WM-68
10/24/90

PART 2 of 6

DEPARTMENT OF ENERGY
ALBUQUERQUE OPERATIONS OFFICE
CONTRACT NO. DE-AC04-83AL18796

GREEN RIVER, UTAH

D R A F T

Completion Report

VOLUME 3
APPENDICES F-J

Remedial Actions
Contractor
for the
Uranium Mill Tailings
Remedial Actions
Project

MAY 1990

MK-FERGUSON COMPANY
A MORRISON KNUDSEN COMPANY

9011080155

APPENDIX F

PERMITS, TITLES AND STATEMENTS OF COMPLIANCE

GREEN RIVER, UT
PERMITS, TITLES, AND
STATEMENTS OF COMPLIANCE

APPENDIX F

The following permits, titles, and statements of compliance were required and approved for construction of the Processing/Disposal Site at the Green River, UT UMTRA Site, and the material borrow areas. Both the Fremont Junction (riprap source) and the Elgin G&O (gravel fill, bedding, and radon barrier source) borrow areas were existing borrow sources; however, additional clearances and permitting were necessary for the Fremont Junction Borrow Source use as described in the following permit sections. The Elgin G&O Borrow Area is a private borrow pit and no additional permitting was required for its use in the UMTRA project.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES)

1. Permit -
   Utah Pollution Discharge Elimination System (UPDES)

2. Permit Number -
   UT-0024694

3. Permit Expiration Date -
   April 1, 1990

4. Legal/Regulatory Citation -
   Clean Water Act of 1977, 40 CFR 125
   Water Quality Act of 1987 and the Utah Water Pollution Act

5. Permitting Agency -
   Utah State Department of Health
   Division of Environmental Health
   Bureau of Water Pollution Control
   P.O. Box 16690
   Salt Lake City, Utah 84116-0690
   Attn: Donald A. Hilden, Ph.D
   Chief of Permits & Compliance Section
   (801) 538-6146

6. Purpose -
   A UPDES Permit is required for all operations that discharge waste water from a point source into surface waters of the State of Utah.

7. Procedure -
   The UPDES permit was obtained in lieu of the NPDES permit. On January 19, 1988, MK-Ferguson applied to the Utah State Department of Health, Division of Environmental Health, Bureau of Water Pollution Control, for a UPDES permit for the management of stormwater runoff and other wastewaters during the remedial action at the abandoned uranium processing site near Green River, Utah. The following information and/or forms were included as part of the application:

   a. A completed USEPA Form 1
   b. A completed USEPA Form 2D.
   c. Stormwater Management Date
   d. Discharge Water Quality Data
   e. Calculations
   f. Construction Drawings

   The State of Utah assigned the Application for Permit the following Serial Number, UT-0024694, in a letter dated February 16, 1988. MK-Ferguson received the UPDES Permit No. UT-0024694 by certified mail for the Uranium Mill Tailings Remedial Action (UMTRA) Project at Green River on March 25, 1989. A check for the application fee was sent to the State of Utah on April 6, 1989, by certified mail from MK-Ferguson. On October 18, 1989, MK-Ferguson sent a letter to the

Permit - Utah Pollution Discharge Elimination System (UPDES) (Cont'd.)

Department of Health, Division of Environmental Health notifying the State that the UPDES Permit No. UT-0024694 would no longer be required. The State acknowledged the October 18, 1989, letter in a return letter on December 15, 1989. A renewal application for the UPDES permit was sent to MK-Ferguson on December 7, 1989. The application was marked terminate and returned to the State on December 13, 1989, with a letter explaining that a re-issuance of the UPDES Permit for the Green River, UT UMTRA Site would not be required.

8. Site-Specific Need -
The UPDES Permit was not used at the Green River, UT UMTRA Site because no discharges were made; however, the permit was required in case material needed to be discharged from the site.

9. Site -
The abandoned uranium processing site in Grand County near Green River, Emery County, Utah.

THREATENED OR ENDANGERED SPECIES CONSULTATION

1. Permit -
   Threatened or Endangered Species Consultation Process

2. Permit Number -
   N/A

3. Permit Expiration Date -
   N/A

4. Legal/Regulatory Citation -
   Endangered Species Act of 1978, Section 7

5. Permitting Agency -
   U.S. Fish and Wildlife Service (USFWS)
   Endangered Species Office
   2078 Administration Building
   1745 West 1700 South
   Salt Lake City, UT 84138
   Attn: Robert Ruesink, Field Supervisor
   (801) 524-4430

6. Purpose -
   The Endangered Species Act of 1973 requires a Federal agency to ensure that any action it authorizes funds, or carries out, is not likely to jeopardize the continued existence of any threatened or endangered (T&E) species or its critical habitat.

7. Procedure -
   On January 28, 1986, TAC acting on behalf of the DOE wrote a letter to the USFWS requesting determination of which T&E species may be present in areas that may be affected by remedial action, and whether any wetlands are present in the areas that may be affected by remedial action.

   The USFWS identified the following list of species and critical habitat which could be affected by remedial action:

   1. Black-footed Ferret (Mustela nigripes)
   2. Colorado Squawfish (Ptychocheilus lucius)
   3. Bonytail Chub (Gila elegans)

   They also stated that they had no knowledge of any wetlands on the site designated, in a letter to TAC dated March 11, 1986. In response to a letter from TAC, the State of Utah, Natural Resources, Wildlife Resources identified the following T&E species that may be affected by the Green River, UT UMTRA Project in a letter to TAC on April 15, 1986:

   1. Peregrine falcons
   2. Bald Eagle
   3. Black-footed Ferrets

4. Colorado Squawfish
5. Humpback Chub
6. Bonytail Chub

The Environmental Assessment for the Remedial Action at the Green River Uranium Mill Tailings Site states that "No listed or candidate threatened or endangered plant or wildlife species are known to occur at the Green River tailings and borrow sites.

On January 21, 1987, the DOE sent a copy of EA for the remedial action of the inactive uranium mill tailings site near Green River, Utah, to the USFWS, with the request that the USFWS concur with the DOE's no effect determination. The Endangered Species Office, USFWS concurred with the DOE determination of "no effect" for any threatened or endangered species in a letter from the Department of Interior Fish and Wildlife Service, Endangered Species Office to the DOE dated January 21, 1987.

8. Site-Specific Need -
   The formal opinion issued by the USFWS was "no effect" for the Green River, UT UMTRA Site and borrow areas, however, the Endangered Species Act of 1973 required USFWS clearance.

9. Construction Areas Permitted -
   The Environmental Assessment for the Green River site included the abandoned uranium processing site near Green River, Utah, the G&O borrow pit in Elgin, and a proposed borrow area across the river from the processing site.

10. Exemptions -
    The Environmental Assessment for the Green River Site served as the biological assessment for consultation with the USFWS Section 7.

    The borrow area at Fremont Junction was a pre-existing State borrow area. No new T&E consultation was required.

CULTURAL RESOURCE CLEARANCE

1. Permit -
   Cultural Resource Clearance

2. Permit Number -
   State of Utah Antiquities
   Permit U-85-10 (Site)
   82-UT 064 (G&O Elgin Pit)
   Project Number U-85-CH-115p

3. Permit Expiration Date -
   N/A

4. Legal/Regulatory Citation -
   Historic Preservation Act of 1966

5. Permitting Agency -
   State Historic Preservation Office
   Utah State Historical Society
   300 Rio Grande
   Salt Lake City, Utah 84101

6. Purpose -
   The Historic Preservation Act of 1966 requires all Federal agencies to inventory archaeological and historical resources affected by their undertakings and protect and, when necessary, recover significant resources. Prior to initiating surface disturbing activities, cultural resource clearance should be obtained from the State Historic Preservation Officer (SHPO).

7. Procedure -
   As part of the Uranium Mill Tailings Remedial Action (UMTRA) Project sponsored by the DOE, a cultural resource inventory was undertaken on approximately 110 acres of land surrounding the Green River abandoned mill site southeast of Green River, Utah. This investigation was performed by Complete Archaeological Service Associates (CASA) under a subcontract agreement with Jacobs Engineering Group, Incorporated.

   CASA performed the field investigation survey the week of March 20, 1986. The survey of the Green River, UT UMTRA project site resulted in the recording of two historic sites and two isolated finds. None of these cultural materials are considered significant or eligible for nomination to the National Register of Historic Places.

   A copy of the Cultural Resource Inventory Report, prepared by CASA, was sent to SHPO.

   The State of Utah, Department of Community and Economic Development Division of State History, State Historic Preservation Office, acknowledged receiving of Cultural Resource Inventory Report and stated that the report appeared to meet the Secretary of the Interiors

guidelines. The SHPO also said that they concurred with the determination that the areas not in the report as a whole were not eligible for the National Register of Historic Places and that the SHPO made no regulatory requirement concerning the sites in a letter to the DOE dated June 6, 1986, for cultural clearance of the Green River, Utah processing/disposal site.

The G&O Elgin borrow site was a pre-existing borrow site. A Cultural Clearance had been obtained for the site in 1984 when the pit was established as a Utah Department of Transportation (UDOT) borrow source. K.K. Pelli Cultural Resource Management Specialists performed the Cultural Resource Inventory of the G&O Elgin borrow area on April 18, 1984, for Tim Davis of Lagrande Johnson Construction Company. The Lagrande Johnson Construction Company had a contact with UDOT and were proposing to use the G&O Elgin borrow pit. The K.K. Pelli Cultural Resource Management Specialists found no historic sites or finding in the area. Forming activities in the area undoubtedly wiped out any vestiges of prehistoric or historic activities as reported to the SHPO by K.K. Pelli Cultural Resource Specialists in their April 23, 1984, Cultural Inventory Report.

As a condition for using the Fremont Junction pit, the UDOT required the UMTRA project to obtain Cultural Resource clearances for future pit expansion. On April 21, 1988, the Utah Division of Environmental Health assumed responsibility for the archaeological survey and clearance for excavation at Fremont Junction riprap borrow site. The Cultural Resource Inventory Report prepared for the Utah Department of Health identified six sites. Four of the sites, the SHPO report concurred, were not eligible to the National Register of Historic Places. The SHPO also concurred that two sites identified are potentially eligible to the National Register of Historic Places in a letter to the Utah Department of Health, Division of Environmental Health on June 15, 1988. In this same letter, the Deputy SHPO also recommends that the potentially eligible sites be awarded by the proposed borrow pit, having no effect on the sites, or if avoidance is not possible, that some form of data recovery program to mitigate the adverse effects on these potentially eligible sites.

In the Information to Bidders for the Green River, UT UMTRA project, the location of the cultural resource areas were identified and the Bidders were informed that the areas will be protected during production of each. The cultural sites at Fremont Junction were avoided by the UMTRA Contractor and their Subcontractors having no effect on the cultural resource areas.

8. Site-Specific Need -

The UMTRA disposal site, the G&O Elgin borrow site, and the Fremont Junction borrow site obtained cultural clearances of varying kinds. The G&O Elgin site had no cultural resource findings. The Green River, UT UMTRA Processing Disposal Site had no finding eligible for

the National Register of Historic Places. And finally the Fremont Junction borrow area had two areas identified as being potentially eligible to the National Register of Historic Places. These areas were avoided during riprap production yielding no affects on the potentially eligible areas.

9. Construction Areas Permitted -
   All three of the sites affected by the Green River, UT UMTRA Project had Cultural Clearances.

10. Exemptions -
    None

APPROVAL OF WELL PLUGGING

1. Permit -
   Report of Permanent Well Abandonment

2. Permit Number -
   Water Rights Application No. 86-92-01-MW

3. Permit Expiration Date -
   None

4. Legal Citation -
   Water Laws of Utah, UCA 73-S-A

5. Permitting Agency -
   Utah State Engineer's Office
   Utah Division of Water Rights
   1636 West North Temple
   Salt Lake City, Utah 84116
   Attn: Robert Morgan, State Engineer, or,
   Jerry Bronsell
   (801) 533-6071

6. Purpose -
   The State Engineer's office requires that any well be plugged to prevent pollution or contamination of groundwater. Prior to plugging wells, the State Engineer's Office must be notified to determine the acceptability of plugging techniques. A Well Abandonment Report must be submitted by a State licensed driller who performed the well plugging.

7. Procedure -
   In a telephone conversation between the Utah State Engineer's Office and MK-E on December 1, 1987, it was determined that no prior approval of well plugging procedures are required unless the procedures differ from the State requirements and that neat cement or cement and bentonite mix, as specified in the Green River Sealing Monitor Wells - 02090 subcontract specifications is compatible with State standards. The State Engineer's Office also concurred that Type V cement should be used for high sulfate groundwater. PC Exploration, Inc., a lower-tier subcontractor to CDK, the main site Subcontractor for the Green River, UT UMTRA project, sealed 21 monitoring wells, as identified on the Subcontract drawings. Sealing commenced on October 17, 1988, and PC Exploration, Inc. completed sealing the wells on October 31, 1988. P.C. Exploration, Inc., a State of Utah licensed driller, submitted the "Report of Permanent Well Abandonment" on November 7, 1988, to State of Utah, Division of Water Rights, State Engineer's Office.

The Remedial Action Contractor (RAC) Site Manager then contacted the State Engineer's Office by telephone verifying the State Engineer's Office receipt of the "Report of Permanent Well Abandonment" from P.C. Exploration and that the report was satisfactory and approved by the Utah State Engineer's Office.

8. Site-Specific Need -
   Twenty-one (21) monitoring wells on or around the Green River, UT UMTRA processing/disposal site were sealed in accordance with State Requirements for Permanent Well Abandonment.

9. Construction Areas Permitted -
   The 21 sealed monitoring wells were located on and around the Green River, UT UMTRA processing/disposal site.

10. Exemptions -
    Prior approval of well plugging procedures are not required if plugging techniques meet State requirements.

WASTEWATER TREATMENT FACILITY CONSTRUCTION PERMIT

1. Permit -
   Green River Uranium Mill Tailings Construction Permit

2. Permit Number -
   N/A - UPDES Permit No. UT-0024694

3. Permit Expiration Date -
   June 9, 1989 (unless continuous construction activities have begun)

4. Legal Citation -
   Utah Code Annotated 26-15-45 and 73-14-1 the Colorado River Basin Salinity 1977 Policy Control Forum Wastewater Disposal Regulation

5. Permitting Agency -
   Utah State Department of Health
   Division of Environmental Health
   Bureau of Water Pollution Control
   P.O. Box 16690
   Salt Lake City, UT 84116-0690
   Attn: Don A. Ostler, PE
   Executive Secretary, or,
   Charlie Dietz, Environmental Engineer
   (801) 538-6146

6. Purpose -
   A Construction Permit is required prior to construction of a wastewater treatment works, or the discharge of wastewater.

7. Procedure -
   Through a series of written and verbal correspondence starting December 21, 1987, between MK-F, DOE, and the Utah Department of Environmental Health Bureau of Water Pollution Control and payment of a filing and review fees a Construction Permit was issued. The Green River Uranium Mill Tailings Construction Permit, (Wastewater Treatment Facility Construction Permit) was issued by the State of Utah Department of Health, Division of Environmental Health under the signature of the Executive Secretary of the Utah Water Pollution Control Committee on June 9, 1988, for the construction of a decontamination pad, a 1.4± million gallon retention basin, drainage ditches for stormwater runoff, office facilities, and security fencing at the Green River, UT UMTRA Site, with the condition that no water will be allowed to be discharged from the project site without obtaining a Utah Pollution Discharge Elimination System Permit.

8. Site-Specific Need -
   The Wastewater Disposal Regulations are directed primarily at sewage treatment facilities, however, the regulations also apply to industrial waste treatment. Part II of the regulations contains "Standards of Quality for Waters of the State" and Part III contains specification for "Sewers and Wastewater Treatment Works". Therefore,

the Green River, UT UMTRA Site would need a construction permit prior to the construction of a wastewater treatment works consisting of the decontamination pad, the retention basin, drainage ditches, office facilities, and security fencing.

9. Construction Areas Permitted -
The construction permit was for the construction of a Wastewater Treatment Facility consisting of a decontamination pad, retention basin, drainage ditches, office facilities, at the Green River, UT UMTRA Processing/Disposal Site.

10. Exemptions -
None

SAND AND GRAVEL PERMIT

1. Permit -
   Ordinary Sand and Gravel Permit

2. Permit Number -
   MP-86 (Fremont Junction)

3. Permit Expiration Date -
   August 1, 1988 to August 1, 1993

4. Legal Citation -
   Utah Department of Natural Resources R632-150

5. Permitting Agency -
   Utah Department of Natural Resources
   Division of State Lands and Forestry
   89 East Center Street
   Moab, Utah 84532-0032
   Attn: Jeanine J. Kleinke
   (801) 259-6316

6. Purpose -
   The Sand and Gravel Permit is issued for excavation and purchase of ordinary sand and gravel from public lands.

7. Procedure -
   A Sand and Gravel Permit was obtained by the Utah Department of Health Bureau of Radiation Control on July 21, 1988, for the Fremont Junction borrow area. Under an agreement with the Utah Department of Transportation (UDOT) to obtain aggregated riprap from the UDOT existing pit at Fremont Junction, the UMTRA Project would need to obtain the proper clearances and permits for additional area that UDOT may need in the future within the area and obtain a Sand and Gravel Permit from the Utah Department of Natural Resources paying all required royalties associated with the excavation of the needed aggregate/riprap material. The Utah Department of Health Bureau of Radiation Control undertook the responsibility of getting the archaeological clearance and the Sand and Gravel Permit. The royalties as set forth in the Sand and Gravel Permit are as follows:

   1) $10.00 per acre per year.
   2) $0.30 per cubic yard of ordinary sand and gravel.

   The State of Utah obtained the Sand and Gravel Permit but actual excavation of aggregate/riprap was performed by an MK-Ferguson Subcontractor for the Green River, UT UMTRA Site.

   The Sand and Gravel Permit was transferred to UDOT after the completion of the Green River, UT UMTRA Project by the Utah Department of Health, Bureau of Radiation Control.

Permit - Ordinary Sand and Gravel Permit (cont'd.)

8. Site-Specific Need -
   The Fremont Junction borrow source was the only Green River, UT UMTRA borrow site requiring a permit for sand and gravel excavation. The G&O Elgin borrow source is considered a privately owned property not requiring additional permitting.

9. Construction Areas Permitted -
   The UDOT Fremont Junction borrow area used as a riprap source for the Green River, UT UMTRA disposal cell. The Fremont Junction borrow area is some 70 miles from the project site.

10. Exemptions -
    The regional manager for the State of Utah Natural Resources waved the reclamation bond requirement for the State of Utah Department of Health.

NOTICE OF INTENT TO CONDUCT A MINING OPERATION

1. Permit -
   Notice of Intent to Conduct A Mining Operation

2. Permit Number -
   N/A

3. Permit Expiration Date -
   N/A

4. Legal Citation -
   Utah Code Annotated Mined Land Reclamation Act of 1975 amended 1982

5. Permitting Agency -
   State of Utah Natural Resources
   Division of Oil, Gas, and Mining
   355W North Temple
   3 Triad Center Suite 350
   Salt Lake City, Utah 84180-1203
   Lowell Braxton
   Administrator of the Mineral Resource
   Development and Reclamation Program
   (801) 538-5340

6. Purpose -
   The mining of borrow sources require approval by the State of Utah.

7. Procedure -
   On December 7, 1987, MK-Ferguson sent a letter to Utah State Division of Oil, Gas, and Mining explaining the Green River, UT UMTRA Project required borrow materials. The Division of Oil, Gas, and Mining was informed that the G&O Elgin borrow pit would be one borrow source for material but the location of the aggregate/riprap borrow area had not been determined at that time. The administrator of Mineral Resource Development and Reclamation Program of the Utah Division of Oil, Gas, and Mining responded to the December 7, 1987, letter on December 22, 1987, by stating that the extraction of sand, gravel, and rock aggregate is specifically exempted from regulation by the Utah Mined Land Reclamation Act. The UMTRA project as described falls under the exempt category and no Notice of Intention well needed to be filed with the Division of Oil, Gas, and Mining.

8. Site-Specific Need -
   Notice of Intention was not required for the extraction of sand, gravel, and rock aggregate at either of the borrow sites, the G&O Elgin borrow source or the Fremont Junction borrow source, or the project site.

Permit - Notice of Intent to Conduct A Mining Operation (cont'd.)

9. Construction Areas Permitted -
   Not applicable because no Notice of Intent was required at any of the sites involved with the Green River, UT UMTRA Project.

10. Exemptions -
   The extraction of sand, gravel, and rock aggregate is specifically exempted from regulation by the Utah Mined Land Reclamation Act. Therefore, the UMTRA Project falls under the exemption and no Notice of Intent was required.

AIR QUALITY APPROVAL ORDER

1. Permit -
   Air Quality Approval Order

2. Permit Number -
   N/A

3. Permit Expiration Date -
   N/A

4. Legal Citation -
   Utah Code Annotated 26-15-5 and 26-24-5
   Utah Air Conservation Regulations (UACR)
   Utah Air Conservation Act

5. Permitting Agency -
   Utah State Department of Health
   Division of Environmental health
   Bureau of Air Quality
   P.O. Box 16690
   Salt Lake City, UT 84116-0690
   Burnell Cordner, Executive Secretary
   Montie Keller
   (801) 538-6108

6. Purpose -
   Compliance with the Utah Air Conservation Regulations requires a letter of intent be submitted to the Air Pollution Control Board for approval or disapproval to construct, modify, or relocate an installation.

7. Procedure -
   MK-Ferguson submitted a Notice of Intent for the Green River, UT UMTRA Project on November 19, 1987, to the Utah Division of Environmental Health Bureau of Air Quality. The Executive Secretary of the Utah Air Conservation Committee evaluated the Notice of Intent and found it to be consistent with the requirements of the Utah Air Conservation Regulations and the Utah Air Conservation Act, as indicated in a letter to MK-Ferguson dated February 23, 1988. On February 25, 1988, a Notice of Intent to issue an approved order was published in the Salt Lake Tribune. A 30-day period following the publication date was allowed during which the proposal and evaluation of the impact on air quality was available for public review and comment. The Utah Department of Health, Division of Environmental Health, Bureau of Air Quality, Air Conservation Committee issued a modified approval order to MK-Ferguson on May 16, 1988, for the Green River, UT UMTRA Project. On September 13, 1988, an inspector from the Bureau of Air Quality performed an initial compliance inspection of the UMTRA project located at Green River, Utah. All thirteen conditions of the May 16, 1988, approval order were evaluated and were being complied with at the time of the inspection. The initial compliance inspection

fulfilled condition 6 of the approval order. On November 9, 1989, MK-Ferguson sent a letter to the Executive Secretary of the Utah Air Conservation Committee informing him that the UMTRA Project Site in Green River, Utah was approximately 90% complete at the eighteen month date from the approval order. This written notification complied with Condition 7 of the approval order. The site was reseeded at the conclusion of the project fulfilling Condition 12 of the approval order. All other conditions of the approval order were related to construction activities (i.e., watering of haul roads), excluding Condition 13. Condition 13 of the approval order states that, "This approval order shall replace the approval order dated April 1, 1988."

8. Site-Specific Need -
   Compliance with UACR required a letter of intent and an approval notice to construct, modify, or relocate an installation. The UMTRA Project at Green River qualifies as construction of an installation.

9. Construction Areas Permitted -
   It is the UMTRA Project at Green River that is regulated by the approval order. However, the letter of intent deals mainly with the construction activities at the processing/disposal site.

10. Exemptions -
    None

ZONING CHANGE AND SPECIAL USE PERMIT

1. Permit -
   Grand County Zoning Change and Special Use Permit

2. Permit Number -
   Ordinance No. 197

3. Permit Expiration Date -
   The Special Use Permit will expire at the completion of the project.

4. Legal Citation -
   Grand County Zoning Ordinances

5. Permitting Agency -
   Grand County Board of Commissioners
   Grand County Clerk
   Courthouse Building
   Moab, Utah 84532
   Ms. Fran Townsend
   (801) 259-5645

6. Purpose -
   The Grand County Board of Commissioners required a zone change from a general (G-1) to an Industrial (I-2) for the remedial action activities at the Green River, UT UMTRA processing/disposal site.

7. Procedure -
   A zone change request and application was submitted on February 4, 1988, by MK-Ferguson on behalf of the DOE, to re-zone the Green River processing/disposal site from a G-1 to an I-2 zoning. The request was filed with the Grand county Clerk. On March 14, 1988, the Grand County Commission held a public hearing in Green River on the zoning change request for the Green River, UT UMTRA processing/disposal site. All three Commissioners voted "aye", approving the request by passing Ordinance No. 197, the zoning change and special use permit for the Green River, UT UMTRA Site.

8. Site-Specific Need -
   A zone change was required for the Green River processing/disposal site. The zoning at the site was changed from a G-1 to an I-2 under a Grand County Ordinance.

9. Construction Areas Permitted -
   The Green River, UT UMTRA processing/disposal site located in Grand County.

10. Exemptions -
    A Special Use Permit was not required by the Emery County for use at Borrow Site 2. Borrow Site 2, located across the river from the processing/disposal site, was never used.

APPENDIX G

PRE-REMEDIAL ACTION SITE CONDITIONS

Appendix G
Pre-Remedial Action
Green River, UT

- Prior to UMTRA remedial action, a radiologic characterization of the Union Carbide Corporation inactive uranium mill site at Green River, UT, was conducted by Bendix Field Engineering Corporation for the U.S. Department of Energy, in June of 1985. Following is a summary of that characterization.

  a) Surface soil samples indicate surface contamination throughout the areas immediately surrounding the mill yard, extending southeast across the ore-storage area, northeast and east of the tailings pile, and along the flood plain of Brown's Wash west of the mill access road.

     1. Contamination in the ore-storage area is due primarily to the presence of uranium ore or concentrate.

     2. Contamination in Brown's Wash is primarily due to tailing transported by past flood water.

     3. The primary cause of contamination east and northeast of the tailings pile is due to prevailing winds.

  b) Borehole data revealed Ra-226 contamination exist from 0 to 21 feet on the tailing pile, from 1 ft. to a maximum of 11 ft. around the perimeter of the tailing pile, and less than 1 ft. in the former ore storage area except for isolated spots.

     Contamination within the mill yard area is predominantly located in two areas: Northwest of the mill building contamination extends to a depth of 6.5 ft. and around the crusher building contamination

exceeds 3.5 ft. In the windblown area the maximum depth is 40 ft. and in the west boundary area contamination ranges from 0 ft. to 4.5 ft. increasing as the former pile is approached.

c) Borehole analyses of forty-nine samples for thorium-230 (Th-230) show that Th-230 and radium-226 (Ra-226) are in equilibrium, indicating that the Th-230 has not migrated to depths greater than the Ra-226.

d) Direct alpha reading taken in the buildings ranged as follows:

1. Office building 0 - 167 dpm/100 cm^2
2. Office addition 0 - 134 dgm/100 cm^2
3. Crusher building 0 - 2338 dgm/100 cm^2
4. Roaster building 100 - 2672 dgm/100 cm^2
5. Mill building 0 - 8016 dgm/100 cm^2

e) Exposure-rate measurements taken in the buildings range from 11 to 30 micro-R/hour.

f) Working level indoor radon daughter concentration measurements taken in the mill site buildings average as follows:

1. Office 3.91×10^{-3}
2. Roaster 3.84×10^{-3}
3. Mill 3.64×10^{-3}
4. Crusher 2.00×10^{-3}

g) Geophysical borehole logs indicate contamination above the EPA standards beneath the concrete floor of the office addition.

o Chem-Nuclear Systems, Inc. performed additional radiologic characterization of the mill site buildings at Green River, UT. Following is a brief summary of that characterization report.

a) No contamination exists beneath the slab floor of the office building; however; alpha contamination is found throughout the building.

b) The office addition, a corrugated tin structure, has contaminated material beneath the slab-on-grade floor.

c) The roaster building had alpha contamination porous concrete block walls, no contamination was found under the floor slab.

d) Contamination was found beneath the floor slab of the southeast room of the crusher building. Alpha contamination was found throughout the entire building.

e) No contamination was found beneath the floor slab of the main portion of the mill building. Contamination was found under the corrugated tin additions and along the drain lines. Alpha contamination existed through the entire mill building.

f) No contamination was found in or on the water tower.

g) The drainage culverts under the crusher building and northwest of the mill complex were found to be contaminated.

o Additional pre-remedial action conditions are discussed in the following documents.

1) Green River Building Radiological Characterization, MK-F letter 87-3050-719, 1987.

2) Green River Radiological Characterization, MK-F letter 87-3050-608, 1987.

3) Radiologic Characterization of the Green River, Utah Uranium Mill Tailings Remedial Action Site, Bendix Field Engineering Corporation, Grand Junction, Colorado 1985.

4) Radiological Survey of the Inactive Uranium Mill Tailings at Green River, Utah, ORNL 5459, Oak Ridge, Tennessee 1980.

5) Engineering Assessment of the Inactive Uranium Mill Tailings, Green River, Utah, GJT-14/FBDU, U.S. DOE Albuquerque, New Mexico 1981.

6) Phase II - Title I Engineering Assessment of the Inactive Uranium Mill Tailing, Green River Site, Green River, Utah, GJT-14/FBDU-130-14, U.S. DOE Grand Junction, Colorado 1977.

7) An Aerial Radiological Survey of the Area Surrounding the Green River Mill Site, Green River, Utah, ED-U-018, EG&G, U.S. DOE Albuquerque, New Mexico 1982.

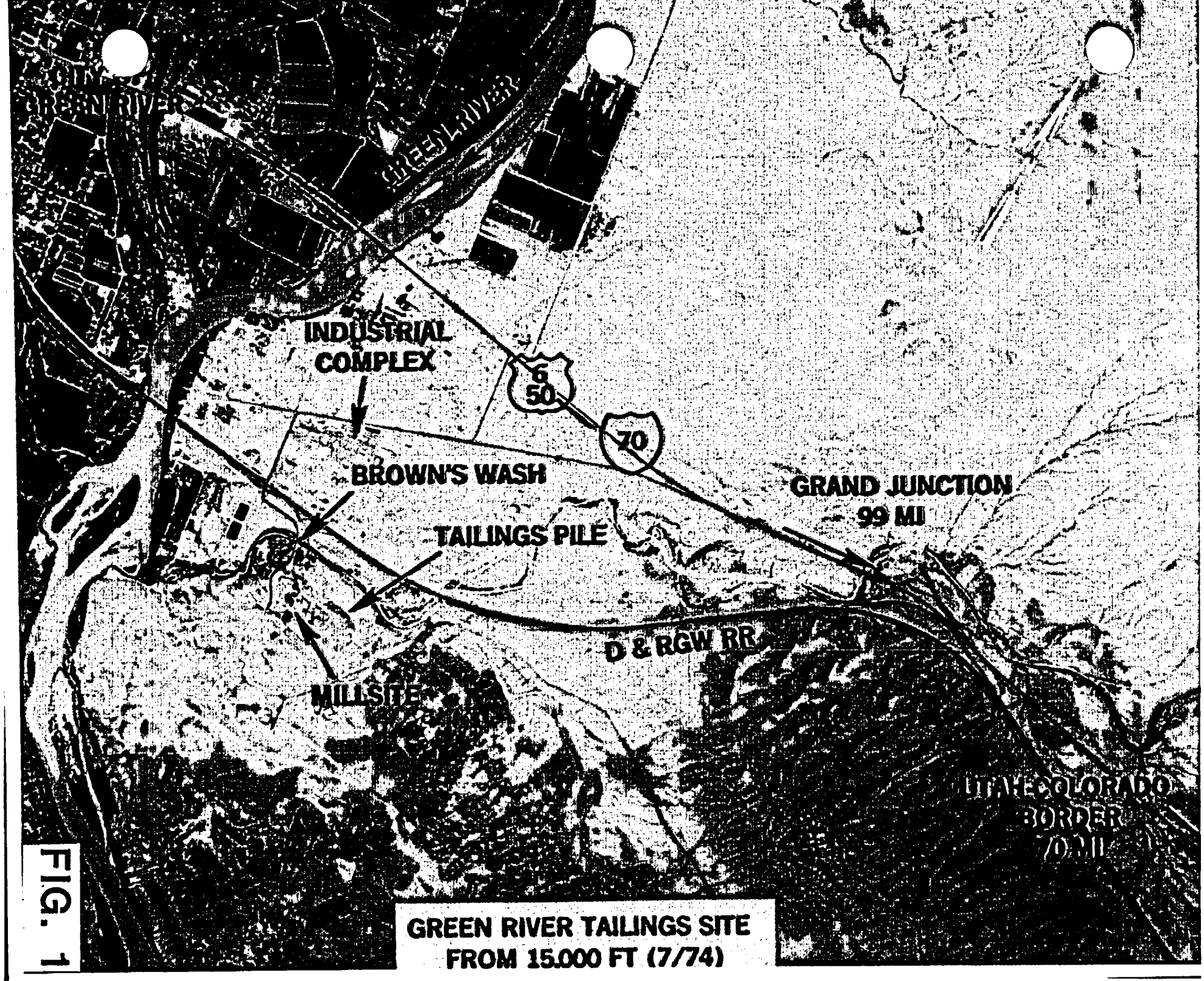

GREEN RIVER
GREEN RIVER
INDUSTRIAL COMPLEX
6
50
70
BROWN'S WASH
GRAND JUNCTION
99 MI
TAILINGS PILE
D & RGW RR
MILLSITE
UTAH-COLORADO BORDER
GREEN RIVER TAILINGS SITE
FROM 15,000 FT (7/74)

FIG. 1

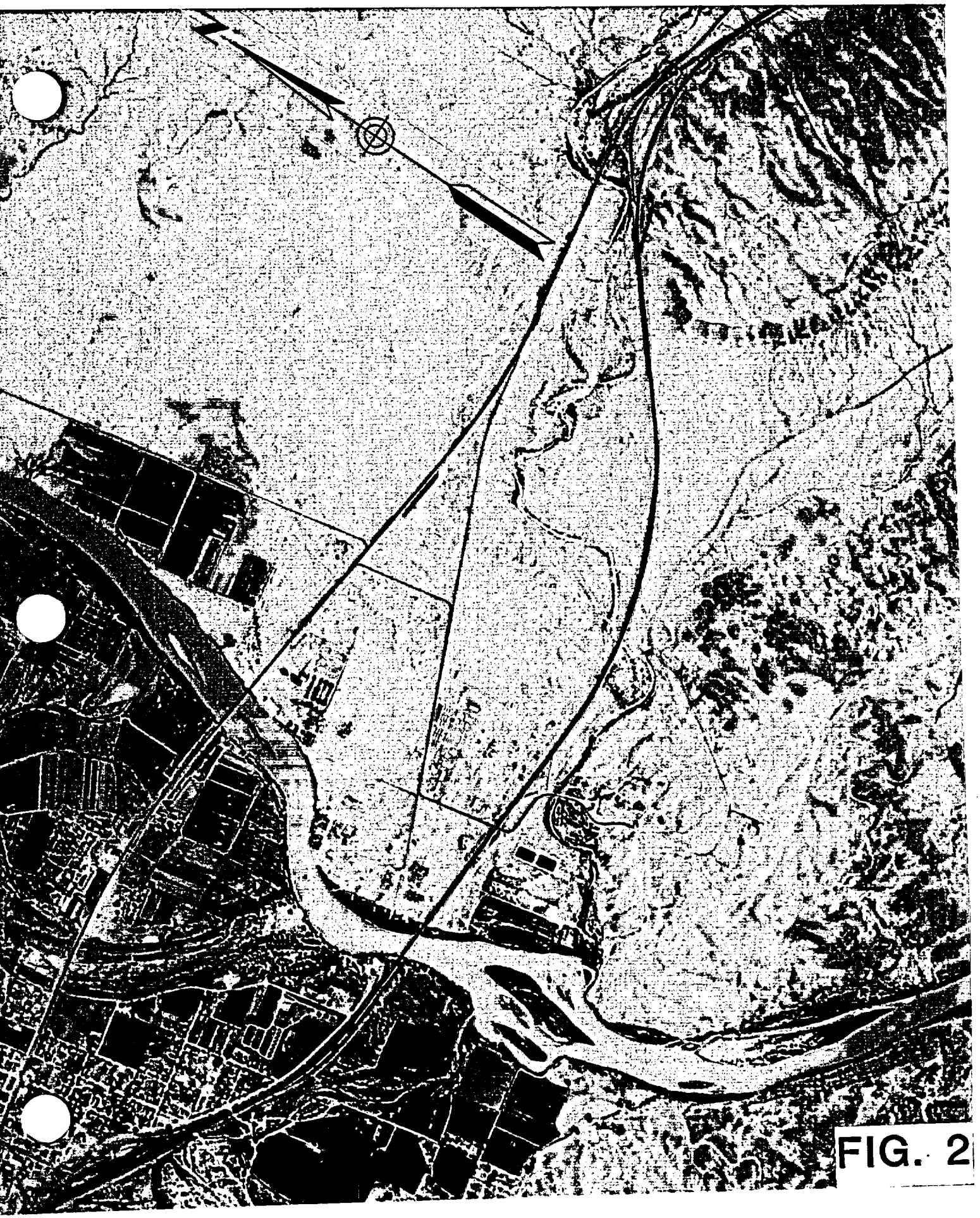


FIG. 2

APPENDIX H

POST-REMEDIAL ACTION SITE CONDITIONS

Appendix H
Post-Remedial Action
Site Conditions
Green River, Utah

- The actual quantity of contaminated material relocated was 381,788 cubic yards. This includes approximately 39,295 cubic yards of material from the Green River Vicinity Properties. The final design of the disposal cell was modified slightly to accommodate the additional cubic yards of contaminated materials.

- The Roaster building and the corrugated tin addition on the office and mill buildings were demolished and removed.

- The mill site building was decontaminated, including sand blasting a portion of the outside walls and replacing a part of the roof of the main mill building.

- Gullies west, north, and northwest of the encapsulation cell were filled in with gravel fill.

- After removal of all contaminated material, the areas of excavation, excluding the tailings pile, on and around the Green River site were backfilled with uncontaminated fill, from the cell excavation, and contoured for site drainage.

- The attached photographs were taken following completion of the remedial action activities and depict the conditions which existed at that time.

- The final radiological measurements are presented in Appendix J.

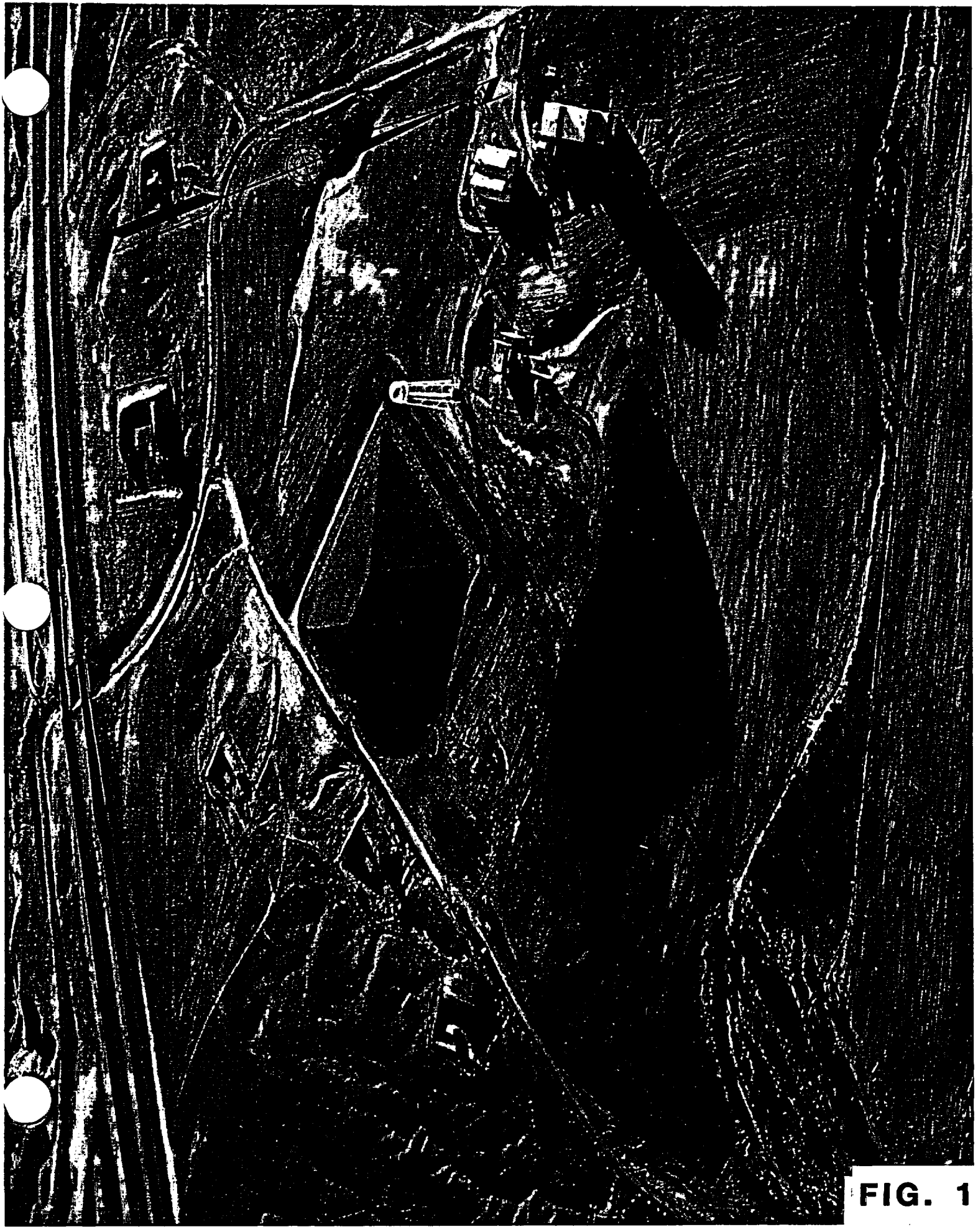


FIG. 1

FIG. 2

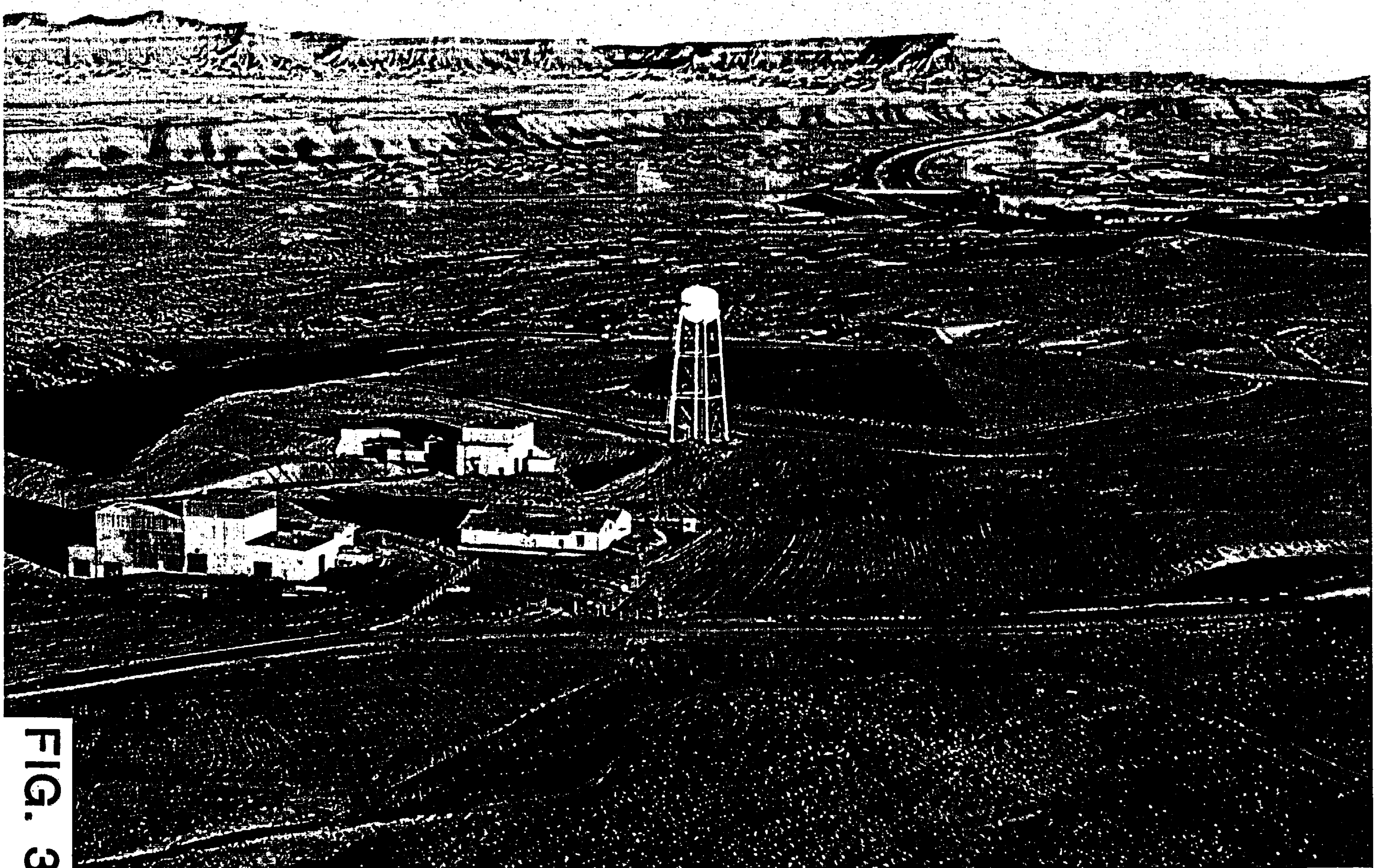


FIG. 3

APPENDIX I

AUDIT, INSPECTION, AND SURVEILLANCE

SUMMARY

APPENDIX I

AUDIT, INSPECTION, AND SURVEILLANCE

SUMMARY

During the performance of remedial action activities, quality audits, inspections, or surveillances were performed by MK-Ferguson to verify and provide assurance that these activities were performed in accordance with established plans, drawings, instructions, procedures, specifications, and other applicable documents.

The audits, inspections, and surveillances can be placed in three categories as follows:

1) Internal audits, inspections, and surveillances performed by the MK-Ferguson Albuquerque Project Office Quality Assurance Department of MK-Ferguson Site Quality Control Activities.

2) Internal audits, inspections, and surveillances performed by the MK-Ferguson Corporate Office of MK-Ferguson Site Quality Control and Albuquerque Project Office Quality Assurance Activities.

3) External audits, inspections, and surveillances performed by the MK-Ferguson Albuquerque Project Office Quality Assurance Department of Morrison-Knudsen Engineers Site Design Activities.

For definition purposes the following excerpts from supplement S-1 of ANSI/ASME NQA-1-1986 are presented:

AUDIT: A planned and documented activity performed to determine by investigation, examination, or evaluation of objective evidence the adequacy of and compliance with established procedures, instructions, drawings, and other applicable documents, and the effectiveness of implementation. An audit should not be confused with surveillance or inspection activities performed for the sole purpose of process control or product acceptance.

SURVEILLANCE: The act of monitoring or observing to verify whether an item or activity conforms to specified requirements.

INSPECTION: Examination or measurement to verify whether an item or activity conforms to specified requirements.

The following table provides a detailed breakdown of each audit, inspection, or surveillance, in order to project a clear conception of the frequencies and intervals of audits, inspections, or surveillances that MK-Ferguson and M-K Engineers have been subjected to from an internal and external viewpoint:

SUMMARY

INTERNAL AUDITS	OBSERVATIONS	FINDINGS	ITEMS OF CONCERN
1) MK-Ferguson Albuquerque Project Office			
Green River, Utah Site			
January 31, 1989 Audit	0	0	0
March 30, 1989 Surveillance	0	0	0
July 25, 1989 Surveillance	0	0	0
October 23, 1989 Audit	0	0	0
October 25, 1989 Audit/Inspection	0	0	0
2) MK-Ferguson Corporate Quality Department			
Albuquerque Project Office			
May 2, 1989 Audit	3	2	1
Green River, Utah Site			
January 11, 1989 Audit	3	0	0
June 26, 1989 Audit	0	0	0

EXTERNAL AUDITS	OBSERVATIONS	FINDINGS	ITEMS OF CONCERN
1) MK-Ferguson Albuquerque Project Office			
M-K Engineers San Francisco Office			
October 26, 1988 Audit	2	3	0
April 12, 1989 Audit	1	0	0

NOTE: All of the deficiencies noted during the course of the above listed audits, inspections, or surveillances were corrected, reviewed, evaluated, and "Closed Out" in a timely manner, and in accordance with established requirements.

GREEN RIVER, UTAH SITE

APPENDIX J

PART A

RADIOLOGICAL SOIL VERIFICATION METHODS

APPENDIX J
VERIFICATION MEASUREMENTS

This appendix contains the radiological measurement and supportive quality control data indicating that the Green River site verification of remedial action has met the 5.0 and 15.0 pCi/g Ra-226 criteria established by the EPA, and that the mill building decontamination efforts have met DOE-established guidelines.

Because the site soil verification and site building decontamination efforts were two separate operations, this Appendix J is divided in two parts; Part A contains the soil verification information and data and Part B contains the building decontamination information and data.

PART A

There are seven verification grid drawings. The grid identification corresponds to the soil sample number on the radiological verification data tables accompanying each drawing. Following the seven drawings and tables are figures which present data obtained from verification samples and quality control and assurance programs.

The procedure RAC-015 (Revisions 6 and 7) detailing soil verification methodology may be found at the back of the Part A text of this appendix.

1. Radiological Soil Verification Measurement Methods

   Approved procedures for soil measurements on the UMTRA Project Green River site are included in this section. RAC Health Physics Procedure RAC-015 provides the basis of the verification measurement and sampling methodology. Figure J.1 is a plot of all soil verification Ra-226 data versus sample number (random). Table J.1 presents an average of all Ra-226 soil verification data.

   Radiological soil analyses performance criteria are specified in the Green River Remedial Action Plan (RAP). A Green River RAP requirement for ±30% error limits at the 95% confidence level was met with the opposed crystal soil analysis systems utilized on the Green River site. Error limits were empirically determined, utilizing reference material counts (5.12 pCi/g Ra-226), routinely during the verification process. Two Opposed Crystal Systems were utilized at the Green River site. The background Ra-226 concentration for the Green River area is 1.5 pCi/g.

   Plots of these data for the 5.12 pCi/g reference standard are presented in Figures J.2-J.3. Summaries of these data are presented in Table J.2.

   Reference material was supplied to MK-F/CNSI by the Technical Measurements Center (TMC) in Grand Junction, Colorado. Analyses of the TMC standards can be found in report #GJ/TMC-10/83 UC-70A.

2. Quality Control of Radiological Soil Measurement Methods

The quality control program for radiological measurements complies with the criteria set forth in the UMTRA Project QA Plan, the RAC Quality Assurance Procedures Plan, and DOE Order 5700.6.

The QA/QC program for Ra-226 radiological measurements required 5% (later 4%, per Rev. 7 of procedure RAC-015) of all verification samples to be reanalyzed at an off-site independent laboratory. Barringer Laboratories performed this service.

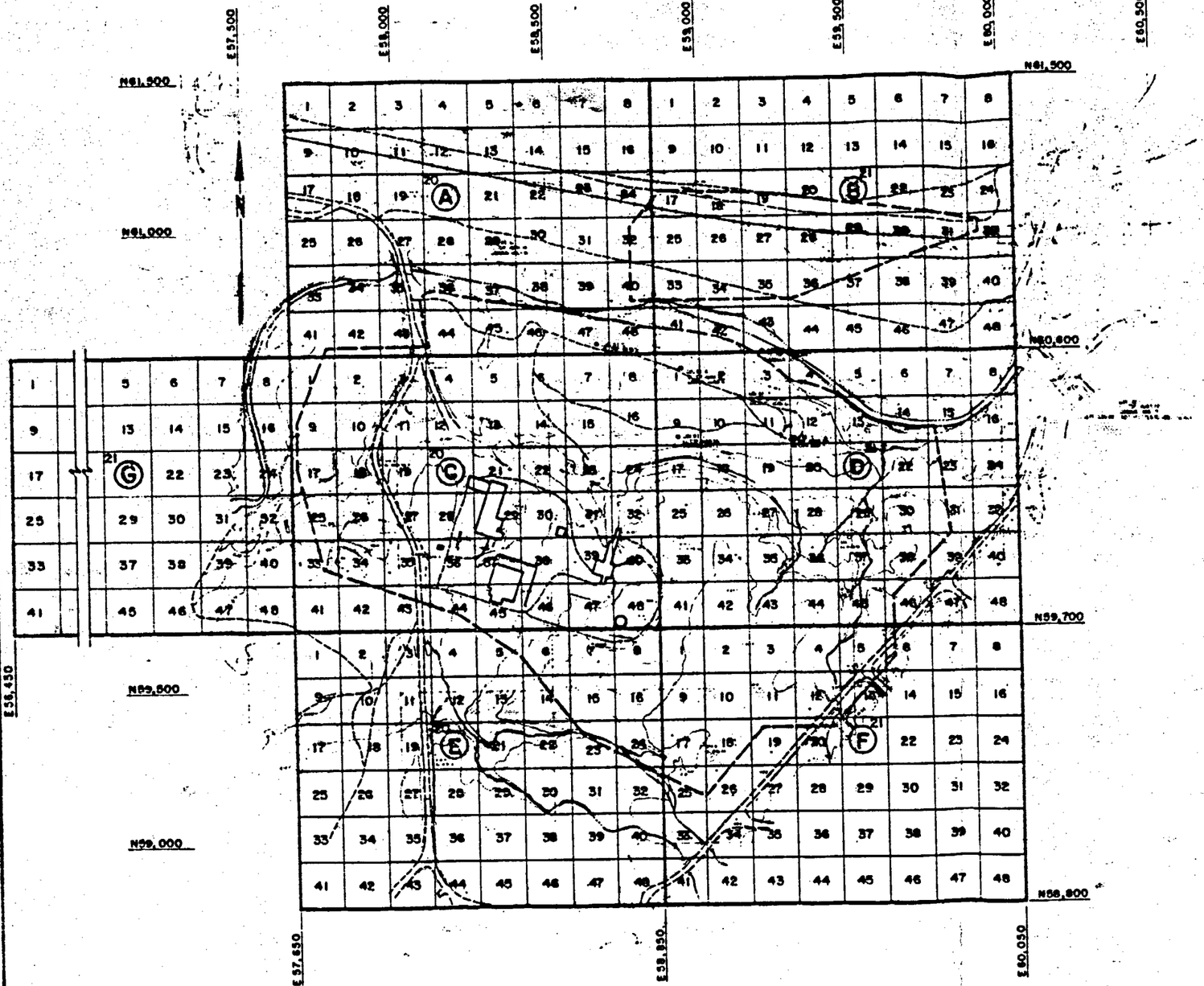
Barringer Laboratories is certified by the USEPA Region VIII to perform Ra-226 radiochemical analyses. Each analytical report received from Barringer Laboratories is accompanied by a quality control data sheet which specifies lower limits of detection. Also included are duplicate sample results (10%) and results for quality control standards (5%) including Barringer result, certified result, acceptable target range and relative deviation from the known value. All original Barringer reports for soil analyses are available in DOE archived records. Table J.3 summarizes these data.

Table J.3 presents QC average Ra-226 values for approximately 5% of the verification samples.

3. Backfill Material

Figure J.4 shows Ra-226 concentrations of backfill soils used for fill material at the Green River site. The plot demonstrates that the post-remedial radiological conditions of the decontaminated areas are well within guidelines established for the Project.

The H.P. Procedure RAC-013 detailing backfill (borrow) material screening may be found at the back of Part A of this Appendix.



REFERENCE DRAWINGS:

GRN-SV-001 THRU 007, SOIL VERIFICATION GRID SYSTEM

LEGEND:

- LIMIT OF CONTAMINATED MATERIAL EXCAVATION
- ROADS AND HIGHWAYS
- RAILROADS
- WATER LINE (RIVER/CREEK)
- BUILDINGS

200 0 200 400
SCALE FEET

U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

GREEN RIVER SITE
GREEN RIVER, UTAH

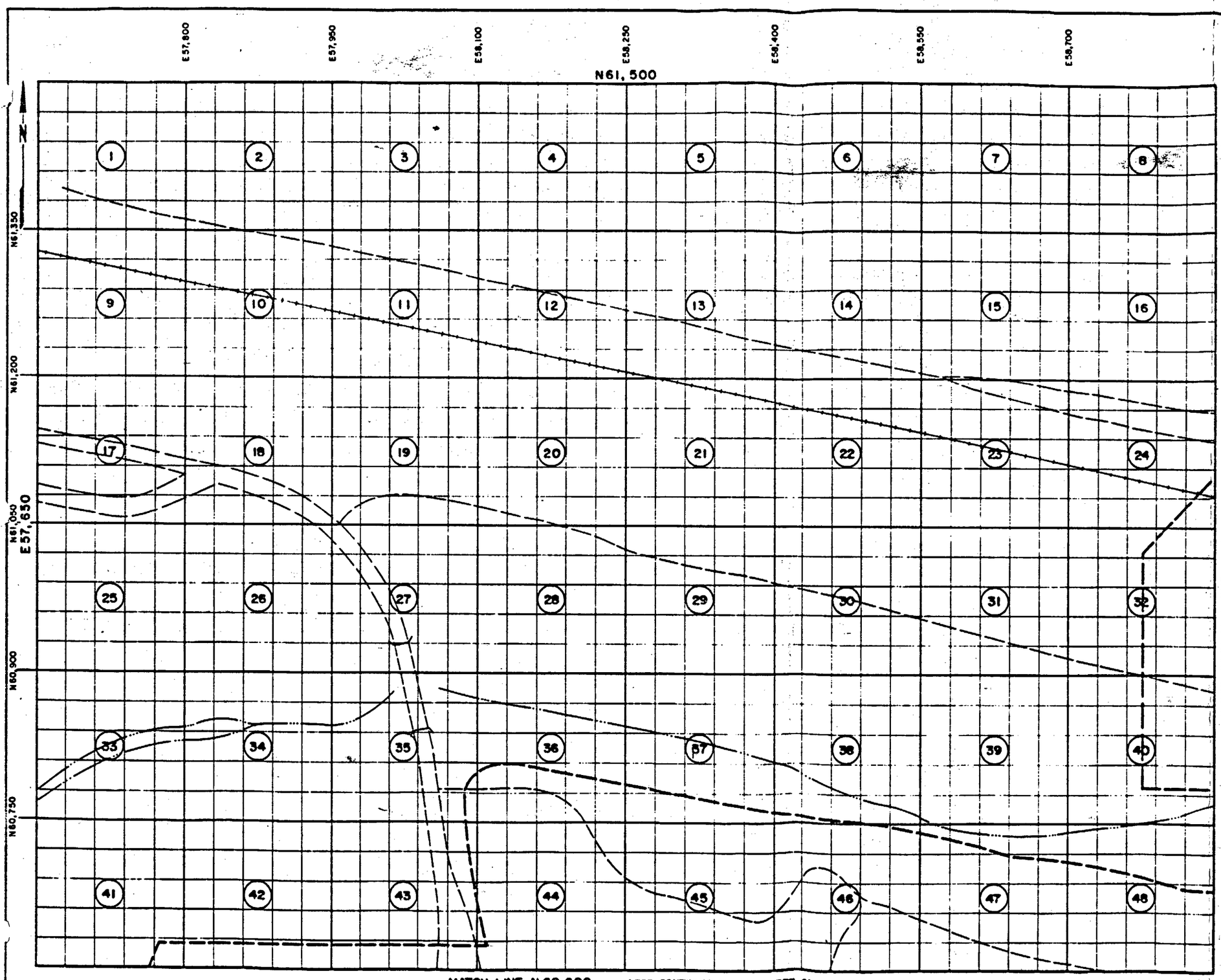
SOIL VERIFICATION PLAN GRID SYSTEM

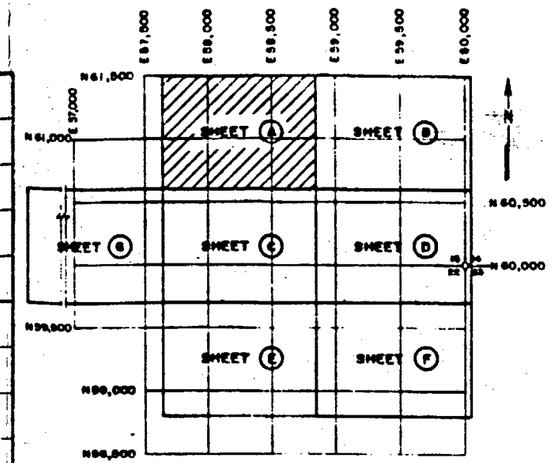
DESIGNED BM
CHECKED
INSPECTED
RECOMMENDED
APPROVED DATE
DOE PROJECT ENGINEER DATE

MORRISON-KNUDSEN ENGINEERS, INC.
UMTRA PROJECT

PROJECT NO. DE-AC04-83AL18796
DRAWING NO. GRN-SV-000 REV —

NO.	DATE	REVISIONS	BY	CK	EOD APP	QUALITY ENG	TAC REV	DOE APP
1		ISSUED FOR PRELIMINARY REVIEW						



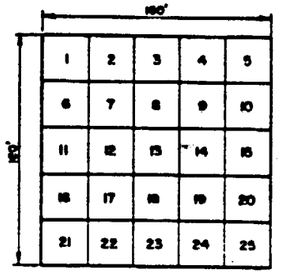


KEY MAP
(N.T.S.)

REFERENCE DRAWINGS:

GRN-SV-000, SOIL VERIFICATION PLAN GRID SYSTEM

LEGEND:



30'x 30' GRID SYSTEM

SAMPLE GRID NO.
A-37-19
A - SHEET NO.
37 - 150'x 150' GRID
19 - 30'x 30' SUBGRID

U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

GREEN RIVER SITE
GREEN RIVER, UTAH

SOIL VERIFICATION GRID SYSTEM
SHEET A

MORRISON-KNUDSEN ENGINEERS, INC.
UMTRA PROJECT

DESIGNED	CHECKED	DATE
PROJECT NO.	DE-AC04-83AL18796	
DRAWING NO.	GRN-SV-001	

Verification Samples
Green River
Drawing A

8/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-A-28-11	>15	1.5					
<	GRN-SV-A-28-12	>15	1.5					
<	GRN-SV-A-28-13	>15	1.7	.8	.6			.7
<	GRN-SV-A-28-16	>15	1.7					
<	GRN-SV-A-28-17	>15	1.7					
<	GRN-SV-A-28-18	>15	1.7					
<	GRN-SV-A-28-19	>15	1.7					
<	GRN-SV-A-28-20	>15	1.7					
<	GRN-SV-A-28-21	>15	1.5					
<	GRN-SV-A-28-22	>15	1.5					
<	GRN-SV-A-28-23	>15	1.5					
<	GRN-SV-A-28-24	>15	1.5					
<	GRN-SV-A-28-25	>15	1.5					
<	GRN-SV-A-29-16	>15	1.5					
<	GRN-SV-A-29-17	>15	1.5					
<	GRN-SV-A-29-21	>15	1.5					
<	GRN-SV-A-29-22	>15	1.5					
<	GRN-SV-A-29-23	>15	1.5					
<	GRN-SV-A-29-24	>15	1.7					
<	GRN-SV-A-29-25	>15	1.5					
	GRN-SV-A-35-20	>15	2.0					
<	GRN-SV-A-35-25	>15	1.7					
<	GRN-SV-A-36-01	<15	1.5					
<	GRN-SV-A-36-02	<15	1.5					
<	GRN-SV-A-36-03	<15	1.5					
<	GRN-SV-A-36-04	<15	1.5					
<	GRN-SV-A-36-05	<15	1.5					
<	GRN-SV-A-36-06	>15	1.5					
<	GRN-SV-A-36-07	>15	1.5					
<	GRN-SV-A-36-08	>15	1.5					
<	GRN-SV-A-36-09	>15	1.5					
<	GRN-SV-A-36-10	>15	1.5					
<	GRN-SV-A-36-11	>15	1.5					
<	GRN-SV-A-36-12	>15	1.5	.8	.8			1.2
<	GRN-SV-A-36-13	>15	1.5					
<	GRN-SV-A-36-14	>15	1.5					
<	GRN-SV-A-36-15	>15	1.5					
	GRN-SV-A-36-16	>15	2.7					
<	GRN-SV-A-36-17	>15	1.6					
<	GRN-SV-A-36-18	>15	1.6					
	GRN-SV-A-36-19	>15	1.9					
<	GRN-SV-A-36-20	>15	1.5					
<	GRN-SV-A-36-21	>15	1.5					
<	GRN-SV-A-36-22	>15	1.5					
	GRN-SV-A-36-23	>15	2.2					
<	GRN-SV-A-36-24	>15	1.5					
<	GRN-SV-A-36-25	>15	1.7					
	GRN-SV-A-37-01	>15	2.5					
<	GRN-SV-A-37-02	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing A

8/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-A-37-03	>15	1.5					
<	GRN-SV-A-37-04	>15	1.5					
<	GRN-SV-A-37-05	>15	1.5					
<	GRN-SV-A-37-06	>15	1.5					
<	GRN-SV-A-37-07	>15	1.7	1.7	1.5			1.5
<	GRN-SV-A-37-08	>15	1.7					
<	GRN-SV-A-37-09	>15	1.7					
<	GRN-SV-A-37-10	>15	1.7					
<	GRN-SV-A-37-11	>15	1.7					
<	GRN-SV-A-37-12	>15	1.7					
	GRN-SV-A-37-13	>15	1.8					
<	GRN-SV-A-37-14	>15	1.8					
<	GRN-SV-A-37-15	>15	1.7					
	GRN-SV-A-37-16	>15	4.2					
	GRN-SV-A-37-17	>15	2.7					
<	GRN-SV-A-37-18	>15	1.7					
<	GRN-SV-A-37-19	>15	1.7					
	GRN-SV-A-37-20	>15	2.0					
	GRN-SV-A-37-21	>15	2.1					
	GRN-SV-A-37-22	>15	5.5					
	GRN-SV-A-37-23	>15	2.1					
	GRN-SV-A-37-24	>15	2.2					
	GRN-SV-A-37-25	>15	2.0					
<	GRN-SV-A-38-01	>15	1.5					
<	GRN-SV-A-38-02	>15	1.7					
<	GRN-SV-A-38-03	>15	1.6					
<	GRN-SV-A-38-04	>15	1.5					
<	GRN-SV-A-38-05	>15	1.5					
<	GRN-SV-A-38-06	>15	1.5					
<	GRN-SV-A-38-07	>15	1.5					
<	GRN-SV-A-38-08	>15	1.5					
	GRN-SV-A-38-09	>15	2.2					
<	GRN-SV-A-38-10	>15	1.7	2.0	1.2			1.5
<	GRN-SV-A-38-11	>15	1.5					
<	GRN-SV-A-38-12	>15	1.5					
<	GRN-SV-A-38-13	>15	1.5					
<	GRN-SV-A-38-14	>15	1.5					
<	GRN-SV-A-38-15	>15	1.5					
	GRN-SV-A-38-16	>15	3.5					
	GRN-SV-A-38-17	>15	3.7					
<	GRN-SV-A-38-18	>15	1.5					
<	GRN-SV-A-38-19	>15	1.5					
<	GRN-SV-A-38-20	>15	1.5					
	GRN-SV-A-38-21	>15	1.8					
<	GRN-SV-A-38-22	>15	1.7					
	GRN-SV-A-38-23	>15	2.0					
<	GRN-SV-A-38-24	>15	1.7					
	GRN-SV-A-38-25	>15	2.0	2.4	1.6			1.9
<	GRN-SV-A-39-06	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing A

8/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-A-39-11	>15	2.0					
	GRN-SV-A-39-12	>15	1.9					
	GRN-SV-A-39-13	>15	1.9					
<	GRN-SV-A-39-14	>15	1.5					
<	GRN-SV-A-39-15	>15	1.5					
	GRN-SV-A-39-16	>15	3.4					
	GRN-SV-A-39-17	>15	2.9					
<	GRN-SV-A-39-18	>15	1.7					
	GRN-SV-A-39-19	>15	2.7					
<	GRN-SV-A-39-20	>15	1.5					
<	GRN-SV-A-39-21	<15	1.5					
<	GRN-SV-A-39-22	<15	1.5					
	GRN-SV-A-41-25	>15	2.7					
<	GRN-SV-A-42-21	>15	1.5					
	GRN-SV-A-42-22	>15	3.9					
<	GRN-SV-A-42-23	>15	1.5					
<	GRN-SV-A-42-24	>15	1.5					
<	GRN-SV-A-42-25	>15	1.5					
<	GRN-SV-A-43-05	>15	1.7					
	GRN-SV-A-43-10	>15	3.0					
	GRN-SV-A-43-15	>15	3.7					
<	GRN-SV-A-43-20	>15	1.5					
<	GRN-SV-A-43-21	>15	1.6					
<	GRN-SV-A-43-22	>15	1.5					
<	GRN-SV-A-43-23	>15	1.5					
<	GRN-SV-A-43-24	>15	1.7					
<	GRN-SV-A-43-25	>15	1.5					
<	GRN-SV-A-44-01	>15	1.7					
<	GRN-SV-A-44-02	>15	1.7					
	GRN-SV-A-44-03	>15	3.2					
	GRN-SV-A-44-04	>15	1.9					
<	GRN-SV-A-44-05	>15	1.5	1.1	.3			1.0
<	GRN-SV-A-44-06	>15	1.5					
<	GRN-SV-A-44-07	>15	1.5					
<	GRN-SV-A-44-08	>15	1.5					
<	GRN-SV-A-44-09	>15	1.5					
<	GRN-SV-A-44-10	>15	1.5					
	GRN-SV-A-44-11	>15	1.8					
<	GRN-SV-A-44-12	>15	1.5					
<	GRN-SV-A-44-13	>15	1.5					
<	GRN-SV-A-44-14	>15	1.5					
<	GRN-SV-A-44-15	>15	1.7					
<	GRN-SV-A-44-16	>15	1.5					
<	GRN-SV-A-44-17	>15	1.5					
<	GRN-SV-A-44-18	>15	1.5					
<	GRN-SV-A-44-19	>15	1.5					
<	GRN-SV-A-44-20	>15	1.7					
	GRN-SV-A-44-21	>15	2.3					
	GRN-SV-A-44-22	>15	1.9					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing A

8/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-A-44-23	>15	1.5					
<	GRN-SV-A-44-24	>15	1.5					
<	GRN-SV-A-44-25	>15	1.5					
	GRN-SV-A-45-01	>15	2.7					
	GRN-SV-A-45-02	>15	6.3					
	GRN-SV-A-45-03	>15	4.1					
	GRN-SV-A-45-04	>15	1.9					
	GRN-SV-A-45-05	>15	1.8					
	GRN-SV-A-45-06	>15	2.2					
	GRN-SV-A-45-07	>15	2.0					
	GRN-SV-A-45-08	>15	2.8					
<	GRN-SV-A-45-09	>15	1.5					
<	GRN-SV-A-45-10	>15	1.5					
<	GRN-SV-A-45-11	>15	1.5					
<	GRN-SV-A-45-12	>15	1.5					
	GRN-SV-A-45-13	>15	2.3					
	GRN-SV-A-45-14	>15	1.8	2.5	1.8			1.8
<	GRN-SV-A-45-15	>15	1.5					
<	GRN-SV-A-45-16	>15	1.5					
	GRN-SV-A-45-17	>15	2.3					
	GRN-SV-A-45-18	>15	1.8					
<	GRN-SV-A-45-19	>15	1.5					
<	GRN-SV-A-45-20	>15	1.5					
<	GRN-SV-A-45-21	>15	1.5					
	GRN-SV-A-45-22	>15	4.0					
<	GRN-SV-A-45-23	>15	1.6					
<	GRN-SV-A-45-24	>15	1.5					
	GRN-SV-A-45-25	>15	2.2					
<	GRN-SV-A-46-01	>15	1.7					
<	GRN-SV-A-46-02	>15	1.7					
<	GRN-SV-A-46-03	>15	1.7					
<	GRN-SV-A-46-04	>15	1.7					
<	GRN-SV-A-46-05	>15	1.7					
<	GRN-SV-A-46-06	>15	1.7					
<	GRN-SV-A-46-07	>15	1.5					
<	GRN-SV-A-46-08	>15	1.5					
<	GRN-SV-A-46-09	>15	1.5					
<	GRN-SV-A-46-10	>15	1.5					
<	GRN-SV-A-46-11	>15	1.7					
<	GRN-SV-A-46-12	>15	1.5					
<	GRN-SV-A-46-13	>15	1.5					
<	GRN-SV-A-46-14	>15	1.5					
	GRN-SV-A-46-15	>15	3.0					
<	GRN-SV-A-46-16	>15	1.7					
	GRN-SV-A-46-17	>15	2.2					
	GRN-SV-A-46-18	>15	2.9					
	GRN-SV-A-46-19	>15	1.9					
<	GRN-SV-A-46-20	>15	1.5					
<	GRN-SV-A-46-21	>15	1.7					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing A

8/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-A-46-22	>15	2.9					
	GRN-SV-A-46-23	>15	5.7					
	GRN-SV-A-46-24	>15	4.2					
	GRN-SV-A-46-25	>15	1.8					
<	GRN-SV-A-47-01	>15	1.5					
	GRN-SV-A-47-02	>15	1.9					
	GRN-SV-A-47-03	>15	2.6					
	GRN-SV-A-47-04	>15	2.2					
<	GRN-SV-A-47-05	>15	1.7					
<	GRN-SV-A-47-06	>15	1.7					
<	GRN-SV-A-47-07	>15	1.7					
<	GRN-SV-A-47-08	>15	1.7					
<	GRN-SV-A-47-09	>15	1.7					
	GRN-SV-A-47-10	>15	2.3					
<	GRN-SV-A-47-11	>15	1.5					
	GRN-SV-A-47-12	>15	5.2					
	GRN-SV-A-47-13	>15	1.8					
<	GRN-SV-A-47-14	>15	1.5					
<	GRN-SV-A-47-15	>15	1.7					
	GRN-SV-A-47-16	>15	3.8					
	GRN-SV-A-47-17	>15	2.3					
	GRN-SV-A-47-18	>15	9.8					
<	GRN-SV-A-47-19	>15	1.5					
	GRN-SV-A-47-20	>15	7.8	4.8	3.3			6.2
	GRN-SV-A-47-21	>15	4.3					
	GRN-SV-A-47-22	>15	7.0					
	GRN-SV-A-47-23	>15	1.9					
	GRN-SV-A-47-24	>15	2.5					
	GRN-SV-A-47-25	>15	1.9					
<	GRN-SV-A-48-01	>15	1.7					
	GRN-SV-A-48-02	>15	3.1					
	GRN-SV-A-48-03	>15	2.5					
<	GRN-SV-A-48-04	>15	1.7					
<	GRN-SV-A-48-05	>15	1.7					
<	GRN-SV-A-48-06	>15	1.5					
	GRN-SV-A-48-07	>15	2.3					
<	GRN-SV-A-48-08	>15	1.5					
<	GRN-SV-A-48-09	>15	1.5					
<	GRN-SV-A-48-10	>15	1.5					
	GRN-SV-A-48-11	>15	4.2					
	GRN-SV-A-48-12	>15	3.0					
	GRN-SV-A-48-13	>15	1.9					
	GRN-SV-A-48-14	>15	1.9					
<	GRN-SV-A-48-15	>15	1.7					
	GRN-SV-A-48-16	>15	7.9					
	GRN-SV-A-48-17	>15	3.8					
	GRN-SV-A-48-18	>15	4.2					
	GRN-SV-A-48-19	>15	2.9					
	GRN-SV-A-48-20	>15	4.0					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing A

SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
GRN-SV-A-48-21	>15	2.3					
GRN-SV-A-48-22	>15	2.0					
GRN-SV-A-48-23	>15	2.6					
GRN-SV-A-48-24	>15	7.7					
GRN-SV-A-48-25	>15	9.8	9.2	6.1			8.5

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

E 59,000 E 59,150 E 59,300 E 59,450 E 59,600 E 59,750 E 59,900

N61,500

N61,350

N61,200

N61,050 (FOR CONTINUATION, SEE SHEET A)

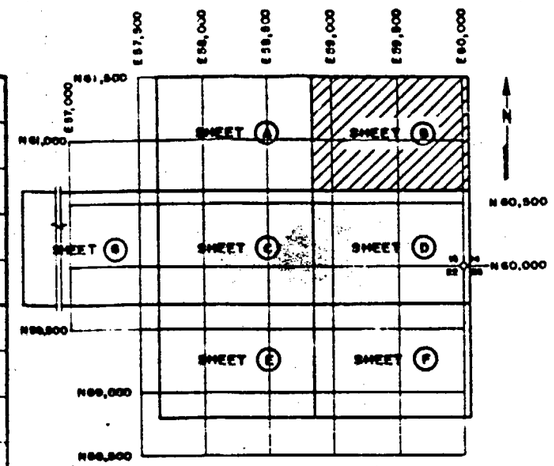
N60,900 MATCH LINE E 58,850

N60,750

E 60,050

MATCH LINE N 60,600 (FOR CONTINUATION, SEE SHEET D)

SCALE 50 0 50 100 FEET

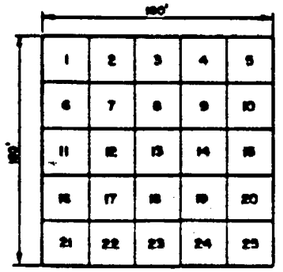


KEY MAP
(N.T.S.)

REFERENCE DRAWINGS:

GRN-SV-000, SOIL VERIFICATION PLAN GRID SYSTEM

LEGEND:



30'x 30' GRID SYSTEM

SAMPLE GRID NO.
A-37-19
A – SHEET NO.
37 – 150'x 150' GRID
19 – 30'x 30' SUBGRID

U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

GREEN RIVER SITE
GREEN RIVER, UTAH

SOIL VERIFICATION GRID SYSTEM
SHEET B

MORRISON-KNUDSEN ENGINEERS, INC.
UMTRA PROJECT

DESIGNED	CHECKED	DATE

PROJECT NO
DE-AC04-83AL16796

DRAWING NO
GRN-SV-002

Verification Samples
Green River
Drawing B

8/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-B-41-01	>15	1.5					
<	GRN-SV-B-41-02	>15	1.5					
	GRN-SV-B-41-03	>15	3.1					
<	GRN-SV-B-41-04	>15	1.5					
<	GRN-SV-B-41-05	>15	1.5					
	GRN-SV-B-41-06	>15	1.8					
<	GRN-SV-B-41-07	>15	1.5					
<	GRN-SV-B-41-08	>15	1.5					
<	GRN-SV-B-41-09	>15	1.5					
<	GRN-SV-B-41-10	>15	1.5					
<	GRN-SV-B-41-11	>15	1.5					
<	GRN-SV-B-41-12	>15	1.5					
<	GRN-SV-B-41-13	>15	1.6					
<	GRN-SV-B-41-14	>15	1.5					
<	GRN-SV-B-41-15	>15	1.5					
	GRN-SV-B-41-16	>15	7.8					
	GRN-SV-B-41-17	>15	3.1					
	GRN-SV-B-41-18	>15	2.1					
<	GRN-SV-B-41-19	>15	1.5					
<	GRN-SV-B-41-20	>15	1.5					
	GRN-SV-B-41-21	>15	6.4					
	GRN-SV-B-41-22	>15	2.4					
<	GRN-SV-B-41-23	>15	1.5					
	GRN-SV-B-41-24	>15	2.3					
<	GRN-SV-B-41-25	>15	1.7					
<	GRN-SV-B-42-01	>15	1.5					
<	GRN-SV-B-42-02	>15	1.7					
	GRN-SV-B-42-03	>15	1.8					
<	GRN-SV-B-42-04	>15	1.5					
	GRN-SV-B-42-05	>15	1.9					
	GRN-SV-B-42-06	>15	2.2					
<	GRN-SV-B-42-07	>15	1.5					
<	GRN-SV-B-42-08	>15	1.5					
<	GRN-SV-B-42-09	>15	1.5					
<	GRN-SV-B-42-10	>15	1.5					
<	GRN-SV-B-42-11	>15	1.5					
<	GRN-SV-B-42-12	>15	1.7	1.9	1.3			1.2
<	GRN-SV-B-42-13	>15	1.7					
<	GRN-SV-B-42-14	>15	1.7					
	GRN-SV-B-42-15	>15	1.8					
<	GRN-SV-B-42-16	>15	1.5					
<	GRN-SV-B-42-17	>15	1.7					
<	GRN-SV-B-42-18	>15	1.7					
<	GRN-SV-B-42-19	>15	1.7					
<	GRN-SV-B-42-20	>15	1.7					
	GRN-SV-B-42-21	>15	6.2					
	GRN-SV-B-42-22	>15	3.9					
<	GRN-SV-B-42-23	>15	1.5					
	GRN-SV-B-42-24	>15	2.1					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing B

8/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-B-42-25	>15	1.7					
<	GRN-SV-B-43-09	>15	1.7					
<	GRN-SV-B-43-10	>15	1.7					
<	GRN-SV-B-43-11	>15	1.7					
<	GRN-SV-B-43-12	>15	1.7					
<	GRN-SV-B-43-13	>15	1.7					
<	GRN-SV-B-43-14	>15	1.7					
<	GRN-SV-B-43-15	>15	1.7					
<	GRN-SV-B-43-16	>15	1.7					
<	GRN-SV-B-43-17	>15	1.7					
<	GRN-SV-B-43-18	>15	1.7					
<	GRN-SV-B-43-19	>15	1.7					
<	GRN-SV-B-43-20	>15	1.7					
	GRN-SV-B-43-21	>15	1.8	1.0	1.2			1.6
<	GRN-SV-B-43-22	>15	1.7					
<	GRN-SV-B-43-23	>15	1.7					
<	GRN-SV-B-43-24	>15	1.7					
<	GRN-SV-B-43-25	>15	1.5					
<	GRN-SV-B-44-11	<15	1.5					
<	GRN-SV-B-44-12	<15	1.5					
<	GRN-SV-B-44-13	<15	1.5					
<	GRN-SV-B-44-14	<15	1.5					
<	GRN-SV-B-44-15	<15	1.5					
<	GRN-SV-B-44-16	<15	1.5					
<	GRN-SV-B-44-17	<15	1.5					
<	GRN-SV-B-44-18	<15	1.5					
<	GRN-SV-B-44-19	<15	1.5					
<	GRN-SV-B-44-20	<15	1.5					
<	GRN-SV-B-44-21	<15	1.5					
<	GRN-SV-B-44-22	<15	1.5					
<	GRN-SV-B-44-23	<15	1.5	1.8	6.6			2.4
<	GRN-SV-B-44-24	<15	1.5					
<	GRN-SV-B-44-25	<15	1.5					
<	GRN-SV-B-45-21	<15	1.6					
<	GRN-SV-B-45-22	<15	1.7					
<	GRN-SV-B-45-23	<15	1.7					
	GRN-SV-B-45-24	<15	3.4					
	GRN-SV-B-45-25	<15	2.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

E57,800 E57,950 E58,100 E58,250 E58,400 E58,550 E58,700

MATCH LINE N 60,600 (FOR CONTINUATION, SEE SHEET A)

N60,450

N60,300 (FOR CONTINUATION, SEE SHEET G)

N60,150

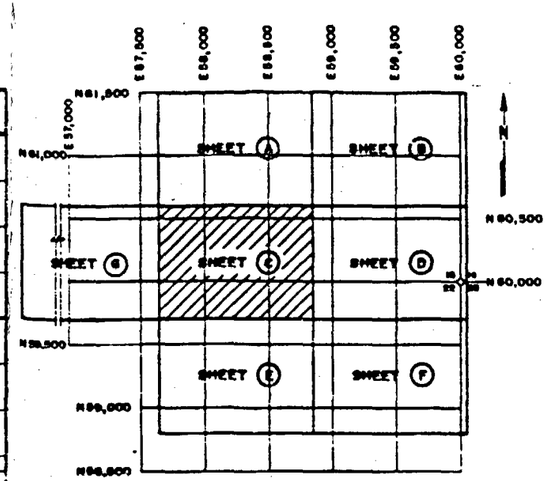
N60,000 MATCH LINE E 57,650

N59,850

MATCH LINE E 58,850 (FOR CONTINUATION, SEE SHEET D)

MATCH LINE N 59,700 (FOR CONTINUATION, SEE SHEET E)

SCALE 50 0 50 100 FEET

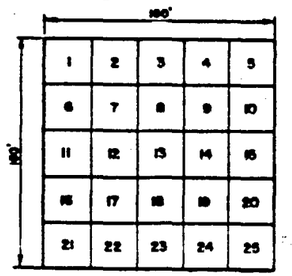


KEY MAP
(N.T.S.)

REFERENCE DRAWINGS:

GRN-SV-000, SOIL VERIFICATION PLAN GRID SYSTEM

LEGEND:



30' x 30' GRID SYSTEM

SAMPLE GRID NO.
A-37-19
A – SHEET NO.
37 – 150' x 150' GRID
19 – 30' x 30' SUBGRID

U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

GREEN RIVER SITE
GREEN RIVER, UTAH

SOIL VERIFICATION GRID SYSTEM
SHEET C

MORRISON-KNUDSEN ENGINEERS, INC.
LIMTRA PROJECT

DESIGNED: DRAWN: DATE

PROJECT NO. DE-AC04-83AL18796

DRAWING NO. GRN-SV-003

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-01-01	<15	1.7					
<	GRN-SV-C-01-02	<15	1.5					
<	GRN-SV-C-01-03	<15	1.7					
	GRN-SV-C-01-04	<15	3.7	3.1	2.4			3.2
	GRN-SV-C-01-05	>15	3.0					
	GRN-SV-C-01-06	<15	2.7					
	GRN-SV-C-01-07	<15	2.0					
	GRN-SV-C-01-08	<15	2.8					
	GRN-SV-C-01-09	<15	2.4					
<	GRN-SV-C-01-10	>15	1.5					
<	GRN-SV-C-01-11	<15	1.5					
<	GRN-SV-C-01-12	<15	1.5					
<	GRN-SV-C-01-13	<15	1.5					
<	GRN-SV-C-01-14	>15	1.7					
<	GRN-SV-C-01-15	>15	1.5					
<	GRN-SV-C-01-16	<15	1.5					
	GRN-SV-C-01-17	<15	1.8					
<	GRN-SV-C-01-18	<15	1.5					
<	GRN-SV-C-01-19	>15	1.5					
<	GRN-SV-C-01-20	>15	1.5					
<	GRN-SV-C-01-21	<15	1.5					
<	GRN-SV-C-01-22	<15	1.7					
	GRN-SV-C-01-23	<15	1.9					
<	GRN-SV-C-01-24	>15	1.5					
<	GRN-SV-C-01-25	>15	1.5					
<	GRN-SV-C-02-01	>15	1.7					
<	GRN-SV-C-02-02	>15	1.5	.9	1.1			1.3
<	GRN-SV-C-02-03	>15	1.5					
<	GRN-SV-C-02-04	>15	1.7					
<	GRN-SV-C-02-05	>15	1.8					
	GRN-SV-C-02-06	>15	2.6					
<	GRN-SV-C-02-07	>15	1.7					
<	GRN-SV-C-02-08	>15	1.5					
<	GRN-SV-C-02-09	>15	1.5					
	GRN-SV-C-02-10	>15	2.9					
<	GRN-SV-C-02-11	>15	1.5					
<	GRN-SV-C-02-12	>15	1.5					
<	GRN-SV-C-02-13	>15	1.5					
<	GRN-SV-C-02-14	>15	1.5					
<	GRN-SV-C-02-15	>15	1.5					
	GRN-SV-C-02-16	>15	2.1					
<	GRN-SV-C-02-17	>15	1.5					
	GRN-SV-C-02-18	>15	2.6					
<	GRN-SV-C-02-19	>15	1.5					
<	GRN-SV-C-02-20	>15	1.5					
<	GRN-SV-C-02-21	>15	1.5					
<	GRN-SV-C-02-22	>15	1.5					
<	GRN-SV-C-02-23	>15	1.6					
	GRN-SV-C-02-24	>15	1.8					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-02-25	>15	1.5					
<	GRN-SV-C-03-01	>15	1.7					
	GRN-SV-C-03-02	>15	2.3					
<	GRN-SV-C-03-03	>15	1.7					
<	GRN-SV-C-03-04	>15	1.5					
	GRN-SV-C-03-05	>15	2.2					
	GRN-SV-C-03-06	>15	2.1					
<	GRN-SV-C-03-07	>15	1.5					
<	GRN-SV-C-03-08	>15	1.5					
<	GRN-SV-C-03-09	>15	1.5					
	GRN-SV-C-03-10	>15	2.0					
<	GRN-SV-C-03-11	>15	1.5					
<	GRN-SV-C-03-12	>15	1.5					
<	GRN-SV-C-03-13	>15	1.5					
<	GRN-SV-C-03-14	>15	1.7					
	GRN-SV-C-03-15	>15	2.6					
	GRN-SV-C-03-16	>15	11.9	12.0	13.0			12.3
	GRN-SV-C-03-17	>15	2.0					
<	GRN-SV-C-03-18	>15	1.5					
<	GRN-SV-C-03-19	>15	1.7					
<	GRN-SV-C-03-20	>15	1.5					
	GRN-SV-C-03-21	>15	2.4					
<	GRN-SV-C-03-22	>15	1.5					
	GRN-SV-C-03-23	>15	2.0					
<	GRN-SV-C-03-24	>15	1.7					
<	GRN-SV-C-03-25	>15	1.7					
<	GRN-SV-C-04-01	>15	1.7					
<	GRN-SV-C-04-02	>15	1.7					
<	GRN-SV-C-04-03	>15	1.8					
<	GRN-SV-C-04-04	>15	1.5					
	GRN-SV-C-04-05	>15	2.7					
<	GRN-SV-C-04-06	>15	1.7					
<	GRN-SV-C-04-07	>15	1.7					
<	GRN-SV-C-04-08	>15	1.5					
<	GRN-SV-C-04-09	>15	1.5					
<	GRN-SV-C-04-10	>15	1.5					
<	GRN-SV-C-04-11	>15	1.7					
<	GRN-SV-C-04-12	>15	1.7					
<	GRN-SV-C-04-13	>15	1.5	.9	.8			.3
<	GRN-SV-C-04-14	>15	1.5					
<	GRN-SV-C-04-15	>15	1.5					
<	GRN-SV-C-04-16	>15	1.7					
<	GRN-SV-C-04-17	>15	1.5					
<	GRN-SV-C-04-18	>15	1.5	1.1	1.4			.8
<	GRN-SV-C-04-19	>15	1.5					
<	GRN-SV-C-04-20	>15	1.5					
<	GRN-SV-C-04-21	>15	1.5					
<	GRN-SV-C-04-22	>15	1.7					
<	GRN-SV-C-04-23	>15	1.7					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-04-24	>15	1.5					
<	GRN-SV-C-04-25	>15	1.5					
<	GRN-SV-C-05-01	>15	1.5					
<	GRN-SV-C-05-02	>15	1.7					
<	GRN-SV-C-05-03	>15	1.5					
<	GRN-SV-C-05-04	>15	1.5					
	GRN-SV-C-05-05	>15	2.1					
<	GRN-SV-C-05-06	>15	1.5					
<	GRN-SV-C-05-07	>15	1.7					
<	GRN-SV-C-05-08	>15	1.7					
<	GRN-SV-C-05-09	>15	1.7	1.1	.8			.9
	GRN-SV-C-05-10	>15	2.4					
<	GRN-SV-C-05-11	>15	1.7					
<	GRN-SV-C-05-12	>15	1.8					
<	GRN-SV-C-05-13	>15	1.7					
<	GRN-SV-C-05-14	>15	1.7					
	GRN-SV-C-05-15	>15	1.9					
<	GRN-SV-C-05-16	>15	1.5					
<	GRN-SV-C-05-17	>15	1.8					
<	GRN-SV-C-05-18	>15	1.5					
<	GRN-SV-C-05-19	>15	1.7					
<	GRN-SV-C-05-20	>15	1.5					
	GRN-SV-C-05-21	>15	4.3					
	GRN-SV-C-05-22	>15	5.4					
	GRN-SV-C-05-23	>15	2.0					
	GRN-SV-C-05-24	>15	5.7					
<	GRN-SV-C-05-25	>15	1.5					
<	GRN-SV-C-06-01	>15	1.5					
<	GRN-SV-C-06-02	>15	1.8					
<	GRN-SV-C-06-03	>15	1.5					
<	GRN-SV-C-06-04	>15	1.5					
<	GRN-SV-C-06-05	>15	1.5					
<	GRN-SV-C-06-06	>15	1.7					
	GRN-SV-C-06-07	>15	2.5					
	GRN-SV-C-06-08	>15	2.8					
	GRN-SV-C-06-09	>15	2.2					
	GRN-SV-C-06-10	>15	2.5					
<	GRN-SV-C-06-11	>15	1.7					
	GRN-SV-C-06-12	>15	2.3	2.4	2.7			2.4
	GRN-SV-C-06-13	>15	2.5					
<	GRN-SV-C-06-14	>15	1.5					
<	GRN-SV-C-06-15	>15	1.5					
<	GRN-SV-C-06-16	>15	1.7					
	GRN-SV-C-06-17	>15	2.5					
	GRN-SV-C-06-18	>15	2.7					
	GRN-SV-C-06-19	>15	1.9					
	GRN-SV-C-06-20	>15	2.2					
<	GRN-SV-C-06-21	>15	1.7					
	GRN-SV-C-06-22	>15	2.8					

* Depth <15 cm and radium >5 pCi/g plus background radium
+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-C-06-23	>15	2.7					
<	GRN-SV-C-06-24	>15	1.7					
	GRN-SV-C-06-25	>15	1.9					
	GRN-SV-C-07-01	>15	4.0					
<	GRN-SV-C-07-02	>15	1.5					
	GRN-SV-C-07-03	>15	7.0					
	GRN-SV-C-07-04	>15	2.1					
	GRN-SV-C-07-05	>15	5.6	9.8	4.8			5.3
	GRN-SV-C-07-06	>15	2.0					
	GRN-SV-C-07-07	>15	2.1					
<	GRN-SV-C-07-08	>15	1.5					
	GRN-SV-C-07-09	>15	4.8					
	GRN-SV-C-07-10	>15	4.1					
<	GRN-SV-C-07-11	>15	1.5					
	GRN-SV-C-07-12	>15	2.6					
	GRN-SV-C-07-13	>15	2.9					
	GRN-SV-C-07-14	>15	4.7					
	GRN-SV-C-07-15	>15	2.6					
<	GRN-SV-C-07-16	>15	1.5					
	GRN-SV-C-07-17	>15	2.3					
	GRN-SV-C-07-18	>15	4.4					
	GRN-SV-C-07-19	>15	4.6					
	GRN-SV-C-07-20	>15	9.6					
<	GRN-SV-C-07-21	>15	1.5					
<	GRN-SV-C-07-22	>15	1.5					
<	GRN-SV-C-07-23	>15	1.5					
	GRN-SV-C-07-24	>15	2.5					
	GRN-SV-C-07-25	>15	2.2					
	GRN-SV-C-08-01	>15	2.4					
	GRN-SV-C-08-02	>15	6.4					
<	GRN-SV-C-08-03	>15	1.5					
	GRN-SV-C-08-04	>15	13.7					
	GRN-SV-C-08-05	>15	7.6					
	GRN-SV-C-08-06	>15	5.1					
	GRN-SV-C-08-07	>15	2.5					
	GRN-SV-C-08-08	>15	3.8					
	GRN-SV-C-08-09	>15	4.6					
	GRN-SV-C-08-10	>15	5.2					
	GRN-SV-C-08-11	>15	2.4					
	GRN-SV-C-08-12	>15	2.1					
	GRN-SV-C-08-13	>15	10.0	8.7	5.5			8.4
	GRN-SV-C-08-14	>15	6.8					
	GRN-SV-C-08-15	>15	1.9					
	GRN-SV-C-08-16	>15	3.6					
	GRN-SV-C-08-17	>15	5.1					
	GRN-SV-C-08-18	>15	3.7					
	GRN-SV-C-08-19	>15	2.9					
	GRN-SV-C-08-20	>15	4.9					
	GRN-SV-C-08-21	>15	2.2					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-C-08-22	>15	5.5					
	GRN-SV-C-08-23	>15	10.6					
	GRN-SV-C-08-24	>15	3.4					
	GRN-SV-C-08-25	>15	4.4					
<	GRN-SV-C-09-01	<15	1.5					
<	GRN-SV-C-09-02	<15	1.6					
	GRN-SV-C-09-03	<15	2.7	2.2	1.2			2.2
<	GRN-SV-C-09-04	>15	1.5					
	GRN-SV-C-09-05	>15	1.8					
	GRN-SV-C-09-06	<15	2.1					
<	GRN-SV-C-09-07	<15	1.8					
	GRN-SV-C-09-08	<15	3.8					
<	GRN-SV-C-09-09	>15	1.5					
	GRN-SV-C-09-10	>15	1.8					
<	GRN-SV-C-09-11	<15	1.5					
	GRN-SV-C-09-12	<15	2.5					
<	GRN-SV-C-09-13	>15	1.7					
<	GRN-SV-C-09-14	>15	1.5					
	GRN-SV-C-09-15	>15	2.2					
	GRN-SV-C-09-16	>15	1.8					
	GRN-SV-C-09-17	>15	1.9					
	GRN-SV-C-09-18	>15	2.3					
	GRN-SV-C-09-19	>15	4.5					
<	GRN-SV-C-09-20	>15	1.5					
	GRN-SV-C-09-21	<15	2.1					
<	GRN-SV-C-09-22	>15	1.5					
	GRN-SV-C-09-23	>15	1.8					
	GRN-SV-C-09-24	>15	2.9					
<	GRN-SV-C-09-25	>15	1.5					
<	GRN-SV-C-10-01	>15	1.7					
<	GRN-SV-C-10-02	>15	1.5					
<	GRN-SV-C-10-03	>15	1.5					
	GRN-SV-C-10-04	>15	3.6					
	GRN-SV-C-10-05	>15	5.4					
<	GRN-SV-C-10-06	>15	1.5					
<	GRN-SV-C-10-07	>15	1.5					
	GRN-SV-C-10-08	>15	2.4					
	GRN-SV-C-10-09	>15	2.1					
<	GRN-SV-C-10-10	>15	1.5					
<	GRN-SV-C-10-11	>15	1.5					
	GRN-SV-C-10-12	>15	1.9					
<	GRN-SV-C-10-13	>15	1.5					
<	GRN-SV-C-10-14	>15	1.5					
<	GRN-SV-C-10-15	>15	1.5					
<	GRN-SV-C-10-16	>15	1.5					
<	GRN-SV-C-10-17	>15	1.5					
	GRN-SV-C-10-18	>15	2.0					
<	GRN-SV-C-10-19	>15	1.7					
<	GRN-SV-C-10-20	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-10-21	>15	1.7					
	GRN-SV-C-10-22	>15	3.5					
	GRN-SV-C-10-23	>15	2.0					
<	GRN-SV-C-10-24	>15	1.5					
	GRN-SV-C-10-25	>15	2.6					
<	GRN-SV-C-11-01	>15	1.7					
<	GRN-SV-C-11-02	>15	1.5					
<	GRN-SV-C-11-03	>15	1.5					
<	GRN-SV-C-11-04	>15	1.5					
<	GRN-SV-C-11-05	>15	1.5					
<	GRN-SV-C-11-06	>15	1.5					
	GRN-SV-C-11-07	>15	2.5					
<	GRN-SV-C-11-08	>15	1.8					
<	GRN-SV-C-11-09	>15	1.5					
	GRN-SV-C-11-10	>15	2.4					
	GRN-SV-C-11-11	>15	3.2					
	GRN-SV-C-11-12	>15	1.9					
<	GRN-SV-C-11-13	>15	1.5					
	GRN-SV-C-11-14	>15	2.8					
	GRN-SV-C-11-15	>15	2.9					
<	GRN-SV-C-11-16	>15	1.5					
<	GRN-SV-C-11-17	>15	1.5					
<	GRN-SV-C-11-18	>15	1.5					
<	GRN-SV-C-11-19	>15	1.7					
	GRN-SV-C-11-20	>15	2.0					
	GRN-SV-C-11-21	>15	2.1					
<	GRN-SV-C-11-22	>15	1.5					
<	GRN-SV-C-11-23	>15	1.5					
<	GRN-SV-C-11-24	>15	1.5					
<	GRN-SV-C-11-25	>15	1.5					
<	GRN-SV-C-12-01	>15	1.5					
<	GRN-SV-C-12-02	>15	1.5					
<	GRN-SV-C-12-03	>15	1.5					
<	GRN-SV-C-12-04	>15	1.5					
<	GRN-SV-C-12-05	>15	1.5					
	GRN-SV-C-12-06	>15	8.2	8.4	12.0			9.6
	GRN-SV-C-12-07	>15	2.0					
<	GRN-SV-C-12-08	>15	1.5					
<	GRN-SV-C-12-09	>15	1.5					
<	GRN-SV-C-12-10	>15	1.5					
	GRN-SV-C-12-11	>15	2.1					
	GRN-SV-C-12-12	>15	2.7					
<	GRN-SV-C-12-13	>15	1.5					
<	GRN-SV-C-12-14	>15	1.7					
<	GRN-SV-C-12-15	>15	1.7					
	GRN-SV-C-12-16	>15	2.8					
<	GRN-SV-C-12-17	>15	1.7	2.1	2.5			1.9
	GRN-SV-C-12-18	>15	3.3					
<	GRN-SV-C-12-19	>15	1.7					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-12-20	>15	1.7					
<	GRN-SV-C-12-21	>15	1.8					
	GRN-SV-C-12-22	>15	3.0					
	GRN-SV-C-12-23	>15	3.9					
<	GRN-SV-C-12-24	>15	1.6					
<	GRN-SV-C-12-25	>15	1.7					
	GRN-SV-C-13-01	>15	4.1					
	GRN-SV-C-13-02	>15	3.1					
	GRN-SV-C-13-03	>15	2.5					
	GRN-SV-C-13-04	>15	1.9					
<	GRN-SV-C-13-05	>15	1.5					
	GRN-SV-C-13-06	>15	3.5					
<	GRN-SV-C-13-07	>15	1.5					
	GRN-SV-C-13-08	>15	2.4					
	GRN-SV-C-13-09	>15	2.0	2.4	1.6			1.9
<	GRN-SV-C-13-10	>15	1.5					
	GRN-SV-C-13-11	>15	3.1					
	GRN-SV-C-13-12	>15	5.0					
	GRN-SV-C-13-13	>15	3.6					
<	GRN-SV-C-13-14	>15	1.5					
<	GRN-SV-C-13-15	>15	1.5					
	GRN-SV-C-13-16	>15	3.9					
	GRN-SV-C-13-17	>15	4.5					
	GRN-SV-C-13-18	>15	2.6					
<	GRN-SV-C-13-19	>15	1.5					
	GRN-SV-C-13-20	>15	1.9					
	GRN-SV-C-13-21	>15	2.8					
	GRN-SV-C-13-22	>15	2.9					
	GRN-SV-C-13-23	>15	3.0					
	GRN-SV-C-13-24	>15	2.3					
	GRN-SV-C-13-25	>15	2.6	3.2	3.2			2.8
	GRN-SV-C-14-01	>15	4.3					
<	GRN-SV-C-14-02	>15	1.5					
	GRN-SV-C-14-03	>15	4.2					
	GRN-SV-C-14-04	>15	3.5					
<	GRN-SV-C-14-05	>15	1.5					
	GRN-SV-C-14-06	>15	3.5					
<	GRN-SV-C-14-07	>15	1.7					
	GRN-SV-C-14-08	>15	4.7					
	GRN-SV-C-14-09	>15	2.6					
<	GRN-SV-C-14-10	>15	1.5					
	GRN-SV-C-14-11	>15	8.3	6.8	4.1			6.8
	GRN-SV-C-14-12	>15	6.3	6.2	4.3			5.6
<	GRN-SV-C-14-13	>15	1.5					
	GRN-SV-C-14-14	>15	2.8					
<	GRN-SV-C-14-15	>15	1.5					
	GRN-SV-C-14-16	>15	3.3					
	GRN-SV-C-14-17	>15	11.8					
	GRN-SV-C-14-18	>15	3.9					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-C-14-19	>15	3.3					
<	GRN-SV-C-14-20	>15	1.5					
	GRN-SV-C-14-21	>15	3.7					
	GRN-SV-C-14-22	>15	2.1					
	GRN-SV-C-14-23	>15	6.8					
	GRN-SV-C-14-24	>15	8.6					
	GRN-SV-C-14-25	>15	2.0					
<	GRN-SV-C-15-01	>15	1.5					
<	GRN-SV-C-15-02	>15	1.5					
	GRN-SV-C-15-03	>15	3.4					
	GRN-SV-C-15-04	>15	2.6					
	GRN-SV-C-15-05	>15	2.7					
<	GRN-SV-C-15-06	>15	1.5					
<	GRN-SV-C-15-07	>15	1.5					
	GRN-SV-C-15-08	>15	3.8					
	GRN-SV-C-15-09	>15	4.4	6.2	2.1			3.6
	GRN-SV-C-15-10	>15	3.3					
<	GRN-SV-C-15-11	>15	1.5					
	GRN-SV-C-15-12	>15	2.6					
	GRN-SV-C-15-13	>15	3.1					
<	GRN-SV-C-15-14	>15	1.5					
<	GRN-SV-C-15-15	>15	1.5					
	GRN-SV-C-15-16	>15	3.2					
<	GRN-SV-C-15-17	>15	1.5					
	GRN-SV-C-15-18	>15	1.9					
<	GRN-SV-C-15-19	>15	1.5					
	GRN-SV-C-15-20	>15	3.7					
	GRN-SV-C-15-21	>15	2.5					
	GRN-SV-C-15-22	>15	2.9					
<	GRN-SV-C-15-23	>15	1.5					
	GRN-SV-C-15-24	>15	4.3					
	GRN-SV-C-15-25	>15	2.1					
	GRN-SV-C-16-01	>15	5.1					
	GRN-SV-C-16-02	>15	12.4	14.0	2.7			9.0
	GRN-SV-C-16-03	>15	14.9	14.0	7.5			12.3
	GRN-SV-C-16-04	>15	4.1					
	GRN-SV-C-16-05	>15	4.4					
	GRN-SV-C-16-06	>15	5.5					
	GRN-SV-C-16-07	>15	9.8					
	GRN-SV-C-16-08	>15	2.5					
	GRN-SV-C-16-09	>15	2.8					
	GRN-SV-C-16-10	>15	2.6					
	GRN-SV-C-16-11	>15	8.1					
	GRN-SV-C-16-12	>15	2.9					
	GRN-SV-C-16-13	>15	1.9					
	GRN-SV-C-16-14	>15	2.5					
	GRN-SV-C-16-15	>15	13.0	15.0	9.6			11.8
	GRN-SV-C-16-16	>15	5.3					
	GRN-SV-C-16-17	>15	2.0					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-C-16-18	>15	2.3					
<	GRN-SV-C-16-19	>15	1.7					
	GRN-SV-C-16-20	>15	3.8					
	GRN-SV-C-16-21	>15	2.8					
	GRN-SV-C-16-22	>15	5.6					
	GRN-SV-C-16-23	>15	4.2					
	GRN-SV-C-16-24	>15	4.3					
	GRN-SV-C-16-25	>15	6.4					
<	GRN-SV-C-17-01	<15	1.5					
<	GRN-SV-C-17-02	>15	1.7					
<	GRN-SV-C-17-03	>15	1.7					
	GRN-SV-C-17-04	>15	1.9					
<	GRN-SV-C-17-05	>15	1.7					
<	GRN-SV-C-17-06	>15	1.5					
	GRN-SV-C-17-07	>15	1.8					
<	GRN-SV-C-17-08	>15	1.5					
<	GRN-SV-C-17-09	>15	1.5					
<	GRN-SV-C-17-10	>15	1.5					
	GRN-SV-C-17-11	>15	3.8					
	GRN-SV-C-17-12	>15	2.5					
	GRN-SV-C-17-13	>15	4.1	5.8	5.1			4.5
	GRN-SV-C-17-14	>15	1.9					
	GRN-SV-C-17-15	>15	2.2					
<	GRN-SV-C-17-16	>15	1.5					
	GRN-SV-C-17-17	>15	2.2					
	GRN-SV-C-17-18	>15	2.6					
	GRN-SV-C-17-19	>15	4.0					
	GRN-SV-C-17-20	>15	2.6					
<	GRN-SV-C-17-21	<15	1.5					
	GRN-SV-C-17-22	<15	2.5					
<	GRN-SV-C-17-23	<15	1.5					
	GRN-SV-C-17-24	>15	2.6					
	GRN-SV-C-17-25	>15	3.5					
<	GRN-SV-C-18-01	>15	1.5					
<	GRN-SV-C-18-02	>15	1.5					
<	GRN-SV-C-18-03	>15	1.5					
	GRN-SV-C-18-04	>15	2.7					
	GRN-SV-C-18-05	>15	4.1					
<	GRN-SV-C-18-06	>15	1.5					
	GRN-SV-C-18-07	>15	2.3					
<	GRN-SV-C-18-08	>15	1.5					
	GRN-SV-C-18-09	>15	2.1					
	GRN-SV-C-18-10	>15	2.7					
<	GRN-SV-C-18-11	>15	1.5					
	GRN-SV-C-18-12	>15	3.1					
	GRN-SV-C-18-13	>15	5.8					
<	GRN-SV-C-18-14	>15	1.5					
	GRN-SV-C-18-15	>15	3.1					
	GRN-SV-C-18-16	>15	4.3					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-C-18-17	>15	2.9					
	GRN-SV-C-18-18	>15	3.5					
	GRN-SV-C-18-19	>15	3.2					
	GRN-SV-C-18-20	>15	4.8					
	GRN-SV-C-18-21	>15	1.8					
	GRN-SV-C-18-22	>15	4.9					
	GRN-SV-C-18-23	>15	2.0					
	GRN-SV-C-18-24	>15	3.3					
	GRN-SV-C-18-25	>15	7.1	11.0	14.0			9.5
	GRN-SV-C-19-01	>15	2.0	2.4	2.0			2.0
<	GRN-SV-C-19-02	>15	1.5					
<	GRN-SV-C-19-03	>15	1.5					
<	GRN-SV-C-19-04	>15	1.5					
<	GRN-SV-C-19-05	>15	1.5					
	GRN-SV-C-19-06	>15	3.0					
<	GRN-SV-C-19-07	>15	1.5					
<	GRN-SV-C-19-08	>15	1.5					
<	GRN-SV-C-19-09	>15	1.5					
<	GRN-SV-C-19-10	>15	1.5					
	GRN-SV-C-19-11	>15	6.0					
	GRN-SV-C-19-12	>15	4.4					
<	GRN-SV-C-19-13	>15	1.5					
<	GRN-SV-C-19-14	>15	1.5					
<	GRN-SV-C-19-15	>15	1.5					
	GRN-SV-C-19-16	>15	4.8					
	GRN-SV-C-19-17	>15	2.7					
<	GRN-SV-C-19-18	>15	1.5					
<	GRN-SV-C-19-19	>15	1.5					
<	GRN-SV-C-19-20	>15	1.5					
	GRN-SV-C-19-21	>15	6.8	7.5	7.8			7.2
	GRN-SV-C-19-22	>15	4.1					
	GRN-SV-C-19-23	>15	2.9					
<	GRN-SV-C-19-24	>15	1.5					
<	GRN-SV-C-19-25	>15	1.5					
<	GRN-SV-C-20-01	>15	1.5					
	GRN-SV-C-20-02	>15	2.9					
	GRN-SV-C-20-03	>15	3.5					
<	GRN-SV-C-20-04	>15	1.7					
	GRN-SV-C-20-05	>15	3.2					
<	GRN-SV-C-20-06	>15	1.5					
<	GRN-SV-C-20-07	>15	1.7					
	GRN-SV-C-20-08	>15	2.4					
<	GRN-SV-C-20-09	>15	1.5					
	GRN-SV-C-20-10	>15	2.5					
<	GRN-SV-C-20-11	>15	1.5					
<	GRN-SV-C-20-12	>15	1.6					
<	GRN-SV-C-20-13	>15	1.5					
	GRN-SV-C-20-14	>15	3.2					
	GRN-SV-C-20-15	>15	5.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-20-16	>15	1.5					
<	GRN-SV-C-20-17	>15	1.5					
<	GRN-SV-C-20-18	>15	1.5					
<	GRN-SV-C-20-19	>15	1.5					
<	GRN-SV-C-20-20	>15	1.5					
<	GRN-SV-C-20-21	>15	1.5					
<	GRN-SV-C-20-22	>15	1.5					
<	GRN-SV-C-20-23	>15	1.5					
<	GRN-SV-C-20-24	>15	1.5					
<	GRN-SV-C-20-25	>15	1.5					
	GRN-SV-C-21-01	>15	4.2					
	GRN-SV-C-21-02	>15	6.4					
	GRN-SV-C-21-03	>15	4.1					
	GRN-SV-C-21-04	>15	5.6					
	GRN-SV-C-21-05	>15	7.2					
	GRN-SV-C-21-06	>15	5.0					
	GRN-SV-C-21-07	>15	5.5					
	GRN-SV-C-21-08	>15	2.1					
	GRN-SV-C-21-09	>15	2.9					
	GRN-SV-C-21-10	>15	6.0					
	GRN-SV-C-21-11	>15	4.0					
	GRN-SV-C-21-12	>15	2.7					
<	GRN-SV-C-21-13	>15	1.7					
	GRN-SV-C-21-14	>15	2.8					
	GRN-SV-C-21-15	>15	4.6					
	GRN-SV-C-21-16	>15	5.8					
	GRN-SV-C-21-17	>15	3.6	4.4	6.5			4.6
<	GRN-SV-C-21-18	>15	1.7	2.4	2.5			1.9
	GRN-SV-C-21-19	>15	3.4					
	GRN-SV-C-21-20	>15	2.7					
	GRN-SV-C-21-21	>15	4.9					
	GRN-SV-C-21-22	>15	3.8					
	GRN-SV-C-21-24	>15	4.4					
	GRN-SV-C-21-25	>15	2.4					
<	GRN-SV-C-22-01	>15	1.5					
	GRN-SV-C-22-02	>15	2.5					
	GRN-SV-C-22-03	>15	4.8					
	GRN-SV-C-22-04	>15	2.1					
	GRN-SV-C-22-05	>15	2.7					
	GRN-SV-C-22-06	>15	2.0					
	GRN-SV-C-22-07	>15	1.9					
	GRN-SV-C-22-08	>15	1.9					
<	GRN-SV-C-22-09	>15	1.7					
	GRN-SV-C-22-10	>15	2.3					
<	GRN-SV-C-22-11	>15	1.5					
<	GRN-SV-C-22-12	>15	1.5					
<	GRN-SV-C-22-13	>15	1.5					
<	GRN-SV-C-22-14	>15	1.5					
	GRN-SV-C-22-15	>15	2.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-22-16	>15	1.5					
	GRN-SV-C-22-17	>15	1.8					
<	GRN-SV-C-22-18	>15	1.5					
	GRN-SV-C-22-19	>15	3.1					
	GRN-SV-C-22-20	>15	3.9					
<	GRN-SV-C-22-21	>15	1.5					
<	GRN-SV-C-22-22	>15	1.5					
<	GRN-SV-C-22-23	>15	1.5					
<	GRN-SV-C-22-24	>15	1.8					
	GRN-SV-C-22-25	>15	3.4					
	GRN-SV-C-23-01	>15	4.3					
	GRN-SV-C-23-02	>15	3.6					
	GRN-SV-C-23-03	>15	8.2					
	GRN-SV-C-23-04	>15	5.8					
	GRN-SV-C-23-05	>15	6.2					
	GRN-SV-C-23-06	>15	3.4					
	GRN-SV-C-23-07	>15	3.7					
	GRN-SV-C-23-08	>15	6.8					
	GRN-SV-C-23-09	>15	2.9					
	GRN-SV-C-23-10	>15	4.1					
<	GRN-SV-C-23-11	>15	1.5	2.3	1.4			1.1
	GRN-SV-C-23-12	>15	3.2					
	GRN-SV-C-23-13	>15	3.6					
	GRN-SV-C-23-14	>15	3.4					
<	GRN-SV-C-23-15	>15	1.5					
	GRN-SV-C-23-16	>15	3.0					
	GRN-SV-C-23-17	>15	2.1					
	GRN-SV-C-23-18	>15	5.1					
	GRN-SV-C-23-19	>15	3.3					
<	GRN-SV-C-23-20	>15	1.5					
	GRN-SV-C-23-21	>15	6.3	1.1	5.5			6.0
	GRN-SV-C-23-22	>15	3.0					
	GRN-SV-C-23-23	>15	4.0					
	GRN-SV-C-23-24	>15	2.7					
	GRN-SV-C-23-25	>15	3.0					
	GRN-SV-C-24-01	>15	6.6					
	GRN-SV-C-24-02	>15	7.0					
	GRN-SV-C-24-03	>15	7.6					
	GRN-SV-C-24-04	>15	5.1					
	GRN-SV-C-24-05	>15	4.8					
	GRN-SV-C-24-06	>15	4.2					
	GRN-SV-C-24-07	>15	2.7					
	GRN-SV-C-24-08	>15	4.4					
	GRN-SV-C-24-09	>15	4.2					
	GRN-SV-C-24-10	>15	5.6					
	GRN-SV-C-24-11	>15	2.1					
	GRN-SV-C-24-12	>15	3.1					
	GRN-SV-C-24-13	>15	2.1					
<	GRN-SV-C-24-14	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-C-24-15	>15	2.0					
	GRN-SV-C-24-16	>15	3.9					
	GRN-SV-C-24-17	>15	2.1					
	GRN-SV-C-24-18	>15	1.8					
<	GRN-SV-C-24-19	>15	1.7					
	GRN-SV-C-24-20	>15	1.8					
	GRN-SV-C-24-21	>15	2.0					
	GRN-SV-C-24-22	>15	2.2					
	GRN-SV-C-24-23	>15	1.8					
<	GRN-SV-C-24-24	>15	1.5					
<	GRN-SV-C-24-25	>15	1.5					
<	GRN-SV-C-25-01	<15	1.6					
<	GRN-SV-C-25-02	>15	1.5					
<	GRN-SV-C-25-03	>15	1.5					
<	GRN-SV-C-25-04	>15	1.5					
<	GRN-SV-C-25-05	>15	1.5					
	GRN-SV-C-25-06	<15	1.9					
	GRN-SV-C-25-07	<15	2.3					
<	GRN-SV-C-25-08	>15	1.5					
<	GRN-SV-C-25-09	>15	1.7					
<	GRN-SV-C-25-10	>15	1.7					
<	GRN-SV-C-25-11	>15	1.7					
<	GRN-SV-C-25-12	>15	1.5					
<	GRN-SV-C-25-13	>15	1.7					
<	GRN-SV-C-25-14	>15	1.5					
<	GRN-SV-C-25-15	>15	1.5					
	GRN-SV-C-25-16	<15	3.5	3.6	2.8			3.3
	GRN-SV-C-25-17	>15	1.9					
<	GRN-SV-C-25-18	>15	1.5					
<	GRN-SV-C-25-19	>15	1.5					
<	GRN-SV-C-25-20	>15	1.5					
	GRN-SV-C-25-21	<15	2.0					
<	GRN-SV-C-25-22	<15	1.6					
<	GRN-SV-C-25-23	<15	1.5					
<	GRN-SV-C-25-24	<15	1.5					
<	GRN-SV-C-25-25	<15	1.5					
	GRN-SV-C-26-01	>15	2.6					
	GRN-SV-C-26-02	>15	3.2					
	GRN-SV-C-26-03	>15	3.1					
	GRN-SV-C-26-04	>15	2.7					
	GRN-SV-C-26-05	>15	3.3					
	GRN-SV-C-26-06	>15	7.9					
	GRN-SV-C-26-07	>15	2.7					
	GRN-SV-C-26-08	>15	2.7					
	GRN-SV-C-26-09	>15	3.2					
	GRN-SV-C-26-10	>15	2.6					
<	GRN-SV-C-26-11	>15	1.5					
<	GRN-SV-C-26-12	>15	1.7					
<	GRN-SV-C-26-13	>15	1.7					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-26-14	>15	1.5					
<	GRN-SV-C-26-15	>15	1.7					
<	GRN-SV-C-26-16	>15	1.7	1.2	1.6			1.6
	GRN-SV-C-26-17	>15	2.3					
	GRN-SV-C-26-18	>15	3.0					
<	GRN-SV-C-26-19	>15	1.5					
<	GRN-SV-C-26-20	>15	1.5					
<	GRN-SV-C-26-21	>15	1.5					
	GRN-SV-C-26-22	>15	1.9					
	GRN-SV-C-26-23	>15	2.7					
	GRN-SV-C-26-24	>15	2.5					
	GRN-SV-C-26-25	>15	2.6					
	GRN-SV-C-27-01	>15	5.1					
	GRN-SV-C-27-02	>15	2.3					
<	GRN-SV-C-27-03	>15	1.5					
	GRN-SV-C-27-04	>15	2.7					
<	GRN-SV-C-27-05	>15	1.5					
	GRN-SV-C-27-06	>15	1.9					
<	GRN-SV-C-27-07	>15	1.7					
	GRN-SV-C-27-08	>15	4.3	2.0	6.1			5.0
	GRN-SV-C-27-09	>15	1.9					
	GRN-SV-C-27-10	>15	2.0					
	GRN-SV-C-27-11	>15	3.1					
	GRN-SV-C-27-12	>15	1.9					
	GRN-SV-C-27-13	>15	2.8					
	GRN-SV-C-27-14	>15	2.4					
	GRN-SV-C-27-15	>15	1.8					
<	GRN-SV-C-27-16	>15	1.5					
	GRN-SV-C-27-17	>15	2.8					
	GRN-SV-C-27-18	>15	2.6					
	GRN-SV-C-27-19	>15	2.2					
<	GRN-SV-C-27-20	>15	1.5					
	GRN-SV-C-27-21	>15	3.0					
<	GRN-SV-C-27-22	>15	1.7					
	GRN-SV-C-27-23	>15	3.6	2.4	3.1			3.4
	GRN-SV-C-27-24	>15	6.8					
<	GRN-SV-C-27-25	>15	1.5					
<	GRN-SV-C-28-01	>15	1.5					
<	GRN-SV-C-28-02	>15	1.7					
<	GRN-SV-C-28-03	>15	1.5					
	GRN-SV-C-28-04	>15	2.5					
	GRN-SV-C-28-05	>15	5.0					
	GRN-SV-C-28-06	>15	1.9					
<	GRN-SV-C-28-07	>15	1.7					
<	GRN-SV-C-28-08	>15	1.5					
	GRN-SV-C-28-09	>15	3.1					
	GRN-SV-C-28-10	>15	5.6					
	GRN-SV-C-28-11	>15	2.6					
	GRN-SV-C-28-12	>15	2.6					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-C-28-13	>15	2.0					
	GRN-SV-C-28-14	>15	2.4					
	GRN-SV-C-28-15	>15	7.1					
	GRN-SV-C-28-16	>15	2.4					
	GRN-SV-C-28-17	>15	2.4	1.9	1.6			2.1
	GRN-SV-C-28-18	>15	2.9					
<	GRN-SV-C-28-19	>15	1.5					
	GRN-SV-C-28-20	>15	2.3					
	GRN-SV-C-28-21	>15	2.3					
<	GRN-SV-C-28-22	>15	1.7					
	GRN-SV-C-28-23	>15	1.9					
<	GRN-SV-C-28-24	>15	1.7					
	GRN-SV-C-28-25	>15	4.1					
	GRN-SV-C-29-01	>15	5.1					
	GRN-SV-C-29-02	>15	3.8					
<	GRN-SV-C-29-04	>15	1.5					
	GRN-SV-C-29-05	>15	3.3					
	GRN-SV-C-29-06	>15	4.8	3.6	4.2			4.6
	GRN-SV-C-29-09	>15	2.2					
	GRN-SV-C-29-10	>15	7.8					
	GRN-SV-C-29-11	>15	5.0	5.0	9.0			6.4
	GRN-SV-C-29-13	>15	3.8					
	GRN-SV-C-29-14	>15	2.6					
	GRN-SV-C-29-15	>15	9.5					
<	GRN-SV-C-29-16	>15	1.5					
	GRN-SV-C-29-18	>15	4.0					
<	GRN-SV-C-29-19	>15	1.7					
<	GRN-SV-C-29-20	>15	1.7					
<	GRN-SV-C-29-21	>15	1.5					
	GRN-SV-C-29-24	>15	3.3	2.8	3.0			3.2
	GRN-SV-C-29-25	>15	2.0					
<	GRN-SV-C-30-01	>15	1.5					
<	GRN-SV-C-30-02	>15	1.5					
<	GRN-SV-C-30-03	>15	1.5					
	GRN-SV-C-30-04	>15	4.5					
	GRN-SV-C-30-05	>15	1.9					
<	GRN-SV-C-30-06	>15	1.5					
<	GRN-SV-C-30-07	>15	1.5					
<	GRN-SV-C-30-08	>15	1.7					
<	GRN-SV-C-30-09	>15	1.5					
<	GRN-SV-C-30-10	>15	1.5					
	GRN-SV-C-30-11	>15	2.1					
<	GRN-SV-C-30-12	>15	1.5					
<	GRN-SV-C-30-13	>15	1.5					
<	GRN-SV-C-30-14	>15	1.5					
	GRN-SV-C-30-15	>15	2.2	4.1	3.3			2.6
<	GRN-SV-C-30-16	>15	1.5					
	GRN-SV-C-30-17	>15	3.9					
<	GRN-SV-C-30-18	>15	1.6					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-30-19	>15	1.5					
<	GRN-SV-C-30-20	>15	1.7					
<	GRN-SV-C-30-21	>15	1.5					
	GRN-SV-C-30-22	>15	3.5					
<	GRN-SV-C-30-23	>15	1.5					
<	GRN-SV-C-30-24	>15	1.5					
	GRN-SV-C-30-25	>15	2.6					
	GRN-SV-C-31-01	>15	2.2					
	GRN-SV-C-31-02	>15	2.8					
	GRN-SV-C-31-03	>15	5.3					
	GRN-SV-C-31-04	>15	4.6					
	GRN-SV-C-31-05	>15	4.9					
<	GRN-SV-C-31-06	>15	1.5					
	GRN-SV-C-31-07	>15	2.0					
	GRN-SV-C-31-08	>15	4.3					
	GRN-SV-C-31-09	>15	6.4					
	GRN-SV-C-31-10	>15	10.1					
<	GRN-SV-C-31-11	>15	1.5					
	GRN-SV-C-31-12	>15	2.5	3.2	3.7			2.9
<	GRN-SV-C-31-13	>15	1.5					
	GRN-SV-C-31-14	>15	4.9					
<	GRN-SV-C-31-15	>15	1.5					
<	GRN-SV-C-31-16	>15	1.5					
	GRN-SV-C-31-17	>15	2.9					
<	GRN-SV-C-31-18	>15	1.5					
	GRN-SV-C-31-19	>15	3.6					
	GRN-SV-C-31-20	>15	4.5					
<	GRN-SV-C-31-21	>15	1.5					
<	GRN-SV-C-31-22	>15	1.5					
<	GRN-SV-C-31-23	>15	1.5					
	GRN-SV-C-31-24	>15	5.6					
	GRN-SV-C-31-25	>15	3.1					
	GRN-SV-C-32-01	>15	2.9					
	GRN-SV-C-32-02	>15	6.7					
	GRN-SV-C-32-03	>15	10.5					
	GRN-SV-C-32-04	>15	6.0					
	GRN-SV-C-32-05	>15	3.2					
	GRN-SV-C-32-06	>15	3.2					
	GRN-SV-C-32-07	>15	6.3					
	GRN-SV-C-32-08	>15	4.9					
	GRN-SV-C-32-09	>15	3.5					
	GRN-SV-C-32-10	>15	2.1					
	GRN-SV-C-32-11	>15	2.3					
<	GRN-SV-C-32-12	>15	1.5					
	GRN-SV-C-32-13	>15	3.0					
	GRN-SV-C-32-14	>15	6.7	4.4	3.5			5.6
<	GRN-SV-C-32-15	>15	1.5					
	GRN-SV-C-32-16	>15	4.3					
	GRN-SV-C-32-17	>15	11.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-C-32-18	>15	5.1					
	GRN-SV-C-32-19	>15	3.5					
	GRN-SV-C-32-20	>15	2.5					
	GRN-SV-C-32-21	>15	6.2					
	GRN-SV-C-32-22	>15	4.2					
	GRN-SV-C-32-23	>15	4.8					
<	GRN-SV-C-32-24	>15	1.5					
<	GRN-SV-C-32-25	>15	1.5					
<	GRN-SV-C-33-01	<15	1.5					
<	GRN-SV-C-33-02	<15	1.5					
<	GRN-SV-C-33-03	<15	1.7					
<	GRN-SV-C-33-04	<15	1.6					
	GRN-SV-C-33-05	>15	2.7					
<	GRN-SV-C-33-06	<15	1.5					
	GRN-SV-C-33-07	<15	5.1					
	GRN-SV-C-33-08	>15	2.4					
<	GRN-SV-C-33-09	>15	1.5					
<	GRN-SV-C-33-10	>15	1.5					
<	GRN-SV-C-33-11	<15	1.5					
<	GRN-SV-C-33-12	<15	1.7					
	GRN-SV-C-33-13	>15	5.7	6.1	8.1			6.6
	GRN-SV-C-33-14	>15	2.3					
<	GRN-SV-C-33-15	>15	1.5					
<	GRN-SV-C-33-16	<15	1.5					
<	GRN-SV-C-33-17	<15	1.5					
<	GRN-SV-C-33-18	<15	1.5					
	GRN-SV-C-33-19	>15	2.8					
<	GRN-SV-C-33-20	>15	1.7					
<	GRN-SV-C-33-21	<15	1.5					
<	GRN-SV-C-33-22	<15	1.6					
<	GRN-SV-C-33-23	<15	1.5					
	GRN-SV-C-33-24	>15	2.0					
<	GRN-SV-C-33-25	>15	1.5					
<	GRN-SV-C-34-01	>15	1.5					
<	GRN-SV-C-34-02	>15	1.5					
<	GRN-SV-C-34-03	>15	1.5					
	GRN-SV-C-34-04	>15	5.3					
<	GRN-SV-C-34-05	>15	1.7					
	GRN-SV-C-34-06	>15	2.9					
	GRN-SV-C-34-07	>15	2.2					
	GRN-SV-C-34-08	>15	5.7	4.4	4.5			5.3
	GRN-SV-C-34-09	>15	1.8					
<	GRN-SV-C-34-10	>15	1.5					
<	GRN-SV-C-34-11	>15	1.6					
<	GRN-SV-C-34-12	>15	1.5					
<	GRN-SV-C-34-13	>15	1.5					
<	GRN-SV-C-34-14	>15	1.5					
<	GRN-SV-C-34-15	>15	1.5					
<	GRN-SV-C-34-16	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-C-34-17	>15	2.0					
<	GRN-SV-C-34-18	>15	1.7					
<	GRN-SV-C-34-19	>15	1.5					
<	GRN-SV-C-34-20	>15	1.7					
<	GRN-SV-C-34-21	>15	1.6					
<	GRN-SV-C-34-22	>15	1.5					
<	GRN-SV-C-34-23	>15	1.5					
<	GRN-SV-C-34-24	>15	1.5					
<	GRN-SV-C-34-25	>15	1.5					
	GRN-SV-C-35-01	>15	1.8					
<	GRN-SV-C-35-02	>15	1.5					
	GRN-SV-C-35-03	>15	3.6					
	GRN-SV-C-35-04	>15	7.8					
<	GRN-SV-C-35-05	>15	1.5					
<	GRN-SV-C-35-06	>15	1.5					
<	GRN-SV-C-35-07	>15	1.5					
	GRN-SV-C-35-08	>15	2.2					
	GRN-SV-C-35-09	>15	3.0					
	GRN-SV-C-35-10	>15	2.3					
	GRN-SV-C-35-11	>15	3.4	2.6	4.1			3.6
<	GRN-SV-C-35-12	>15	1.7					
<	GRN-SV-C-35-13	>15	1.5					
	GRN-SV-C-35-14	>15	2.4					
<	GRN-SV-C-35-15	>15	1.5					
<	GRN-SV-C-35-16	>15	1.5					
<	GRN-SV-C-35-17	>15	1.5					
<	GRN-SV-C-35-18	>15	1.5					
	GRN-SV-C-35-19	>15	3.8					
	GRN-SV-C-35-20	>15	1.8					
<	GRN-SV-C-35-21	>15	1.5					
	GRN-SV-C-35-22	>15	2.4					
<	GRN-SV-C-35-23	>15	1.5					
	GRN-SV-C-35-24	>15	3.7					
	GRN-SV-C-35-25	>15	7.6	7.0	1.4			5.4
<	GRN-SV-C-36-01	>15	1.5					
	GRN-SV-C-36-02	>15	2.6					
	GRN-SV-C-36-03	>15	2.4					
<	GRN-SV-C-36-04	>15	1.5					
<	GRN-SV-C-36-05	>15	1.6					
	GRN-SV-C-36-06	>15	2.1					
	GRN-SV-C-36-07	>15	2.5					
<	GRN-SV-C-36-08	>15	1.7					
<	GRN-SV-C-36-09	>15	1.7					
<	GRN-SV-C-36-10	>15	1.7					
<	GRN-SV-C-36-11	>15	1.3					
<	GRN-SV-C-36-12	>15	1.5					
<	GRN-SV-C-36-13	>15	1.3					
<	GRN-SV-C-36-14	>15	1.3					
<	GRN-SV-C-36-15	>15	1.3					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-36-16	>15	1.3					
<	GRN-SV-C-36-17	>15	1.5	1.9	1.6			1.6
<	GRN-SV-C-36-18	>15	1.3					
<	GRN-SV-C-36-19	>15	1.3					
<	GRN-SV-C-36-20	>15	1.3					
<	GRN-SV-C-36-21	>15	1.3					
<	GRN-SV-C-36-22	>15	1.3					
<	GRN-SV-C-36-23	>15	1.3					
<	GRN-SV-C-36-24	>15	1.3					
<	GRN-SV-C-36-25	>15	1.3					
	GRN-SV-C-37-01	>15	2.4					
	GRN-SV-C-37-02	>15	1.9					
<	GRN-SV-C-37-03	>15	1.7					
	GRN-SV-C-37-04	>15	2.3					
	GRN-SV-C-37-05	>15	2.1					
	GRN-SV-C-37-06	>15	2.7					
	GRN-SV-C-37-07	>15	1.9					
<	GRN-SV-C-37-08	>15	1.7	1.7	1.7			1.5
<	GRN-SV-C-37-09	>15	1.7					
	GRN-SV-C-37-10	>15	2.0					
<	GRN-SV-C-37-11	>15	1.3					
<	GRN-SV-C-37-12	>15	1.7					
<	GRN-SV-C-37-13	>15	1.7					
<	GRN-SV-C-37-14	>15	1.5					
<	GRN-SV-C-37-15	>15	1.4					
<	GRN-SV-C-37-16	>15	1.3					
<	GRN-SV-C-37-17	>15	1.3					
	GRN-SV-C-37-20	>15	2.8					
<	GRN-SV-C-37-21	>15	1.3					
<	GRN-SV-C-37-22	>15	1.3					
	GRN-SV-C-38-01	>15	5.4					
	GRN-SV-C-38-02	>15	2.5					
	GRN-SV-C-38-03	>15	2.1					
	GRN-SV-C-38-04	>15	1.8					
<	GRN-SV-C-38-05	>15	1.5					
	GRN-SV-C-38-06	>15	2.0					
	GRN-SV-C-38-07	>15	6.3					
	GRN-SV-C-38-08	>15	2.9					
<	GRN-SV-C-38-09	>15	1.5					
<	GRN-SV-C-38-10	>15	1.5					
<	GRN-SV-C-38-11	>15	1.7					
<	GRN-SV-C-38-12	>15	1.7					
	GRN-SV-C-38-13	>15	2.8					
<	GRN-SV-C-38-14	>15	1.7					
<	GRN-SV-C-38-15	>15	1.5					
<	GRN-SV-C-38-16	>15	1.5					
<	GRN-SV-C-38-17	>15	1.7					
	GRN-SV-C-38-18	>15	4.4					
	GRN-SV-C-38-19	>15	2.6					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-38-20	>15	1.5					
<	GRN-SV-C-38-21	>15	1.3					
<	GRN-SV-C-38-22	>15	1.6					
	GRN-SV-C-38-23	>15	3.4					
	GRN-SV-C-38-24	>15	3.3					
<	GRN-SV-C-38-25	>15	1.6					
<	GRN-SV-C-39-01	>15	1.6					
<	GRN-SV-C-39-02	>15	1.5					
<	GRN-SV-C-39-03	>15	1.5					
	GRN-SV-C-39-04	>15	2.8					
	GRN-SV-C-39-05	>15	3.0					
	GRN-SV-C-39-06	>15	2.3					
<	GRN-SV-C-39-07	>15	1.5					
<	GRN-SV-C-39-08	>15	1.5					
	GRN-SV-C-39-09	>15	1.9					
<	GRN-SV-C-39-10	>15	1.7					
<	GRN-SV-C-39-11	>15	1.5					
	GRN-SV-C-39-12	>15	1.9					
<	GRN-SV-C-39-13	>15	1.5					
	GRN-SV-C-39-14	>15	2.9					
<	GRN-SV-C-39-16	>15	1.5					
	GRN-SV-C-39-17	>15	3.0					
<	GRN-SV-C-39-18	>15	1.5					
<	GRN-SV-C-39-20	>15	1.5					
	GRN-SV-C-39-21	>15	3.5					
	GRN-SV-C-39-22	>15	2.1					
<	GRN-SV-C-39-23	>15	1.5					
<	GRN-SV-C-39-24	>15	1.6					
<	GRN-SV-C-39-25	>15	1.5	2.0	2.0			1.2
	GRN-SV-C-40-01	>15	2.3					
	GRN-SV-C-40-02	>15	3.2					
	GRN-SV-C-40-03	>15	2.9					
<	GRN-SV-C-40-04	>15	1.5					
	GRN-SV-C-40-05	>15	2.0					
	GRN-SV-C-40-06	>15	2.0					
<	GRN-SV-C-40-07	>15	1.5					
<	GRN-SV-C-40-08	>15	1.5					
<	GRN-SV-C-40-09	>15	1.7					
	GRN-SV-C-40-10	>15	3.5	2.2	2.6			3.2
	GRN-SV-C-40-11	>15	1.9					
	GRN-SV-C-40-12	>15	3.3					
	GRN-SV-C-40-13	>15	3.4					
<	GRN-SV-C-40-14	>15	1.5					
	GRN-SV-C-40-15	>15	8.3					
	GRN-SV-C-40-16	>15	2.5					
	GRN-SV-C-40-17	>15	2.6					
	GRN-SV-C-40-18	>15	3.8					
<	GRN-SV-C-40-19	>15	1.5					
	GRN-SV-C-40-20	>15	4.6					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-40-21	>15	1.6					
<	GRN-SV-C-40-22	>15	1.5					
<	GRN-SV-C-40-23	>15	1.8					
<	GRN-SV-C-40-24	>15	1.5					
	GRN-SV-C-40-25	>15	2.0					
<	GRN-SV-C-41-01	<15	1.5					
<	GRN-SV-C-41-02	<15	1.5					
<	GRN-SV-C-41-03	<15	1.5					
<	GRN-SV-C-41-04	<15	1.7					
	GRN-SV-C-41-05	<15	2.0	2.8	2.9			2.3
<	GRN-SV-C-41-06	<15	1.5					
	GRN-SV-C-41-07	<15	2.1					
<	GRN-SV-C-41-08	<15	1.5					
<	GRN-SV-C-41-09	<15	1.5					
<	GRN-SV-C-41-10	<15	1.5					
	GRN-SV-C-42-01	>15	2.8					
	GRN-SV-C-42-02	>15	2.4					
	GRN-SV-C-42-03	>15	3.3					
	GRN-SV-C-42-04	>15	1.8					
	GRN-SV-C-42-05	>15	2.4					
	GRN-SV-C-42-06	>15	2.4					
	GRN-SV-C-42-07	>15	5.2					
	GRN-SV-C-42-08	>15	3.4					
<	GRN-SV-C-42-09	>15	1.5					
<	GRN-SV-C-42-10	>15	1.5					
	GRN-SV-C-42-11	>15	2.1					
	GRN-SV-C-42-12	>15	2.0					
	GRN-SV-C-42-13	>15	3.0					
	GRN-SV-C-42-14	>15	3.0					
	GRN-SV-C-42-15	>15	3.5	4.2	4.3			3.8
<	GRN-SV-C-42-16	<15	1.7					
<	GRN-SV-C-42-17	<15	1.7					
	GRN-SV-C-42-18	<15	2.1					
<	GRN-SV-C-42-19	<15	1.5					
	GRN-SV-C-42-20	<15	4.1					
	GRN-SV-C-42-21	<15	1.9					
	GRN-SV-C-42-22	<15	2.3					
<	GRN-SV-C-42-23	<15	1.7					
	GRN-SV-C-42-24	<15	2.5					
<	GRN-SV-C-42-25	<15	1.5					
	GRN-SV-C-43-01	>15	2.2					
	GRN-SV-C-43-02	>15	3.7					
<	GRN-SV-C-43-03	>15	1.5					
	GRN-SV-C-43-04	>15	3.8					
	GRN-SV-C-43-05	>15	2.0					
<	GRN-SV-C-43-06	>15	1.5					
<	GRN-SV-C-43-07	>15	1.5					
<	GRN-SV-C-43-08	>15	1.5					
	GRN-SV-C-43-09	>15	3.6					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-43-10	>15	1.7					
	GRN-SV-C-43-11	>15	2.0					
<	GRN-SV-C-43-12	>15	1.5					
<	GRN-SV-C-43-13	>15	1.7					
<	GRN-SV-C-43-14	>15	1.5					
	GRN-SV-C-43-15	>15	2.3					
	GRN-SV-C-43-16	>15	2.5					
	GRN-SV-C-43-17	>15	3.7					
	GRN-SV-C-43-18	>15	3.7					
	GRN-SV-C-43-21	>15	2.5					
	GRN-SV-C-43-22	>15	3.9					
	GRN-SV-C-43-23	>15	3.5					
<	GRN-SV-C-44-01	>15	1.8					
<	GRN-SV-C-44-02	>15	1.4					
<	GRN-SV-C-44-03	>15	1.3					
<	GRN-SV-C-44-04	>15	1.7	1.1	2.3			1.5
<	GRN-SV-C-44-05	>15	1.7					
<	GRN-SV-C-44-06	>15	1.5					
<	GRN-SV-C-44-07	>15	1.5					
	GRN-SV-C-44-08	>15	2.1					
	GRN-SV-C-44-09	>15	3.0					
	GRN-SV-C-44-10	>15	2.3					
	GRN-SV-C-44-11	>15	4.9					
<	GRN-SV-C-44-12	>15	1.5					
	GRN-SV-C-44-13	>15	1.8					
<	GRN-SV-C-44-14	>15	1.5					
<	GRN-SV-C-44-15	>15	1.7					
	GRN-SV-C-44-16	>15	3.0					
	GRN-SV-C-44-17	>15	4.2					
<	GRN-SV-C-44-18	>15	1.5					
<	GRN-SV-C-44-19	>15	1.5					
<	GRN-SV-C-44-20	>15	1.5					
	GRN-SV-C-44-21	>15	2.4					
	GRN-SV-C-44-22	>15	4.2					
	GRN-SV-C-44-23	>15	5.6	4.4	4.0			5.0
	GRN-SV-C-44-24	>15	3.8					
	GRN-SV-C-44-25	>15	4.3					
<	GRN-SV-C-45-01	>15	1.7					
<	GRN-SV-C-45-02	>15	1.7					
<	GRN-SV-C-45-05	>15	1.7					
	GRN-SV-C-45-06	>15	3.6					
	GRN-SV-C-45-07	>15	2.8					
	GRN-SV-C-45-08	>15	1.9					
<	GRN-SV-C-45-09	>15	1.7					
	GRN-SV-C-45-10	>15	2.8					
<	GRN-SV-C-45-11	>15	1.5					
	GRN-SV-C-45-12	<15	3.8					
	GRN-SV-C-45-13	>15	2.6					
	GRN-SV-C-45-14	>15	2.3					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-C-45-15	>15	2.7					
<	GRN-SV-C-45-16	>15	1.5					
<	GRN-SV-C-45-17	>15	1.5					
	GRN-SV-C-45-18	>15	2.3					
<	GRN-SV-C-45-19	>15	1.5					
<	GRN-SV-C-45-20	>15	1.5					
	GRN-SV-C-45-21	>15	3.4					
<	GRN-SV-C-45-22	>15	1.5					
<	GRN-SV-C-45-23	>15	1.5					
<	GRN-SV-C-45-24	>15	1.5					
	GRN-SV-C-45-25	>15	2.4					
	GRN-SV-C-46-01	>15	2.9					
	GRN-SV-C-46-02	>15	1.8					
	GRN-SV-C-46-03	>15	2.0					
	GRN-SV-C-46-04	>15	2.0					
	GRN-SV-C-46-05	>15	3.1					
<	GRN-SV-C-46-06	>15	1.7					
	GRN-SV-C-46-07	>15	2.3					
	GRN-SV-C-46-08	>15	3.1					
<	GRN-SV-C-46-09	>15	1.7					
	GRN-SV-C-46-10	>15	3.7					
	GRN-SV-C-46-11	>15	3.3					
	GRN-SV-C-46-12	>15	2.2	2.5	3.1			2.5
	GRN-SV-C-46-13	>15	2.6					
	GRN-SV-C-46-14	>15	2.8					
	GRN-SV-C-46-15	>15	2.3					
<	GRN-SV-C-46-16	>15	1.7					
<	GRN-SV-C-46-17	>15	1.6					
<	GRN-SV-C-46-18	>15	1.7					
	GRN-SV-C-46-19	>15	2.2					
<	GRN-SV-C-46-20	>15	1.7					
	GRN-SV-C-46-21	>15	2.2					
<	GRN-SV-C-46-22	>15	1.7					
	GRN-SV-C-46-23	>15	2.4					
	GRN-SV-C-46-24	>15	2.3					
	GRN-SV-C-46-25	>15	4.2					
	GRN-SV-C-47-01	>15	6.0	6.2	4.3			5.4
	GRN-SV-C-47-02	>15	4.2					
<	GRN-SV-C-47-03	>15	1.5					
<	GRN-SV-C-47-04	>15	1.7					
<	GRN-SV-C-47-05	>15	1.5					
	GRN-SV-C-47-06	>15	2.0					
<	GRN-SV-C-47-07	>15	1.5					
<	GRN-SV-C-47-08	>15	1.5					
<	GRN-SV-C-47-09	>15	1.7					
<	GRN-SV-C-47-10	>15	1.5					
<	GRN-SV-C-47-11	>15	1.6					
<	GRN-SV-C-47-12	>15	1.5					
<	GRN-SV-C-47-13	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing C

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-C-47-14	>15	1.5					
	GRN-SV-C-47-15	>15	2.4					
<	GRN-SV-C-47-16	>15	1.5					
<	GRN-SV-C-47-17	>15	1.5					
<	GRN-SV-C-47-18	>15	1.5					
<	GRN-SV-C-47-19	>15	1.5					
<	GRN-SV-C-47-20	>15	1.5					
<	GRN-SV-C-47-21	>15	1.5					
<	GRN-SV-C-47-22	>15	1.5					
	GRN-SV-C-47-23	>15	1.8					
<	GRN-SV-C-47-24	>15	1.5					
<	GRN-SV-C-47-25	>15	1.5					
<	GRN-SV-C-48-01	>15	1.5					
<	GRN-SV-C-48-02	>15	1.5					
<	GRN-SV-C-48-03	>15	1.5					
<	GRN-SV-C-48-04	>15	1.5					
	GRN-SV-C-48-05	>15	2.6					
<	GRN-SV-C-48-06	>15	1.5					
<	GRN-SV-C-48-07	>15	1.5					
<	GRN-SV-C-48-08	>15	1.5					
<	GRN-SV-C-48-09	>15	1.5					
<	GRN-SV-C-48-10	>15	1.5					
<	GRN-SV-C-48-11	>15	1.5					
<	GRN-SV-C-48-12	>15	1.5	2.0	1.4			1.0
<	GRN-SV-C-48-13	>15	1.5					
<	GRN-SV-C-48-14	>15	1.5					
<	GRN-SV-C-48-15	>15	1.5					
<	GRN-SV-C-48-16	>15	1.5					
<	GRN-SV-C-48-17	>15	1.5					
<	GRN-SV-C-48-18	>15	1.5					
<	GRN-SV-C-48-19	>15	1.5					
<	GRN-SV-C-48-20	>15	1.5					
<	GRN-SV-C-48-21	<15	1.5					
<	GRN-SV-C-48-22	<15	1.5					
	GRN-SV-C-48-23	>15	2.5					
<	GRN-SV-C-48-24	>15	1.5					
<	GRN-SV-C-48-25	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

E 59,000 E 59,150 E 59,300 E 59,450 E 59,600 E 59,750 E 59,900

MATCH LINE N 60,600 (FOR CONTINUATION, SEE SHEET B)

N60,450

N60,300

N60,150 (FOR CONTINUATION, SEE SHEET C)

N60,000

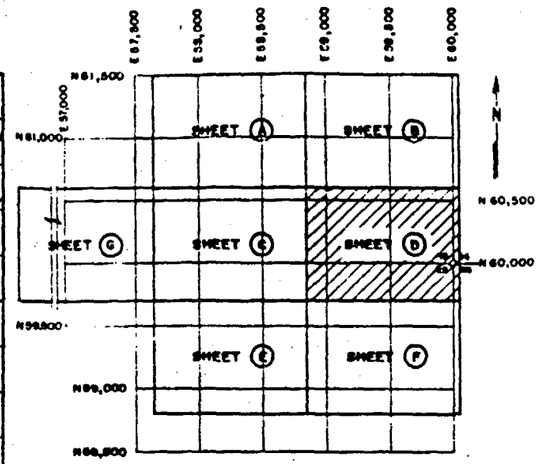
MATCH LINE E 58,850

N59,850

E 60,050

MATCH LINE N 59,700 (FOR CONTINUATION, SEE SHEET F)

SCALE 50 0 50 100 FEET

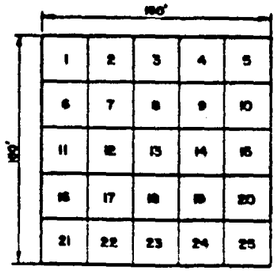


KEY MAP
(N.T.S.)

REFERENCE DRAWINGS:

GRN-SV-000, SOIL VERIFICATION PLAN GRID SYSTEM

LEGEND:



30'x 30' GRID SYSTEM

SAMPLE GRID NO.
A-37-19

A – SHEET NO.
37 – 150'x 150' GRID
19 – 30'x 30' SUBGRID

U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

GREEN RIVER SITE
GREEN RIVER, UTAH

SOIL VERIFICATION GRID SYSTEM
SHEET D

MORRISON-KNUDSEN ENGINEERS, INC.
UMTRA PROJECT

DESIGNED	CHECKED	DATE
PROJECT NO	DE-AC04-83AL18796	
DRAWING NO	GRN-SV-004	

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-01-01	>15	5.2					
	GRN-SV-D-01-02	>15	6.1					
	GRN-SV-D-01-03	>15	7.9					
	GRN-SV-D-01-04	>15	8.0					
	GRN-SV-D-01-05	>15	4.6					
	GRN-SV-D-01-06	>15	11.6					
	GRN-SV-D-01-07	>15	3.2					
	GRN-SV-D-01-08	>15	5.1					
	GRN-SV-D-01-09	>15	5.1					
	GRN-SV-D-01-10	>15	5.2					
	GRN-SV-D-01-11	>15	13.5					
	GRN-SV-D-01-12	>15	7.9					
<	GRN-SV-D-01-13	>15	1.5					
	GRN-SV-D-01-14	>15	2.1					
	GRN-SV-D-01-15	>15	13.4	11.0	9.5			12.0
	GRN-SV-D-01-16	>15	3.7					
	GRN-SV-D-01-17	>15	7.0					
	GRN-SV-D-01-18	>15	6.2					
	GRN-SV-D-01-19	>15	7.5					
	GRN-SV-D-01-20	>15	10.2					
	GRN-SV-D-01-21	>15	2.0					
<	GRN-SV-D-01-22	>15	1.5					
	GRN-SV-D-01-23	>15	5.6					
◡	GRN-SV-D-01-24	>15	10.5					
	GRN-SV-D-01-25	>15	14.6					
	GRN-SV-D-02-01	>15	8.0					
	GRN-SV-D-02-02	>15	13.7	13.0	8.2			11.8
	GRN-SV-D-02-03	>15	4.5					
	GRN-SV-D-02-04	>15	4.0					
	GRN-SV-D-02-05	>15	2.1					
	GRN-SV-D-02-06	>15	4.0					
	GRN-SV-D-02-07	>15	5.0					
	GRN-SV-D-02-08	>15	4.1					
	GRN-SV-D-02-09	>15	2.0					
	GRN-SV-D-02-10	>15	2.1					
	GRN-SV-D-02-11	>15	6.9					
	GRN-SV-D-02-12	>15	11.0					
	GRN-SV-D-02-13	>15	4.1					
	GRN-SV-D-02-14	>15	6.0					
	GRN-SV-D-02-15	>15	3.9					
	GRN-SV-D-02-16	>15	12.3					
	GRN-SV-D-02-17	>15	4.4					
	GRN-SV-D-02-18	>15	5.1					
	GRN-SV-D-02-19	>15	2.8					
	GRN-SV-D-02-20	>15	5.1					
	GRN-SV-D-02-21	>15	9.1	8.0	5.9			8.0
	GRN-SV-D-02-22	>15	8.7					
	GRN-SV-D-02-23	>15	6.2					
	GRN-SV-D-02-24	>15	2.4					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-D-02-25	>15	1.5					
	GRN-SV-D-03-01	>15	2.5					
<	GRN-SV-D-03-02	>15	1.5					
<	GRN-SV-D-03-03	>15	1.7					
<	GRN-SV-D-03-04	>15	1.5					
<	GRN-SV-D-03-05	>15	1.5					
	GRN-SV-D-03-06	>15	3.5					
	GRN-SV-D-03-07	>15	5.9					
<	GRN-SV-D-03-08	>15	1.5					
	GRN-SV-D-03-09	>15	1.8					
	GRN-SV-D-03-10	>15	1.9					
	GRN-SV-D-03-11	>15	13.6					
<	GRN-SV-D-03-12	>15	1.5					
<	GRN-SV-D-03-13	>15	1.5					
<	GRN-SV-D-03-14	>15	1.5					
<	GRN-SV-D-03-15	>15	1.7					
	GRN-SV-D-03-16	>15	2.0					
<	GRN-SV-D-03-17	>15	1.7					
<	GRN-SV-D-03-18	>15	1.5					
<	GRN-SV-D-03-19	>15	1.5					
	GRN-SV-D-03-20	>15	2.1					
<	GRN-SV-D-03-21	>15	1.5					
	GRN-SV-D-03-22	>15	1.5					
◡	GRN-SV-D-03-23	>15	4.5					
<	GRN-SV-D-03-24	>15	1.5					
	GRN-SV-D-03-25	>15	2.2					
<	GRN-SV-D-04-01	>15	1.7					
<	GRN-SV-D-04-02	>15	1.7					
<	GRN-SV-D-04-03	>15	1.7					
	GRN-SV-D-04-04	>15	2.1					
<	GRN-SV-D-04-05	>15	1.7					
<	GRN-SV-D-04-06	>15	1.7					
<	GRN-SV-D-04-07	>15	1.7					
	GRN-SV-D-04-08	>15	2.1					
	GRN-SV-D-04-09	>15	3.1					
	GRN-SV-D-04-10	>15	2.7					
<	GRN-SV-D-04-11	>15	1.7					
<	GRN-SV-D-04-12	>15	1.5	1.6	1.3			1.4
	GRN-SV-D-04-13	>15	2.1					
<	GRN-SV-D-04-14	>15	1.5					
<	GRN-SV-D-04-15	>15	1.5					
<	GRN-SV-D-04-16	>15	1.5					
<	GRN-SV-D-04-17	>15	1.5					
<	GRN-SV-D-04-18	>15	1.5					
<	GRN-SV-D-04-19	>15	1.5					
<	GRN-SV-D-04-20	>15	1.5					
<	GRN-SV-D-04-21	>15	1.5					
	GRN-SV-D-04-22	>15	2.1					
<	GRN-SV-D-04-23	>15	1.6					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-04-24	>15	2.0					
<	GRN-SV-D-04-25	>15	1.5					
<	GRN-SV-D-05-01	<15	1.5					
<	GRN-SV-D-05-02	<15	1.5					
<	GRN-SV-D-05-03	<15	1.7					
	GRN-SV-D-05-04	<15	2.6	2.6	.8			2.0
	GRN-SV-D-05-05	<15	2.2					
<	GRN-SV-D-05-06	<15	1.5					
<	GRN-SV-D-05-07	<15	1.5					
<	GRN-SV-D-05-08	<15	1.5					
	GRN-SV-D-05-09	<15	2.4					
	GRN-SV-D-05-10	<15	3.3					
	GRN-SV-D-05-11	<15	2.5					
	GRN-SV-D-05-12	<15	2.8					
	GRN-SV-D-05-13	<15	3.7					
	GRN-SV-D-05-14	<15	2.1					
	GRN-SV-D-05-15	<15	1.9					
<	GRN-SV-D-05-16	<15	1.6					
<	GRN-SV-D-05-17	<15	1.5					
	GRN-SV-D-05-18	<15	2.3					
<	GRN-SV-D-05-19	<15	1.5					
<	GRN-SV-D-05-20	<15	1.5					
	GRN-SV-D-05-21	>15	1.7					
◡	GRN-SV-D-05-22	<15	1.7					
<	GRN-SV-D-05-23	<15	1.6					
<	GRN-SV-D-05-24	<15	1.5					
<	GRN-SV-D-05-25	<15	1.5					
	GRN-SV-D-09-01	>15	5.6					
	GRN-SV-D-09-02	>15	2.6					
	GRN-SV-D-09-03	>15	3.0					
	GRN-SV-D-09-04	>15	2.9					
	GRN-SV-D-09-05	>15	4.7					
	GRN-SV-D-09-06	>15	3.8					
	GRN-SV-D-09-07	>15	8.8					
	GRN-SV-D-09-08	>15	4.6					
<	GRN-SV-D-09-09	>15	1.6					
	GRN-SV-D-09-10	>15	1.8					
	GRN-SV-D-09-11	>15	2.5					
	GRN-SV-D-09-12	>15	2.8					
	GRN-SV-D-09-13	>15	2.7					
	GRN-SV-D-09-14	>15	5.9					
	GRN-SV-D-09-15	>15	4.8					
	GRN-SV-D-09-16	>15	3.8					
	GRN-SV-D-09-17	>15	2.7					
	GRN-SV-D-09-18	>15	3.7					
	GRN-SV-D-09-19	>15	1.8					
	GRN-SV-D-09-20	>15	4.3					
<	GRN-SV-D-09-21	>15	1.5					
	GRN-SV-D-09-22	>15	9.7	9.0	5.2			8.1

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-09-23	>15	4.5					
	GRN-SV-D-09-24	>15	3.5					
	GRN-SV-D-09-25	>15	3.3					
	GRN-SV-D-10-01	>15	3.4					
<	GRN-SV-D-10-02	>15	1.5					
<	GRN-SV-D-10-03	>15	1.7					
	GRN-SV-D-10-04	>15	2.1					
<	GRN-SV-D-10-05	>15	1.7					
	GRN-SV-D-10-06	>15	6.7					
	GRN-SV-D-10-07	>15	2.8					
	GRN-SV-D-10-08	>15	3.5					
	GRN-SV-D-10-09	>15	3.3					
<	GRN-SV-D-10-10	>15	1.6					
	GRN-SV-D-10-11	>15	4.7					
	GRN-SV-D-10-12	>15	4.0					
	GRN-SV-D-10-13	>15	2.7					
	GRN-SV-D-10-14	>15	2.2					
<	GRN-SV-D-10-15	>15	1.5					
	GRN-SV-D-10-16	>15	4.6					
	GRN-SV-D-10-17	>15	4.3	5.3	3.8			4.1
	GRN-SV-D-10-18	>15	6.7					
	GRN-SV-D-10-19	>15	3.4					
	GRN-SV-D-10-20	>15	2.4					
◡	GRN-SV-D-10-21	>15	3.9					
	GRN-SV-D-10-22	>15	4.1					
	GRN-SV-D-10-23	>15	2.9					
	GRN-SV-D-10-24	>15	3.5					
	GRN-SV-D-10-25	>15	3.3					
<	GRN-SV-D-11-01	>15	1.7					
	GRN-SV-D-11-02	>15	1.8					
	GRN-SV-D-11-03	>15	3.3					
	GRN-SV-D-11-04	>15	3.6					
<	GRN-SV-D-11-05	>15	1.5					
<	GRN-SV-D-11-06	>15	1.5					
<	GRN-SV-D-11-07	>15	1.5					
<	GRN-SV-D-11-08	>15	1.7					
	GRN-SV-D-11-09	>15	4.6	4.5	13.0			7.5
	GRN-SV-D-11-10	>15	3.3					
<	GRN-SV-D-11-11	>15	1.5					
	GRN-SV-D-11-12	>15	2.4					
<	GRN-SV-D-11-13	>15	1.5					
	GRN-SV-D-11-14	>15	2.4					
	GRN-SV-D-11-15	>15	2.8					
	GRN-SV-D-11-16	>15	2.0					
<	GRN-SV-D-11-17	>15	1.5					
	GRN-SV-D-11-18	>15	2.0					
<	GRN-SV-D-11-19	>15	1.5					
<	GRN-SV-D-11-20	>15	1.5					
	GRN-SV-D-11-21	>15	2.0					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-11-22	>15	2.5					
	GRN-SV-D-11-23	>15	3.6					
<	GRN-SV-D-11-24	>15	1.8					
	GRN-SV-D-11-25	>15	2.2					
	GRN-SV-D-12-01	>15	2.0					
	GRN-SV-D-12-02	>15	1.9					
<	GRN-SV-D-12-03	>15	1.5					
	GRN-SV-D-12-04	>15	2.1					
	GRN-SV-D-12-05	>15	2.1					
	GRN-SV-D-12-06	>15	3.9					
	GRN-SV-D-12-07	>15	3.1					
<	GRN-SV-D-12-08	>15	1.5					
	GRN-SV-D-12-09	>15	10.2	9.3	8.2			9.5
	GRN-SV-D-12-10	>15	2.1	2.1	1.9			2.0
	GRN-SV-D-12-11	>15	2.1					
	GRN-SV-D-12-12	>15	2.5					
	GRN-SV-D-12-13	>15	3.7					
<	GRN-SV-D-12-14	>15	1.7					
<	GRN-SV-D-12-15	>15	1.5					
	GRN-SV-D-12-16	>15	4.0					
	GRN-SV-D-12-17	>15	3.7					
	GRN-SV-D-12-18	>15	5.3					
	GRN-SV-D-12-19	>15	3.1					
◡	GRN-SV-D-12-20	>15	3.1					
	GRN-SV-D-12-21	>15	2.3					
	GRN-SV-D-12-22	>15	6.1					
	GRN-SV-D-12-23	>15	6.3					
	GRN-SV-D-12-24	>15	3.4					
	GRN-SV-D-12-25	>15	7.4	7.4	7.2			7.3
<	GRN-SV-D-13-01	>15	1.5					
<	GRN-SV-D-13-02	>15	1.5					
<	GRN-SV-D-13-03	<15	1.5					
<	GRN-SV-D-13-04	<15	1.5					
	GRN-SV-D-13-05	<15	2.2					
<	GRN-SV-D-13-06	>15	1.5					
<	GRN-SV-D-13-07	>15	1.5					
<	GRN-SV-D-13-08	>15	1.5					
<	GRN-SV-D-13-09	>15	1.5					
<	GRN-SV-D-13-10	<15	1.5					
<	GRN-SV-D-13-11	>15	1.5					
<	GRN-SV-D-13-12	>15	1.5					
<	GRN-SV-D-13-13	>15	1.5					
	GRN-SV-D-13-14	>15	1.8					
<	GRN-SV-D-13-15	>15	1.5					
<	GRN-SV-D-13-16	>15	1.5					
<	GRN-SV-D-13-17	>15	1.5					
<	GRN-SV-D-13-18	>15	1.5					
<	GRN-SV-D-13-19	>15	1.6					
<	GRN-SV-D-13-20	>15	1.5					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-13-21	>15	4.5					
<	GRN-SV-D-13-22	>15	1.5					
<	GRN-SV-D-13-23	>15	1.5					
	GRN-SV-D-13-24	>15	3.9					
	GRN-SV-D-13-25	>15	1.8					
<	GRN-SV-D-14-06	<15	1.5					
	GRN-SV-D-14-11	<15	1.8					
<	GRN-SV-D-14-12	<15	1.5					
<	GRN-SV-D-14-16	>15	1.7					
<	GRN-SV-D-14-17	>15	1.7					
<	GRN-SV-D-14-18	>15	1.5					
<	GRN-SV-D-14-19	<15	1.5					
<	GRN-SV-D-14-20	<15	1.5					
<	GRN-SV-D-14-21	>15	1.5					
<	GRN-SV-D-14-22	<15	1.5					
	GRN-SV-D-14-23	<15	1.9					
<	GRN-SV-D-14-24	<15	1.5					
	GRN-SV-D-14-25	<15	2.7					
<	GRN-SV-D-15-16	<15	1.5					
<	GRN-SV-D-15-17	<15	1.5					
	GRN-SV-D-15-21	<15	2.7					
	GRN-SV-D-15-22	<15	3.5					
	GRN-SV-D-17-01	>15	5.3					
◡	GRN-SV-D-17-02	>15	4.0					
	GRN-SV-D-17-03	>15	4.7					
	GRN-SV-D-17-04	>15	4.8					
	GRN-SV-D-17-05	>15	3.1					
	GRN-SV-D-17-06	<15	3.2					
	GRN-SV-D-17-07	<15	3.0					
	GRN-SV-D-17-08	<15	3.1					
	GRN-SV-D-17-09	<15	1.8					
<	GRN-SV-D-17-10	<15	1.5					
	GRN-SV-D-17-11	<15	2.2					
<	GRN-SV-D-17-12	<15	1.5					
<	GRN-SV-D-17-13	<15	1.8					
	GRN-SV-D-17-14	<15	2.3					
	GRN-SV-D-17-15	<15	2.3					
<	GRN-SV-D-17-16	<15	1.5					
<	GRN-SV-D-17-17	<15	1.5					
<	GRN-SV-D-17-18	<15	1.5					
<	GRN-SV-D-17-19	<15	1.5					
<	GRN-SV-D-17-20	<15	1.7	1.0	1.7			1.7
<	GRN-SV-D-17-21	<15	1.5					
<	GRN-SV-D-17-22	<15	1.5					
<	GRN-SV-D-17-23	<15	1.6					
	GRN-SV-D-17-24	<15	2.3					
<	GRN-SV-D-17-25	<15	1.6					
<	GRN-SV-D-18-01	>15	1.7					
	GRN-SV-D-18-02	>15	6.8					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-18-03	>15	4.2					
	GRN-SV-D-18-04	>15	3.4					
<	GRN-SV-D-18-05	>15	1.5					
	GRN-SV-D-18-06	>15	7.8					
	GRN-SV-D-18-07	>15	2.4					
	GRN-SV-D-18-08	>15	3.1					
	GRN-SV-D-18-09	>15	4.2					
	GRN-SV-D-18-10	>15	6.8					
<	GRN-SV-D-18-11	<15	1.7					
<	GRN-SV-D-18-12	<15	1.7					
	GRN-SV-D-18-13	<15	4.5					
	GRN-SV-D-18-14	>15	4.6					
	GRN-SV-D-18-15	>15	3.2					
<	GRN-SV-D-18-16	<15	1.6					
	GRN-SV-D-18-17	<15	2.2					
	GRN-SV-D-18-18	<15	1.9					
	GRN-SV-D-18-19	<15	3.4	3.8	2.9			3.2
	GRN-SV-D-18-20	>15	4.8					
	GRN-SV-D-18-21	<15	1.8					
<	GRN-SV-D-18-22	<15	1.5					
	GRN-SV-D-18-23	<15	2.3					
<	GRN-SV-D-18-24	<15	1.5					
	GRN-SV-D-18-25	<15	2.6					
◡	GRN-SV-D-19-01	>15	4.1					
	GRN-SV-D-19-02	>15	2.7					
<	GRN-SV-D-19-03	>15	1.7					
<	GRN-SV-D-19-04	>15	1.6					
<	GRN-SV-D-19-05	>15	1.5					
	GRN-SV-D-19-06	>15	6.2					
	GRN-SV-D-19-07	>15	3.0					
	GRN-SV-D-19-08	>15	2.8					
	GRN-SV-D-19-09	>15	8.4					
	GRN-SV-D-19-10	>15	4.4					
	GRN-SV-D-19-11	>15	4.1					
	GRN-SV-D-19-12	>15	3.3					
	GRN-SV-D-19-13	>15	5.6					
	GRN-SV-D-19-14	>15	8.9	7.0	4.5			7.3
<	GRN-SV-D-19-15	>15	1.5					
	GRN-SV-D-19-16	>15	5.3					
	GRN-SV-D-19-17	>15	4.8					
	GRN-SV-D-19-18	>15	3.1					
	GRN-SV-D-19-19	>15	5.0					
<	GRN-SV-D-19-20	>15	1.7					
	GRN-SV-D-19-21	>15	5.9					
	GRN-SV-D-19-22	>15	2.2					
	GRN-SV-D-19-23	>15	1.9					
	GRN-SV-D-19-24	>15	2.0					
	GRN-SV-D-19-25	>15	2.4					
<	GRN-SV-D-20-01	>15	1.5					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-D-20-02	>15	1.5					
	GRN-SV-D-20-03	>15	6.0					
	GRN-SV-D-20-04	>15	4.7					
	GRN-SV-D-20-05	>15	3.9					
<	GRN-SV-D-20-06	>15	1.5					
<	GRN-SV-D-20-07	>15	1.5					
<	GRN-SV-D-20-08	>15	1.5					
<	GRN-SV-D-20-09	>15	1.5					
	GRN-SV-D-20-10	>15	2.8					
	GRN-SV-D-20-11	>15	11.2	8.3	5.8			9.3
	GRN-SV-D-20-12	>15	2.6					
	GRN-SV-D-20-13	>15	4.2					
<	GRN-SV-D-20-14	>15	1.5					
	GRN-SV-D-20-15	>15	4.4					
<	GRN-SV-D-20-16	>15	1.5					
<	GRN-SV-D-20-17	>15	1.5					
	GRN-SV-D-20-18	>15	4.3					
	GRN-SV-D-20-19	>15	6.6	5.9	3.4			5.5
	GRN-SV-D-20-20	>15	5.0					
<	GRN-SV-D-20-21	>15	1.5					
	GRN-SV-D-20-22	>15	2.2					
	GRN-SV-D-20-23	>15	2.3					
	GRN-SV-D-20-24	>15	6.0					
◡	GRN-SV-D-20-25	>15	3.1					
	GRN-SV-D-21-01	>15	4.1					
	GRN-SV-D-21-02	>15	4.4					
<	GRN-SV-D-21-03	>15	1.5					
	GRN-SV-D-21-04	>15	4.3					
	GRN-SV-D-21-05	>15	6.0					
	GRN-SV-D-21-06	>15	10.3	11.0	4.4			8.2
	GRN-SV-D-21-07	>15	6.4					
<	GRN-SV-D-21-08	>15	1.5					
<	GRN-SV-D-21-09	>15	1.7					
<	GRN-SV-D-21-10	>15	1.7					
	GRN-SV-D-21-11	>15	5.9					
	GRN-SV-D-21-12	>15	1.9					
<	GRN-SV-D-21-13	>15	1.5					
<	GRN-SV-D-21-14	>15	1.7					
	GRN-SV-D-21-15	>15	3.0					
	GRN-SV-D-21-16	>15	1.9					
<	GRN-SV-D-21-17	>15	1.6					
<	GRN-SV-D-21-18	>15	1.5					
	GRN-SV-D-21-19	>15	4.2					
	GRN-SV-D-21-20	>15	2.3					
	GRN-SV-D-21-21	>15	2.6					
<	GRN-SV-D-21-22	>15	1.5					
<	GRN-SV-D-21-23	>15	1.5					
	GRN-SV-D-21-24	>15	2.4					
	GRN-SV-D-21-25	>15	2.7					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-22-01	>15	2.7					
	GRN-SV-D-22-02	>15	3.6					
	GRN-SV-D-22-03	>15	3.1					
	GRN-SV-D-22-04	>15	2.9					
	GRN-SV-D-22-05	>15	2.5					
	GRN-SV-D-22-06	>15	4.6					
	GRN-SV-D-22-07	>15	9.8					
	GRN-SV-D-22-08	>15	4.8					
	GRN-SV-D-22-09	>15	4.4					
	GRN-SV-D-22-10	>15	2.0					
	GRN-SV-D-22-11	>15	2.3	2.6	3.0			2.5
	GRN-SV-D-22-12	>15	3.1					
	GRN-SV-D-22-13	>15	2.0					
	GRN-SV-D-22-14	>15	2.0					
<	GRN-SV-D-22-15	>15	1.7					
	GRN-SV-D-22-16	>15	4.4					
	GRN-SV-D-22-17	>15	3.0					
<	GRN-SV-D-22-18	>15	1.7					
	GRN-SV-D-22-19	>15	4.6					
	GRN-SV-D-22-20	>15	4.7					
	GRN-SV-D-22-21	>15	3.2					
	GRN-SV-D-22-22	>15	2.8					
	GRN-SV-D-22-23	>15	3.1					
◡	GRN-SV-D-22-24	>15	1.8					
	GRN-SV-D-22-25	>15	2.7					
	GRN-SV-D-23-01	>15	2.3					
	GRN-SV-D-23-02	>15	2.2					
	GRN-SV-D-23-03	>15	2.4					
<	GRN-SV-D-23-04	>15	1.5					
	GRN-SV-D-23-05	>15	2.4	2.6	1.3			2.0
	GRN-SV-D-23-06	>15	4.8					
	GRN-SV-D-23-07	>15	2.9					
	GRN-SV-D-23-08	>15	2.8					
	GRN-SV-D-23-09	>15	2.3					
<	GRN-SV-D-23-10	>15	1.5					
	GRN-SV-D-23-11	>15	3.4					
	GRN-SV-D-23-12	>15	2.4					
	GRN-SV-D-23-13	>15	2.2					
	GRN-SV-D-23-14	>15	2.1					
<	GRN-SV-D-23-15	>15	1.5					
	GRN-SV-D-23-16	>15	4.6					
	GRN-SV-D-23-17	>15	3.9					
	GRN-SV-D-23-18	>15	1.8					
<	GRN-SV-D-23-19	>15	1.7					
<	GRN-SV-D-23-20	>15	1.7					
	GRN-SV-D-23-21	>15	6.2	5.4	2.6			4.9
	GRN-SV-D-23-22	>15	3.6					
	GRN-SV-D-23-23	>15	2.6					
	GRN-SV-D-23-24	>15	2.4					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-23-25	>15	2.2					
<	GRN-SV-D-24-01	>15	1.5					
	GRN-SV-D-24-02	>15	1.9					
<	GRN-SV-D-24-03	>15	1.7	1.6	1.1			1.5
	GRN-SV-D-24-04	>15	2.1					
<	GRN-SV-D-24-05	>15	1.7					
	GRN-SV-D-24-06	>15	2.1					
	GRN-SV-D-24-07	>15	2.0					
<	GRN-SV-D-24-08	>15	1.7					
<	GRN-SV-D-24-09	>15	1.7					
<	GRN-SV-D-24-10	>15	1.7					
<	GRN-SV-D-24-11	>15	1.7					
	GRN-SV-D-24-12	>15	2.9					
<	GRN-SV-D-24-13	>15	1.5					
<	GRN-SV-D-24-14	>15	1.5					
	GRN-SV-D-24-16	>15	2.0					
	GRN-SV-D-24-17	>15	3.3	4.0	2.3			2.9
	GRN-SV-D-24-18	>15	2.5					
	GRN-SV-D-24-19	>15	2.2					
	GRN-SV-D-24-21	>15	3.4					
	GRN-SV-D-24-22	>15	2.7					
	GRN-SV-D-24-23	>15	2.1					
	GRN-SV-D-25-01	>15	1.5					
◡	GRN-SV-D-25-02	>15	1.5					
<	GRN-SV-D-25-03	>15	1.5					
<	GRN-SV-D-25-04	>15	1.5					
	GRN-SV-D-25-05	>15	2.3					
<	GRN-SV-D-25-06	>15	1.7					
<	GRN-SV-D-25-07	>15	1.5					
	GRN-SV-D-25-08	>15	4.1	4.2	3.5			3.9
<	GRN-SV-D-25-09	>15	1.7					
<	GRN-SV-D-25-10	>15	1.6					
<	GRN-SV-D-25-11	>15	1.5					
	GRN-SV-D-25-12	>15	4.4					
<	GRN-SV-D-25-13	>15	1.5					
<	GRN-SV-D-25-14	>15	1.5					
<	GRN-SV-D-25-15	>15	1.5					
	GRN-SV-D-25-16	>15	1.9					
<	GRN-SV-D-25-17	>15	1.5					
<	GRN-SV-D-25-18	>15	1.5					
<	GRN-SV-D-25-19	>15	1.5					
<	GRN-SV-D-25-20	>15	1.5					
<	GRN-SV-D-25-21	>15	1.5					
<	GRN-SV-D-25-22	>15	1.5					
<	GRN-SV-D-25-23	>15	1.5					
<	GRN-SV-D-25-24	>15	1.5					
<	GRN-SV-D-25-25	>15	1.7					
	GRN-SV-D-26-01	>15	4.6					
	GRN-SV-D-26-02	>15	2.4					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-26-03	>15	1.8					
<	GRN-SV-D-26-04	>15	1.5					
	GRN-SV-D-26-05	>15	1.8					
<	GRN-SV-D-26-06	>15	1.5					
	GRN-SV-D-26-07	>15	2.7					
	GRN-SV-D-26-08	>15	3.5					
<	GRN-SV-D-26-09	>15	1.5					
	GRN-SV-D-26-10	>15	4.8					
<	GRN-SV-D-26-11	>15	1.5					
<	GRN-SV-D-26-12	>15	1.5					
<	GRN-SV-D-26-13	>15	1.5					
	GRN-SV-D-26-14	>15	2.6	4.7	4.7			3.4
<	GRN-SV-D-26-15	>15	1.5					
<	GRN-SV-D-26-16	>15	1.5					
<	GRN-SV-D-26-17	>15	1.5					
<	GRN-SV-D-26-18	>15	1.5					
<	GRN-SV-D-26-19	>15	1.5					
<	GRN-SV-D-26-20	>15	1.5					
<	GRN-SV-D-26-21	>15	1.5					
<	GRN-SV-D-26-22	>15	1.5					
<	GRN-SV-D-26-23	>15	1.5					
<	GRN-SV-D-26-24	>15	1.5					
	GRN-SV-D-26-25	>15	1.5					
◡	GRN-SV-D-27-01	>15	2.8					
	GRN-SV-D-27-02	>15	7.7	3.8	3.6			6.3
	GRN-SV-D-27-03	>15	6.9					
	GRN-SV-D-27-04	>15	4.8					
	GRN-SV-D-27-05	>15	4.4					
<	GRN-SV-D-27-06	>15	1.5					
<	GRN-SV-D-27-07	>15	1.5					
	GRN-SV-D-27-08	>15	3.7					
	GRN-SV-D-27-09	>15	2.3					
	GRN-SV-D-27-10	>15	7.5	6.3	6.2			7.0
	GRN-SV-D-27-11	>15	3.2					
	GRN-SV-D-27-12	>15	2.3					
	GRN-SV-D-27-13	>15	2.3					
	GRN-SV-D-27-14	>15	2.8					
	GRN-SV-D-27-15	>15	5.4					
<	GRN-SV-D-27-16	>15	1.5					
<	GRN-SV-D-27-17	>15	1.5					
	GRN-SV-D-27-18	>15	7.1	6.0	4.9			6.3
	GRN-SV-D-27-19	>15	2.5					
	GRN-SV-D-27-20	>15	3.9					
	GRN-SV-D-27-21	>15	4.0					
	GRN-SV-D-27-22	>15	2.6					
	GRN-SV-D-27-23	>15	5.8					
	GRN-SV-D-27-24	>15	2.1					
	GRN-SV-D-27-25	>15	1.8					
	GRN-SV-D-28-01	>15	5.9					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-28-02	>15	2.2					
	GRN-SV-D-28-03	>15	3.4					
	GRN-SV-D-28-04	>15	4.3					
	GRN-SV-D-28-05	>15	3.6					
	GRN-SV-D-28-06	>15	6.2					
	GRN-SV-D-28-07	>15	4.1					
	GRN-SV-D-28-08	>15	4.0					
	GRN-SV-D-28-09	>15	2.4					
	GRN-SV-D-28-10	>15	2.4					
	GRN-SV-D-28-11	>15	6.6					
	GRN-SV-D-28-12	>15	4.9					
	GRN-SV-D-28-13	>15	3.7					
	GRN-SV-D-28-14	>15	2.8					
	GRN-SV-D-28-15	>15	2.5					
	GRN-SV-D-28-16	>15	2.7					
	GRN-SV-D-28-17	>15	4.5					
	GRN-SV-D-28-18	>15	3.2					
	GRN-SV-D-28-19	>15	2.7					
	GRN-SV-D-28-20	>15	3.2					
<	GRN-SV-D-28-21	>15	1.7					
	GRN-SV-D-28-22	>15	4.2					
<	GRN-SV-D-28-23	>15	1.5					
	GRN-SV-D-28-24	>15	3.6					
◡	GRN-SV-D-28-25	>15	3.2					
	GRN-SV-D-29-01	>15	4.5					
	GRN-SV-D-29-02	>15	3.5					
	GRN-SV-D-29-03	>15	2.1					
	GRN-SV-D-29-04	>15	2.6					
	GRN-SV-D-29-05	>15	1.8					
	GRN-SV-D-29-06	>15	2.9					
	GRN-SV-D-29-07	>15	5.9					
	GRN-SV-D-29-08	>15	2.3					
	GRN-SV-D-29-09	>15	2.5					
	GRN-SV-D-29-10	>15	2.4					
	GRN-SV-D-29-11	>15	3.5					
<	GRN-SV-D-29-12	>15	1.7					
<	GRN-SV-D-29-13	>15	1.7					
	GRN-SV-D-29-14	>15	2.5					
<	GRN-SV-D-29-15	>15	1.7					
	GRN-SV-D-29-16	>15	3.3					
<	GRN-SV-D-29-17	>15	1.7					
<	GRN-SV-D-29-18	>15	1.7					
	GRN-SV-D-29-19	>15	2.7	2.6	3.1			2.8
<	GRN-SV-D-29-20	>15	1.5					
	GRN-SV-D-29-21	>15	2.3					
<	GRN-SV-D-29-22	>15	1.7					
<	GRN-SV-D-29-23	>15	1.5					
	GRN-SV-D-29-24	>15	2.2					
	GRN-SV-D-29-25	>15	6.5					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-D-30-01	>15	1.6					
	GRN-SV-D-30-02	>15	2.5					
<	GRN-SV-D-30-03	>15	1.5					
	GRN-SV-D-30-04	>15	1.8					
	GRN-SV-D-30-05	>15	2.8					
<	GRN-SV-D-30-06	>15	1.5					
<	GRN-SV-D-30-07	>15	1.5					
<	GRN-SV-D-30-08	>15	1.5					
<	GRN-SV-D-30-09	>15	1.7					
	GRN-SV-D-30-10	>15	1.9					
	GRN-SV-D-30-11	>15	2.6					
<	GRN-SV-D-30-12	>15	1.5					
<	GRN-SV-D-30-13	>15	1.5					
<	GRN-SV-D-30-14	>15	1.5					
	GRN-SV-D-30-15	>15	1.8					
<	GRN-SV-D-30-16	>15	1.5					
<	GRN-SV-D-30-17	>15	1.5					
<	GRN-SV-D-30-18	>15	1.5					
<	GRN-SV-D-30-19	>15	1.5					
<	GRN-SV-D-30-20	>15	1.5					
<	GRN-SV-D-30-21	>15	1.6					
<	GRN-SV-D-30-22	>15	1.5					
	GRN-SV-D-30-23	>15	2.3	1.7	1.9			2.2
	GRN-SV-D-30-24	>15	2.1					
	GRN-SV-D-30-25	>15	2.3					
	GRN-SV-D-31-01	>15	5.1	4.4	2.5			4.2
	GRN-SV-D-31-02	>15	2.8					
	GRN-SV-D-31-03	>15	3.8					
<	GRN-SV-D-31-04	>15	1.7					
	GRN-SV-D-31-05	>15	2.4					
	GRN-SV-D-31-06	>15	1.9					
<	GRN-SV-D-31-07	>15	1.5					
	GRN-SV-D-31-08	>15	6.2					
<	GRN-SV-D-31-09	>15	1.5					
<	GRN-SV-D-31-10	>15	1.7					
	GRN-SV-D-31-11	>15	3.7	2.8	2.0			3.1
<	GRN-SV-D-31-12	>15	1.7					
	GRN-SV-D-31-13	>15	1.9					
<	GRN-SV-D-31-14	>15	1.7					
	GRN-SV-D-31-15	>15	2.1					
	GRN-SV-D-31-16	>15	2.1					
	GRN-SV-D-31-17	>15	2.7					
	GRN-SV-D-31-18	>15	3.1					
<	GRN-SV-D-31-19	>15	1.6					
<	GRN-SV-D-31-20	>15	1.5					
	GRN-SV-D-31-21	>15	3.0					
	GRN-SV-D-31-22	>15	2.6					
	GRN-SV-D-31-23	>15	2.4					
	GRN-SV-D-31-24	>15	1.9					

Depth <15 cm and radium >5 pCi/g plus background radium
+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-31-25	>15	1.8					
<	GRN-SV-D-32-01	>15	1.5					
	GRN-SV-D-32-02	>15	2.2					
	GRN-SV-D-32-03	>15	2.6					
	GRN-SV-D-32-06	>15	2.0					
	GRN-SV-D-32-07	>15	1.9					
	GRN-SV-D-32-08	>15	3.4					
	GRN-SV-D-32-11	>15	2.7					
	GRN-SV-D-32-12	>15	3.2	2.8	1.8			2.7
	GRN-SV-D-32-16	>15	3.0					
	GRN-SV-D-32-17	>15	3.6					
<	GRN-SV-D-32-21	>15	1.5					
<	GRN-SV-D-33-01	>15	1.5					
<	GRN-SV-D-33-02	>15	1.5					
<	GRN-SV-D-33-03	>15	1.5					
<	GRN-SV-D-33-04	>15	1.5					
<	GRN-SV-D-33-05	>15	1.5					
<	GRN-SV-D-33-06	>15	1.5					
	GRN-SV-D-33-07	>15	2.2	1.5	1.7			2.0
<	GRN-SV-D-33-08	>15	1.5					
<	GRN-SV-D-33-09	>15	1.5					
<	GRN-SV-D-33-10	>15	1.5					
	GRN-SV-D-33-11	>15	1.5					
◡	GRN-SV-D-33-12	>15	1.5					
<	GRN-SV-D-33-13	>15	1.5					
<	GRN-SV-D-33-14	>15	1.5					
<	GRN-SV-D-33-15	>15	1.5					
<	GRN-SV-D-33-16	>15	1.5					
<	GRN-SV-D-33-17	>15	1.7					
<	GRN-SV-D-33-18	>15	1.5					
<	GRN-SV-D-33-19	>15	1.5					
<	GRN-SV-D-33-20	>15	1.5					
<	GRN-SV-D-33-21	>15	1.5					
	GRN-SV-D-33-22	>15	2.4					
<	GRN-SV-D-33-23	>15	1.5					
<	GRN-SV-D-33-24	>15	1.5					
<	GRN-SV-D-33-25	>15	1.5	1.8	2.3			1.7
<	GRN-SV-D-34-01	>15	1.5					
<	GRN-SV-D-34-02	>15	1.5					
<	GRN-SV-D-34-03	>15	1.5					
<	GRN-SV-D-34-04	>15	1.5					
	GRN-SV-D-34-05	>15	2.5					
<	GRN-SV-D-34-06	>15	1.5					
<	GRN-SV-D-34-07	>15	1.5					
<	GRN-SV-D-34-08	>15	1.5					
<	GRN-SV-D-34-09	>15	1.5					
	GRN-SV-D-34-10	>15	1.9					
<	GRN-SV-D-34-11	>15	1.5					
<	GRN-SV-D-34-12	>15	1.5					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-D-34-13	>15	1.5					
<	GRN-SV-D-34-14	>15	1.5					
<	GRN-SV-D-34-15	>15	1.7					
<	GRN-SV-D-34-16	>15	1.5					
<	GRN-SV-D-34-17	>15	1.5					
	GRN-SV-D-34-18	>15	1.8					
<	GRN-SV-D-34-19	>15	1.7					
<	GRN-SV-D-34-20	>15	1.7					
	GRN-SV-D-34-21	>15	2.0					
<	GRN-SV-D-34-22	>15	1.7					
<	GRN-SV-D-34-23	>15	1.7					
<	GRN-SV-D-34-24	>15	1.7					
<	GRN-SV-D-34-25	>15	1.7					
<	GRN-SV-D-35-01	>15	1.5					
	GRN-SV-D-35-02	>15	2.3					
<	GRN-SV-D-35-03	>15	1.5					
<	GRN-SV-D-35-04	>15	1.5					
<	GRN-SV-D-35-05	>15	1.5					
	GRN-SV-D-35-06	>15	2.4					
<	GRN-SV-D-35-07	>15	1.5					
<	GRN-SV-D-35-08	>15	1.5					
<	GRN-SV-D-35-09	>15	1.5					
	GRN-SV-D-35-10	>15	1.5					
◡	GRN-SV-D-35-11	>15	1.4					
<	GRN-SV-D-35-12	>15	1.4					
<	GRN-SV-D-35-13	>15	1.7					
<	GRN-SV-D-35-14	>15	1.7					
<	GRN-SV-D-35-15	>15	1.7					
<	GRN-SV-D-35-16	>15	1.7					
<	GRN-SV-D-35-17	>15	1.7					
<	GRN-SV-D-35-18	>15	1.7					
<	GRN-SV-D-35-19	>15	1.7					
<	GRN-SV-D-35-20	>15	1.7					
<	GRN-SV-D-35-21	>15	1.7					
<	GRN-SV-D-35-22	>15	1.7					
<	GRN-SV-D-35-23	>15	1.7					
	GRN-SV-D-35-24	>15	2.1					
	GRN-SV-D-35-25	>15	2.0					
	GRN-SV-D-36-01	>15	2.7					
	GRN-SV-D-36-02	>15	2.8					
	GRN-SV-D-36-03	>15	4.2					
	GRN-SV-D-36-04	>15	3.1					
	GRN-SV-D-36-05	>15	1.9					
<	GRN-SV-D-36-06	>15	1.5					
	GRN-SV-D-36-07	>15	6.1					
	GRN-SV-D-36-08	>15	4.0					
	GRN-SV-D-36-09	>15	3.6					
<	GRN-SV-D-36-10	>15	1.7					
	GRN-SV-D-36-11	>15	3.4					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-36-12	>15	2.1					
	GRN-SV-D-36-13	>15	1.8					
	GRN-SV-D-36-14	>15	1.8					
	GRN-SV-D-36-15	>15	2.2					
	GRN-SV-D-36-16	>15	2.0					
<	GRN-SV-D-36-17	>15	1.8					
<	GRN-SV-D-36-18	>15	1.4					
<	GRN-SV-D-36-19	>15	1.3					
<	GRN-SV-D-36-20	>15	1.3	2.2	1.2			1.0
<	GRN-SV-D-36-21	>15	1.3					
<	GRN-SV-D-36-22	>15	1.3					
<	GRN-SV-D-36-23	>15	1.3					
<	GRN-SV-D-36-24	>15	1.3					
<	GRN-SV-D-36-25	>15	1.3					
<	GRN-SV-D-37-01	>15	1.7					
<	GRN-SV-D-37-02	>15	1.7					
<	GRN-SV-D-37-03	>15	1.7					
	GRN-SV-D-37-04	>15	4.8					
	GRN-SV-D-37-05	>15	2.2	2.1	12.0			5.7
<	GRN-SV-D-37-06	>15	1.5					
<	GRN-SV-D-37-07	>15	1.5					
<	GRN-SV-D-37-08	>15	1.5					
	GRN-SV-D-37-09	>15	1.5					
◡	GRN-SV-D-37-10	>15	1.5					
<	GRN-SV-D-37-11	>15	1.5					
<	GRN-SV-D-37-12	>15	1.5					
<	GRN-SV-D-37-13	>15	1.5					
<	GRN-SV-D-37-14	>15	1.5					
<	GRN-SV-D-37-15	>15	1.5					
<	GRN-SV-D-37-16	>15	1.5					
<	GRN-SV-D-37-17	>15	1.7	.8	1.1			.5
<	GRN-SV-D-37-18	>15	1.7					
<	GRN-SV-D-37-19	>15	1.7					
<	GRN-SV-D-37-20	>15	1.7					
<	GRN-SV-D-37-21	>15	1.7					
<	GRN-SV-D-37-22	>15	1.7					
<	GRN-SV-D-37-23	>15	1.7					
<	GRN-SV-D-37-24	>15	1.7					
<	GRN-SV-D-37-25	>15	1.7					
<	GRN-SV-D-38-01	>15	1.7					
<	GRN-SV-D-38-02	>15	1.7					
	GRN-SV-D-38-03	>15	2.6					
	GRN-SV-D-38-04	>15	2.1					
<	GRN-SV-D-38-05	>15	1.7					
	GRN-SV-D-38-06	>15	2.0					
<	GRN-SV-D-38-07	>15	1.7					
<	GRN-SV-D-38-08	>15	1.7					
<	GRN-SV-D-38-09	>15	1.7					
	GRN-SV-D-38-10	>15	2.8					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-38-11	>15	1.8					
<	GRN-SV-D-38-12	>15	1.5					
<	GRN-SV-D-38-13	>15	1.5	1.2	.8			.6
<	GRN-SV-D-38-14	>15	1.5					
<	GRN-SV-D-38-15	>15	1.5					
<	GRN-SV-D-38-16	>15	1.5					
<	GRN-SV-D-38-17	>15	1.5					
<	GRN-SV-D-38-18	>15	1.5					
	GRN-SV-D-38-19	>15	2.0					
<	GRN-SV-D-38-20	>15	1.5					
<	GRN-SV-D-38-21	>15	1.5					
	GRN-SV-D-38-22	>15	2.3					
<	GRN-SV-D-38-23	>15	1.5					
<	GRN-SV-D-38-24	>15	1.5					
<	GRN-SV-D-38-25	>15	1.5					
	GRN-SV-D-39-01	>15	2.1					
	GRN-SV-D-39-02	>15	3.4	3.2	2.1			2.9
	GRN-SV-D-39-03	>15	2.9					
<	GRN-SV-D-39-04	>15	1.5					
<	GRN-SV-D-39-05	>15	1.5					
<	GRN-SV-D-39-06	>15	1.5					
	GRN-SV-D-39-07	>15	2.9					
	GRN-SV-D-39-08	>15	2.6					
◡	GRN-SV-D-39-09	>15	1.8					
<	GRN-SV-D-39-10	>15	1.7					
<	GRN-SV-D-39-11	>15	1.7					
<	GRN-SV-D-39-12	>15	1.7					
<	GRN-SV-D-39-13	>15	1.7					
<	GRN-SV-D-39-14	>15	1.5					
	GRN-SV-D-39-15	>15	2.7					
<	GRN-SV-D-39-16	>15	1.5					
	GRN-SV-D-39-17	>15	1.9					
	GRN-SV-D-39-18	>15	2.0					
	GRN-SV-D-39-19	>15	2.3					
	GRN-SV-D-39-21	>15	2.5					
	GRN-SV-D-39-22	>15	2.6					
	GRN-SV-D-39-23	>15	4.2					
	GRN-SV-D-40-01	>15	2.7					
	GRN-SV-D-41-01	>15	6.4					
	GRN-SV-D-41-02	>15	2.5					
	GRN-SV-D-41-03	>15	4.2					
	GRN-SV-D-41-04	>15	2.7					
	GRN-SV-D-41-05	>15	4.3					
	GRN-SV-D-41-06	>15	4.4					
	GRN-SV-D-41-07	>15	4.4					
<	GRN-SV-D-41-08	>15	1.5					
<	GRN-SV-D-41-09	>15	1.7					
<	GRN-SV-D-41-10	>15	1.6					
<	GRN-SV-D-41-11	>15	1.5					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-D-41-12	>15	5.3					
<	GRN-SV-D-41-13	>15	1.7					
<	GRN-SV-D-41-14	>15	1.7					
	GRN-SV-D-41-15	>15	2.1					
	GRN-SV-D-41-16	>15	6.4					
<	GRN-SV-D-41-17	>15	1.7					
<	GRN-SV-D-41-18	>15	1.7					
<	GRN-SV-D-41-19	>15	1.7					
<	GRN-SV-D-41-20	>15	1.5					
	GRN-SV-D-41-21	>15	3.3					
<	GRN-SV-D-41-22	>15	1.5					
<	GRN-SV-D-41-23	>15	1.5					
<	GRN-SV-D-41-24	>15	1.5					
<	GRN-SV-D-41-25	>15	1.5					
<	GRN-SV-D-42-01	>15	1.7					
<	GRN-SV-D-42-02	>15	1.7					
<	GRN-SV-D-42-03	>15	1.7					
<	GRN-SV-D-42-04	>15	1.7					
<	GRN-SV-D-42-05	>15	1.7					
<	GRN-SV-D-42-06	>15	1.5					
<	GRN-SV-D-42-07	>15	1.7					
<	GRN-SV-D-42-08	>15	1.7					
	GRN-SV-D-42-09	>15	1.7	.8	1.0			.3
	GRN-SV-D-42-10	>15	1.7					
<	GRN-SV-D-42-11	>15	1.7					
<	GRN-SV-D-42-12	>15	1.7					
<	GRN-SV-D-42-13	>15	1.7					
<	GRN-SV-D-42-14	>15	1.7					
<	GRN-SV-D-42-15	>15	1.7					
<	GRN-SV-D-42-16	>15	1.7					
<	GRN-SV-D-42-17	>15	1.7					
<	GRN-SV-D-42-18	>15	1.7					
<	GRN-SV-D-42-19	>15	1.7					
<	GRN-SV-D-42-20	>15	1.5					
<	GRN-SV-D-42-21	>15	1.5					
<	GRN-SV-D-42-22	>15	1.5					
<	GRN-SV-D-42-23	>15	1.5					
<	GRN-SV-D-42-24	>15	1.5					
	GRN-SV-D-42-25	>15	2.0					
<	GRN-SV-D-43-01	>15	1.5					
<	GRN-SV-D-43-02	>15	1.5					
<	GRN-SV-D-43-03	>15	1.5					
	GRN-SV-D-43-04	>15	1.9					
<	GRN-SV-D-43-05	>15	1.5					
<	GRN-SV-D-43-06	>15	1.5					
	GRN-SV-D-43-07	>15	2.0					
<	GRN-SV-D-43-08	>15	1.5					
<	GRN-SV-D-43-09	>15	1.5	1.0	2.3			1.4
<	GRN-SV-D-43-10	>15	1.5					

Depth <15 cm and radium >5 pCi/g plus background radium
+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-D-43-11	>15	1.5					
<	GRN-SV-D-43-12	>15	1.5					
<	GRN-SV-D-43-13	>15	1.5					
<	GRN-SV-D-43-14	>15	1.5					
<	GRN-SV-D-43-15	>15	1.5					
	GRN-SV-D-43-16	>15	2.2					
<	GRN-SV-D-43-17	>15	1.5					
<	GRN-SV-D-43-18	>15	1.5					
<	GRN-SV-D-43-19	>15	1.5					
<	GRN-SV-D-43-20	>15	1.5					
<	GRN-SV-D-43-21	>15	1.5					
<	GRN-SV-D-43-22	>15	1.5					
<	GRN-SV-D-43-23	>15	1.5					
<	GRN-SV-D-43-24	>15	1.5					
<	GRN-SV-D-43-25	>15	1.5					
<	GRN-SV-D-44-01	>15	1.5					
<	GRN-SV-D-44-02	>15	1.5					
<	GRN-SV-D-44-03	>15	1.5					
<	GRN-SV-D-44-04	>15	1.5					
<	GRN-SV-D-44-05	>15	1.5					
<	GRN-SV-D-44-06	>15	1.5					
	GRN-SV-D-44-07	>15	1.8					
	GRN-SV-D-44-08	>15	1.7					
◡	GRN-SV-D-44-09	>15	1.7					
<	GRN-SV-D-44-10	>15	1.7					
<	GRN-SV-D-44-11	>15	1.7					
<	GRN-SV-D-44-12	>15	1.7					
<	GRN-SV-D-44-13	>15	1.7					
<	GRN-SV-D-44-14	>15	1.7					
<	GRN-SV-D-44-15	>15	1.7					
<	GRN-SV-D-44-16	>15	1.7					
<	GRN-SV-D-44-17	>15	1.7					
<	GRN-SV-D-44-18	>15	1.5					
<	GRN-SV-D-44-19	>15	1.5					
<	GRN-SV-D-44-20	>15	1.5					
<	GRN-SV-D-44-21	>15	1.5					
<	GRN-SV-D-44-22	>15	1.5					
<	GRN-SV-D-44-23	>15	1.5					
<	GRN-SV-D-44-24	>15	1.5					
<	GRN-SV-D-44-25	>15	1.5					
<	GRN-SV-D-45-01	>15	1.5					
<	GRN-SV-D-45-02	>15	1.5					
<	GRN-SV-D-45-03	>15	1.5					
<	GRN-SV-D-45-04	>15	1.5					
<	GRN-SV-D-45-05	>15	1.5					
<	GRN-SV-D-45-06	>15	1.7					
	GRN-SV-D-45-07	>15	1.9					
<	GRN-SV-D-45-08	>15	1.5					
<	GRN-SV-D-45-09	>15	1.7					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing D

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-D-45-10	>15	1.7					
<	GRN-SV-D-45-11	>15	1.7					
	GRN-SV-D-45-12	>15	2.3					
<	GRN-SV-D-45-13	>15	1.7	1.5	1.7			1.3
<	GRN-SV-D-45-14	>15	1.7					
<	GRN-SV-D-45-15	>15	1.7					
<	GRN-SV-D-45-16	>15	1.7					
	GRN-SV-D-45-17	>15	4.2					
<	GRN-SV-D-45-18	>15	1.7					
<	GRN-SV-D-45-19	>15	1.6					
<	GRN-SV-D-45-20	>15	1.7					
<	GRN-SV-D-45-21	>15	1.5					
<	GRN-SV-D-45-22	>15	1.7	1.5	1.8			1.7
<	GRN-SV-D-45-23	>15	1.7					
	GRN-SV-D-45-24	>15	1.9					
<	GRN-SV-D-45-25	>15	1.6					
	GRN-SV-D-46-01	<15	3.2					
	GRN-SV-D-46-02	<15	2.5					
<	GRN-SV-D-46-03	<15	1.5					
	GRN-SV-D-46-04	<15	3.5					
	GRN-SV-D-46-05	<15	3.2					
	GRN-SV-D-46-06	<15	2.1					
	GRN-SV-D-46-07	<15	1.5					
◡	GRN-SV-D-46-08	<15	1.9					
<	GRN-SV-D-46-09	<15	1.5					
	GRN-SV-D-46-10	<15	5.6					
<	GRN-SV-D-46-11	<15	1.5					
	GRN-SV-D-46-12	<15	3.3					
	GRN-SV-D-46-16	<15	2.6					
	GRN-SV-D-46-17	<15	3.4					
	GRN-SV-D-46-21	>15	5.8					
	GRN-SV-D-46-22	<15	2.6					
	GRN-SV-D-47-01	>15	3.4					
	GRN-SV-D-47-02	>15	3.8					
	GRN-SV-D-47-06	>15	3.1					

◡ Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

E57,800 E57,950 E58,100 E58,250 E58,400 E58,550 E58,700

MATCH LINE N 59,700 (FOR CONTINUATION, SEE SHEET C)

N59,550 N59,400 N59,250 E57,650 N59,100 N58,950

1 2 3 4 5 6 7 8
9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48

N58,800

50 0 50 100
SCALE FEET

MATCH LINE E 58,850 (FOR CONTINUATION, SEE SHEET F)

E57,500 E58,000 E58,500 E59,000 E59,500 E60,000
N61,500 E57,000 N61,000 N60,500 N60,000 N59,500 N59,000 N58,500
SHEET A SHEET B SHEET C SHEET D SHEET E SHEET F

KEY MAP
(N.T.S.)

REFERENCE DRAWINGS:

GRN-SV-000, SOIL VERIFICATION PLAN GRID SYSTEM

LEGEND:

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

150' x 150'

30' x 30' GRID SYSTEM

SAMPLE GRID NO.
A-37-19

A – SHEET NO.
37 – 150' x 150' GRID
19 – 30' x 30' SUBGRID

U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

GREEN RIVER SITE
GREEN RIVER, UTAH

SOIL VERIFICATION GRID SYSTEM
SHEET E

MORRISON-KNUDSEN ENGINEERS, INC.
UMTRA PROJECT

DESIGNED	CHECKED	DATE

PROJECT NO. DE-AC04-83AL18796
DRAWING NO. GRN-SV-005

Verification Samples
Green River
Drawing E

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-E-04-01	>15	1.8					
	GRN-SV-E-04-02	>15	6.4					
	GRN-SV-E-04-03	>15	5.4					
	GRN-SV-E-04-04	>15	4.0					
	GRN-SV-E-04-05	>15	2.7					
	GRN-SV-E-04-06	>15	2.2					
<	GRN-SV-E-04-07	>15	1.5					
	GRN-SV-E-04-08	>15	1.9					
<	GRN-SV-E-04-09	>15	1.6					
	GRN-SV-E-04-10	>15	2.0					
	GRN-SV-E-04-11	>15	2.3					
	GRN-SV-E-04-12	>15	3.0					
	GRN-SV-E-04-13	>15	2.3					
	GRN-SV-E-04-14	>15	3.9	3.5	3.6			3.8
<	GRN-SV-E-04-15	>15	1.5					
	GRN-SV-E-04-16	>15	1.9					
	GRN-SV-E-04-17	>15	1.9					
<	GRN-SV-E-04-18	>15	1.5					
<	GRN-SV-E-04-19	>15	1.5					
<	GRN-SV-E-04-20	>15	1.7					
	GRN-SV-E-04-21	>15	2.2					
<	GRN-SV-E-04-22	>15	1.5					
	GRN-SV-E-04-23	>15	1.5					
<	GRN-SV-E-04-24	>15	1.5					
<	GRN-SV-E-04-25	>15	1.5					
	GRN-SV-E-05-01	>15	3.8					
	GRN-SV-E-05-02	>15	2.8					
<	GRN-SV-E-05-03	>15	1.5					
	GRN-SV-E-05-04	>15	2.1					
<	GRN-SV-E-05-05	>15	1.5					
	GRN-SV-E-05-06	>15	3.1					
	GRN-SV-E-05-07	>15	2.7					
	GRN-SV-E-05-08	>15	1.9					
	GRN-SV-E-05-09	>15	1.8					
	GRN-SV-E-05-10	>15	2.4					
<	GRN-SV-E-05-11	>15	1.7					
	GRN-SV-E-05-12	>15	1.8					
	GRN-SV-E-05-13	>15	4.3	4.6	2.9			3.8
	GRN-SV-E-05-14	>15	3.5					
	GRN-SV-E-05-15	>15	2.3					
<	GRN-SV-E-05-16	>15	1.5					
<	GRN-SV-E-05-17	>15	1.5					
	GRN-SV-E-05-18	>15	3.0					
<	GRN-SV-E-05-19	>15	1.7					
	GRN-SV-E-05-20	>15	2.6					
	GRN-SV-E-05-21	>15	2.4					
	GRN-SV-E-05-22	>15	2.2					
<	GRN-SV-E-05-23	>15	1.5					
	GRN-SV-E-05-24	>15	2.1					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing E

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-05-25	>15	1.6					
<	GRN-SV-E-06-01	>15	1.5					
<	GRN-SV-E-06-02	>15	1.5					
	GRN-SV-E-06-03	>15	2.6					
<	GRN-SV-E-06-04	>15	1.5					
<	GRN-SV-E-06-05	>15	1.5					
<	GRN-SV-E-06-06	>15	1.7					
<	GRN-SV-E-06-07	>15	1.7					
	GRN-SV-E-06-08	>15	3.3					
<	GRN-SV-E-06-09	>15	1.5					
<	GRN-SV-E-06-10	>15	1.5					
<	GRN-SV-E-06-11	>15	1.5					
<	GRN-SV-E-06-12	>15	1.5					
<	GRN-SV-E-06-13	>15	1.5					
<	GRN-SV-E-06-14	>15	1.5					
<	GRN-SV-E-06-15	>15	1.5					
	GRN-SV-E-06-16	>15	7.3	5.8	5.7			6.7
	GRN-SV-E-06-17	>15	4.0					
<	GRN-SV-E-06-18	>15	1.5					
<	GRN-SV-E-06-19	>15	1.5					
<	GRN-SV-E-06-20	>15	1.5					
	GRN-SV-E-06-21	>15	3.4					
	GRN-SV-E-06-22	>15	3.1					
	GRN-SV-E-06-23	>15	2.7					
	GRN-SV-E-06-24	>15	2.5					
	GRN-SV-E-06-25	>15	1.9					
<	GRN-SV-E-07-01	>15	1.7					
<	GRN-SV-E-07-02	>15	1.7					
	GRN-SV-E-07-03	>15	2.3					
	GRN-SV-E-07-04	>15	2.5					
<	GRN-SV-E-07-05	>15	1.5					
<	GRN-SV-E-07-06	>15	1.7					
<	GRN-SV-E-07-07	>15	1.7					
	GRN-SV-E-07-08	>15	2.5					
	GRN-SV-E-07-09	>15	3.1					
	GRN-SV-E-07-10	>15	2.3					
<	GRN-SV-E-07-11	>15	1.7					
	GRN-SV-E-07-12	>15	2.2					
<	GRN-SV-E-07-13	>15	1.7					
<	GRN-SV-E-07-14	>15	1.7					
<	GRN-SV-E-07-15	>15	1.7					
<	GRN-SV-E-07-16	>15	1.7					
<	GRN-SV-E-07-17	>15	1.7					
<	GRN-SV-E-07-18	>15	1.7					
<	GRN-SV-E-07-19	>15	1.7					
<	GRN-SV-E-07-20	>15	1.7					
<	GRN-SV-E-07-21	>15	1.7					
<	GRN-SV-E-07-22	>15	1.7					
<	GRN-SV-E-07-23	>15	1.7					

Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing E

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-07-24	>15	1.7					
<	GRN-SV-E-07-25	>15	1.7					
<	GRN-SV-E-08-01	>15	1.5					
<	GRN-SV-E-08-02	>15	1.5					
<	GRN-SV-E-08-03	>15	1.5					
	GRN-SV-E-08-04	>15	3.0					
<	GRN-SV-E-08-05	>15	1.5					
	GRN-SV-E-08-06	>15	4.4	2.0	4.2			4.4
	GRN-SV-E-08-07	>15	2.7					
	GRN-SV-E-08-08	>15	2.8					
	GRN-SV-E-08-09	>15	2.5					
<	GRN-SV-E-08-10	>15	1.5					
<	GRN-SV-E-08-11	>15	1.7					
<	GRN-SV-E-08-12	>15	1.5					
<	GRN-SV-E-08-13	>15	1.5					
<	GRN-SV-E-08-14	>15	1.5					
<	GRN-SV-E-08-15	>15	1.6					
<	GRN-SV-E-08-16	>15	1.5					
<	GRN-SV-E-08-17	>15	1.5					
<	GRN-SV-E-08-18	>15	1.5					
<	GRN-SV-E-08-19	>15	1.5					
<	GRN-SV-E-08-20	>15	1.5					
	GRN-SV-E-08-21	>15	2.4					
	GRN-SV-E-08-22	>15	2.0					
<	GRN-SV-E-08-23	>15	1.7					
<	GRN-SV-E-08-24	>15	1.7					
<	GRN-SV-E-08-25	>15	1.7					
	GRN-SV-E-12-01	>15	1.8					
	GRN-SV-E-12-02	>15	4.5					
<	GRN-SV-E-12-03	>15	1.5					
<	GRN-SV-E-12-04	>15	1.5					
<	GRN-SV-E-12-05	>15	1.5					
	GRN-SV-E-12-06	>15	1.8					
	GRN-SV-E-12-07	>15	4.0	2.9	4.1			4.0
<	GRN-SV-E-12-08	>15	1.7					
<	GRN-SV-E-12-09	>15	1.5					
<	GRN-SV-E-12-10	>15	1.5					
<	GRN-SV-E-12-11	>15	1.5					
<	GRN-SV-E-12-12	>15	1.5					
	GRN-SV-E-12-13	>15	2.5					
<	GRN-SV-E-12-14	>15	1.7					
<	GRN-SV-E-12-15	>15	1.5					
<	GRN-SV-E-12-16	>15	1.5					
<	GRN-SV-E-12-17	>15	1.5					
	GRN-SV-E-12-18	>15	2.6					
	GRN-SV-E-12-19	>15	1.8					
<	GRN-SV-E-12-20	>15	1.5					
<	GRN-SV-E-12-21	>15	1.5					
<	GRN-SV-E-12-22	>15	1.5					

< Depth <15 cm and radium >5 pCi/g plus background radium
+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing E

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-12-23	>15	1.5					
	GRN-SV-E-12-24	>15	2.2					
<	GRN-SV-E-12-25	>15	1.5					
	GRN-SV-E-13-01	>15	2.9					
	GRN-SV-E-13-02	>15	6.8	7.9	9.2			7.7
<	GRN-SV-E-13-03	>15	1.5					
	GRN-SV-E-13-04	>15	3.2					
	GRN-SV-E-13-05	>15	2.1					
	GRN-SV-E-13-06	>15	2.3					
	GRN-SV-E-13-07	>15	4.5					
	GRN-SV-E-13-08	>15	5.8					
<	GRN-SV-E-13-09	>15	1.6					
	GRN-SV-E-13-10	>15	2.6					
	GRN-SV-E-13-11	>15	3.7					
	GRN-SV-E-13-12	>15	6.9					
	GRN-SV-E-13-13	>15	3.0					
	GRN-SV-E-13-14	>15	4.3					
	GRN-SV-E-13-15	>15	5.2	4.2	3.2			4.5
	GRN-SV-E-13-16	>15	2.3					
	GRN-SV-E-13-17	>15	2.0					
	GRN-SV-E-13-18	>15	2.1					
	GRN-SV-E-13-19	>15	2.1					
	GRN-SV-E-13-20	>15	4.0					
	GRN-SV-E-13-21	>15	1.9					
<	GRN-SV-E-13-22	>15	1.5					
<	GRN-SV-E-13-23	>15	1.5					
<	GRN-SV-E-13-24	>15	1.5					
<	GRN-SV-E-13-25	>15	1.5					
<	GRN-SV-E-14-01	>15	1.5					
<	GRN-SV-E-14-02	>15	1.5					
	GRN-SV-E-14-03	>15	4.2					
<	GRN-SV-E-14-04	>15	1.5					
<	GRN-SV-E-14-05	>15	1.5					
	GRN-SV-E-14-06	>15	4.9					
	GRN-SV-E-14-07	>15	2.0					
	GRN-SV-E-14-08	>15	2.4					
	GRN-SV-E-14-09	>15	3.0					
<	GRN-SV-E-14-10	>15	1.5					
	GRN-SV-E-14-11	>15	2.4					
<	GRN-SV-E-14-12	>15	1.5					
	GRN-SV-E-14-13	>15	2.9					
<	GRN-SV-E-14-14	>15	1.5					
	GRN-SV-E-14-15	>15	7.6	1.4	1.0			5.3
	GRN-SV-E-14-16	>15	2.0					
<	GRN-SV-E-14-17	>15	1.5					
	GRN-SV-E-14-18	>15	2.4					
<	GRN-SV-E-14-19	>15	1.5					
<	GRN-SV-E-14-20	>15	1.5					
<	GRN-SV-E-14-21	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing E

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-14-22	>15	1.7					
<	GRN-SV-E-14-23	>15	1.7					
<	GRN-SV-E-14-24	>15	1.5					
<	GRN-SV-E-14-25	>15	1.5					
<	GRN-SV-E-15-01	>15	1.5					
<	GRN-SV-E-15-02	>15	1.5					
<	GRN-SV-E-15-03	>15	1.6					
	GRN-SV-E-15-04	>15	2.1					
	GRN-SV-E-15-05	>15	1.9					
	GRN-SV-E-15-06	>15	2.2					
<	GRN-SV-E-15-07	>15	1.5					
<	GRN-SV-E-15-08	>15	1.7					
	GRN-SV-E-15-09	>15	1.9					
	GRN-SV-E-15-10	>15	2.4	1.7	1.3			2.0
<	GRN-SV-E-15-11	>15	1.5					
<	GRN-SV-E-15-12	>15	1.5					
<	GRN-SV-E-15-13	>15	1.5					
	GRN-SV-E-15-14	>15	1.9					
<	GRN-SV-E-15-15	>15	1.5					
<	GRN-SV-E-15-16	>15	1.5					
<	GRN-SV-E-15-17	>15	1.5					
<	GRN-SV-E-15-18	>15	1.7					
	GRN-SV-E-15-19	>15	2.3					
	GRN-SV-E-15-20	>15	3.5					
<	GRN-SV-E-15-21	>15	1.5					
<	GRN-SV-E-15-22	>15	1.5					
	GRN-SV-E-15-23	>15	2.4					
	GRN-SV-E-15-24	>15	2.5					
	GRN-SV-E-15-25	>15	3.0	2.8	2.2			2.7
<	GRN-SV-E-16-01	>15	1.7					
<	GRN-SV-E-16-02	>15	1.7					
<	GRN-SV-E-16-03	>15	1.7					
<	GRN-SV-E-16-04	>15	1.7					
<	GRN-SV-E-16-05	>15	1.7					
<	GRN-SV-E-16-06	>15	1.7					
<	GRN-SV-E-16-07	>15	1.7					
	GRN-SV-E-16-08	>15	2.0	2.7	1.0			1.6
<	GRN-SV-E-16-09	>15	1.5					
<	GRN-SV-E-16-10	>15	1.5					
<	GRN-SV-E-16-11	>15	1.5					
<	GRN-SV-E-16-12	>15	1.5					
<	GRN-SV-E-16-13	>15	1.5					
<	GRN-SV-E-16-14	>15	1.5					
<	GRN-SV-E-16-15	>15	1.5					
	GRN-SV-E-16-16	>15	2.8					
<	GRN-SV-E-16-17	>15	1.5					
	GRN-SV-E-16-18	>15	1.8					
<	GRN-SV-E-16-19	>15	1.5					
<	GRN-SV-E-16-20	>15	1.5					

Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing E

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-E-16-21	>15	2.8					
<	GRN-SV-E-16-22	>15	1.5					
<	GRN-SV-E-16-23	>15	1.5					
<	GRN-SV-E-16-24	>15	1.5					
<	GRN-SV-E-16-25	>15	1.6					
<	GRN-SV-E-20-01	>15	1.5					
<	GRN-SV-E-20-02	>15	1.7					
<	GRN-SV-E-20-03	>15	1.5					
	GRN-SV-E-20-04	>15	2.4					
	GRN-SV-E-20-05	>15	3.0					
<	GRN-SV-E-20-06	>15	1.5					
<	GRN-SV-E-20-07	>15	1.5					
<	GRN-SV-E-20-08	>15	1.5					
<	GRN-SV-E-20-09	>15	1.7					
	GRN-SV-E-20-10	>15	1.9	2.3	4.3			2.7
<	GRN-SV-E-20-11	>15	1.5					
<	GRN-SV-E-20-12	>15	1.5					
	GRN-SV-E-20-13	>15	1.8					
	GRN-SV-E-20-14	>15	2.1					
<	GRN-SV-E-20-15	>15	1.6					
<	GRN-SV-E-20-16	>15	1.5					
<	GRN-SV-E-20-17	>15	1.5					
	GRN-SV-E-20-18	>15	1.5					
	GRN-SV-E-20-19	>15	1.8					
	GRN-SV-E-20-20	>15	2.5					
<	GRN-SV-E-20-21	>15	1.5					
<	GRN-SV-E-20-22	>15	1.7					
<	GRN-SV-E-20-23	>15	1.7					
<	GRN-SV-E-20-24	>15	1.7					
<	GRN-SV-E-20-25	>15	1.7					
	GRN-SV-E-21-01	>15	2.5					
	GRN-SV-E-21-02	>15	2.0					
	GRN-SV-E-21-03	>15	4.5					
	GRN-SV-E-21-04	>15	2.8					
	GRN-SV-E-21-05	>15	3.8					
	GRN-SV-E-21-06	>15	1.8					
	GRN-SV-E-21-07	>15	2.7					
	GRN-SV-E-21-08	>15	3.1					
	GRN-SV-E-21-09	>15	2.2					
<	GRN-SV-E-21-10	>15	1.7					
	GRN-SV-E-21-11	>15	2.7					
	GRN-SV-E-21-12	>15	2.8	3.9	2.8			2.8
	GRN-SV-E-21-13	>15	2.3					
	GRN-SV-E-21-14	>15	1.8					
	GRN-SV-E-21-15	>15	3.5					
<	GRN-SV-E-21-16	>15	1.7					
<	GRN-SV-E-21-17	>15	1.7					
<	GRN-SV-E-21-18	>15	1.7					
<	GRN-SV-E-21-19	>15	1.7					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-E-21-20	>15	1.9					
<	GRN-SV-E-21-21	>15	1.7					
<	GRN-SV-E-21-22	>15	1.7					
	GRN-SV-E-21-23	>15	1.8					
<	GRN-SV-E-21-24	>15	1.5					
<	GRN-SV-E-21-25	>15	1.6					
	GRN-SV-E-22-01	>15	2.1					
<	GRN-SV-E-22-02	>15	1.5					
<	GRN-SV-E-22-03	>15	1.5					
<	GRN-SV-E-22-04	>15	1.5					
<	GRN-SV-E-22-05	>15	1.5					
	GRN-SV-E-22-06	>15	4.2					
	GRN-SV-E-22-07	>15	3.5					
<	GRN-SV-E-22-08	>15	1.5					
	GRN-SV-E-22-09	>15	3.7					
<	GRN-SV-E-22-10	>15	1.5					
	GRN-SV-E-22-11	>15	2.0					
	GRN-SV-E-22-12	>15	2.8					
	GRN-SV-E-22-13	>15	3.2					
	GRN-SV-E-22-14	>15	2.0					
	GRN-SV-E-22-15	>15	2.2					
<	GRN-SV-E-22-16	>15	1.4					
	GRN-SV-E-22-17	>15	1.4					
	GRN-SV-E-22-18	>15	2.3					
	GRN-SV-E-22-19	>15	3.5	3.3	2.2			3.1
	GRN-SV-E-22-20	>15	2.6					
<	GRN-SV-E-22-21	>15	1.8					
	GRN-SV-E-22-22	>15	2.3					
	GRN-SV-E-22-23	>15	1.9					
	GRN-SV-E-22-24	>15	2.5					
	GRN-SV-E-22-25	>15	2.4					
<	GRN-SV-E-23-01	>15	1.5					
	GRN-SV-E-23-02	>15	2.1					
	GRN-SV-E-23-03	>15	3.9	3.7	3.3			3.7
	GRN-SV-E-23-04	>15	3.4					
	GRN-SV-E-23-05	>15	3.7					
	GRN-SV-E-23-06	>15	2.0					
	GRN-SV-E-23-07	>15	2.4					
	GRN-SV-E-23-08	>15	2.5					
	GRN-SV-E-23-09	>15	2.0					
<	GRN-SV-E-23-10	>15	1.6					
	GRN-SV-E-23-11	>15	2.6					
	GRN-SV-E-23-12	>15	3.5					
	GRN-SV-E-23-13	>15	2.1					
	GRN-SV-E-23-14	>15	3.1					
	GRN-SV-E-23-15	>15	2.3					
	GRN-SV-E-23-16	>15	4.2					
	GRN-SV-E-23-17	>15	2.7					
<	GRN-SV-E-23-18	>15	1.6					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing E

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-23-19	>15	1.5					
	GRN-SV-E-23-20	>15	2.0					
	GRN-SV-E-23-21	>15	3.1					
<	GRN-SV-E-23-22	>15	1.7					
<	GRN-SV-E-23-23	>15	1.7					
<	GRN-SV-E-23-24	>15	1.7					
<	GRN-SV-E-23-25	>15	1.7					
	GRN-SV-E-24-01	>15	1.9					
<	GRN-SV-E-24-02	>15	1.7					
<	GRN-SV-E-24-03	>15	1.7					
<	GRN-SV-E-24-04	>15	1.7					
<	GRN-SV-E-24-05	>15	1.7					
<	GRN-SV-E-24-06	>15	1.7					
<	GRN-SV-E-24-07	>15	1.7					
<	GRN-SV-E-24-08	>15	1.7					
<	GRN-SV-E-24-09	>15	1.7					
<	GRN-SV-E-24-10	>15	1.7					
<	GRN-SV-E-24-11	>15	1.7					
	GRN-SV-E-24-12	>15	1.9	1.3	2.4			2.1
<	GRN-SV-E-24-13	>15	1.7					
<	GRN-SV-E-24-14	>15	1.7					
<	GRN-SV-E-24-15	>15	1.7					
<	GRN-SV-E-24-16	>15	1.7					
	GRN-SV-E-24-17	>15	2.9					
<	GRN-SV-E-24-18	>15	1.7					
<	GRN-SV-E-24-19	>15	1.6					
<	GRN-SV-E-24-20	>15	1.7					
<	GRN-SV-E-24-21	>15	1.7					
	GRN-SV-E-24-22	>15	1.9					
	GRN-SV-E-24-23	>15	2.0					
<	GRN-SV-E-24-24	>15	1.5					
<	GRN-SV-E-24-25	>15	1.5					
<	GRN-SV-E-28-01	>15	1.5					
<	GRN-SV-E-28-02	>15	1.5					
<	GRN-SV-E-28-03	>15	1.5					
<	GRN-SV-E-28-04	>15	1.5					
<	GRN-SV-E-28-05	>15	1.6					
<	GRN-SV-E-28-06	>15	1.5					
<	GRN-SV-E-28-07	>15	1.5					
<	GRN-SV-E-28-08	>15	1.5					
<	GRN-SV-E-28-09	>15	1.5					
<	GRN-SV-E-28-10	>15	1.5	1.0	1.5			1.1
<	GRN-SV-E-28-11	>15	1.5					
<	GRN-SV-E-28-12	>15	1.5					
<	GRN-SV-E-28-13	>15	1.5					
<	GRN-SV-E-28-14	>15	1.5					
<	GRN-SV-E-28-15	>15	1.5					
<	GRN-SV-E-28-16	>15	1.7					
<	GRN-SV-E-28-17	>15	1.7					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-28-18	>15	1.7					
<	GRN-SV-E-28-19	>15	1.7					
<	GRN-SV-E-28-20	>15	1.7					
<	GRN-SV-E-28-21	>15	1.7					
<	GRN-SV-E-28-22	>15	1.7					
<	GRN-SV-E-28-23	>15	1.7					
<	GRN-SV-E-28-24	>15	1.7					
<	GRN-SV-E-28-25	>15	1.7	1.3	3.0			2.0
	GRN-SV-E-29-01	>15	2.3					
<	GRN-SV-E-29-02	>15	1.7					
<	GRN-SV-E-29-03	>15	1.7					
	GRN-SV-E-29-04	>15	2.2					
<	GRN-SV-E-29-05	>15	1.7					
<	GRN-SV-E-29-06	>15	1.7					
<	GRN-SV-E-29-07	>15	1.7					
	GRN-SV-E-29-08	>15	2.2					
	GRN-SV-E-29-09	>15	2.1					
	GRN-SV-E-29-10	>15	1.8					
	GRN-SV-E-29-11	>15	2.3					
<	GRN-SV-E-29-12	>15	1.7					
<	GRN-SV-E-29-13	>15	1.7					
	GRN-SV-E-29-14	>15	2.2					
	GRN-SV-E-29-15	>15	2.1					
<	GRN-SV-E-29-16	>15	1.7					
<	GRN-SV-E-29-17	>15	1.7					
<	GRN-SV-E-29-18	>15	1.7					
	GRN-SV-E-29-19	>15	2.1					
	GRN-SV-E-29-20	>15	2.6					
<	GRN-SV-E-29-21	>15	1.7					
<	GRN-SV-E-29-22	>15	1.7					
<	GRN-SV-E-29-23	>15	1.5	1.5	1.8			1.1
<	GRN-SV-E-29-24	>15	1.5					
<	GRN-SV-E-29-25	>15	1.7					
	GRN-SV-E-30-01	>15	2.3					
	GRN-SV-E-30-02	>15	1.9					
<	GRN-SV-E-30-03	>15	1.5					
<	GRN-SV-E-30-04	>15	1.6					
<	GRN-SV-E-30-05	>15	1.7					
<	GRN-SV-E-30-06	>15	1.5					
<	GRN-SV-E-30-07	>15	1.5					
<	GRN-SV-E-30-08	>15	1.7					
<	GRN-SV-E-30-09	>15	1.5					
<	GRN-SV-E-30-10	>15	1.6					
<	GRN-SV-E-30-11	>15	1.5					
<	GRN-SV-E-30-12	>15	1.7					
<	GRN-SV-E-30-13	>15	1.5					
<	GRN-SV-E-30-14	>15	1.5					
<	GRN-SV-E-30-15	>15	1.5					
	GRN-SV-E-30-16	>15	2.0					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing E

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-30-17	>15	1.5					
	GRN-SV-E-30-18	>15	1.8					
<	GRN-SV-E-30-19	>15	1.5					
<	GRN-SV-E-30-20	>15	1.5					
	GRN-SV-E-30-21	>15	2.2	2.1	1.4			1.9
<	GRN-SV-E-30-22	>15	1.7					
<	GRN-SV-E-30-23	>15	1.5					
<	GRN-SV-E-30-24	>15	1.6					
<	GRN-SV-E-30-25	>15	1.5					
	GRN-SV-E-31-01	>15	3.1					
<	GRN-SV-E-31-02	>15	1.7					
<	GRN-SV-E-31-03	>15	1.5					
<	GRN-SV-E-31-04	>15	1.5					
<	GRN-SV-E-31-05	>15	1.5					
	GRN-SV-E-31-06	>15	2.6					
	GRN-SV-E-31-07	>15	1.8					
<	GRN-SV-E-31-08	>15	1.5					
<	GRN-SV-E-31-09	>15	1.5					
	GRN-SV-E-31-10	>15	1.9					
<	GRN-SV-E-31-11	>15	1.8					
	GRN-SV-E-31-12	>15	2.8					
<	GRN-SV-E-31-13	>15	1.5					
<	GRN-SV-E-31-14	>15	1.5					
<	GRN-SV-E-31-15	>15	1.6					
	GRN-SV-E-31-16	>15	1.8					
<	GRN-SV-E-31-17	>15	1.5					
	GRN-SV-E-31-18	>15	1.8					
<	GRN-SV-E-31-19	>15	1.5	1.0	2.1			1.4
<	GRN-SV-E-31-20	>15	1.5					
	GRN-SV-E-31-21	>15	2.2					
<	GRN-SV-E-31-22	>15	1.7					
<	GRN-SV-E-31-23	>15	1.5					
<	GRN-SV-E-31-24	>15	1.5					
<	GRN-SV-E-31-25	>15	1.5					
<	GRN-SV-E-32-01	>15	1.5					
<	GRN-SV-E-32-02	>15	1.5					
<	GRN-SV-E-32-03	>15	1.5					
	GRN-SV-E-32-04	>15	2.1					
<	GRN-SV-E-32-05	>15	1.5					
<	GRN-SV-E-32-06	>15	1.5					
<	GRN-SV-E-32-07	>15	1.5					
<	GRN-SV-E-32-08	>15	1.5					
<	GRN-SV-E-32-09	>15	1.6					
	GRN-SV-E-32-10	>15	1.9					
<	GRN-SV-E-32-11	>15	1.5					
<	GRN-SV-E-32-12	>15	1.5					
<	GRN-SV-E-32-13	>15	1.5					
<	GRN-SV-E-32-14	>15	1.5					
<	GRN-SV-E-32-15	>15	1.5					

Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-32-16	>15	1.5					
<	GRN-SV-E-32-17	>15	1.5					
<	GRN-SV-E-32-18	>15	1.5					
	GRN-SV-E-32-19	>15	2.5					
<	GRN-SV-E-32-20	>15	1.5					
<	GRN-SV-E-32-21	>15	1.5					
	GRN-SV-E-32-22	>15	1.8					
<	GRN-SV-E-32-23	>15	1.5					
	GRN-SV-E-32-24	>15	2.3					
<	GRN-SV-E-32-25	>15	1.5					
<	GRN-SV-E-36-01	>15	1.5					
<	GRN-SV-E-36-02	>15	1.5					
<	GRN-SV-E-36-03	>15	1.5					
<	GRN-SV-E-36-04	>15	1.5					
<	GRN-SV-E-36-05	>15	1.5					
<	GRN-SV-E-36-06	>15	1.5					
<	GRN-SV-E-36-07	>15	1.7					
<	GRN-SV-E-36-08	>15	1.5					
<	GRN-SV-E-36-09	>15	1.5	1.1	23.0			8.9
	GRN-SV-E-36-10	>15	2.3					
	GRN-SV-E-36-11	>15	3.4					
	GRN-SV-E-36-12	>15	2.0					
<	GRN-SV-E-36-13	>15	1.5					
<	GRN-SV-E-36-14	>15	1.5					
<	GRN-SV-E-36-15	>15	1.5					
	GRN-SV-E-36-16	>15	2.9					
	GRN-SV-E-36-17	>15	4.6					
	GRN-SV-E-36-18	>15	2.2					
	GRN-SV-E-36-19	>15	1.8					
	GRN-SV-E-36-20	>15	2.2					
<	GRN-SV-E-36-21	>15	1.5					
<	GRN-SV-E-36-22	>15	1.7					
	GRN-SV-E-36-23	>15	2.3					
	GRN-SV-E-36-24	>15	2.3					
	GRN-SV-E-36-25	>15	2.2					
	GRN-SV-E-37-01	>15	2.0					
	GRN-SV-E-37-02	>15	2.0					
	GRN-SV-E-37-03	>15	2.1					
	GRN-SV-E-37-04	>15	2.0					
	GRN-SV-E-37-05	>15	2.0					
	GRN-SV-E-37-06	>15	3.0					
	GRN-SV-E-37-07	>15	2.5					
<	GRN-SV-E-37-08	>15	1.7					
<	GRN-SV-E-37-09	>15	1.3					
	GRN-SV-E-37-10	>15	2.0					
	GRN-SV-E-37-11	>15	2.6					
	GRN-SV-E-37-12	>15	2.8					
	GRN-SV-E-37-13	>15	6.4					
	GRN-SV-E-37-14	>15	2.3					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing E

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-37-15	>15	1.4					
	GRN-SV-E-37-16	>15	3.1					
	GRN-SV-E-37-17	>15	3.5					
	GRN-SV-E-37-18	>15	4.1	3.9	6.3			4.8
	GRN-SV-E-37-19	>15	3.6					
	GRN-SV-E-37-20	>15	4.1					
	GRN-SV-E-37-21	>15	2.1					
	GRN-SV-E-37-22	>15	2.8					
	GRN-SV-E-37-23	>15	2.8					
	GRN-SV-E-37-24	>15	2.6					
	GRN-SV-E-37-25	>15	3.1					
<	GRN-SV-E-38-01	>15	1.6					
<	GRN-SV-E-38-02	>15	1.7					
<	GRN-SV-E-38-03	>15	1.5					
<	GRN-SV-E-38-04	>15	1.5					
<	GRN-SV-E-38-05	>15	1.5					
<	GRN-SV-E-38-06	>15	1.5					
<	GRN-SV-E-38-07	>15	1.5	1.9	4.3			2.5
<	GRN-SV-E-38-08	>15	1.5					
<	GRN-SV-E-38-09	>15	1.5					
<	GRN-SV-E-38-10	>15	1.6					
<	GRN-SV-E-38-11	>15	1.5					
	GRN-SV-E-38-12	>15	1.5					
<	GRN-SV-E-38-13	>15	1.5					
<	GRN-SV-E-38-14	>15	1.5					
<	GRN-SV-E-38-15	>15	1.5					
<	GRN-SV-E-38-16	>15	1.5					
<	GRN-SV-E-38-17	>15	1.5					
<	GRN-SV-E-38-18	>15	1.5					
<	GRN-SV-E-38-19	>15	1.5					
<	GRN-SV-E-38-20	>15	1.5					
	GRN-SV-E-38-21	>15	3.0					
<	GRN-SV-E-38-22	>15	1.5					
	GRN-SV-E-38-23	>15	2.9					
	GRN-SV-E-38-24	>15	2.0					
<	GRN-SV-E-38-25	>15	1.5					
<	GRN-SV-E-39-01	>15	1.7					
<	GRN-SV-E-39-02	>15	1.5					
<	GRN-SV-E-39-03	>15	1.5					
<	GRN-SV-E-39-04	>15	1.5					
<	GRN-SV-E-39-05	>15	1.5					
<	GRN-SV-E-39-06	>15	1.5					
<	GRN-SV-E-39-07	>15	1.5					
<	GRN-SV-E-39-08	>15	1.5					
<	GRN-SV-E-39-09	>15	1.5					
<	GRN-SV-E-39-10	>15	1.5					
	GRN-SV-E-39-11	>15	1.8					
<	GRN-SV-E-39-12	>15	1.5					
<	GRN-SV-E-39-13	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing E

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-39-14	>15	1.5					
<	GRN-SV-E-39-15	>15	1.5					
	GRN-SV-E-39-16	>15	1.8					
<	GRN-SV-E-39-17	>15	1.5					
<	GRN-SV-E-39-18	>15	1.5					
<	GRN-SV-E-39-19	>15	1.5					
<	GRN-SV-E-39-20	>15	1.5					
<	GRN-SV-E-39-21	>15	1.5					
<	GRN-SV-E-39-22	>15	1.5					
<	GRN-SV-E-39-23	>15	1.5	1.7	1.7			1.5
<	GRN-SV-E-39-24	>15	1.5					
	GRN-SV-E-39-25	>15	2.3					
<	GRN-SV-E-40-01	>15	1.5	1.0	1.7			1.3
<	GRN-SV-E-40-02	>15	1.5					
<	GRN-SV-E-40-03	>15	1.5					
	GRN-SV-E-40-04	>15	2.0					
<	GRN-SV-E-40-05	>15	1.5					
<	GRN-SV-E-40-06	>15	1.5					
	GRN-SV-E-40-07	>15	2.3					
	GRN-SV-E-40-08	>15	2.2					
<	GRN-SV-E-40-09	>15	1.6					
	GRN-SV-E-40-10	>15	2.0					
	GRN-SV-E-40-11	>15	1.5					
<	GRN-SV-E-40-12	>15	1.5					
<	GRN-SV-E-40-13	>15	1.5					
	GRN-SV-E-40-14	>15	2.4					
<	GRN-SV-E-40-15	>15	1.5					
<	GRN-SV-E-40-16	>15	1.7					
<	GRN-SV-E-40-17	>15	1.7					
<	GRN-SV-E-40-18	>15	1.7					
<	GRN-SV-E-40-19	>15	1.7					
<	GRN-SV-E-40-20	>15	1.7					
<	GRN-SV-E-40-21	>15	1.7					
<	GRN-SV-E-40-22	>15	1.7					
<	GRN-SV-E-40-23	>15	1.7					
<	GRN-SV-E-40-24	>15	1.7					
<	GRN-SV-E-40-25	>15	1.7					
<	GRN-SV-E-44-01	>15	1.3					
<	GRN-SV-E-44-02	>15	1.7					
<	GRN-SV-E-44-03	>15	1.3					
	GRN-SV-E-44-04	>15	1.8					
<	GRN-SV-E-44-05	>15	1.6					
<	GRN-SV-E-44-06	>15	1.7					
<	GRN-SV-E-44-07	>15	1.3					
<	GRN-SV-E-44-08	>15	1.7					
<	GRN-SV-E-44-09	>15	1.7					
<	GRN-SV-E-44-10	>15	1.3					
	GRN-SV-E-44-12	>15	1.9					
<	GRN-SV-E-44-13	>15	1.7					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-E-44-14	>15	1.7					
	GRN-SV-E-44-15	>15	1.9					
<	GRN-SV-E-44-18	>15	1.4					
<	GRN-SV-E-44-19	>15	1.7					
<	GRN-SV-E-44-20	>15	1.7					
<	GRN-SV-E-44-24	>15	1.7					
<	GRN-SV-E-44-25	>15	1.3	0.0	.8			1.1
	GRN-SV-E-45-01	>15	2.0					
<	GRN-SV-E-45-02	>15	1.7					
<	GRN-SV-E-45-03	>15	1.7					
<	GRN-SV-E-45-04	>15	1.5					
<	GRN-SV-E-45-05	>15	1.7					
<	GRN-SV-E-45-06	>15	1.3					
<	GRN-SV-E-45-07	>15	1.7					
<	GRN-SV-E-45-08	>15	1.5	1.6	3.3			2.1
	GRN-SV-E-45-09	>15	1.8					
<	GRN-SV-E-45-10	>15	1.6					
	GRN-SV-E-45-11	>15	2.2					
<	GRN-SV-E-45-12	>15	1.7					
	GRN-SV-E-45-13	>15	1.9					
<	GRN-SV-E-45-14	>15	1.7					
<	GRN-SV-E-45-15	>15	1.7					
	GRN-SV-E-45-16	>15	1.7					
	GRN-SV-E-45-17	>15	2.2					
<	GRN-SV-E-45-18	>15	1.7	1.5	1.4			1.7
<	GRN-SV-E-45-19	>15	1.4					
<	GRN-SV-E-45-20	>15	1.7					
<	GRN-SV-E-45-21	>15	1.3					
<	GRN-SV-E-45-22	>15	1.5					
<	GRN-SV-E-45-23	>15	1.3					
<	GRN-SV-E-45-24	>15	1.7					
<	GRN-SV-E-45-25	>15	1.6					
	GRN-SV-E-46-01	>15	2.0					
<	GRN-SV-E-46-02	>15	1.6					
<	GRN-SV-E-46-03	>15	1.5					
<	GRN-SV-E-46-04	>15	1.4	1.7	2.1			1.6
	GRN-SV-E-46-05	>15	3.5					
	GRN-SV-E-46-06	>15	1.8					
	GRN-SV-E-46-07	>15	1.9					
<	GRN-SV-E-46-08	>15	1.3					
<	GRN-SV-E-46-09	>15	1.7					
<	GRN-SV-E-46-10	>15	1.4					
<	GRN-SV-E-46-11	>15	1.6	1.4	1.0			1.4
<	GRN-SV-E-46-12	>15	1.5					
	GRN-SV-E-46-13	>15	2.0					
	GRN-SV-E-46-14	>15	2.5					
	GRN-SV-E-46-15	>15	2.5					
	GRN-SV-E-46-16	>15	2.3					
	GRN-SV-E-46-17	>15	2.1					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-E-46-18	>15	2.3					
	GRN-SV-E-46-19	>15	1.9					
	GRN-SV-E-46-20	>15	2.0					
<	GRN-SV-E-46-21	>15	1.5					
<	GRN-SV-E-46-22	>15	1.6					
<	GRN-SV-E-46-23	>15	1.3					
<	GRN-SV-E-46-24	>15	1.3					
<	GRN-SV-E-46-25	>15	1.7					
	GRN-SV-E-47-01	>15	2.6					
	GRN-SV-E-47-02	>15	6.1					
	GRN-SV-E-47-03	>15	3.7					
	GRN-SV-E-47-04	>15	2.5					
	GRN-SV-E-47-05	>15	1.8					
<	GRN-SV-E-47-06	>15	1.4					
	GRN-SV-E-47-07	>15	2.2					
	GRN-SV-E-47-08	>15	2.2					
	GRN-SV-E-47-09	>15	2.3					
<	GRN-SV-E-47-10	>15	1.3					
	GRN-SV-E-47-11	>15	2.2					
<	GRN-SV-E-47-12	>15	1.7					
	GRN-SV-E-47-13	>15	2.9					
	GRN-SV-E-47-14	>15	1.9					
	GRN-SV-E-47-15	>15	2.6					
	GRN-SV-E-47-16	>15	2.0					
	GRN-SV-E-47-17	>15	2.5					
<	GRN-SV-E-47-18	>15	1.4					
<	GRN-SV-E-47-19	>15	1.5					
	GRN-SV-E-47-20	>15	3.6	2.8	.8			2.7
<	GRN-SV-E-47-21	>15	1.3					
	GRN-SV-E-47-22	>15	2.2					
	GRN-SV-E-47-23	>15	1.8					
	GRN-SV-E-47-24	>15	3.2					
	GRN-SV-E-47-25	>15	2.0					
	GRN-SV-E-48-01	>15	2.0					
<	GRN-SV-E-48-02	>15	1.5					
<	GRN-SV-E-48-03	>15	1.5					
<	GRN-SV-E-48-04	>15	1.5					
<	GRN-SV-E-48-05	>15	1.5					
<	GRN-SV-E-48-06	>15	1.7					
<	GRN-SV-E-48-07	>15	1.5					
<	GRN-SV-E-48-08	>15	1.5					
	GRN-SV-E-48-09	>15	1.9					
<	GRN-SV-E-48-10	>15	1.5					
<	GRN-SV-E-48-11	>15	1.8	2.0	1.2			1.6
	GRN-SV-E-48-12	>15	1.9					
<	GRN-SV-E-48-13	>15	1.5					
<	GRN-SV-E-48-14	>15	1.6					
<	GRN-SV-E-48-15	>15	1.5					
<	GRN-SV-E-48-16	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-E-48-17	>15	2.1					
	GRN-SV-E-48-18	>15	2.1					
	GRN-SV-E-48-19	>15	2.1					
	GRN-SV-E-48-20	>15	5.2					
<	GRN-SV-E-48-21	>15	1.5					
<	GRN-SV-E-48-22	>15	1.5					
<	GRN-SV-E-48-23	>15	1.5					
<	GRN-SV-E-48-24	>15	1.5					
<	GRN-SV-E-48-25	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

MATCH LINE N 59,700 (FOR CONTINUATION, SEE SHEET D)

E59,000 E59,150 E59,300 E59,450 E59,600 E59,750 E59,900

N59,550

N59,400 (FOR CONTINUATION, SEE SHEET E)

N59,250

MATCH LINE E 58,850

N59,100

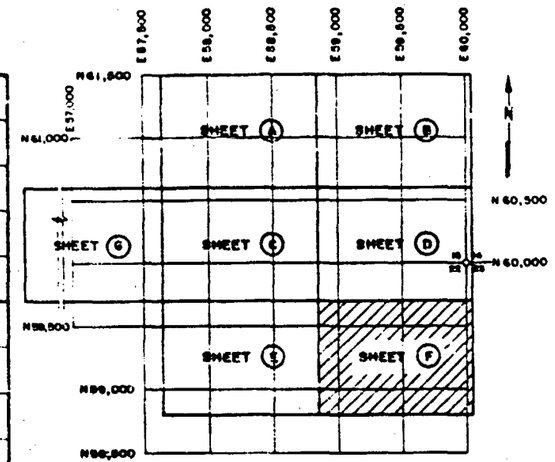
N58,950

N58,800

E60,050

1 2 3 4 5 6 7 8
9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48

50 0 50 100
SCALE FEET

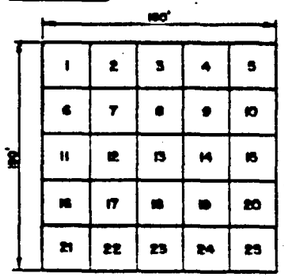


KEY MAP
(N.T.S.)

REFERENCE DRAWINGS:

GRN-SV-000, SOIL VERIFICATION PLAN GRID SYSTEM

LEGEND:



30'x 30' GRID SYSTEM

SAMPLE GRID NO.
A-37-19

A – SHEET NO.
37 – 150'x 150' GRID
19 – 30'x 30' SUBGRID

U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

GREEN RIVER SITE
GREEN RIVER, UTAH

SOIL VERIFICATION GRID SYSTEM
SHEET F

MORRISON-KNUDSEN ENGINEERS, INC.
UMTRA PROJECT

DESIGNED | CHECKED | DATE

PROJECT NO. DE-AC04-83AL18796

DRAWING NO. GRN-SV-006

Verification Samples
Green River
Drawing F

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-F-01-01	>15	2.0					
<	GRN-SV-F-01-02	>15	1.6					
<	GRN-SV-F-01-03	>15	1.7					
<	GRN-SV-F-01-04	>15	1.7					
	GRN-SV-F-01-05	>15	2.0	1.2	1.3			1.8
<	GRN-SV-F-01-06	>15	1.7					
<	GRN-SV-F-01-07	>15	1.7					
<	GRN-SV-F-01-08	>15	1.5					
<	GRN-SV-F-01-09	>15	1.3					
	GRN-SV-F-01-10	>15	2.1					
<	GRN-SV-F-01-11	>15	1.3					
	GRN-SV-F-01-12	>15	2.0					
	GRN-SV-F-01-13	>15	1.8					
	GRN-SV-F-01-14	>15	1.8					
<	GRN-SV-F-01-15	>15	1.3					
	GRN-SV-F-01-16	>15	2.0					
<	GRN-SV-F-01-17	>15	1.5					
	GRN-SV-F-01-18	>15	2.2					
	GRN-SV-F-01-19	>15	2.1					
	GRN-SV-F-01-20	>15	2.0					
	GRN-SV-F-01-21	>15	2.3					
	GRN-SV-F-01-22	>15	3.9					
	GRN-SV-F-01-23	>15	7.5					
	GRN-SV-F-01-24	>15	2.5					
	GRN-SV-F-01-25	>15	2.5					
<	GRN-SV-F-02-01	>15	1.3					
<	GRN-SV-F-02-02	>15	1.5					
	GRN-SV-F-02-03	>15	1.9					
	GRN-SV-F-02-04	>15	3.5					
<	GRN-SV-F-02-05	>15	1.4					
<	GRN-SV-F-02-06	>15	1.3					
<	GRN-SV-F-02-07	>15	1.6					
	GRN-SV-F-02-08	>15	2.3					
	GRN-SV-F-02-09	>15	2.3					
	GRN-SV-F-02-10	>15	2.2					
<	GRN-SV-F-02-11	>15	1.7	.7	2.4			1.2
	GRN-SV-F-02-12	>15	2.1					
<	GRN-SV-F-02-13	>15	1.7					
<	GRN-SV-F-02-14	>15	1.3					
<	GRN-SV-F-02-15	>15	1.7					
<	GRN-SV-F-02-16	>15	1.5					
<	GRN-SV-F-02-17	>15	1.7					
<	GRN-SV-F-02-18	>15	1.3					
<	GRN-SV-F-02-19	>15	1.7					
<	GRN-SV-F-02-20	>15	1.3					
	GRN-SV-F-02-21	>15	4.9					
<	GRN-SV-F-02-22	>15	1.3					
<	GRN-SV-F-02-23	>15	1.7					
<	GRN-SV-F-02-24	>15	1.3					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing F

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-F-02-25	>15	1.3					
	GRN-SV-F-03-01	>15	2.5					
<	GRN-SV-F-03-02	>15	1.7					
<	GRN-SV-F-03-03	>15	1.7	.9	1.1			1.1
	GRN-SV-F-03-04	>15	2.1					
	GRN-SV-F-03-05	>15	4.4					
<	GRN-SV-F-03-06	>15	1.3					
<	GRN-SV-F-03-07	>15	1.3					
<	GRN-SV-F-03-08	>15	1.3					
<	GRN-SV-F-03-09	>15	1.7					
<	GRN-SV-F-03-10	>15	1.3					
<	GRN-SV-F-03-11	>15	1.7					
<	GRN-SV-F-03-12	>15	1.3					
	GRN-SV-F-03-13	>15	1.9					
	GRN-SV-F-03-14	>15	1.8					
	GRN-SV-F-03-15	>15	2.0					
	GRN-SV-F-03-16	>15	2.2					
<	GRN-SV-F-03-17	>15	1.6					
	GRN-SV-F-03-18	>15	2.8					
<	GRN-SV-F-03-19	>15	1.7					
	GRN-SV-F-03-20	>15	3.6					
	GRN-SV-F-03-21	>15	2.8					
	GRN-SV-F-03-22	>15	2.0	.9	2.4			2.1
	GRN-SV-F-03-23	>15	2.8					
	GRN-SV-F-03-24	>15	2.2					
	GRN-SV-F-03-25	>15	2.9					
<	GRN-SV-F-04-01	>15	1.7					
<	GRN-SV-F-04-02	>15	1.7					
<	GRN-SV-F-04-03	>15	1.7					
<	GRN-SV-F-04-04	>15	1.7					
<	GRN-SV-F-04-05	>15	1.5					
<	GRN-SV-F-04-06	>15	1.7					
<	GRN-SV-F-04-07	>15	1.5					
<	GRN-SV-F-04-08	>15	1.5					
<	GRN-SV-F-04-09	>15	1.5					
<	GRN-SV-F-04-10	>15	1.5					
<	GRN-SV-F-04-11	>15	1.5					
<	GRN-SV-F-04-12	>15	1.7	.6	.9			.9
<	GRN-SV-F-04-13	>15	1.7					
<	GRN-SV-F-04-14	>15	1.7					
<	GRN-SV-F-04-15	>15	1.7					
<	GRN-SV-F-04-16	>15	1.7					
<	GRN-SV-F-04-17	>15	1.7					
<	GRN-SV-F-04-18	>15	1.7					
<	GRN-SV-F-04-19	>15	1.7					
<	GRN-SV-F-04-20	>15	1.7					
<	GRN-SV-F-04-21	>15	1.7					
<	GRN-SV-F-04-22	>15	1.7					
<	GRN-SV-F-04-23	>15	1.7					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing F

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-F-04-24	>15	1.7					
<	GRN-SV-F-04-25	>15	1.7					
<	GRN-SV-F-05-01	>15	1.5					
<	GRN-SV-F-05-02	>15	1.5					
<	GRN-SV-F-05-03	>15	1.5					
<	GRN-SV-F-05-04	>15	1.5					
<	GRN-SV-F-05-05	>15	1.5					
<	GRN-SV-F-05-06	>15	1.7					
	GRN-SV-F-05-07	>15	2.2					
<	GRN-SV-F-05-08	>15	1.5					
<	GRN-SV-F-05-09	>15	1.6					
<	GRN-SV-F-05-10	>15	1.6					
<	GRN-SV-F-05-11	>15	1.5					
<	GRN-SV-F-05-12	>15	1.5					
<	GRN-SV-F-05-13	>15	1.5					
<	GRN-SV-F-05-14	>15	1.7					
<	GRN-SV-F-05-15	>15	1.7					
<	GRN-SV-F-05-16	>15	1.5					
<	GRN-SV-F-05-17	>15	1.7					
<	GRN-SV-F-05-18	>15	1.7					
	GRN-SV-F-05-19	>15	1.8					
	GRN-SV-F-05-20	>15	3.7	5.3	5.6			4.4
	GRN-SV-F-05-21	>15	1.7					
<	GRN-SV-F-05-22	>15	1.7					
	GRN-SV-F-05-23	>15	4.7					
	GRN-SV-F-05-24	>15	5.5					
	GRN-SV-F-05-25	>15	2.9					
	GRN-SV-F-06-01	<15	4.4					
	GRN-SV-F-06-02	<15	3.6					
	GRN-SV-F-06-06	<15	3.8					
	GRN-SV-F-06-07	<15	5.3					
	GRN-SV-F-06-11	<15	2.8					
	GRN-SV-F-06-12	<15	4.0					
	GRN-SV-F-06-16	<15	2.5					
	GRN-SV-F-06-17	<15	2.3					
	GRN-SV-F-06-21	<15	2.5					
	GRN-SV-F-09-01	>15	2.6					
	GRN-SV-F-09-02	>15	2.1					
	GRN-SV-F-09-03	>15	2.5					
	GRN-SV-F-09-04	>15	4.8					
<	GRN-SV-F-09-05	>15	1.7					
	GRN-SV-F-09-06	>15	1.8					
<	GRN-SV-F-09-07	>15	1.5	1.1	.5			1.2
	GRN-SV-F-09-08	>15	2.7					
	GRN-SV-F-09-09	>15	2.6					
	GRN-SV-F-09-10	>15	2.0					
<	GRN-SV-F-09-11	>15	1.7					
<	GRN-SV-F-09-12	>15	1.3					
	GRN-SV-F-09-13	>15	1.8					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing F

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-F-09-14	>15	2.0					
	GRN-SV-F-09-15	>15	3.0					
<	GRN-SV-F-09-16	>15	1.3					
	GRN-SV-F-09-17	>15	2.5					
	GRN-SV-F-09-18	>15	2.0					
	GRN-SV-F-09-19	>15	2.5					
	GRN-SV-F-09-20	>15	2.9					
	GRN-SV-F-09-21	>15	1.9					
	GRN-SV-F-09-22	>15	1.8					
	GRN-SV-F-09-23	>15	1.8					
	GRN-SV-F-09-24	>15	3.0					
	GRN-SV-F-09-25	>15	2.6					
	GRN-SV-F-10-01	>15	3.1					
<	GRN-SV-F-10-02	>15	1.7					
	GRN-SV-F-10-03	>15	6.4					
	GRN-SV-F-10-04	>15	2.6					
<	GRN-SV-F-10-05	>15	1.7	1.8	4.0			1.9
	GRN-SV-F-10-06	>15	2.4					
<	GRN-SV-F-10-07	>15	1.7					
<	GRN-SV-F-10-08	>15	1.7					
<	GRN-SV-F-10-09	>15	1.7					
<	GRN-SV-F-10-10	>15	1.7					
	GRN-SV-F-10-11	>15	1.7					
<	GRN-SV-F-10-12	>15	1.7					
<	GRN-SV-F-10-13	>15	1.7					
<	GRN-SV-F-10-14	>15	1.7					
<	GRN-SV-F-10-15	>15	1.7					
<	GRN-SV-F-10-16	>15	1.7					
<	GRN-SV-F-10-17	>15	1.7					
<	GRN-SV-F-10-18	>15	1.7					
<	GRN-SV-F-10-19	>15	1.7					
<	GRN-SV-F-10-20	>15	1.7					
<	GRN-SV-F-10-21	>15	1.7					
<	GRN-SV-F-10-22	>15	1.7					
<	GRN-SV-F-10-23	>15	1.7					
<	GRN-SV-F-10-24	>15	1.7					
<	GRN-SV-F-10-25	>15	1.7	.7	.4			.1
<	GRN-SV-F-11-01	>15	1.7					
	GRN-SV-F-11-02	>15	1.9					
<	GRN-SV-F-11-03	>15	1.7					
<	GRN-SV-F-11-04	>15	1.4					
<	GRN-SV-F-11-05	>15	1.7					
<	GRN-SV-F-11-06	>15	1.6					
<	GRN-SV-F-11-07	>15	1.3					
<	GRN-SV-F-11-08	>15	1.3					
<	GRN-SV-F-11-09	>15	1.7	.7	1.4			.8
<	GRN-SV-F-11-10	>15	1.3					
<	GRN-SV-F-11-11	>15	1.4					
<	GRN-SV-F-11-12	>15	1.3					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing F

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-F-11-13	>15	1.3					
<	GRN-SV-F-11-14	>15	1.5					
<	GRN-SV-F-11-15	>15	1.3					
<	GRN-SV-F-11-16	>15	1.3					
<	GRN-SV-F-11-17	>15	1.3					
<	GRN-SV-F-11-18	>15	1.3					
<	GRN-SV-F-11-19	>15	1.3					
<	GRN-SV-F-11-20	>15	1.3					
	GRN-SV-F-11-21	>15	1.9					
<	GRN-SV-F-11-22	>15	1.3					
	GRN-SV-F-11-23	>15	1.9					
<	GRN-SV-F-11-24	>15	1.7					
	GRN-SV-F-11-25	>15	1.9					
<	GRN-SV-F-12-01	>15	1.7					
<	GRN-SV-F-12-02	>15	1.7					
<	GRN-SV-F-12-03	>15	1.7	1.0	1.1			.4
<	GRN-SV-F-12-04	>15	1.7					
<	GRN-SV-F-12-05	>15	1.7					
<	GRN-SV-F-12-06	>15	1.7					
<	GRN-SV-F-12-07	>15	1.7					
<	GRN-SV-F-12-08	>15	1.7					
<	GRN-SV-F-12-09	>15	1.7					
	GRN-SV-F-12-10	>15	1.7					
<	GRN-SV-F-12-11	>15	1.7					
<	GRN-SV-F-12-12	>15	1.7					
<	GRN-SV-F-12-13	>15	1.7					
<	GRN-SV-F-12-14	>15	1.7					
<	GRN-SV-F-12-15	>15	1.7	.9	.9			.7
<	GRN-SV-F-12-16	>15	1.7					
<	GRN-SV-F-12-17	>15	1.7					
	GRN-SV-F-12-18	>15	4.0	2.1	.6			2.8
<	GRN-SV-F-12-19	>15	1.7					
<	GRN-SV-F-12-20	>15	1.7					
<	GRN-SV-F-12-21	>15	1.7					
<	GRN-SV-F-12-22	>15	1.7					
<	GRN-SV-F-12-23	>15	1.7					
	GRN-SV-F-12-24	>15	2.1					
<	GRN-SV-F-12-25	>15	1.7					
<	GRN-SV-F-13-01	>15	1.5					
	GRN-SV-F-13-02	>15	1.8					
	GRN-SV-F-13-03	>15	5.1					
	GRN-SV-F-13-04	>15	7.1	5.6	7.9			7.4
	GRN-SV-F-13-05	>15	3.1					
<	GRN-SV-F-13-06	>15	1.5					
<	GRN-SV-F-13-07	>15	1.5					
	GRN-SV-F-13-08	>15	3.1					
	GRN-SV-F-13-09	<15	4.6					
<	GRN-SV-F-13-11	>15	1.5					
<	GRN-SV-F-13-12	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing F

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-F-13-13	>15	3.9					
<	GRN-SV-F-13-16	>15	1.5					
<	GRN-SV-F-13-17	>15	1.5					
	GRN-SV-F-13-21	>15	3.0					
<	GRN-SV-F-17-01	>15	1.7					
<	GRN-SV-F-17-02	>15	1.5					
<	GRN-SV-F-17-03	>15	1.7					
	GRN-SV-F-17-04	>15	2.0					
<	GRN-SV-F-17-05	>15	1.7					
	GRN-SV-F-17-06	>15	2.0					
<	GRN-SV-F-17-07	>15	1.6					
<	GRN-SV-F-17-08	>15	1.5					
<	GRN-SV-F-17-09	>15	1.5					
	GRN-SV-F-17-10	>15	1.8					
<	GRN-SV-F-17-11	>15	1.5					
<	GRN-SV-F-17-12	>15	1.7					
<	GRN-SV-F-17-13	>15	1.5	1.3	2.4			1.0
<	GRN-SV-F-17-14	>15	1.5					
	GRN-SV-F-17-15	>15	2.0					
<	GRN-SV-F-17-16	>15	1.5					
<	GRN-SV-F-17-17	>15	1.5					
<	GRN-SV-F-17-18	>15	1.5					
	GRN-SV-F-17-19	>15	1.7					
<	GRN-SV-F-17-20	>15	1.5					
<	GRN-SV-F-17-21	>15	1.5					
<	GRN-SV-F-17-22	>15	1.5					
<	GRN-SV-F-17-23	>15	1.5					
<	GRN-SV-F-17-24	>15	1.5					
<	GRN-SV-F-17-25	>15	1.5					
<	GRN-SV-F-18-01	>15	1.7					
<	GRN-SV-F-18-02	>15	1.7					
<	GRN-SV-F-18-03	>15	1.7					
<	GRN-SV-F-18-04	>15	1.7					
<	GRN-SV-F-18-05	>15	1.7	1.2	1.7			.9
<	GRN-SV-F-18-06	>15	1.7					
<	GRN-SV-F-18-07	>15	1.7					
<	GRN-SV-F-18-08	>15	1.7					
<	GRN-SV-F-18-09	>15	1.7					
<	GRN-SV-F-18-10	>15	1.7					
<	GRN-SV-F-18-11	>15	1.7					
<	GRN-SV-F-18-12	>15	1.7					
<	GRN-SV-F-18-13	>15	1.7					
<	GRN-SV-F-18-14	>15	1.7					
<	GRN-SV-F-18-15	>15	1.7					
<	GRN-SV-F-18-16	>15	1.7					
<	GRN-SV-F-18-17	>15	1.7					
<	GRN-SV-F-18-18	>15	1.7					
<	GRN-SV-F-18-19	>15	1.7					
<	GRN-SV-F-18-20	>15	1.7					

Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing F

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-F-18-21	>15	1.7					
<	GRN-SV-F-18-22	>15	1.7					
<	GRN-SV-F-18-23	>15	1.7					
<	GRN-SV-F-18-24	>15	1.7					
<	GRN-SV-F-18-25	>15	1.7					
<	GRN-SV-F-19-01	>15	1.7					
<	GRN-SV-F-19-02	>15	1.7					
<	GRN-SV-F-19-03	>15	1.7					
<	GRN-SV-F-19-04	>15	1.7					
<	GRN-SV-F-19-05	>15	1.7					
<	GRN-SV-F-19-06	>15	1.7					
<	GRN-SV-F-19-07	>15	1.7					
<	GRN-SV-F-19-08	>15	1.7					
<	GRN-SV-F-19-09	>15	1.7					
<	GRN-SV-F-19-10	>15	1.7					
<	GRN-SV-F-19-11	>15	1.7					
<	GRN-SV-F-19-12	>15	1.7					
<	GRN-SV-F-19-13	>15	1.7					
<	GRN-SV-F-19-14	>15	1.7					
<	GRN-SV-F-19-15	>15	1.7					
<	GRN-SV-F-19-16	>15	1.7					
<	GRN-SV-F-19-17	>15	1.7					
	GRN-SV-F-19-18	>15	1.7					
<	GRN-SV-F-19-19	>15	1.7					
<	GRN-SV-F-19-20	>15	1.7					
<	GRN-SV-F-19-21	>15	1.7					
<	GRN-SV-F-19-22	>15	1.7					
<	GRN-SV-F-19-23	>15	1.7	.7	1.2			.8
<	GRN-SV-F-19-24	>15	1.7					
<	GRN-SV-F-19-25	>15	1.7					
<	GRN-SV-F-20-01	<15	1.7					
<	GRN-SV-F-20-02	<15	1.7					
<	GRN-SV-F-20-03	>15	1.5	1.3	1.0			.6
<	GRN-SV-F-20-04	>15	1.5					
<	GRN-SV-F-20-05	>15	1.5					
<	GRN-SV-F-20-06	>15	1.5					
<	GRN-SV-F-20-07	>15	1.5					
	GRN-SV-F-20-08	>15	1.8					
<	GRN-SV-F-20-09	>15	1.5					
	GRN-SV-F-20-10	<15	4.6					
<	GRN-SV-F-20-11	>15	1.5					
<	GRN-SV-F-20-12	>15	1.5					
<	GRN-SV-F-20-13	>15	1.5					
	GRN-SV-F-20-14	>15	5.7					
<	GRN-SV-F-20-16	>15	1.5					
<	GRN-SV-F-20-17	>15	1.5					
	GRN-SV-F-20-18	<15	4.0					
	GRN-SV-F-20-19	<15	5.5					
<	GRN-SV-F-20-21	>15	1.7					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-F-20-22	<15	2.0					
	GRN-SV-F-20-23	<15	5.1					
	GRN-SV-F-20-24	>15	6.9					
<	GRN-SV-F-25-01	>15	1.3					
<	GRN-SV-F-25-02	>15	1.3					
<	GRN-SV-F-25-03	>15	1.3					
	GRN-SV-F-25-04	>15	1.9					
<	GRN-SV-F-25-05	>15	1.7					
<	GRN-SV-F-25-06	>15	1.7					
<	GRN-SV-F-25-07	>15	1.7					
<	GRN-SV-F-25-08	>15	1.7					
<	GRN-SV-F-25-09	>15	1.3					
<	GRN-SV-F-25-10	>15	1.3					
<	GRN-SV-F-25-11	>15	1.5					
<	GRN-SV-F-25-12	>15	1.4					
<	GRN-SV-F-25-13	>15	1.7					
<	GRN-SV-F-25-14	>15	1.5					
	GRN-SV-F-25-15	>15	2.5					
<	GRN-SV-F-25-16	>15	1.5					
	GRN-SV-F-25-17	>15	2.1	.5	.7			1.6
<	GRN-SV-F-25-18	>15	1.6					
<	GRN-SV-F-25-19	>15	1.7					
	GRN-SV-F-25-20	>15	2.7					
<	GRN-SV-F-25-21	>15	1.7					
<	GRN-SV-F-25-22	>15	1.3					
	GRN-SV-F-25-23	>15	1.8					
	GRN-SV-F-25-24	>15	1.8					
	GRN-SV-F-25-25	>15	3.5					
<	GRN-SV-F-26-01	>15	1.5					
<	GRN-SV-F-26-02	>15	1.5					
<	GRN-SV-F-26-03	>15	1.6	1.2	1.4			1.5
<	GRN-SV-F-26-04	>15	1.5					
<	GRN-SV-F-26-05	>15	1.5					
<	GRN-SV-F-26-06	>15	1.5					
<	GRN-SV-F-26-07	>15	1.5					
<	GRN-SV-F-26-08	>15	1.5					
<	GRN-SV-F-26-09	>15	1.5					
<	GRN-SV-F-26-10	>15	1.5					
<	GRN-SV-F-26-11	>15	1.5					
<	GRN-SV-F-26-12	>15	1.5					
<	GRN-SV-F-26-13	>15	1.5					
<	GRN-SV-F-26-14	>15	1.5					
<	GRN-SV-F-26-15	>15	1.6					
<	GRN-SV-F-26-16	>15	1.7					
<	GRN-SV-F-26-17	>15	1.8					
<	GRN-SV-F-26-18	>15	1.5					
<	GRN-SV-F-26-19	>15	1.5					
<	GRN-SV-F-26-20	>15	1.5					
<	GRN-SV-F-26-21	>15	1.5					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing F

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-F-26-22	>15	2.9					
	GRN-SV-F-26-23	>15	1.8					
<	GRN-SV-F-26-24	>15	1.5					
<	GRN-SV-F-26-25	>15	1.5					
<	GRN-SV-F-27-01	<15	1.5					
<	GRN-SV-F-27-02	<15	1.5					
<	GRN-SV-F-27-03	<15	1.5					
<	GRN-SV-F-27-04	<15	1.5					
<	GRN-SV-F-27-05	<15	1.5					
<	GRN-SV-F-27-06	<15	1.7	.7	1.2			1.1
<	GRN-SV-F-27-07	<15	1.7					
<	GRN-SV-F-27-08	<15	1.7					
<	GRN-SV-F-27-09	<15	1.7					
	GRN-SV-F-27-10	<15	2.7					
<	GRN-SV-F-27-11	<15	1.7					
<	GRN-SV-F-27-12	<15	1.7					
<	GRN-SV-F-27-13	<15	1.6					
	GRN-SV-F-27-14	<15	2.0					
	GRN-SV-F-27-15	<15	2.0					
<	GRN-SV-F-27-16	<15	1.7					
<	GRN-SV-F-27-17	<15	1.7					
<	GRN-SV-F-27-18	<15	1.5					
	GRN-SV-F-27-19	<15	3.5					
	GRN-SV-F-27-20	<15	3.2					
<	GRN-SV-F-27-21	<15	1.7					
<	GRN-SV-F-27-22	<15	1.7					
<	GRN-SV-F-27-23	<15	1.5					
<	GRN-SV-F-27-24	<15	1.5					
	GRN-SV-F-27-25	<15	3.3					
	GRN-SV-F-28-01	<15	5.3					
	GRN-SV-F-28-02	<15	3.6					
	GRN-SV-F-28-03	>15	4.8					
	GRN-SV-F-28-04	>15	10.6	9.9	9.1			10.1
	GRN-SV-F-28-06	<15	2.2					
<	GRN-SV-F-28-07	<15	1.7					
	GRN-SV-F-28-08	<15	4.5					
	GRN-SV-F-28-11	<15	3.6					
	GRN-SV-F-28-12	<15	5.5	5.2	5.6			5.5
	GRN-SV-F-28-13	<15	3.3					
	GRN-SV-F-28-16	<15	4.6					
	GRN-SV-F-28-17	<15	4.5					
	GRN-SV-F-28-21	<15	6.4					
<	GRN-SV-F-33-01	>15	1.5					
<	GRN-SV-F-33-02	>15	1.5					
<	GRN-SV-F-33-03	>15	1.5					
<	GRN-SV-F-33-04	>15	1.5					
	GRN-SV-F-33-05	>15	2.8					
<	GRN-SV-F-33-06	>15	1.5					
	GRN-SV-F-33-07	>15	2.2	2.2	2.8			2.4

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing F

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
	GRN-SV-F-33-08	>15	1.9					
<	GRN-SV-F-33-09	>15	1.5					
<	GRN-SV-F-33-10	>15	1.7					
	GRN-SV-F-33-11	>15	2.0					
<	GRN-SV-F-33-12	>15	1.7					
	GRN-SV-F-33-13	>15	3.0					
<	GRN-SV-F-33-14	>15	1.7					
<	GRN-SV-F-33-15	>15	1.7					
	GRN-SV-F-33-16	>15	1.8					
	GRN-SV-F-33-17	>15	3.0					
<	GRN-SV-F-33-18	>15	1.7					
<	GRN-SV-F-33-19	>15	1.7					
<	GRN-SV-F-33-20	>15	1.7					
<	GRN-SV-F-33-21	>15	1.7					
	GRN-SV-F-33-22	>15	4.1					
	GRN-SV-F-33-23	>15	2.1					
<	GRN-SV-F-33-24	>15	1.7					
<	GRN-SV-F-33-25	>15	1.7					
<	GRN-SV-F-34-01	>15	1.7					
	GRN-SV-F-34-02	>15	2.7					
	GRN-SV-F-34-03	>15	5.0					
	GRN-SV-F-34-04	>15	1.8					
	GRN-SV-F-34-05	>15	1.7					
<	GRN-SV-F-34-06	>15	1.7					
<	GRN-SV-F-34-07	>15	1.7					
<	GRN-SV-F-34-08	>15	1.7					
<	GRN-SV-F-34-09	>15	1.7					
<	GRN-SV-F-34-10	>15	1.4					
<	GRN-SV-F-34-11	>15	1.4					
	GRN-SV-F-34-12	>15	2.1					
	GRN-SV-F-34-13	>15	1.8					
	GRN-SV-F-34-14	>15	2.2					
	GRN-SV-F-34-15	<15	2.3					
<	GRN-SV-F-34-16	>15	1.4					
	GRN-SV-F-34-17	>15	2.3	2.7	3.3			2.6
<	GRN-SV-F-34-18	>15	1.4					
	GRN-SV-F-34-19	<15	2.8					
	GRN-SV-F-34-20	<15	1.9					
	GRN-SV-F-34-21	>15	2.6					
<	GRN-SV-F-34-22	>15	1.4					
	GRN-SV-F-34-23	<15	2.1					
	GRN-SV-F-34-24	<15	3.3					
	GRN-SV-F-34-25	<15	3.3					
	GRN-SV-F-35-01	<15	4.0	5.1	7.5			5.2
	GRN-SV-F-35-02	<15	2.2					
	GRN-SV-F-35-03	<15	2.9					
	GRN-SV-F-35-04	>15	5.5					
	GRN-SV-F-35-06	<15	3.9	5.8	4.6			4.1
	GRN-SV-F-35-07	<15	2.3					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Verification Samples
Green River
Drawing F

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-F-35-11	<15	1.6					
	GRN-SV-F-35-12	<15	2.8					
	GRN-SV-F-35-16	<15	3.5					
	GRN-SV-F-35-17	<15	4.0					
<	GRN-SV-F-41-01	>15	1.5					
<	GRN-SV-F-41-02	>15	1.5					
	GRN-SV-F-41-03	>15	4.2					
	GRN-SV-F-41-04	>15	2.5					
<	GRN-SV-F-41-05	>15	1.5					
<	GRN-SV-F-41-06	>15	1.5					
<	GRN-SV-F-41-07	>15	1.5					
<	GRN-SV-F-41-08	>15	1.7					
	GRN-SV-F-41-09	>15	2.3					
	GRN-SV-F-41-10	>15	2.3					
	GRN-SV-F-41-11	>15	3.0					
	GRN-SV-F-41-12	<15	2.3					
<	GRN-SV-F-41-13	<15	1.7					
	GRN-SV-F-41-14	<15	3.9					
<	GRN-SV-F-41-16	<15	1.7					
	GRN-SV-F-41-17	<15	2.9					
<	GRN-SV-F-41-18	<15	1.7					
	GRN-SV-F-42-01	>15	3.2					

* Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

E 56,600 E 56,750 E 56,900 E 57,050 E 57,200 E 57,350 E 57,500

N 60,600

N60,450 N60,300 N60,150 E56,450 N60,000 N59,850

1 2 3 4 5 6 7 8
9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48

N 59,700

SCALE 50 0 50 100 FEET

(FOR CONTINUATION, SEE SHEET C)

MATCH LINE E 57,650

E57,500 E58,000 E58,500 E59,000 E59,500 E60,000

N61,500 N61,000 N60,500 N60,000 N59,500 N59,000 N58,500

SHEET A SHEET B
SHEET G SHEET C SHEET D
SHEET E SHEET F

KEY MAP
(N.T.S.)

REFERENCE DRAWINGS:

GRN - SV - 000 SOIL VERIFICATION PLAN GRID SYSTEM

LEGEND:

150'

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

150'

30'x30' GRID SYSTEM

SAMPLE GRID NO.
A-37-19

A - SHEET NO.
37 - 150'x150' GRID
19 - 30'x30' SUBGRID

U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

GREEN RIVER SITE
GREEN RIVER, UTAH

SOIL VERIFICATION GRID SYSTEM
SHEET G

UMTRA PROJECT

DESIGNED	DRAWN	CHECKED	DATE
PROJECT NO. DE-AC04-83AL18796			
DRAWING NO. GRN-SV-007			

Verification Samples
Green River
Drawing G

5/01/90

	SAMPLE #	DEPTH (CM)	OCS RA-226 (pCi/g)	QC LAB RA-226 (pCi/g)	QC LAB TH-230 (pCi/g)	F.A.S.T. TH-230 (pCi/g)	CORRECTED F.A.S.T. (pCi/g)	1000 YR RA-226 (pCi/g)
<	GRN-SV-G-08-04	<15	1.5					
<	GRN-SV-G-08-05	<15	1.5					
<	GRN-SV-G-08-09	>15	1.7					
	GRN-SV-G-08-10	>15	2.0					
<	GRN-SV-G-08-14	>15	1.7					
<	GRN-SV-G-08-15	>15	1.7					
	GRN-SV-G-08-19	>15	3.2					
	GRN-SV-G-08-20	>15	3.2	10.0	1.8			2.7
<	GRN-SV-G-08-24	>15	1.5					
	GRN-SV-G-08-25	>15	2.8					
	GRN-SV-G-16-03	>15	2.6					
	GRN-SV-G-16-04	>15	2.7					
	GRN-SV-G-16-05	>15	2.1					
	GRN-SV-G-16-08	>15	3.4					
	GRN-SV-G-16-09	>15	2.3					
<	GRN-SV-G-16-10	>15	1.5					
<	GRN-SV-G-16-12	<15	1.5					
<	GRN-SV-G-16-13	>15	1.5					
<	GRN-SV-G-16-14	>15	1.5					
	GRN-SV-G-16-15	>15	3.5	2.5	2.9			3.3
	GRN-SV-G-16-17	>15	1.9					
	GRN-SV-G-16-18	>15	2.3					
	GRN-SV-G-16-19	>15	3.0					
	GRN-SV-G-16-20	>15	3.4					
	GRN-SV-G-16-23	>15	1.8					
	GRN-SV-G-16-24	>15	4.9					
<	GRN-SV-G-16-25	>15	1.5					
	GRN-SV-G-24-03	>15	2.2					
	GRN-SV-G-24-04	>15	2.9					
	GRN-SV-G-24-05	>15	2.5					
	GRN-SV-G-24-09	>15	3.5					
	GRN-SV-G-24-10	>15	2.1					
	GRN-SV-G-24-15	>15	2.6					
<	GRN-SV-G-24-20	<15	1.7					
	GRN-SV-G-24-25	<15	2.1					

Depth <15 cm and radium >5 pCi/g plus background radium
\+ Depth >15 cm and radium >15 pCi/g plus background radium
< Less than MDA

Table J.1

Green River Ra-226
Soil Verification Results

Average	2.44 pCi/gm
# of Samples	4326
Maximum Value	14.9 pCi/gm
Minimum Value	1.29

Figure J.1

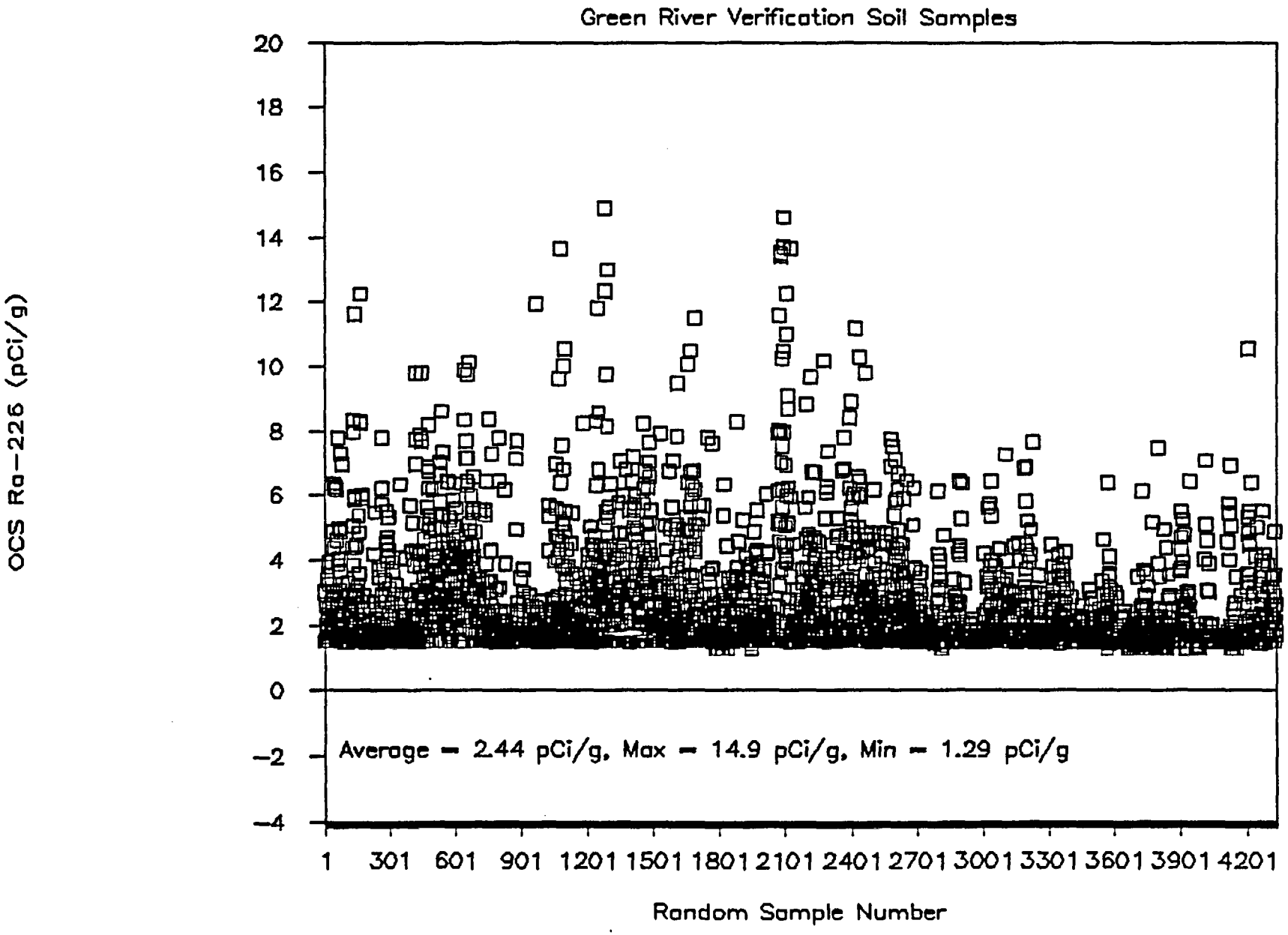

Green River Verification Soil Samples
OCS Ra-226 (pCi/g)
20
18
16
14
12
10
8
6
4
2
0
-2
-4
Average = 2.44 pCi/g, Max = 14.9 pCi/g, Min = 1.29 pCi/g
1
301
601
901
1201
1501
1801
2101
2401
2701
3001
3301
3601
3901
4201
Random Sample Number

Table J.2

Green River OCS QA Results
5.12 pCi/gm Ra-226 TMC Standard

	Average +/- 2 sigma	# of QA Checks
OCS 1	5.21 +/- 0.611 pCi/gm	329
OCS 2	5.15 +/- 0.68 pCi/gm	129
COMBINED	5.20 +/- 0.63 pCi/gm	458

Figure J.2

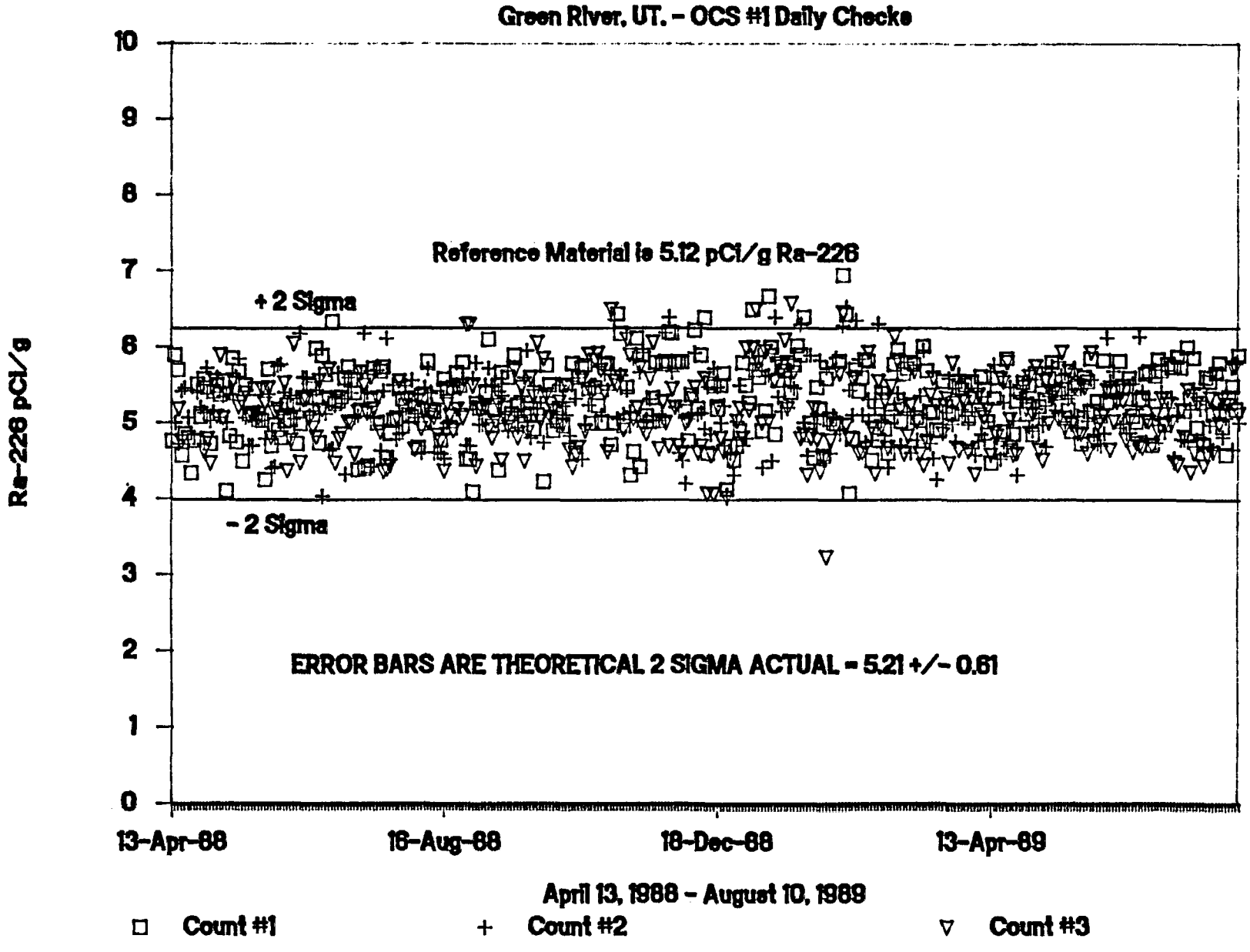

Green River, UT. - OCS #1 Daily Checks
Ra-226 pCi/g
10
9
8
7
6
5
4
3
2
1
0
Reference Material is 5.12 pCi/g Ra-226
+ 2 Sigma
- 2 Sigma
ERROR BARS ARE THEORETICAL 2 SIGMA ACTUAL = 5.21 +/- 0.61
13-Apr-88
16-Aug-88
18-Dec-88
13-Apr-89
April 13, 1988 - August 10, 1989
Count #1
Count #2
Count #3

Table J.3

Green River OCS Ra-226
vs. Barringer Laboratory Ra-226

	Average	# of QA Checks
OCS	4.04 pCi/gm	196
Barringer	3.75 pCi/gm	196

Figure J.3

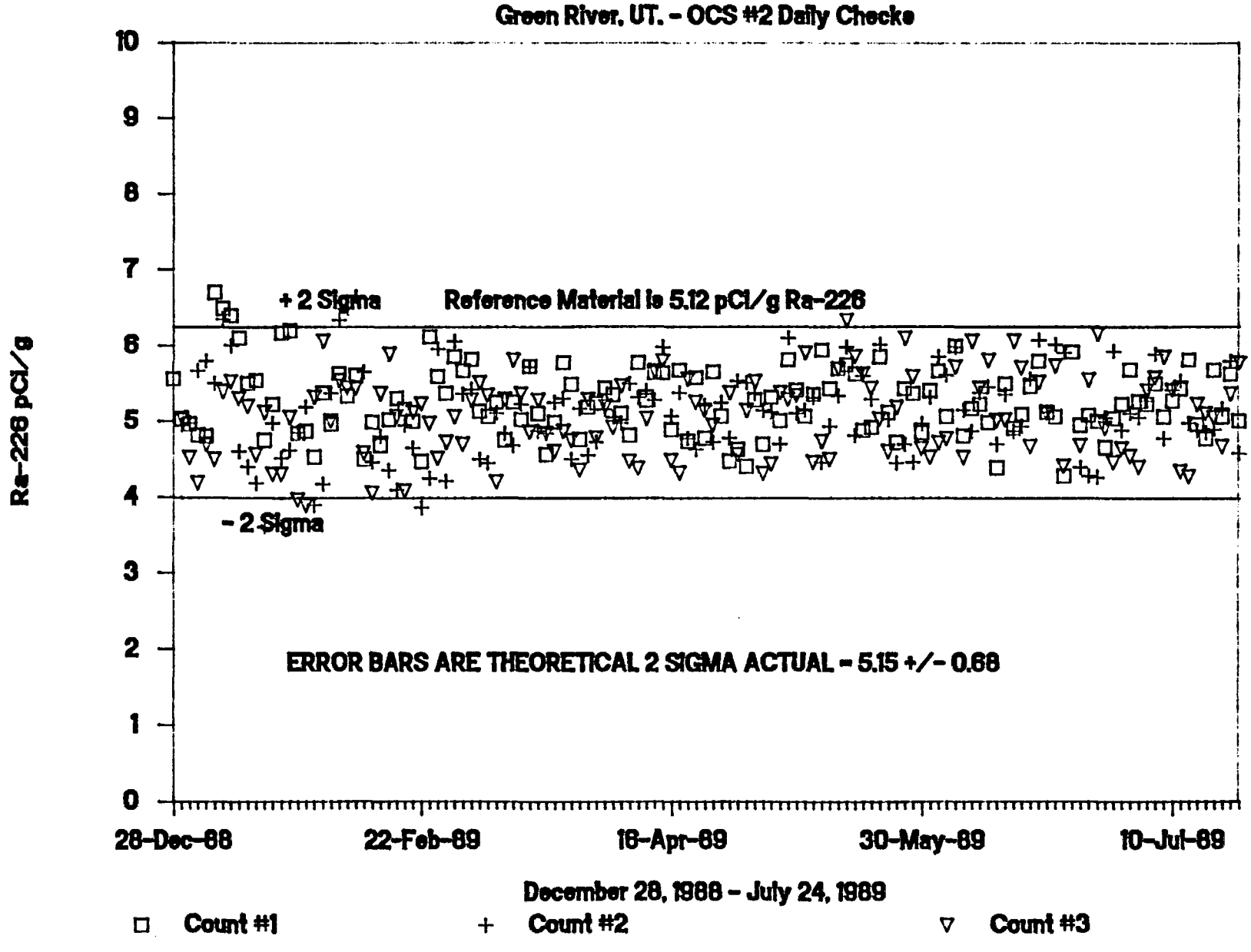
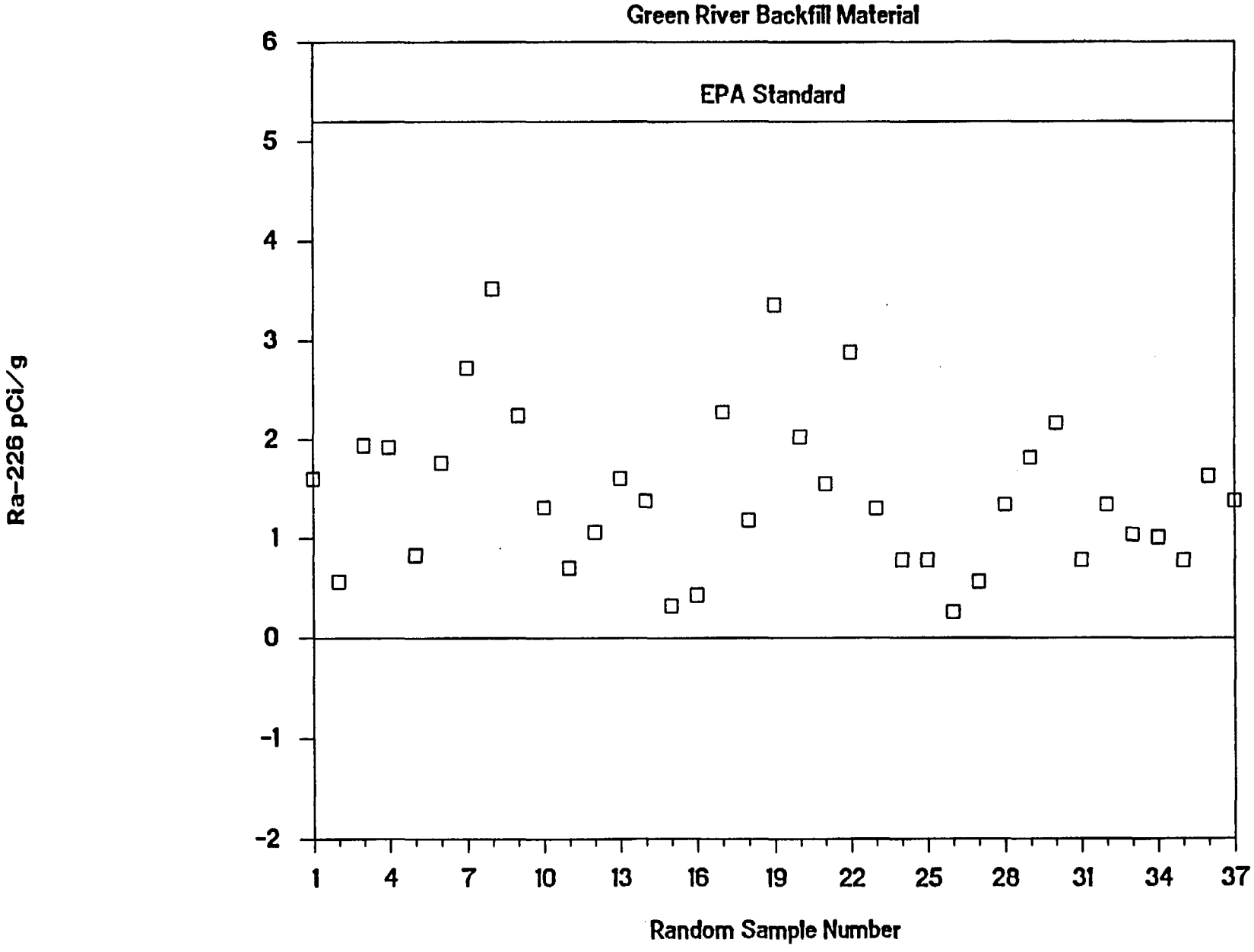

Green River, UT. - OCS #2 Daily Checks
10
9
8
7
6
5
4
3
2
1
0
Ra-226 pCi/g
+ 2 Sigma
Reference Material is 5.12 pCi/g Ra-226
- 2 Sigma
ERROR BARS ARE THEORETICAL 2 SIGMA ACTUAL = 5.15 +/- 0.66
28-Dec-88
22-Feb-89
16-Apr-89
30-May-89
10-Jul-89
December 28, 1988 - July 24, 1989
Count #1
Count #2
Count #3

Figure J.4


Green River Backfill Material
EPA Standard
Ra-226 pCi/g
6
5
4
3
2
1
0
-1
-2
1
4
7
10
13
16
19
22
25
28
31
34
37
Random Sample Number

VERIFICATION PROCEDURES FOR VICINITY PROPERTIES AND TAILINGS SITES (SOIL SAMPLING AND ANALYSIS) RAC-015

1.0 Scope

1.1 Purpose

To define procedures for final verification of excavated areas to show compliance with EPA mill tailings site or vicinity property standards.

1.2 Applicability

This procedure applies to all UMTRA vicinity properties and tailing sites.

2.0 Prerequisites

All instruments used under this procedure must have valid calibration. As stated in the VPMIM, a survey grid may be used to approximate the X and Y coordinates used for initial characterization of the excavated area (inclusion or REA surveys).

Back up data (correlations, etc.) must be acquired, and available for audit, on all methods used for excavation control and verification measurements.

3.0 Requirements

In general, UMTRA mill sites and vicinity properties will be cleaned to the US EPA standards. Exceptions to date are as follows:

US EPA standards: 5 pCi/g average concentration above background for surface areas, 15 pCi/g above background for areas to be more than 6 inches below grade after backfill). There is an additional DOE requirement that beneath and within 10 feet of vicinity property occupied structures, and potential conduits into a structure (utility line) are to be excavated to background levels. The area to be verified shall previously have been determined to be clean via delta measurements, immediate OCS analysis or other methods.

3.1 For sites, grid the area to be verified into 100 square meter blocks; for vicinity properties, duplicate the coordinates used for REA surveys. Location of these blocks must be tied to landmarks used in defining the previous survey grid.

3.2 For sites and VPs, grid coordinates AND depth of final soil sample are required to be recorded in the sample ID/location column (an average depth for the area being verified). Verification sample numbers and results are required to be recorded on a map of the site (construction drawing) and/or VP (as built drawing). Mark the grids on the official verification map as they are verified by the initial OCS count.

3.3 The OCS must be energy calibrated/checked. Record of these checks must be recorded on the OCS Daily Checks Form.

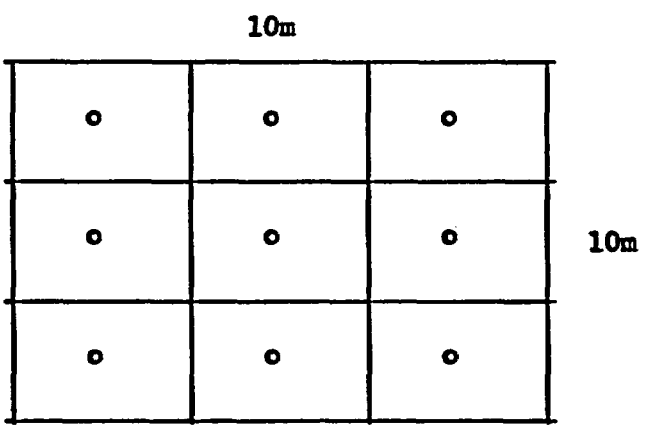
3.4 Site specific emanation and moisture correction factors must be developed prior to utilizing the OCS to count wet, unequilibrated soil samples.

3.5 The operation protocol for the OCS must be utilized to set up and run soil samples on the system.

4.0 Procedure

4.1 Informally, grid each 100 square meter block into approximate 10 x 10 foot squares (see below). This gridding may normally be done visually by the technician performing the verification survey, as the purpose is to provide a random sampling of the area to be verified. For verification, soil sample extraction will be performed at each of the nine 10 x 10 foot squares within the grid. Because the purpose of final verification sampling is to establish the average radium concentration in a 100 m^2 area, biased, non-grid interaction sampling (hot spot sampling), is not required. Prior excavation control surveying should have resulted in removal of significant hot spots. This sampling methodology applies both to sites and vicinity properties.

Final verification sampling shall be obtained from final excavated area. If area is excavated further for whatever reason, a new verification sample shall be collected (e.g. further excavation for thorium).



o = sample locations

4.2 While performing the measurements, routinely check operating parameters of the 2220 ratemeter: battery voltage (generally must be higher than 5.4 V), window OUT, threshold setting as directed by the site HP Manager (generally threshold = 100). Also, routinely (several times daily) perform an open shield recount at a single point on a property to demonstrate that the overall counting efficiency of the unit has not changed (± s sigma).

4.3 Seal the sample and count on the OCS immediately. If the OCS pCi/g multiplied by the site specific correction factor indicates that the standards have been met, number and label this sample as the final verification sample. If the sample results indicate the area is clean, it may be backfilled. If not, further cleaning is necessary.

4.3.1 As soon as feasible, dry the verification composite sample.

Seal, weigh, and subtract an average value for weight of the empty can and lid. Record initial (dry) weight of soil, and count at least 20 days later on the OCS system using standard procedures. Record the Ra-226 concentration on the verification log sheet. Periodically, leak test a sealed sample can to assure proper seal to assure that the sealing system is working properly.

4.3.2 If the final 20 day results exceed the standards for the specific property, notify the Radiological Programs Manager immediately for guidance.

4.3.3 At least every 20th verification sample (5%) is to be sent to an offsite laboratory for Ra-226 and Th-230 analysis on a routine basis. These QA samples are to be sent out as soon as possible after collection. Results from vendor analysis should be recorded on the original verification data sheet, when received, and the vendor results form also retained.

4.3.4 Permanently store all other verification samples at the site. Do not store any sample or sources near the OCS. The DOE requires that all final verification samples taken at tailings sites and vicinity properties be stored by the RAC prior to archiving.

4.3.5 QA samples sent to offsite laboratory shall be returned to the originator after analysis for archiving.

5.0 Procedure for the Field Analysis System for Thorium-230 (F.A.S.T.)

5.1 Discussion

Th-230 in disequilibrium with Ra-226 presents a unique analytical problem for several UMTRA site laboratories. Since Th-230 is essentially a pure alpha emitter, a method of providing excavation control and area verification on site without elaborate chemical processing is desired. Direct gross alpha counting of soil has been used for many years by various organizations for screening purposes, but the accuracy of the procedure is highly dependent upon the soil and radionuclide matrix as well as the preparation/counting method. Care must be taken to ensure that the soil preparation and counting methods used are consistent so that the other variables of soil type and radionuclide mixture can be quantified and accounted for in the data reduction process.

5.2 Preparation of Petri Dishes

5.2.1 Cover the work area with paper or plastic. Work with only five petri dishes at a time. Remove the top covers and set out the bottoms on the work area.

5.2.2 Spray the interior of the petri dishes with the Photo Mount adhesive, applying the adhesive in an even coat. Spray in two mutually perpendicular directions.

5.2.3 Place a small amount of zinc sulfide in each dish and agitate to cover all the adhesive. Let stand for five minutes and then dump out the excess (save it for future use). Invert the petri dish and tap lightly to remove any excess. Only a thin, transparent coating is required.

5.2.4 Cover and store prepared dishes in a dry, dark area until needed.

5.3 Guide - Soil Preparation

5.3.1 Analytical results from several soil samples collected at Lakeview indicate that at Ra-226 concentrations of 1.5 pCi/g and greater Th-230 concentrations will be greater than the 35 pCi/g guideline. In areas where Th-230 disequilibrium with Ra-226 is suspected, excavation should be continued to background Ra-226 levels using standard gamma scanning excavation control techniques.

5.3.2 In the lab, transfer the soil sample to a shallow, aluminum baking pan. Make sure that the sample number is written on the pan Save the sample can for future use. Place the soil sample in the oven to dry. Dry at 110_ C for approximately four hours.

5.3.3 Pass the sample through a 3 1/2 mesh sieve to remove gravel and rocks. Save the greater than 3 1/2 mesh fraction in the original sample can. Transfer the portion of the sample which passed through the sieve to the grinder hopper. Adjust the tension on the grinder plates by backing off the butterfly nut, tightening the thumb screw until just snug, then back off the thumb screw slightly and tighten the butterfly nut. Place a 100 mesh sieve and bottom pan assembly under the grinder and grind the sample into it.

5.3.4 After grinding, stack a 3 1/2 mesh sieve on the 100 mesh sieve. Cover the assembly for shaking. Shake until the majority of the sample (either type) passes through the 100 mesh sieve or for a minimum of five minutes.[3] Transfer the material which does not pass through the 100 mesh sieve back to the original sample can. Aliquot at least 5 grams of the less than 100 mesh fraction into a previously prepared petri dish, seal with black vinyl tape, label, and store in a dark location until counted. Transfer the remaining material to the sample can. Seal the sample can and allow ingrowth for Ra-226 determination.

5.4 Sample Counting

5.4.1 Quarterly, plateau the SAC-R5 and scaler, using an electroplated Th-230 source in a zinc sulfide coated petri dish. At the chosen high voltage setting, count a 50-minute background without a petri dish. If the empty background exceeds 0.2 cpm, recount. If it still exceeds 0.2 cpm, the high voltage may be too high. Readjust the voltage and recount. An empty SAC-R5's background should not exceed 0.2 cpm.

5.4.2 Daily, count a 10-minute background with an empty zinc sulfide coated petri dish. Check the instrument's response using a Th-230 electroplated source in the petri dish. The response must fall within ± 2 sigma of the average of the previous source checks.

5.4.3 Count the prepared soil samples for 10 minutes each. Calculate the Th-230 activity using the linear regression equation for the SAC-R5 used.

5.4.3.1 This step is intended to remove rocks that could damage the grinder. Large, solid chunks of soil should be placed in the grinder.

5.4.3.2 Placing a 3 1/2 mesh sieve over the 100 mesh sieve prior to shaking allows extra "head room" for the sample and increases sieving efficiency.

5.4.3.3 Until sufficient Q.C. data is gathered showing that the greater than 100 mesh fraction and less than 100 mesh fraction are equal in activity or that the less than 100 mesh fraction has the greater activity, an aliquot must be taken of all sample fractions greater than 100 mesh if it represents 50% or more of the sample.

5.5 Th-230 Gross Alpha QA Program

5.5.1 100% of the first 100 samples will be sent to EDA for Th-230 analysis.

5.5.2 20% of the next 500 samples will be sent to EDA for Th-230 analysis.

5.5.3 10% of the remaining samples will be sent to EDA for Th-230 analysis.

5.5.4 Average background data will be used for each SAC-R5 in sample calculations.

5.5.5 Daily source checks will be performed and checked against the running average for each SAC-R5 and must fall within 2 sigma of that value.

5.5.6 All samples sent to an outside vendor for analysis should be analyzed for Ra-226 and Th-230.

6.0 Records

All records of verification will be filed at the site and copies sent weekly to the RAC ALB EDV Manager or as requested.

List of Attachments

1. OCS Sample Verification Record
2. OCS Thorium Verification Log
3. Sample Numbering System
4. Calibration Curve Identification
5. Sample Release Form
6. OCS Daily Checkout Record

0334B

MK-FERGUSON/CHEM-NUCLEAR

OPPOSED CRYSTAL SYSTEM RECORD

SITE NAME _____

SITE AREA _____

OCS SERIAL NO._____

COUNT DATE INITIAL / 20 DAY	SAMPLE NUMBER	SAMPLE LOCATION	DATE SAMPLED	DATE SEALED	OCS# INITIAL / 20 DAY	FUNCTION NO. INITIAL / 20 DAY	MASS WET / DRY	Ra 226 INITIAL / 20 DAY	QC SAMPLE	LABORATORY RESULT Ra 226	LABORATORY RESULT Th 230	DEPTH <15 cm / >15 cm	TECH INITIAL / 20 DAY	REMARKS

NOTE: All soil sample results are in pCi/gm

REVIEWED BY _____

Site Correction Factor = _____.

Count Time = _____, unless noted otherwise.

015-8

0334B

Site Name _____

MK-Ferguson/Chem Nuclear

Thorium Verification Log

Date Sampled	Sample Number	Count Date	Counting Instrument	Counts -10 min		Th 230 Calculated (pCi/gm)	Q.C. Sample	Laboratory Result		Depth 15 cm	Tech	REMARKS
				Gross	Net			Ra 226	Th 230	15 cm		

SAC #1 pCi/g = ___ _____ (Net Counts) + ___ ___

SAC #2 pCi/g = ___ ___ (Net Counts) + ___ ___

SAC #3 pCi/g = _____ (Net Counts) + _____

Backgrounds

SAC #1 ___ ___

SAC #2 ___ ___

SAC #3 _____

Reviewed By _____

015-9

Systematic Sample Numbering System

UMTRA Site ID's (X)

SL = Salt Lake City	MH = Mexican Hat
DU = Durango	MB = Maybel
RV = Riverton	SK = Spook
TU = Tuba City	MV = Monument Valley
GJ = Grand Junction	FC = Falls City
AM = Ambrosia Lake	BO = Bowman
GN = Gunnison	ED = Edgemont
RI = Rifle	LO = Lowman
NA = Naturita	SR = Slick Rock
LK = Lakeview	GR = Green River

I. Air Samples

A. Environmental Air Samples

1. X - APE - 0001 - 1*

(HVE)	
Station	
Sample Serial Number	
APE = Continuous Sample	
HVE = Hi-Vol Grab Sample	
UMTRA Site ID	

* for vicinity property = station - VP #

An example for Lakeview would be:

LK-APE-0414-12/2/86-6

An example for a Salt Lake City VP would be:

SL-HVE-0850-12/2/86-1-066

B. Occupational Air Samples

1. For Sites

X - APO - 0001 - G - BZ

(HVO)	
(DW)	
BZ=Breathing Zone DW=Downwind	
Grid Area (Map)	
Sample Serial Number	
APO = Continuous Sample	
HVO = Hi-Vol Grab Sample	
UMTRA Site ID	

2. For Disposal Sites (cells):

X - APO - 0001 - DS - BZ
(HVO) | (DW)
|_____ Disposal Site

3. For Vicinity Properties:

X - APO - 0001 - VP# - BZ
(HVO) | (DW)
|_____ Vicinity Property Number

Examples:

a) Ambrosia Lake Sites

AM-HVO-0512-B-BZ

b) Lakeview Disposal Site

LK-APO-0810-DS-DW

c) Salt Lake City VP

SL-HVO-0819-066-BZ

II. Soil Samples

A. Verification

1. For Sites:

X - SV - 0001 - F - 8 - 25
| | | | | |___ Block Grid Number
| | | | |_____ Map Block ID
| | | |_____ Area Map ID
| | |_____ Unique Number
| |_____ Verification
|_____ UMTRA Site ID

2. For Vicinity Properties:

X - SV - 0001 - 066 - 25
| | | | |_____ Grid Number
| | | |_____ VP Number
| | |_____ Unique Number
| |_____ Verification
|_____ UMTRA Site ID

B. Excavation Control

```
X - SE* - 0001 - 008
|    |      |    (A)
|    |      |     |_____________ Site Area or VP#
|    |      |_____________________ Sample Log Number
|    |____________________________ Soil Verification
|_________________________________ UMTRA Site ID
```

Note: When an SE sample requires outside vendor analyses, add code XXX to sample ID. Codes are shown in Section E "Other Soil Samples".

C. Correlation Soil Samples

```
X - SC - 0001 - 066
|    |      |    (A)
|    |      |     |_____________ Site Area or VP#
|    |      |_____________________ Sample Log Number
|    |____________________________ Soil Correlation
|_________________________________ UMTRA Site ID
```

D. Borrow Material Samples

1.
```
X - BF - 0001- PIT ID
|    |    |     |_____________ Pit Location/ID
|    |    |___________________ Sample Log Number
|    |________________________ Backfill
|_____________________________ UMTRA Site ID
```

2.
```
X - BF - 0001 - A - 008
|    |      |    |    |_____ VP # (VPs)
|    |      |    |__________ Map ID (Sites)
|    |      |_______________ Sample Log Number
|    |______________________ Backfill
|___________________________ UMTRA Site ID
```

E. Other Soil Samples

```
X - SS - 0001 - 008 - XXX*
|    |      |    (A)    |_____ To be used when Sample goes
|    |      |     |             to EDA
|    |      |     |_____________ Site Area or VP #
|    |      |___________________ Sample Log Number
|    |__________________________ Soil Sample
|_______________________________ UMTRA Site ID
```

XXX Codes (For outside vendor only)

REA Rad Assessment
CEL Cell Survey
SPO Spillover Property
COM Comingled Waste
STD Supplemental Standards
NAT Suspected Natural Interferences
SLG Slag
SPL Special (these type samples should be further described in a note to Manager, EDV - Project Office as soon as possible.

F. Routine Smear Samples (various types)

1. X - RS - 0001 - CNSI-O
   - CNSI-O: Grid/Location
   - 0001: Sample Number
   - RS: Routine Smear (type)
   - X: UMTRA Site ID

Location examples:

MKF-O = MKF Office
CNSI-O = CNSI Office
BKHO-B = Back Hoe Bucket/Blade
TK-0152 = Truck License # etc.

G. Water Samples: (two types)

1. Up and Down Stream Surface

```
X - WSU-001 - 1 - 84
|   (or D)    |   |
|     |       |   |____ Year
|     |       |________ Quarter
|     |                 Unique Sample ID
|     |_______________  |Water Sample
|                       |Upstream WSU or WSD
|                       |Downstream
|_____________________  UMTRA Site ID
```

2. Special Work Water Samples

```
X - WWS-001 - HR
|     |       |_______ Year
|     |_______________ |Work Water
|_____________________ |Sample 001
|_____________________  UMTRA Site ID
```

(Send a location abbreviation list update as necessary to Manager, EDV Project Office).

H. Urinalysis Samples

1. Use social security number followed by; "I" for initial samples or "E" for exit samples.

2. For resamples; use social security number followed by:
   R (I) for an initial resample
   R (E) for an exit resample
   R (Q) for a quarterly resample

3. For quarterly samples; use social security number followed by:

```
Q__ - __
  |   |
  |   |_____________ Year
  |_________________ Quarter of Year
```

Examples:

Initial Sample = 123-56-7889-I
Resample of an Initial = 123-56-7889-R(I)
Quarterly Sample = 123-56-7889-Q-4/86-12/86
Resample of a Quarterly = 123-56-7889 R(Q)4/86-1/87

I. Radon - Records as previously instructed for RGM's). Include location on "Radon Concentrations in Air" RAC-012 procedure form. (see I.2 for Rad Worker Monitoring).

J. Grab Radon Daughters - Results of actual measurements for vicinity property work can be recorded on a WL Data Form. Actual filter samples need not be retained unless recounting is necessary due to suspected longlived particulate activity. Additional operational method may be required later.

K. WL Rn-D results: Type SF Track Tech Id

Use vendor SN and Systematic numbering as follows: (two types):

Verification in Structures

1. SN Sample ID/Location

```
432511      X - TE-V - CA-053 - 06/84 - R1
   |        |     |      |       |     |__ Rep. # (If a repeat)
   |        |     |      |       |_____|Date Placed in
   |        |     |      |             |Structure
   |        |     |      |_____________ VP (DOE) #
   |        |     |____________________|Track Etch
   |        |     |____________________|Verification
   |        |_____________________________ UMTRA Site ID
   |_____________________________________|SN Issued by
                                         |Vendor on TE
                                         |Detector
```

2. Personnel Monitoring

```
Sample/ID          Location/Description Vendor SN
368-85-6832   3/15/85 - 6/15/85        322515
    |                 |                  |____ Vendor SN
    |                 |_____________________ Period of Badge
    |                                        Use
    |_____________________________________|SSN of Rad
                                          |Worker
```

CALIBRATION CURVE IDENTIFICATION

1) *___ - RaO - 001 - 11/20/84

- Date
- Rev #
- Radium in soil OCS immediate counts
- UMTRA Site ID

2) *___ - RaD - 001 - 11/20/83

- Date
- Rev #
- Ra in soil Delta
- UMTRA Site ID

3) *___ - Ras - 001 - 11/20/83

- Date
- Rev #
- Ra in soil Schiager System
- UMTRA Site ID

C - Canonsburg
S - SLC
SH - SHP
D - DUR
Etc.

Date_____

SAMPLE
RELEASE FORM

I,_____, representing _____,
acknowledge receipt from Morrison-Knudsen and Chem-Nuclear Systems, Inc. the following soil sample(s) identified as:

1)_____ 5)_____ 9) _____

2)_____ 6)_____ 10)_____

3)_____ 7)_____ 11)_____

4)_____ 8)_____ 12)_____

and I further understand that I am to return the sample(s) to M-K/CNSI in exactly the condition they were received, unless other formal arrangements are made through the M-K Albuquerque Project Office - UMTRA Program.

SIGNED:_____

cc: H. Meyer
J. Turner
HP-10-00-11.C-01
HP-10-00-07-07

DAILY
OPPOSED CRYSTAL SYSTEM
QUALITY CONTROL CHECKS

Site:_____
Date:_____
OCS Instrument:_____
SN:_____

50.2 Standard

1. Set the 2506 Co-60 Sum Peak to Channel 512.
2. Determine OCS resolution (1332 KeV Co60 Peak)_____
3. Daily 10,000 Second Count Data:
   (Check applicable count type and enter ROI data.)

	Even # ROI	Odd # ROI
Ra_____		
Th_____	_____	_____
Bkg_____		

4. Radium Standard checks:
   (Morning setup and at least one check per day)

(50.2 pCi/gm GM WT =	_____	_____
Function =	_____	_____
pci/gm =	_____	_____

5. Gain Adjustment:

Time	Sum Peak Channel #	Sum Peak Set to Channel #
_____	_____	_____
_____	_____	_____
_____	_____	_____

5.12 Standard

(To be checked randomly with no system adjustment.)

Sample No.	Time	Function #	pCi/gm
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____

5.12 pCi/gm SAMPLE WEIGHT_____

Error Function: True Value / Calculated Avg. = 50.2 = _____ ; 5.12 = _____

Signature of Tech_____ Time_____

VERIFICATION PROCEDURES FOR VICINITY PROPERTIES AND TAILINGS SITES
RAC-015

1.0 Scope

1.1 Purpose

To define procedures for final verification of excavated areas to show compliance with EPA mill tailings site applicable land clean up standards or vicinity property standards.

1.2 Applicability

This procedure applies to all UMTRA vicinity properties and tailing sites.

2.0 Prerequisites

All instruments used under this procedure must have valid calibration. As stated in the VPMIM, a survey grid may be used to approximate the X and Y coordinates used for initial characterization of the excavated area (inclusion or REA surveys).

Back up data (correlations, etc.) must be acquired, and available for audit, on all methods used for excavation control and verification measurements.

3.0 Requirements

In general, UMTRA mill sites and vicinity properties will be cleaned to the US EPA standards. Exceptions to date are as follows:

US EPA standards: 5 pCi/g average concentration above background for surface areas, 15 pCi/g above background for areas to be more than 6 inches below grade after backfill). There is an additional DOE requirement that beneath and within 10 feet of vicinity property occupied structures, and potential conduits into a structure (utility line) are to be excavated to background levels. The area to be verified shall previously have been determined to be clean via delta measurements, immediate OCS analysis or other methods.

3.1 For sites, grid the area to be verified into 100 square meter blocks; for vicinity properties, duplicate the coordinates used for REA surveys. Location of these blocks must be tied to landmarks used in defining the previous survey grid. (Within this procedure, the terms 100 square meter, 10 x 10m, and 30' x 30' grid are used interchangeably, for convenience).

3.2 For sites and VPs, grid coordinates AND depth of final soil sample are required to be recorded in the sample ID/location column (an average depth for the area being verified). Verification sample numbers and results are required to be recorded on a map of the site (construction drawing) and/or VP (as built drawing). Mark the grids on the official verification map as they are verified by the initial OCS count.

3.3 The OCS must be energy calibrated/checked. These checks must be recorded on the OCS Daily Checks Form.

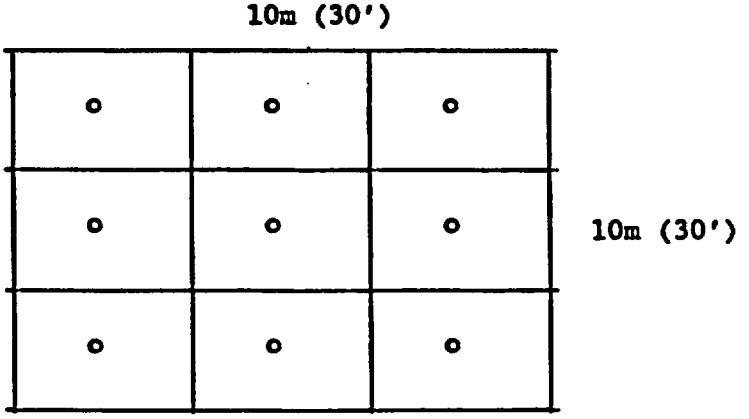
3.4 Site specific emanation and moisture correction factors must be developed prior to utilizing the OCS to count wet, unequilibrated soil samples.

3.5 The operation protocol for the OCS must be utilized to set up and run soil samples on the system.

4.0 Procedure

4.1 Informally, grid each 100 square meter block into approximate 10 x 10 foot squares (see below). This gridding may normally be done visually by the technician performing the verification survey, as the purpose is to provide a random sampling of the area to be verified. For verification, soil sample extraction will be performed at each of the nine 10 x 10 foot squares within the grid. Because the purpose of final verification sampling is to establish the average radium concentration in a 100 m^2 area, biased, non-grid interaction sampling (hot spot sampling), is not required. Prior excavation control surveying should have resulted in removal of significant hot spots. This sampling methodology applies both to sites and vicinity properties.

Final verification sampling shall be obtained from final excavated area. If area is excavated further for whatever reason, a new verification sample shall be collected (e.g. further excavation for thorium).



o = sample locations

4.2 While performing the measurements, routinely check operating parameters of the 2220 ratemeter: battery voltage (generally must be higher than 5.4 V), window OUT, threshold setting as directed by the site HP Manager (generally threshold = 100). Also, routinely (several times daily) perform an open shield recount at a single point on a property to demonstrate that the overall counting efficiency of the unit has not changed significantly.

4.3 Seal the sample and count on the OCS immediately. If the OCS pCi/g multiplied by the site specific correction factor indicates that the standards have been met, number and label this sample as the final verification sample. If the sample results indicate the area is clean, it may be backfilled. If not, further remedial action is necessary.

4.3.1 As soon as feasible, dry the verification composite sample.

Seal, weigh, and subtract an average value for weight of the empty can and lid. Record initial (dry) weight of soil, and count at least 20 days later on the OCS system using standard procedures. Record the Ra-226 concentration on the verification log sheet. Periodically, leak test a sealed sample can to assure proper seal to assure that the sealing system is working properly.

4.3.2 If the final 20 day results exceed the standards for the specific property, notify the Radiological Programs Manager immediately for guidance.

4.3.3 At least every 25th verification sample (4%) is to be sent to an offsite laboratory for Ra-226 and Th-230 analysis on a routine basis. These QA samples are to be sent out as soon as possible after collection. Results from vendor analysis shall be recorded on the original verification data sheet, when received, and the vendor results form also retained.

4.3.4 Permanently store all other verification samples at the site. Do not store any sample or sources near the OCS. The DOE requires that all final verification samples taken at tailings sites and vicinity properties be stored by the RAC prior to archiving.

4.3.5 QA samples sent to an offsite laboratory shall be returned to the originator after analysis for archiving. Instruction for return shipments shall be provided to the vendor on the Laboratory Services Authorization Form(s).

5.0 Procedure for the Field Analysis System for Thorium-230 (F.A.S.T.)

5.1 Discussion

Th-230 in disequilibrium with Ra-226 presents a unique analytical problem for several UMTRA site laboratories. Since Th-230 is essentially a pure alpha emitter, a method of providing excavation control and area verification on site without elaborate chemical processing is desired. Direct gross alpha counting of soil has been used for many years by various organizations for screening purposes, but the accuracy of the procedure is highly dependent upon the soil and radionuclide matrix as well as the preparation/counting method. Care must be taken to ensure that the soil preparation and counting methods used are consistent so that the other variables of soil type and radionuclide mixture can be quantified and accounted for in the data reduction process.

5.2 Preparation of Petri Dishes

5.2.1 Cover the work area with paper or plastic. Work with only five petri dishes at a time. Remove the top covers and set out the bottoms on the work area.

5.2.2 Spray the interior of the petri dishes with the Photo Mount adhesive, applying the adhesive in an even coat. Spray in two mutually perpendicular directions.

5.2.3 Place a small amount of zinc sulfide in each dish and agitate to cover all the adhesive. Let stand for five minutes and then dump out the excess (save it for future use). Invert the petri dish and tap lightly to remove any excess. Only a thin, transparent coating is required.

5.2.4 Cover and store prepared dishes in a dry, dark area until needed.

5.3 Guide - Soil Preparation

5.3.1 Analytical results from several soil samples collected at Lakeview indicate that at Ra-226 concentrations of 1.5 pCi/g and greater Th-230 concentrations will appear to be greater than the 35 pCi/g guideline, due to radium-related alpha particle interference. In areas where Th-230 disequilibrium with Ra-226 is suspected, excavation should be continued to background Ra-226 levels using standard gamma scanning excavation control techniques.

5.3.2 In the lab, transfer the soil sample to a shallow, aluminum baking pan. Make sure that the sample number is written on the pan Save the sample can for future use. Place the soil sample in the oven to dry. Dry at 110° C for approximately four hours.

5.3.3 Pass the sample through a 3 1/2 mesh sieve to remove gravel and rocks. Save the greater than 3 1/2 mesh fraction in the original sample can. Transfer the portion of the sample which passed through the sieve to the grinder hopper. Adjust the tension on the grinder plates by backing off the butterfly nut, tightening the thumb screw until just snug, then back off the thumb screw slightly and tighten the butterfly nut. Place a 100 mesh sieve and bottom pan assembly under the grinder and grind the sample into it.

5.3.4 After grinding, stack a 3 1/2 mesh sieve on the 100 mesh sieve. Cover the assembly for shaking. Shake until the majority of the sample (either type) passes through the 100 mesh sieve or for a minimum of five minutes.[3] Transfer the material which does not pass through the 100 mesh sieve back to the original sample can. Aliquot at least 5 grams of the less than 100 mesh fraction into a previously prepared petri dish, seal with black vinyl tape, label, and store in a dark location until counted. Transfer the remaining material to the sample can. Seal the sample can and allow ingrowth for Ra-226 determination.

5.4 Sample Counting

5.4.1 Quarterly, plateau the SAC-R5 and scaler, using an electroplated Th-230 source in a zinc sulfide coated petri dish. At the chosen high voltage setting, count a 50-minute background without a petri dish. If the empty background exceeds 0.2 cpm, recount. If it still exceeds 0.2 cpm, the high voltage may be too high. Readjust the voltage and recount. An empty SAC-R5's background should not exceed 0.2 cpm.

5.4.2 Daily, count a 10-minute background with an empty zinc sulfide coated petri dish. Check the instrument's response using a Th-230 electroplated source in the petri dish. The response must fall within ± 2 sigma of the average of the previous source checks.

5.4.3 Count the prepared soil samples for 10 minutes each. Calculate the Th-230 activity using the linear regression equation for the SAC-R5 used.

5.4.3.1 This step is intended to remove rocks that could damage the grinder. Large, solid chunks of soil should be placed in the grinder.

5.4.3.2 Placing a 3 1/2 mesh sieve over the 100 mesh sieve prior to shaking allows extra "head room" for the sample and increases sieving efficiency.

5.4.3.3 Until sufficient Q.C. data is gathered showing that the greater than 100 mesh fraction and less than 100 mesh fraction are equal in activity or that the less than 100 mesh fraction has the greater activity, an aliquot must be taken of all sample fractions greater than 100 mesh if it represents 50% or more of the sample.

5.5 Th-230 Gross Alpha QA Program

5.5.1 100% of the first 100 samples will be sent to EDA for Th-230 analysis.

5.5.2 20% of the next 500 samples will be sent to EDA for Th-230 analysis.

5.5.3 10% of the remaining samples will be sent to EDA for Th-230 analysis.

5.5.4 Average background data will be used for each SAC-R5 in sample calculations.

5.5.5 Daily source checks will be performed and checked against the running average for each SAC-R5 and must fall within 2 sigma of that value.

5.5.6 All samples sent to an outside vendor for analysis should be analyzed for Ra-226 and Th-230.

6.0 Records

All records of soil verification will be filed at the site and copies sent weekly to the RAC ALB EDV Manager or as requested.

7.0 Windblown Surface Contamination - Verification using the RTRAK Mobile Scanner

7.1 Purpose

To define the procedure for final verification of areas contaminated with windblown uranium mill tailings using the RTRAK radiation tractor scanning system. Final verification is intended to show compliance with U.S. EPA mill tailings site or large vicinity property standards.

7.2 Applicability

This procedure applies to all UMTRA vicinity properties and mill tailings sites with windblown surface contamination. Currently, only those areas contaminated with windblown tailings may be verified clean to UMTRAP standards using RTRAK. RTRAK may be used in other areas for excavation control, however.

7.3 Prerequisites

To be used for final verification on any UMTRA Site, the RTRAK must be properly calibrated for that site. Because the calibration procedure at each site will vary, it should be coordinated with the Albuquerque Project Office Instruments Manager. In general, calibration at a site will consist of the following:

a) Defining, through initial RTRAK scans, a strip of contamination moving radially away from the tailings pile in the direction of the windblown contamination, such that contamination decreases from about 30 pCi/g radium in soil to background.

b) Scanning that strip, with the RTRAK properly set up and microwave transponders accurately located by land survey, to record gamma levels in the two Bi-214 regions of interest. During the scanning, markers will be set either using the built-in paint sprayers, or by other means including stakes, and numbered such that it will be possible to later take soil samples at known locations along that contamination strip.

c) Once the scanning is completed by RTRAK, a set of soil samples will be taken along the strip at the marked points. The soil samples will be canned and counted in twenty days on a calibrated opposed crystal system, such that a correlation can be developed for that specific site between soil radium concentrations as measured on the OCS, and RTRAK region of interest count rates.

d) Care should be taken to avoid performing this calibration process early in the morning when local radon daughters may increase RTRAK detector background, or during or immediately after rainstorms when the radon emanation rate may be influenced by environmental conditions. Generally, RTRAK site-specific calibrations will be performed during the late morning and afternoon on clear, sunny days.

7.4 Requirements

In general, mill sites and vicinity properties will be cleaned to the U.S. EPA standards for UMTRA. These standards require cleanup to 5 pCi/g average concentration above background, for surface areas, and 15 pCi/g above background for areas to be more than six inches below grade after backfill. The EPA standards specifically define areas to be cleaned up as 100 square meters, generally 30' x 30' on the UMTRA Project. RTRAK is capable of resolving and verifying much smaller areas, but because the standards are specific in this regard, RTRAK data will not be officially reported for areas less than 100 square meters. This reported data will be an average of all measurements taken over each 100 square meter grid element. All raw data taken by RTRAK, however, will be retained and plotted for review by DOE, NRC, State and Tribal Officials, as requested.

7.4.1 For site verification, the RTRAK microwave autolocation grid system must be set up such that final RTRAK plots will be exactly superimposed on the MK-Engineering site verification grid maps. This means that the RTRAK operator must request and receive the appropriate final MK-Engineering site grid maps prior to beginning verification at a particular site. These grid maps must be obtained from the Albuquerque Chem-Nuclear Manager of Environment, Dosimetry and Verification (EDV). This manager is responsible to make certain that the grid maps have been prepared in advance of RTRAK verification at each UMTRA Site. The RTRAK operator at a specific site, should make certain that the local MK-Ferguson Site Manager and the local Chem-Nuclear Health Physics Manager agree that the maps being used to set up RTRAK verification are in fact correct and current.

7.4.2 The microwave transponders used in the RTRAK auto location system shall be placed at locations surveyed by a licensed land surveyor hired by MK-Ferguson Company for this purpose. The locations of these microwave transducers shall be recorded both in the permanent log book maintained by the RTRAK operator, and in the permanent log book maintained by the local Chem-Nuclear Site Health Physics Manager.

7.4.3 When it is known in advance that a particular area being verified by RTRAK will be backfilled to a final depth exceeding 15 centimeters, the area to be backfilled should be carefully designated on the site grid map, mentioned above. This is required because backfilled areas are subject to the 15 pCi/g rather than 5 pCi/g verification standard.

7.4.4 The RTRAK operator's log book shall include a record of those environmental conditions that might affect the RTRAK readings. Therefore, the RTRAK operator's permanent log book shall include the following:

a) Barometric pressure and percent relative humidity readings on an hourly basis, during any verification or excavation control work.

b) Observations made by the RTRAK operator concerning weather conditions. These observations shall be recorded at the same time as the above readings and should indicate whether or not rainfall is occurring, or occurred during the previous night, whether or not significant winds are occurring during the RTRAK measurement, and any other information that may be useful later to reconstruct the record of the RTRAK measurement process.

7.4.5 During RTRAK verification, RTRAK must be set up and operated in accordance with the current procedures specified by the Albuquerque Instruments Manager. Requirements include count rate and energy calibration checks using a tailings source, background checks at a predefined location conducted at least twice daily, and various electronic checks performed daily. The counting data are saved as spectral data files on floppy disk and are subject to the same backup requirements as the field measurement data. Electronic test results are recorded in the RTRAK operator's bound log book.

7.4.6 During RTRAK verification operations, any unusual situations encountered, either outside the RTRAK or within the RTRAK's radiation counting, electronics, or autolocation system, should be immediately reported to the local Site Health Physics Manager and to the Chem-Nuclear Albuquerque Instruments Manager.

7.4.7 Soil samples counted as a result of RTRAK verification operations must be counted on a fully calibrated Opposed Crystal System (OCS) either at the local site or in the Albuquerque Project Office.

7.5 Procedure

7.5.1 Verification of specific site areas shall be determined through consultation with the local Site Health Physics Manager. During verification, the RTRAK's paint sprayers will be activated to spray areas in excess of the 5 or 15 pCi/g plus background standard to aid in defining areas to be further excavated.

RTRAK shall be operated at the standard speed of approximately one mile per hour and the period of integration shall be five seconds. Because RTRAK is still in the early stages of its use as a verification tool, these values are subject to change at a later date by written notification from the Albuquerque Project Office.

7.5.2 During RTRAK verification, it is required that five percent of all the areas scanned be checked through the use of soil sampling to insure that the RTRAK measurements of the remainder of the area are accurate. Because RTRAK is scanning a linear track (approximately 8 feet wide) the most efficient way to operate RTRAK is to use very long, side by side, scans, rather than scanning back and forth across each individual 100 square meter verification area. For this reason, the five percent soil sample quality control requirement will mean that five percent of the eight foot wide linear scan track must be soil sampled. Every one hundred readings, a contiguous group of five detector readings will be identified by the counting electronics for quality control soil sampling. This will result in a soil strip approximately eight feet wide by thirty-seven feet long being identified for composite soil sampling in every seven hundred thirty-three feet of travel. To define the location of this quality control soil sample section, a set of unique markings should be sprayed on the ground using the RTRAK paint sprayers by the RTRAK operator at the beginning and end of a 37 foot long section of track, every ten minutes. Depending on soil and vegetation, some other means may be used by the RTRAK operator to define the beginning and end of this section. After this section has been identified, either immediately or after several such quality control sections have been marked, a set of soil samples must be taken during the same shift by a local Site H.P. The soil samples within each 8 foot by 37 foot wide quality control section shall be taken as follows:

a) Twelve, six inch depth samples from the 8 x 37 foot quality control section shall be collected.

b) These twelve samples shall be taken in groups of four, spread uniformly over the 37 foot length of the quality control segment.

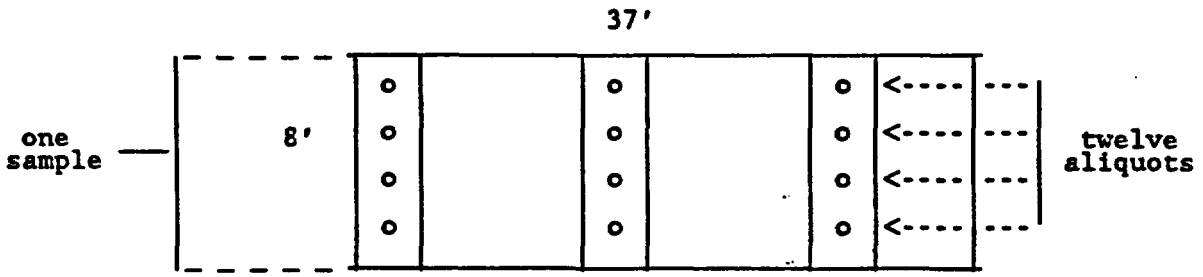
c) Each of the samples shall be taken approximately under the track of each of the four individual RTRAK counting crystals, at the same distance along the Q.C. section (see illustration).

d) These twelve samples shall be composited on the spot, mixed thoroughly, and an aliquot of the composite sample shall be placed in one of the opposed crystal system aluminum counting cans for OCS analysis (see Section 7.7.2.b).

e) This quality control sample can shall be marked on the spot using indelible ink with a sample number uniquely identifying it as a QC sample taken at that specific location on the site. The Chem-Nuclear Systematic Sample Number System shall be used to identify this sample. Regardless of who takes the sample, the RTRAK operator is responsible for its proper identification.

f) In addition, the Systematic Sample Number for that specific sample shall be entered into the RTRAK personal computer electronic file also storing the RTRAK counting information, at that point within the file corresponding to the 37 foot long segment represented by the QC sample. In this way, a permanent record clearly tying the RTRAK count rate within that particular strip and the opposed crystal system radium record for that particular location will be uniquely and permanently linked.

Illustration:



7.6 While performing verification measurements, the RTRAK operator shall be responsible for routinely checking operating parameters of the entire RTRAK system. Key parameters are as defined within the RTRAK operating manual. The RTRAK operator shall also be responsible to ensure that all verification data taken on any given day is properly and permanently recorded in at least three separate locations, such that loss of any individual data set shall not require re-surveying of an entire day's worth of data. The following procedures shall be carried out to ensure data integrity:

a) Every thirty (30) minutes, data stored in the RTRAK ram disk shall be copied onto a 3 1/2 inch floppy disk.

b) Four times per day: at mid-morning, lunch, mid-afternoon, and at the completion of an eight hour scanning period, all data stored on the 3 1/2" disk prepared above, shall be copied on to a 5 1/4" disk as a backup record.

c) Daily, a magnetic tape record will be made of the days operation using the original 3 1/2" floppy.

d) Each night, a computer comparison will be made of the three records to insure accuracy.

[Note: Loss of data through failure of the RTRAK operator to perform the above backup procedures shall be cause for disciplinary action by the local Chem-Nuclear Health Physics Manager and the Albuquerque Instruments Manager, in accordance with standard Chem-Nuclear procedures.]

7.7 Following the above procedures, some thirty-six quality control soil samples will be taken in the course of six hours of RTRAK verification work per eight hour day. If RTRAK is working two or more shifts, these numbers will be increased accordingly. All thirty-six quality control samples properly labeled shall daily be given to the local Site Health Physics Manager for analysis for radium and other radionuclides as may be necessary. These analyses shall be performed in standard fashion on the local opposed crystal system, properly calibrated.

7.7.1 At the discretion of the Site Health Physics Manager, these quality control soil samples may be counted initially, per standard procedures, for an estimate of soil radium concentrations. The Site Health Physics Manager shall use these data at his discretion to recommend additional excavation in the areas represented by these initial count QC samples. In any case, all QC samples shall be counted after at least 20 days sealed ingrowth, for use in regular RTRAK calibration updates at a site.

7.7.2 Ten percent of these RTRAK quality control samples shall be sent for routine Ra-226 analysis by a vendor laboratory, immediately after the 20 day OCS count.

7.7.3 At the discretion of the Site Health Physics Manager, plots of the RTRAK verification data representing a 100% surface scan of areas being verified, may also be used to recommend additional excavation. In this case, the Site Health Physics Manager shall, particularly during early phases of RTRAK verification at the site, confer with the Albuquerque Project Office during such decision making. This is because experience gained during verification activities by RTRAK at other sites can be more easily correlated and transferred by Albuquerque Project Office staff. To ensure that any additional excavation indicated by RTRAK verification scans results in neither over-excavation (excavation in addition to that necessary to meet the standards), or under-excavation (lack of additional excavation when necessary to meet the standards), the following guideline for use of RTRAK verification data shall be applied:

a) RTRAK data shall be plotted using the same 1200' x 900' grids as the site verification grid map provided by MK-Engineering (see Section 7.4.1). All RTRAK verification data within each 100 square meter grid element shall be averaged and shall represent the average radium concentration for that 100 square meter grid element.

b) The RTRAK calibration data for each specific site, and the record of RTRAK verification data versus the quality control soil samples taken at a particular site, shall be considered in determining the standard error of the RTRAK measurement. This error, defined by the regression line of the above data, shall be determined by the Site Health Physics Manager, the Albuquerque Instruments Manager, and the Albuquerque Manager of Environment, Dosimetry and Verification. Given this evaluation, additional excavation shall be recommended if less than 95% certainty exists, that the 100 square meter grid element under consideration meets the appropriate EPA standard, that is 5 pCi/g or 15 pCi/g above background. As twenty day opposed crystal system quality control sample results become available for a specific site, they shall be included in these calculations of current RTRAK accuracy.

7.8 Each day during RTRAK verification activities at a site, a brief meeting shall be held between the RTRAK operator and the RTRAK Site Health Physics Manager, to discuss the day's activities, activities for the next period and any problems with RTRAK system operation. On a daily basis, the 5 1/4" backup disks shall be transferred to the Site H.P. Manager. On a weekly basis, the tape data will be transferred to Albuquerque.

The Site Health Physics Manager shall retain final responsibility and authority with regard to all verification measurements made by the RTRAK system at his site. Any problems or questions regarding RTRAK verification shall be immediately referred to the Albuquerque Operations Office, Chem-Nuclear staff for resolution. The Site Health Physics Manager is responsible for a thorough understanding of the RTRAK system operation and any problems which may exist during the RTRAKs operation at his site in order to maintain this responsibility and authority.

Under no conditions, however, shall anyone other than the RTRAK operator, or the CNSI Instrumentation Manager be allowed access to the RTRAK's counting equipment, electronics systems, programs, or any other RTRAK systems that could influence the accuracy of the final verification measurement being performed by RTRAK.

Records transferred on a daily basis to the Site Health Physics Manager by the RTRAK operator, shall be stored in a safe place at the site until such time as site verification activities are completed at which time they will be transferred to the Albuquerque Project Office.

All quality control soil samples taken as part of RTRAK operations and counted on the site opposed crystal system, shall be treated in the same manner as verification soil samples taken for any other purpose. They shall be logged on the OCS and shall be stored and archived in the same manner as any verification sample. Record of these samples and their analysis results shall be stored in the site microcomputer based data management system, in the same manner as any other verification samples.

The Site Health Physics Manager shall assure himself that an adequate verification record is being prepared and maintained through use of the RTRAK at his site. As part of this process, a daily check of all RTRAK activities shall be performed, with progress plotted on the local site verification map. Particularly during early use of RTRAK for verification purposes, every effort must be made by the responsible individuals involved to ensure that no problems affecting accuracy of the RTRAK verification record are developing. If any questions occur, they should be immediately referred to the Albuquerque Project Office.

List of Attachments

1. OCS Sample Verification Record
2. OCS Thorium Verification Log
3. Sample Numbering System
4. Calibration Curve Identification
5. Sample Release Form
6. OCS Daily Checkout Record

MK-FERGUSON/CHEM-NUCLEAR

OPPOSED CRYSTAL SYSTEM RECORD

SITE NAME _____

SITE AREA _____

OCS SERIAL NO._____

COUNT DATE INITIAL / 20 DAY	SAMPLE NUMBER	SAMPLE LOCATION	DATE SAMPLED	DATE SEALED	OCS# INITIAL / 20 DAY	FUNCTION NO. INITIAL / 20 DAY	MASS WET / DRY	Ra 226 INITIAL / 20 DAY	QC SAMPLE	LABORATORY RESULT Ra 226	LABORATORY RESULT Th 230	DEPTH <15 cm / >15 cm	TECH INITIAL / 20 DAY	REMARKS

NOTE: All soil sample results are in pCi/gm

REVIEWED BY _____

Site Correction Factor = _____.

Count Time = _____, unless noted otherwise.

0334B

Site Name _____

MK-Ferguson/Chem Nuclear

Thorium Verification Log

Date Sampled	Sample Number	Count Date	Counting Instrument	Counts -10 min Gross	Counts -10 min Net	Th 230 Calculated (pCi/gm)	Q.C. Sample	Laboratory Result Ra 226	Laboratory Result Th 230	Depth 15 cm / 15 cm	Tech	REMARKS

SAC #1 pCi/g = ___ _____ (Net Counts) + ___ ___

SAC #2 pCi/g = ___ ___ (Net Counts) + ___ ___

SAC #3 pCi/g = _____ (Net Counts) + _____

Backgrounds

SAC #1 ___ ___

SAC #2 ___ ___

SAC #3 _____

Reviewed By _____

015-17

Systematic Sample Numbering System

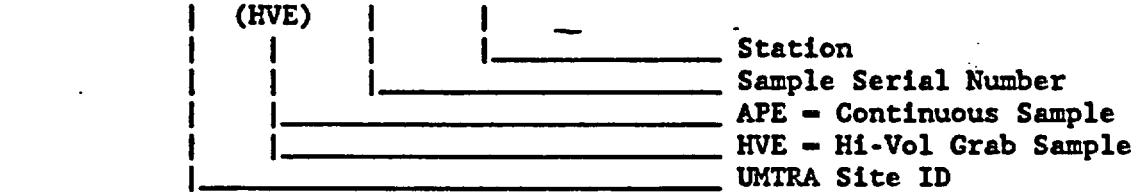
UMTRA Site ID's (X)

SLC = Salt Lake City	HAT = Mexican Hat
DUR = Durango	MAY = Maybel
RVT = Riverton	SPK = Spook
TUB = Tuba City	MON = Monument Valley
GRJ = Grand Junction	FCT = Falls City
AMB = Ambrosia Lake	BOW = Bowman
GRN = Gunnison	EDG = Edgemont
RFL = Rifle	LOW = Lowman
NAT = Naturita	SRK = Slick Rock
LKV = Lakeview	GRN = Green River

I. Air Samples

A. Environmental Air Samples

1. X - APE - 0001 - 1*



* for vicinity property = station - VP #

An example for Lakeview would be:

LKV-APE-0414-12/2/86-6

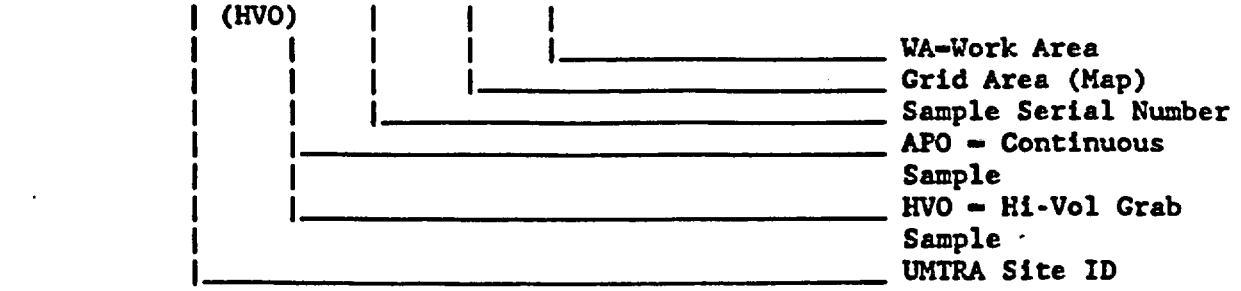
An example for a Green River VP would be:

GRN-HVE-0850-12/2/86-1-066

B. Occupational Work Area Air Samples

1. For Sites

X - APO - 0001 - G - WA*



2. For Disposal Sites (cells):

X - APO - 0001 - DS - WA*
(HVO) |_____ Disposal Site

3. For Vicinity Properties:

X - APO - 0001 - VP# - WA*
(HVO) |_____ Vicinity Property Number

*Work Area means as near as safely possible to the workers being monitored

Examples:

a) Ambrosia Lake Site

AMB-HVO-0512-B-WA

b) Durango Disposal Site

DUR-APO-0810-DS-WA

c) Green River VP

GRN-HVO-0819-066-WA

C. Occupational Breathing Zone Air Samples (Label-type personnel air samplers only)

X - LPO - 0001 - NAME - BZ
| | | | |___ Breathing Zone
| | | |_____ Worker's Name
| | | Last, First, Initial
| | |_____ Sample Serial Number
| |_____ LPO = Lapel, Occupational
|_____ UMTRA Site ID

II. Soil Samples

A. Verification

1. For Sites: (Except Ambrosia Lake)

X - SV - 0001 - F - 8 - 25
| | | | | |___ Block Grid Number
| | | | |_____ Map Block ID
| | | |_____ Area Map ID
| | |_____ Unique Number
| |_____ Verification
|_____ UMTRA Site ID

2. For Vicinity Properties:

```
X - SV - 0001 - 066 - 25
|    |    |      |    |____ Grid Number
|    |    |      |_________ VP Number
|    |    |________________ Unique Number
|    |_____________________ Verification
|__________________________ UMTRA Site ID
```

B. RTRAK Verification Quality Control

```
X - RQC - A - XXXX - X,Y, - X2, Y2
|    |    |    |       |_____|___ Diagonally opposite corners
|    |    |    |                  of the 8' x 37' grid
|    |    |    |_____________________ Sample Serial Number
|    |    |__________________________ Site Area (800' x 1200')
|    |_______________________________ RTRAK Quality Control
|____________________________________ UMTRA Site I.D.
```

C. Excavation Control

```
X - SE* - 0001 - 008
|    |      |    (A)
|    |      |     |_____________ Site Area or VP#
|    |      |___________________ Sample Log Number
|    |__________________________ Soil Verification
|_______________________________ UMTRA Site ID
```

Note: When an SE sample requires outside vendor analyses, add code XXX to sample ID. Codes are shown in Section E "Other Soil Samples".

D. Correlation Soil Samples

```
X - SC - 0001 - 066
|    |      |    (A)
|    |      |     |_____________ Site Area or VP#
|    |      |___________________ Sample Log Number
|    |__________________________ Soil Correlation
|_______________________________ UMTRA Site ID
```

E. Borrow Material Samples

1.
```
X - BF - 0001- PIT ID
|    |    |     |_____________ Pit Location/ID
|    |    |___________________ Sample Log Number
|    |________________________ Backfill
|_____________________________ UMTRA Site ID
```

2. X - BF - 0001 - A - 008

				VP # (VPs)
			Map ID (Sites)	
		Sample Log Number		
	Backfill			
UMTRA Site ID				

F. Other Soil Samples

X - SS - 0001 - 008 - XXX*

			(A)	To be used when Sample goes to EDA
			Site Area or VP #	
		Sample Log Number		
	Soil Sample			
UMTRA Site ID				

XXX Codes (For outside vendor only)

REA Rad Assessment
CEL Cell Survey (Radon Emanation)
SPO Spillover Property
COM Comingled Waste
STD Supplemental Standards
NAT Suspected Natural Interferences
SLG Slag
SPL Special (these type samples should be further described in a note to Manager, EDV - Project Office as soon as possible.

G. Routine Smear Samples (various types)

1. X - RS - 0001 - CNSI-O

			Grid/Location
		Sample Number	
	Routine Smear (type)		
UMTRA Site ID			

Location examples:

MKF-O = MKF Office
CNSI-O = CNSI Office
BKHO-B = Back Hoe Bucket/Blade
TK-0152 = Truck License # etc.

H. Water Samples: (two types)

1. Up and Down Stream Surface

```
X - WSU-001 - 1 - 84
|   (or D)    |   |
|     |       |   |___  Year
|     |       |_______  Quarter
|     |                 Unique Sample ID
|     |_____________   |Water Sample
|                      |Upstream WSU or WSD
|                      |Downstream
|_____________________   UMTRA Site ID
```

2. Special Work Water Samples

```
X - WWS-001 - HR
|     |       |_______  Year
|     |_____________   |Work Water
|___________________   |Sample 001
|___________________    UMTRA Site ID
```

(Send a location abbreviation list update as necessary to Manager, EDV Project Office).

I. Urinalysis Samples

1. Use social security number followed by; "I" for initial samples or "E" for exit samples.

2. For resamples; use social security number followed by:
   R (I) for an initial resample
   R (E) for an exit resample
   R (Q) for a quarterly resample

3. For quarterly samples; use social security number followed by:

```
Q___ - ___
  |    |
  |    |_____________  Year
  |__________________  Quarter of Year
```

Examples:

Initial Sample = 123-56-7889-I
Resample of an Initial = 123-56-7889-R(I)
Quarterly Sample = 123-56-7889-Q-4/86-12/86
Resample of a Quarterly = 123-56-7889 R(Q)4/86-1/87

J. Radon - Records as previously instructed for RGM's). Include location on "Radon Concentrations in Air" RAC-012 procedure form. (see I.2 for Rad Worker Monitoring).

K. Grab Radon Daughters - Results of actual measurements for vicinity property work can be recorded on a WL Data Form. Actual filter samples need not be retained unless recounting is necessary due to suspected longlived particulate activity. Additional operational method may be required later.

L. WL Rn-D results: Type SF Track Tech ID

Use vendor SN and Systematic numbering as follows: (two types):

Verification in Structures

1.

SN	Sample ID/Location
432511	X - TE-V - CA-053 - 06/84 - R1

- Rep. # (If a repeat)
- Date Placed in Structure
- VP (DOE) #
- Track Etch Verification
- UMTRA Site ID
- SN Issued by Vendor on TE Detector

2. Personnel Monitoring

Sample/ID	Location/Description	Vendor SN
368-85-6832	3/15/85 - 6/15/85	322515

- Vendor SN
- Period of Badge Use
- SSN of Rad Worker

CALIBRATION CURVE IDENTIFICATION

1) *___ - RaO - 001 - 11/20/84

- 11/20/84 — Date
- 001 — Rev #
- RaO — Radium in soil OCS immediate counts
- *___ — UMTRA Site ID

2) *___ - RaD - 001 - 11/20/83

- 11/20/83 — Date
- 001 — Rev #
- RaD — Ra in soil Delta
- *___ — UMTRA Site ID

3) *___ - Ras - 001 - 11/20/83

- 11/20/83 — Date
- 001 — Rev #
- Ras — Ra in soil Schiager System
- *___ — UMTRA Site ID

DUR = Durango
GRJ = Grand Juntion, etc.

Date_____

SAMPLE
RELEASE FORM

I,_____, representing _____,
acknowledge receipt from Morrison-Knudsen and Chem-Nuclear Systems, Inc. the following soil sample(s) identified as:

1)_____ 5)_____ 9) _____

2)_____ 6)_____ 10)_____

3)_____ 7)_____ 11)_____

4)_____ 8)_____ 12)_____

and I further understand that I am to return the sample(s) to M-K/CNSI in exactly the condition they were received, unless other formal arrangements are made through the M-K Albuquerque Project Office - UMTRA Program.

SIGNED:_____

cc: H. Meyer
J. Turner
HP-10-00-11.C-01
HP-10-00-07-07

DAILY
OPPOSED CRYSTAL SYSTEM
QUALITY CONTROL CHECKS

Site:_____
Date:_____
OCS Instrument:_____
SN:_____

50.2 Standard

1. Set the 2506 Co-60 Sum Peak to Channel 512.
2. Determine OCS resolution (1332 KeV Co60 Peak)_____
3. Daily 10,000 Second Count Data:
   (Check applicable count type and enter ROI data.)

Ra_____	Even # ROI	Odd # ROI
Th_____	_____	_____
Bkg_____		

4. Radium Standard checks:
   (Morning setup and at least one check per day)

(50.2 pCi/gm GM WT =	_____	_____
Function =	_____	_____
pci/gm =	_____	_____

5. Gain Adjustment:

Time	Sum Peak Channel #	Sum Peak Set to Channel #
_____	_____	_____
_____	_____	_____
_____	_____	_____

5.12 Standard

(To be checked randomly with no system adjustment.)

Sample No.	Time	Function #	pCi/gm
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____

5.12 pCi/gm SAMPLE WEIGHT_____

Error Function: $\frac{\text{True Value}}{\text{Calculated Avg.}} = \frac{50.2}{\text{_____}} =$ _____; 5.12 = _____

Signature of Tech_____ Time_____

BORROW
MATERIAL RADIOACTIVE SCREENING
RAC-013

1.0 Scope

1.1 Purpose

This document provides instructions and guidance to determine acceptability of borrow pit materials for use as backfill.

1.2 Applicability

Any time new material is proposed as backfill, it must be checked for radioactive contamination. Periodically and routinely, large borrow pits must be checked for radioactive contamination.

2.0 Prerequisites

All instruments used under this procedure must have valid calibration.

3.0 Requirements

3.1 Establishment of Background

3.1.1 If background count rates and exposure rates have not been previously established for a particular site/location, they must be established and documented the first time borrow material is checked.

3.1.2 If it is necessary to measure background values, go to an area easily accessible, not influenced by the UMTRA site.

3.1.3 Take 10 surface and 10, 3 feet height gamma 0.1-1.0 minute counts.

3.1.4 Collect a 500g soil sample under each surface reading.

3.1.5 Calculate the average of the 10 surface counts. This represents the surface count rate for that region record.

3.1.6 Analyze the soil samples for Ra-226. (OCS and/or offsite lab)

3.2 Determination of statistical limits of the background.

3.2.1 Average the background count readings ($\bar{c}$); record.

3.2.2 Take the square root of the average ($\sqrt{\bar{c}}$); record. This is the standard deviation of the background 3 sigma.

3.2.3 Multiply this value by 3, ($3\sqrt{\bar{c}}$); record.

3.2.4 Calculate the range upper limit by adding the value calculated in 2.2.3 to the measured mean ($\bar{c}$) for the background; record.

3.2.5 Subtract the value calculated in 2.2.3 from the measured mean for the background; record. This is the lower limit of the range.

3.2.6 The mean plus or minus 3 sigma represents the range of background count values at the 99% confidence level.

3.3 Gamma screening of Borrow Material

3.3.1 Take several contact surface gamma counts (time 0.1 - 1.0 min.); ten is usually a good number to start with. The actual number of readings depend on the volumes of material to be used in the immediate future. Periodic checking of borrow material will be necessary.

3.3.2 Calculate the mean; $\bar{c}$.

3.4 Interpretation of the Calculated Range

3.4.1 If the calculated mean falls within the range of the (previously or recently) established background count, the material is acceptable for fill.

3.4.2 If there is question about the above results contact RAC-AL. A sample of the borrow material shall be sent off to the Approved Laboratory for Ra-226, Th-230, and U-238 analyses.

3.5 Alternate Method

At the direction of the site HP Manager initial and routine samples may be collected from the haul trucks and analyzed to determine if the borrow material meets the requirements.

4.0 Records

4.1 The site HP Manager or his designee shall maintain a site file of all data sheets, records, logs, forms, memos and shall forward to RAC AL copies of pertinent data as required.

List of Attachments

The following data sheet shall be filled out when performing Borrow Material Testing.

1. Background/Borrow Material Testing

BACKGROUND/BORROW MATERIAL TESTING

DATE: _____

TECH: _____

BACKGROUND DETERMINATION; RANGE OF VALUES = _____ to _____

BORROW MATERIAL INVESTIGATION

SURFACE GAMMA COUNTS	COUNT TIME	3 FOOT HEIGHT GAMMA COUNTS/MIN.	COMMENTS
Ave: _____(c)		Ave: _____	
CALCULATIONS:			

1. Calculate the means counts i.e. $\bar{c}$ _____ and mean uR/h _____
2. Calculate the standard deviation of the counts; i.e. sigma $\sqrt{\ } = \bar{c} =$ _____
3. Calculate the range of the measured values.

   i.e. $c - 3\sqrt{\bar{c}}$ and $\bar{c} + 3\sqrt{\bar{c}}$

   Range = _____ to _____.

4. If the mean falls in the background range, the borrow material is acceptable fill material.

GREEN RIVER, UTAH SITE

APPENDIX J

PART B

RADIOLOGICAL VERIFICATION SURVEYS FOR BUILDINGS

PART B

Radiological Verification Survey For Buildings

1. Building Verification Measurement Methods

Both removable and nonremovable surface contamination were measured where possible, to give a complete assessment of surface contamination. Using the field survey instruments available on the Project, both average alpha and average beta surface contamination were detected and documented for each building. During decontamination and subsequent verification special consideration was given to locations where alpha contamination was suspected, such as overhead beams, inside ducts and drain pipes and especially where sharp angles and constrictions were present.

Following guidance provided in the Green River Remedial Action Plan, floors, walls and ceilings of each building were divided by a rectangular grid system. The individual survey blocks did not exceed 10 ft. by 10 ft. areas. Measurements were attempted within each block, although many areas were inaccessible and unsafe to collect a measurement. Verification measurements for the office, ore crusher, and main mill buildings are presented in Tables J.4, J.5, and J.6, respectively. Survey maps for the floors, walls, and ceilings accompany each table. Dashed lines in Tables J.4, J.5, and J.6 for these survey locations mean that no measurement was performed, due to unsafe conditions. Concurrence from the Department of Energy had been granted to not survey unsafe areas.

Concrete brick samples were collected during the decontamination to confirm the use of the uranium limits. The results provided by Barringer Laboratories are provided in Table J.7 with the report. Brick sample locations are denoted on Figure J.6.4. Locations for this sampling were chosen that provided the best representation of the contamination found.

Average results for each survey block are presented in the tables; Removable alpha, total alpha, and total beta measurement results. Table J.6.1 contains removable alpha and total beta measurements for roof areas of the mill building. No total (fixed plus removable) alpha measurements were made on the roof as it would have involved an unnecessary second survey and deployment of a survey team to the roof of the building. Some of the roof was removed and replaced with new roofing. No data is presented for this portion. Only data for areas where the original roof was decontaminated is presented.

Working Level measurement results will not be available until October 1990 when the track-etch devices are retrieved and read. An addendum to this report will be provided once the results are received and reviewed.

Each block on a grid system was assigned a number. The data recorded on the sheets can be traced to the drawings for each building that accompany each table in this report.

The Green River RAP required that gamma exposure rate surveys be performed in all rooms of the buildings. All measurements made indicated that gamma radiation levels were below 20 micro-Roentgens per hour, a requirement in the Green River RAP. Gamma survey results are presented in Tables J.8, J.9, and J.10 for the office, ore crusher and mill buildings, respectively.

2. Survey Release Limits

The Department of Energy concurred with the RAC's request to apply uranium decontamination release limits to the Mill buildings. These limits are presented below.

	Average	Maximum	Removable
U-nat, U-235, U-238 and associated decay products	5,000 dpm/100cm^2	15,000 dpm/100cm^2	1,000 dpm/100cm^2

3. Instrumentation

All check sources used for the surveys are traceable to the National Institute of Standards and Technology. Smears were collected and analyzed for alpha contamination using a Ludlum Model 2000/43-10 scintillation counting system. The typical efficiency of this system was 36%.

Total (fixed plus removable) alpha levels were measured using an Eberline Model ESP-1 with a Ludlum Model L 43-5 scintillator. The alpha efficiency obtained during the surveys ranged from 11.7% to 12.5%.

Total beta levels were measured using a ESP-1 with a Ludlum Model 44-40 Geiger-Mueller detector. The beta efficiency obtained during the surveys ranged from 16.6% to 17.7%.

Detector face area correction factors were applied to obtain disintegration rates per 100 square centimeters for all total measurements performed.

Gamma exposure rate surveys were performed in all rooms of the buildings using a Ludlum Model 2220 ratemeter with a Model 44-10 Na(Tl) gamma scintillator. The unit was calibrated to a Reuter-Stokes RSS-111 Pressurized Ion Chamber. The Reuter-Stokes RSS-111 calibration is traceable to the National Institute of Standards and Technology.

SUMMARY
TABLE J.4
VERIFICATION MEASUREMENTS*
OFFICE BUILDING
GREEN RIVER, UTAH

LOCATION	MAXIMUM REMOVABLE ALPHA	AVG TOTAL ALPHA	MAX TOTAL ALPHA	AVG TOTAL ALPHA	MAX TOTAL BETA	AVG TOTAL BETA
CEILINGS	23	4	--	--	1084	232
WALLS	11	2	96	41	1626	279
FLOORS	8	2	--	--	1325	186

*All values are in units of disintergrations per 100 square centimeters.

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room #1; Ceiling:	#1	0	-	-
	2	0	-	1084
	3	2.2	-	-
	4	0	-	-
	5	0	-	-
	6	0	-	-
	7	2.2	-	-
	8	0	-	30
	9	0	-	-
	10	0	-	-
	11	0	-	-
	12	0	-	-
	13	0	-	-
Room #1; Wall	#1	0	-	301
	2	0	-	-
	3	2.2	64	Bkgd
	4	-	-	-
(Cinderblock)	5	0	-	Bkgd
	6	0	Bkgd	-
(Cinderblock)	7	5.0	-	240
	8	0	-	-
(Cinderblock)	9	2.2	-	Bkgd
	10	2.2	64	-
(Cinderblock)	11	0	-	451
	12	0	-	-
	13	0	-	391
	14	0	-	-
	15	7.8	-	391
	16	2.2	-	-
	17	0	-	Bkgd
	18	2.2	-	-
	19	2.2	-	Bkgd
	20	0	-	-
	21	5.0	-	Bkgd
	22	2.2	-	512
	23	2.2	-	482
	24	0	16	-
	25	0	-	151
	26	2.2	-	-
	27	0	-	181
	28	0	64	-

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room #1; Floor	#1	2.2	-	Bkgd
	2	2.2	-	Bkgd
	3	0	-	Bkgd
	4	2.2	-	60
	5	0	-	210
	6	0	-	90
	7	0	-	301
	8	0	-	151
	9	0	-	391
	10	0	-	151
	11	0	-	Bkgd
	12	0	-	120
	13	5.1	-	361
Room#2; Ceiling	#1	0	-	-
	2	0	-	-
	3	0	-	482
	4	0	-	421
	5	0	-	-
	6	0	-	421
	7	0	-	-
	8	2.2	-	-
	9	5.0	-	753
	10	2.2	-	-
	11	2.2	-	-
	12	5.0	-	-
	13	0	-	-
	14	0	-	512
	15	0	-	-
Room #2; Wall	#1	2.2	-	873
	2	0	-	482
	3	0	-	572
	4	2.2	32	-
	5	2.2	-	692
	6	5.0	-	-
	7	0	16	151
	8	2.2	-	-
	9	0	-	120
	10	2.2	-	Bkgd
	11	5.0	48	240
	12	0	-	-
	13	2.2	-	30
	14	0	-	-
	15	2.2	48	271

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
	16	2.2	-	30
	17	2.2	-	903
	18	5.0	-	-
	19	0	-	Bkgd
	20	2.2	-	-
Room #2; Floor	#1	7.7	-	391
	2	2.2	-	301
	3	5.0	-	301
	4	2.2	-	181
	5	2.2	-	240
	6	5.0	-	Bkgd
	7	0	-	210
	8	2.2	-	90
	9	0	-	240
	10	2.2	-	30
	11	2.2	-	Bkgd
	12	0	-	271
	13	0	-	181
	14	2.2	-	331
	15	0	-	30
Room #3; Ceiling	#1	0	-	-
	2	0	-	693
	3	0	-	-
	4	0	-	-
	5	0	-	-
	6	2.4	-	Bkgd
Room #3; Wall	#1	0	16	Bkgd
	2	0	-	-
	3	0	-	Bkgd
	4	0	64	-
	5	0	-	Bkgd
	6	0	48	482
	7	0	-	-
	8	0	-	60
	9	2.3	16	572
	10	0	-	-
Room #3; Floor	#1	2.3	-	Bkgd
	2	2.3	-	-
	3	0	-	-
	4	0	-	391
	5	2.3	-	-
	6	2.3	-	-

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room # 4&5, Ceiling	#1	0	-	-
	2	5.2	-	-
	3	2.3	-	-
	4	2.3	-	-
	5	8.0	-	-
	6	13.9	-	-
	7	8.0	-	-
	8	0	-	-
	9	13.9	-	-
	10	2.2	-	-
	11	11.0	-	-
	12	0	-	-
	13	8.0	-	-
	14	0	-	-
	15	19.8	-	-
	16	11.0	-	-
	17	5.1	-	-
	18	0	-	-
	19	2.2	-	-
	20	0	-	-
	21	19.8	-	-
	22	8.0	-	-
	23	0	-	-
	24	0	-	-
	25	0	-	-
	26	22.7	-	-
	27	2.2	-	-
	28	13.9	-	-
	29	5.1	-	-
	30	2.2	-	-
	31	22.7	-	-
	32	5.1	-	-
	33	8.0	-	-
	34	11.0	-	-
	35	5.1	-	-
	36	11.0	-	-
	37	0	-	-
	38	0	-	-
Room #4&5; Wall (Cinderblock)	#1	0	32	Bkgd
	2	0	-	151
	3	22.1	-	Bkgd
	4	2.1	-	181

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room #4&5; Wall	5	0	-	451
	6	2.1	-	240
	7	0	0	271
	8	0	-	Bkgd
	9	0	-	271
	10	0	-	361
	11	2.1	-	240
	12	0	-	451
	13	2.1	-	181
	14	7.8	-	181
	15	2.1	16	210
	16	0	-	90
	17	0	-	210
	18	2.1	-	391
	19	0	-	240
	20	0	-	Bkgd
	21	2.1	-	Bkgd
	22	2.1	-	Bkgd
	23	0	96	Bkgd
	24	0	-	Bkgd
	25	7.8	-	Bkgd
	26	0	-	Bkgd
	27	0	-	Bkgd
(Cinderblock)	28	0	-	331
	29	0	-	301
(Cinderblock)	30	2.1	-	331
	31	0	64	572
(Cinderblock)	32	0	-	Bkgd
	33	0	-	361
(Cinderblock)	34	0	-	421
	35	0	Bkgd	151
(Cinderblock)	36	2.1	-	181
	37	0	-	240
(Cinderblock)	38	0	-	181
Room 4&5; Floor	#1	0	-	391
	2	2.3	-	632
	3	0	-	240
	4	0	-	120
	5	2.3	-	Bkgd
	6	0	-	512
	7	2.3	-	361
	8	0	-	301
	9	2.3	-	421

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room 4&5; Floor	10	2.3	-	120
	11	0	-	151
	12	0	-	Bkgd
	13	2.3	-	Bkgd
	14	0	-	60
	15	2.3	-	30
	16	2.3	-	Bkgd
	17	0	-	361
	18	0	-	240
	19	2.4	-	271
	20	5.3	-	Bkgd
	21	2.4	-	-
	22	2.4	-	-
	23	Bkgd	-	-
	24	Bkgd	-	-
Room 6: Ceiling	#1	2.2	-	Bkgd
	2	Bkgd	-	Bkgd
	3	2.2	-	Bkgd
	4	2.2	-	602
	5	14.0	-	Bkgd
Room 6: Wall	#1	2.1	Bkgd	Bkgd
	2	2.1	-	Bkgd
	3	Bkgd	-	Bkgd
	4	2.1	-	30
(Cinderblock)	5	2.1	-	482
(Cinderblock)	6	2.1	96	271
	7	2.1	-	240
(Cinderblock)	8	Bkgd	32	391
	9	2.1	-	Bkgd
	10	2.1	-	60
Room 6; Floor	#1	2.1	-	120
	2	Bkgd	-	90
	3	Bkgd	-	90
	4	2.1	-	181
	5	5.0	-	1325
	6	Bkgd	-	301
Room 7; Ceiling	#1	8.0	-	120
Room 7; Wall	#1	Bkgd	-	Bkgd
	2	Bkgd	80	Bkgd
	3	5.0	-	240
	4	Bkgd	48	482
	5	5.0	-	Bkgd

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room 7; Floor	#1	2.1	-	Bkgd
		2.1	-	151
Room 8; Ceiling	#1	Bkgd	-	Bkgd
	2	2.2	-	Bkgd
	3	Bkgd	-	Bkgd
	4	2.2	-	Bkgd
	5	11.0	-	Bkgd
	6	2.2	-	361
Room 8; Wall	#1	Bkgd	-	572
(Cinderblock)	2	Bkgd	48	452
	3	Bkgd	-	181
(Cinderblock)	4	Bkgd	-	90
	5	Bkgd	-	Bkgd
	6	5.0	-	152
	7	Bkgd	32	338
	8	Bkgd	-	Bkgd
	9	Bkgd	-	Bkgd
	10	Bkgd	-	Bkgd
	11	2.1	-	Bkgd
	12	Bkgd	-	Bkgd
	13	2.1	-	Bkgd
	14	Bkgd	-	Bkgd
	15	5.0	Bkgd	45
	16	Bkgd	-	Bkgd
(Cinderblock)	17	Bkgd	-	72
	18	2.1	-	311
Room 8; Floor	#1	2.1	-	Bkgd
	2	2.1	-	231
	3	Bkgd	-	Bkgd
	4	2.1	-	152
	5	Bkgd	-	Bkgd
	6	Bkgd	-	Bkgd
Room 9;Ceiling	#1	2.2	-	Bkgd
	2	Bkgd	-	Bkgd
	3	2.2	-	53
	4	Bkgd	-	Bkgd
	5	Bkgd	-	Bkgd
	6	Bkgd	-	Bkgd
	7	Bkgd	-	Bkgd
	8	Bkgd	-	Bkgd
	9	2.2	-	292
	10	Bkgd	-	Bkgd
	11	2.2	-	Bkgd

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
	12	Bkgd	-	632
	13	Bkgd	-	210
	14	2.2	-	542
	15	5.1	-	301
	16	Bkgd	-	391
	17	Bkgd	-	181
	18	5.1	-	361
Rm9; Wall 1 (Cind)	#1	Bkgd	32	60
	2	Bkgd	-	722
(Cinderblock)	3	Bkgd	-	30
	4	2.2	-	120
(Cinderblock)	5	Bkgd	-	181
	6	5.1	-	181
	7	Bkgd	32	Bkgd
	8	Bkgd	-	181
	9	5.1	-	Bkgd
	10	2.2	64	Bkgd
	11	Bkgd	-	120
	12	2.2	-	512
(Cinderblock)	13	Bkgd	-	Bkgd
	14	2.2	-	301
(Cinderblock)	15	2.2	-	181
	16	Bkgd	-	361
(Cinderblock)	17	2.2	-	481
	18	8.0	-	151
(Cinderblock)	19	2.2	32	60
	20	Bkgd	-	451
(Cinderblock)	21	Bkgd	-	Bkgd
	22	8.0	-	30
(Cinderblock)	23	Bkgd	80	210
	24	Bkdg	-	120
	25	Bkgd	-	Bkgd
	26	2.2	16	Bkgd
	27	2.2	-	90
	28	Bkgd	-	Bkgd
	29	5.1	-	Bkgd
	30	Bkgd	-	Bkgd
	31	2.2	-	Bkgd
	32	5.1	32	Bkgd
	33	2.2	-	Bkgd
	34	2.2	-	Bkgd
	35	Bkgd	-	Bkgd
	36	Bkgd	16	Bkgd

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room 9; Floor	#1	2.2	-	Bkgd
	2	5.1	-	120
	3	2.2	-	181
	4	5.1	-	361
	5	5.1	-	Bkgd
	6	2.2	-	361
	7	5.1	-	Bkgd
	8	2.2	-	301
	9	2.2	-	90
	10	5.1	-	753
	11	2.2	-	Bkgd
	12	Bkgd	-	Bkgd
	13	Bkgd	-	30
	14	2.2	-	Bkgd
	15	Bkgd	-	181
	16	2.2	-	963
	17	2.2	-	Bkgd
	18	2.2	-	Bkgd
Room 10; Ceiling	#1	Bkgd	-	-
	2	Bkgd	-	-
	3	Bkgd	-	181
	4	Bkgd	-	-
Rm10; Wall (Cind)	#1	Bkgd	-	181
	2	Bkgd	32	301
(Cinderblock)	3	Bkgd	-	Bkgd
(Cinderblock)	4	Bkgd	48	Bkgd
(Cinderblock)	5	Bkgd	-	240
(Cinderblock)	6	Bkgd	16	60
	7	Bkgd	-	120
	8	Bkgd	-	271
Room 10; Floor	#1	5.1	-	90
	2	Bkgd	-	Bkgd
	3	2.2	-	Bkgd
	4	Bkgd	-	150
Room 11; Ceiling	#1	Bkgd	-	-
	2	2.2	-	-
	3	2.2	-	-
Room 11; Wall	#1	2.2	-	-
	2	2.2	32	-
	3	Bkgd	-	-
	4	10.6	-	-
	5	2.2	16	-
	6	Bkgd	-	-
	7	2.2	32	-
	8	2.2	-	-

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room 11; Floor	#1	5.0	-	151
	2	Bkgd	-	120
	3	2.2	-	90
Ladies Rm Ceiling	#1	Bkgd	-	120
Ladies Rm Wall	#1	Bkgd	-	30
	2	Bkgd	-	421
	3	5.1	96	722
	4	Bkgd	-	181
Ladies Rm Floor	#1	Bkgd	-	120
Outside Wall	#1	Bkgd	-	421
	2	Bkgd	-	391
	3	Bkgd	-	482
	4	5.1	-	240
	5	2.3	-	662
	6	Bkgd	-	361
	7	2.3	-	753
	8	2.3	-	120
	9	2.3	-	421
	10	Bkgd	-	181
	11	2.3	-	90
	12	5.1	-	60
	13	Bkgd	-	120
	14	5.1	-	692
	15	2.3	-	30
	16	5.1	-	1054
	17	5.1	-	151
	18	2.3	-	512
	19	Bkgd	-	1114
	20	Bkgd	-	1325
	21	2.2	-	903
	22	Bkgd	-	1114
	23	5.1	-	753
	24	Bkgd	-	1626
	25	5.1	-	1626
	26	2.3	-	1596
	27	Bkgd	-	1204
	28	2.3	-	120
	29	Bkgd	-	181
	30	2.3	-	963
	31	Bkgd	-	1024
	32	5.1	-	301
	33	Bkgd	-	722
	34	5.1	-	391

TABLE J.4
VERIFICATION MEASUREMENTS
OFFICE BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Outside Wall	35	Bkgd	-	722
	36	Bkgd	-	1054

GREEN RIVER, UTAH
Ceiling Swipe Map

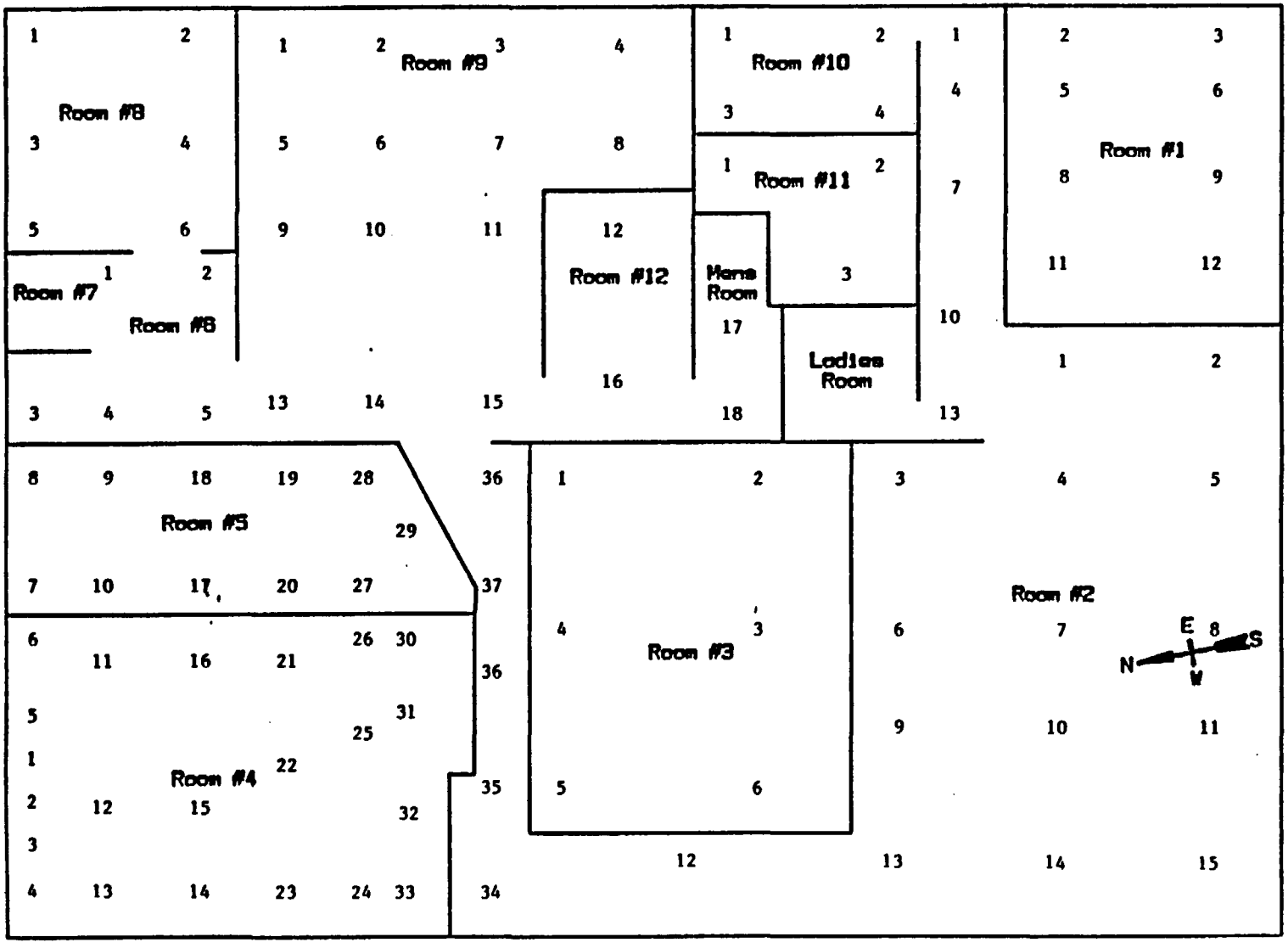
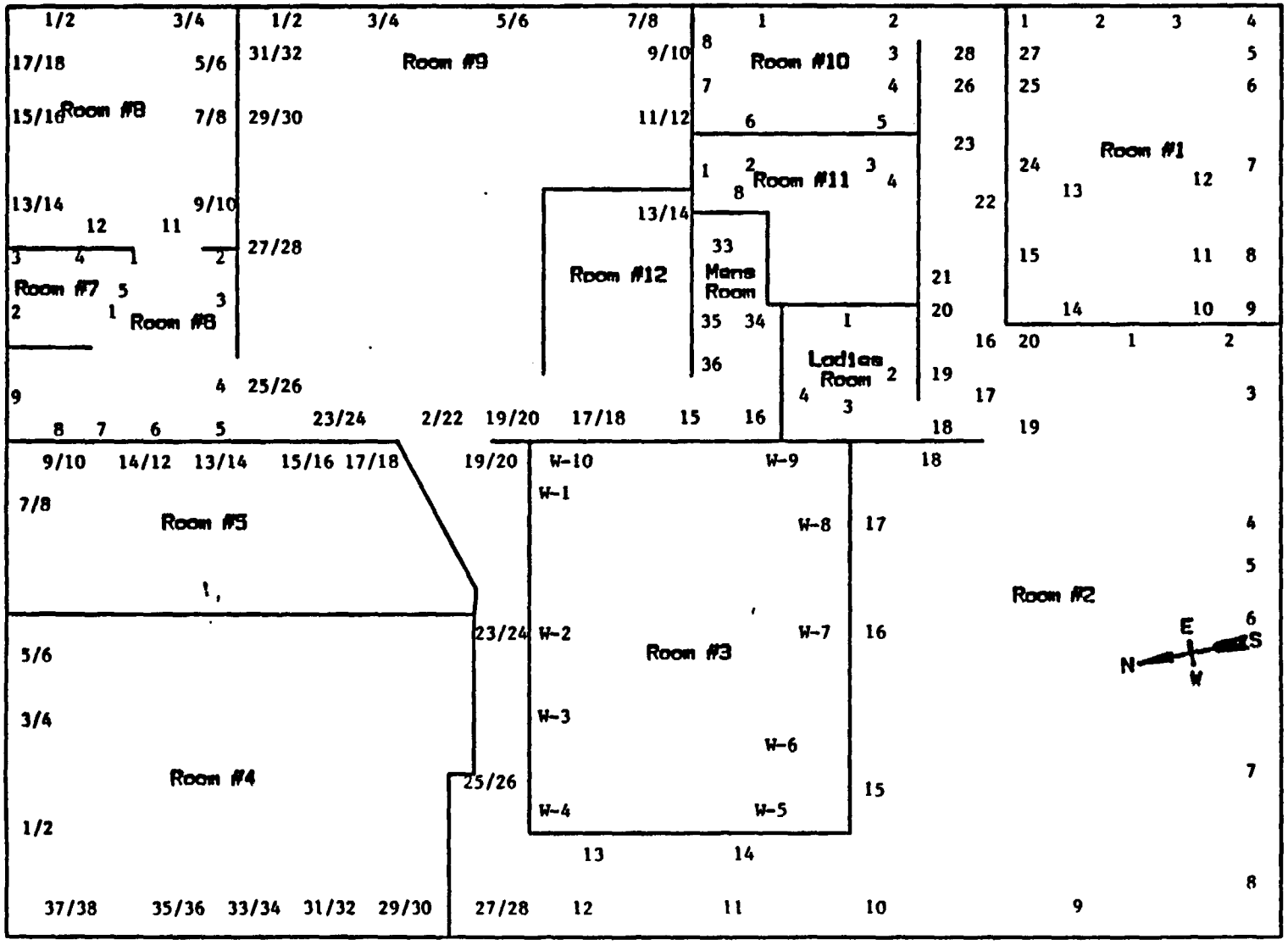


Figure J.4.1

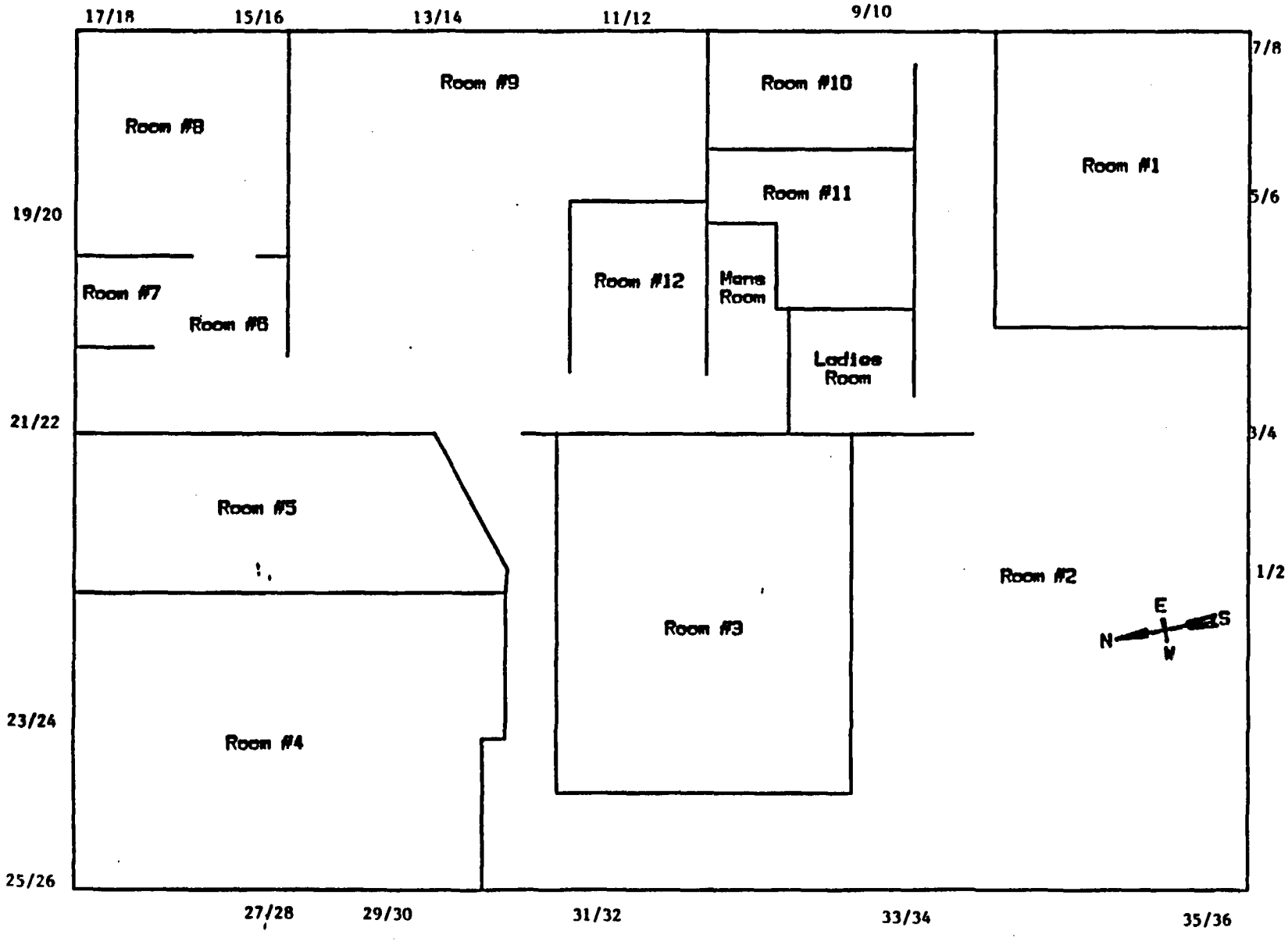
GREEN RIVER, UTAH
Wall Swipe Map



Measurements were alternately collected.
Example: 1/2, 3/4, 35/36 = Low/High

Figure J.4.2

GREEN RIVER, UTAH
Outside Wall Measurements



Measurement High/Low Even #'s = Low, 4' Odd #'s = High, 12'

Figure J.4.3

GREEN RIVER, UTAH
Floor Swipe Map

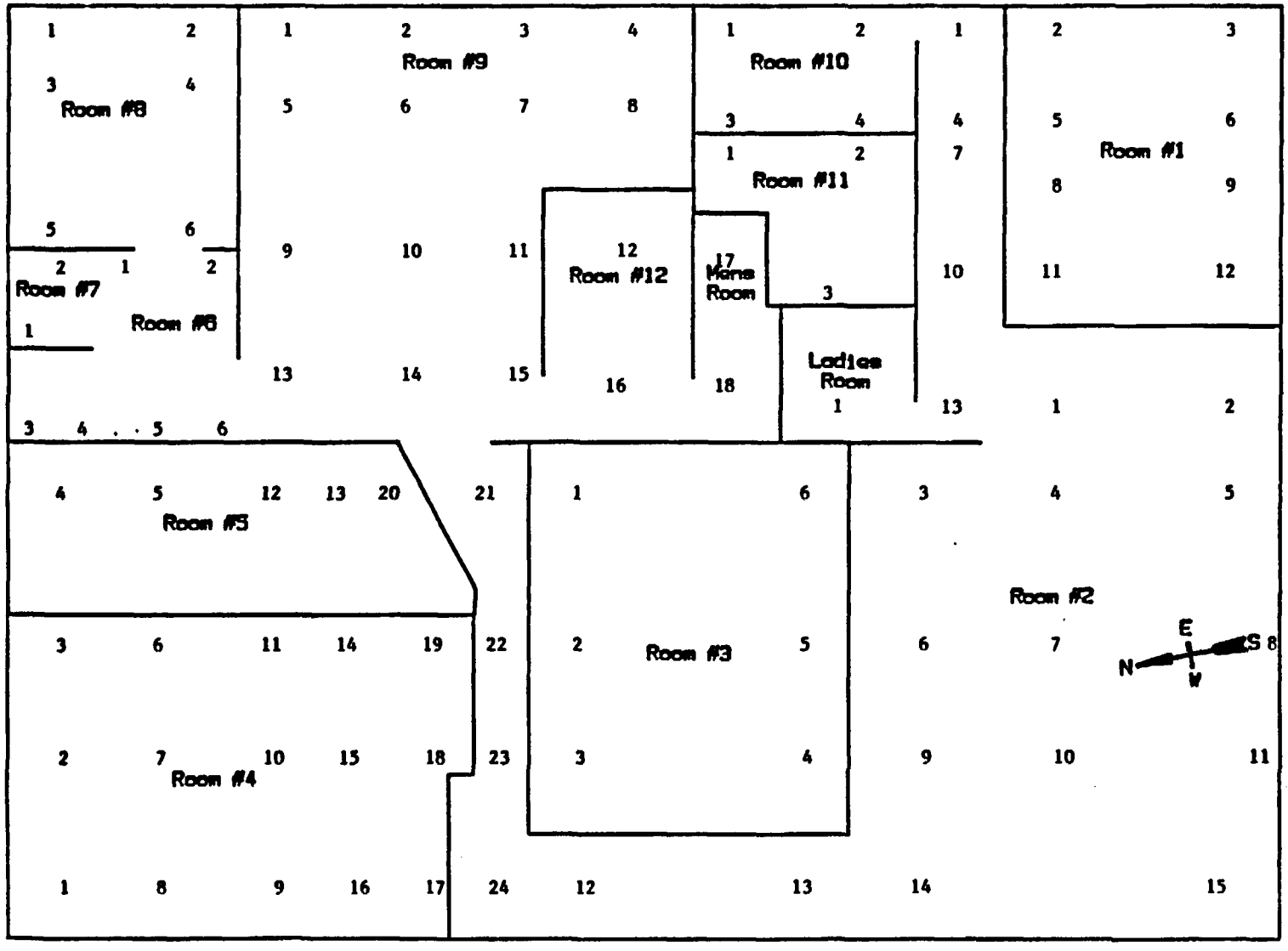


Figure J.4.4

SUMMARY
TABLE J.5
VERIFICATION MEASUREMENTS*
CRUSHER BUILDING
GREEN RIVER, UTAH

LOCATION	MAXIMUM REMOVABLE ALPHA	AVG REMOVABLE ALPHA	MAX TOTAL ALPHA	AVG TOTAL ALPHA	MAX REMOVABLE BETA	AVG REMOVABLE BETA
CEILINGS	341	24	2068	428	--	--
WALLS	38	6	4034	272	512	33
FLOORS	22	4	1358	564	53	3
HVAC DUCTS	19	10	843	344	--	--

LOCATION	MAX TOTAL BETA	AVG TOTAL BETA
CEILINGS	225	25
WALLS	4067	787
FLOORS	3163	766
HVAC DUCTS	254	169

*All values are in units of disintergrations per 100 square centimeters.

NOTE: Table J.5 wall locations are identified according to distance (height) from the floor.

For Example: 4-1 = Wall No. 4 30'-40' High
4-2 = Wall No. 4 20'-30' High
4-3 = Wall No. 4 10'-20' High

TABLE J.5
VERIFICATION MEASUREMENTS
CRUSHER BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room #1; Ceiling	#1	2	17	-
	2	7	102	-
	3	-	-	-
	4	-	-	-
	5	7	111avg.	-
	6	10	60avg.	-
	7	-	-	-
	8	-	-	-
	9	10	51	-
	10	0	324	-
	11	0	376	-
	12	-	-	-
	13	-	-	-
	14	-	-	-
Room#1; Wall	1-1-S	6	34	-
	1-2-S	-	-	-
	1-3-S	-	-	-
	1-4-S	-	-	-
	1-1	0	68	-
	1-2	-	-	-
	1-3	-	-	-
	2-1	3	17	-
	2-2	-	-	-
	2-3	-	-	-
	3-1	0	Bkgd	-
	3-2	18	495	-
	3-3	18	393	-
	4-1-N	0	0	-
Room #1; Wall	4-1	3	34	-
	4-2	13	504	-
	4-3	16	444	-
	5-1	3	188	-
	5-2	13	367	-
	5-3	-	-	-
	6-1	6	42	-
	6-2	21	478	677
	6-3	-	-	-
	7-1	5	Bkgd	-
	7-2	5	153	564
	7-3	-	-	-
	8-1	-	-	-
	8-2	-	-	-
	8-3East	10	529	-

TABLE J.5
VERIFICATION MEASUREMENTS
CRUSHER BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room #1; Wall	8-3	-	42	-
	9-1	8	128	-
	9-2	16,8	358	-
	9-3	8	398	-
	10-1	18	85	-
	10-2	0*,121	433	-
	10-3	8	370	-
	11-1	10	76	-
	11-2	0*,18	336	-
	11-3	16	410	-
	12-1	16	59	-
	12-2	2	384	-
	12-3	10	358	254
Room #1, Wall	13-1	5	34	-
	13-2	30	435	-
	13-3	-	-	-
	14-1	5	25	-
	14-2	10	470	-
	14-3	-	-	-
Room #1; Floor	#1	10,0	444	2090
	2	5,2	410	875
	3	0	324	734
	4	7	683	1101
	5	7,5	547	Bkgd
	6	5,2	547	2316
	7	0	615	1016
	8	0	871	1016
	9	0	376	1299
	10	0	478	819
	11	18,5	837	1779
	12	0	444	3163
	13	2,5	581	819
	14	0	1470	2316
Room #2; Ceiling	#1	3	68	0
	2	2	136	0
	3	8	34	0
	4	13	68	0
	5	0	649	-
	6	22	85	0
	7	13	51	-
Room #2; Ceiling	#8	5	290	0
	9	50,13	803	0
	10	13	290	0

0884M

TABLE J.5
VERIFICATION MEASUREMENTS
CRUSHER BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room #2; Ceiling	11	10,30	196	0
	12	5,22	264	0
	13	19	17	-
	14	0	222	-
	15	11	188	0
Room #2; Wall	1-1-S	5	811	1920
	1-2-S	0	136	338
	1-3-S	5	273	-
	1-4-S	0	102	0
	1-1	-	153	-
	1-2	0	102	-
	1-3	2	68	0
	1-4	2	34	0
	2-1	-	-	-
	2-2	-	-	-
	2-3	2	17	0
	2-4	2	34	84
	3-1	-	-	-
	3-2	-	-	-
	3-3	8	170	0
	3-4	-	34	-
	4-1	-	-	-
	4-2	-	-	-
	4-3	0	51	0
	4-4	2	68	-
	5-1	2	-	-
	5-2	-	-	-
	5-3	8,24	415	593
	5-4	5	222	0
	5-1-N	2	461	706
	5-2-N	0	256	0
	5-3-N	0	264	0
	5-4-N	0	188	734
	6-1-S	0	495	762
	6-2-S	8	170	960
	6-3-S	5	68	0
	6-4-S	2	119	649
	10-1-N	8	888	1129
	10-2-N	38	495	988
	10-3-N	19	136	1299
	10-4-N	5	188	960
	11-1-S	0	102	1666

TABLE J.5
VERIFICATION MEASUREMENTS
CRUSHER BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room #2; Wall	11-2-S	27	547	1553
	11-3-S	33	205	1638
	11-4-S	2	-	-
	11-1	2	273	1638
	11-2	0	102	451
	11-3	2	427	28
	11-4	5	512	254
Top of Heat Duct		3,19	114 avg.	84
Room#2; Wall	12-1	0	1282	2457
	12-2	5	222	28
	12-3	2	256	1355
	12-4	2	170	310
	13-1	2	3111	1807
	13-2	8	273	28
	13-3	0	273	423
	13-4	5	188	480
	14-1	5	256	-
	14-2	5	51	508
	14-3	0	205	790
	14-4	2	239	706
	15-1-N	2	205	-
	15-2-N	2	85	-
	15-3-N	5	205	677
	15-4-N	8	136	734
	15-1	0	136	2090
	15-2	5	85	-
	15-3	5	205	423
	15-4	5	119	1242
Room #2; Floor	#1	0	34	-
	2	2	0	0
	3	0	0	141
	4	7	0	0
	5	5	0	169
	6	2	0	0
	7	0	0	0
	8	0	0	0
	9	0	0	0
	10	0	Bkgd	28
	11	5	0	112
	12	0	Bkgd	225
	13	5	0	0
	14	0	0	0
	15	0	0	0

TABLE J.5
VERIFICATION MEASUREMENTS
CRUSHER BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room #3; Ceiling	#1	0	51	0
	2	3	85	28
	3	-	-	-
	4	8	-	-
	5	5	222	225
	6	11	85	0
	7	11	-	-
	8	-	-	-
	9	-	-	-
	10	-	-	-
Room #3;	1-1-S	-	Bkgd	-
	1-2-S	-	153	-
	1-3-S	13	188	2429
	1-4-S	2	170	593
	1-1	-	1145	-
	1-2	-	188	-
	1-3	0	461	2514
	1-4	0	222	3700
Heat Duct South Side		8,8,17	62 avg.	-
Room #3; Wall	2-1	-	-	-
	2-2	-	-	-
	2-3	30	837	2146
	2-4	8	136	0
	3-1	-	-	-
	3-2	-	-	-
	3-3	13	495	1497
	3-4	8	188	197
	4-1	-	-	-
	4-2	-	-	-
	4-3	2	68	1101
	4-4	0	170	0
	5-1	-	-	-
	5-2	-	-	-
	5-3	2	102	480
	5-4	3	153	4067
	5-1-N	-	-	-
	5-2-N	0	68	-
	5-3-N	0	324	0
	5-4-N	5	153	480
	6-1-S	-	547	-
	6-2-S	-	170	2344
	6-3-S	3	222	1920
	6-4-S	0	205	0

TABLE J.5
VERIFICATION MEASUREMENTS
CRUSHER BUILDING
GREEN RIVER, UT

Location of Measurement	Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room #3; Wall 6-1	-	-	-
6-2	-	Bkgd	-
6-3	2	170	Bkgd
6-4	2	34	0
Room #3; Wall 7-1	-	-	-
7-2	-	-	-
7-3	5	34	169
7-4	2	Bkgd	0
8-1	-	Bkgd	-
8-2	-	-	-
8-3	5	153	141
8-4	5	17	0
9-1	-	-	-
9-2	-	-	-
9-3	5	34	0
9-4	2	68	1271
10-1-N	-	-	-
10-2-N	10	102	-
10-3-N	2	205	1525
10-4-N	8	51	112
10-1	-	-	-
10-2	-	-	-
10-3	0	17	0
10-4	2	Bkgd	819
Room #3; Floor #1	0	0	1016
2	0	17	338
3	0	85	621
4	0	68	649
5	0	Bkgd	847
6	0	153	84
7	0	17	480
8	0	17	508
9	0	153	677
10	0	188	621
Room #4; Ceiling North	24	341	-
South	24	239	-
Wall East High	5	102	-
E. Low	5	170	-
S. High	5	42	225
S. Low	5	51	-
W. High	5	136	-
W. Low	11	410	-
N. High	3	188	-
N. Low	8	205	-

0884M

TABLE J.5
VERIFICATION MEASUREMENTS
CRUSHER BUILDING
GREEN RIVER, UT

Location of Measurement	Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room #4; Floor North	2	452	-
South	0	307	-
Room #5; Ceiling North	75	1538	-
South	2	923	-
Wall East High	8	153	-
Room #5; Wall East Low	0	34	706
N. High	5	34	0
N. Low	-	-	-
W. High	5	256	-
W. Low	5	188	56
S. High	8	-	-
S. Low	0	85	-
Room #5; Floor North	8	102	-
South	16	85	-
Room #6; Ceiling North	24	581	-
South	0	170	-
Wall North High	2	59	-
N. Low	0	40 avg.	0
S. High	2	136	-
S. Low	0	136	-
E. High	0	153	-
E. Low	2	153	-
W. High	8	102	-
W. Low	2	153	-
Room #6; Floor North	10	410	536
South	8	85	-
Room #7; Ceiling North	0	Bkgd	0
South	0	102	0
Wall South	6	34	0
North	8	34	0
S.E.	0	34	0
S.W.	6	34	0
N.W.	0	17	112
N.W.	0	136	169
Floor North	0	0	28
South	3	102	0
Room A; Ceiling North	25,11	2068	-
" Center	0,10,341	1846	-
" South	44,173	1094	-
Wall South High	2	102	225
" South Low	5	427	84
" So. W. High	-	136	-
" So. W. Low	8	888	2740

0884M

TABLE J.5
VERIFICATION MEASUREMENTS
CRUSHER BUILDING
GREEN RIVER, UT

Location of Measurement	Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Room A; Ceiling	30	358	-
" No. W. High	11	837	1299
" No. W. Low	5	324	-
" No. High	5	683	1610
" No. Low	7	1316	1751
Room A; Floor S.E.	14	1145	1214
" S.W.	22	358	932
" N.E.	3	444	706
Room A; Floor N.W.	0	1521	-
Room B; Ceiling South	8	564	-
" Center	22	1299	-
" North	0	119	-
Wall South High	0	683	847
" Low	2	153	-
S.E. High	0	85	-
S.E. Low	-	34	-
N.E. High	13	427	423
S.W. High	19	393	1836
S.W. Low	22	273	1045
N.W. High	2	376	960
N.W. Low	2	205	-
Wall North High	17	324	-
N. Low	14	683	1327
Floor S.W.	22	1162	903
S.E.	11	358	790
N.W.	17	649	819
N.E	10	843	-
Room A; Heating Duct	3	358	254
Room B; Heating Duct	-	-	-
Exterior Wall	-	-	-
South			
1	0	85	734
2	0	188	225
3	7	-	2542
4	2	188	395
5	5	188	Bkgd
6	5	17	0
7	0	34	112
Exterior East	-	-	-
1	0	290	254
2	16	358	1581
3	0	136	338
4	0	205	593

TABLE J.5
VERIFICATION MEASUREMENTS
CRUSHER BUILDING
GREEN RIVER, UT

Location of Measurement		Removable Alpha dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Exterior East	5	2	478	225
	6	2	119	0
	7	2	0	0
	8	2	615	0
	9	2	666	0
	10	2	85	169
	11	5	102	0
	12	2	2290	0
Room #7;	Exterior	-	-	-
	S. Wall	0	85	0
Room #7;	W. Wall	5	128	0
	N. Wall	0	188	28
	E. Wall	2	111	14
	Exterior Walls West	-	-	-
	1	2	85	932
	2	0	307	508
	3	2	170	706
	4	0	153	988
	5	0	136	621
	6	2	85	0
	7	2	529	1158
	8	5	256	1610
	9	2	34	0
	10	5	34	0
	Roof North	107	2068	2062
	South	18	1435	15254
	Middle	55	1230	11610
Exterior Area North of Rm #1				
	Floor	-	1358	2655
	Retaining Wall	-	0	-
Readings Along Ret Wall		18,0	529	-
Every 15 Feet South to		-	786	-
North End		-	786	-
		-	4034	-
		-	1982	-
		-	1042	-

GREEN RIVER, UTAH
Crusher Building

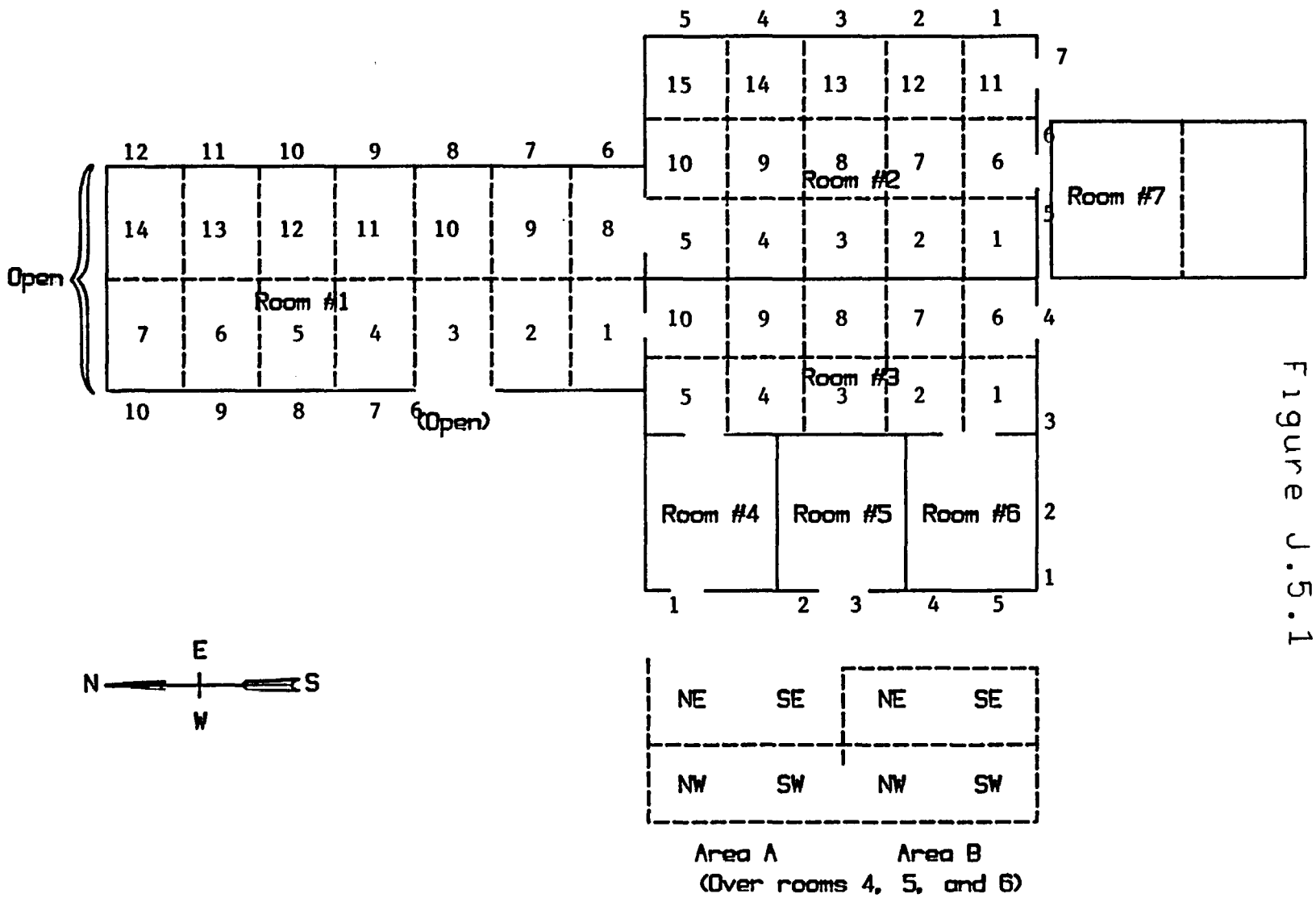


Figure J.5.1

SUMMARY
TABLE J.6
VERIFICATION MEASUREMENTS*
MILL BUILDING
GREEN RIVER, UTAH

LOCATION	MAXIMUM REMOVABLE ALPHA	AVG REMOVABLE ALPHA	MAX REMOVABLE BETA	AVG REMOVABLE BETA
CEILINGS	499	31	600	45
INTERIOR WALLS	303	11	346	27
EXTERIOR WALLS	---	--	---	--
FLOORS	52	8	125	19

LOCATION	MAX TOTAL ALPHA	AVG TOTAL ALPHA	MAX TOTAL BETA	AVG TOTAL BETA
CEILINGS	3433	355	4250	358
INTERIOR WALLS	4617	514	4850	731
EXTERIOR WALLS	1533	327	4820	1457
FLOORS	1283	204	3647	640

*All values are in units of disintergrations per 100 square centimeters.

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement		Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #1; Wall	#1	8	96	24	0	83	1250	-
	2	24	71	0	0	350	469	-
	3	10	76	2	18	117	625	-
	4	10	66	2	6	117	312	-
	5	4	102	2	6	17	1438	-
	6	4	60	0	0	17	125	-
	7	7	74	0	0	67	562	-
	8	10	86	0	0	117	938	-
	9	8	76	5	0	83	625	-
	10	8	54	2	0	83	Bkgd	-
	11	5	86	0	0	33	938	-
	12	8	105	2	0	83	1531	-
	13	6	130	5	0	50	2312	-
	14	10	50	11	0	117	Bkgd	-
	15	137	71	22	0	2233	441	-
	16	82	64	8	0	1317	235	-
	17	92	64	5	0	1483	235	-
	18	23	94	2	0	333	1118	-
	19	166	59	41	0	2717	88	-
	20	42	60	8	12	650	118	-
	21	250	80	8	0	4117	706	-
	22	42	126	2	0	650	2059	-
	23	181	-	11	0	2970	-	-
	24	2	64	5	0	0	250	-
	25	3	62	0	0	0	187	-
	26	22	192	0	0	317	4000	-
	27	6	-	0	0	50	-	-
	28	4	60	2	0	17	125	-
	29	2	56	2	0	0	0	-
	30	14	128	0	0	183	2127	-
	31	4	-	0	0	17	-	-
	32	20	121	2	12	283	1912	-
	33	72	60	2	0	1150	118	-
	34	42	126	30	35	650	2059	-
	35	120	-	16	0	1950	-	-
	36	39	120	0	0	600	1880	-
	37	42	62	0	0	652	175	-
	38	117	135	0	0	1900	2323	-
	39	16	105	2	35	217	1530	-
	40	2	85	5	141	0	906	-
	41	4	65	5	0	17	281	-
	42	10	118	2	0	117	1940	-
	43	39	96	24	0	600	1176	-
	44	76	110	8	0	1217	1588	-
	45	-	-	0	0	-	-	-
	46	-	-	33	0	-	-	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement		Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #1; Walls Above False Ceiling	#1	32	-	22	23	483	-	-
	2	262	120	5	18	4317	1882	-
	3	34	-	16	0	516	-	-
	4	149	152	36	0	2430	2823	-
	5	104	-	30	18	1683	-	-
	6	280	110	22	0	4617	1588	-
	7	50	-	22	0	783	-	-
	8	262	157 Avg	10	6	4317	2985	-
	9	151	141	5	59	2467	2500	-
	10	110	126	22	0	1783	2059	-
Room #1; Floor	#1	76	70	0	23	1217	437	-
	2	3	74	2	35	0	562	-
	3	13	88	2	0	167	1000	-
	4	17	101	0	0	233	1406	-
	5	10	78	2	70	117	688	-
	6	9	143	2	0	100	2718	-
	7	5	84	8	0	33	875	-
	8	6	120	5	0	50	2000	-
	9	8	130	5	0	83	2312	-
	10	15	88	5	0	200	1000	-
	11	4	72	2	0	17	500	-
	12	28	77	13	0	417	656	-
	13	25	86	2	0	367	937	-
	14	24	73	5	41	350	531	-
	15	26	123	19	0	383	2094	-
	16	16	102	24	0	217	1437	-
	17	12	83	16	0	150	844	-
	18	21	86	16	0	300	938	-
	19	11	94	0	0	133	1188	-
	20	25	94	8	0	367	1188	-
Room #1; Ceiling	#1	17	72	0	23	233	500	-
	2	59	70	72	0	933	438	-
	3	26	65	2	0	383	281	-
	4	21	105	5	0	300	1531	-
	5	4	120	0	0	17	2000	-
	6	4	42	13	41	17	0	-
	7	5	72	5	29	33	500	-
	8	9	118	2	0	100	1938	-
	9	16	152	5	0	217	3000	-
	10	3	192	8	24	0	4250	-
	11	26	-	10	0	383	-	-
	12	26	-	38	0	383	-	-
	13	32	-	44	53	483	-	-
	14	15	-	47	0	200	-	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement	Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #1; Ceiling 15	86	-	8	0	1383	-	-
16	16	-	2	0	217	-	-
17	92	-	285	300	1483	-	-
18	13	-	16	0	167	-	-
19	34	-	8	0	517	-	-
20	36	-	10	0	550	-	-
Room #2; Walls							
West High	3	70	0	0	0	437	-
West Low	3	66	0	0	0	312	-
East High	35	82	2	61	533	812	-
East Low	105	210 Avg	7	11	1700	4529	-
North West High	5	80	2	0	33	750	-
North West Low	3	75	2	0	0	594	-
North East High	10	75	2	0	117	594	-
North East Low	8	92	0	0	83	1125	-
South West High	3	48	0	0	0	0	-
South West Low	16	60	0	0	217	125	-
South East High	21	84	0	0	300	875	-
South West Low	19	103	0	0	267	1469	-
Room #2; Floors							
West	23	162	5	50	333	3313	-
East	24	133	5	0	350	2406	-
Room #2; Ceiling							
West	24	-	21	0	350	-	-
East	12	-	15	17	150	-	-
Room #3; Walls #1	12	-	0	269	150	-	-
2	136	32	0	64	2217	0	-
3	31	32	2	0	467	0	-
4	6	60	0	71	50	125	-
5	18	-	0	75	250	-	-
6	24	66	0	0	350	312	-
7	28	50	2	0	417	0	-
8	8	46	0	7	83	0	-
9	16	-	0	50	217	-	-
10	13	36	0	0	167	0	-
11	8	60	0	0	83	125	-
12	6	74	0	21	50	562	-
13	26	124	2	0	383	2000	-
14	26	-	5	0	383	-	-
15	70	168	0	0	1117	2705	-
16	40	134	5	36	617	-	-
17	86	221	0	114	1383	4850	-
18	118	186	5	36	1917	3823	-
19	108	208	8	14	1750	4750	-
20	28	189	2	0	417	4155	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement		Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #3; Walls	21	28	176	2	71	417	3529	-
	22	5	61	2	7	33	156	-
	23	4	52	2	0	17	0	-
	24	10	40	0	0	117	0	-
	25	44	-	24	31	683	-	-
	26	9	56	0	14	100	0	-
	27	1	52	2	0	0	0	-
	28	5	52	0	0	33	0	-
	29	52	-	32	88	817	-	-
	30	5	58	5	7	33	62	-
	31	9	57	5	0	100	31	-
	32	4	76	8	14	17	625	-
	33	209	-	108	293	3433	-	-
	34	12	47	10	0	150	0	-
	35	4	59	5	0	17	94	-
	36	6	42	2	14	50	0	-
	37	44	-	96	156	683	-	-
	38	26	142	19	0	383	2688	-
	39	52	112	8	0	817	1750	-
	40	106	141	2	21	1717	2657	-
	41	132	-	30	71	2150	-	-
	42	50	114	2	43	783	1812	-
	43	18	88	110	143	250	1000	-
	44	26	141	10	0	383	2500	-
	45	6	-	13	56	50	-	-
	46	37	114	13	0	567	1812	-
	47	86	66	66	107	1383	312	-
	48	62	160	8	57	983	3068	-
	49	96	-	16	31	1500	-	-
	50	86	178	5	0	1380	3800	-
	51	80	64	5	0	1280	250	-
	52	228	151	2	128	3750	2794	-
Room #3; Upper Balcony								
	53	10	-	0	88	117	-	-
	54	6	-	0	0	50	-	-
	55	12	-	2	56	150	-	-
	56	6	-	5	113	50	-	-
	57	10	60	0	119	117	125	-
	58	32	-	2	0	483	-	-
	59	41	-	118	125	633	-	-
	60	10	-	7	56	117	-	-
	61	88	57	13	44	1417	31	-
	62	14	-	2	0	183	-	-
	63	82	84	66	75	1317	875	-
	64	18	-	21	131	250	-	-
	65	18	54	7	0	250	0	-
	66	5	-	0	6	33	-	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement		Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #3; Walls	67	44	62	0	94	683	187	-
	68	7	68	0	0	67	375	-
Room #3; Floors	#1	7	46	2	0	67	0	-
	2	4	64	0	53	17	250	-
	3	16	61	5	0	217	156	-
	4	3	58	2	24	0	62	-
	5	9	55	16	88	100	0	-
	6	8	65	30	47	83	281	-
	7	8	62	0	0	83	187	-
	8	14	60	8	29	183	125	-
	9	12	54	5	18	150	0	-
	10	12	65	0	29	150	281	-
	11	7	63	2	0	67	219	-
	12	10	54	2	0	117	0	-
Upper Balcony								
	13	48	90	0	119	750	1062	-
	14	41	99	27	63	633	1344	-
	15	79	81	46	13	1267	781	-
	16	58	108	0	50	917	1625	-
	17	62	82	52	31	983	812	-
	18	50	160 Avg	0	25	1283	3069	-
	19	12	84	0	75	150	875	-
	20	16	74	49	75	217	562	-
Room #3;Ceiling	#1	114	-	91	100	1850	-	-
	2	17	-	10	6	233	-	-
	3	94	-	499	600	1517	-	-
	4	20	-	10	0	283	-	-
	5	41	-	293	350	633	-	-
	6	87	-	16	125	1400	-	-
	7	38	-	49	94	583	-	-
	8	58	-	96	106	917	-	-
	9	3	-	163	200	0	-	-
	10	38	-	210	175	583	-	-
	11	13	-	52	94	167	-	-
	12	4	-	52	56	17	-	-
Upper Balcony								
	13	6	-	149	256	50	-	-
	14	12	-	7	6	150	-	-
	15	3	-	21	44	0	-	-
	16	4	-	24	69	17	-	-
	17	4	-	21	31	17	-	-
	18	9	-	16	44	100	-	-
	19	22	-	91	81	317	-	-
	20	22	-	7	56	317	-	-
Room #3A Walls								
	#1	6	55	2	0	50	0	-
	2	17	72	2	29	233	500	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement	Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #3A; Walls 3	8	68	5	35	83	375	-
4	12	126	0	0	150	2187	-
5	28	59	8	35	417	94	-
6	6	68	21	0	50	375	-
7	82	126	32	41	1317	2188	-
8	6	48	24	65	50	0	-
9	65	66	5	0	1030	312	-
10	3	-	52	0	0	-	-
11	95	145	80	129	1500	2780	-
12	65	63	5	0	1030	218	-
13	6	56	5	53	50	0	-
14	0	54	0	0	0	0	-
15	4	46	2	0	17	0	-
16	1	60	0	0	0	125	-
17	4	64	0	35	17	250	-
18	4	59	5	0	17	94	-
19	3	66	8	41	0	312	-
20	1	78	10	47	0	688	-
21	0	191	7	0	0	4219	-
22	44	168	5	88	683	3500	-
23	8	196	27	0	83	4375	-
24	4	195 Avg	0	0	17	4088	-
Room #3A; Ceiling							
#1	11	44	21	0	133	0	-
2	4	30	21	0	17	0	-
3	12	44	5	0	150	0	-
4	3	50	8	24	0	0	-
5	0	44	2	59	0	0	-
6	4	50	13	12	17	0	-
7	19	35	2	24	267	0	-
8	24	50	0	24	350	0	-
Room #3A; Floors							
#1	63	180 Avg	0	24	1000	3647	-
2	10	154	5	6	117	3062	-
3	7	62	0	18	67	187	-
4	2	92	5	0	0	1125	-
5	6	66	2	0	50	312	-
6	4	89	0	41	17	1031	-
7	34	60	19	59	517	125	-
8	8	58	5	6	83	62	-
Room #4; Walls							
West High	22	156	5	50	317	3125	-
West Low	8	64	5	0	83	250	-
East High	2	124	10	27	0	2125	-
East Low	52	220 Avg	2	0	817	4823	-
North West High	14	76	0	0	183	625	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement	Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #4; Walls							
North West Low	20	54	10	0	283	0	-
North East High	5	78	7	11	33	687	-
North East Low	4	58	2	0	17	62	-
South East High	24	152	0	0	350	3000	-
South East Low	42	135	0	0	650	2469	-
South West High	6	64	0	0	50	250	-
South West Low	4	56	2	0	17	0	-
Room #4; Floor							
East	4	165	5	27	17	3400	-
West	44	100	18	11	683	1375	-
Room #4; Ceiling							
East	16	-	0	0	217	-	-
West	12	-	5	22	150	-	-
Room #5; Walls #1	5	50	10	0	33	0	-
2	14	76	8	0	183	687	-
3	3	78	2	0	0	687	-
4	12	80	0	0	150	750	-
5	26	122	16	18	383	2062	-
6	14	62	8	0	183	187	-
7	12	56	2	0	150	0	-
8	14	62	8	76	183	187	-
9	19	104	5	0	267	1500	-
10	6	52	0	0	50	0	-
11	7	42	0	29	67	0	-
12	5	60	0	0	33	125	-
13	3	54	2	0	0	0	-
14	5	56	5	0	33	0	-
15	12	62	0	0	150	187	-
16	22	74	2	0	317	562	-
Room #5; Ceiling							
#1	21	-	10	0	300	-	-
2	17	-	5	22	233	-	-
3	5	-	5	0	33	-	-
4	21	-	10	0	300	-	-
Room #5; Floor #1	37	143	7	0	567	2719	-
2	16	84	10	0	217	875	-
3	24	54	2	0	350	0	-
4	12	78	10	0	150	688	-
Room #6; Walls #1	11	-	17	18	133	-	-
2	48	-	160	113	750	-	-
3	22	34	3	0	317	0	-
4	18	64	0	92	250	250	-
5	28	44	11	15	417	0	-
6	8	-	5	0	83	0	-
7	78	-	19	80	1250	-	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement		Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #6; Walls	8	26	-	3	62	383	-	-
	9	20	-	0	0	283	-	-
	10	18	52	3	0	250	0	-
	11	12	-	66	23	150	-	-
	12	32	-	5	0	483	-	-
	13	20	52	14	0	283	0	-
	14	17	34	6	0	233	0	-
	15	26	46	3	0	383	0	-
	16	10	-	6	8	117	-	-
	17	34	-	13	47	517	-	-
	18	24	-	0	0	350	-	-
	19	26	44	3	0	383	0	-
	20	12	34	3	0	150	0	-
	21	217	-	303	346	3567	-	-
	22	57	-	10	40	900	-	-
	23	16	-	0	31	217	-	-
	24	21	-	3	0	300	-	-
	25	30	32	3	69	450	0	-
	26	2	-	3	0	0	-	-
	27	23	-	5	7	333	-	-
	28	15	-	9	0	200	-	-
	29	28	-	9	0	417	-	-
	30	153	-	3	23	2500	-	-
	31	93	-	55	140	1500	-	-
	32	48	-	44	133	750	-	-
	33	96	-	7	69	1550	-	-
	34	66	-	37	69	1050	-	-
	35	91	172	6	0	1467	3625	-
	36	22	-	9	38	317	-	-
	37	72	-	19	53	1150	-	-
	38	49	-	9	85	767	-	-
	39	48	-	17	8	750	-	-
	40	54	70	9	46	850	438	-
	41	7	-	14	54	67	-	-
	42	99	-	105	240	1600	-	-
	43	55	-	14	0	867	-	-
	44	46	-	9	0	717	-	-
	45	26	58	3	100	383	62	-
	46	47	-	49	108	733	-	-
	47	22	-	5	47	317	-	-
	48	90	-	14	100	1450	-	-
	49	48	-	3	15	750	-	-
	50	38	82	3	15	583	812	-
	51	4	-	17	69	17	-	-
	52	76	-	35	20	1217	-	-
	53	74	-	26	85	1183	-	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement		Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm^2	Removable Beta dpm/100cm^2	Total Alpha dpm/100cm^2	Total Beta dpm/100cm^2	Comments
Room #6; Walls	54	44	-	27	94	683	-	-
	55	18	28	3	85	250	0	-
	56	12	-	9	15	150	-	-
	57	10	-	13	0	117	-	-
	58	92	-	2	56	1483	-	-
	59	200	-	57	119	3283	-	-
	60	76	68	14	23	1217	375	-
	61	46	-	46	31	717	-	-
	62	75	-	99	80	1200	-	-
	63	62	-	2	0	983	-	-
	64	136	-	60	194	2217	-	-
	65	48	30	6	15	750	0	-
	66	11	-	0	130	133	-	-
	67	14	-	24	93	183	-	-
	68	130	-	5	44	2117	-	-
	69	120	-	193	294	1950	-	-
	70	13	50	3	0	167	0	-
	71	3	-	6	54	0	-	-
	72	72	-	16	0	1150	-	-
	73	41	-	13	106	633	-	-
	74	133	-	46	112	2167	-	-
	75	62	47	0	13	983	0	-
	76	19	-	8	77	267	-	-
	77	36	-	2	0	550	-	-
	78	82	152	13	0	1317	3000	-
	79	115	123	13	62	1867	2094	-
	80	75	154	3	62	1200	3062	-
	81	31	-	6	23	467	-	-
	82	18	-	5	73	250	-	-
	83	80	-	2	81	1283	-	-
	84	149	98	46	81	2430	1312	-
	85	188	176	6	0	3083	3750	-
	86	12	-	6	0	150	-	-
	87	22	-	2	20	316	-	-
	88	32	-	2	0	483	-	-
	89	61	-	32	68	967	-	-
	90	68	112	17	15	1083	1750	-
	91	38	-	9	31	583	-	-
	92	32	-	2	13	483	-	-
	93	110	-	0	0	1783	-	-
	94	116	-	3	0	1883	-	-
	95	52	161	0	0	817	3281	-
	96	8	-	6	0	83	-	-
	97	58	-	2	0	917	-	-
	98	64	66	14	0	1017	312	-
	99	62	50	14	38	983	0	-
	100	64	172	14	8	1016	3625	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement	Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #6; Ceiling #1	28	-	8	-	417	-	-
2	90	-	8	-	1450	-	-
3	98	-	63	8	1583	-	-
4	50	-	102	69	783	-	-
5	16	-	6	54	217	-	-
6	65	-	5	-	1033	-	-
7	209	40	30	-	3433	0	-
8	8	-	3	15	83	-	-
9	12	-	77	31	150	-	-
10	34	-	37	77	517	-	-
11	18	-	8	-	250	-	-
12	56	-	42	-	883	-	-
13	41	-	0	-	633	-	-
14	91	-	14	-	1467	-	-
15	59	-	0	-	933	-	-
16	26	-	5	-	383	-	-
17	46	-	14	-	717	-	-
18	33	-	116	-	500	-	-
19	10	-	16	-	117	-	-
20	8	-	147	-	83	-	-
21	8	-	0	-	83	-	-
22	52	-	14	-	817	-	-
23	38	-	16	-	583	-	-
24	5	-	108	-	33	-	-
25	9	-	11	-	100	-	-
Room #6; Floor #1	9	47	5	0	100	0	-
2	7	50	7	0	67	0	-
3	7	51	7	62	67	0	-
4	14	51	2	75	183	0	-
5	8	62	5	31	83	187	-
6	10	53	0	6	117	0	-
7	13	45	7	94	167	0	-
8	11	58	10	25	133	62	-
9	5	46	24	12	33	0	-
10	23	141	10	25	333	2650	-
11	5	53	7	0	33	0	-
12	4	50	4	38	17	0	-
13	5	41	2	0	33	0	-
14	11	46	16	25	133	0	-
15	11	67	2	0	133	344	-
16	7	64	24	19	67	250	-
17	6	56	7	125	50	0	-
18	13	55	2	25	167	0	-
19	7	46	27	31	67	0	-
20	4	57	7	6	17	31	-
21	4	54	21	0	17	0	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement		Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #6; Floor	22	16	62	10	19	217	187	-
	23	9	41	7	0	100	0	-
	24	10	46	4	56	117	0	-
	25	12	56	7	6	150	0	-
Room #9; Ceiling	#1	7	44	-	-	67	0	-
	2	7	36	-	-	67	0	-
	3	1	36	3	0	0	0	-
	4	3	35	0	0	0	0	-
	5	12	49	8	0	150	0	-
	6	7	45	0	0	67	0	-
	7	13	48	0	0	167	0	-
	8	4	47	14	0	17	0	-
Room #9; Wall	#1	16	58	3	0	217	59	-
	2	3	40	3	0	0	0	-
	3	3	38	3	0	0	0	-
	4	5	38	3	0	33	0	-
	5	7	53	0	0	67	0	-
	6	10	34	5	0	117	0	-
	7	3	61	0	0	0	147	-
	8	8	42	5	0	83	0	-
	9	5	50	3	0	33	0	-
	10	3	40	3	0	0	0	-
	11	6	52	0	0	50	0	-
	12	5	47	5	0	33	0	-
	13	5	50	5	0	33	0	-
	14	37	58	3	0	567	62	-
	15	5	49	3	0	33	0	-
	16	19	64	3	0	267	250	-
	17	6	43	0	0	50	0	-
	18	3	68	3	15	0	375	-
	19	7	44	-	-	67	0	-
	20	4	68	-	-	17	375	-
	21	2	55	-	-	0	0	-
	22	-	-	-	-	-	-	Door
	23	-	-	-	-	-	-	Door
	24	4	55	-	-	17	0	-
	25	5	50	-	-	33	0	-
	26	5	37	-	-	33	0	-
Room #9; Floor	#1	5	61	3	0	33	156	-
	2	8	57	3	0	83	31	-
	3	8	59	0	0	83	94	-
	4	9	67	8	0	100	344	-
	5	14	65	0	0	183	281	-
	6	7	55	8	0	67	0	-
	7	9	72	0	0	100	500	-
	8	12	51	3	0	150	0	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement	Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #10; Wall #1	7	55	5.41	-	67	0	-
2	2	42	2.63	-	0	0	-
3	3	44	5.41	-	0	0	-
4	4	35	0	-	17	0	-
5	7	44	0	-	67	0	-
6	3	57	0	-	0	30	-
Room #10; Floor #1	2	51	5	0	0	0	-
2	1	45	5	0	0	0	-
Room#10; Ceiling#1	1	-	0	0	0	-	-
2	3	-	0	0	0	-	-
Room#11; Ceiling#1	2	27	1.94	-	0	0	-
2	7	32	1.94	-	67	0	-
3	10	43	1.94	-	117	0	-
4	6	44	0	-	50	0	-
5	7	41	4.72	-	67	0	-
6	10	54	7.5	-	117	0	-
7	5	51	0	-	33	0	-
8	10	47	0	-	117	0	-
9	4	52	0	-	17	0	-
10	3	57	1.94	-	0	29	-
Rm.11 (Above Rm. 14)							
11	13	68	0	-	167	353	-
Room#11; Ceiling12	3	49	4.72	-	0	0	-
Room #11; Wall #1	7	52	3	0	67	0	-
2	1	49	3	0	0	0	-
3	7	54	0	0	67	0	-
4	4	45	0	8	17	0	-
5	7	46	0	0	67	0	-
6	7	43	5	0	67	0	-
7	15	71	0	0	200	469	-
8	16	144	3	0	217	2750	-
9	15	50	3	0	200	0	-
10	13	144	0	0	167	2750	-
11	9	51	0	0	100	0	-
SE Wall Over Rm. 14	10	54	0	0	117	0	-
12	15	57	0	0	200	0	-
13	3	50	3	0	0	0	-
14	13	40	5	-	167	0	-
15	15	-	0	-	200	-	-
16	4	35	3	-	17	0	-
Room #11; Wall 17	10	56	0	-	117	0	-
18	10	32	0	-	117	0	-
19	7	59	0	-	67	94	-
20	13	51	5	-	167	0	-
21	13	54	0	-	167	0	-
22	9	52	3	-	100	0	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement	Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #11; Wall 23	6	58	3	-	50	62	-
24	6	57	3	-	50	31	-
25	1	54	0	-	0	0	-
26	9	55	5	-	100	0	-
Room #11; Floor #1	6	66	11	15	50	312	-
2	7	56	5	0	67	0	-
3	9	59	3	0	100	94	-
4	8	59	5	0	83	94	-
5	10	59	3	0	117	94	-
6	3	53	0	23	0	0	-
7	1	66	0	8	0	312	-
8	4	52	0	0	17	0	-
9	7	53	11	0	67	0	-
10	8	72	0	0	83	500	-
Room#12; Ceiling#1	4	-	0	76	17	-	-
2	5	34	2	12	33	0	-
3	2	-	2	0	0	-	-
4	0	-	2	0	0	-	-
5	18	116	0	12	250	1875	-
6	2	-	2	94	0	-	-
Room #12; Wall #1	3	52	0	12	0	0	-
2	4	42	0	0	17	0	-
3	5	55	0	0	33	0	-
4	2	36	0	82	0	0	-
5	3	36	8	47	0	0	-
6	3	40	0	0	0	0	-
7	6	62	8	47	50	187	-
8	3	70	2	0	0	437	-
9	3	46	0	47	0	0	-
10	2	70	0	6	0	437	-
11	3	34	0	0	0	0	-
12	2	55	2	29	0	0	-
13	6	50	2	0	50	0	-
14	4	36	0	0	17	0	-
15	2	80	0	18	0	750	-
16	10	58	0	12	117	62	-
17	4	10	0	0	17	17	-
18	6	98	0	0	50	50	-
19	12	121	0	0	150	150	-
20	3	120	0	0	0	0	-
Room #13; Wall #1	8	35	0	-	83	0	-
2	7	49	2.4	-	67	0	-
3	5	59	0	-	33	62	-
4	7	61	0	-	67	156	-
5	9	45	0	-	100	0	-
6	6	61	0	-	50	156	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement		Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Room #13; Wall	7	9	58	0	-	100	62	-
	8	4	45	0	-	17	0	-
	9	7	63	0	-	67	218	-
	10	5	68	5.89	-	33	375	-
	11	4	62	62	-	17	187	-
	12	6	53	5.89	-	50	0	-
	13	7	44	0	-	67	0	-
	14	3	43	0	-	0	0	-
	15	2	56	0	-	0	0	-
	16	6	59	0	-	50	94	-
	17	6	50	0	-	50	0	-
	18	8	44	0	-	83	0	-
	19	5	53	5.89	-	33	0	-
	20	6	46	2.4	-	50	0	-
Room #13; Floor	#1	3	72	2.2	-	0	500	-
	2	1	59	5.14	-	0	94	-
	3	1	81	5.14	-	0	781	-
	4	3	73	0	-	0	531	-
	5	54	89	5.14	-	850	1031	-
	6	15	74	5.14	-	200	562	-
Room#13; Ceiling	#1	17	57	2.2	-	233	31	-
	2	3	-	25.1	-	0	-	-
	3	1	41	13.7	-	-	0	-
	4	2	-	50.8	-	0	-	-
	5	5	39	2.2	-	33	0	-
	6	12	36	13.7	-	150	0	-
Room #14; Wall	#1	12	38	1.94	-	150	0	-
	2	13	39	0	-	167	0	-
	3	12	58	4.72	-	150	62	-
	4	8	37	1.94	-	83	0	-
	5	13	33	0	-	167	0	-
	6	7	41	1.94	-	67	0	-
Room#14; Ceiling	#1	2	59	0	-	0	94	-
	2	6	54	1.94	-	50	0	-
Room #14; Floor	#1	9	60	11	-	100	125	-
	2	22	64	8	-	316	250	-
Exterior Walls	#1	40	142	-	-	617	2529	-
	2	30	108	-	-	450	306	-
	3	44	92	-	-	342	1078	-
	4	95	161	-	-	1533	3144	-
	5	-	155	-	-	-	2964	-
	6	40	62	-	-	617	180	-
	7	60	114	-	-	950	1736	-
	8	-	124	-	-	-	2036	-
	9	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement	Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Exterior Walls							
11	-	-	-	-	-	-	-
12	-	170	-	-	-	3413	-
13	-	124	-	-	-	2036	-
14	52	132	-	-	867	2275	-
15	20	78	-	-	283	658	-
16	13	60	-	-	167	119	-
17	-	-	-	-	-	-	-
18	62	199	-	-	983	4280	-
19	40	76	-	-	617	598	-
20	17	65	-	-	233	269	-
21	17	120	-	-	233	1916	-
22	18	132	-	-	250	2275	-
23	18	132	-	-	250	2275	-
24	34	71	-	-	517	449	-
25	28	160	-	-	417	3114	-
26	23	102	-	-	333	1377	-
27	30	120	-	-	450	1916	-
28	27	120	-	-	400	1916	-
29	12	139	-	-	150	2435	-
30	22	131	-	-	317	2245	-
31	10	153	-	-	117	2904	-
32	28	217	-	-	417	4820	-
33	-	95	-	-	-	1147	-
34	-	161	-	-	-	3088	-
35	-	121	-	-	-	1912	-
36	32	183	-	-	483	3802	-
37	23	195	-	-	333	4161	-
38	26	197 Avg	-	-	383	4221	-
39	20	136	-	-	283	2395	-
40	27	200	-	-	400	4311	-
41	37	163	-	-	557	3206	-
42	38	190 Avg	-	-	583	4012	-
43	32	200 Avg	-	-	483	4311	-
44	33	209 Avg	-	-	500	4580	-
45	-	149	-	-	-	2784	-
46	45	163	-	-	700	3204	-
47	-	126	-	-	-	2095	-
48	23	69	-	-	333	389	-
49	10	102	-	-	117	1377	-
50	25	68	-	-	367	359	-
51	23	126	-	-	333	2096	-
52	32	76	-	-	483	599	-
53	13	75	-	-	167	568	-
54	20	65	-	-	283	299	-
55	7	60	-	-	67	119	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement		Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Exterior Walls								
	56	24	45	-	-	350	Bkgd	-
	57	8	210	-	-	83	4611	-
	58	14	192 Avg	-	-	183	4072	-
	59	23	146	-	-	333	2695	-
	60	1	126	-	-	-	2096	-
	61	16	72	-	-	217	479	-
	62	19	90	-	-	267	1018	-
	63	8	84	-	-	83	838	-
	64	17	61	-	-	233	150	-
	65	36	98	-	-	550	1257	-
	66	14	104	-	-	183	1437	-
	67	17	116	-	-	233	1796	-
	68	19	54	-	-	267	Bkgd	-
	69	17	184	-	-	233	3832	-
	70	18	171	-	-	250	3443	-
	71	15	100	-	-	200	1317	-
	72	4	48	-	-	17	Bkgd	-
	73	16	189	-	-	217	3982	-
	74	11	95	-	-	133	1168	-
	75	14	76	-	-	183	599	-
	76	5	51	-	-	33	Bkgd	-
	77	27	170	-	-	400	3413	-
	78	19	115	-	-	267	1766	-
	79	13	99	-	-	167	1287	-
	80	20	84	-	-	283	838	-
	81	-	147	-	-	-	2724	-
	82	19	97	-	-	267	1227	-
	83	12	59	-	-	150	90	-
	84	-	161	-	-	-	3144	-
	85	26	145	-	-	383	2665	-
	86	36	83	-	-	550	808	-
	87	32	68	-	-	483	359	-
	88	44	88	-	-	683	958	-
	89	43	76	-	-	657	599	-
	90	20	156	-	-	283	2994	-
	91	55	91	-	-	857	1048	-
	92	55	57	-	-	857	30	-
	93	42	75	-	-	650	569	-
	94	24	97	-	-	350	1227	-
	95	24	59	-	-	350	90	-
	96	26	70	-	-	383	419	-
	97	29	126	-	-	433	2096	-
	98	16	68	-	-	217	359	-
	99	17	71	-	-	233	449	-
	100	22	74	-	-	317	539	-

TABLE J.6
VERIFICATION MEASUREMENTS
MILL BUILDING
GREEN RIVER, UT

Location of Measurement		Total CPM ESP-1/43-5	Total CPM ESP-1/44-40	Removable Alpha dpm/100cm²	Removable Beta dpm/100cm²	Total Alpha dpm/100cm²	Total Beta dpm/100cm²	Comments
Exterior Walls								
	101	49	79	-	-	767	688	-
	102	25	80	-	-	367	718	-
	103	24	69	-	-	350	389	-
	104	14	83	-	-	183	808	-
	105	39	68	-	-	550	359	-
	106	16	90	-	-	217	1018	-
	107	6	87	-	-	50	928	-
	108	6	75	-	-	50	569	-
	109	18	66	-	-	250	299	-
	110	26	82	-	-	383	778	-
	111	22	84	-	-	317	838	-
	112	8	54	-	-	83	Bkgd	-
	113	18	64	-	-	250	239	-
	114	10	70	-	-	117	419	-
	115	12	64	-	-	150	239	-
	116	12	78	-	-	150	659	-
	117	12	155	-	-	150	2964	-
	118	9	81	-	-	100	748	-
	119	8	71	-	-	83	449	-
	120	16	64	-	-	217	239	-
	121	15	80	-	-	200	718	-
	122	6	76	-	-	50	599	-
	123	8	85	-	-	83	868	-
	124	18	73	-	-	250	509	-
	125	16	70	-	-	217	419	-
	126	8	71	-	-	83	449	-
	127	12	68	-	-	150	359	-
	128	8	56	-	-	83	Bkgd	-
	129	21	101	-	-	300	1347	-
	130	24	72	-	-	350	479	-
	131	6	67	-	-	50	329	-
	132	8	79	-	-	83	688	-
	133	16	66	-	-	217	299	-
	134	41	89	-	-	633	988	-
	135	37	129	-	-	617	2186	-
	136	-	65	-	-	-	265	-
	137	6	74	-	-	50	539	-
	138	-	91	-	-	-	1029	-
	139	8	66	-	-	83	299	-
	140	13	75	-	-	167	569	-
	141	12	57	-	-	150	30	-
	142	15	60	-	-	200	120	-
	143	15	120	-	-	200	1916	-

GREEN RIVER, UT
Mill Building Wall Map

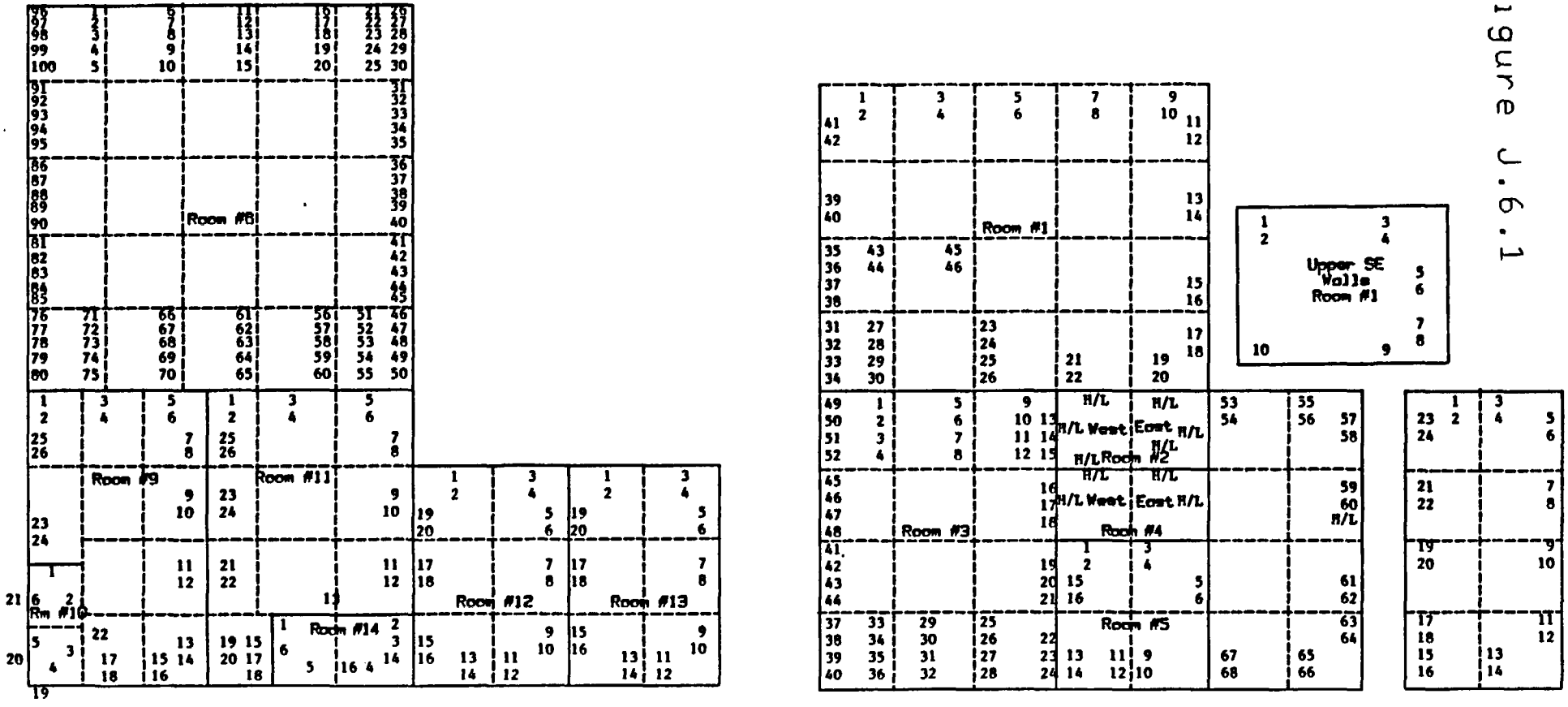


Figure J.6.1

GREEN RIVER, UTAH
Mill Building Floor Map

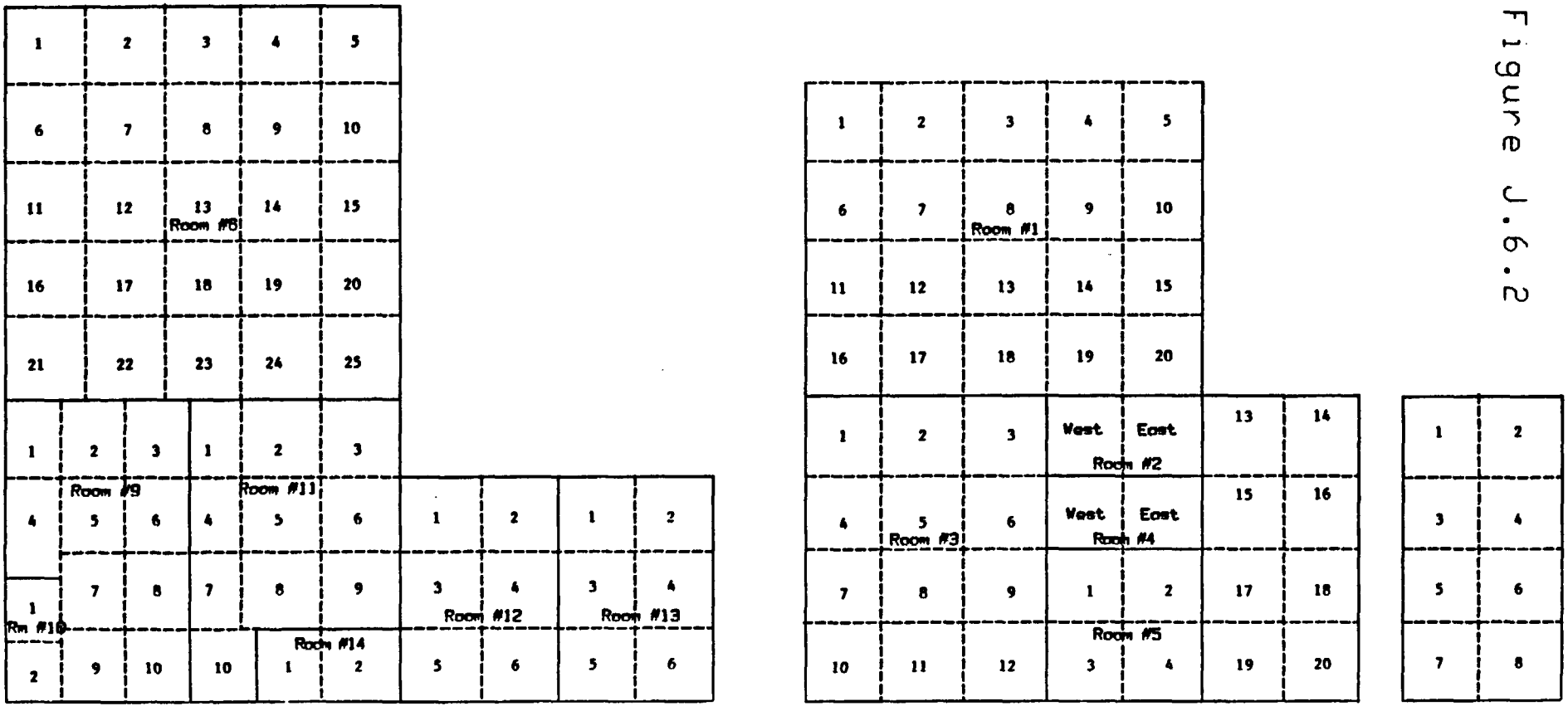


Figure J.6.2

GREEN RIVER, UT
Mill Building Ceiling Map

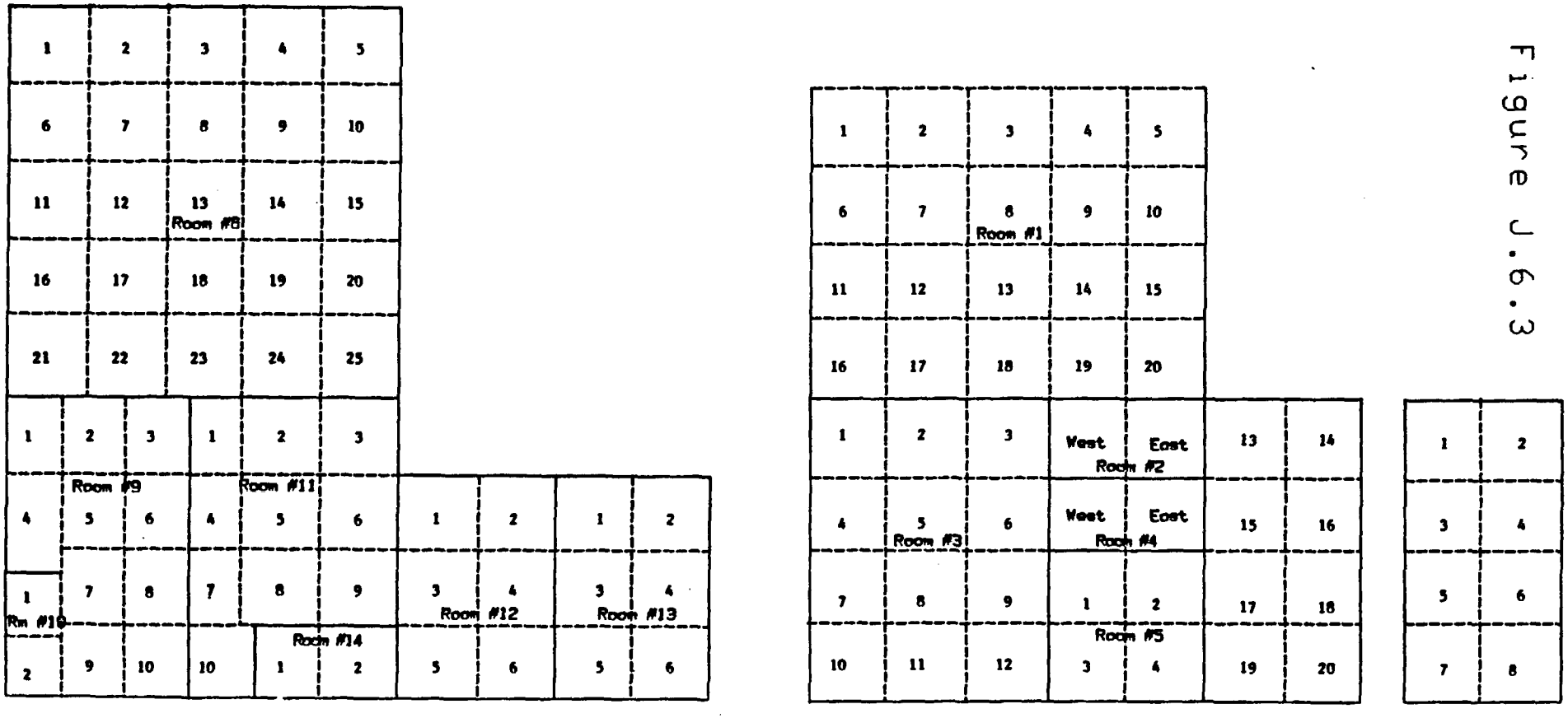
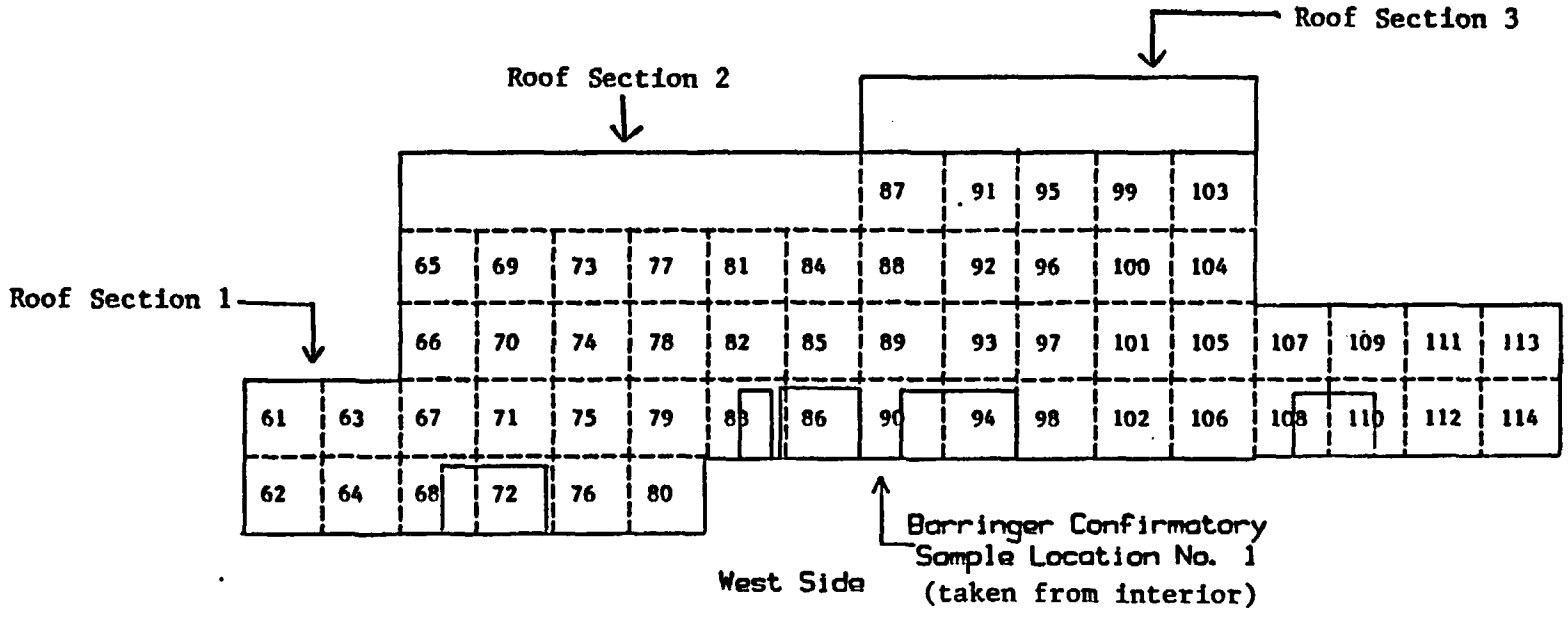


Figure J.6.3

GREEN RIVER, UTAH
Mill Building Exterior Map



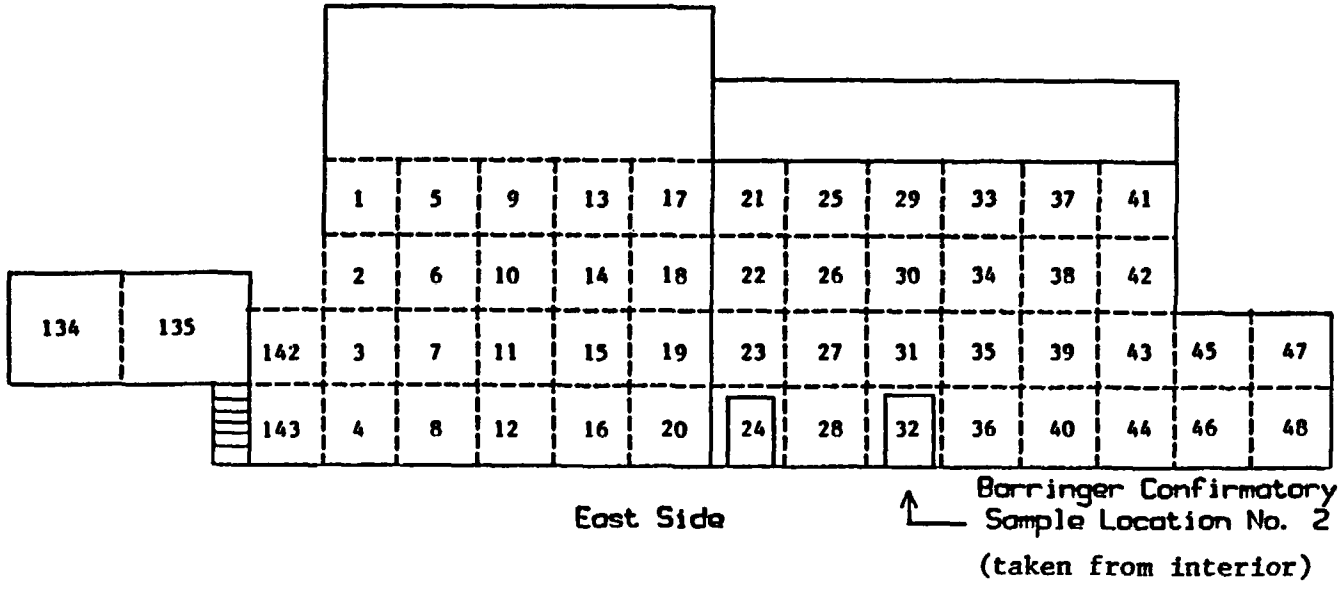
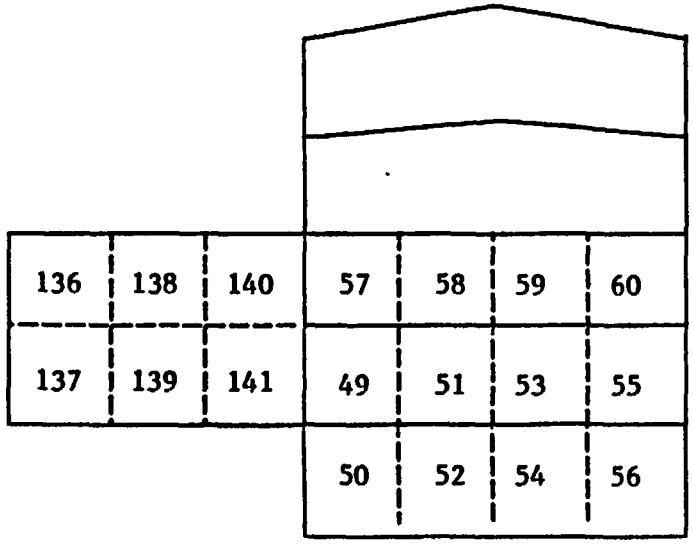
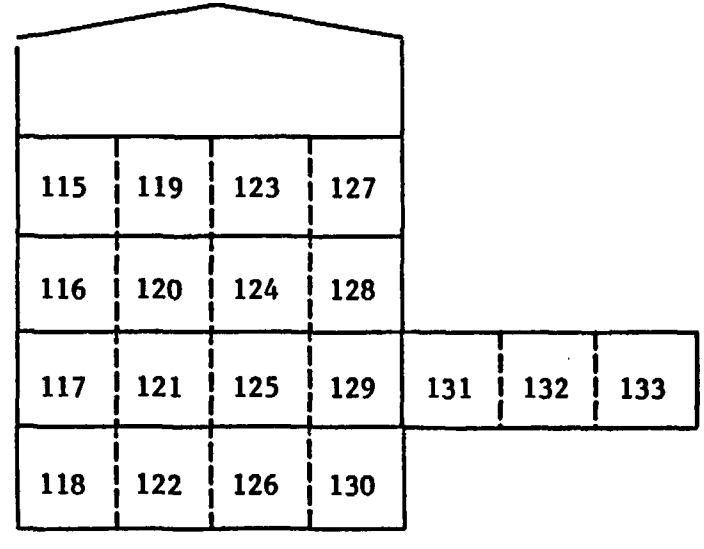


Figure J.6.4

GREEN RIVER, UTAH
Mill Building Exterior Map



South Side



North Side

Figure J.6.5

TABLE J.6.1
VERIFICATION MEASUREMENTS
MILL BUILDING - ROOF AREA
GREEN RIVER, UT

Location of Measurement	Removable Alpha dpm/100cm^2	Total Beta dpm/100cm^2
Section #1 - East End	62.4	1555
Section #1-2 Middle	46.6	666
Section #1-3 Near Vent	99	4388
Section #2-1	40.3	1638
#2-2	80.8	305
#2-3	143	2777
#2-4	229	4694
#2-5	99.7	*5555
#2-6	121.4	4138
#2-7	72.7	250
#2-8	283.5	4194
#2-9	213	4555
#2-10	124	1111
#2-11	83.5	3416
#2-12	153.8	833
#2-13	45.7	4083
#2-14	78	4166
#2-15	67.3	3416
#2-16	91.6	3750
Section #3-1	4.5	583
#3-2	49	4888
#3-3	141	4194
#3-4	38.7	4416
#3-5	91	3111
#3-6	88.7	361
#3-7	178.2	4722
#3-8	93.9	2611

* Average of 3 measurements

GREEN RIVER, UTAH
MILL BUILDING
SECTION 1-LOWEST LEVEL-NORTH END

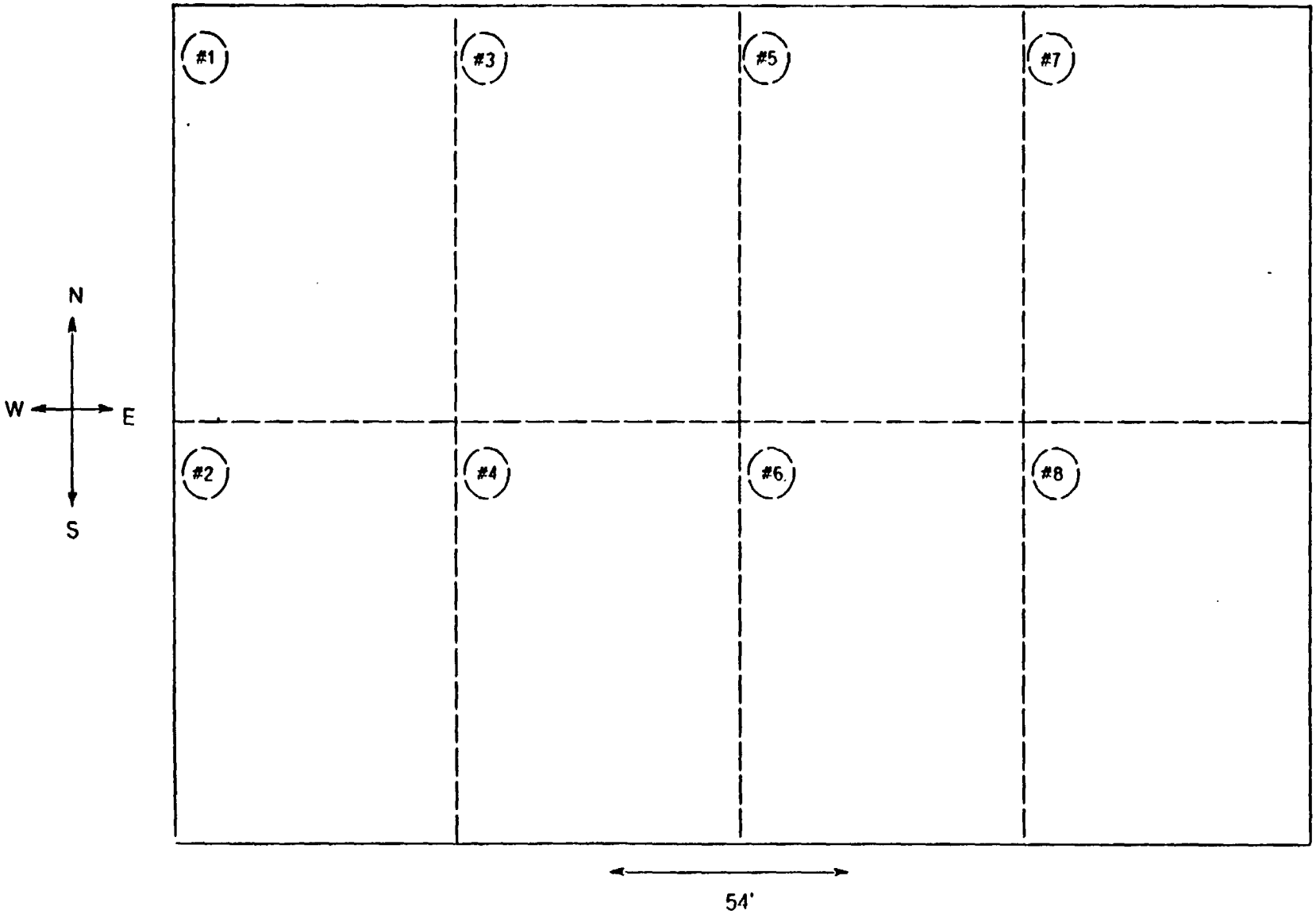


Figure J.6.6

GREEN RIVER, UTAH
MILL BUILDING
SECTION 2-SECOND LEVEL OF BUILDING

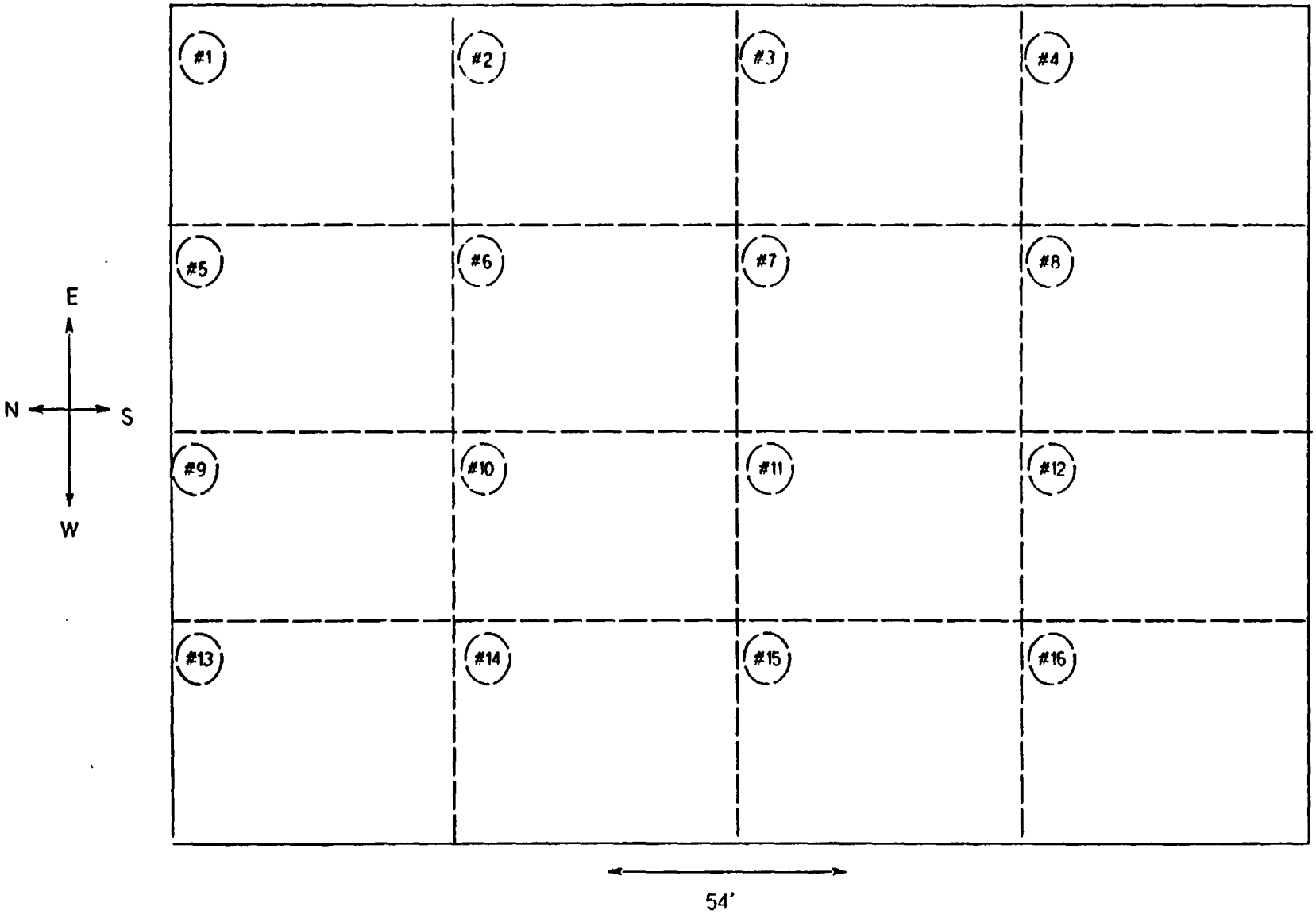


Figure J.6.7

GREEN RIVER, UTAH
MILL BUILDING
SECTION 3-HIGHEST LEVEL OF BUILDING

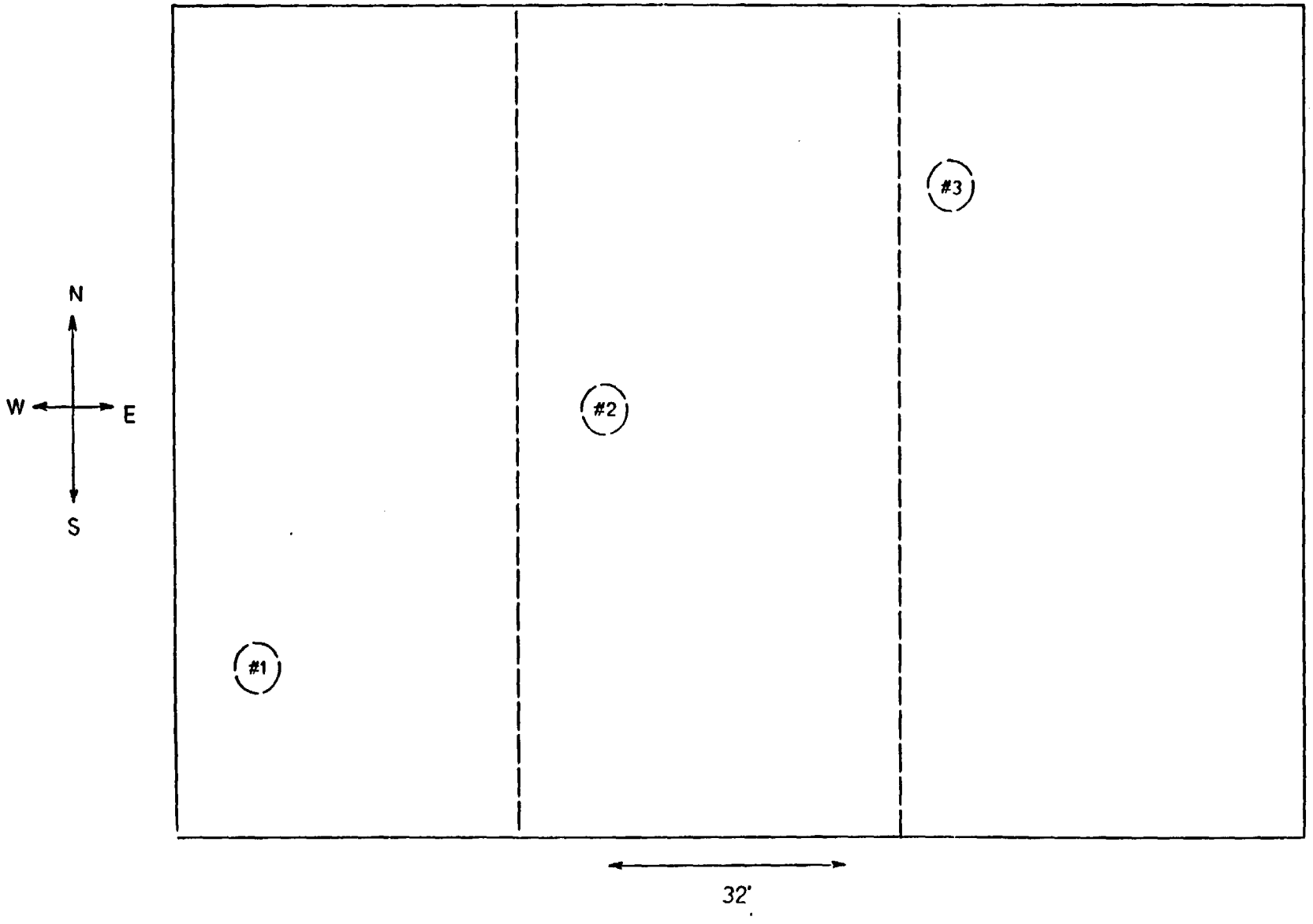


Figure J.6.8

Table J.7
Barringer Confirmatory Sample Results

SAMPLE IDENTIFICATION LOCATION 1	RA-226 pCi/GRAM	URANIUM ug/GRAM
GRN-SS-3329	78	183
GRN-SS-3330	0.8	2.5

SAMPLE IDENTIFICATION LOCATION 2	RA-226 pCi/GRAM	URANIUM ug/GRAM
GRN-SS-3551	170	475
GRN-SS-3599	87	243

Table J.8
Indoor Gamma Exposure Rate Survey
Green River, Utah

Office Building

Room	Maximum uR/hr	Minimum uR/hr	Average uR/hr
1	9.6	8.2	8.9
2	8.9	8.5	8.7
3	9.1	8.9	9.0
4	9.2	9.0	9.1
5	9.1	9.0	9.1
6	8.9	8.6	8.8
7	8.9	8.7	8.8
8	9.1	8.8	8.9
9	9.2	8.9	9.1
10	9.0	8.7	8.9
11	9.0	8.7	8.8
12	9.2	8.7	8.9

Table J.9
Indoor Gamma Exposure Rate Survey
Green River, Utah

Ore Crusher Building

Room	Maximum uR/hr	Minimum uR/hr	Average uR/hr
1	10.2	9.9	10.0
2	10.0	9.2	9.6
3	10.8	10.0	10.4
4	11.2	10.2	10.7
5	11.1	10.2	10.7
6	11.1	10.3	10.7

Table J.10
Indoor Gamma Exposure Rate Survey
Green River, Utah

Mill Building

Room	Maximum uR/hr	Minimum uR/hr	Average uR/hr
1	11.6	9.6	10.6
2	11.9	11.2	11.6
3	11.1	10.2	10.6
4	13.9	11.8	12.9
5	*	*	*
6	9.9	8.8	9.3
7	12.9	11.3	12.1
80	12.3	11.6	12.0
91	9.3	8.9	9.1
10	9.5	9.1	9.3
11	9.8	9.5	9.6
12	9.9	9.1	9.5

* Room #5 Inaccessible