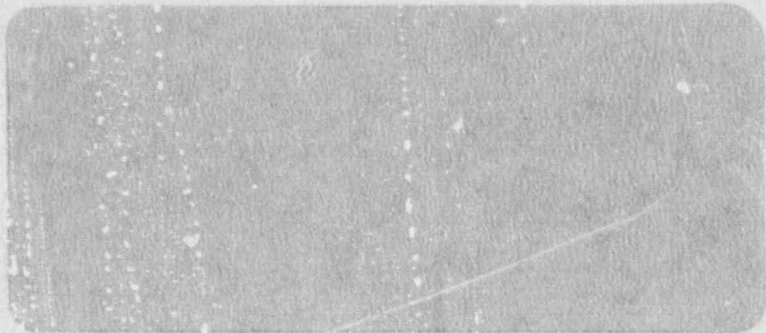


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UMTRA PROJECT - RIVERTON, WYOMING
REMEDIAL ACTION INSPECTION PLAN

REVIEW COPY



DOCUMENT NO. MK-F-UMTRA-27
REVISION NO. 1A

RIVERTON, WYOMING

INDEX

RAIP-1

TESTING & INSPECTION

REV. 1A

STATEMENT OF POLICY*

This Remedial Action Inspection Plan identifies the means by which the remedial action activities at Riverton, Wyoming are controlled, verified, and documented. This plan is developed within the scope of the Quality Assurance Program Plan and it complies with the applicable portions of ANSI/ASME NQA-1 and 10CFR50 Appendix B.

The procedures covering Organization, Qualification and Certification of Inspection and Test Personnel, Quality Assurance Records Control, Control of Measuring and Test Equipment, and Nonconformance and Corrective Action shall be in accordance with the applicable sections of the Quality Assurance Program Plan as follows: Organization - QAPP-1, Qualification and Certification of Inspection and Test Personnel, Lead Auditors, and Auditors - QAPP-4, Control of Measuring and Test Equipment - QAPP-5, Quality Assurance Records Control-QAPP-6, and Nonconformance and Corrective Action - QAPP-8.

This Remedial Action Inspection Plan and The Quality Assurance Program Plan describe the means by which the MK-Ferguson Company will assure that the Environmental Protection Agency and Nuclear Regulatory Commission requirements are satisfied.

It is the intent that this plan be applied to all permanent installations and work. Temporary facilities, installations, or work is to be tested and inspected as stated by the specifications. Where testing and inspection is not stated in the specifications for temporary work, the work is to be tested and inspected to the degree necessary to ensure it's integrity for the anticipated period of usage, i.e. access road, temporary ditches, etc.

*The procedures were substantially modified at the Riverton, Wyoming Site since all quality control testing was eliminated from the subcontract documents through contract modifications. The Statement of Policy is left in its standard form, but the reader is informed that not all technical references apply to this unique project.



**REMEDIAL ACTION INSPECTION PLAN
UMTRA PROJECT
Prime Contract No. DE-AC04-83AL18796**

RAIP NO.	1	REV NO.	
SITE:	RVT		1A
DATE	November 9, 1989		
DESIGNATED CONTACT	PHIL D. CATE		

PROCEDURE TITLE: TESTING AND INSPECTION

1.0 PURPOSE*

1.1 To describe the methods by which the construction activities will be tested and inspected to verify compliance with the specification requirements.

2.0 SCOPE*

2.1 This procedure defines the testing and inspection requirements for remedial action construction, radiological monitoring activities, and subsequent documentation at Riverton, Wyoming. Types of inspection/tests, inspection/test frequencies, inspection/test acceptance criteria, and documentation and reporting requirements are contained within this procedure. Procedures for individual tests will be performed in accordance with the applicable ASTM standards or other referenced methods.

3.0 REFERENCES*

- 3.1 Contract DE-AC04-83AL18796
- 3.2 DOE Order 5700.6B
- 3.3 DOE Order AL 5700.6B
- 3.4 UMTRA Quality Assurance Plan
- 3.5 MK-Ferguson Quality Assurance Program Plan
- 3.6 H.S.&E. Procedures/Plans
- 3.7 ASTM
- 3.8 AASHTO

4.0 INSPECTION PROCEDURES

4.1 Soils Monitoring

Daily monitoring, where applicable, shall be performed by Field Engineers during execution of the various work activities as follows:

*Refer to note at the bottom of the page for the Statement of Policy.



- 4.1.1 Fill materials shall be obtained only from required excavations and approved borrow areas.
- 4.1.2 Excavation of contaminated material shall be carried out to the limits and grades required by Health Physics Personnel.
- 4.1.3 Prior to placing uncontaminated fill material on the subgrade, it shall be radiologically surveyed to verify compliance to EPA standards.
- 4.1.4 Contaminated and uncontaminated materials shall be kept separated during earthwork activities.
- 4.1.5 Uncontaminated general fill material shall not contain organic material or other deleterious substances.
- 4.1.6 Material shall not be placed on frozen subgrade, nor shall frozen material be used as fill.
- 4.1.7 Earthwork shall conform to the lines and grades indicated on the drawings and/or specifications.
- 4.1.8 During seasonal shutdowns, and prior to application of protective erosion control measures, exposed surfaces shall be compacted with a smooth drum roller to eliminate ruts and ridges.
- 4.1.9 During seasonal shutdowns, contaminated material shall be stabilized in a manner to assure that the integrity of the method of stabilization is maintained to prevent offsite spread of contamination.

5.0 NONCONFORMING ITEMS

5.1 Nonconforming items shall be identified, documented, evaluated, segregated when practical, dispositioned, and affected organizations will be notified in accordance with MK-Ferguson's Quality Assurance Program Plan-8 (Nonconformance and Corrective Action).

6.0 AUDITS AND SURVEILLANCES

6.1 Quality Assurance Audits and Surveillances

6.1.1 Site Quality Assurance Audits and Surveillances shall be performed under the direction of the MK-Ferguson Project Quality Manager.

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REMEDIAL ACTION INSPECTION PLAN

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6.1.2 Site Quality Assurance Audits and Surveillances will be performed to assure implementation of the applicable portions of the MK-Ferguson Quality Assurance Program Plan, and to verify compliance with established Health Physics Procedures and Monitoring Plans.

6.2 Frequency of Audits and Surveillances

6.2.1 Audits of Chem-Nuclear Systems, Inc. shall be performed a minimum of once each construction season.

6.2.2 The MK-Ferguson Project Quality Manager may increase the audit and surveillance frequency at his option, to assure the quality of the project.

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REMEDIAL ACTION INSPECTION PLAN

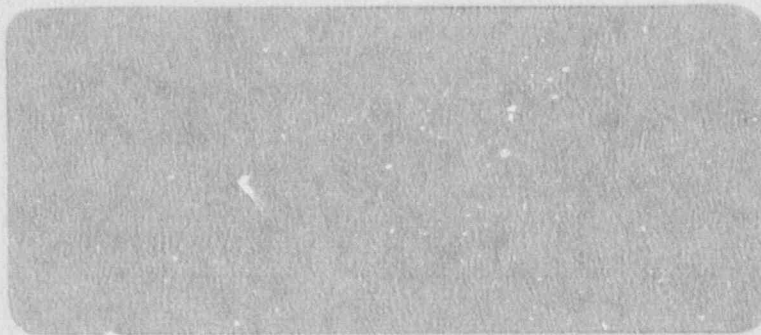
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RAIP NO. 1
RVT

REV NO. 1A

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3 of 3



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EXPLANATION OF CHANGES
IN REVISION 1A OF RIVERTON, WY
REMEDIAL ACTION INSPECTION PLAN

STATEMENT OF POLICY*

This Remedial Action Inspection Plan identifies the means by which the remedial action activities at Riverton, Wyoming are controlled, verified, and documented. This plan is developed within the scope of the Quality Assurance Program Plan and it complies with the applicable portions of ANSI/ASME NQA-1 and 10CFR50 Appendix B.

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This Remedial Action Inspection Plan and The Quality Assurance Program Plan describe the means by which the MK-Ferguson Company will assure that the Environmental Protection Agency and Nuclear Regulatory Commission requirements are satisfied.

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*The procedures were substantially modified at the Riverton, Wyoming Site since all quality control testing was eliminated from the subcontract documents through contract modifications. The Statement of Policy is left in its standard form, but the reader is informed that not all technical references apply to this unique project.



TESTING AND INSPECTION

1.0 PURPOSE*

1.1 To describe the methods by which the construction activities will be tested and inspected to verify compliance with the specification requirements.

2.0 SCOPE*

2.1 This procedure defines the testing and inspection requirements for remedial action construction, radiological monitoring activities, and subsequent documentation at Riverton, Wyoming. Types of inspection/tests, inspection/test frequencies, inspection/test acceptance criteria, and documentation and reporting requirements are contained within this procedure. Procedures for individual tests will be performed in accordance with the applicable ASTM standards or other referenced methods.

3.0 REFERENCES*

- 3.1 Contract DE-AC04-83AL18796
- 3.2 DOE Order 5700.6B
- 3.3 DOE Order AL 5700.6B
- 3.4 UMTRA Quality Assurance Plan
- 3.5 MK-Ferguson Quality Assurance Program Plan
- 3.6 H.S.&E. Procedures/Plans
- 3.7 ASTM
- 3.8 AASHTO

4.0 INSPECTION PROCEDURES

(This item has been revised since all testing requirements were removed from Specification Section 02200 by PIDs No. 07-S-10 and No. 07-S-14).

4.1 **Deleted** (This item has been deleted since all field density control requirements were removed from Specification 02200 by PIDs No. 07-S-10 and No. 07-S-14).

4.1.1 **Deleted** (This item has been deleted since all soil density and moisture testing requirements were removed from Specification 02200 by PIDs No. 07-S-10 and No. 07-S-14).

4.1.2 **Deleted** (This item has been deleted since all moisture testing requirements were removed from Specification 02200 by PIDs No. 07-S-10 and No. 07-S-14).

*Refer to note at the bottom of the page for the Statement of Policy.

- 4.1.3 Deleted (This item has been deleted since all density testing requirements were removed from Specification 02200 by PIDs No. 07-S-10 and No. 07-S-14).
- 4.1.4 Deleted (This item has been deleted since all density testing requirements were removed from Specification 02200 by PIDs No. 07-S-10 and No. 07-S-14).
- 4.1.5 Deleted (This item has been deleted since all density testing requirements were removed from Specification 02200 by PIDs No. 07-S-10 and No. 07-S-14).
- 4.1.6 Deleted (This item has been deleted since all density testing requirements were removed from Specification 02200 by PIDs No. 07-S-10 and No. 07-S-14).
- 4.1.7 Deleted (This item has been deleted since all subgrade compaction requirements were removed from Specification 02200 by PIDs No. 07-S-10 and No. 07-S-14).
- 4.1.8 Deleted (This item has been deleted since all density testing requirements were removed from Specification 02200 by PIDs No. 07-S-10 and No. 07-S-14).
- 4.2 Soils Monitoring (This item has been revised since there are no Quality Control Personnel assigned to the Riverton, Wyoming Processing Site remedial action).

Daily monitoring, where applicable, shall be performed by Field Engineers during execution of the various work activities as follows:

- 4.2.1 Fill materials shall be obtained only from required excavations and approved borrow areas.
- 4.2.2 Excavation of contaminated material shall be carried out to the limits and grades required by Health Physics Personnel.
- 4.2.3 Deleted (This item has been deleted since PID No. 07-S-14 removed this requirement from Specification 02200, Section 3.3.A.7).
- 4.2.4 Prior to placing uncontaminated fill material on the subgrade, it shall be radiologically surveyed to verify compliance to EPA standards.
- 4.2.5 Deleted (This item has been deleted since PID No. 07-S-10 removed this requirement from Specification 02200, Section 3.5.B.1 and 3.6.B).

- 4.2.6 Contaminated and uncontaminated materials shall be kept separated during earthwork activities.
- 4.2.7 Uncontaminated general fill material shall not contain organic material or other deleterious substances.
- 4.2.8 Deleted (This item has been deleted since PID No. 07-S-14 removed this requirement from Specification 02200, Section 2.1.B.2.b).
- 4.2.9 Deleted (This item has been deleted since PID No. 07-S-14 removed this requirement from Specification 02200, Section 3.5.B.6).
- 4.2.10 Deleted (This item has been deleted since PID No. 07-S-10 removed this requirement from Specification 02200, Section 3.5.C.2).
- 4.2.11 Material shall not be placed on frozen subgrade, nor shall frozen material be used as fill.
- 4.2.12 Earthwork shall conform to the lines and grades indicated on the drawings and/or specifications.
- 4.2.13 During seasonal shutdowns, and prior to application of protective erosion control measures, exposed surfaces shall be compacted with a smooth drum roller to eliminate ruts and ridges.
- 4.2.14 During seasonal shutdowns, contaminated material shall be stabilized in a manner to assure that the integrity of the method of stabilization is maintained to prevent offsite spread of contamination.
- 4.2.15 Deleted (This item has been deleted since backfill quality requirements were removed from Specification 02200 by PIDs No. 07-S-10 and No. 07-S-14).
- 5.0 Deleted (This section has been deleted since there are no Quality Control Personnel assigned to the Riverton, Wyoming Processing Site remedial action).
 - 5.1 Deleted (See Item 5.0)
 - 5.2 Deleted (See Item 5.0)
 - 5.2.1 Deleted (See Item 5.0)
 - 5.2.2 Deleted (See Item 5.0)
 - 5.2.3 Deleted (See Item 5.0)



5.2.4 Deleted (See Item 5.0)

5.2.5 Deleted (See Item 5.0)

5.2.6 Deleted (See Item 5.0)

5.2.7 Deleted (See Item 5.0)

5.2.8 Deleted (See Item 5.0)

5.3 Deleted (See Item 5.0)

6.0 NONCONFORMING ITEMS

6.1 Nonconforming items shall be identified, documented, evaluated, segregated when practical, dispositioned, and affected organizations will be notified in accordance with MK-Ferguson's Quality Assurance Program Plan-8 (Nonconformance and Corrective Action).

7.0 AUDITS AND SURVEILLANCES

7.1 Quality Assurance Audits and Surveillances

7.1.1 Site Quality Assurance Audits and Surveillances shall be performed under the direction of the MK-Ferguson Project Quality Manager.

7.1.2 Site Quality Assurance Audits and Surveillances will be performed to assure implementation of the applicable portions of the MK-Ferguson Quality Assurance Program Plan, and to verify compliance with established Health Physics Procedures and Monitoring Plans. (This item has been revised. It was anticipated that MK-Ferguson would staff the Riverton Site with Subcontracted Inspection and Testing Personnel to verify the restoration of the Processing Site. The requirements for backfill compaction were eliminated and there were no Quality Control Personnel assigned to the Riverton Processing Site).

7.2 Frequency of Audits and Surveillances

7.2.1 Audits of Chem-Nuclear Systems, Inc. shall be performed a minimum of once each construction season. (This item has been revised to change the frequency of audits of Chem-Nuclear Systems, Inc. to one per year instead of two. It was originally intended that MK-Ferguson Quality Assurance Personnel would be auditing the Subcontracted Inspection and Testing Firm a minimum of twice a year and that MK-Ferguson would perform an audit of Chem-Nuclear during each site visit).

7.2.2 Deleted (This item has been deleted since Inberg-Miller Engineers was never subcontracted to perform inspection and tests on-site).

7.2.3 Deleted (See Item 7.2.2)

7.2.4 The MK-Ferguson Project Quality Manager may increase the audit and surveillance frequency at his option, to assure the quality of the project.

7.2.5 Deleted (This item has been deleted since Quality Control Personnel are designated to perform these inspections and there are no Quality Control Personnel assigned to the Riverton, Wyoming Processing Site).

8.0 TESTING AND INSPECTION SERVICES SUBCONTRACTOR (Deleted - See Item 7.2.2)

8.1 Deleted (See Item 7.2.2)

8.1.1 Deleted (See Item 7.2.2)

8.1.2 Deleted (See Item 7.2.2)