



U.S. DEPARTMENT OF
ENERGY

Savannah River Site



*A presentation to the
SRS Citizen's Advisory Board
Facilities Disposition and Site Remediation Committee*

D-Area Operable Unit Status Update

Diana Hannah
Project Manager
Area Completion Project, DOE-SR
Office of the Assistant Manager for Completion Project

Tom Kmetz
Project Manager
General Separations Area
Savannah River Nuclear Solutions, LLC

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Acronyms

• As	Arsenic
• Ba	Barium
• CM	Contamination Migration
• CMS/FS	Corrective Measures/ Feasibility Study
• DDD	insecticide (di-chloro - ethane)
• DDE	insecticide (di-chloro - ethylene)
• DDT	insecticide (tri-chloro - ethane)
• DOE	Department of Energy
• ECO	Ecological
• EE/CA	Removal Site Evaluation Report / Engineering Evaluation / Cost Analysis
• EFDA	European Fusion Development Union
• HH	Human Health
• PCBs	Polychlorinated biphenyls
• pH	Negative logarithm of effective hydrogen-ion concentration
• Rev.	Revision
• RCRA	Resource Conservation and Recovery Act
• RFI/RI	RCRA Facility Investigation/Remedial Investigation
• Se	Selenium
• SRS	Savannah River Site
• TCE	Trichloroethylene
• TS	Treatability Study
• VOC	Volatile organic compound

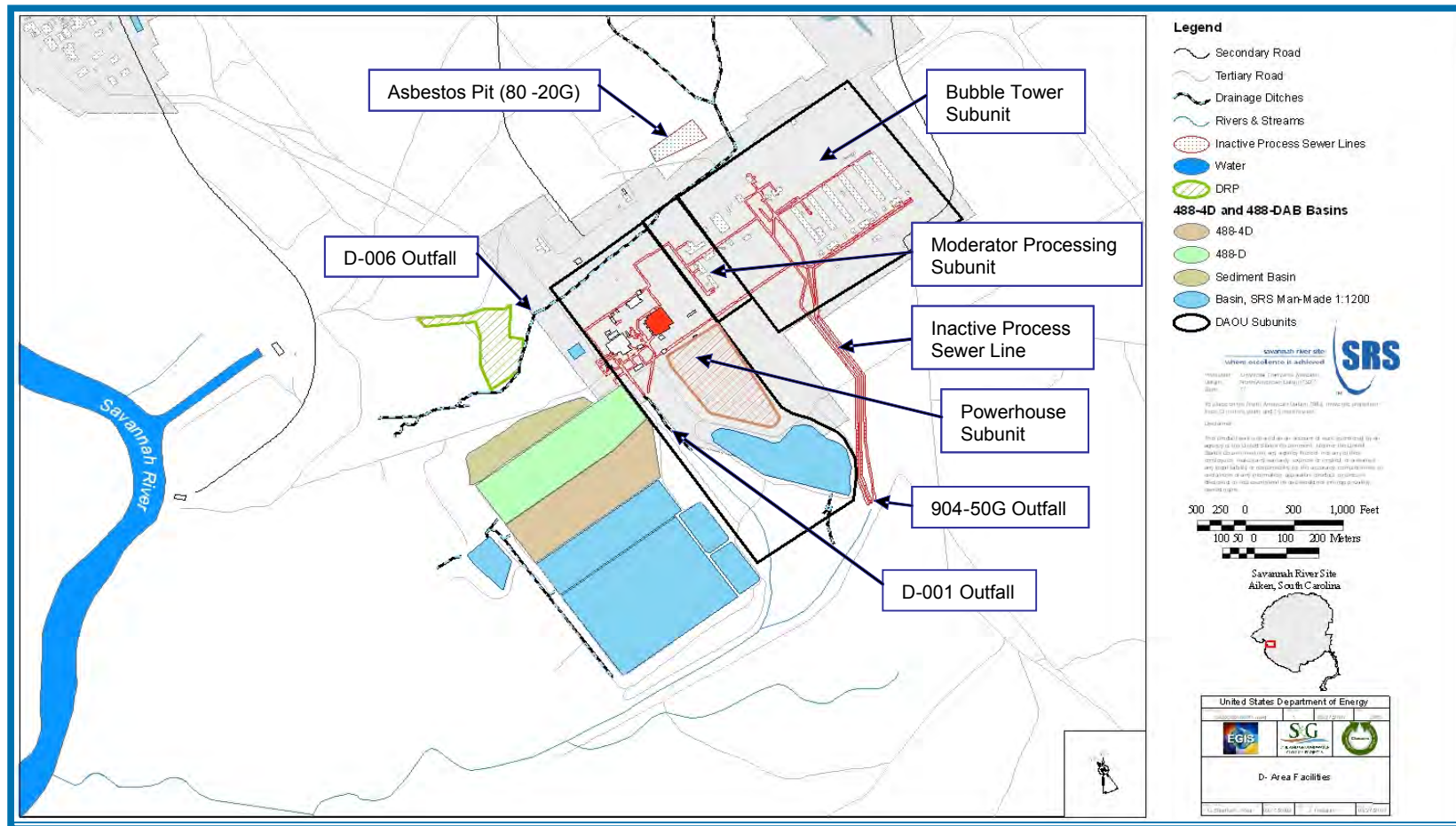




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D-Area Operable Unit Layout





D-Area Operable Unit Background

- **Site of heavy water production and rework facilities between 1952 and 1982**
- **Seven subunits comprise the operable unit:**
 - **Bubble Tower Subunit**
 - **D-Area Heavy Water Facility, Fire Fighting Training Facility, and 717-D Maintenance Facility**
 - **Moderator Processing Subunit**
 - **420-D Concentrator Building, 420-2D Rework Handling Facility, 421-D Finishing Building, 421-2D Moderator Handling and Storage Building, and 772-D Control Lab and Supervisors Office**





D-Area Operable Unit Background

(Continued)

- **Powerhouse Subunit**
 - 484-D Powerhouse, 484-10D Waste Oil Facility, 489-D Coal Pile Runoff Basin, and Combined Spills from 483-D and associated areas
- **D-Area Inactive Process Sewer Lines**
- **Miscellaneous units**
 - D-001 Outfall, D-006 Outfall, 904-50G Outfall, and D-Area Asbestos Pit
- **Electrical transformers**
- **Miscellaneous buildings**





D-Area Operable Unit - Progress to Date

- **Deactivation and decommissioning of 21 facilities completed**
 - 23 to go (Powerhouse and supporting facilities)
- **Characterization (surface and subsurface) complete**
 - Tritium, solvents (TCE), hydrocarbon products, and metals identified as constituents of concern
- **Rev. 1 Combined Remedial Investigation Work Plan / Remedial Investigation Report submitted to regulators. Approval May 27**
- **Rev. 0 Corrective Measures / Feasibility Study Report (remedial alternatives analyses) submitted to regulators**
- **Thermal Tritium Treatability Study Pilot underway**

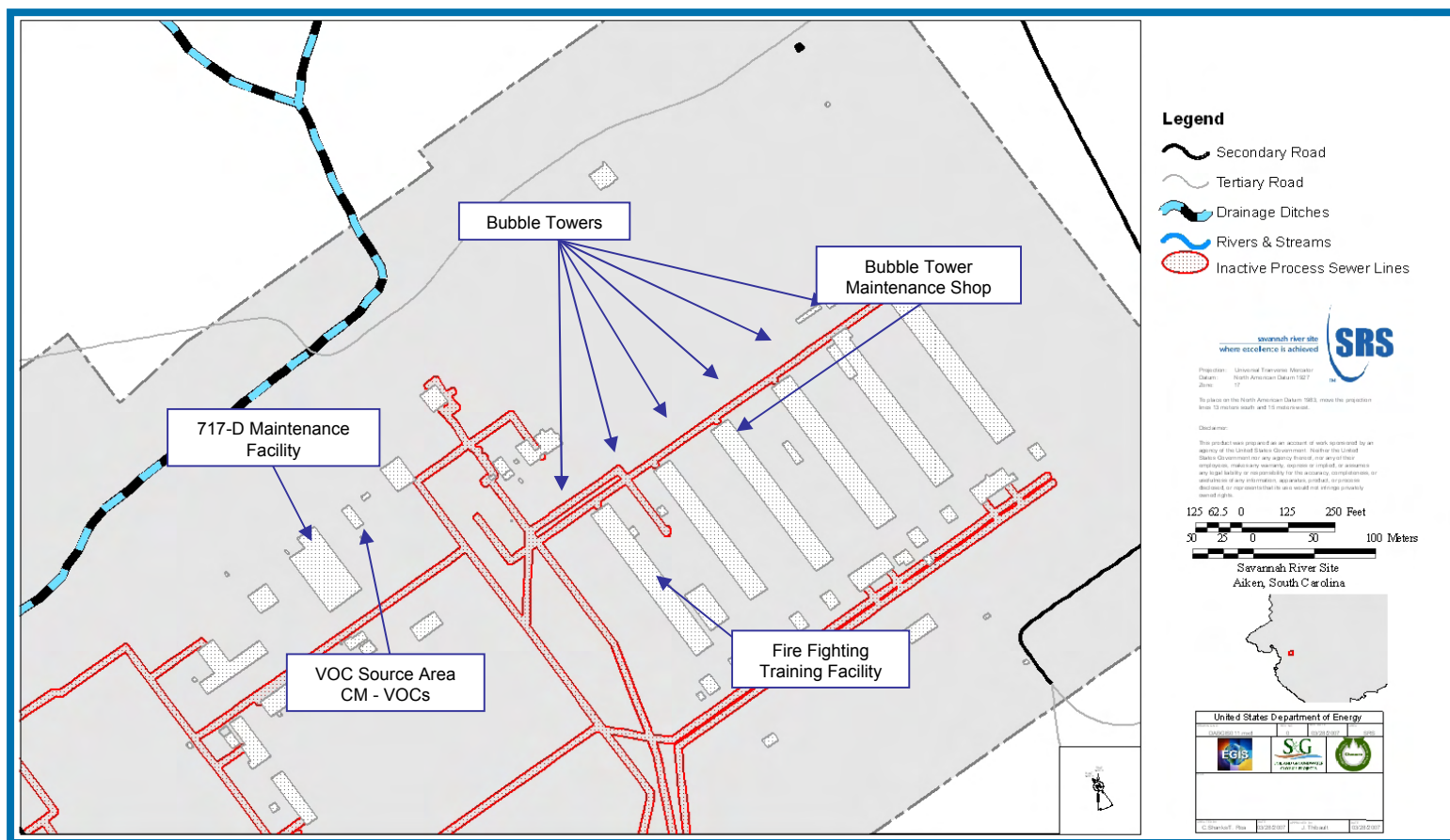




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Problems Warranting Action - Bubble Tower Subunit

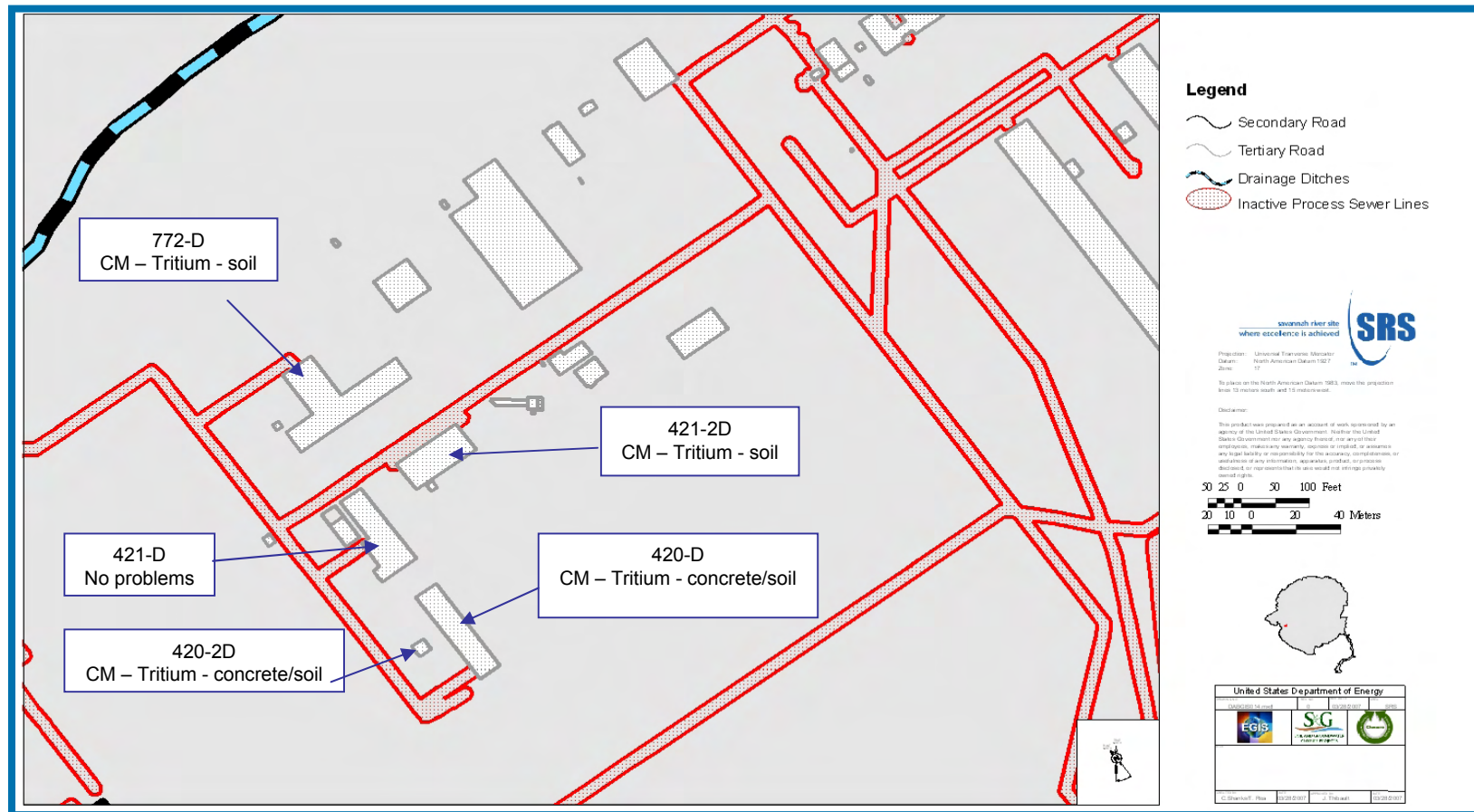




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Problems Warranting Action - Moderator Processing Subunit

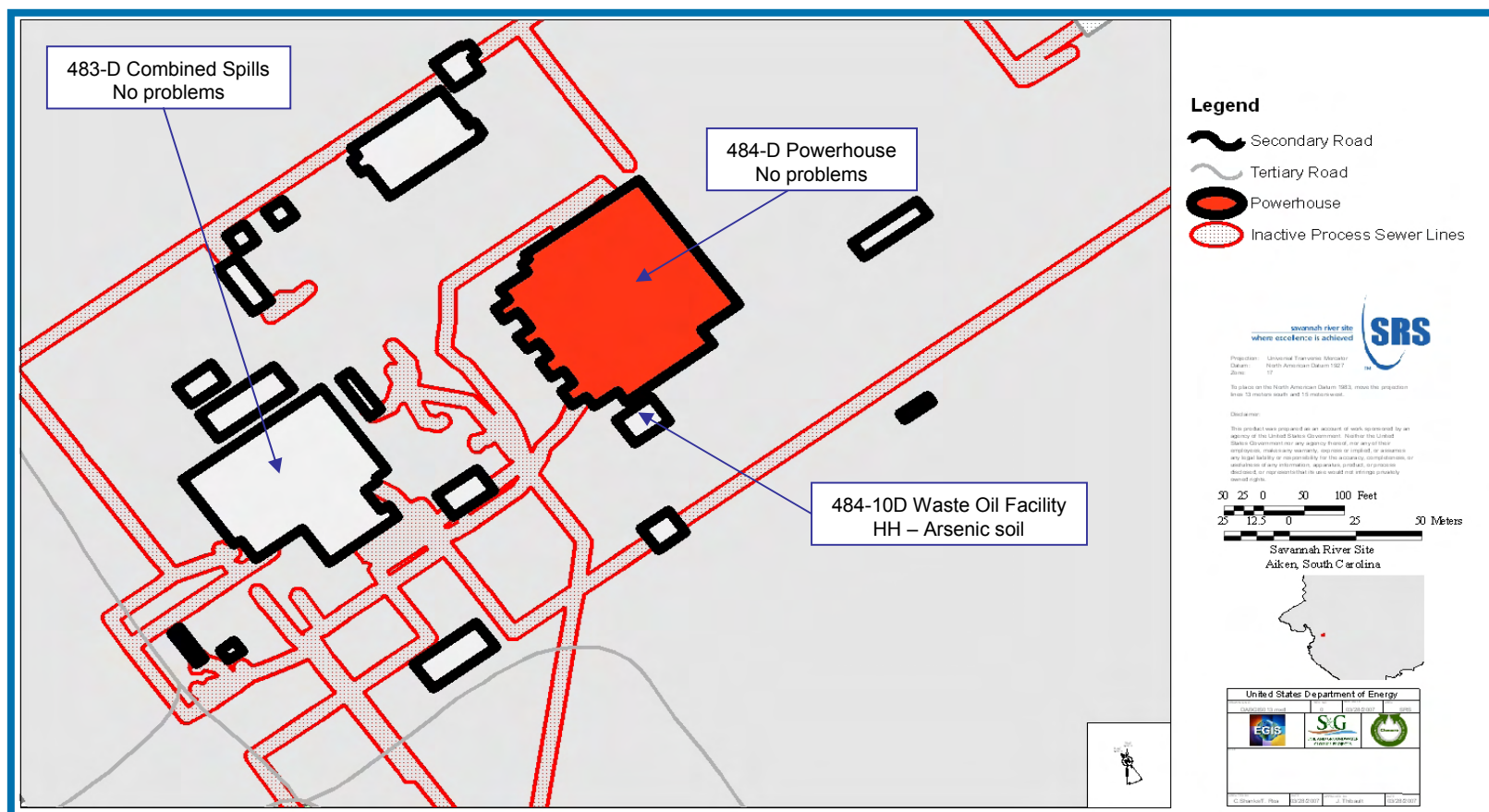




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Problems Warranting Action - Powerhouse Subunit

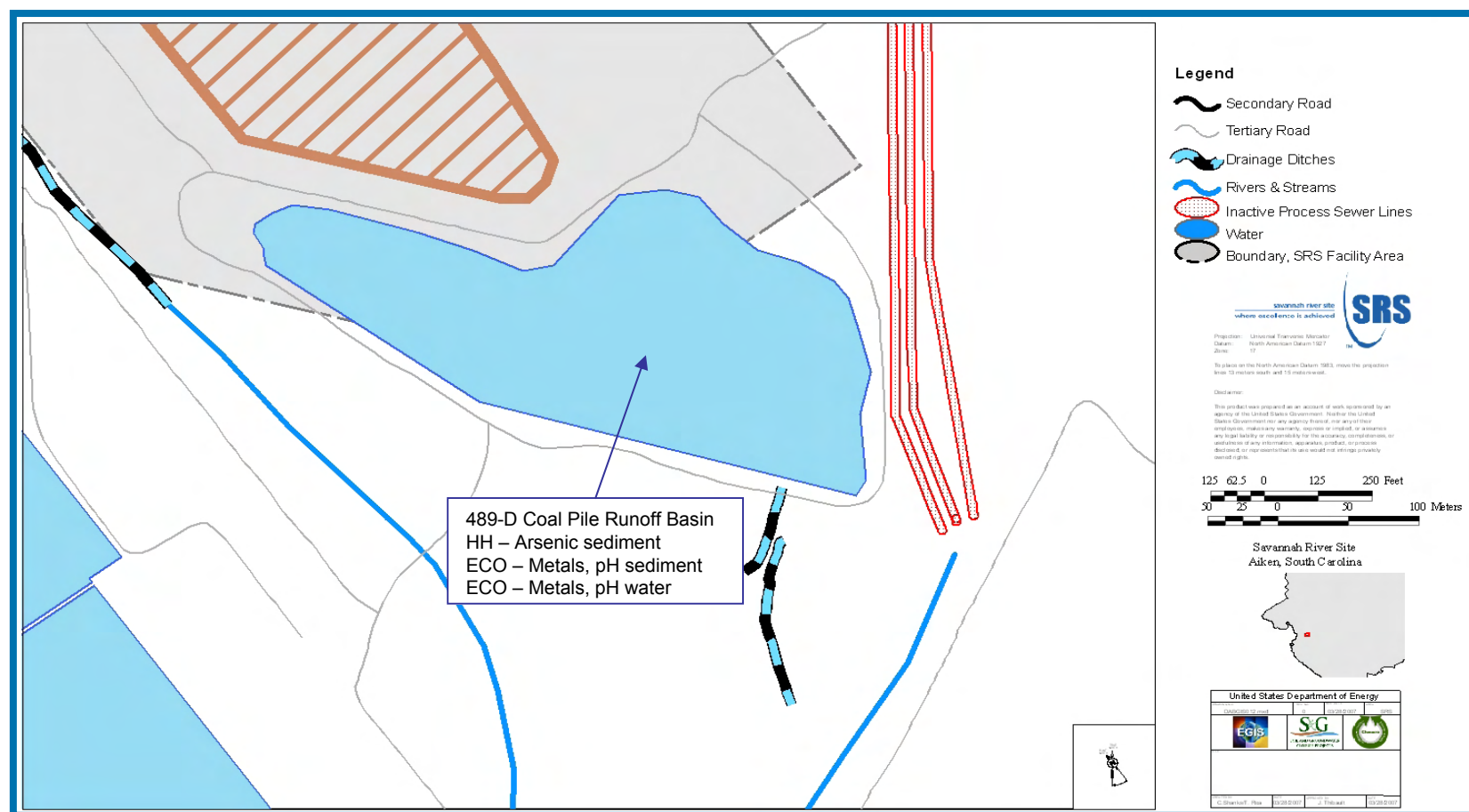




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Problems Warranting Action - Coal Pile Runoff Basin

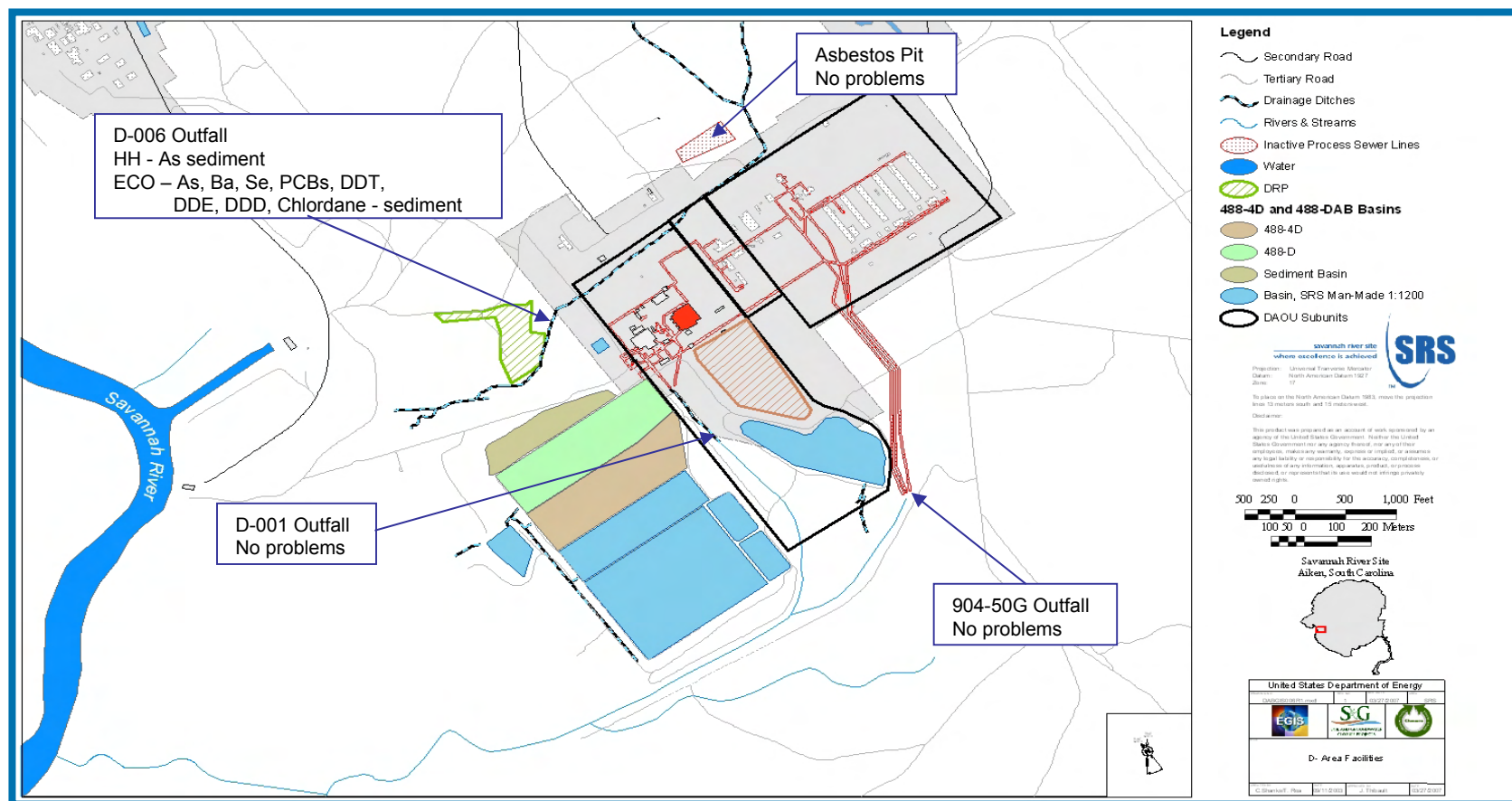




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Problems Warranting Action - Miscellaneous Subunits





D Area Operable Unit - Path Forward

- Conduct work as part the Recovery Act
 - Accelerates schedule by 6 years
- Pursue Early Action opportunities:

Bubble Tower Subunit EE/CA

- Deploy passive soil vapor extraction (i.e., MicroBlowers, BaroBalls) to address VOC and petroleum products contamination in the vadose zone

Moderator Processing Subunit EE/CA

- Construct three additional Thermal Tritium Treatment Cells to remediate concrete slabs and soil

Coal Pile Runoff Subunit and D-006 Outfall EE/CA

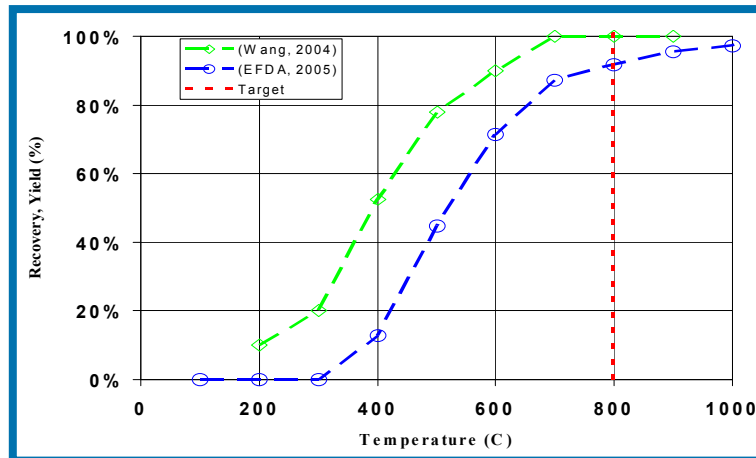
- Excavate sediment contaminated with arsenic and pesticides from the Outfall and consolidate with sediments contaminated with arsenic and metals under a fly-ash and soil cover at the Coal Pile Runoff Basin

Deactivate and decommission the 484-D Powerhouse





D Area Operable Unit - Thermal Tritium TS Pilot



- Regulators approved Treatability Study Plan
- Thermal Treatment Unit consists of concrete block walls, electrical heating elements, and roof structure
- Loaded 77 cubic yards of concrete and soil (45 Curies) from 420-D slab
- Treatability Study addresses 5% of tritiated media at the Operable Unit
- Target temperature for concrete remediation is 815o Celsius (1500oFarhenheit)
- Maintain 815oCelsius for 30 days to allow tritium to escape from concrete matrix
- Offers potential cost savings alternative for treatment of tritiated media elsewhere at SRS and the DOE complex





D Area Operable Unit - Schedule

- **Submit Rev. 1.1 RFI/RI Work Plan/Report: 4/27/09**
- **Submit Rev.0 EE/CA for Bubble Tower Subunit (SVE): 4/30/09 (Public Comment)**
- **Submit Rev.0 EE/CA for Moderator Processing Subunit (Thermal Detritiation): 6/30/09 (Public Comment)**
- **Submit Rev.0 EE/CA for D-006 Outfall and Coal Pile Runoff Subunits (consolidation and soil cover): 7/30/09 (Public Comment)**
- **Submit Rev. 1.0 CMS/FS Report: 8/3/09**
- **Submit Rev.0 Statement of Basis/Proposed Plan: 10/19/09 (Public Comment)**
- **Submit Rev.0 Record of Decision: 6/1/10**

