ORNL/ER-209

MARTIN MARIETTA**ENVIRONMENTAL
RESTORATION
PROGRAM**

JAN - 5 1994

OSTI

**Surveillance Plan for Environmental
Monitoring in Waste Area Grouping 6
at Oak Ridge National Laboratory,
Oak Ridge, Tennessee**

MANAGED BY
MARTIN MARIETTA ENERGY SYSTEMS, INC.
FOR THE UNITED STATES
DEPARTMENT OF ENERGY

UCN-17560 (6-7-91)

ENERGY SYSTEMS

Gilbert/Commonwealth, Inc.

contributed to the preparation of this document and should not be considered an eligible contractor for its review.

This report has been reproduced directly from the best available copy.

Available to DOE and DOE contractors from the Office of Scientific and Technical Information, P.O. Box 62, Oak Ridge, TN 37831; prices available from 615-576-8401.

Available to the public from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Rd., Springfield, VA 22161.

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

ORNL/ER-209

Energy Systems Environmental Restoration Program
ORNL Environmental Restoration Program

**Surveillance Plan for Environmental Monitoring in Waste Area
Grouping 6 at Oak Ridge National Laboratory,
Oak Ridge, Tennessee**

Date Issued—December 1993

Prepared by
Gilbert/Commonwealth, Inc.
Knoxville, Tennessee
under subcontract 32K-UB147C

Prepared for
U.S. Department of Energy
Office of Environmental Restoration and Waste Management
under budget and reporting code EW 20

OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee 37831-6285
managed by
MARTIN MARIETTA ENERGY SYSTEMS, INC.
for the
U.S. DEPARTMENT OF ENERGY
under contract DE-AC05-84OR21400

MASTER

**Surveillance Plan for Environmental Monitoring in Waste Area
Grouping 6 at Oak Ridge National Laboratory,
Oak Ridge, Tennessee**

Approvals

S. D. Van Hoesen
WAG 6 Project Manager

11/4/95

Date

P. A. Schrandt
Environmental Restoration Quality Assurance Specialist

11/4/95

Date

CONTENTS

ABBREVIATIONS	iv
EXECUTIVE SUMMARY	v
1. PURPOSE	1
2. OBJECTIVES	2
3. RESPONSIBILITIES	3
4. ROUTINE ACTIONS	4
5. SCHEDULED SURVEILLANCE	5
6. REQUIREMENTS	7
7. DOCUMENTATION	8

ABBREVIATIONS

APO	Analytical Projects Office
C&TS	Computing and Telecommunications Services
CDM	CDM Federal Programs
ER	Environmental Restoration
ESD	Environmental Sciences Division
ESP	Environmental Surveillance and Protection Section
MAD	Measurement and Applications Division
QAS	Quality Assurance Specialist
SAIC	Science Applications International Corporation
WAG	Waste Area Grouping
WM&RA	Waste Management and Remedial Action Division

EXECUTIVE SUMMARY

This Surveillance Plan has been developed as part of the *Environmental Monitoring Plan for Waste Area Grouping 6 at Oak Ridge National Laboratory, Oak Ridge, Tennessee* (DOE/OR/01-1192&D1). Environmental monitoring will be conducted in two phases: the baseline monitoring phase and the routine annual monitoring phase. The baseline monitoring phase will be conducted to establish the baseline contaminant release conditions at the Waste Area Grouping (WAG), to confirm the site-related chemicals of concern (COC), and to gather data to confirm the site hydrologic model. The baseline monitoring phase is expected to begin in 1994 and continue for 12-18 months. The routine annual monitoring phase will consist of continued sampling and analyses of COC to determine off-WAG contaminant flux, to identify trends in releases, and to confirm the COC. The routine annual monitoring phase will continue for ~4 years after completion of the baseline monitoring phase.

This Surveillance Plan presents the technical and quality assurance surveillance activities for the various WAG 6 environmental monitoring and data evaluation plans and implementing procedures.

1. PURPOSE

This plan delineates the surveillance activities required to verify compliance with the technical and quality aspects of the various Waste Area Grouping (WAG) 6 plans and implementing procedures. The plans include the WAG 6 Environmental Monitoring Plan, Sampling and Analysis Plans, Waste Management Plan, Health and Safety Plan, Data Management Plan and Functional System Design, and the Quality Assurance Project Plan. The surveillance activities help support the WAG 6 self-assessment programs, and they help generate feedback on the acceptability and effectiveness of established management controls governing WAG 6 environmental monitoring activities.

2. OBJECTIVES

Specific surveillance activities are identified and scheduled to verify conformance to requirements as established in WAG 6 plans and procedures.

Environmental Restoration (ER) Division Procedure ER/C-P1600 or the existing procedures of the organization performing surveillances govern the surveillance activities and resolution of findings or negative observations. If another organization's procedure is used, the WAG 6 Program Manager or ER Quality Assurance Specialist (QAS) must approve the procedure and validate that it meets the intent of ER Division procedures.

ER program management and all organizations performing work in the WAG 6 Environmental Monitoring Program are responsible for surveillances. Procedures and policies of the participating organization will specify how surveillance activities are performed. Findings and negative observations are to be discussed with the personnel from the affected organization at the time of discovery to ensure that the observations are valid and to facilitate immediate corrective action. Additionally, the surveillance results are to be documented in a letter report and issued within 30 days of the surveillance. The WAG 6 Program Manager, ER QAS, and ER Document Management Center should receive copies of the report.

3. RESPONSIBILITIES

This plan describes the surveillance activities and responsibilities charged to the WAG 6 Environmental Monitoring Program Team as well as those charged to Oak Ridge National Laboratory (ORNL) support organizations.

The key organizations are as follows:

- **ORNL ER Program,**
- **Central Engineering Services,**
- **Environmental Sciences Division (ESD),**
- **Computing and Telecommunications Services (C&TS),**
- **Analytical Projects Office (APO),**
- **Environmental Surveillance and Protection Section (ESP),**
- **Waste Management and Remedial Action Division (WM&RA),**
- **Measurement Applications and Development Group (MAD),**
- **CDM Federal Programs (CDM), and**
- **Science Applications International Corporation (SAIC).**

4. ROUTINE ACTIONS

Routine surveillance activities include field inspections, guidance, direction, and coordination during the daily operations. They often result in decisions that improve the overall operation of the project. Activities such as these, including the impact, should be documented as part of the self-assessment program. Certain routine surveillance activities, such as radiological monitoring during entrance and exit of the WAG, safety inspection of equipment and personnel and security scans, etc., are addressed in the *Surveillance and Maintenance Plan for Waste Area Groupings at Oak Ridge National Laboratory for FY 1993-2002*, (ORNL-ER-39).

5. SCHEDULED SURVEILLANCE

The following schedule compiles the planned surveillance activities for the WAG 6 Environmental Monitoring Program.

Table 1. Schedule

Activity	Organization	Frequency
Surface water and sediment sampling	CDM	Initially and at 4–6 week intervals
Surface water monitoring equipment maintenance	CDM	Initially and at 4–6 week intervals
Waste handling practices	CDM	Initially and at 4–6 week intervals
Chain of custody	CDM	Initially and at 4–6 week intervals
Field documentation	CDM	Initially and at 4–6 week intervals
Field training records	CDM	Initially and at 4–6 week intervals
Field quality control procedures	CDM	Initially and at 4–6 week intervals
Laboratory procedures	CDM	Initially and quarterly
Laboratory analysis	CDM	Initially and quarterly
Laboratory quality control	CDM	Initially and quarterly
Office operations/documentation	CDM	Initially and at 4–6 week intervals
Data validation (office surveillance)	CDM	Initially and at 4–6 week intervals
Data management (office surveillance)	CDM	Initially and at 4–6 week intervals
Records (office surveillance)	CDM	Initially and at 4–6 week intervals
Groundwater quality monitoring activities (internal)	ESP	Quarterly
Groundwater level monitoring activities	CDM	Initially and at 4–6 week intervals
Measurement assurance audits of ESP	MAD	Annually

Table 1 (continued)

Activity	Organization	Frequency
Data management assessment procedures	SAIC	Quarterly
Groundwater modeling software	ESD	Initially and periodically
Surface water modeling software	ESD	Initially and periodically
Surface water sampling activities	ESD	Initially and periodically
Data validation, evaluation and entries	C&TS	Initially and at 4–6 week intervals
Data management plan and functional systems design requirements	C&TS	Initially and quarterly
Waste management activities	WM&RA	Initially and semiannually
Health and safety	MAD	Initially and at 4–6 week intervals
Laboratory audits	APO	Semiannually; project-specific as required; quarterly performance evaluation
Oversight surveillance	ER-ORNL QAS	Weekly

The above schedule may be supplemented by additional surveillances for one or more of the following reasons:

- significant changes in the environmental monitoring plan occur,
- new or changed standards or regulations are imposed,
- changes in personnel or the organization occur,
- significant changes in quality occur,
- additional verification of previously identified corrective actions is needed, or
- the WAG 6 Program Manager requests additional surveillances.

6. REQUIREMENTS

All surveillance activities will be performed in accordance with procedures as stated in Sect. 2 of this plan. Surveillance activities will be conducted using a checklist developed from the procedure(s) or work plan being followed to perform the actual work. Each item on the surveillance checklist will identify the document and the location within the document that establishes the requirement being reviewed. The checklist will identify whether the item was found to be satisfactory or unsatisfactory, and, in case of an unsatisfactory observation, sufficient narrative will be provided in a "comments" column to support the conclusion. If a satisfactory observation is noted, any good practices or other significant information should be included in a "comments" column. If the checklist does not include a narrative, then the surveillance report must provide the needed information. All items identified as unsatisfactory will be entered into a corrective action tracking system and resolved in a timely manner, in accordance with ER/C-P1600.

7. DOCUMENTATION

All surveillance reports/checklists will be maintained as quality assurance records, and copies will be sent to the WAG 6 Program Manager, to the ER QAS, and to the ER Document Management Center. In addition, a copy of all environmental, safety and health, and waste management surveillance reports/checklists will be sent to the ER Health and Safety/Waste Management Manager.

CONTROLLED DISTRIBUTION

1. T. S. Ball
2. S. N. Burman
3. S. E. Childs
4. R. B. Clapp
5. H. D. Clark
6. W. C. Hayes
7. R. B. Knott
8. S. L. Laman
9. J. R. Mathis
10. G. R. Moline
11. P. A. Schrandt
12. S. D. Van Hoesen
13. D. R. Watkins
14. K. A. Wilson
15. R. C. Williams
- 16-18. ORNL ER Document Management Center—RC
19. C. L. Callis, CDM Federal Programs Corporation, 800 Oak Ridge Turnpike, Suite 500, Oak Ridge, TN 37830
20. S. Pack, SAIC, 800 Oak Ridge Turnpike, P.O. Box 5202, Oak Ridge, TN 37830

UNCONTROLLED DISTRIBUTION

21. H. L. Boston
- 22-24. D. M. Matteo
- 25-26. P. T. Owen
27. M. M. Stevens
28. P. S. Wood
29. Laboratory Records Department
30. Central Research Library
- 31-33. Central ER Document Management Center
34. Office of Assistant Manager for Energy Research and Development, DOE Oak Ridge Operations Office, P.O. Box 2001, Oak Ridge, TN 37831-8600
35. C. L. Oaks, Gilbert/Commonwealth, Inc., Suite 200, 1055 Commerce Park Drive, Oak Ridge, TN 37830
36. R. C. Sleeman, DOE Oak Ridge Operations Office, P.O. Box 2001, Oak Ridge, TN 37831-8541
37. J. T. Sweeney, DOE Oak Ridge Operations Office, P.O. Box 2001, Oak Ridge, TN 37831-8541
- 38-39. Office of Scientific and Technical Information, P.O. Box 62, Oak Ridge, TN 37831

END

DATE
FILMED

2/17/94