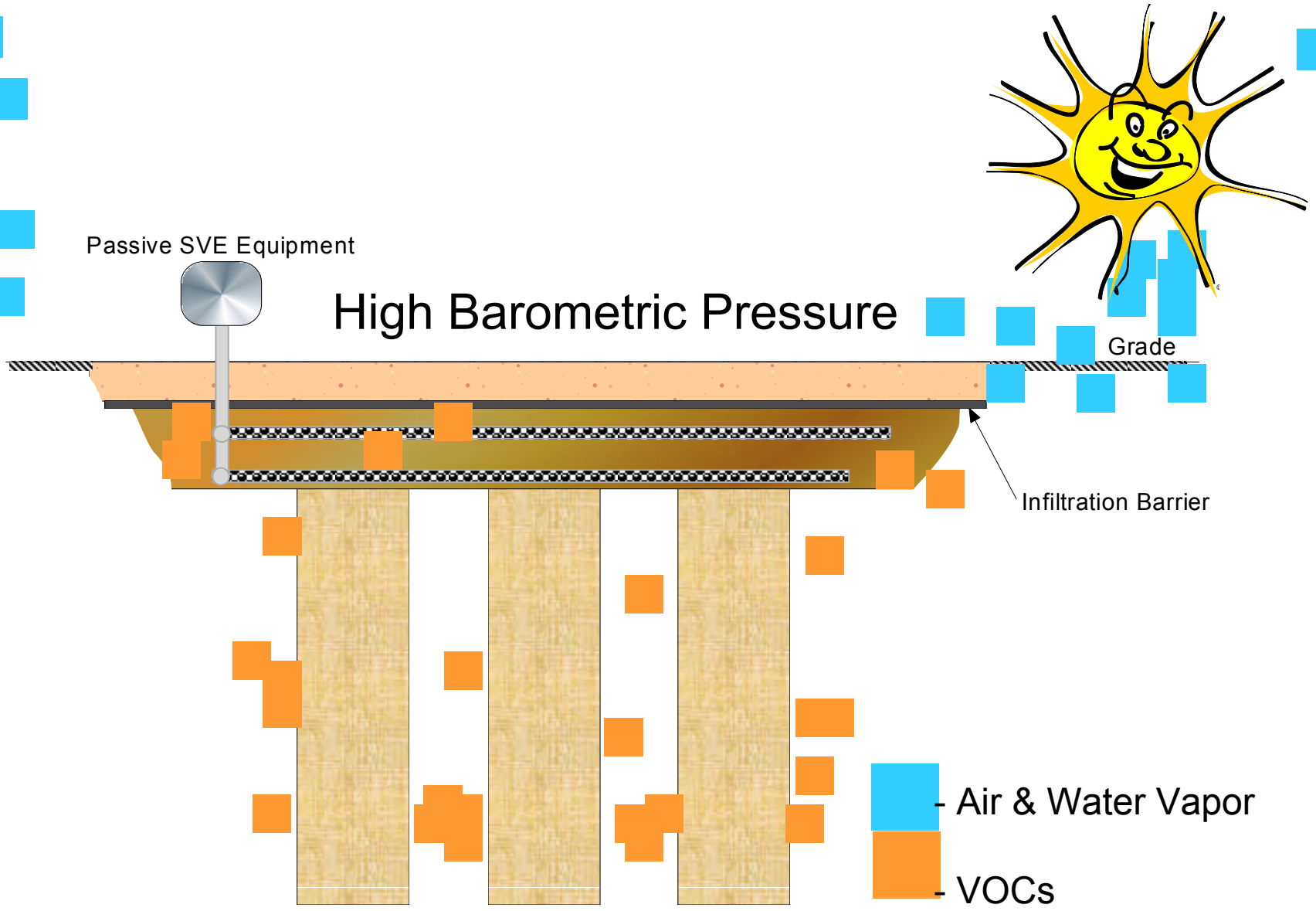
Passive SVE Cells

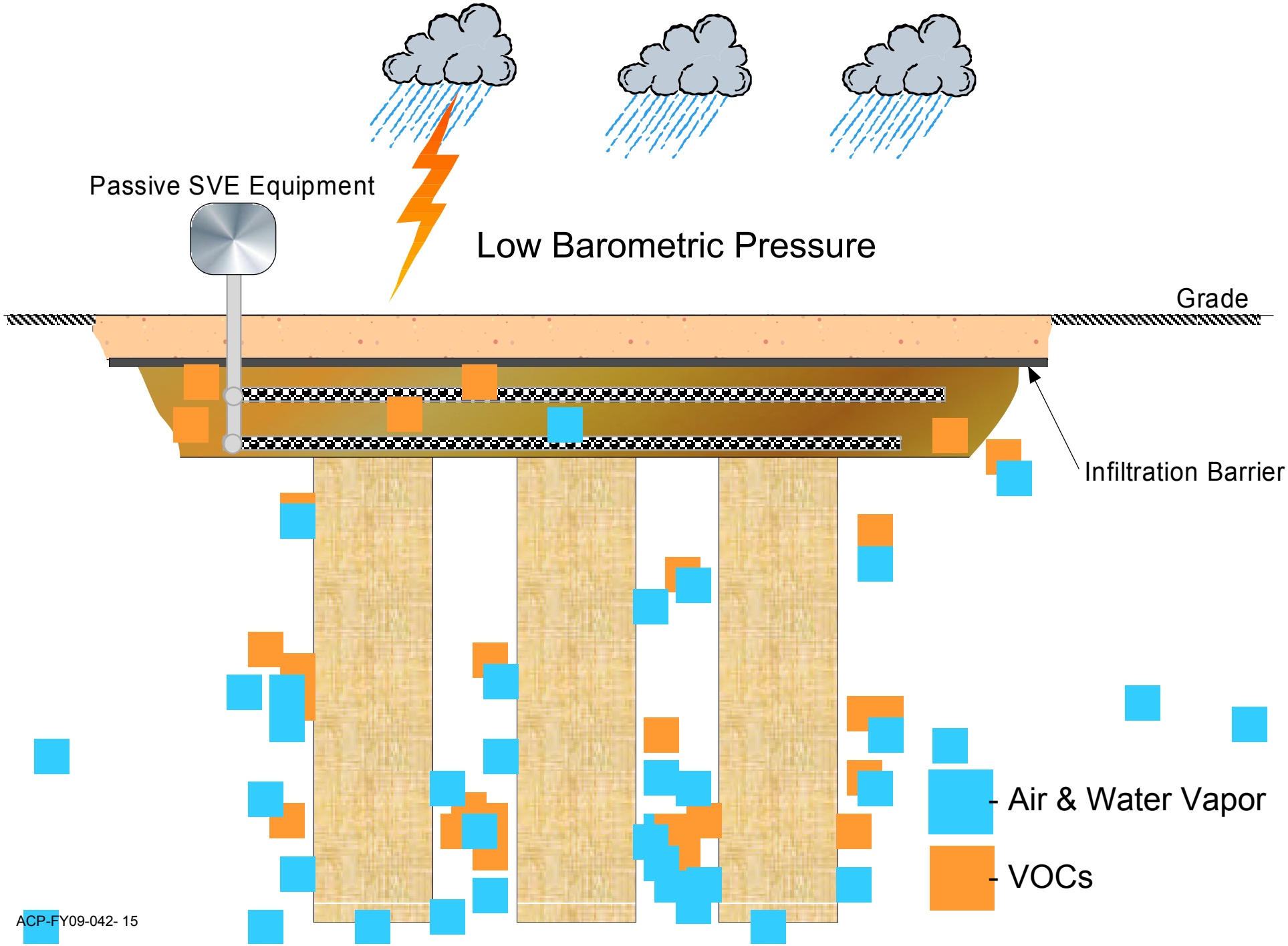
(321-M and west of M-1 Stripper for excavated soil)

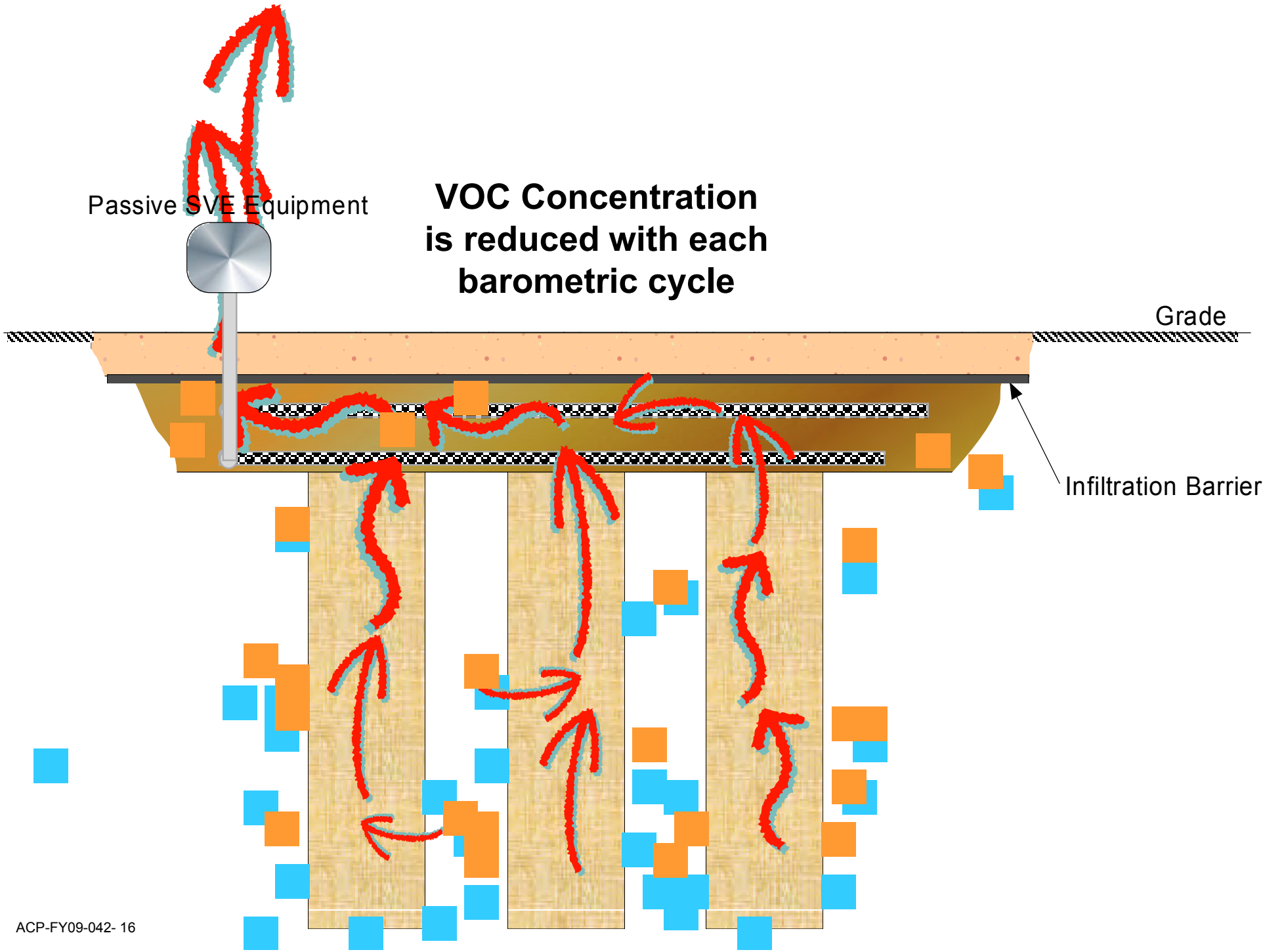


PROPOSED SVE CONFIGURATION (321-M)
Not to Scale

How it Works


Passive SVE Equipment
High Barometric Pressure
Grade
Infiltration Barrier
- Air & Water Vapor
- VOCs


Passive SVE Equipment
Low Barometric Pressure
Grade
Infiltration Barrier
- Air & Water Vapor
- VOCs


Passive SVE Equipment
VOC Concentration is reduced with each barometric cycle
Grade
Infiltration Barrier

M-Area Operable Unit - Path Forward

- **Record of Decision approved:** ***December 15, 2008***
- **ESD approval:** ***June 10, 2009***
- **ESD issued:** ***August 5, 2009***
- **CMI/RAIP approval:** ***August 6, 2009***
- **Final Remedial Action Start:** ***September 30, 2009***
- **Post Construction Report:** ***December 20, 2010***

M-Area Operable Unit - End State