

**EPA Superfund  
Record of Decision:**

**SAVANNAH RIVER SITE (USDOE)  
EPA ID: SC1890008989  
OU 12  
AIKEN, SC  
09/11/1995**

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**United States Department of Energy**

**Savannah River Site**

**Record of Decision  
Remedial Alternative Selection  
for the  
M-Area West Unit (631-21G) (U)**

**WSRC-RP-95-626**

**Revision 0**

**August 1995**

**Westinghouse Savannah River Company  
Savannah River Site  
Aiken, South Carolina 29808**



**RECORD OF DECISION  
REMEDIAL ALTERNATIVE SELECTION (U)**

**M-Area West Unit (631-21G)**

**WSRC-RP-95-626**

**Revision 0**

**August 1995**

**Savannah River Site  
Aiken County, South Carolina**

**Prepared by:**

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**Westinghouse Savannah River Company  
for the**

**U.S. Department of Energy Under Contract DE-AC89-SR18035  
Savannah River Operations Office  
Aiken, South Carolina**

## DECLARATION FOR THE RECORD OF DECISION

### *Unit Name and Location*

M-Area West unit (SRS Bldg. # 631-21G)  
Savannah River Site  
Aiken, South Carolina

The M-Area West unit (631-21G), is listed as a Resource Conservation and Recovery Act (RCRA) 3004(u) solid waste management unit/Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) unit in Appendix C of the Federal Facility Agreement (FFA) for the Savannah River Site.

### *Statement of Basis and Purpose*

This decision document presents the selected remedial action for the M-Area West unit located at the Savannah River Site in Aiken, South Carolina. The selected action was developed in accordance with CERCLA, as amended, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the Administrative Record file for this specific RCRA/CERCLA unit.

### *Description of the Selected Remedy*

The results of the Resource, Conservation and Recovery Act Facility Investigation/Comprehensive Environmental Response Compensation and Liability Act Remedial Investigation, indicate that the M-Area West unit poses no unacceptable risk to human health or the environment. Therefore, no action is needed at the M-Area West unit. This is the final RCRA/CERCLA action for the M-Area West unit.

### *Declaration Statement*

Based on the results of the remedial investigation, no action is necessary at the M-Area West unit to ensure the protection of human health and the environment. Since M-Area West poses no threat to human health or the environment, and no action is needed, the CERCLA Section 121 requirements are not applicable. This action is protective of human health and the environment and is meant to be a permanent solution, final action, for the M-Area West unit. No five-year remedy review is needed or will be performed.

8/28/95  
Date

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9-11-95  
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Deputy Commissioner  
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South Carolina Department of Health and Environmental Control

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## **I. Site and Operable Unit Name, Location, and Description**

The Savannah River Site (SRS) occupies approximately 310 square miles of land adjacent to the Savannah River, principally in Aiken and Barnwell Counties of South Carolina (Figure 1). SRS is a secured U.S. government facility with no permanent residents. The Site is located approximately 25 miles southeast of Augusta, Georgia, and 20 miles south of Aiken, South Carolina.

SRS is owned by the Department of Energy (DOE). Management and operating services are provided by Westinghouse Savannah River Company (WSRC). SRS has historically produced tritium, plutonium, and other special nuclear materials for national defense. SRS has also provided nuclear materials for the space program and for medical, industrial, and research efforts. Chemical and radioactive wastes are by-products of nuclear material production processes.

The Federal Facility Agreement (FFA) for SRS lists the M-Area West unit (631-21G) as a Resource, Conservation and Recovery Act (RCRA) / Comprehensive Environmental Response Compensation and Liability Act (CERCLA) unit that required further evaluation. An investigation/assessment process that integrates and combines the RCRA Facility Investigation (RFI) with the CERCLA Remedial Investigation (RI) to determine the actual or potential impact to human health and the environment was performed.

The M-Area West unit (631-210) is located west of the M-Area Production Facility on a dirt road approximately 1.8 kilometers (1.1 miles) north of Silverton Road (Figure 2). There are no structures of any type located at or near M-Area West. The only nearby man-made feature is a dirt access road located about 9.2 to 12.2 meters (30 to 40 feet) west of the waste areas. The topography of the unit is relatively flat with an elevation of approximately 106.7 meters (350 feet) above mean sea level (msl). The nearest surface water body is approximately 304.9 meters (1000 feet) away. The unit soils were identified as Orangeburg loamy sand (a well drained, highly acidic soil).

The unit consists of two small areas (Figure 3). The southern debris area covers 6.1 meters x 6.1 meters (20 feet x 20 feet) and the northern debris area (located 67.1 meters [220 feet] to the north of the southern area) covers 3.05 meters x 3.05 meters (10 feet x 10 feet). Several drums and other small innocuous debris were found on the land surface adjacent to a dirt road approximately 1 kilometer (3300 feet) west of the M-Area production facility. The total waste at the unit consisted of six empty 55-gallon drums, four 1-gallon cans and a 1-gallon glass jar. The cans and the jar were originally contained in one of the larger drums. With the exception of a crushed drum and small amounts of metal debris, all other materials were removed from the site in 1992 with concurrence from the EPA and SCDHEC. The remaining crushed drum and debris will be removed from the unit as a maintenance action.

## **II. Operable Unit History and Compliance History**

### ***Operable Unit History***

There is no documented information available regarding past hazardous or non-hazardous waste disposal activities at M-Area West. Markings on the drums found at the unit suggest that they once contained oil and solvents, and that they are approximately 37 years old. There is no evidence that any recent disposal activity has occurred or that the disposal activity was more widespread. Also, there is no evidence of any burning or excavation at this waste unit.

### ***Compliance History***

At SRS, waste materials are managed which are regulated under the Resource Conservation and Recovery Act (RCRA). Certain SRS activities have required Federal operating or post-closure permits under RCRA. SRS received a hazardous waste permit from the South Carolina Department of Health and Environmental Control (SCDHEC) on September 30, 1987. Part V of the permit mandates that SRS establish and implement a RCRA Facility Investigation (RFI) Program to fulfill the requirements specified in Section 3004(u) of the Federal permit.

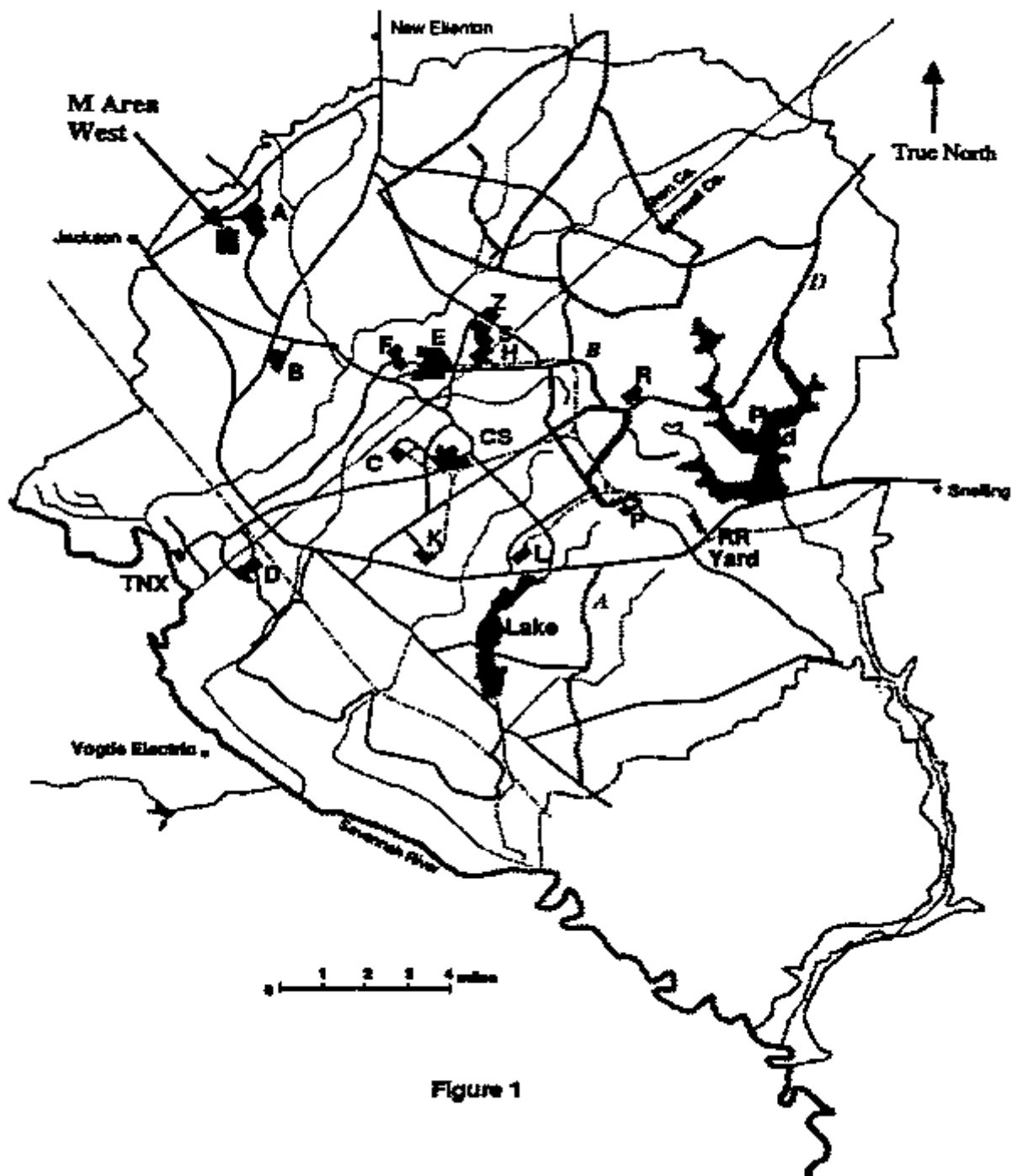


Figure 1

Figure 1. Location of the M-Area West waste unit at the Savannah River Site.

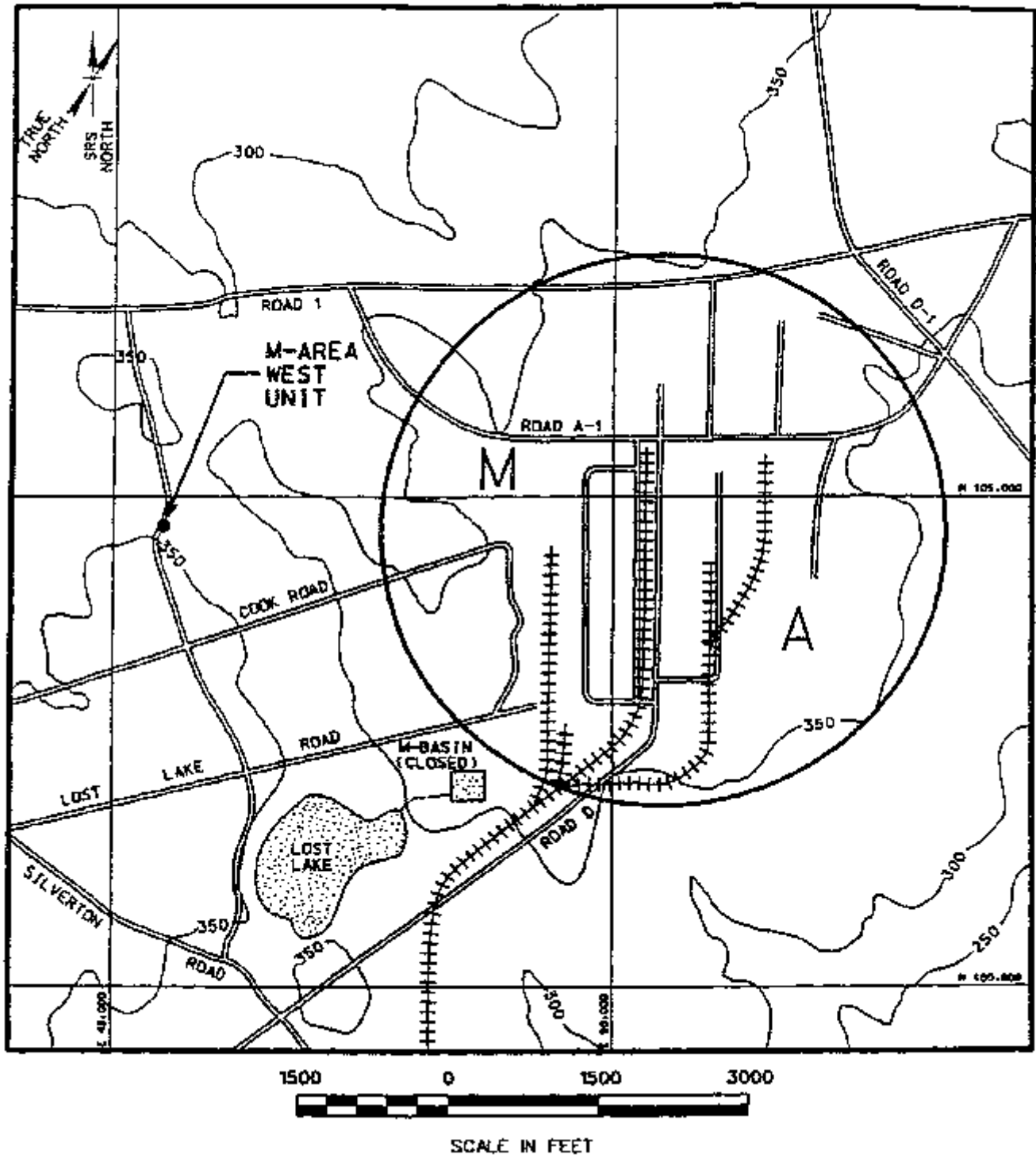


Figure 2. Location of M-Area West M Area.



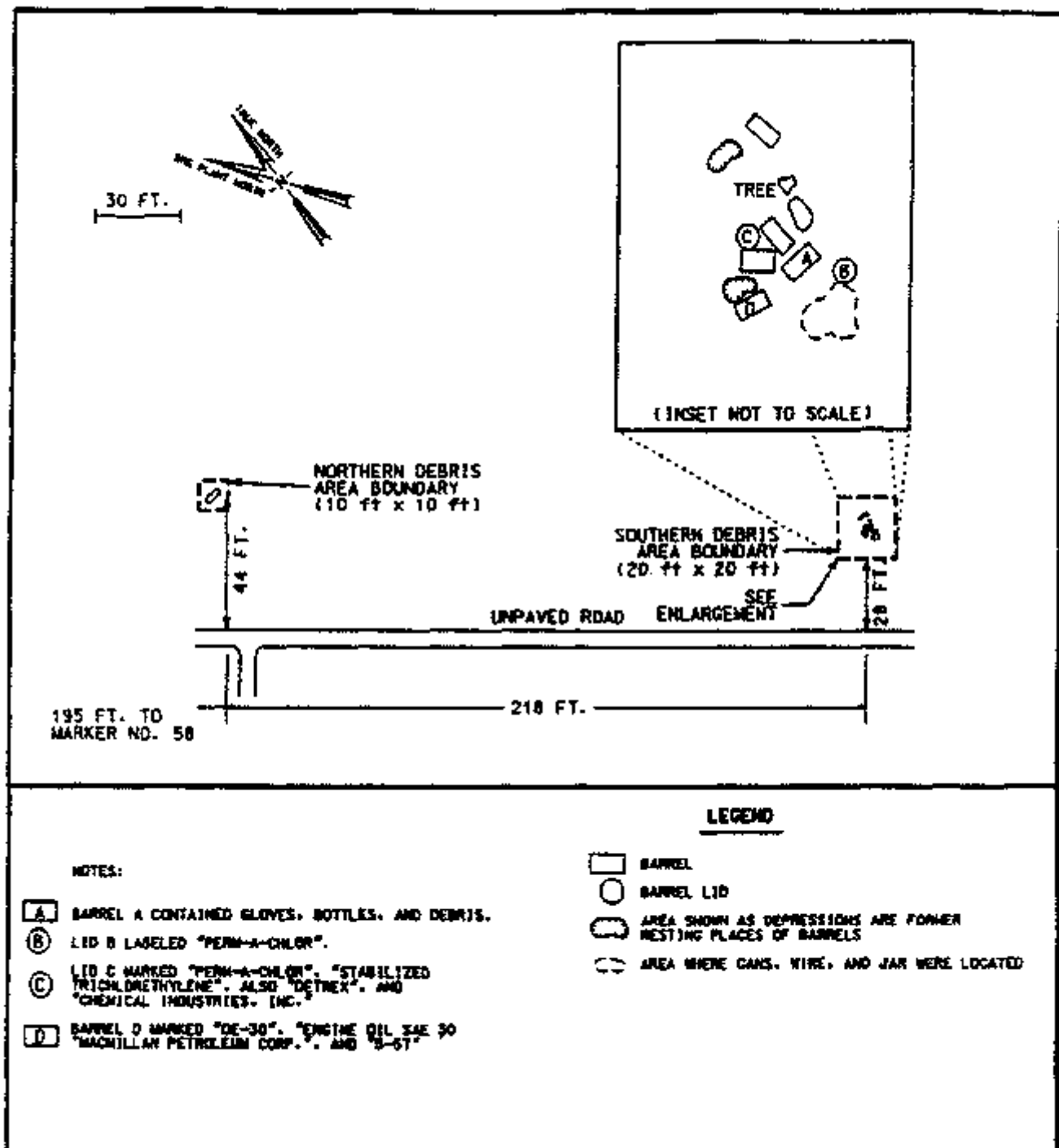


Figure 3. General configuration of the M-Area West unit.

Hazardous substances, as defined by CERCLA, are also present in the environment at SRS. On December 21, 1989, SRS was placed on the National Priorities List (NPL). A site placed on the NPL comes under the jurisdiction of CERCLA. In accordance with Section 120 of CERCLA, DOE has negotiated a FFA with the U.S. Environmental Protection Agency (EPA) and SCDHEC to coordinate cleanup activities at SRS into one comprehensive strategy that fulfills RCRA Section 3004(u) and CERCLA assessment, investigation and response action requirements.

The remedial investigation for M-Area West was completed in 1994. The results of the investigation indicate that the M-Area West unit poses no current or future risk to human health or the environment. Therefore, no action is warranted at the M-Area West unit. No other alternatives were considered. This is a final CERCLA action.

According to EPA guidance, if there is no current or potential threat to human health and the environment and no action is warranted, the CERCLA 121 requirements are not triggered. This means that there is no need to evaluate other alternatives or the no action alternative against the nine criteria specified under CERCLA.

Public participation requirements are listed in Sections 113 and 117 of CERCLA. These requirements include the establishment of an Administrative Record File that documents the selection of remedial alternatives and allows for review and comment by the public regarding those alternatives. The Administrative Record File must be established "at or near the facility at issue." The SRS Public Involvement Plan (DOE, 1994) is designed to facilitate public involvement in the decision-making process for permitting, closure, and the selection of remedial alternatives.

A proposed plan (PP) was submitted that fulfills the requirements of CERCLA Section 117(a) by providing the public an opportunity to participate in the selection of a remedial action. The PP presented the preferred alternative and the rationale for selecting the alternative. DOE, in consultation with EPA - Region IV and SCDHEC, selected the final action for M-Area West unit following the public comment period.

### III. Highlights of Community Participation

Public participation requirements are listed in Sections 113 and 117 of CERCLA. These requirements include the establishment of an Administrative Record File that documents the investigation and selection of the remedy for addressing M-Area West. The SRS public involvement plan (DOE, 1994) is designed to facilitate public involvement in the decision-making processes for permitting, closure, and the selection of remedial alternatives. The SRS public involvement plan addresses the requirements of RCRA, CERCLA, and the National Environmental Policy Act (NEPA). Section 117(A) of CERCLA, as amended, requires the preparation of a proposed plan as part of the site remedial process. The Proposed Plan for the M-Area West Unit (PP) (WSRC, 1995), which is part of the Administrative Record File, highlights key aspects of the investigation and identifies the preferred action for addressing of the M-Area West unit.

The Administrative Record File, which contains the information pertaining to the selection of the response action, was made available at the EPA-Region office and at the following locations:

U.S. Department of Energy  
Public Reading Room  
Gregg-Graniteville Library  
University of South Carolina-Aiken  
171 University Parkway  
Aiken, South Carolina 29801  
(803) 641-3465

Thomas Cooper Library  
Government Documents Department  
University of South Carolina  
Columbia, South Carolina 29208  
(803) 777-4866

Similar information was made available through the following repositories:

Reese Library  
Augusta College  
2500 Walton Way

Augusta, Georgia 30910  
(404) 737-1744

Asa R Gordon Library  
Savannah State College  
Tompkins Road  
Savannah, Georgia 31404  
(912) 356-2183

The public was notified of the comment period for the PP through mailings of the *S R S Environmental Bulletin*, a newsletter sent to more than 1400 citizens in South Carolina and Georgia, and through notices in local newspapers including the *Aiken Standard*, *The State*, and the *Augusta Chronicle*.

The public comment period began on July 19, 1995 and ended on August 18, 1995. Comments received are addressed in the Responsiveness Summary (Appendix A).

#### **IV. Scope and Role of Operable Unit within the Site Strategy**

The overall strategy for addressing the M-Area West unit was to: (1) characterize the waste unit delineating the nature and extent of contamination and identifying the media of concern (perform the RFI/RI); (2) perform a baseline risk assessment to evaluate media of concern, chemicals of concern, exposure pathways and characterize potential risks; and (3) evaluate and perform a final action to remediate, as needed, the identified media(s) of concern.

The investigation and risk assessment have been completed for the M-Area West unit. Since the results of the investigation indicate that M-Area West poses no risk to human health or the environment, no action was recommend.

The M-Area West unit is part of a larger integrator Operable Unit (IOU) consisting of several surface units and the A/M Area Groundwater unit. Since it has been determined that the M-Area West unit does not contribute contamination to the area groundwater or surrounding soils, it has no impact to the larger IOU and will not be addressed as part of the overall strategy for the IOU. The proposed action for M-Area West unit is a final action.

#### **V. Summary of Operable Unit Characteristics**

There is no documented information available regarding past hazardous or non-hazardous waste disposal activities at M-Area West. Markings on the drums found at the unit suggest that they once contained oil and solvents, and that they are approximately 37 years old. There is no evidence that any recent disposal activity has occurred or that the disposal activity was more widespread. Also, there is no evidence of any burning or excavation at this waste unit.

#### **Preliminary Investigation / Unit Screening**

A preliminary soil gas survey was conducted in March 1988 and a unit screening consisting of four soil borings was completed in November 1989. The unit characterization which consisted of an extensive soil gas survey was performed in July 1993. Confirmatory soil sampling was performed in January 1994.

The preliminary soil gas survey, 1988, was conducted to determine if hazardous substances had been managed at the unit. Sample analyses showed extremely low concentrations [ $< 4.2$  ng/g] of trans-1,2-dichloroethylene (a chlorinated solvent daughter compound). This was the only constituent detected suggesting that if solvent was disposed of at the unit or had been present in the drums, the quantity was either extremely low or that the concentrations measured represent residual contamination remaining after years of volatilization to the atmosphere. The presence of low levels of volatile organic compounds in the soil gas survey suggested the presence of some minimal residual contamination for which additional investigations were performed.

In 1989 a unit screening consisting of sample collection from four borings was completed. Each soil boring was drilled to an approximate depth of 6.1m (20 feet) below ground surface. Sampling intervals were selected to (1) provide a sufficient screening to assess whether a release had occurred and, if so, what compounds are present, and (2) provide a sufficient representation of the shallow

subsurface conditions at the site. One shallow soil boring was located intermediate to and across the road from the two areas of the unit to assess background soil characteristics.

The samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds, radionuclide indicators, total metals, soil pH, TOC, and CEC.

Trace levels of VOCs and semi-volatiles were detected.

### **RFI/RI Characterization**

In July 1993, an extensive soil gas survey for shallow and deep soil gas analysis was performed. Ninety-six locations were sampled.

The surveys investigated the presence and distribution of the C1-C4 hydrocarbons, the C5-C10 gasoline range normal paraffins, the C11-C18 diesel range hydrocarbons, the aromatic hydrocarbons [benzene, toluene, ethylbenzene, xylene (BTEX)], and selected chlorinated hydrocarbons (such as vinyl chloride, methylene chloride, trans-1,2 dichloroethylene, chloroform, and carbon tetrachloride).

Levels of chlorinated hydrocarbons and diesel range hydrocarbons (C11-C18) were below detection levels. Levels of light hydrocarbons were mostly below detection with values above detection levels being consistent with background sample levels across the unit. Levels of octane (< 1.3 ppm) and o-xylene (< 5.5 ppm) were thought to be related to natural products such as pine resin from the pine trees at the unit. A low level anomaly of toluene (0.143 ppm), ethyl benzene (0.113 ppm), and propane (1.4 ppm) was found in a sample adjacent to the road. The source of these compounds was not certain; however, it is suspected that hydrocarbon fluid may have leaked from the tractor involved in the soil gas survey or brush cutting operations that was parked overnight at the unit. A detailed summary of the soil gas survey report is included in the Phase II RFI/RI Plan (WSRC, 1993).

A Ground Penetrating Radar (GPR) survey was conducted at the unit on July 21, 1993.

Soil sampling was performed on August 16, 1993 to determine if any anomalies detected by the GPR were buried materials. A summary of the geophysical data and the GPR survey report are included in the Phase II RFI/RI Plan (WSRC, 1993). Based on a review of the GPR data, there are no obvious pits, trenches, or areas of disturbed soil within the grid utilized.

A magnetometer survey was also conducted at M-Area West in June of 1993. Standard magnetic surveying techniques were followed. No additional surface debris, buried debris, trenches or other objects are evident from the data provided by the magnetometer survey.

Based on the results of the unit screening activities and combined with the detection of low level semivolatiles in soil borings, additional soil sampling activities were recommended to sufficiently characterize this unit.

A confirmatory soil assessment sampling plan was designed for M-Area West to further assess the horizontal extent and vertical migration of any hazardous constituents at the unit. Additional purposes of the soil assessment included the generation of sufficient data for risk assessment, corrective measures alternatives assessment, and remedial action, if required. Locations for soil samples were based on potential migration pathways and sampling results from preliminary studies. Relevant background samples were specified for comparison.

Surface water/sediment sampling was not conducted because the nearest surface water body is approximately 304.9 meters (1000 feet) away and disposal activities at the unit were not extensive and would not have an impact on surface water. Groundwater sampling was not conducted because of the low level of contaminants and the depth to groundwater (approximately 39 m).

Seven soil borings were drilled at the unit during the soil assessment phase. Three samples were collected from each borehole; one surface sample and two subsurface samples. Three borings were located within the larger of the two debris grew and one was located in the

smaller (northern) area. The remaining three soil borings were located outside the unit to provide background data.

All samples were analyzed in accordance with EPA-approved protocols. The detailed analytical results are contained in the Quality Control Summary Report for the M-Area West Unit RFI/RI Unit Assessment Report, (Appendix B of RFI/RI report WSRC 1994). Validation and verification of the analytical data were performed as part of the RFI/RI data review process; therefore, the data were considered acceptable for this evaluation.

Data from the 0.3-0.9 m (1.0-3.0 feet) interval were used to evaluate surface soil for the risk assessment. Data from the 1.2-1.8 m and 2.4-3.0 m (4.0-6.0 and 8.0-10.0 feet) depth intervals were evaluated to determine if there is potential for contribution of contamination to the groundwater.

The concentration level of the analytes, with the exception of arsenic, at different intervals was very low and insignificant in terms of having an effect on human health and the environment. The concentration level of arsenic at different depth intervals ranged from 2.9 to 9.3 mg/kg with a mean value of 5.6 mg/kg while the background concentrations ranged from 2.2 to 10 mg/kg with a mean value of 4.8 mg/kg. Arsenic was only detected once in the 1.0 - 3.0 ft. interval. The level detected was 2.1 mg/kg (which was a J value or estimated value). No arsenic was detected in the 1.0 - 3.0 ft. background sample. Both the site specific samples and the background arsenic concentrations are of the same order of magnitude and are consistent with SRS arsenic levels.

## **VI. Summary of Operable Unit Risks**

### ***Human Health Risks***

As part of the RI/FS process for M-Area West, a risk assessment was performed using the data generated during the assessment phase. Detailed information regarding the development of chemicals of potential concern, the fate and transport of contaminants and the risk assessment can be found in the RFI/RI Report for M-Area, West (631-21G), December 1994.

After assembling the analytical data and eliminating those analytes not detected in any samples, the chemicals of potential concern (COPCs) were selected based on criteria specified in EPA risk assessment guidance.

As a result of comparing the unit sample concentrations background concentrations, four constituents (arsenic, manganese, xylene, cyanide) were found to be above unit background and nine were detected in the unit specific samples but were not detected in the background samples. These analytes were further screened in the process.

The remaining analytes were identified following the methods and rationale described by EPA risk assessment guidelines. Table 1 lists the potential contaminants following the data screening.

The Risk-Based Concentrations (RBCs) were developed using protective default exposure scenarios suggested by EPA and the best available reference doses and carcinogenic potency slopes, and represent protective environmental concentrations at which EPA would typically not take action. The table contains levels of nearly 600 contaminants in air, drinking water, fish tissue, and soil, which correspond to a systemic hazard quotient of 1.0 or a lifetime cancer risk of one in one million ( $1.0 \times 10^{-6}$ ).

The EPA developed guidance is intended to identify and to focus on dominant chemicals of potential concern and exposure routes at the earliest feasible point in the baseline risk assessment. The use of these methods, selecting exposure routes and contaminants of concern by RBCs, assist in focusing the assessment on the significant contaminants.

For the remaining analytes in Table 1, the risk-based concentration screen was used to further reduce the list. The RBC values as shown in Table 2 were taken from the EPA Region III Risk-Based Concentration table dated March 7, 1995. Sample concentrations detected were compared to the RBCs and screened out as COPCs if they were below the RBC levels.

As a result of comparing the constituents to the

risk-based concentration values, only arsenic exceeded a risk of one in one million ( $1.0 \times 10^{-6}$ ) but was less than one in one hundred thousand ( $1.0 \times 10^{-5}$ ) and remained as a COPC. Arsenic was detected only once in the site specific samples and was not detected in any of the background samples in the 1.0-3.0 feet interval.

Sources of contamination, releases, fate and transport mechanisms, exposure points, and routes were integrated in order to the complete exposure pathways that exist at the unit. If any of these elements were missing, the pathway was incomplete and not considered in the baseline risk assessment (BRA) for M-Area West.

Cancer risks are estimated as the incremental probability of an individual developing cancer over a lifetime as a result of pathway-specific exposure to carcinogenic contaminants. The risk to an individual resulting from exposure to non-radioactive chemical carcinogens is expressed as the increased probability of a cancer occurring over the course of a 70 year lifetime. Cancer risks are related to the EPA target range of  $1 \times 10^{-4}$  to  $1.0 \times 10^{-6}$  for incremental cancer risk at NPL sites. Risk levels at or above  $1 \times 10^{-4}$  are generally considered significant. In order to account for simultaneous, exposure to multiple carcinogens through a given pathway, the risks calculated for each individual carcinogen in that medium were summed to obtain an estimate of the total cancer risk for the pathway.

Non-carcinogenic effects were evaluated by comparing an exposure level over a specified time period (e.g., lifetime) with a reference dose (RfD) derived for a similar exposure period. To evaluate the non-carcinogenic effects of exposure to soil contaminants, the hazard quotient, HQ (the ratio of the exposure dose to the RfD) is calculated for each contaminant. The non-carcinogenic HQ assumes that below a given level of exposure (i.e., the RfD), even sensitive populations are unlikely to experience adverse health effects. If the exposure level exceeds this threshold (1.0) there may be concern for potential noncarcinogenic health effects.

HQs are summed for each exposure pathway to create a pathway specific hazard index (HI) for each exposure scenario. The more the Hazard Index exceeds unity, the greater the concern that adverse health effects will occur. The hazard quotient is not a percentage or probability.

The maximum concentration value was used as the exposure point concentration.

### ***Current Land Use***

Under the current land use scenario, there was no determination of carcinogenic risks and noncarcinogenic hazards because no worker activity occurs in the area

### ***Future Land Use***

Under the future land use scenario, carcinogenic risks and non-carcinogenic hazards associated with non-radioactive COCs were calculated for exposure of the future on-unit resident (adult and child) to surface soils and air.

Total cancer risk at M-Area West is  $9.8 \times 10^{-6}$ . Table 3 shows the individual results for the future resident scenario.

### ***Non-carcinogenic Hazard***

HI's for the soil pathways were calculated for adulthood and childhood exposures combined and for childhood exposure only. All of the exposure pathways for the on-unit resident have HI's less than one.

**Table 1. Analytes Remaining After Comparison to Background - 1.0 - 3.0 Feet Only.**

Analyte	Unit	Sample Number				
		05-01	06-01	07-01	08-01	09-01A
Arsenic	mg/kg	U	U	ND	J 2.1	ND
Manganese	mg/kg	J 42	J 180	ND	J 2.6	ND
Chloromethane	mg/kg	U	J 0.071	U	U	U
Ethylbenzene	mg/kg	J 0.072	U	U	U	U
Xylene	mg/kg	J 0.69	U	U	J 0.14	U
Cyanide	mg/kg	J 170	J 190	ND	J 2,500	ND
Benzoic acid	mg/kg	U	640	U	U	U
2-Hexanone	mg/kg	U	J 0.25	U	U	U
Acetone	mg/kg	U	U	U	J 8.9	J 3.9
Carbon Disulfide	mg/kg	J 0.47	U	ND	U	J 0.15
2-Chlorophenol	mg/kg	J 5.7	U	U	U	U
Dichloromethane	mg/kg	J 0.43	J 0.49	J 0.68	U	J 0.72
Toluene	mg/kg	J 0.14	U	U	U	U

U-The result qualifier is assigned to analytical results below the sample quantification limit

J-The result is an estimated value.

ND-No Data/Not Applicable

**Table 2. Estimated Risk-Based Concentrations - Hypothetical Future Resident Adult and Child**

Contaminant	Carcinogenic Risk Hazard Index				
	1.0 x 10 <sup>-06</sup>	1.0 x 10 <sup>-05</sup>	1.0 x 10 <sup>-04</sup>	0.1	1.0
Arsenic(mg/kg)	0.37	3.7	37	ND	ND
Manganese(mg/kg)	ND	ND	ND	1095	10.950
Chloromethane(mg/kg)	49,000	490,000	4,900,000	ND	ND
Ethylbenzene(mg/kg)	ND	ND	ND	780,000	7,800,000
Xylene(mg/kg)	ND	ND	ND	16,000,000	160,000,000
Cyanide(mg/kg)	ND	ND	ND	160,000	1,600,000
Benzoic acid(mg/kg)	ND	ND	ND	31,000,000	310,000,000
2-Hexanone(mg/kg)	ND	ND	ND	ND	ND
Acetone(mg/kg)	ND	ND	ND	780,000	7,800,000
Carbon Disulfide(mg/kg)	ND	ND	ND	780,000	7,800,000
2-Chlorophenol(mg/kg)	ND	ND	ND	39,000	390,000
Dichloromethane(mg/kg)	85,000	850,000	8,500,000	ND	ND
Toluene(mg/kg)	ND	ND	ND	1,600,000	16,000,000

ND - No Data/Not Applicable

**Table 3. Summary of risk assessment results for arsenic.**

Pathway	Carcinogenic Risk		Non-Carcinogenic (Hazard)	
	Adult/Child	Child Only	Adult/Child	Child Only
<b>Dermal Contact</b>	2.5 x 10 <sup>-08</sup>	7.0 x 10 <sup>-09</sup>	2.7 x 10 <sup>-04</sup>	1.7 x 10 <sup>-04</sup>
<b>Ingestion</b>	5.8x 10 <sup>-06</sup>	4.0 x 10 <sup>-06</sup>	1.0 x 10 <sup>-01</sup>	9.0 x 10 <sup>-02</sup>
<b>Inhalation</b>	4.0x 10 <sup>-06</sup>	2.6 x 10 <sup>-06</sup>	.36	0.02
<b>Total</b>	9.8 x 10 <sup>-06</sup>	6.6 x 10 <sup>-06</sup>	5.0 x 10 <sup>-01</sup>	1.0 x 10 <sup>-01</sup>

### ***Ecological Risks***

The ecological information base for M-Area West consists of a unit-specific threatened, endangered and sensitive species survey and a unit-specific ecological reconnaissance. Review of this information can be summarized as follows:

- The unit occurs within a 40 year old loblolly pine plantation and there is no obvious evidence of vegetation stress or ecological impact related to the unit;
- There are no threatened or endangered species known to exist at or in the vicinity of the unit;
- Review of the unit characterization data indicates that there are no constituents in the physical media analyzed at M-Area West which are significantly different from the unit specific background condition.

Based on the physical and analytical data obtained for this unit, there is no compelling evidence that waste materials were managed or disposed at the M-Area West operable unit. Therefore, it is reasonable to conclude that the unit as it is currently characterized, presents no ecological risk.

### **VII. Description of the No Action Alternative**

According to the EPA guidance document *Guidance on Preparing Superfund Decision Documents*, (EPA, 1989) if there is no current or potential threat to human health and the environment and no action is warranted, the CERCLA 121 requirements are not triggered. This means that there is no need to evaluate other alternatives or the no action alternative against the nine criteria specified under CERCLA.

Under the No Action alternative, no treatment will be performed because there is no waste to treat. No new institutional controls or engineering controls will be implemented and there is no cost associated with implementing the alternative. According to CERCLA regulations, Section 121, if no action is the preferred action, then no ARARs apply to the waste unit.

Since M-Area poses no risk and the no action alternative is warranted, it does satisfy the CERCLA criteria. The no action alternative is intended to be the final action for M-Area West. This solution is meant to be permanent and effective in both the long and short term. The no further action decision is the least cost option with no capital, operating, or monitoring cost and is protective of human health and the environment.

### **VIII. Explanation of Significant Changes**

No significant changes were made to the Record of Decision based on the public comment period for the proposed plan. Only one public comment was received and had no impact on the no action preferred alternative.



## IX. References

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FFA, 1993. *Federal Facility Agreement for the Savannah River Site*, Administrative Docket Number 89-05-FF (effective date: August 16, 1993).

WSRC (Westinghouse Savannah River Company), *Phase II RFI/RI Plan for M-Area West Unit*, WSRC-RP-90-995, Rev. 2, Westinghouse Savannah River Company, Aiken, SC. (1993).

WSRC (Westinghouse Savannah River Company), *RFI/RI Report for M-Area West Unit (631-21G) (U)*, WSRC-RP-94946, Rev. 1, Westinghouse Savannah River Company, Aiken, SC. (1995; includes baseline risk assessment).

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