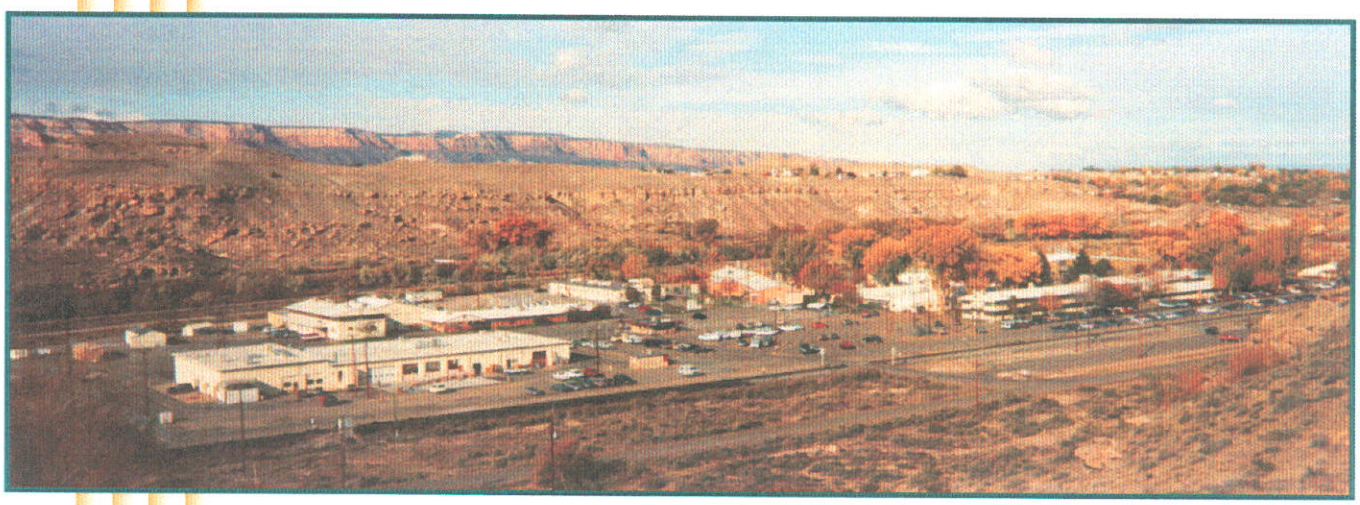
Final Request for Deferred Remediation Volume II

U.S. Department of Energy
Grand Junction Office Site



September 2001

Contents of Volume II:

1. Offer to Purchase and Acceptance Agreement

2. Lease Between DOE and RTC
   (Includes: Letter, Spencer Abraham to Scott McInnis, dated July 2, 2001; and GJO Site Bridge to Future spreadsheet)

3. Contingency Plan

4. Addendum Letter Dated 9/26/01

OFFER TO PURCHASE AND ACCEPTANCE

by authority under
Atomic Energy Act of 1954 Section 161 (g)
42 U.S.C. 2201 (g)

Department of Energy
Grand Junction Office
2597 B-3/4 Road
Grand Junction, Colorado 81503

Sale No. 7-B-CO-0463-B

The Riverview Technology Corporation (RTC), hereinafter referred to as the "Purchaser" or "Grantee," hereby offers to purchase from the United States of America, hereinafter referred to as the "Government" or "Grantor" acting through the Secretary of Energy, the Property known as the Department of Energy Grand Junction Office located at 2597 B-3/4 Road, Grand Junction, Colorado 81503, at the price of ten dollars ($10.00) and other valuable consideration. This Offer to Purchase hereinafter referred to as the "Agreement" is subject to all of the terms and conditions set forth below.

1. TERMS AND CONDITIONS OF SALE NO. 7-B-CO-0463-B as authorized under the Atomic Energy Act of 1954, Section 161 (g) (42 U.S. C. 2201 (g)).

2. Location: The Grand Junction Office located at 2597 B-3/4 Road, Grand Junction, Colorado 81503.

3. Description: The Property consists of a 46.20 acre parcel of land and buildings, structures and appurtenances.

4. The Offering:

A. All that portion of Lot 1 lying West of the right-of-way of the Denver and Rio Grande Western Railroad Company, and all of lots 6 and 7, subject to right-of-way of the Denver and Rio Grande Western Railroad Company, all being in Section 27, Township 1 South, Range 1 West, Ute Meridian, Mesa County, Colorado containing 55.71 acres of land more or less, together with the private railroad spur thereon, and all rights and appurtenance thereto, also all water and water rights used thereon or appurtenant thereto, including the private line from artesian well, and all rights in connection therewith, and all buildings and improvements thereon as recorded in Book 415, Page 405;

And, that portion of G.L.O. Lot 1, Section 26, Township 1 South, Range 1 West, Ute Principal Meridian, Mesa County, Colorado lying West of the right-of-way of the Denver and Rio Grande Western Railroad Company containing 1.14 acres of land more or less, as recorded in Book 668, Page 202;

Except: Parcel 1, located in G.L.O. Lot 7 of Section 27, Township 1 South, Range 1 West, Ute Principal Meridian, Mesa County, Colorado containing 2.68 acres of land more or less as conveyed to A. N. Applebaum and recorded in Book 1606, Page 986; and

Except that portion to be reserved to the United States and called the Army Reserve Tract: containing 7.97 acres more or less, further described in Exhibit A.

This parcel then contains 46.20 acres calculated as follows: 55.71 acres (1943 Deed in Book 415, Page 405) plus 1.14 acres (Deed in Book 668, Page 202) - minus - 2.68 acres (Deed in Book 1606, Page 986) - minus - 7.97 acres (Army Reserve Tract to be retained by the United States when the transfer to the Grantee in this Agreement is made) = 46.20 acres, more or less. The legal description of this Property and the "Army Reserve Tract" are described in Exhibit A.

B. All personal property as described on Exhibit B shall be conveyed upon transfer. Personal property conveyed to the Grantee shall not be subject to the Excess Profits Covenant of this Agreement.

5. Definitions

A. "DOE" and/or "Grantor" means the United States Department of Energy and all predecessor agencies (e.g., the Atomic Energy Commission and the Nuclear Regulatory Commission) and includes DOE officers, employees, and agents acting in their official capacity.

B. "RTC," "Grantee," and/or "Purchaser" means the non-profit corporation, known as the Riverview Technology Corporation, incorporated in the State of Colorado, and its officers, directors, officials, employees, agents, tenants, appointees, contractors, heirs, successors, and assigns, as related to the Property.

C. "Site Substances" specifically excludes any constituents identified as Grantee's responsibility in this Agreement and in the Deed. "Site substance(s)" means:

1. Any petroleum, petroleum product oil, oil product, gasoline, or similar substance which has been stored on the Property at any time prior to transfer;

2. Any hazardous substance, as defined in CERCLA (42 USC 9601), Section 101(14);

3. Any hazardous waste, as defined in RCRA (42 USC 6903), Section 1004(5);

4. Any radioactive waste including: (a) Solid or fluid materials of no value that contain radioactivity; discarded items such as clothing, containers, equipment, rubble, residues, or soils contaminated with radioactivity; (b) Soils, rubble, equipment, or other items containing induced radioactivity such that the levels exceed safe limits for unconditional release; (c) Any waste that contains radioactive material in concentrations that exceed those listed in 10 CFR 20, Appendix B, Table II, Column 2; and (d) Solid, liquid, or gaseous material that contain radionuclides regulated under the AEA of 1954, as amended, and of negligible economic value considering costs of recovery;

5. UMTRCA (42 USC 7911, P.L. 95-604, 1978): Any of those materials defined in Section 101 (7) as "residual radioactive material (RRM)" or in Section 101 (8) as "tailings;"

6. TSCA (15 USC § 2601, *et seq.*): Any of the materials regulated therein including PCBs as defined as "polychlorinated biphenyls" in 40 CFR Part 761; and

7. FIFRA (7 USC § 136, *et seq.*): Any of the materials defined as registered pesticides in Section 136 ("special nuclear material" (Section 2014(aa)).

6. CERCLA Covenant and Reservations to Conveyance:

A. The Property has a prior history of release and storage of hazardous substances as described in Exhibit C. Grantor submits in Exhibit C the available information concerning: (1) the type and quantity of hazardous substances that were known to have been released or disposed of or stored for one (1) year or more on the Property; (2) the time such storage, release or disposal took place; and (3) a description of the remedial action that was taken; as required under Section 120(h)(1) of CERCLA and 42 U.S.C. § 9620(h)(3)(A)(i).

B. Grantor warrants that all remedial action necessary to protect human health and the environment has been taken or is in place before the date of this conveyance with the exceptions noted in Subsection C.

C. Declaration of Contamination, Conditions, Restrictions on Use, and Grantor Commitment to Remediate Certain Areas.

1. Contamination in Ground Water and Surface Expressions of Ground Water

Contamination: The ground water underlying the Property and the surface expressions of the ground water (the North Pond, South Pond, and Wetlands areas) are known by both parties to be contaminated with elevated levels of certain constituents resulting from the historical stockpiling of uranium ore and the disposal of process wastes from milling and concentrating activities. Following removal of the source of contamination, the accepted remedial action for eliminating the contamination is the natural flushing of the ground water over a period of 50 – 80 years (anticipated to be within regulatory standards between the years 2050 and 2080). Risk assessments performed concluded that the contaminants posed a threat to human health only if ingested by drinking the water.

Restriction: Except as provided in Subsection C.7, below, Grantee shall not engage in any disturbance or use of any untreated ground water underlying the Property, including the drilling of wells, the excavation of soils that expose ground water, or the diversion of ground water through any means without express written consent of the State of Colorado Department of Public Health and Environment (CDPHE) and the Grantor. This also includes, but is not

limited to, restrictions on excavation of the underlying soils for their gravel content. Any request for consent to disturb or use any untreated ground water underlying the Property must include water quality data and a human health and ecological risk evaluation.

Prior to transfer, Grantor will construct signs at the South Pond, North Pond, and Wetlands area to notify the public that no swimming, fishing, or drinking of the waters is permitted. Grantee and successors must maintain the signs until the State of Colorado approves the removal of the notification signs. Grantor will continue to monitor the water quality of the ponds and, when the water quality meets State standards, request the State to approve removal of the restrictions, including the notification signs.

Grantee shall not engage in any use of the surface expressions of ground water that might result in accidental consumption of the water, fish, or other aquatic species. This includes, but is not limited to, restrictions on fishing, swimming, activities that result in prolonged human contact with the water, hatchery operations for production of fish or other aquatic species for human consumption, and other recreational uses.

2. Building 12 Soil Contamination

Contamination: Grantor acknowledges that there is known contamination on the Property underlying the south end of Building 12 (see Exhibit D). Grantor covenants to remain solely responsible for the complete remediation of these conditions, as well as any later-discovered contamination. The contamination, believed to be the residue of a stockpile of uranium ores, poses a potential threat of radioactive exposure to individuals excavating the soils. There is no threat to persons occupying the building nor to the conducting of routine business activities, nor is there any indication the residual contamination is impacting the ground water.

Restriction: Except as provided in Subsection C.7, below, Grantee shall not, under any circumstances, without express written permission of CDPHE and the Grantor, engage in any activity that would result in the disturbance of soils or structures underlying the south end of Building 12. Grantor shall remediate all contamination under and around Building 12 prior to termination of Grantor's lease of the building. Grantee accepts that the remediation will include demolition of Building 12 as the most cost-effective process to complete the remedial action and hereby agrees to accept this remediation approach. Grantor will not be responsible to rebuild the building or otherwise compensate the Grantee for the loss of the building.

3. Building 20 and Laboratory Sample Preparation Building

Contamination: Grantor acknowledges that there is known contamination on the Property beneath the southwest corner of Building 20 (see Exhibit D). Grantor covenants to remain solely responsible for the complete remediation of the soils

under Building 20 and any contaminated soils underneath the Laboratory Sample Preparation Building. The known contamination under Building 20, believed to be from mill tailings used as fill material to raise the elevation of a pond bank prior to construction of Building 20, poses a potential threat to persons excavating the soils from exposure to radioactive materials. There is no known threat to persons occupying the building or to the conducting of routine business activities, nor is there any indication that the contamination is impacting the ground water.

Restriction: Except as provided in Subsection C.7, below, Grantee and its assigns shall not, under any circumstances, without express written permission of CDPHE or as provided in the Contingency Plan, engage in any activity that would result in disturbance of soils or structures underlying the south end of Building 20. Prior to altering the structural integrity of the floor at the south end of Building 20, such permission must be obtained. Grantor reserves the right to periodically inspect activities conducted in Building 20 to assure that the floor integrity is maintained in the south end.

The Grantor plans to continue to operate the laboratory in Building 20 and consequently prepare samples and conduct sample preparation activities in the Laboratory Sample Preparation Building. At such time in the future when Grantor ceases operation of the laboratory, Grantor shall demolish Building 20 and remediate any contaminated soils underneath the building. The Grantor shall also remediate any contamination resulting in the Laboratory Sample Preparation Building and from sample preparation activities.

4. Foil Sources in Abandoned Well

Contamination: Grantee acknowledges that there is known contamination in the form of two foil radium sources encased in an abandoned well at the site (see Exhibit D for location). The well was abandoned in accordance with State of Colorado requirements and the sources were encased in the well with the approval of the state.

Restrictions: Grantee shall not engage in any activity that disturbs the seal on the well encasement or the well itself without the express written consent of CDPHE and the Grantor.

5. Enforceable Agreement

Grantor has entered into an enforceable agreement with CDPHE in accordance with State of Colorado Executive Order D.013.98 and CERCLA 120(h). The agreement establishes the Grantor's clean-up plans for Building 12, Building 20, and the ground water (with the exception of the Foil Sources), reiterates the land use controls placed upon the Grantee and successors, specifies the monitoring of contaminated areas by the Grantor, and provides a funding mechanism for the Grantor to reimburse CDPHE for oversight activities.

6. Grantee's Responsibilities

Grantee is responsible for assuring that the restrictions in this section and Grantor's rights of access related to the above and stated in this Agreement and in the Deed are stated in each subsequent instrument of transfer if Grantee passes ownership to another entity. Grantee is responsible for notifying Grantor's Long-Term Surveillance and Maintenance Program of such transfer. Grantee acknowledges its landlord responsibilities to monitor tenants' activities to assure protection of Building 12 and 20 floors, to allow for safe soil excavation on the Property, to protect the abandoned well identified above, and to be protective of Grantor's remaining ground water monitoring wells.

Grantor acknowledges that planned use of the Property is for a mixture of commercial, industrial, office space, and open space, as stated in Grantee's reuse plan. Grantee's planned use is not restricted except as herein noted.

7. Grantor and Grantee shall agree to a Contingency Plan outlining the process for Grantee to follow if contaminated soil or ground water is encountered in a situation deemed to be an emergency. CDPHE will approve the plan.

D. Grantor hereby reserves, and Grantee accepts on behalf of itself and its successors and assigns, a right of access to all portions of the Property for environmental investigation, remediation or other corrective action found to be necessary regarding site substances (as defined in Section 5) located on this Property as of the date of transfer. This reservation includes the right of access to and use of available utilities at reasonable cost to Grantor. These rights shall be exercisable in any case in which a remedial action, response action or corrective action is found to be necessary after the date of this conveyance, or in which access is necessary to carry out a remedial action, response action or corrective action on adjoining property. Pursuant to this reservation, the United States of America, and its respective agencies, officers, agents, employees, contractors and subcontractors shall have the right to enter upon the Property and conduct investigations and surveys, to include drilling, borings, data and records compilations and other activities related to environmental investigation, and to carry out remedial or removal actions as required or necessary, including but not limited to the installation and operation of monitoring wells, pumping wells, and treatment facilities, and use of other actions deemed necessary by the Grantor to comply with all federal and state statutes, regulations or any court order. Grantee acknowledges that the removal of contamination may necessitate the destruction of certain improvements at the Property and agrees to enter into negotiations with Grantor to determine appropriate and reasonable reparations.

E. Grantee covenants and agrees for itself, its successors and assigns, and every successor in interest of the Property, or part thereof, that while the respective parties identified in this paragraph and/or any party occupying the Property are in possession of the Property, they shall not disrupt or prevent the United States of America and its officers, employees, agents, contractors and subcontractors, and any other authorized party or entity from conducting required remedial

investigations, response actions and oversight activities or from the proper and necessary construction, upgrading, operating, maintaining and monitoring of any ground water, surface water, or sediment treatment facilities or monitoring network on the Property or adjoining property.

7. General Reservations, Exceptions, Covenants, Conditions, and Agreements:

A. This sale is made subject to the following exceptions, which have been disclosed in Schedule B of The Commitment for Title Insurance No. 999-04-003L-C2, issued by Western Colorado Title Company on April 1, 1999 at 8:00 a.m. This commitment was obtained by the Grantor for planning purposes and will be made available to the purchaser upon request. The Quitclaim Deed shall contain the following exceptions:

1. Rights or claims of parties in possession not shown by the public record.

2. Easements, or claims of easements, not shown by the public records.

3. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, and any facts that a correct survey and inspection of the premises would disclose and which are not shown by the public records.

4. Any lien, or right to a lien, for services, labor, or material heretofore or hereafter, furnished, imposed by law and not shown by the public records.

5. Taxes and assessments which are a lien or due and payable, and any tax, special assessments, charges or lien imposed for water or sewer service, or for any other special taxing district, any unredeemed tax sales.

6. Reservation, as set forth in United States Patent recorded August 3, 1895 in Book 11 at Page 400 as follows: "Herein described property subject to the right of the proprietor of a vein or lode to extract and remove his ore therefrom should the same be found to intersect said premises." (Affects NE ¼ NE ¼ of Lot 1)

7. Reservation, as set forth in United States Patent recorded August 3, 1895 in Book 11 at Page 399 as follows: "Herein described property subject to the right of the proprietor of a vein or lode to extract and remove his ore therefrom should the same be found to intersect said premises." (Affects SE ¼ NE ¼ of Lot 7 and NE ¼ SE ¼ of Lot 6)

8. Right of Way for road across subject property per document in Road Book 3 at Page 146.

9. Right of Way 200 feet wide across the E ½ E ½ of said Section 27 as evidenced by documents recorded September 24, 1976 in Book 1061 at Page 469.

10. Private Way License, for private road crossing, including the terms and conditions thereof recorded September 29, 1982 in Book 1393 at Page 272.

11. Right of Way for the Denver and Rio Grande Western Railroad across subject property.

B. This Agreement is made and the conveyance of the Property shall be subject to the following covenants which shall be set forth in the Quitclaim Deed in the following manner:

1. Grantee covenants for itself, its assigns and every successor in interest to the Property herein described or any part thereof that Grantee shall abide by the following covenant, which will be a covenant running with the land. In addition, the United States of America shall be deemed a beneficiary of the following covenant without regard to whether it remains the owner of any land or interest therein in the locality of the Property hereby conveyed and shall have a right to enforce the following covenant in any court of competent jurisdiction; provided, however, the United States shall have no affirmative duty to any successor in title to this conveyance to enforce the following covenants herein agreed:

a) Excess Profits Covenant for Negotiated Sales to Public Bodies.

(1) This covenant shall run with the land for a period of three (3) years from the date of conveyance. With respect to the Property described in this Agreement, if at any time within a three (3)-year period from the date of transfer of title by the Grantor, the Grantee, or its successors or assigns, shall sell or enter into agreements to sell the Property, either in a single transaction or in a series of transactions, it is covenanted and agreed that all proceeds received or to be received in excess of the Grantee's or a subsequent seller's actual allowable costs will be remitted to the Grantor. In the event of a sale of less than the entire Property, actual allowable costs will be apportioned to the Property based on a fair and reasonable determination by the Grantor.

(2) For purposes of this covenant, the Grantee's or a subsequent seller's allowable costs shall include the following:

(a) The purchase price of the real Property;

(b) The direct costs actually incurred and paid for improvements which serve only the Property, including road construction, storm and sanitary sewer construction, other public facilities or utility construction, building rehabilitation and demolition, landscaping, grading, and other site or public improvements;

(c) The direct costs actually incurred and paid for design and engineering services with respect to the improvements described in (b)(2), of this section; and

(d) The finance charges actually incurred and paid in conjunction with loans obtained to meet any of the allowable costs enumerated above.

(3) None of the allowable costs described in paragraph (b) of this section will be deductible if defrayed by federal grants or if used as matching funds to secure federal grants.

(4) In order to verify compliance with the terms and conditions of this covenant, the Grantee, or its successors or assigns, shall submit an annual report on request for each of the first three (3) years to the Grantor on the anniversary date of this transaction. Each report will identify the Property involved in this transaction and will contain such of the following items of information as are applicable at the time of submission:

(a) A description of each portion of the Property that has been resold;

(b) The sale price of each such resold portion;

(c) The identity of each purchaser;

(d) The proposed land use;

(e) An enumeration of any allowable costs incurred and paid that would offset any realized profit; and

(f) If no resale has been made, the report shall so state.

(5) The Grantor may monitor the Property and inspect records related thereto to ensure compliance with the terms and conditions of this covenant regarding resale and may take any actions which it deems reasonable and prudent to recover any excess profits realized through the resale of the Property.

2. Grantee covenants for itself, its successors and assigns and every successor in interest to the Property herein described, or any part thereof, that any construction or alteration at the Property will not be undertaken without providing appropriate notice to the Federal Aviation Agency pursuant to 14 CFR 77.13 unless the exemption of Subsection 14 CFR 77.15 applies to such construction.

3. Grantee agrees and covenants for itself, its successors and assigns, that any development of the above-described Property will be subject to all applicable floodplain and Wetlands regulations and other applicable federal, state and local statutes and ordinances relating to floodplains and Wetlands. Before engaging in any ground disturbance activity that would adversely affect

the extent, condition and function of the floodplain or Wetlands areas, Grantee agrees to obtain prior authorization from the United States Army Corps of Engineers and/or other relevant authorities pursuant to Section 404 of the Federal Clean Water Act and relevant floodplain requirements.

4. The United States of America covenants and warrants (except to the extent that the Grantee is a "potentially responsible party") that any response action found to be necessary after the date of transfer regarding any site substance (as defined in Section 5) relative to the Property shall be conducted by the United States of America, if it be determined that such site substance(s) contaminated the described and conveyed Property prior to the date of this Agreement and the United States of America is a responsible party; however, notwithstanding any language in this Subsection 4, the provisions of Subsection D shall control.

C. This Agreement is made and the conveyance of the above-described Property shall be made subject to and in consideration of the following irrevocable and perpetual covenants, as provided, which shall be set forth in the Quitclaim Deed in the following manner:

1. Effective upon transfer pursuant to this Agreement, Grantee, for itself, its heirs and assigns and every successor in interest to the Property herein described, or any part thereof, based on the representations from Grantor to the Grantee, hereby releases and waives any and all claims it may have against the United States of America with respect to any and all loss, judgment, claims, demands, expenses or damages, of whatever nature or kind which might arise or be made against the United States as a result of lead based paint having been present on the Property herein described as of the transfer.

2. Effective upon transfer pursuant to this Agreement, Grantee, for itself, its heirs and assigns and every successor in interest to the Property herein described or any part thereof based on the representations from Grantor to Grantee, hereby releases and waives any and all claims it may have against the United States of America with respect to any and all loss, judgment, claims, demands, expenses or damages of whatever nature or kind which might arise or be made against the United States of America as a result of the Property herein described lying in a floodplain or being flooded.

3. Notice of the Presence of Asbestos

a) The Grantee is warned that the Property contains asbestos-containing materials. Unprotected or unregulated exposures to asbestos in product manufacturing, shipyard, and building construction workplaces have been associated with asbestos-related diseases. Both the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) regulate asbestos because of the potential hazards associated with exposure to airborne asbestos fibers. Both OSHA and EPA have determined that such exposure increases the risk of asbestos-related

diseases, which include certain cancers and which can result in disability or death.

b) Grantee has been invited, urged and cautioned to inspect the Property as to its asbestos content and condition and any hazardous or environmental conditions relating thereto. Grantee shall be deemed to have relied solely on its own judgment in assessing the overall condition of all or any portion of the Property including, without limitation, any asbestos hazards or concerns.

c) Except as otherwise provided in this Agreement, no warranties either express or implied are given with regard to the condition of the Property including, without limitation, whether the Property does or does not contain asbestos or is or is not safe for a particular purpose.

d) The description of the Property set forth in this Agreement and any other information provided herein with respect to said Property is based on the best information available and is believed to be correct, but an error or omission, including but not limited to the omission of any information, shall not constitute grounds or reason for nonperformance of the contract of sale, or any claim by the Grantee against the Government except as otherwise provided or as necessary to implement the terms hereof and the stated purposes of this Agreement.

e) The Government assumes no liability for damages for personal injury, illness, disability or death, to the Grantee, or to the Grantee's successors, assigns, employees, invitees, or any other person subject to Grantee's control or direction, or to any other person, including members of the general public, arising from or incident to the purchase, transportation, removal, handling, use, disposition, or other activity causing or leading to contact of any kind whatsoever with asbestos on the Property which is the subject of this sale, whether the Grantee, its successors or assigns has or have properly warned or failed properly to warn the individual(s) injured.

f) The Grantee further agrees that in its use and occupancy of the Property it will comply with all federal, state, and local laws relating to asbestos.

D. Liability for Environmental Conditions. Grantor agrees to release, indemnify and hold harmless the Grantee, the City of Grand Junction, and the County of Mesa, their officers, directors, officials, employees, agents, tenants, appointees, successors, assigns, and contractors of each, from and against all liability, claims, suits, actions, administrative proceedings, orders, damages, costs, assessments, fines and penalties, including court costs and reasonable expert witness and attorneys' fees, arising out of or relating to any claims for damages arising from the release or threatened release at the Property of any "Site Substances," as defined in this Agreement, as a result of any activities which occurred prior to the date of transfer, subject to the following conditions:

1. If any suit or claim is filed or made against the Grantee or its tenants, the Grantee or its tenants shall forthwith notify the Grantor's Long-Term Surveillance and Maintenance Program at 2597 B-¾ Road, Grand Junction, Colorado 81503, and promptly furnish copies of all pertinent documents received. Should this address change, the Grantor will forthwith notify the Grantee in writing. In addition, the Grantee or its tenants shall authorize the Grantor or other Government representatives to collaborate with the Grantee or its tenants in settling or defending the suit or claim.

2. The Grantor may avoid its duty to defend, hold harmless and indemnify a claim by the Grantee or its tenants (as described in Subsection D) if the claim results only from the Grantee's or tenants' actions or inactions occurring after the date of the transfer of title of the Property. If there is a dispute regarding whether the Grantee or its tenants' actions or inactions caused damages, or the proportion of such action or inaction which caused some or all of the damages, Grantor shall provisionally defend and hold harmless the Grantee or its tenants. If it is determined in any final judicial or administrative proceeding that the Grantee's or its tenants' actions or inactions caused or contributed to the claim, the Grantee or its tenants shall reimburse the Grantor for costs paid by the Grantor in an amount proportional to the percentage of fault, negligence or responsibility allocated to the Grantees, its tenants, and the licensees and invitees of Grantee and its tenants, by the judgment, decision, determination, or settlement. Until a point in time when all of the ground water underlying the Property meets applicable standards (estimated to take 50 to 80 years from the date hereof), if during such administrative or judicial or equivalent process, fault is not clear or proved by a preponderance of the evidence, the Grantor agrees to indemnify the Grantee, as set forth herein.

3. The CERCLA 120(h) list, and any necessary revisions thereto and deed restrictions as augmented and supplemented from time to time as new information becomes available as provided in the Agreement, shall be used by the Parties as a basis for determining the condition of the Property as of the date of transfer pursuant to this Agreement and whether any claim for damages directly arises from the release or threatened release of any Site Substance at the Property as a result of activities at the Property prior to the date of transfer.

4. The Grantor's duty to defend and hold the Grantee and its tenants harmless is subject to the availability of appropriated funds. Nothing in this Agreement shall be construed as implying that the Congress will, at a later date, appropriate funds sufficient to meet any of these requirements.

5. For the purposes of this Subsection D, the term "Grantor," as defined in this Agreement, includes the DOE and every person and entity that, prior to the date of transfer, had a contractual relationship, direct or indirect, with the DOE.

6. No other provision of this Agreement shall be construed to have impliedly or otherwise amended, changed or modified any term, provision or duty described

in this section; the provisions of this Subsection D shall control over any other term, section or provision.

E. Grantee has inspected the described and conveyed Property and has satisfied itself that based on the representations of Grantor and Grantee's physical inspection, the Property is free of any site substances (as defined in Section 5), except as described herein.

8. Special Terms of Sale:

A. Upon conveyance, the subject parcel may become subject to all applicable laws, ordinances, and regulations, which may not have applied while title remained in the United States, including building and zoning ordinances and post conveyance taxes which previously were not in effect.

B. In the event that circumstances for reversion of the Property arise, the Property shall first revert to ownership by either the City of Grand Junction, Colorado, or the County of Mesa, Colorado; then the Property shall revert to the Grantor if it so desires. Grantor responsibilities identified in Section 5, and Grantor's promises and obligations in Subsection D, reside with and bind the Grantor regardless of reversion.

C. Conveyance of the Property by Quitclaim Deed is contingent upon the Governor of the State of Colorado's approval of the Grantor's Request for Deferred Remediation.

D. Grantor, pending approval from the Union Pacific Railroad Company, assigns to Grantee existing lease (Folder #01778-11) with Union Pacific Railroad Company for parking space. Grantee accepts assignment as a condition of this Agreement.

9. General Terms of Sale:

A. Condition of Property: Except as otherwise provided in this Agreement, the Property is offered "As Is" and "Where Is" without representation, warranty, or guaranty as to quantity, quality, title, character, condition, size, or kind, or that the same is in condition or fit to be used for the purpose for which intended, and no claim for any allowance or deduction upon such grounds will be considered.

B. Descriptions in Offer to Purchase: The descriptions of the Property set forth in this Agreement, and any other information provided to Grantee from Grantor with respect to said Property are based on the best information available and are believed to be correct. Any error or omission shall not constitute ground or reason for allowance, refund, or deduction from the purchase price.

C. Inspection: Purchaser is invited, urged, and cautioned to inspect the Property to be sold prior to sale. The failure to inspect, or to be fully informed as to the condition of all or any portion of the Property offered, will not constitute grounds for any claim or demand for adjustment or withdrawal of an offer after it has been tendered.

D. Contract: These Terms and Conditions, the Offer to Purchase, and the acceptance thereof, shall constitute an agreement between the Purchaser and the Grantor. Such agreement shall constitute the whole contract to be succeeded only by the formal instruments of transfer, unless modified in writing and signed by both parties. No oral statements or representations made by, or for, or on behalf of either party shall be a part of such contract. This Agreement shall not be transferred or assigned in whole or in part by the Purchaser without consent of the Grantor, and any assignment transaction without such consent shall be void.

E. Other Terms Applicable to a Sale:

1. As of the date of transfer which is the date of conveyance, the Purchaser shall assume responsibility for care and handling and all risks of loss or damage to the Property and have all obligations and liabilities of ownership, except as otherwise provided herein.

2. The Grantor will cooperate with the Grantee and will permit examination and inspection of such Deeds, abstracts, affidavits of title, judgments in condemnation proceedings, or other documents relating to the title of the premises and the Property involved, as it may have available. It is understood that the Grantor will not be obligated to pay for any expense incurred in connection with title matters or survey of the Property.

3. Upon transfer, the Purchaser shall assume responsibility for all general and special real and personal property taxes that may thereafter be assessed to the Property.

4. The Grantor shall transfer title by a Quitclaim Deed.

5. If applicable, the Purchaser shall pay all taxes and fees imposed on this transaction and shall obtain at his own expense and affix to all instruments of conveyance and security documents such revenue and documentary stamps as may be required by federal and local law. All instruments of conveyance and security documents shall be placed on record in the manner prescribed by local recording statutes at the Purchaser's expense.

6. Contingencies: The closing, conveyance of deed, transfer and sale as contemplated by this Agreement, by whatever terminology it may be known, is contingent upon the following conditions taking place, being satisfied and as required by the context, ultimately being implemented.

(1) The Covenant for Deferred Remediation under Section 120(h) of CERCLA shall be executed by the Governor of the State of Colorado on or before February 16, 2001;
(2) A Contingency Plan as generally described in Paragraph 6.C.7 of the Agreement for both emergency and non-emergency construction and/or

maintenance activities shall be in place and approved by the State of Colorado by February 16, 2001;

(3) An ingress and egress plan, including but not necessarily limited to realignment of railroad crossings to the GJO site being prepared and approved by the appropriate parties by February 16, 2001;

(4) Review and approval by RTC of all Exhibits, attached or to be attached, to the Agreement;

(5) A Lease Agreement for the GJO by and between the Riverview Technology Corporation and the U.S. Department of Energy being prepared and approved by the Riverview Technology Corporation on or before February 16, 2001;

(6) Formal acceptance and ratification of actions taken by the Riverview Technology Corporation by the City of Grand Junction and Mesa County in accordance with the by-laws of the corporation and the laws, rules, regulations, statutes, charter and ordinances of the City and County as applicable.

F. Officials Not To Benefit: No member of or delegate to the Congress, or resident commissioner, shall be admitted to any share or part of the contract of sale or to any benefit that may arise therefrom, but this provision shall not be construed to extend to the contract of sale if made with a corporation for its general benefit.

Purchaser: Riverview Technology Corporation

By: _____ Pres.
Name Title

Signature _____

Date: 12/4/00

Grantor: United States of America acting through the Secretary of Energy

By: Donna A. Bergman-Tabbert, Mgr.
Name Title

Signature _____

Date: 12-4-00

CERTIFICATE OF AUTHORITY (Riverview Technology Corporation)

I, _____ certify that I

am _____ of the Riverview Technology Corp.
(Secretary or other official title)

named as Grantee herein; that _____, who signed this Offer to

Purchase on behalf of the Grantee was then _____
(Title)

of said Riverview Technology Corporation; that said Offer to Purchase was duly signed for and on behalf of said Riverview Technology Corporation and that the same is within the scope of authority of the Riverview Technology Corporation.

(Seal)

_____
Signature of Certifying Official

United States Department of Energy
Albuquerque Operation Office
Grand Junction Office

Lease Agreement
(Contract No. DE-RP04-00-AL66782)

For the

Grand Junction Office

By and Between

The Riverview Technology Corporation, Lessor

and

The U.S. Department of Energy, Lessee

(Volume No. II)

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Lease for Real Property

This lease made and entered into this 19th day of September, 2001, by and between the Riverview Technology Corporation (RTC), Lessor, and the United States Department of Energy (DOE), Lessee.

Witnesseth

Article 1. Premises

Subject to and upon the terms, provisions and conditions hereinafter set forth and in consideration of the mutual covenants and obligations of the parties hereto, Lessor, who owns and controls certain real property, hereby leases, demises and rents to Lessee, and Lessee hereby leases from Lessor approximately 73,672 square feet of area located within the Grand Junction Office compound (hereinafter called the "Compound"), located at 2597 B 3/4 Road, Grand Junction, Colorado 81503, including ingress and egress thereto. The space hereby leased in the Compound is hereinafter called the "Premises" and is further described on Exhibit A attached to and made a part hereof. During the term of this lease, the Lessee shall have the nonexclusive right to use common areas within the Compound in common with other tenants, subject to such rules as Lessor may promulgate from time to time. Such rules shall be furnished to Lessee for review prior to execution of this lease.

Article 2. Purpose

The Premises shall be used for laboratory, engineering, and/or general-purpose office space and any other needs as appropriate and suitable for the requisites of the Lessee.

Article 3. Term of the Lease

Subject to and upon the terms and conditions set forth herein, this lease shall continue in force for a term of twenty-four (24) consecutive months, commencing on Sept 19 2001, and ending on Sept. 30 2003.

Article 4. Annual Rent

The rental rate for the twenty-four-month (24-month) term of this lease is $7.26 per square foot. This rate consists of $2.61 per square foot for the base rental rate and $4.65 per square foot for Lessor building operating costs as hereafter where defined. The base rental rate and the Lessor's Building Operating Cost rate shall not be changed during the initial twenty-four-month (24-month) term of the lease except as provided for in Article 8 of this lease agreement for the initial leasehold of approximately 73,672 square feet.

The rental rate for option years three (3) and four (4) shall be $7.18 per square foot. This rate consists of $2.53 per square foot for the base rental rate and $4.65 per square foot for Lessor Building Operating Costs. The base rental rate and the Lessor's Building Operating Cost rate shall not be changed except as provided for in Article 8 of this lease

agreement. The leased space will be reduced to 53,456 square feet as further described on Exhibit A attached hereto.

The rental rate for option years five (5) and six (6) shall be $5.59 per square foot. This rate consists of $0.94 per square foot for the base rental rate and $4.65 per square foot for Lessor's Building Operating Cost. The base rental rate and the Lessor's Building Operating Cost rate shall not be changed except as provided in Article 8 of this lease. The leased space shall consist of 53,456 square feet as further described on Exhibit A attached hereto.

Lessee shall pay Lessor the rental rates as described in paragraph 4 in lawful money of the United States and shall be due and payable monthly in arrears upon commencement of this lease. It shall be due on the last day of every consecutive calendar month throughout the term hereof. Lessor and Lessee agree that the payment schedule can be changed to a quarterly or annual basis at a later date by providing notice as provided in Article 32.

In accordance with paragraphs 13 and 28, rental rate will be adjusted in the event of a fire or casualty.

Until further written notice, rent checks shall be made payable to:

Riverview Technology Corporation

and mailed to:

c/o Thea Chase, Western Colorado Business Development Corp.
2591 B ¾ Road
Grand Junction, CO 81503

Article 5. Option

Provided Lessee is not in default of any significant terms and conditions of this lease agreement and prior to the expiration of this initial twenty-four-month (24-month) term or prior to the expiration of any option term, Lessor, with ninety (90) days written notice, has the right to renew this lease for the next subsequent year and then sequentially for up to three (3) additional one-year (1-year) terms at the rental rates identified in Article 4 above and subject to the cancellation provisions contained in Article 7.

Article 6. Alterations

The Lessee shall have the right during the existence of this lease to make alterations, attach fixtures, and erect structures or signs in or upon the Premises hereby leased, which fixtures, additions or structures so placed in or upon or attached to the said Premises shall be and remain the property of the Lessee and may be removed or otherwise disposed of by the Lessee. However, if such removal causes damage, Lessee shall either repair the damage or pay the estimated cost thereof.

Article 7. Cancellation

Lessee may terminate this lease or any portion thereof at any time after the initial twenty-four-month (24-month) lease term by giving at least a sixty-day (60-day) notice in writing to the Lessor, and no rent will accrue after the effective date of termination. The notice shall be effective on the date of receipt by the Lessor. Lessee's obligation to pay rent under Article 4 of this lease shall cease on the effective date of termination. Cancellation penalty will consist of one-year's (1-year's) rent based on the subsequent year's agreed upon rental rate and square footage as described above. The right of Lessor to receive a cancellation penalty will cease after the end of the fifth (5th) year of this lease arrangement. (This Article is not applicable if Lessor is in default as defined in Article 15 and Article 17 of this lease or if the space is destroyed as defined in Article 28.)

Article 8. Rental Adjustment and Operating Cost

In the event that the actual Building Operation Cost incurred by Lessor for any year during the term of this lease shall exceed the actual Building Operation Cost for that year of the lease, Lessee shall pay the Lessor its proportionate share of the increase in such Building Operation Cost. Lessor shall have the right to collect annually from Lessee the additional Building Operation Cost owed or to be owed by Lessee under the provisions of this paragraph. Lessee may review available Lessor's supporting documentation upon reasonable notice to Lessor for such costs, which should be reasonable. Said costs shall be in such amounts as mutually agreed and supported by actual documentation.

As soon as practicable after the close of any calendar year thereafter for which additional monies may be due under the provisions of this paragraph, Lessor shall provide Lessee with a Building Operation Cost breakdown, said breakdown to be provided utilizing the format of the form attached hereto as Exhibit B. Within thirty-days (30-days) after receipt of such statement and upon mutual agreement, Lessee shall pay Lessor the difference, if any, between its proportionate share of the actual increase in Building Operation Costs for such year.

The Lessee's proportionate share of actual expenses for years 1 and 2 is 48 percent, based on 73,672 sq. ft. of leased space and total Compound square footage of 153,247. The Lessee's proportionate share will be recalculated annually to account for any changes in leased square footage.

The term "Building Operation Cost," as used herein, shall mean all expenses, costs and disbursements of every kind and nature which Lessor shall pay or shall become obligated to pay because of or in connection with the ownership and operation of the Premises and all related facilities, including the following:

a. Wage and salaries of all employees engaged in operation and maintenance of the building; employer's and any other taxes which may be levied on such wages and salaries; the cost of disability and hospitalization insurance and pension or retirement benefits for such employees. All wages, salaries, and expenses based upon the agreed and reasonable satisfactorily provided Schedule of Services as shown on Exhibit C.

b. All supplies and materials used in operation and maintenance of the Premises.
c. Cost of all utilities, including electricity, gas, trash removal, sewer, and water service for the Premises.
d. Cost of all maintenance and service agreements on landscaping and equipment, including security service, window cleaning, elevator maintenance, and janitorial contract at the agreed-upon level of service proportionate to the Premises.
e. All taxes and assessments levied, assessed, or imposed at any time by any governmental authority upon or against the Premises and/or the land upon which the Premises are situated.
f. Cost of repairs and general maintenance (excluding only repairs and general structural maintenance paid by proceeds of insurance or by Lessee or other third parties).

Costs specifically not allowed are the costs of capital improvements (including the replacement of major mechanical, utility infrastructures, or other components), depreciation on the building or equipment therein, interest, executive salaries, advertising costs, leasing expenses or commissions (fees), replacement of the roofs, utility infrastructures, such as underground waterlines, modification or replacement of all or portions of the exterior walls of the building (including the replacement of exterior windows), and major repairs or work occasioned by fire, windstorm or other casualty, the cost of which could have been recovered under the provisions of standard fire and extended insurance coverage.

Lessee, at its expense, shall have the right to have an independent Certified Public Accountant perform an audit of Lessor's books and records relating to the Building Operation Cost for any year for which additional rental payments become due under the foregoing provisions, provided Lessee shall give written notice thereof within thirty (30) days after receipt of Lessor's statement of Building Operation Cost (Lessor's Annual Operating Expense Statement) with respect to such year.

Article 9. Holding Over

If Lessee, with Lessor's consent, remains in possession of the Premises after the lease term or any option period, this lease shall automatically be extended on a month-to-month basis at the monthly rent applicable to the current lease rate, subject to termination upon a thirty-day (30-day) written notice by either party. All other terms and conditions shall remain in full force and effect.

Article 10. Parking

Lessee shall have nonexclusive access to and use of all parking areas, driveways, entrances thereto, and exits therefrom and other facilities furnished by Lessor for the general use, in common, of tenants, their officers, agents, employees, invitees, licensees, visitors and non-tenants. Lessor shall have the right, from time to time, to establish, modify, and enforce reasonable rules and regulations, subject to prior review by Lessee, with respect to all such facilities and areas, to change the location and arrangement of parking facilities; to restrict such areas or facilities; to discourage non-tenant parking; and to do and perform such other acts and things in and to said areas and facilities as Lessor;

in the use of good business judgment, shall determine to be advisable with a view to the improvement of convenience and use thereof by tenants, their officers, agents, employees, invitees, visitors, licensees, and non-tenants.

Article 11. Surrender at End of Term

Upon the expiration of the term hereof or the sooner termination of this lease, Lessee agrees to surrender and yield possession of the leased Premises to the Lessor, peacefully and without notice, and in good order and broom-clean condition but subject to such ordinary wear and reasonable use thereof, and subject to such damage or destruction or condition as Lessee is not required to restore or remedy under other terms and conditions of this lease.

Article 12. Taxes and Assessments

The Lessor shall pay, prior to delinquency, all real estate taxes, assessments and charges that are lawfully levied, imposed, or assessed upon or against the Premises.

Article 13. Insurance and Liability

Lessor shall obtain and keep in force, during the term of this lease, a policy or policies at a minimum of $1,000,000 Commercial General Liability coverage, listing Lessee as an additional insured. Lessor shall also maintain a policy on Real Property, covering, but not limited to the following exposures: vandalism, malicious mischief, extended coverage, and special extended perils (all risk) of insurance, including a reasonable deductible, covering loss or damage to the Premises, at a limit to be determined by the Lessor. Lessor has no obligation to cover the Lessee or DOE's fixtures, equipment, or tenant improvements.

Lessor hereby waives any and all right of recovery against Lessee or its officers, employees, agents, and representatives, for loss of or damage to Lessor or its property or the property of others under its control, to the extent such recovery is obtained under any insurance policy in force at the time of such loss or damage.

Upon occupancy of the Premises by the Lessee, Lessor agrees to provide to the Lessee a copy of all insurance policies relating to the Premises and to provide the Lessee with a copy of any changes or renewal policies relating to the Premises. Such insurance policy obtained by Lessor shall waive any right of subrogation against Lessee.

Article 14. Utilities/Other Services

The Lessor shall furnish to the Lessee, as part of the rental consideration, the following: a fully serviced lease, to include all interior and exterior facilities; utilities; maintenance; custodial; and janitorial service (see Exhibit C), as required by Lessee on a daily or routine basis. Lessor must also repair and maintain the parking areas, as needed, including snow removal from all roadways and walkways, lighting and signage.

Article 15. Eminent Domain

If at any time during the term or extended term hereof, the whole of the Premises, or so much thereof as to render the balance unusable for the intended use of the Lessee, as said use is defined herein, shall be taken for any public or quasi-public use, under any statute, or by right of eminent domain, or by conveyance in lieu thereof, then in such event when title shall have been taken thereunder of the Premises by the condemning authority, the term hereby granted and all right of the Lessee hereunder, shall immediately cease and terminate, and the rent shall be apportioned and paid to the time of such termination. Lessor shall pay to Lessee appropriate share of any monies paid in form of compensation for damages.

Article 16. Availability of Funds

The performance by Lessee of any of the terms, covenants, or conditions in this lease which Lessee is obligated to perform shall be subject to the availability of funds appropriated for occupation of the Premises.

Article 17. Entire Agreement

This lease constitutes the entire agreement between Lessor and Lessee, and no promises or representations, express or implied, either oral or written, not herein set forth shall be binding upon or inure to the benefit of Lessor and Lessee, except the Buy/Sell and related documents whereby Lessor obtained title. This lease shall not be modified by any oral agreement, either express or implied, and all modifications hereof shall be in writing and signed by both Lessor and Lessee.

Article 18. Severability

If any provision of this lease or the application thereof to any person or circumstances shall be invalid or unenforceable to any extent, the remainder of this lease and the application of such provisions to other persons or circumstances shall not be affected thereby and shall be enforced to the greatest extent permitted by law.

Article 19. Physical Condition Report

A physical inspection condition report shall be prepared by and jointly issued by Lessor and Lessee upon commencement of this lease, in a format to be determined at that time, and shall be attached to this Premises or made a part of the lease file.

Article 20. Disputes

A. All disputes arising under this lease shall be resolved under this Article. The Lessor and the Lessee agree to make a diligent effort to informally resolve any dispute without exercising the provisions of this section. In the event of a dispute, the Lessor and Lessee shall engage in informal dialogue to resolve the dispute. Efforts to resolve a dispute will begin with the Lessor's Project Site Manager and the Lessee's Deputy Manager. The period for informally resolving the dispute shall run for thirty

(30) days from initial written notification of a dispute. During this informal dispute period, the Lessor and the Lessee project site managers shall meet or confer by telephone as many times as necessary, but not less than weekly, to discuss and attempt to resolve the dispute. If the dispute is resolved through the informal dispute process, a written summary of the dispute and its resolution will be prepared by the Lessee and signed by the Lessor.

B. If the dispute cannot be resolved through informal discussions and negotiations, not to exceed thirty (30) days, then the Lessor and Lessee agree to elevate the dispute to a higher level to attempt resolution. The Chairman of the RTC will attempt to resolve the dispute with the DOE's Grand Junction Office Manager. If a resolution is not reached within twenty-one (21) business days from elevation of the dispute, the Chairman of the RTC and the Deputy Manager of DOE's Idaho Operations Office shall consult with each other and shall arrive at a compromised resolution. Upon resolution, the Chairman of the RTC shall provide DOE with a written final decision setting forth the resolution of the dispute.

C. Resolution of a dispute pursuant to this section constitutes a final resolution of the dispute and final agency action under this lease. The Lessor and the Lessee shall abide by all terms and conditions of any final resolution except to the extent that any final resolution may be submitted by either the Lessor or Lessee to a court of competent jurisdiction or the federal court of claims for judicial review.

Article 21. <u>Successors Bound</u>

This lease shall bind, and inure to the benefit of, the parties and their respective heirs, executors, administrators, successors, and assigns.

Article 22. <u>Subordination, Nondisturbance and Attornment</u>

A. Lessor warrants that it holds such title to or other interest in the Premises and other property as is necessary to the Lessee's access to the Premises and full use and enjoyment thereof in accordance with the provisions of this lease. Lessee agrees, in consideration of the warranties and conditions set forth in this clause, that this lease is subject and subordinate to any and all recorded mortgages, deeds of trust and other liens now or hereafter existing or imposed upon the Premises, and to any renewal, modification or extension thereof. It is the intention of the parties that this provision shall be self-operative and that no further instrument shall be required to effect the present or subsequent subordination of this lease. Lessee agrees, however, within twenty (20) business days next following the Lessee's receipt of a written demand, to execute such instruments as Lessor may reasonably request to evidence further the subordination of this lease to any existing or future mortgage, deed of trust or other security interest pertaining to the Premises, and to any water, sewer or access easement necessary or desirable to serve the Premises or adjoining property owned in whole or in part by Lessor if such easement does not interfere with the full enjoyment of any right granted the Lessee under this lease.

B. No such subordination, to either existing or future mortgages, deeds of trust or other lien or security instruments shall operate to affect adversely any right of the Lessee under this lease so long as the Lessee is not in default under this lease. Lessor will include in any future mortgage, deed of trust or other security instrument to which this lease becomes subordinate, or in a separate nondisturbance agreement, a provision to the foregoing effect. Lessor warrants that the holders of all notes or other obligations secured by existing mortgages, deeds of trust or other security instruments have consented to the provisions of this clause, and agrees to provide true copies of all such consents to the Lessee promptly upon demand.

C. In the event of any sale of the Premises or any portion thereof by foreclosure of the lien of any such mortgage, deed of trust or other security instrument, or the giving of a deed in lieu of foreclosure, the Lessee will be deemed to have attorned to any purchaser, purchasers, transferee or transferees of the Premises or any portion thereof and its or their successors and assigns, and any such purchasers and transferees will be deemed to have assumed all obligations of the Lessor under this lease, so as to establish direct privity of estate and contract between Lessee and such purchasers or transferees, with the same force, effect and relative priority in time and right as if the lease had initially been entered into between such purchasers or transferees and the cost had initially been entered into between such purchasers or transferees and the Lessee; provided, further, that the Lessee and such purchasers or transferees shall, with reasonable promptness following any such sale or deed delivery in lieu of foreclosure, execute all such revisions to this lease, or other writings, as shall be necessary to document the foregoing relationship.

D. None of the foregoing provisions may be deemed or construed to imply a waiver of the Lessee's right as a sovereign.

Article 23. Substitution of Tenant Agency

The Lessee may, at any time and from time to time, substitute any Lessee agency or agencies for the Lessee agency or agencies, if any, named in the lease.

Article 24. No Waiver

No failure by either party to insist upon the strict performance of any provision of this lease or to exercise any right or remedy consequent upon a breach thereof, and no acceptance of full or partial rent or other performance by either party during the continuance of any such breach shall constitute a waiver of any such breach of such provision.

Article 25. Maintenance of Building and Premises–Right of Entry

Except in case of damage arising out of the willful act or negligence of a Lessee employee, Lessor shall maintain the Premises, including the building, building systems, and all equipment, fixtures, and appurtenances furnished by the Lessor under this lease, in good repair and condition so that they are suitable in appearance and capable of supplying such heat, air conditioning, light, ventilation, safety systems, access and other

things to the Premises, without reasonably preventable or recurring disruption, as is required for the Lessee's access to, occupancy, possession, use and enjoyment of the Premises as provided in this lease. For the purpose of so maintaining the Premises, the Lessor may at reasonable times enter the Premises with the approval of the authorized Lessee representative in charge.

Article 26. Failure In Performance

The covenant to pay rent and the covenant to provide any service, utility, maintenance, or repair required under this lease are interdependent. In the event of any failure by the Lessor to provide any service, utility, maintenance, repair or replacement required under this lease, the Lessee may, by contract or otherwise, perform the requirement and deduct from any payment or payments under this lease, then or thereafter due, the resulting cost to the Lessee, including all administrative costs. If the Lessee elects to perform any such requirement, the Lessee and each of its contractors shall be entitled to access to any and all areas of the building, access to which is necessary to perform any such requirement, and the Lessor shall afford and facilitate such access. Alternatively, the Lessee may deduct from any payments under this lease then or thereafter due, an amount which reflects the reduced value of the contract requirement not performed. No deduction from rent pursuant to this clause shall constitute a default by the Lessee under this lease. These remedies are not exclusive and are in addition to any other remedies which may be available under this lease or at law.

Article 27. Default by Lessor During the Term

A. Each of the following shall constitute a default by Lessor under this lease:

1. Failure to maintain, repair, operate or service the Premises as and when specified in this lease, or failure to perform any other requirement of this lease as and when required provided any such failure shall remain uncured for a period of thirty (30) days next following Lessor's receipt of notice thereof from the Lessee or an authorized representative.

2. Repeated and unexcused failure by Lessor to comply with one or more requirements of this lease shall constitute a default notwithstanding that one or all such failures shall have been timely cured pursuant to this clause.

Article 28. Fire and Casualty Damage

If the Premises or any portion thereof are destroyed by fire or other casualty, this lease will immediately terminate as to such destroyed premises.

Article 29. Compliance with Applicable Law

Lessor shall comply with all federal, state and local laws applicable to the Lessor as owner or Lessor, or both, of the building or Premises, including, without limitation, laws applicable to the construction, ownership, alteration or operation of both or either thereof, and will obtain all necessary permits, licenses and similar items at Lessor's expense. The

Lessee will comply with all federal, state and local laws applicable to and enforceable against it as a tenant under this lease, provided that nothing in this lease shall be construed as a waiver of any sovereign immunity of the Lessee. This lease shall be governed by federal law.

Article 30. Assignment

A. Neither this lease nor any interest therein, money due, nor claim thereunder, including claims for money due, or accounts payable, shall be assigned or transferred by the Lessee except as expressly authorized in writing by the Lessor, whose authorization will not unreasonably be withheld.

B. This lease or any part thereof, and all rights of the Lessee hereunder may be assigned and transferred by the DOE to any successor of the Lessee, provided that written notice thereof is given to the Lessor.

Article 31. Lease Composition

The following are attached and made a part hereof:

Exhibit A–The Premises
Exhibit B–Lessor's Annual Operating Expenses Statement
Exhibit C–Schedule of Services

Article 32. Notices

Whenever, under this lease, provision is made for demand, notice, or declaration of any kind, or where it is deemed desirable or necessary by either party to give or serve any such notice, demand, or declaration on the other party, it shall be in writing and served either personally or sent by Certified or Registered Mail, Express Mail or comparable service to the addresses shown below, which may be changed by a notice pursuant to this section:

To the Lessor at: Riverview Technology Corporation
c/o Thea Chase, Western Colorado Business Development Corp.
2591 B ¾ Road
Grand Junction, CO 81503

To the Lessee at: U.S. Department of Energy Grand Junction Office
c/o Manager
2597 B ¾ Road
Grand Junction, CO 81503

Notice shall be effective on the date delivery.

Article 33. Clauses Incorporated by Reference

The following clauses are incorporated into this lease as if set forth in full text in the body of this document. A copy containing the full text has been furnished to the Lessor.

Covenant Against Contingent Fees
Anti-Kickback Procedures
Workplace Substance Abuse Programs at DOE Sites
Price Adjustment for Illegal or Improper Activity
Price Reduction for Defective Cost or Pricing Data
Examination of Records
Equal Opportunity
Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era
Affirmative Action for Handicapped Workers
Employment Reports on Special Disabled Veterans and Veterans of the Vietnam Era
Protecting the Lessee's Interest when Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment

IN WITNESS WHEREOF, the parties hereto have hereunder subscribed their names as of the date first above written.

City of Grand Junction Approval _____

Mesa County Approval _____

Or as required in the by-laws of the Riverview Technology Corporation, appropriate City of Grand Junction and Mesa County approvals and are above.

_____ V.P.
Lessor

Riverview Technology Corporation
c/o Thea Chase, Western Colorado Business Development Corp.
2591 B ¾ Road
Grand Junction, CO 81503

_____
Lessee

U.S. Department of Energy
Grand Junction Office
c/o Manager
2597 B ¾ Road
Grand Junction, CO 81503

Exhibit A

The Premises

Per Annual Rent in Accordance with Article 4

1. Building 12 consisting of 21,468 external square feet. Years 1–6. Rental payments on this building will cease upon vacating the facility, and lessee has 12 months after vacating the facility to demolish the building in accordance with real estate transfer documents.

2. Building 32 consists of 5,742 external square feet. Years 1–6.

3. Building 810 consists of 26,246 external square feet. Years 1–6.

4. Building 938 consists of 20,216 external square feet. Years 1 and 2 with an option to renew for the years thereafter.

Per Building Operation Cost Only in Accordance with Article 4 and Article 8

1. Building 20 consists of 16,819 external square feet. Years 1–3.

2. Building 46 consists of 3,004 external square feet. Years 1–3.

At No Cost to Lessee

1. Building 2 consists of 2,492 external square feet at no cost to Lessee in exchange for Lessee's maintenance of the communication system through the term of this lease.

2. Building 51 at no cost to Lessee.

3. Building 64 at no cost to Lessee.

4. Building 65 at no cost to Lessee.

5. Building 66 at no cost to Lessee.

6. The leased Premises also includes land associated with in-ground and above-ground calibration test pits and pads. Land to sit mobile trailers next to Building 32 and Lessee is allowed to fence an area adjacent to Building 32 and 810 for Lessee's exclusive use and mutually agreed upon by the Lessee and Lessor at no cost to Lessee.

7. Building 61-ABC Complex (Waste Storage Facility). Six months after lease commencement date with a 3-month option to renew at no cost to Lessee.

The Premises are further shown and described on the map attached hereto and made a part of this Exhibit A.

Exhibit B

Lessor's Annual Operating Expenses Statement

Cleaning: Janitorial Contract Service	$_____
Wages	
Contract Services	
General	
Windows	
Drapes	
Carpet	
Other	
Supplies and Materials	
Subtotal–Cleaning	$_____
Heating, Ventilating and Air Conditioning Repairs/Maintenance:	$_____
Wages	
Contract Service	
Supplies and Materials	
Subtotal–Heat, Ventilation, A/C	$_____
Elevator(s):	
Wages	
Contract Service	
Supplies and Materials	
Subtotal–Elevators	$_____
	$_____
General Building:	$_____
Wages	
Supplies and Materials	
Contract Service	
Trash	
Insect Control	
Directory Services	
Fire Extinguishers	
Grounds Maintenance	
Electrical Repairs	
Fire Alarm-Sprinkler	
Management Fees	
Governmental Expenditures	
General Maintenance and Repairs	
Subtotal–General Building	$_____

Utilities:	$_____
Heat	
Electricity	
Water	
Telephone	
Sewer	
Other	
Subtotal–Utilities	$_____
Insurance:	$_____
Miscellaneous	$_____
Taxes:	$_____
Real Property	
Personal Property	
Other	
Subtotal–Taxes	$_____
Total Operating Expenses	$_____

Exhibit C

Schedule of Services

1. Janitorial

Buildings 2, 12, 12A, 810, and 938. The Lessor will provide janitorial services and will maintain all office and common areas to a level of cleanliness that meets standard industry practices. Twice per week, services will include: vacuuming of all carpeted areas, sweeping/mopping of all non-carpeted areas, dusting of office furniture, cleaning/vacuuming of window sills, and empting of all trash containers. Bathroom fixtures shall be wiped clean; and all surfaces, partitions, and stalls shall be free from dirt, stains, streaks, residues, debris, and odors. Bathroom supplies shall be replaced each time the restrooms are cleaned, and the restrooms shall be stocked with sufficient supplies so that they do not run out between cleanings.

Further cleaning will be performed on a quarterly basis to include the cleaning of ceiling vents, light fixtures, high partitions, door and window casings, and interior windows. Semiannual cleanings will be scheduled for thorough carpet cleaning, exterior windows, floor waxing, and scrubbing of walls.

A commercially available carpet cleaner shall be used to remove soiled or stained areas from all hallway and office carpeting, and any carpet that is badly worn or torn shall be repaired or replaced.

Buildings 20, 32, and 46. Maps numbered 1–3 indicate the level of training required for employees entering these buildings. Janitorial services will be performed at the same level as in other DOE-leased buildings except for the areas designated by the attached map (Number 2 to this Exhibit C) and by personnel trained with appropriate Radiological I precautionary training and orientation by the laboratory manager. The names of the people performing janitorial and maintenance services inside these buildings will be provided to the laboratory manager prior to their entry into the laboratory. Janitorial services performed in Building 32 will require General Employee Radiological Training only.

Doors to all suites and buildings shall be secured at all times. All janitorial services shall be performed during other than normal duty hours (after 5:00 p.m.) and shall not unnecessarily interfere or disrupt Lessee's business. The laboratory manager will be notified immediately upon the termination of any employee who has access to these buildings.

2. Maintenance

Buildings 2, 12, 12A, 810, and 938. The Lessor shall maintain the Premises, including the building, building systems and all equipment, fixtures and appurtenances, in good repair and condition so that they are suitable in appearance and capable of supplying such heat, air conditioning, light, and ventilation as required by the Lessee to occupy and use the Premises. Preventative maintenance programs

will be established and maintained at a level satisfactory to the RTC in order to ensure that HVAC and life safety systems are kept in good working order. The lawns shall be mowed, fertilized and watered frequently enough to keep the lawns green and healthy. The flower boxes, planters and shrubs shall be weeded and trimmed as necessary to maintain a neat and attractive appearance. Trees will be pruned and trimmed, and all trash will be removed from the lawns and fenced areas as required. The Lessor shall maintain the remainder of the grounds, parking lots and areas to acceptable industry standards. During the fall season, leaves shall be removed from the occupied areas at least once per week (more frequently, if required) so that pedestrian and motorized traffic is not inconvenienced or impeded.

Lessor shall maintain safe access (free from ice and snow) to the facility during the winter months, during normal working hours (Monday through Friday, 7:00 a.m. to 5:00 p.m.). Snow will be removed from all facility parking areas by 6:00 a.m., and all sidewalks will be salted or sanded prior to 7:00 a.m. in order to maintain a safe walking area for the tenants and the general public.

Buildings 20, 32, and 46. Maintenance services will be performed at the same level as in other DOE-leased buildings but only by personnel trained with appropriate Radiological I and II precautionary training, orientation with the laboratory manager, and on the following list of systems and areas. Maintenance services in Building 32 will require General Employee Radiological Training only.

Building 20 systems that will be maintained by the RTC:

Electrical system except emergency power and uninterruptible backup power
Domestic water system until it enters a piece of laboratory equipment
Sewer system until it enters specialized laboratory equipment
Building structure
All plumbing fixtures
Heating system and natural gas
Building central air conditioning system
Janitorial
Fire sprinkler system
Fire alarm system
Fire extinguishers
Fire doors
Emergency lights and exit lights
All building lighting fixtures

Building 46 systems that will be maintained by the RTC:

Electrical system except emergency power
Domestic water system until it enters a piece of laboratory equipment
Sewer system until it enters specialized laboratory equipment
Building structure
All plumbing fixtures
Janitorial except in contamination area

Fire sprinkler system
Fire alarm system
Fire extinguishers
Emergency lights and exit lights
All building lighting fixtures
Rooftop heating and air conditioning system

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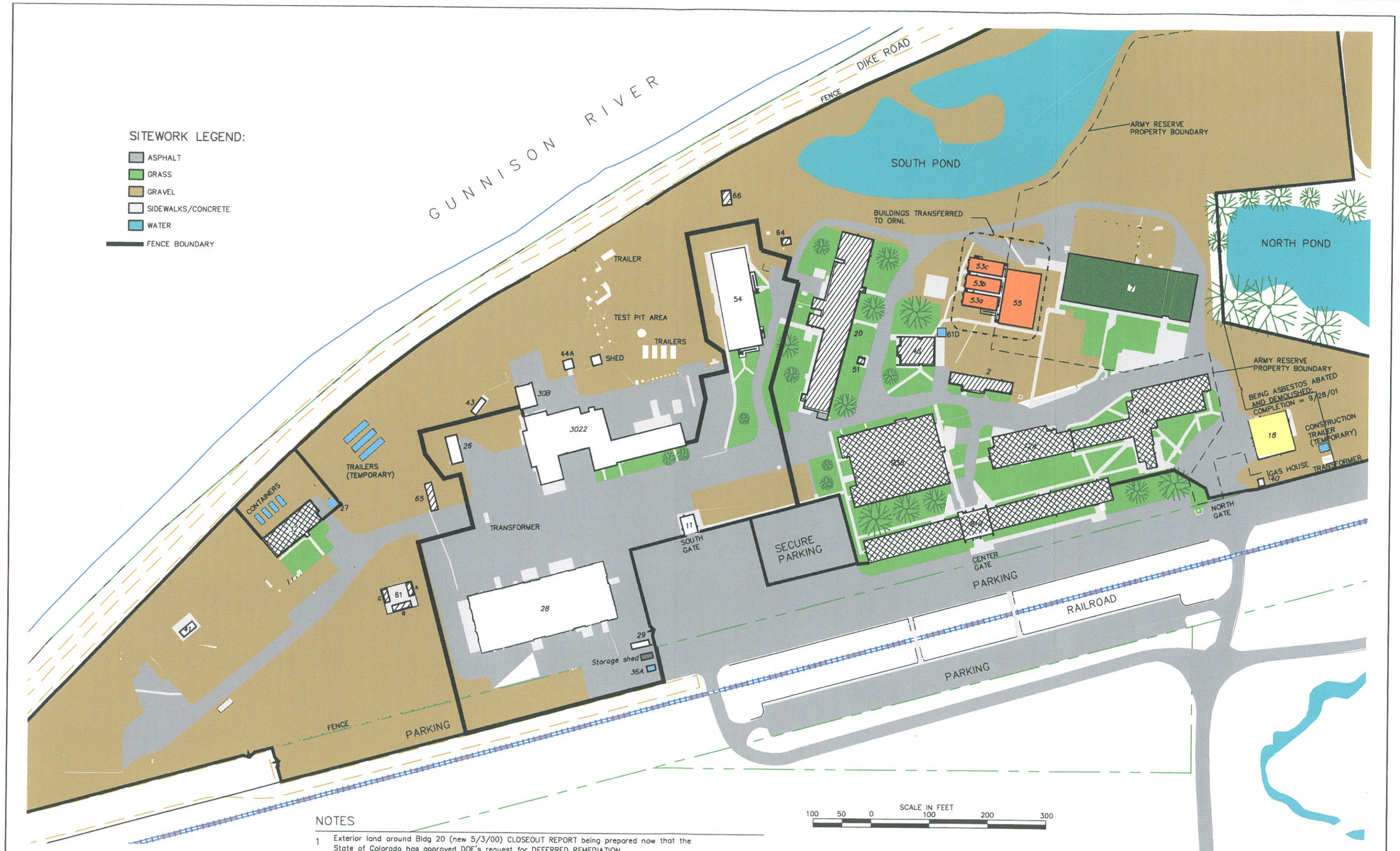
Exhibit A



NOTES

1. Exterior land around Bldg 20 (new 5/3/00) CLOSEOUT REPORT being prepared now that the State of Colorado has approved DOE's request for DEFERRED REMEDIATION
2. A final GJO site wide CLOSEOUT REPORT REQURED Once DOE vacates the facility
3. DOE leased buildings at full rent are: 12/12A, 32, 810, and 938
4. DOE leased buildings at operation cost only or no cost are: 2, 20, 46, 51, 61 A/B/C, 64, 65, and 66
4. Army Reserve (Building 7)
5. DOE retained & owned: trailers & containers near B32, Construction Trailer near B18, Bldgs (sheds) 36A, 27, and 61D
6. Building being demolished: Bldg 18

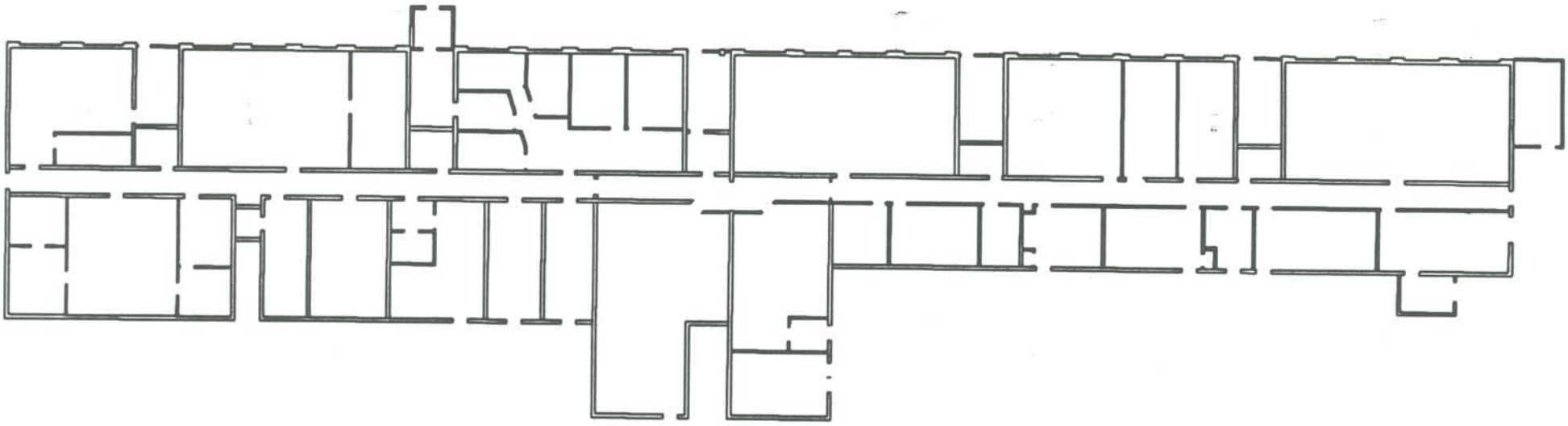
GJO Site Transition
BUILDING DISPOSITION PLAN
August 17, 2001

STREN, Inc.

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION OFFICE, COLORADO

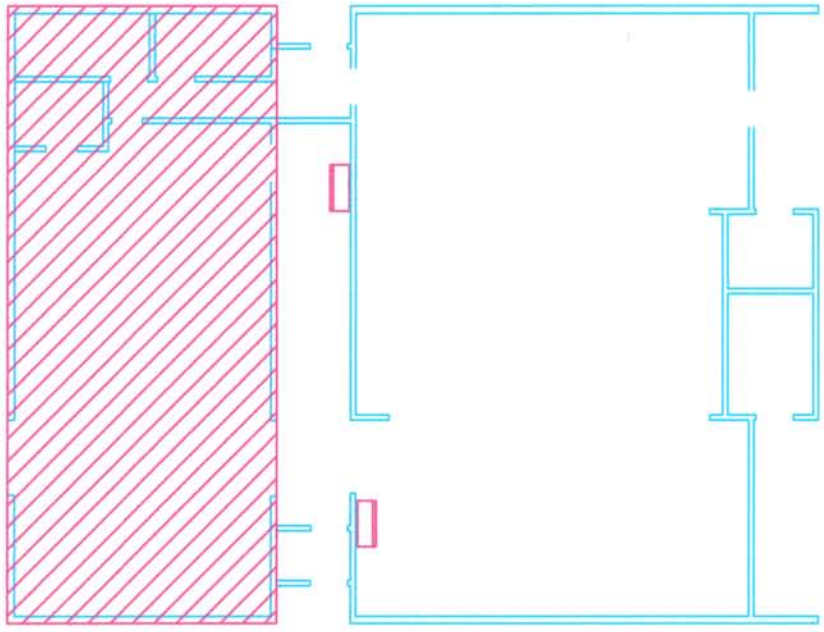
FACILITIES ENGINEERING		
DRAWN	DATE	GRAND JUNCTION OFFICE
CAD TECH B. Sundermann	8-17-01	Remedial Action Program BUILDING DISPOSITION PLAN
DESIGNER		
PROJECT A/E		
FACILITIES ENGINEERING		PROJECT NO. 459_VOL1\SIT\031\0001\01 — DRAWING NO. S-1
FACILITIES MANAGEMENT		DRAWING FILE NO. DEPOSIT2.DWG — SHEET 1 OF 1

MAP 1



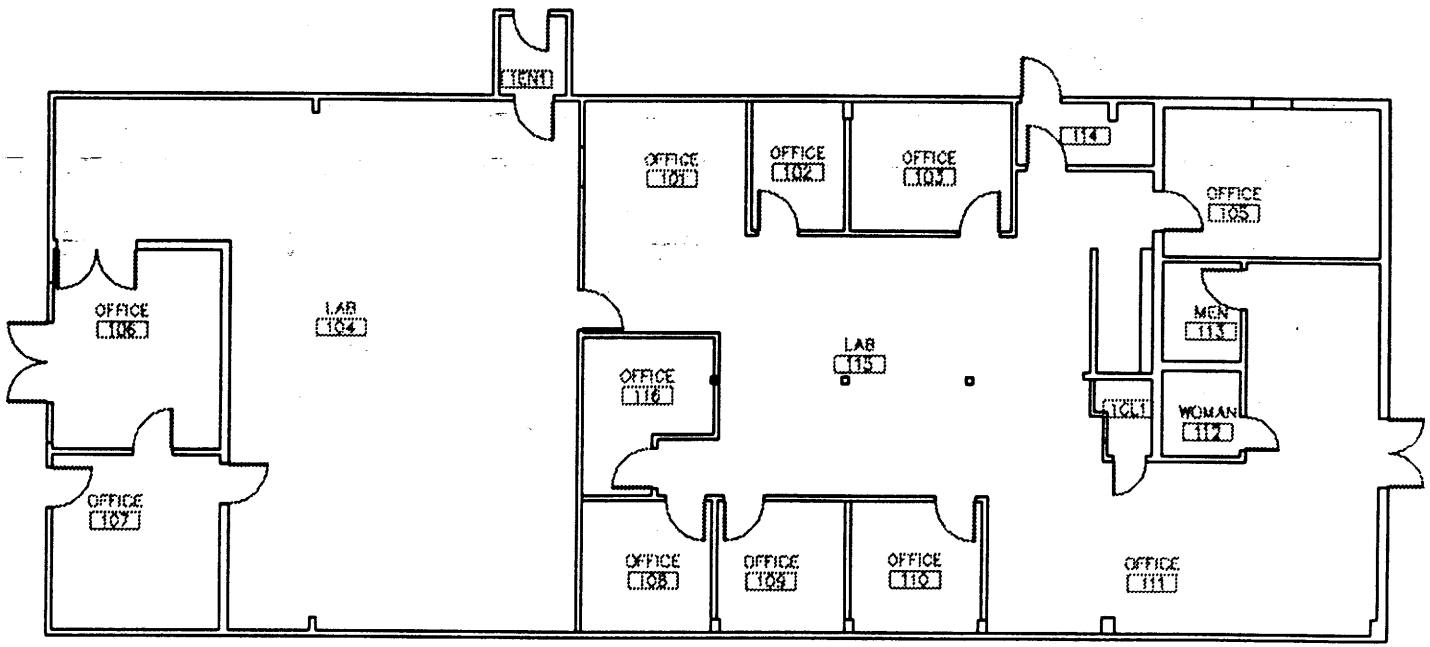
Building 20 requires janitorial staff to have RAD1 training and maintenance staff to have RAD2 training

MAP 2



Building 46 requires RAD1 for Janitors and RAD2 for maintenance workers.
The hatched area is the only part that will be cleaned by janitors.

MAP 3



Building 32 requires General Employee Radiation Training for the janitors and maintenance workers

The Secretary of Energy
Washington, DC 20585

July 2, 2001

The Honorable Scott McInnis
U.S. House of Representatives
Washington, D.C. 20515-0603

Dear Representative McInnis:

This is in response to your May 21, 2001, letter regarding the proposed transfer of the Grand Junction Site to the Riverview Technology Corporation.

The Office of Environmental Management has been pursuing opportunities to reduce infrastructure expenses to direct more operating funds to the actual cleanup of sites, rather than spending significant amounts of funding on maintenance of surplus facilities and real estate. Through implementation of the proposed transfer of the Grand Junction Site and subsequent leaseback of only needed space, the Federal Government is expected to realize an annual savings of approximately $1 million.

I support implementation of this action. The Office of General Counsel has completed their review of the sales and lease agreements of the Grand Junction site. There were no legal impediments identified that would prevent the transfer. Therefore, I have authorized the Manager of the Grand Junction Office to consummate the instruments of transfer and leaseback.

If you have further questions, please contact me or have your staff contact Mr. Michael Whatley, Director, Office of Congressional and Intergovernmental Affairs, at (202) 586-5450.

Sincerely,

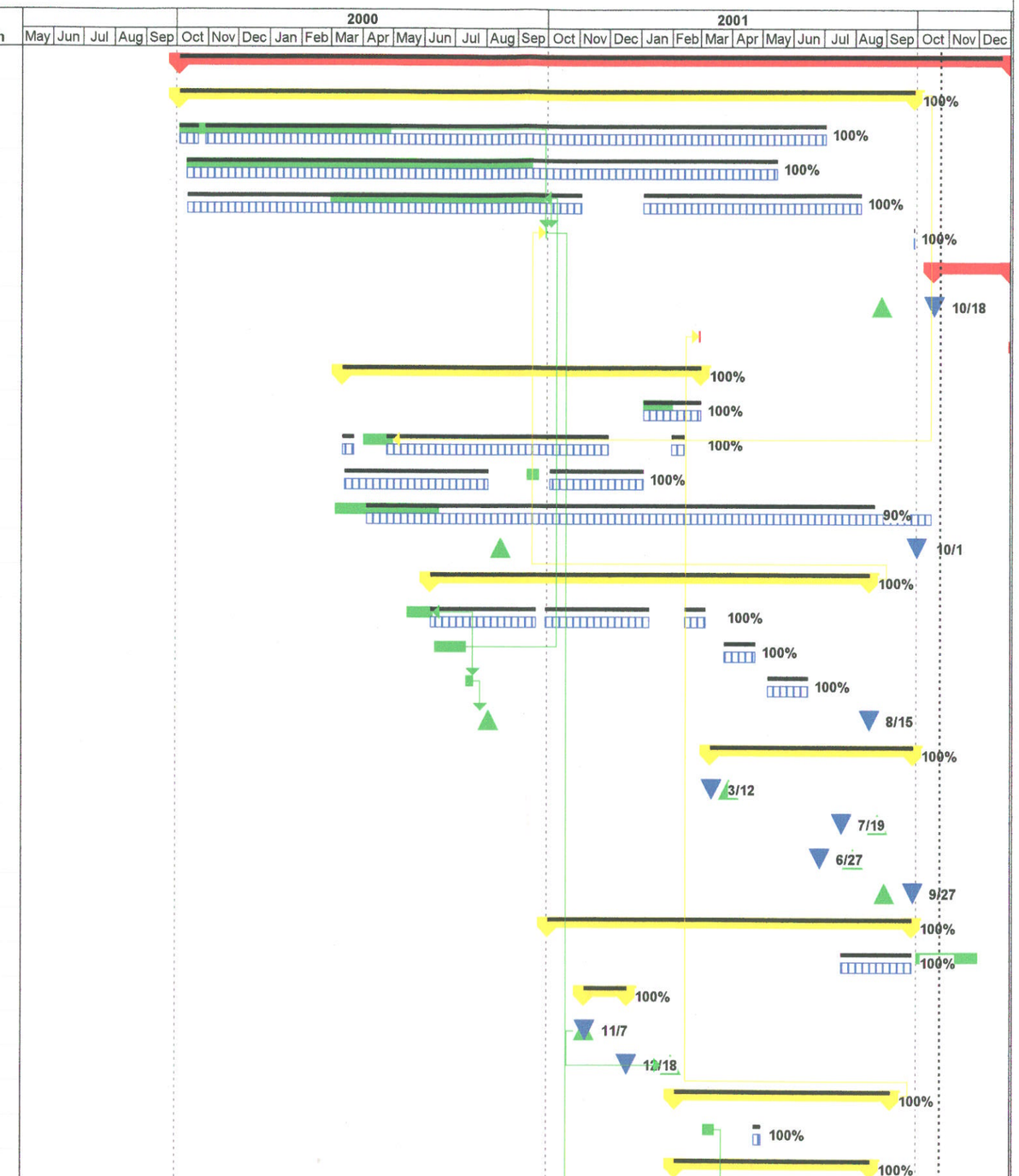
Spencer Abraham

Spencer Abraham

Printed on recycled paper

GJO Site Bridge to Future

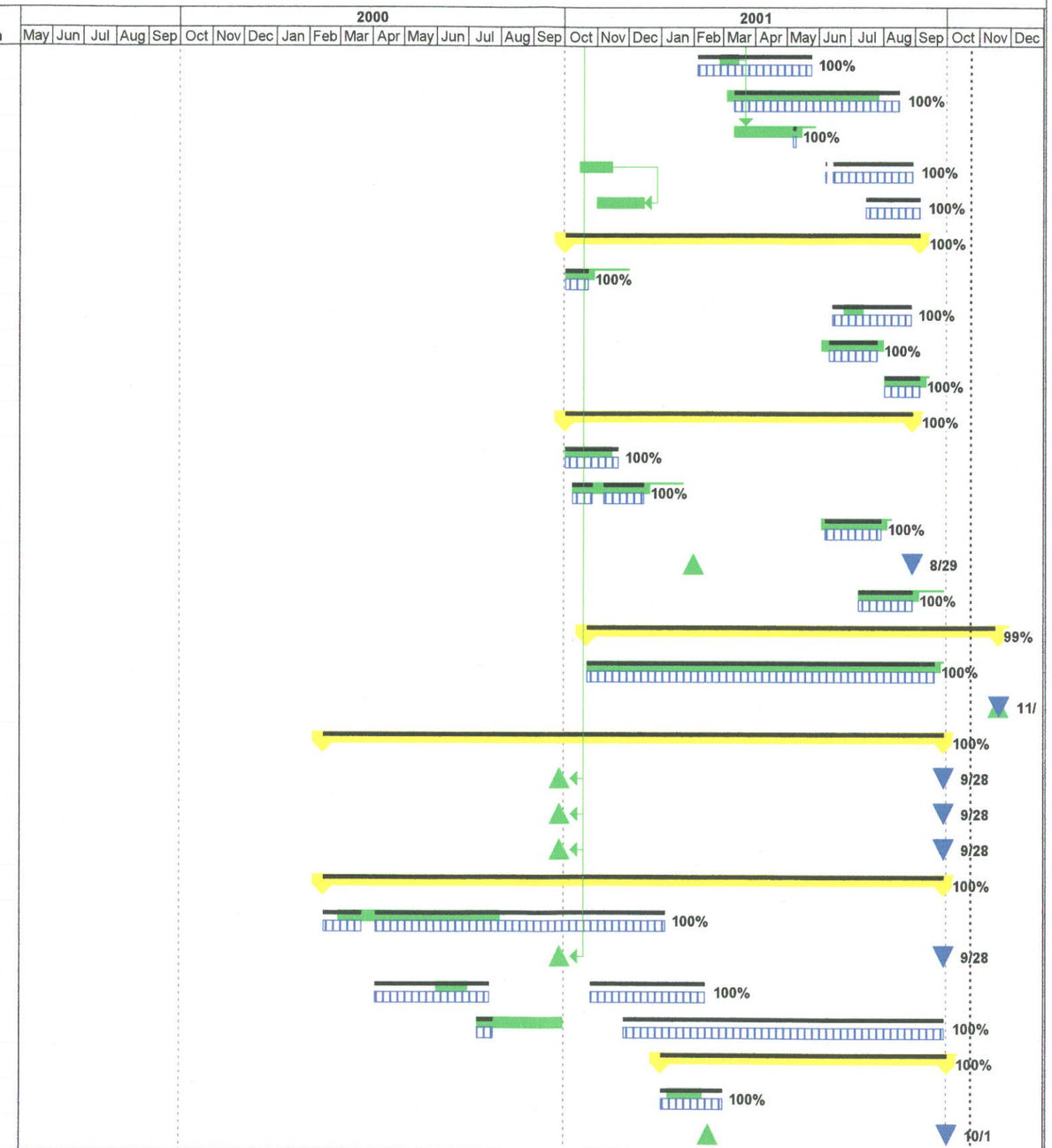
Row	Task Name	Dur.	Predec.	Baseline Start	Act. Start	Baseline Finish	Rev./Act. Finish
1	**Real Estate Transfer**	**588 d**		**Thu 5/6/99**	**Mon 10/4/99**	**Fri 9/29/00**	**Mon 12/31/01**
2	**Transfer/Sale to Local Entity**	**522 d**		**Mon 10/4/99**	**Mon 10/4/99**	**Fri 9/29/00**	**Fri 9/28/01**
3	GJO Negotiates Transfer of Site	453 d		Mon 10/4/99	Mon 10/4/99	Fri 4/28/00	Mon 7/2/01
4	Negotiate Legal Claims	419 d		Mon 10/11/99	Mon 10/11/99	Fri 9/15/00	Tue 5/15/01
5	Deed	434 d	18FF	Wed 3/1/00	Tue 10/12/99	Wed 9/27/00	Mon 8/6/01
6	Finalize Transfer Agreement (DOE-AL)	1 d	16,3,5	Fri 9/29/00	Fri 9/28/01	Fri 9/29/00	Fri 9/28/01
7	**Building 7 Transfer to US Army**	**53 d**		**Wed 5/26/99**	**NA**	**Fri 9/29/00**	**Mon 12/31/01**
8	Army Walkthrough & Final Acceptance	1 d		Tue 8/28/01	NA	Tue 8/28/01	Thu 10/18/01
9	Land and Facility Transferred	1 d	31	Wed 2/28/01	NA	Wed 2/28/01	Mon 12/31/01
10	**Excess Personal Property Disposition**	**256 d**		**Wed 7/21/99**	**Mon 3/13/00**	**Fri 9/29/00**	**Thu 3/1/01**
11	Property lists - Final	41 d		Thu 1/4/01	Thu 1/4/01	Thu 2/1/01	Thu 3/1/01
12	Disposition of Excess Pers. Prop. (that not reqd. by DOE)	176.4 d	2FF	Mon 4/3/00	Mon 3/13/00	Mon 5/1/00	Thu 3/1/01
13	Disposition of Contaminated Personal Property	170 d		Mon 9/11/00	Wed 3/15/00	Fri 9/22/00	Wed 1/3/01
14	**NHPA Recordation and Sign Design**	**399 d**		**Mon 3/6/00**	**Thu 4/6/00**	**Thu 6/15/00**	**Mon 10/15/01**
15	**Implement the GJO Facility LTSP**	**1 d**		**Wed 8/16/00**	**Mon 10/1/01**	**Fri 9/22/00**	**Mon 10/1/01**
16	**Request for Deferred Remediation**	**311 d**		**Fri 4/7/00**	**Thu 6/8/00**	**Fri 8/4/00**	**Wed 8/15/01**
17	CDPHE Review/Comment Resolution Period	162.8 d	18FF	Tue 5/16/00	Thu 6/8/00	Fri 6/9/00	Wed 3/21/01
18	Public Comment Period	22 d		Mon 6/12/00	Sun 3/25/01	Wed 7/12/00	Tue 4/24/01
19	Resolution of Public Comments	30 d	18	Thu 7/13/00	Mon 5/7/01	Wed 7/19/00	Fri 6/15/01
20	Governor Signs Deferral	1 d	19	Fri 8/4/00	Wed 8/15/01	Fri 8/4/00	Wed 8/15/01
21	**GJO Waste Management**	**144 d**		**Fri 3/30/01**	**Mon 3/12/01**	**Fri 8/31/01**	**Thu 9/27/01**
22	SOW, HA audits done	1 d		Fri 3/30/01	Mon 3/12/01	Fri 3/30/01	Mon 3/12/01
23	Shipments of Universal Wastes & Asbestos	1 d		Fri 8/24/01	Thu 7/19/01	Fri 8/24/01	Thu 7/19/01
24	Shipments of Hazardous & Rad Waste	1 d		Tue 7/31/01	Wed 6/27/01	Tue 7/31/01	Wed 6/27/01
25	Close Waste Storage Facils. (61A,B,C)	1 d		Fri 8/31/01	Thu 9/27/01	Fri 8/31/01	Thu 9/27/01
26	**GJORAP (FY 2001 / FY 2002)**	**259 d**		**Thu 7/1/99**	**Mon 10/2/00**	**Fri 12/15/00**	**Wed 9/26/01**
27	**Disposition Building 18**	**50 d**		**Mon 10/1/01**	**Thu 7/19/01**	**Fri 11/30/01**	**Wed 9/26/01**
28	**B20 DCGL Analysis**	**30 d**		**Wed 7/7/99**	**Tue 11/7/00**	**Wed 12/29/99**	**Mon 12/18/00**
29	Final FY 2000 Char Survey Report	1 d		Tue 11/7/00	Tue 11/7/00	Tue 11/7/00	Tue 11/7/00
30	DOE-AL Approval for Final Release	1 d	29SS+5 d	Thu 2/1/01	Mon 12/18/00	Thu 2/1/01	Mon 12/18/00
31	**B7 / 7A Phase III and B62**	**153 d**		**Tue 12/7/99**	**Mon 2/5/01**	**Fri 12/15/00**	**Wed 9/5/01**
32	**Terminate Utilities**	**5 d**		**Mon 3/5/01**	**Tue 4/24/01**	**Thu 3/15/01**	**Mon 4/30/01**
33	**Demolition/Reconstruction**	**139 d**		**Mon 10/2/00**	**Mon 2/5/01**	**Fri 11/24/00**	**Thu 8/16/01**



Critical Summary | Critical Path Baseline Task | Baseline Task | Progress | Baseline Milestone | Revised Milestone
Summary | Critical Path Task | Revised Task | Summary Progress | Critical Baseline Milestone | Revised Critical Milestone

GJO Site Bridge to Future

Row	Task Name	Dur.	Predec.	Baseline Start	Act. Start	Baseline Finish	Rev./Act. Finish
34	Planning and Procurement	79 d		Mon 2/26/01	Mon 2/5/01	Thu 3/15/01	Thu 5/24/01
35	B7A Demolition/Remediaton/Reconstruction	114 d		Mon 3/5/01	Mon 3/12/01	Fri 7/27/01	Thu 8/16/01
36	B62 and Fanhouse Demolition	3 d	32,34	Mon 3/12/01	Mon 5/7/01	Mon 5/28/01	Wed 5/9/01
37	**Release Survey - B7A, B62, Fanhouse**	**56 d**		**Mon 10/16/00**	**Thu 6/7/01**	**Wed 11/15/00**	**Wed 8/29/01**
38	**Closeout Report - B7A, B62, Fanhouse**	**38 d**	**37FF**	**Wed 11/1/00**	**Mon 7/16/01**	**Fri 12/15/00**	**Wed 9/5/01**
39	**Contamination Area (CA) Activities**	**244 d**		**Mon 10/2/00**	**Mon 10/2/00**	**Fri 9/14/01**	**Wed 9/5/01**
40	Rework CA, apply surfactant	16 d		Mon 10/2/00	Mon 10/2/00	Fri 12/1/00	Mon 10/23/00
41	Sampling/Analysis for release survey	54 d		Mon 6/25/01	Thu 6/14/01	Fri 7/13/01	Tue 8/28/01
42	Remediate,haul to Cheney	34 d		Mon 6/4/01	Mon 6/11/01	Wed 8/1/01	Thu 7/26/01
43	Restoration & Closeout (including report)	24 d		Fri 8/3/01	Fri 8/3/01	Fri 9/14/01	Wed 9/5/01
44	**IVC (AIMTech)**	**239 d**		**Mon 10/2/00**	**Mon 10/2/00**	**Fri 9/28/01**	**Wed 8/29/01**
45	IV Report for FY98-00	37 d		Mon 10/2/00	Mon 10/2/00	Wed 11/15/00	Tue 11/21/00
46	B20 interior areas plan/survey/report	43 d		Mon 10/9/00	Mon 10/9/00	Mon 1/22/01	Fri 12/15/00
47	B7A, B62, CA surveys/report	38 d		Mon 6/4/01	Thu 6/7/01	Thu 8/9/01	Mon 7/30/01
48	Remaining Verification Statements Due	1 d		Fri 2/2/01	Wed 8/29/01	Fri 9/21/01	Wed 8/29/01
49	Archival activities	38 d		Mon 7/9/01	Mon 7/9/01	Fri 9/28/01	Wed 8/29/01
50	**Certification Docket Summary**	**283 d**		**Mon 11/15/99**	**Mon 10/23/00**	**Wed 7/11/01**	**Tue 11/20/01**
51	Complete Report	239 d		Mon 10/23/00	Mon 10/23/00	Fri 9/28/01	Wed 9/19/01
52	Distribute Report Copies	1 d		Tue 11/20/01	NA	Tue 11/20/01	Tue 11/20/01
53	**Utilities Disposition (transf. with site to new owner**	**426 d**		**Thu 12/31/98**	**Tue 2/15/00**	**Wed 9/27/00**	**Fri 9/28/01**
54	Electrical Distribution System Transferred	1 d	6FF	Wed 9/27/00	Fri 9/28/01	Wed 9/27/00	Fri 9/28/01
55	Gas Distribution System Transferred	1 d	6FF	Wed 9/27/00	Fri 9/28/01	Wed 9/27/00	Fri 9/28/01
56	Water Distribtuion System Transferred	1 d	6FF	Wed 9/27/00	Fri 9/28/01	Wed 9/27/00	Fri 9/28/01
57	**Refuse Discharge System**	**426 d**		**Mon 11/1/99**	**Tue 2/15/00**	**Wed 9/27/00**	**Fri 9/28/01**
58	Replace Sewer Lift Station (City of GJ)	226 d		Tue 2/29/00	Tue 2/15/00	Mon 7/31/00	Fri 1/5/01
59	System to be Transferred As Is	1 d	6FF	Wed 9/27/00	Fri 9/28/01	Wed 9/27/00	Fri 9/28/01
60	**Space Planning - Vacate B3022**	**157 d**		**Thu 6/1/00**	**Tue 4/4/00**	**Fri 6/30/00**	**Mon 2/12/01**
61	**Transfer or Terminate Permits (46 of 55 total, 9 sta**	**231 d**		**Mon 7/10/00**	**Mon 7/10/00**	**Fri 9/29/00**	**Fri 9/28/01**
62	**Security**	**195 d**		**Mon 7/10/00**	**Tue 1/2/01**	**Fri 9/29/00**	**Mon 10/1/01**
63	Final Security Plan (Post Transition)	43 d		Mon 1/8/01	Tue 1/2/01	Fri 2/9/01	Thu 3/1/01
64	Implement Security Plan	32 d		Fri 2/16/01	Fri 8/17/01	Fri 2/16/01	Mon 10/1/01



Critical Summary | Critical Path BaselineTask | Baseline Task | Progress | Baseline Milestone | Revised Milestone
Summary | Critical Path Task | Revised Task | Summary Progress | Critical Baseline Milestone | Revised Critical Milestone

Exhibit D

CONTINGENCY PLAN: AGREEMENT REGARDING DISTURBANCE OF THE GROUND/SURFACE AT THE DOE COMPOUND

Introduction/Recitals.

The U.S. Department of Energy (DOE) will soon convey a portion of the Grand Junction Office site, located at 2597 B 3/4 Road in Grand Junction, Colorado (Compound), to the Riverview Technology Corporation, Inc. (RTC). According to the DOE, parts of the Compound are contaminated, as disclosed in the deed and other agreements signed by DOE and RTC ("the Transfer Documents"). The RTC accepts that it cannot obtain title to the Compound without taking title subject to restrictions, limitations, and obligations ("institutional controls") structured to protect human health and the environment. Namely, the RTC has agreed not to take any action that will knowingly disturb contaminated areas without the prior approval of DOE and Colorado Department of Public Health and Environment (CDPHE), except as provided herein.

NOW THEREFORE BE IT AGREED:

1. General Provisions.

   (a) RTC's present plans for the use of the Compound include office uses, leases to other tenants, and public open space. These uses may change over time, and some existing buildings may be demolished, with new buildings and facilities being constructed. Therefore, both for existing structures and future uses, underground water, sewer, power, irrigation and other utilities will have to be repaired, and eventually, replaced. New facilities and buildings will need below grade foundation work and utility connections/work both in the regular course of business and in emergencies.

   (b) This contingency plan sets forth how the parties expect such work to be performed, including during an emergency.

   (c) As provided in the Transfer Documents, the RTC is specifically prohibited from disturbing areas of known contamination, including any activity that will expose contaminated ground water without the written consent of DOE, except as provided in this agreement.

(d) It is the intention of the parties to this Agreement regarding disturbance of the ground surface at the DOE compound that the scope of this plan be narrowly defined to apply to "emergencies or activities that are likely to expose contaminated ground water and/or sediments." It is not the intention of the parties to create any additional right of approval by the DOE or CDPHE.

2. Definitions. For purposes of this agreement, the following words and phrases shall have the meanings set forth.

(a) "Contaminated ground water" means only that ground water that is below the surface of the compound and that contains contaminants (as identified in the Transfer Documents and Sales Agreement) in excess of applicable state standards.

(b) "Emergency" means a situation that occurs unexpectedly that will cause damage to persons or property or the environment if not controlled immediately, and the methods of control are reasonably likely to expose contaminated ground water.

(c) "RTC" means the Riverview Technology Corporation, Inc. and it successors, transferees and assigns.

(d) "Transfer Documents" means the offer to Purchase and Sale Agreement, the lease and other closing documents.

3. Emergency Response Procedure.

(a) In the event of an emergency as defined herein, the RTC or its designee, such as a site manager, shall give notice of the emergency as soon as possible (normally within one hour of discovery of the emergency) by calling the telephone numbers listed in the Grand Junction telephone directory for any person answering telephone(s) for the DOE-GJO and the CDPHE Hazardous Materials and Waste Management Division. Such notification shall include sufficient information for the DOE-GJO Emergency Manager and/or the CDPHE representative to determine whether oversight of the response is required. The DOE-GJO Emergency Manager and/or CDPHE (or the designee of either) may inspect the site of the emergency and observe the response actions. The DOE-GJO or CDPHE reserve the right to insist that emergency response work stop if necessary to protect human health or the environment.

(b) If the work performed in response to the emergency exposes contaminated ground water, the RTC will manage the exposed contaminated ground water in accordance with applicable State of Colorado regulations. This would include the discharge of the ground water to the ground surface during the emergency.

4. Non-Emergency Work.

(a) Before and while performing non-emergency work that will likely expose contaminated ground water: (a) the RTC will proceed with the mitigation effort, utilizing the protocols listed below; and (b) RTC will sample exposed ground water to determine if such water is contaminated with substances/materials listed by the DOE in the transfer documents. If no DOE (including its agents' and contractors' and subcontractors') laboratory or equivalent facility is located within 150 air miles of the Compound, the RTC shall pay for such costs of sampling and analysis. This subsection does not apply during an emergency.

(b) During emergencies and non-emergencies, the RTC will abide by the Uranium Mill Tailings Management Plan (UMTMP) published by CDPHE for managing mill tailings encountered during construction activities in Western Colorado. A copy of the present UMTMP is attached as **Exhibit E.**

(c) Except as provided herein, the RTC shall not engage in any disturbance or use of any contaminated ground water underlying the Compound, including the drilling of wells, the excavation of soils that expose ground water, excavation of the underlying soils for their gravel content, or the diversion of ground water through any means without the written consent of the CDPHE and the DOE, which shall not be unreasonably withheld.

(d) Except as required during an emergency, the RTC shall give thirty (30) days written notice to the DOE and to the CDPHE before commencing any activity that is reasonably likely to expose contaminated ground water. The notice shall consist of a written letter of transmittal and a copy of the project plan as specified in Section 5 of this contingency plan.

5. Project Plan.

(a) The project plan shall be of sufficient detail to allow DOE and CDPHE to reasonably review the plan, guided by the goals of allowing the RTC's use of the Compound while protecting the safety and health of workers and site occupants as well as protecting against the spread of contamination to uncontaminated areas. DOE and CDPHE shall approve the plan within 30 days of mailing of the notice, and delivery of an adequate project plan, and either approve within said period or state with specificity what needs to change with the plan to obtain approval.

(b) An adequate project plan that proposes digging or disturbing the soils within an area as shown on the most recent DOE plume map described in Section 8 and at a depth that will likely encounter groundwater shall include water quality data and a human health and ecological risk evaluation.

6. Modification of this Contingency Plan.

This contingency plan may only be modified by written consent of all parties.

7. Training.

In accordance with the UMTMP and for as long as possible, CDPHE shall train those persons designated by the RTC regarding the protocols of this Agreement and regarding the dangers from radiation for workers exposed to ionizing radiation from uranium mill tailings.

8. Groundwater Maps.

DOE represents that the attached map accurately reflects the current data regarding groundwater contamination of the Compound, and the surface areas within which the provisions of this agreement shall apply. The parties acknowledge that the areas of concern are decreasing faster than originally predicted. DOE agrees to continue to monitor the groundwater monitoring wells, and to annually map such new data in the same or better form as the attached maps and to deliver copies thereof to the RTC and CDPHE on or before each July 1, beginning July 1, 2002. The RTC may rely on the information contained in such maps or diagrams as indications of ground water quality.

9. Building 20 Monitoring

Until Building 20 is demolished as specified in the Enforceable Agreement, Attachment A to the Deferral Request, the DOE agrees, as a best-management practice, to provide monitoring to any individuals(s) performing maintenance or normal repair work in confining locations. The amount and type of monitoring of the location and the individuals(s) will be directly related to the requirement of protection of one's health and safety based on available risk analysis data. CDPHE and RTC shall be kept informed throughout such process.

10. Successors and Assigns.

The provisions of this agreement shall bind the successors, transferees and assigns of the RTC. Once the RTC has conveyed all of its right, title and its interest in the Compound, the RTC shall no longer be liable under this agreement and the subsequent title holder shall, upon transfer of title, be fully liable and obligated as though it was the RTC, providing actual notice of said transfer is delivered to the DOE-GJO in a timely manner.

DOE

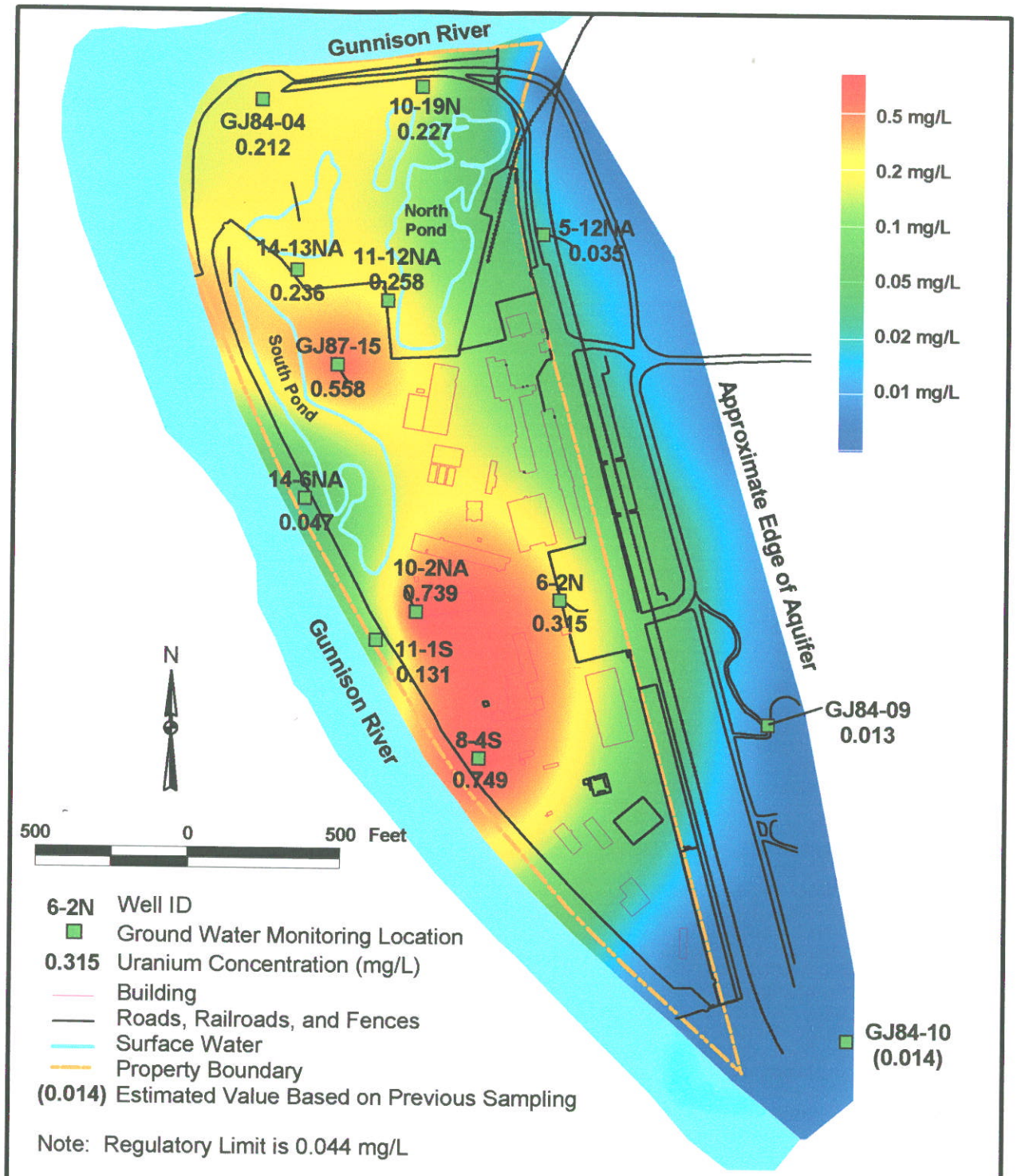
By: 7/11/2001
for Donna Bergman-Tabbert
GJO Manager
2597 B ¾ Road
Grand Junction CO 81503
970/248-6001

CDPHE

By:
Jeff Edson, Remediation Restoration Unit Leader
Federal Facilities Program
CDPHE
4300 Cherry Creek Dr. South
Denver CO 80246
303/692-3300

RTC

By: Vice-Chair
FOR Pat Tucker
Riverview Technology Corp., Inc.



GRAND JUNCTION OFFICE FACILITY
DECEMBER 1999 URANIUM CONCENTRATIONS IN GROUND WATER

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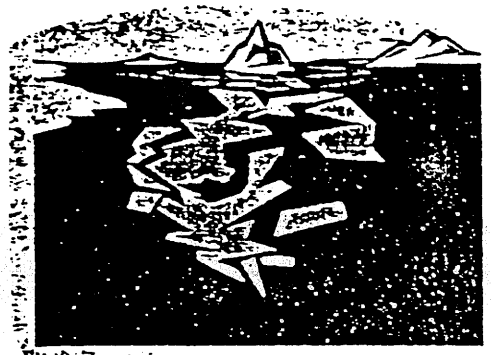
Exhibit E

URANIUM MILL TAILINGS MANAGEMENT PLAN

FOR MANAGING URANIUM MILL TAILINGS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES IN WESTERN COLORADO

SEPTEMBER 1998



"The tip of the iceberg"

URANIUM MILL TAILINGS MANAGEMENT PLAN

FOR MANAGING URANIUM MILL TAILINGS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES IN WESTERN COLORADO

SEPTEMBER 1998

For Information or Assistance Contact:

Colorado Department of Public Health and Environment
222 South 6th Street, Rm. 232
Grand Junction, Colorado 81501

Jim Hams
(970) 248-7170

Anna Etchart
(970) 248-7164

Colorado Department
of Public Health
and Environment

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INTRODUCTION

PURPOSE

The purpose of this plan is to assign responsibilities and procedures for managing uranium mill tailings encountered or disturbed during construction activities in western Colorado communities. All work procedures are designed to minimize worker contact with radioactive contaminated materials and comply with the ALARA principle, keeping radiation exposures As Low As Reasonably Achievable. All work will be performed in accordance with *Colorado Rules and Regulations Pertaining to Radiation Control,* (Regulations) 6CCR-100-7, January 1997.

HISTORY

Beginning around the turn of the century, ore deposits bearing radioactive elements were being sought in the United States. Western Colorado and adjoining states in the Four Corners Areas, being rich in these deposits, were heavily prospected. Radium, and later vanadium were the primary radioactive materials sought and produced by the early mines and mills. In the 1940s, the demand for uranium rapidly grew as research progressed for development of atomic weapons and energy. After World War II, the continued research and arms race accelerated the demand for uranium, which produced a uranium boom lasting through the 1950s and into the 1960s.

Many hundreds of mines were explored and often developed for ores. Many mill pilot plants, and later operating mill sites, were built to crush ore and separate uranium compounds from the waste materials. The mills produced a uranium product called "yellowcake" and waste tailings sands. These tailings contained most of the original natural radioactivity of the ore, since only one of the radioactive constituents was recovered in the milling process.

The waste tailings were piled at the mills, but erosion from wind and water invariably spread the tailings to adjacent areas. In addition, tailings from many of the mills were transported off site and used for construction or as fill materials. As the mills fell into disuse and obsolescence, and as the uranium boom faded, more of the tailings were eroded away or removed for construction. It was not demonstrated until later that exposure to radioactive materials occurring in uranium mill tailings was a problem.

The Public Health Service (PHS) and the Colorado Department of Health (CDH) began studies that demonstrated the magnitude of the problem caused by the presence of uranium mill tailings in residential areas. The problem results primarily from radon gas, produced by natural radioactive breakdown of radium contained in the tailings. In places

where uranium mill tailings were used for construction, radon can seep into buildings (homes, offices, schools) and can build up to high concentrations. Previous research studies have demonstrated that people breathing air containing elevated levels of radon are at greater risk of lung cancer.

The association between elevated radon and lung cancer was documented during uranium mine studies conducted by the PHS in the 1950s. In the 1960s, the CDH and PHS expanded the studies to include areas around mill sites. The studies concluded that excessive radiation exposure could result from indiscriminate use of tailings and that persons were at increased risk due to the presence of the uranium mill tailings. By this time, tons of tailings had been removed from the Climax Uranium Mill in Grand Junction, Colorado, and used in residential areas for construction. The CDH soon issued an order to cease this practice.

Because of the availability and many possible uses of uranium mill tailings as a sand, the dispersal and misuse was widespread. Some examples of uranium mill tailings use were: soil attenuation, concrete mix, bedding for concrete and utilities, stucco, and brick production.

Experience has shown that as construction and demolition activities occur, new uranium mill tailings deposits will be discovered and disturbance of known deposits will occur. New construction within such deposits increases potential exposure to gamma radiation and radon.

GJRAP

Concerns about health risks and property values grew as the extent of the uranium mill tailings misuse became public. Nationwide publicity announced and often exaggerated the problem. Congressional hearings were conducted, and in 1972, Public Law 92-314 created the Grand Junction Remedial Action Program (GJRAP) to reduce radiation exposures inside structures affected by uranium tailings. The U.S. Surgeon General published cleanup guidelines for the voluntary project. During the 15-year program, 594 structures in Mesa County underwent remedial action.

UMTRAP

From the late 1960s it was known that the misuse of uranium tailings was not unique to the Grand Junction, Mesa County area. In 1978, the U.S. Congress passed Public Law 95-604, the Uranium Mill Tailings Radiation Control Act. This law enabled the creation of the Uranium Mill Tailings Remedial Action Project (UMTRAP) and required the Environmental Protection Agency (EPA) to develop cleanup standards. The U.S. Department of Energy (DOE) was assigned to manage the project in cooperation with

States and Tribes. The project extended the assessment and cleanup of uranium tailings nation-wide for both structure interiors (as in GJRAP) plus exterior deposits. By 1998, when final authorization ends for the UMTRAP surface cleanup, approximately 5,000 properties and nine uranium mill sites will have been cleaned up in Colorado. In Colorado alone, approximately 15 million cubic yards of uranium tailings were removed to controlled disposal sites.

Nine uranium mill sites in western Colorado qualified for remedial action under Title I of the UMTRA Project. These sites were located in Grand Junction, Gunnison, Rifle (2), Durango, Maybell, Naturita, and Slick Rock (2). These were inactive or abandoned sites, which had sold uranium to the U.S. Atomic Energy Commission exclusively. The DOE performed site assessments and environmental impact studies and developed options for permanent, environmentally safe, storage of radioactive contaminated materials.

Disposal cells were constructed utilizing strict groundwater, geologic, and erosion criteria. The cells were designed to last for 200-1,000 years. Therefore, erosion resistant, natural materials were used in the construction of the cells. The typical cell was excavated into low permeability bedrock and filled with compacted uranium mill tailings. A very low permeability layer was added on top of the uranium mill tailings as a cover to contain the radon gas and limit the entry of water. The cells were capped by an erosion resistant rock layer.

All of the Colorado cells, except for the Maybell site in Moffit County, were located away from the mill sites to situate the tailings out of flood waters and shallow groundwater. The Maybell tailings pile was reengineered and reworked to provide compaction and erosion protection and capped in place. All of the disposal cells will be monitored and maintained under the Long Term Surveillance and Maintenance Program managed by the DOE.

The disposal cell for Mesa County, known as the Cheney disposal cell, will not be totally capped and closed until well into the next century due to the 1996 reauthorization requirements of UMTRCA, Public Law 104-259. Recognizing the need for long term management and storage of the remaining uncontrolled tailings, Congress reauthorized the requirements of UMTRCA and required the Cheney site to remain available for UMTRA Project contaminated materials until 2023, or until the cell is filled to capacity. The DOE will continue to maintain, operate, and fund the Cheney cell. The Cheney cell will be the only UMTRAP site remaining open and available to receive uranium tailings after the year 1998.

MANAGEMENT OF UNCONTROLLED URANIUM TAILINGS

UNCONTROLLED URANIUM MILL TAILINGS

Despite widespread publicity, two cleanup programs (GJRAP and UMTRAP) extending over 25 years, and thousands of property investigations, uranium mill tailings remain in many western Colorado communities. It is suspected that up to one million cubic yards of tailings remain outside of the controlled disposal cells.

Over 40,000 properties have been surveyed in Colorado for uranium mill tailings. Because of the voluntary nature of the project and difficulty in finding hidden, shielded deposits, such as beneath soils or under foundations, not all properties were checked, and not all deposits were found. Occasionally, an owner would refuse to participate after tailings were found.

TAILINGS EXCLUDED FROM EXTERIOR REMOVALS

The EPA standards resulted in a cut-off limit for the amount of uranium mill tailings that must be present to qualify for UMTRAP. The EPA standards for exteriors allowed deposits to be averaged over 100 square meters. Thus, a small area of elevated contamination was often averaged with uncontaminated areas, resulting in small quantities of uranium mill tailings being left in place.

TAILINGS EXCLUDED FROM INTERIOR REMOVALS

The EPA standards for interiors addressed the interior average gamma exposure rate and the annual average radon levels. Contaminated structural materials, such as foundations or tailings under slabs, were often left in place if the interior radiation levels were below the standards.

EPA SUPPLEMENTAL STANDARDS

The EPA cleanup standards allowed for a variance from meeting standards in certain situations. This variance was called "supplemental standards." The most common use of supplemental standards was in situations where the cost of tailings was excesssive, and the health risks of leaving the tailings small. The use of supplemental standards resulted in tailings being left in place. Approval of supplemental standards by the Colorado

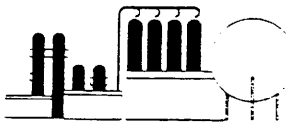
Department of Public Health and Environment (CDPHE), formerly the Colorado Department of Health, and the Nuclear Regulatory Commission (NRC) required that the deposit was in such an area that current and future land use would result in minimal radiation exposures to the public. Often some partial removal would take place to remove surface contamination but leave uranium mill tailings at depth.

Examples of areas containing uranium mill tailings left in place through the application of supplemental standards include railroad tracks, city streets and curb/gutter, steep slopes, river islands, and utility lines. Grand Junction, Colorado, has the greatest number of supplemental standards areas , but such areas also exist in the Maybell, Durango, Rifle, Gunnison, Naturita and Slick Rock communities.

TAILINGS MANAGEMENT PLAN

The need for a management plan to control the uranium tailings still remaining in communities after the cleanup programs has been known for many years. It was obvious that the statutes and standards did not consider the amounts that could be left and their impact due to new construction after the GJRAP and UMTRAP expired. One of the requirements of the management plan is that it would have to be relatively simple and useable by all of the communities impacted by the tailings. The main elements of the management plan would be: the availability of a long-term disposal site, assignment of responsibilities, development of procedures to limit radiation exposure, development of excavation and transportation procedures, and the availability of an interim storage facility, which would be useable by the local governments, utilities, and citizens on short notice. These provisions are addressed in the following sections.

INTERIM STORAGE FACILITY



THE FACILITY

The interim storage facility (ISF) is a temporary holding area for uranium mill tailings. The facility is owned by the City of Grand Junction and operated in coordination with the CDPHE. The facility is located at 2553 River Road, Grand Junction, Colorado. A map showing the location is in Appendix E.

The ISF will provide a temporary, secure, and safe storage for uranium mill tailings excavated during construction activities in Colorado communities. The tailings will ultimately be transported to the Cheney disposal cell south of Grand Junction, Colorado.

The ISF consists of an abandoned sewage treatment plant concrete structure 75 feet in diameter and surrounded by concrete walls approximately 10 feet high. The bottom is a concrete slab, sloping to the center for drainage. A slot has been cut through the walls wide enough to admit a dump truck. A concrete ramp provides access to the entrance. The entrance is protected by a lockable gate. All holes in the bottom were sealed to make a water tight storage area.

The facility also includes a shed for storage of decontamination materials, including brooms, shovels, a high pressure water sprayer (HOTSY), and radiation detection instruments to verify decontamination. The City has provided a water line extension for decontamination spray or dust control.

UNLOADING

No unauthorized personnel will be allowed to enter the ISF, unless they remain inside the truck. Authorized entrance requires training and exposure documentation.

The CDPHE will be responsible for access control, decontamination, and exposure logging. In the absence of CDPHE, such as an emergency water main break, the City of Grand Junction may assume these duties for its own use of the ISF.

The hauling truck will back into the facility to place the load as close as possible to the back wall. Debris brought to the ISF must be sized as small as possible to allow for compaction at the Cheney site. No debris may exceed 3 feet cubed or 10 feet in length.

DECONTAMINATION

The truck bed will be inspected for visible uranium mill tailings contamination, soil and

debris remaining after dumping. Material that did not dislodge will be pushed out with shovels or brooms. The truck will then proceed to the entrance for inspection of tires and undercarriage. The truck engine will be shut off, placed in gear, and the wheels chocked. All visible contamination will be removed from the tires and undercarriage.

A record of the use of the ISF will be kept. The log book will be kept in the ISF shed when not in use. Log book records will be transferred to the CDPHE office quarterly for permanent storage. The log book (see Appendix F) will have the following entries:

Date
Origin of contamination (street address)
Estimated cubic yardage
Name of driver
Truck identification
Frisking results
Inspection for hazardous wastes

The truck tires and tailgate will undergo frisking according to the frisking procedure in Appendix B. If the tailgate or tires will not pass the frisking limits, the HOTSY will be used to further decontaminate the vehicle. If material cannot be dislodged from the bed, it can also be sprayed out at this point. After washing, the tires and tailgate will again be frisked. All water or dislodged material will drain into the ISF. No uranium mill tailings contamination shall be allowed to escape the containment of the ISF.

Individuals that have had physical contact with the uranium mill tailings will have all visible contamination removed by sweeping. The individual will undergo a full body frisk with the frisking meter. If the frisking limits are exceeded, further sweeping or washing will occur, followed by another frisking. If clothing will not decontaminate visibly or pass the frisking survey, the clothing will be changed out with coveralls from the storage shed. Contaminated clothing can be later washed in a tub at the ISF until decontamination is verified by frisking.

When the load is dumped, decontamination complete, and log books filled out, the truck and users may leave the ISF access area. All materials used in decontamination will be returned to the shed. The gate and shed will be locked. The truck may then exit the site.

INSPECTION

The ISF will be inspected monthly by CDPHE during the first six months of use. Then quarterly inspections will be held to survey the exterior of the ISF to assure contamination is contained within the concrete walls. Visual inspections will be made during every visit to look for obvious defects.

RESPONSIBILITIES

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

The CDPHE is responsible for the overall oversight of the Uranium Mill Tailings Management Plan. The CDPHE has over 20 years experience in the management of uranium mill tailings, including expertise in all developments of scientific knowledge, clean up programs, record keeping, public information, and health physics.

PUBLIC RECORDS AND DOCUMENTATION

The CDPHE will maintain and update uranium mill tailings records available to the general public and local government agencies. The CDPHE will produce or update property records as the conditions change due to excavation of the uranium mill tailings. The CDPHE will provide personnel to interpret records and give health risk information to the public regarding the presence of uranium mill tailings on properties.

The CDPHE will keep records of uranium mill tailings excavated, received at the ISF, and transported to Cheney. The CDPHE will maintain records for decontamination of personnel and equipment.

The CDPHE will provide all required reports to the DOE.

The CDPHE will develop, update, and disseminate the Uranium Mill Tailings Management Plan.

INSPECTIONS

The CDPHE will provide inspections of new building areas and demolition sites and make recommendations to the City and County Planning Department for all building permits in Mesa County.

The CDPHE will coordinate inspections for new construction inspections in other communities as time permits and if requested.

The CDPHE will maintain and update the building permit uranium mill tailings inspection procedures.

EXCAVATION CONTROL

The CDPHE will provide excavation control for uranium mill tailings removals by private citizens.

TECHNICAL EXPERTISE

The CDPHE will provide technical expertise to communities, local governments, or private citizens in identifying, handling, and management of uranium mill tailings.

INTERIM STORAGE FACILITY

The CDPHE will manage all operations and record keeping at the ISF. The CDPHE will conduct monthly radiological surveys, for the first six months of use, of the ISF to insure its proper operation and containment of material. Quarterly inspections will be conducted thereafter. Spot checks will occur during heavy use, high winds, or rain.

RADIOLOGICAL SURVEY INSTRUMENTS

The CDPHE will provide radiological survey instruments to local governments and individual citizens as requested. The CDPHE will maintain and calibrate the instruments annually and provide training in the use of the instruments.

TRAINING

The CDPHE will provide yearly training to workers excavating tailings. The CDPHE will provide on-site briefings as needed. The CDPHE will be available to explain technical problems, options, radiation health risks, or any part of the Uranium Mill Tailings Management Plan.

REVISIONS TO THE TAILINGS MANAGEMENT PLAN

The Uranium Mill Tailings Management Plan is intended to be used as technical information and field guidance and procedures. CDPHE will retain the responsibility for the maintenance, distribution, and revision of this manual.

HAZARDOUS WASTE

The CDPHE will conduct inspections for hazardous wastes that could be commingled with uranium mill tailings. The CDPHE will provide expertise on segregation, testing, and storage of commingled waste. The CDPHE will provide to DOE documentation that materials transported to the Cheney disposal site do not contain commingled waste.

LOCAL GOVERNMENTS AND PUBLIC UTILITIES (LGPU)

The local governments and public utilities have the responsibility to carry out the procedures designed to locate uranium mill tailings in construction areas and excavate and transport contaminated material with as little impact and radiation exposures as possible. The local governments and utilities will recognize the need for cooperation and coordination with CDPHE and DOE with the understanding that some inconvenience and costs are involved.

TRAINING

The LGPU will require and assign radiation training as required for workers potentially exposed to ionizing radiation from uranium mill tailings. Training requirements are described later in this document.

COSTS

The costs of excavation, handling, and transporting of uranium mill tailings by the LGPU will be borne by the LGPU. The LGPU may apply for grants, in accordance with HB 97-1248, through DOLA, from the local energy impact fund, to cover these costs.

ENFORCEMENT OF PROCEDURES

The LGPU will be responsible for monitoring and enforcement of procedures involving workers under their direct control. The supervisors will observe operations and enforce the written procedures of the Uranium Mill Tailings Management Plan.

POINT OF CONTACT

The LGPU will identify personnel responsible for contact and coordination with CDPHE.

INSTRUMENTS

The LGPU will maintain the radiological detection instruments provided by CDPHE in good working order. The instruments are expensive and require proper care and usage. The instruments will be kept on hand for ease of checking potentially contaminated areas. The instruments will be returned to CDPHE quarterly for an operations check.

Surveys must be performed in accordance with Appendix D and CDPHE training.

HAZARDOUS WASTE

The LGPU will notify CDPHE of unusual coloration, smells, or materials such as batteries or transformers discovered in excavations. Coordination with CDPHE shall be made prior to the removal of such materials or soils as they may contain hazardous wastes or substances (asbestos) requiring special storage, handling, or treatment if excavated. If such materials are inadvertently excavated and taken to the ISF, they must be segregated from the other materials as the wastes may have to be returned for treatment or management.

RECORDS CHECK

The LGPU is responsible for checking available records or maps prior to a planned excavation activity. Up-front knowledge of tailings locations will enable subcontractors to more accurately bid projects. The DOE will provide maps of streets and utilities that have supplemental standards in place. The CDPHE will have copies of the supplemental standards data base after 1998. CDPHE also will retain the records of several thousand properties assessed or cleaned up in UMTRAP communities.

PERMITS

The local governments control work in public right-of-ways by permits. Work permitted in an area of known tailings involvement will have the statement "tailings procedures in effect" written on the work order and a requirement for coordination with CDPHE.

EXCAVATION CONTROL

The local governments and public utilities supervising excavations into deposits of uranium mill tailings will control over excavation. Overexcavation is the removal of uncontaminated materials or mixing of uncontaminated materials with uranium tailings for transport to the Interim Storage Facility. Overexcavation is controlled by radiological surveys and segregation of contaminated and uncontaminated material. The excavation tool should fit the job to prevent overexcavation.

INTERIM STORAGE FACILITY

The City of Grand Junction will be responsible for providing and maintaining all infrastructure necessary for operation of the ISF, including an operating water line and "HOTSY" pressure sprayer at the ISF. The City will also provide a gate and lock for security of the ISF and equipment shed.

TRANSPORT TO CHENEY

The City of Grand Junction will be responsible for transport of the uranium mill tailings to the DOE Cheney disposal site either from the ISF or direct transport from an excavation. All training and procedures required by the DOE for entering the Cheney site will be adhered to.

UNITED STATES DEPARTMENT OF ENERGY (DOE)

LONG TERM SURVEILLANCE AND MAINTENANCE

The DOE is responsible for the long term operation, surveillance and maintenance of the Cheney disposal cell. All costs associated with the operation and maintenance of Cheney is at DOE expense.

OPERATION OF CHENEY

The DOE is responsible for providing resources and coordination necessary to receive uranium mill tailings at Cheney periodically from the stockpile at the City Interim Storage Facility. Currently, it is projected that materials will be trucked from the ISF to Cheney at least once a year for a two-to-three-week period.

The DOE is responsible for providing resources and coordination necessary to receive uranium mill tailings at Cheney during large planned construction projects, such as sewer line replacement in a supplemental standards area. This is anticipated to occur no more than once a year. Planned disturbance of large quantities of uranium mill tailings would be trucked directly to Cheney without using the ISF.

CONTACT PERSON

The DOE shall provide a point of contact for coordinating and planning with the cities and CDPHE. The point of contact will receive any reports that DOE requires.

TRAINING

The DOE will provide radiation training for the CDPHE and potentially exposed workers involved with uranium mill tailings projects, as long as it is being offered at the Grand Junction Office for other site activities.

MAPS

The DOE will provide to the CDPHE and local governments maps delineating supplemental standards areas.

PRIVATE PROPERTY OWNERS

In Mesa County, private owners or their contractors will notify the CDPHE of a request for a building or demolition permit through the Mesa County Planning Department. The owners or contractors will follow the recommendations issued to the Planning Department by CDPHE through the Building Permit Survey (BPS) Program.

The owners will bear the costs of excavating, stockpiling, and transporting of uranium mill tailings contaminated materials to the ISF.

The owners or their contractors will follow the ALARA principle throughout all work with uranium mill tailings.

HEALTH AND SAFETY

IONIZING RADIATION EXPOSURE CONCERNS

Uranium mill tailings consist of sand wastes generated from the milling of uranium ores to extract "yellowcake," a uranium oxide compound. These tailings contain most of the original radioactivity found in the unprocessed ores. Radioactive radium, thorium, lead, and other elements in tailings are unstable and decay by ejecting alpha and beta particles from the nucleus and by releasing excess energy as gamma radiation.

The radiation from the decaying tailings atoms is ionizing radiation, which has the capability to strip electrons from the molecules of living cells, causing disruptions and possibly damage to the cell DNA. Ionizing radiation has the capability to cause cancer in living tissues.

The main radiation exposures from uranium mill tailings are from direct exposure to gamma radiation, inhalation of radon, and inhalation of airborne radioactive particles. Gamma radiation, similar to an X-ray, is a penetrating external exposure source. It can penetrate skin and cause damage to the entire body, therefore, all organs are at risk.

Current radiation protection standards and radiation exposure health effects estimations are based upon the premise that any radiation dose, no matter how small, can result in detrimental health effects, such as cancer and genetic damage. Further, it is assumed that these effects are produced in direct proportion to the dose received. These two assumptions lead to a dose-response relationship, often referred to as the linear, no-threshold model, for estimating health effects from radiation doses. There is, however, substantial scientific evidence that this model is an oversimplification of the dose-response relationship and results in an overestimation of health risks in the low dose range.

The expected gamma radiation exposure from the uranium tailings, as calculated from health risk analyses, will be less than the Regulatory 100 millirem yearly exposure limit for the general public, classified as non-radiation workers. The exposure to gamma radiation from uranium tailings is substantially reduced when the tailings are mixed with soils or shielded by fill dirt. Exposure is also markedly reduced as distance from the source is increased.

Radon is formed when the radium in the tailings decays. The radon decays by ejecting alpha and beta particles and forms a series of short-lived radioactive products. The process eventually ends with the formation of a stable form of lead which is not

radioactive. The particles ejected by radon and its products cannot travel very far in air and cannot penetrate skin, thus are not an external hazard. However, if inhaled, the particles released by radon and its products can cause damage to the lungs that could eventually result in lung cancer. Radon is found naturally in air in small amounts. Radon becomes an excess health hazard when it accumulates in buildings or mines to higher levels and is breathed for extended times.

A third potential source of radiation exposure is radioactive particles associated with the tailings which can become airborne. Once airborne, these particles can be inhaled, with subsequent exposure to the respiratory tract. Airborne particulate contamination is routinely controlled to negligible concentrations by the application of water mists or sprays to equipment or tailings releasing dust.

The radiation exposures to utility workers excavating uranium mill tailings are greatest in the trenches. Radon is heavier than air and before dispersal occurs, will be at higher levels at the bottom of the trench. The radon levels would probably be greatest when the trench is opened up and lessen somewhat later due to mixing with air. Gamma radiation exposure is also more likely in a contaminated trench. There may be pure tailings in the bedding of the utility line and tailings mixed with the soils in the walls of the trench. The result is radiation exposure to workers from the sides as well as the bottom of the trench.

RADIATION RISK ANALYSIS

The DOE prepared a health risk analysis in 1989 for utility workers entering trenches that contain uranium mill tailings. The analysis calculated potential worst case exposures to workers in trenches and compared them to the regulatory limit which existed at that time of 100 millirem per year above background for non-radiation workers required by the Code of Federal Regulations (CFR), Title 10, Part 20. In the United States, background radiation varies from 100 to 1,000 millirems per year.

The analysis estimated 39 hours average exposure from contaminated water lines. It was assumed that an individual worker would be in the trench only 25 % of the time due to scheduling rotations. Thus, 10 hours per year of exposure was allotted to water line repairs.

Approximately eight hours of exposure was allotted to sewer line work with an individual spending only 10 % of the time in a contaminated trench. Extra exposures were added to account for potential manhole repair. Therefore, two hours of exposure were calculated for sewer lines.

Twelve total hours of yearly potential exposure at the highest, worst case, radiation levels detected in trenches gives an estimated exposure of 9.6 millirem to a utility worker, or 1/10 of the 100 millirem limit.

No exposure limit or regulation exists for radon in outside air, except for uranium and thorium mill tailings disposal cells. The radon limit for miners is four working level months per year. The Environmental Protection Agency (EPA) has set a voluntary suggested indoor action level at 0.02 Working Levels (WL) . This equates to **about one working level month per year**. The highest radon levels encountered in trenches during the analysis was 0.058 WL The potential annual working level months per year after exposure to 0.058 working levels for 12 hours is **0.004 working level months per year**, far short of the EPA indoor action level.

The conclusion of the DOE health risk analysis is that " there is no clear present or future health risk to utility workers in Mesa County due to potential gamma or radon exposure, even based upon the worst-case scenarios."

AS LOW AS REASONABLY ACHIEVABLE (ALARA)

For gamma radiation exposure from uranium mill tailings for non-radiation workers, the limit of 100 millirem per year in the Regulations, Part 4.14.1, Radiation Dose Limits for Individual Members of the Public, is required. EPA is currently considering lowering this limit to 15 millirem per year, while the Nuclear regulatory Commission believes that 30 millirem per year should be used (as applied in the decommissioning of facilities). The allowable exposure for radiation workers is 100 millirem per year. The Tailings Management Plan supports adherence to the ALARA philosophy, as stated in Part 4.5 of the Regulations, to limit exposure to levels less than the regulatory requirement.

ALARA is an approach to radiation protection to manage and control exposures (both individual and collective to the work force and the general public) and release of radioactive materials to the environment at levels as low as is practical, taking into account social, technical, economic, practical, and public policy considerations. As used in this context, ALARA is not a dose limit but a process, which has the objective of attaining doses as far below the applicable controlling limits as is reasonably achievable.

The ALARA principle will be the primary philosophy and tool for controlling radiation exposures during all activities of managing uranium mill tailings. The ALARA principle will be implemented by use of the following requirements:

EXPOSURE CONTROL

The upper limit of gamma exposure allowed will be 15 millirem per year. A log will be kept by CDPHE of individuals exposed in the ISF controlled area. Using the average tailings activity, approximately 300 hours of trench work is allowable per yer under this exposure limit. The LGPU and CDPHE will consider additional rotations out of trench work when any individual worker has accumulated 100 hours of work in contaminated trenches in any given year.

A 10 foot control area will be maintained around exposed tailings. Only trained personnel will be allowed into the controlled area. The ISF will also be considered a controlled area requiring training and exposure documentation for entry.

Individuals entering the controlled area will limit as much as possible the time spent there. Individuals will position their work as far from the contaminated areas as possible. Only necessary equipment or tools will be allowed into the controlled area. Uranium mill tailings contaminated areas will be fenced off from the public during non work times. No unauthorized entry into the controlled areas is allowed by the public.

Dust and radioactive particulates will be controlled by spraying water. No visible dust is allowed to leave the controlled area. No eating, chewing, smoking, or drinking is allowed in the controlled area.

Haul trucks will be tarped to prevent materials blowing out. A plastic sheet diaper will be positioned in the tailgate to contain wet tailings. If a spill occurs, the spill procedure will be in effect.

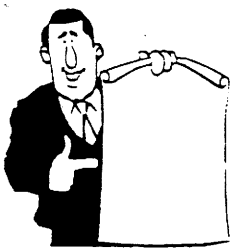
All equipment and personnel in contact with tailings will undergo decontamination. Haul trucks and contaminated personnel will be frisked with a radiation meter to verify decontamination.

Tailings deposits excavated from the top two feet of an excavation should not be replaced into the hole. These tailings should be removed and transported to a controlled stockpile or to the ISF. Clean fill should replace tailings deposits on the surface.

TRAINING

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE)

The CDPHE employees coordinating the Uranium Mill Tailings Management Plan. and with a potential for radiological exposures in the work place. will receive training and be proficient in the following areas:



40 Hour Hazardous Waste Training and
Yearly Refresher Training

Radiological Worker Training and
Yearly Refresher Training

The CDPHE will develop and update the curriculum for training of local government and public utilities workers or private owners. The curriculum will include:

Basic Health Physics
Radiation Exposure Limits and Monitoring
Excavation and Transport Procedures
Survey Meter Operation
The ALARA Principle
Decontamination Procedures

LOCAL GOVERNMENTS AND PUBLIC UTILITIES (LGPU)

The LGPU workers with a potential to be radiologically exposed by uranium mill tailings shall receive training in the following areas:

Radiological Worker Training and
Yearly Refresher Training

The LGPU workers shall attend on-site briefings to review uranium mill tailings management procedures before beginning work in an area known to contain uranium mill tailings. The briefings will be conducted by the CDPHE or LGPU supervisors.

EXCAVATION PROCEDURES

RADIATION SURVEY

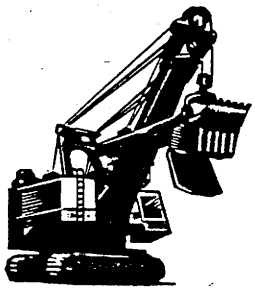
A gamma radiation survey instrument will be accessible to excavation crews. The instrument will be provided by CDPHE and will be capable of detection of uranium mill tailings in the range of 0-1000 microroentgen per hour (μR/h).

A field operations check on the instrument will be performed before surveying for uranium tailings contamination.

IDENTIFYING CONTAMINATED MATERIAL

Contamination from uranium mill tailings will be identified as areas 30 percent above the normal gamma radiation background. Fifteen μR/h shall be considered the average meter reading for western Colorado soils. The background gamma plus 30 percent is 20 μR/h , which shall be considered contaminated with uranium tailings.

Uranium mill tailings contamination may be in surface deposits or buried in utility trenches. The DOE supplemental standards maps may be used to identify potential areas of contamination. Prior to surface penetration, a check shall be made with the meter. After a trench is excavated, the meter shall be lowered for spot checks along the length. Suspicious gray or purple sands should be checked. Tailings are often mixed with soils and appear to be normal dirt.



EXCAVATION

CONTROLLED AREAS

If tailings are identified, a controlled area shall be considered extending 10 feet from the edge of the deposit. At that time, tailings excavation procedures and ALARA principles immediately become effective. The supervisor is responsible for enforcement of the procedures.

ALARA PRINCIPLE

The ALARA Principle will be the overall philosophy and procedure for controlling radiation exposures while managing uranium mill tailings. These principles are stated in

a previous section of the Uranium Mill Tailings Management Plan.

HAZARDOUS WASTES

Uranium mill tailings contaminated areas shall be inspected for visible discoloration, odd smells, or for materials such as batteries or transformers. Mixing of hazardous wastes with the tailings may cause the deposit to be considered a commingled waste. Commingled wastes, if above regulatory limits, and untreated, cannot be hauled to the Cheney disposal site. Such wastes are regulated with specific handling and storage requirements. The CDPHE shall be notified immediately upon suspicion of such wastes. These deposits shall not be excavated unless absolutely necessary and then shall be segregated and stored separately from the other tailings or soils.

AVOIDING OVER EXCAVATION

Disturbance or excavation of tailings shall be avoided if possible. If uranium mill tailings need to be excavated, the minimum should be disturbed or removed. Over excavation causes extra handling costs and fills the limited permanent storage room available in the Cheney disposal cell. Equipment appropriate for the job size is required.

Uncontaminated over burdens shall be removed and segregated from uranium mill tailings below. Only uranium mill tailings contaminated materials shall be transported to the ISF or Cheney. Care shall be taken to avoid mixing contaminated soils with uncontaminated soils. The radiation meter shall be used to identify soils in question.

The uranium mill tailings contaminated areas considered for removal shall be visibly marked for the machine operator. This is to segregate the contaminated material and avoid mixing. Spray paint, colored flags, or fencing are appropriate to delineate the uranium mill tailings contaminated areas.

No trash, wood, or tires shall be shipped to the ISF or Cheney. Such materials shall be decontaminated and disposed of in the local landfill. Uranium mill tailings contaminated concrete or asphalt shall be sized properly to allow compaction at Cheney. No debris shall be larger than 3 feet cubed in size. No pipe shall be longer than 10 feet in length.

Tailings excavated shall be returned to the hole if possible. An exception is for surface deposits. Tailings removed from the top two feet of the surface should not be replaced. Clean fill will replace the contaminated soils removed.

STOCKPILING

Stockpiling of uranium mill tailings contaminated material should be avoided if possible, but is allowed. Stockpiling may cause concerns to property owners. The owner's permission shall be sought before stockpiling on private property. Stockpiled material shall be fenced from public access.

ASPHALT

When rotomilling asphalt over uranium mill tailings contaminated soils, care shall be taken to not penetrate into the tailings. If tailings are mixed with the asphalt, the asphalt should be inspected with a meter. If the mixture shows a meter reading of 30 percent above the radiological soils gamma background, it is considered contaminated.

Asphalt removed in chunks over uranium mill tailings contaminated soils should be inspected on the underside with the survey meter.

WATER MAIN BREAKS

If uranium mill tailings are washing away due to a water line break, controlling dams shall be established to halt the spread of contamination. A meter survey downstream should be conducted to insure that any contaminated materials spread by the break have been cleaned up.

DECONTAMINATION

All equipment used for excavation or hauling of tailings shall be inspected and decontaminated. Visible tailings shall be swept or sprayed away. Uranium mill tailings contamination removed shall be returned to the excavation or placed in the ISF.

Workers in contact with tailings shall be decontaminated. Visible tailings shall be swept or washed away. These workers shall be frisked with the beta-gamma meter for verification of decontamination (See Appendix B). If clothing will not pass the frisk, the workers shall change into clean coveralls. Contaminated clothing shall be taken to the ISF for further decontamination and frisking.

CEASE WORK

Work shall cease when the supervisor or CDPHE determines that the procedures are not or cannot be followed. An example is high winds making it impossible to control dust, a truck that leaks tailings, or non cooperation of workers.

TRANSPORT OF TAILINGS

REGULATIONS

Transportation of radioactive material over public roads in Colorado is regulated under CFR, Title 49, Parts 171-178 and 390-397, and Part 17 of the Regulations, which mirror 49 CFR. Generally, uranium decay series material is low specific activity (LSA), as the LSA-I group is defined by the International Atomic Energy Agency (AEA) and U.S. Department of Transportation (DOT).

The DOT defines a concentration of radioactivity above which material like uranium mill tailings is considered radioactive for purposes of the transportation regulations. At present, the DOT defines any material with radioactivity greater than 70 Becquerel per gram (B/g) as radioactive for transport purposes. For uranium mill tailings, 70 B/gm total activity is calculated to be less than approximately 174 pCi/g radium-226. If a truck load of tailings material averages overall below less than 174 pCi/g radium-226, it is not considered radioactive material for purposes of transportation under 49 CFR and Part 17 of the Regulations. From our experience in the UMTRA Program, tailings excavated from streets or other properties are usually mixed and not pure mill tailings and do not exceed 174 pCi/g radium-226. The LGPU should assume that excavated materials are not classified as radioactive under DOT regulations.

HAULING

The ALARA principle will be followed during transportation of tailings. This will be insured by tarping and not overfilling loads to prevent dust or spillage. If very wet contamination is to be loaded, a plastic sheet diaper will be placed in the rear of the truck bed in a manner to exclude leaking out the tail gate. Wet loads should not be piled any higher than the sidewall of the truck.

Tailings being hauled to the ISF will be transported by the most direct route possible with no off-road stops.

SPILL PROCEDURE

If a spill from the haul truck occurs, the supervisor and CDPHE will be notified as soon as possible. The spill will be isolated and protected from further dispersal. Traffic safety has priority over isolating or recovering the spill.

As soon as possible, the spill will be isolated with traffic cones. A safety flagger may be necessary to control traffic and protect the cleanup workers.

The spill will be swept up and put into a container appropriate to its size and transported to the ISF for disposal. The area is considered clean if no visible contamination is seen. If the spill was onto a dirt road, the radiation survey meter will be used to verify the spill cleanup. If no readings above 20 μR/h are noted on the gamma survey meter, the area is considered clean.

APPENDIX A

DEFINITIONS

Access Control: A designated entrance/exit point to a controlled area.

ALARA: Acronym for "As Low as Reasonably Achievable," a basic concept of radiation protection that specifies that radioactive discharges from nuclear plants and radiation exposures to personnel be kept as far below regulatory limits as feasible.

Alpha Particle: A positively charged particle ejected spontaneously from the nucleus of some radioactive elements. It is identical to a helium nucleus and has a mass number of 4 and a electrostatic charge of +2. It has low penetrating power and short range. The most energetic alpha particle will generally fail to penetrate the skin. Alphas are hazardous when an alpha-emitting isotope is introduced into the body.

Beta Particle: A charged particle emitted from a nucleus during radioactive decay. A negatively charged beta is identical to an electron. A positively charged beta particle is called a positron. Large amounts of beta radiation may cause skin burns. Beta emitters are harmful if they enter the body. Beta particles are easily stopped by a thin sheet of metal or plastic.

Cheney Disposal Cell: The UMTRA Project disposal cell, operated by DOE, located about 15 miles south of Grand Junction on U.S. Highway 50, which will remain open until the year 2023 or until filled. This will be the only permanent UMTRA Project disposal cell available to uranium mill tailings disturbed by construction activities after 1998.

Contamination: Unwanted radioactive materials (uranium mill tailings) that are present on/in a particular object or area.

Controlled Area: Any area to which access is managed in order to protect individuals from exposure to radiation and/or radioactive material. Individuals who enter a controlled area are not expected to receive a total effective dose equivalent of more than 100 millirem in one year.

Decontamination (Decon): The reduction or removal of contaminating radioactive material from a structure, area, object, or person.

Frisk: A radiological survey of personnel or equipment utilizing a portable radiation detector.

Gamma Ray: High-energy, short wavelength electromagnetic radiation (a packet of energy) emitted from the nucleus of an unstable atom. It is very penetrating and is best stopped by dense materials such as lead. They are similar to x-rays but are usually more energetic.

Interim Storage Facility (ISF): The facility located in Grand Junction available for temporary storage of uranium mill tailings disturbed during construction activities. The ISF is located on City of Grand Junction property on Highway 141 and managed by the Colorado Department of Public Health and Environment.

Radiation: Particles (alpha, beta, or neutrons), or photons (gamma) emitted from the nucleus of an unstable (radioactive) atom as a result of radioactive decay.

Radioactive: Exhibiting radioactivity or pertaining to radioactivity.

Radioactivity: The spontaneous emission of radiation, generally alpha or beta particles often accompanied by gamma rays, from the nucleus of an unstable atom.

UMTRAP: Acronym for Uranium Mill Tailings Remedial Action Project, the nation-wide uranium tailings cleanup project managed by the U.S. Department of Energy.

UMTRCA: Acronym for Uranium Mill Tailings Radiation Control Act, as per Public Law 95-604 and amendments. The federal law authorizes the Uranium Mill Tailings Remedial Action Project and the continued operation of the Cheney disposal cell.

Uranium Mill Tailings: Naturally occurring radioactive residues from the processing of uranium ore into yellowcake in a mill. Although the milling process recovers about 93 percent of the uranium, the residues, or tailings, contain several radioactive elements, including uranium, thorium, radium, and polonium.

Yellowcake: A product of uranium milling process, yellowcake is a solid uranium oxide compound (U_3O_8) that takes its name from its color and texture. Yellowcake is the feed material for fuel enrichment and fuel pellet fabrication.

APPENDIX B

FRISKING AND DECONTAMINATION PROCEDURE

FRISKING

PURPOSE

This procedure establishes the requirements for decontamination frisking prior to exiting the access area of the ISF. Frisking for contamination will limit inadvertent exposure of the workers and the general public to radioactive material and prevent the spread of contamination beyond controlled areas.

APPLICABILITY

This procedure applies to all people exiting the controlled area of the ISF.

PRECAUTIONS

All personnel who enter a controlled area (the ISF or an excavation into tailings) are expected to keep their exposures to radiation and radioactive materials as low as reasonably achievable (ALARA).

Personnel or equipment may not leave the ISF with any detectable radioactive contamination.

FRISKING SURVEY METER

A portable monitor, such as the Ludlum Model 44-9, pancake GM beta-gamma detector, or equivalent, shall be used for frisking. The frisking instrument shall have a valid calibration and be functionally checked before using this procedure.

EQUIPMENT FOR FRISKING AND DECONTAMINATION

Frisking Meter
Broom
Sturdy Brush
Wash Tub
Mild Soap
Laundry Soap
Hotsy Sprayer
Frisking Log

FRISKING PROCEDURE

Personnel shall frisk using the techniques defined. Personal items such as flashlights, notebooks, or hats shall be subject to the same frisking requirements as the person carrying them.

Verify the instrument is in service, set to the proper scale, and the audio output can be heard during frisking.

Hold the probe less than half an inch from the surface being surveyed.

Move the probe slowly over the surface, approximately two inches per second.

If the count rate increases during frisking, pause for 5 to 10 seconds over the area to provide adequate time for instrument response.

If the count rate increases beyond background, the area shall be decontaminated and frisked again.

PERSONNEL FRISKING ORDER

Frisk the hands before picking up the probe.

Frisk in the following order:

- Head-(pause at the mouth and nose for five seconds)
- Neck
- Arms- (pause at the elbows)
- Chest and abdomen
- Back, hips, and seat of pants
- Legs- (pause at the knees and cuffs)
- Shoes
- Shoe bottoms
- Personal items (hat, gloves)

DECONTAMINATION

PERSONNEL DECONTAMINATION

Skin contamination may be removed by washing with lukewarm water and mild soap.

If contamination cannot be removed, contact the CDPHE.

Personnel may flush ears/eyes with cool, clear water to decon those areas. If flushing is not

successful, qualified medical personnel shall direct additional decon efforts.

Clothing and shoes may be brushed clean. If clothing will not decontaminate with brushing, it shall be removed and exchanged with the supplied coveralls in the access shed.

Contaminated clothing will be placed in the wash tub for laundering on site. Contaminated water will be poured into the ISF for evaporation. Wash and rinse water is available at the ISF facility. After washing and rinsing, the clothing will be dried before refrisking. When the clothing no longer demonstrates contamination, it can be removed from the access area.

Contaminated shoes may be brushed and washed without removing.

EQUIPMENT AND TRUCK DECONTAMINATION

Prior to frisking a truck, the vehicle engine will be shut off, placed in 1st gear, and have the wheels chocked. No person shall physically go beneath a piece of equipment to perform inspections or decontamination.

All visible contamination shall be swept or washed into the ISF. Tailgate areas and tires will be frisked with the probe at two inches per second and with the probe half inch from the surface.

If the instrument rate count registers above background, further brushing and washing will be done.

EXITING THE ISF

Return the frisk probe to its holder. The probe shall be placed face up to allow the next person to monitor his/her hands before holding the probe.

After decon of equipment and personnel and successful frisking, personnel may leave the controlled area, sign out on the access/frisking log, secure the gate and shed, and exit the area.

APPENDIX C

BUILDING PERMIT SURVEYS

Building Permit Survey History

In 1971, the Colorado Department of Public Health and Environment (CDPHE), formerly the Colorado Department of Health (CDH), began a cooperative program with the Mesa County Planning Department to conduct radiation surveys at new construction sites. The radiation surveys were integrated into the building permit process and was therefore called the Building Permit Survey Program.

As discussed in the History section of the Uranium Mill Tailings Management Plan, radioactive tailings were used in Mesa County and other uranium mill towns for building materials and fill dirt. The release of uranium tailings had ceased in 1966, while rapid building in Mesa County was occurring due to the oil shale boom. Many structures were modified or built over tailings Therefore, potential health risks were being created due to the increased gamma radiation and radon exposure.

The surveys are performed by CDPHE before a building permit is issued. The surveys include the footprint of the proposed building, plus 10 feet extra around the perimeter. After the survey, an inspection form is filled out indicating that no radioactive materials were found or with recommendations for removal, or other options, if tailings are found.

The form is given to the owner (or contractor) with a copy entered into the CDPHE database. If tailings are found, a map is drawn indicating the areas of concern.

When tailings are removed from a building site, another form and map is filled out declaring the removal of the contamination, which allows the issuance of the building permit. Copies of the information are entered into the CDPHE database for reference and documentation.

The survey is considered valid for six months after which another survey may be necessary if the structure hasn't been constructed. This is because within six months the site could have been recontaminated.

The surveys include all structures that could possibly be converted into living spaces. During the oil shale boom, people were known to live in sheds or any space available. Thus, sheds and garages as well as business sites and houses are inspected. Areas such as patios, carports and porches are also inspected as these are often enclosed later as part of the living space.

Currently, the CDPHE no longer surveys 100 percent of demolition sites or building sites in Mesa County. Procedures now concentrate the surveys on properties or areas with a known history of tailings. Much of the building currently in Mesa County is new subdivisions in former fields. These are spot checked with surveys until it is determined that tailings are unlikely to be encountered.

Procedures for the Requirement of a Building Permit Survey

Upon receiving a request for a building permit survey, a record review will be performed by CDPHE to ascertain the need for a field survey. The review will include the gamma printout data books, and, if necessary, the DOE microfiche records for the location.

The following criteria will result in the execution of a field survey:

1. The property has a historical tailings or ore involvement. Historical tailings properties will always be surveyed, even if remedial action took place. Remedial actions did not always find or completely remove tailings.

2. Tailings are on an adjacent property. Adjacent properties will be surveyed if it is in an area where extensive tailings were used.

3. For information: Information surveys are in areas where previous surveys were not performed. The inspector will perform surveys on several properties in the new area (subdivisions) and determine from a visual look which properties in the area may need surveys when they are requested due to radiation readings, fill areas, or geography.

If it is determined that a survey is not to be performed, the secretary will fill out a Building Permit Records (BPR) card, print out a BPR form in duplicate, sign the form, and give one copy to the requestor. The other copy is filed and entered into the database. The BPR form indicates that "no field survey is required based upon a record review of the vicinity of the building site. No tailings deposits were identified from available records that would affect the construction site."

In communities outside of Mesa County, the CDPHE will give assistance to monitor construction and demolition sites with a history of tailings involvement. CDPHE data and files may be used to determine if a site needs a radiation survey. CDPHE may perform site visits to conduct the surveys if the data base information is inconclusive.

APPENDIX D

GAMMA RADIATION SURVEY PROCEDURES

GAMMA RADIATION SURVEYS

OBJECTIVES OF GAMMA SURVEYS

The objective of a gamma survey is to determine if radioactive materials, especially uranium mill tailings, are present on individual properties, to acquire sufficient data to evaluate the gamma levels and health risks, and to document the location and conditions of radioactive materials. Uranium mill tailings are the primary radioactive materials being surveyed, due to their radium content and potential to cause elevated radon gas in structures. The gamma surveys may locate natural soils, rocks, or ores that have elevated gamma radiation and have the potential to increase indoor radon levels. The gamma survey may also locate and identify other radioactive sources such as ore or petrified wood, which may not have a potential to increase radon, but increases health risks through gamma exposure.

BACKGROUND GAMMA RADIATION

Background radiation is the natural radioactivity of an area. Background radiation varies due to the influence of natural mineral deposits, building materials, and elevation. In western Colorado, the background levels can range from 8 to 30 microroentgens per hour (μR/h). The most common outside background levels in Mesa County are 10 to 15 μR/h. Fifteen μR/h shall be considered background in Mesa County, Colorado. A meter reading 30 percent higher than the local background level could be significant and require investigation.

NON-TAILINGS GAMMA SOURCES

There are many different radiation-producing materials besides uranium mill tailings that may be encountered during a gamma survey. Luminous-dial compasses, clocks, aircraft instruments, propane tanks, petrified wood, dinosaur bones, and ore samples may emit gamma radiation levels above 20 μR/h. In Durango, outcroppings of granite rocks may demonstrate elevated gamma radiation. These objects may act as point sources, as the gamma field drops off rapidly when the survey meter is moved away. Coal ash and some shales give a meter reading above 20 uR/h, but seldom appear as point sources. Firebrick inside fireplaces may indicate 35 uR/h. Some bricks and tiles may indicate 20 μR/h due to the materials used in their manufacture.

INTERPRETATION OF READINGS

SHINE

Radiation detected that is from a source some distance away is called shine. Shine will make it more difficult to determine the levels of radiation from nearby objects. The meter readings are higher than if the shine radiation did not exist. An example of a shine source is a large pile of radioactive tailings, or large radioactive ore pile. Shine fields are also created by strong local radioactive sources such as density gauges or metal weld x-ray devices.

To check for shine, the meter reading can be compared at ground level, waist level, and overhead. If a shine field is present, the meter will detect about the same radiation levels at waist and surface levels.

Lead shielding can be used to help interpret meter readings in a shine field. A lead shield may be wrapped around the sides of the meter to block the shine.

A comparison of shielded meter readings and unshielded readings, called a differential, may help distinguish localized elevated gamma levels from shine. A sheet of lead is placed between the instrument and the suspected area, and a meter reading is taken. The shield is removed, and a second meter reading is taken. The difference between the shielded and unshielded reading is the differential. The differential should not be greater than six, which is about 30 percent, for background radiation areas around 15 μR/h. If the differential is greater than six, the area under the shielding may be contaminated with a radioactive source. This technique loses accuracy when higher gamma fields are encountered.

CDPHE will provide assistance if a shine field is suspected and the meter readings are difficult to interpret.

GEOMETRY

A meter reading in a hole or trench may indicate higher radiation levels than a flat surface. The meter receives gamma radiation from many directions in a hole, while a surface reading mainly detects the area directly beneath it.

SHIELDING

Dense materials shield gamma radiation from detection. Examples are rock road base, asphalt, concrete, and hard packed soils. The amount of shielding depends upon the thickness. Radiation surveys over asphalt or concrete need to be performed more slowly so that the technician can observe small fluctuations on the meter. While normal soils, at 15 μR/h usually indicate no contamination, this reading on asphalt may indicate a shielded radioactive deposit.

STANDARD GAMMA SURVEY PROCEDURE

SURVEY INSTRUMENTS

The survey instruments used by the CDPHE and loaned to LGPU and private citizens are adequate to locate uranium mill tailings situated close to the ground surface. If a deposit is heavily shielded, the meter may not indicate any change from background radiation. The meters are calibrated yearly and should be given an operations check before use. Many of the instruments have been calibrated and electronically modified to give a fast response time. Instruments with an audio device are the easiest to use as one can notice the faster change in the sound (clicking speed), which is an indication of a radioactive source. The instruments are designed to give a meter reading in microroentgen per hour. A correction factor is necessary to convert to a true microroentgen per hour. The correction factor is: Meter Reading x 0.56 + 6 = True microroentgen per hour. For simplicity sake, the meter reading and not true microroentgen will be used to indicate the presence of tailings contamination. Therefore, if the surveyors meter shows 20 μR/h on the scale, this is considered 30 percent above background of 15 μR/h and that tailings contamination is present.

PERMISSION TO SURVEY

Permission to access private property must be obtained before a survey is undertaken. The owner or owner representative may give a verbal or written permission to enter a property. The surveyor should identify himself to residents on the property and state the purpose of the survey.

HEALTH AND SAFETY

Performing a gamma radiation survey is not entirely risk free. The major hazards are potential physical injuries due to falling or being trapped in a confined space. The surveyor should comply with OSHA confined space entry requirements. Prior to entering any crawlspace, the surveyor should notify a co-worker of the location and intent to survey. Some crawlspaces are too tight to enter safely. If such areas must be checked for a radiation source, an extension pole attached to a meter with audio capability would allow limited probing into the tight areas.

No hole or trench deeper than 4 feet or with sides steeper than a 45 degree angle should be entered unless the sidewall stability conforms to OSHA standards. These areas, as well as vertical cliffs, can be surveyed by lowering the meter on a rope and listening to the audio or observing the meter face with binoculars (soap on a rope technique).

Head injuries can be avoided by not watching the meter while walking. Tree limbs, air conditioners, pipes, and other extending objects are commonly at head level around houses. Using meters with the audio capability and watching the path of the survey will avoid injury.

Dogs are potentially a risk when surveying. Always ask the residents if there are dogs present and to place them indoors or tie them up, if they are likely to bite. Always be watching for dogs when entering a property.

Exposure to gamma radiation is a potential health risk to the surveyor. During the many years that CDPHE conducted gamma surveys, it was rare that any exposures above background were recorded by the monitoring badges worn by surveyors. It would be possible to receive limited gamma exposure if uranium ore samples were carried around in a vehicle. If ore is transported, it should be placed as far away from occupants as possible and removed from the vehicle and properly disposed of as soon as possible.

If the surveyor detects a radiation source above 1, 000 microroentgen per hour (one milliroentgen) , and the source is not obviously ore or uranium mill tailings, the surveyor should back out and notify the CDPHE. Such sources could be radium sources or instruments such as moisture density gauges used by the Colorado Department of Transportation.

The surveyor is expected to adhere to the ALARA principle and keep all radiation exposures As Low As Reasonably Achievable.

GENERIC SURVEY PROCEDURES

All gamma surveys will use generic procedures that address situations commonly encountered. These are centered around the readiness of the survey meter, interpretation of findings, and investigating shielded radiation sources.

The survey meter must be checked for operation before use. The meter battery level and meter scales can be compared with historical levels by using known radioactive sources. If the instrument is in the field, and no radioactive check source is available, the meter can be placed on the ground and comparisons made between the different scales.

Before surveying, the area background must be determined. Background is the normal radiation level in an uncontaminated area. Radiological contamination may be assumed if the meter registers 30 percent above background. However, holes or trenches may register 30 percent above background and not be contaminated due to the geometry. Interpretation of meter readings in trenches and holes is difficult and usually requires experience and a judgement call. It is not unusual for a water meter pit to read 20 μR/h on the survey meter and not be contaminated. If a water meter pit reads 30 μR/h on the survey meter, one should be suspicious of possible uranium tailings.

The survey should be conducted at a slow walk. Specific spots may be checked by hesitating, placing the meter on the ground, and noting the reading. The meter should be carried no more than one to four inches from the surface when walking with no wide arcing swings. The meter is placed in fast response mode on the lower scale with the audio switch on.

When surveying areas with tall vegetation (weeds). the meter will have to be alternately lifted and lowered rather than maintaining a constant one to four inches from the surface.

Shielding will hide radioactive sources from detection. The survey may detect borderline elevated readings. These areas should be explored by removing some of the shielding. Dirt or gravel may be kicked aside or shoveled away. Asphalt and concrete may be checked from the edge where an inspection hole can be dug. Wood piles and debris can sometimes be moved enough to find a spot to lower the meter to the ground. Water meter pits and manholes can be inspected by removing the cover and lowering the meter. Large manhole covers are heavy and may need a shovel or crowbar to pry it off.

SPECIFIC SURVEY PROCEDURES

BUILDING PERMIT SURVEY (NEW STRUCTURE)

In Mesa County, a cooperative program exists between the CDPHE and the City/County Planning Department to screen proposed building sites for uranium mill tailings. The generic survey procedures apply. Ten foot survey grids extending an extra 10 feet beyond the site footprint are adequate to screen for radioactive materials.

The CDPHE requests that the builder stake out the site footprint. If the site is not staked or marked, the surveyor can often over survey the area to insure inclusion of the building area.

If no unusual gamma radiation above background is detected, the BPS form is completed, signed, and given to the builder for inclusion with paperwork submitted to the Planning Department for a building permit.

If elevated gamma radiation is detected, the surveyor will explore the area to determine the source. The elevated gamma area may be checked by digging out shovel scoops. This method often determines that the source of elevated gamma is a small ore rock or that the source is not extensive.

If an extensive gamma source is discovered that cannot be removed by a few shovel scoops, the BPS form is filled out to reflect the finding, a map is drawn to locate and document the area, and the builder notified.

The CDPHE presents options to owners to mitigate radiation sources discovered on building sites. The main concern is mitigation of potential radon sources inside the structure. The secondary concern is mitigation of gamma radiation exposure through the floors of the structure. The option usually recommended is the complete removal of the source of radiation.

BUILDING PERMIT SURVEY (DEMOLITION)

Structures being demolished in Mesa County are controlled through the permit system of the County Planning Department. Structures planned for destruction should be surveyed to locate any potential uranium mill tailings contamination in the building materials.

The lower levels and all floors made from concrete should be scanned using 5 foot grids. The inspection should also include closets, bathrooms, and kitchens.

Areas to survey include the following:

Lower Level Floors	Cinder Blocks
Foundations	Stucco
Brick and Mortar	Sidewalks
Driveways	Rock Walls/ Fences
Sandboxes	Rock Gardens
Planters	Patios
Garages	Carports

If radioactive sources are discovered, the survey form is filled out and the owner or contractor notified. Options are discussed to separate radioactive contaminated materials from other debris. The radioactive materials can be located by the survey meter and marked with paint. Contaminated materials should be segregated and stockpiled or taken to the ISF.

GAMMA RADIATION SURVEY FOR INFORMATION

The CDPHE has a vast database containing the radiological conditions on thousands of properties in western Colorado. However, many properties were never surveyed and no information is available. Thus, the CDPHE will occasionally conduct a gamma survey on a property for information purposes.

Surveys on an entire property presents a problem because of the size of the area. The grids for survey must be appropriate to the area. If the area is no larger than two acres, 10 foot grids are appropriate. For very large areas, grids as large as 50 feet may be appropriate.

In the case of very large properties, the areas one inspects may be more important than walking the entire site on grids. The larger the grid size, the greater the chance of overlooking a radiation source.

On very large properties, disturbed areas, likely dump areas, roads and gates should be inspected. Any structures should be checked using the techniques for demolition sites. Lawns, gardens, and septic systems should be checked. All concrete, metal debris, hoses, and fiberglass panels should be inspected.

If a line of elevated gamma readings is detected, it may indicate a buried utility line packed in uranium mill tailings.

STREETS, ALLEYS, AND UTILITY LINE CONSTRUCTION

Prior to construction involving streets, alleys, or utility lines, the contractors should consult DOE maps delineating supplemental standard areas. The areas can be surveyed by city workers or their contractors using instruments on loan from the CDPHE. Identified uranium mill tailings contaminated areas can be marked with paint. As trenches and excavations are opened, the meter can be lowered down to better determine if the subsurface material is contaminated. If the contamination is to be removed, it must be segregated from other materials and returned to the excavation or transported to the ISF.

Surveys over concrete or asphalt should be conducted at a slow walk to give the meter time to respond. The meter must be in the fast response mode. Concrete and asphalt shields radioactive materials below, and meter changes may be only slightly higher than background.

PRIVATE REMOVALS

Private removals are remedial actions performed by a property owner or his contractors to clear an area, or entire property, of radioactive uranium mill tailings. The material may have been identified by the Building Permit Survey, by an information survey, or street/utility line construction.

For private citizens, the CDPHE will identify and delineate uranium mill tailings for removal. The identified contamination will be excavated and segregated from clean material by stockpiling on site or removal from the property to the ISF. Qualified trucking contractors are allowed to transport uranium mill tailings contamination directly to the Cheney cell. This may be the preferred option if the work is considered cost effective and timely. After 1998, this option would only be available for transport of large quantities because special arrangements with the DOE to open the Cheney cell would be required. Smaller amounts would be transported to the ISF.

For private citizens, the removals of uranium mill tailings will be monitored by the CDPHE to guide and document the excavation. The CDPHE will perform excavation control, health and safety guidance, and operate the ISF. The CDPHE will document and map the results of the removal.

DOCUMENTATION MAPS

In Mesa County, maps are required for the documentation of radioactive contamination discovered or removed during a Building Permit Survey, information survey, or private removal. CDPHE will map and document any uranium tailings discovered, disturbed, or removed from the communities in western Colorado that were not already mapped as supplemental standards areas.

The map will include the following information in the upper right corner:

Location Number (assigned by CDPHE)
Street Address, Date, and Name of Surveyor

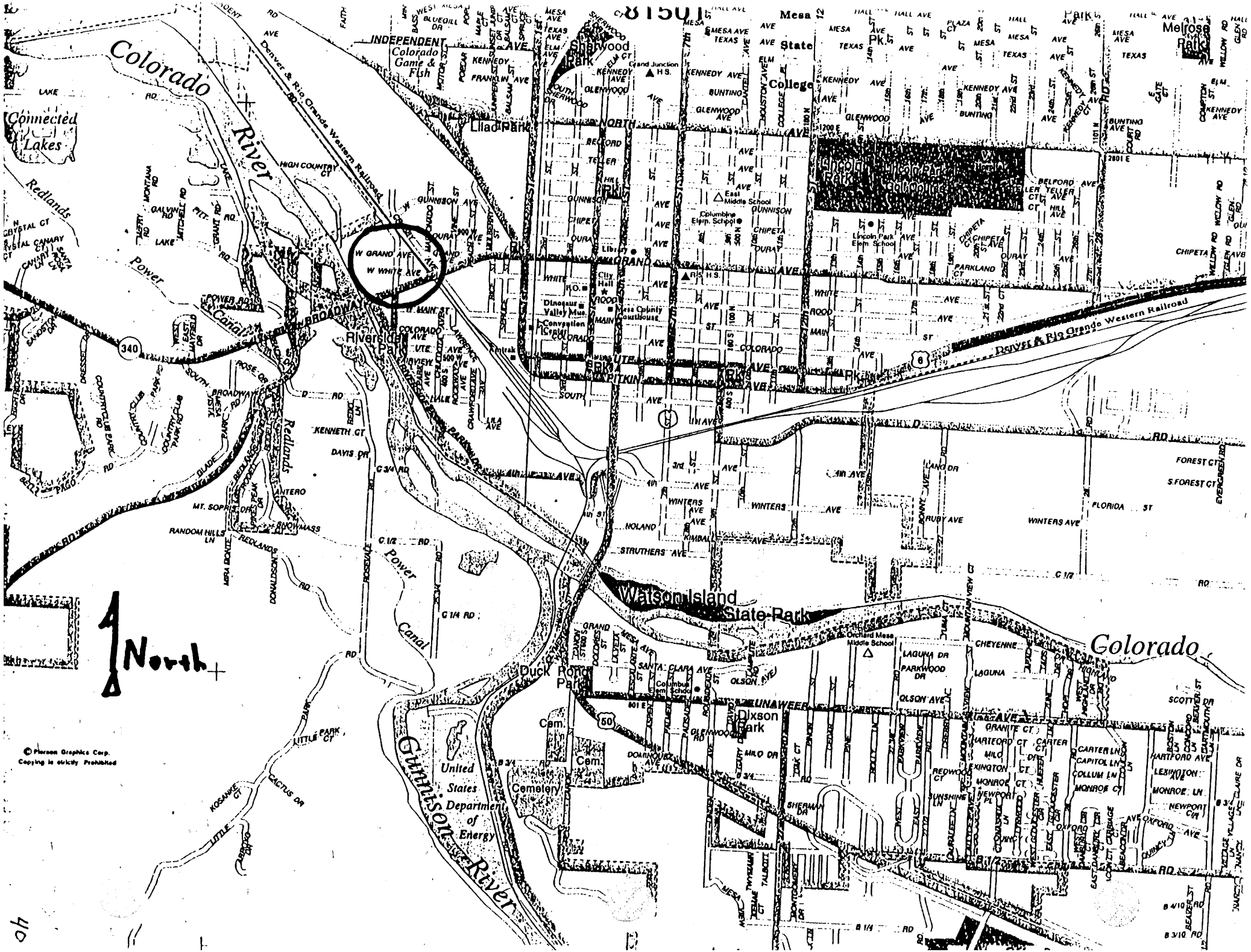
The map will include a legend with an arrow indicating north. Permanent and semipermanent reference points, such as structures, streets, driveways, streets, power poles, or irrigation ditches, will be drawn on the map.

Areas of radiation contamination should be indicated by shading with cross marking. The meter readings for the contamination should be written in the contaminated area. If the area is too small to write in, the meter reading should be indicated by an arrow drawn to the contaminated area.

If a private removal of radioactive contamination occurs, the documentation will include a map showing the conditions of the area after excavation. If the area is large, a range of readings, plus the average gamma reading, will be shown. Areas still demonstrating elevated gamma readings will be identified by the gamma reading and an arrow pointing to the spot.

APPENDIX E

MAPS



Colorado River
Connected Lakes
Redlands Power Canal
Denver & Rio Grande Western Railroad
Colorado Game & Fish
Sherwood Park
Lilac Park
Lincoln Park
Lincoln Park Golf Course
Melrose Park
Riverside Park
Watson Island State Park
Duck Pond Park
Dixson Park
Gunnison River
United States Department of Energy
Cemetery
Mesa State College
Orchard Mesa Middle School
Columbus Elem. School
Lincoln Park Elem. School
East Middle School
Dinosaur Valley Mus.
Convention Center
City Hall
Mesa County Courthouse
Library
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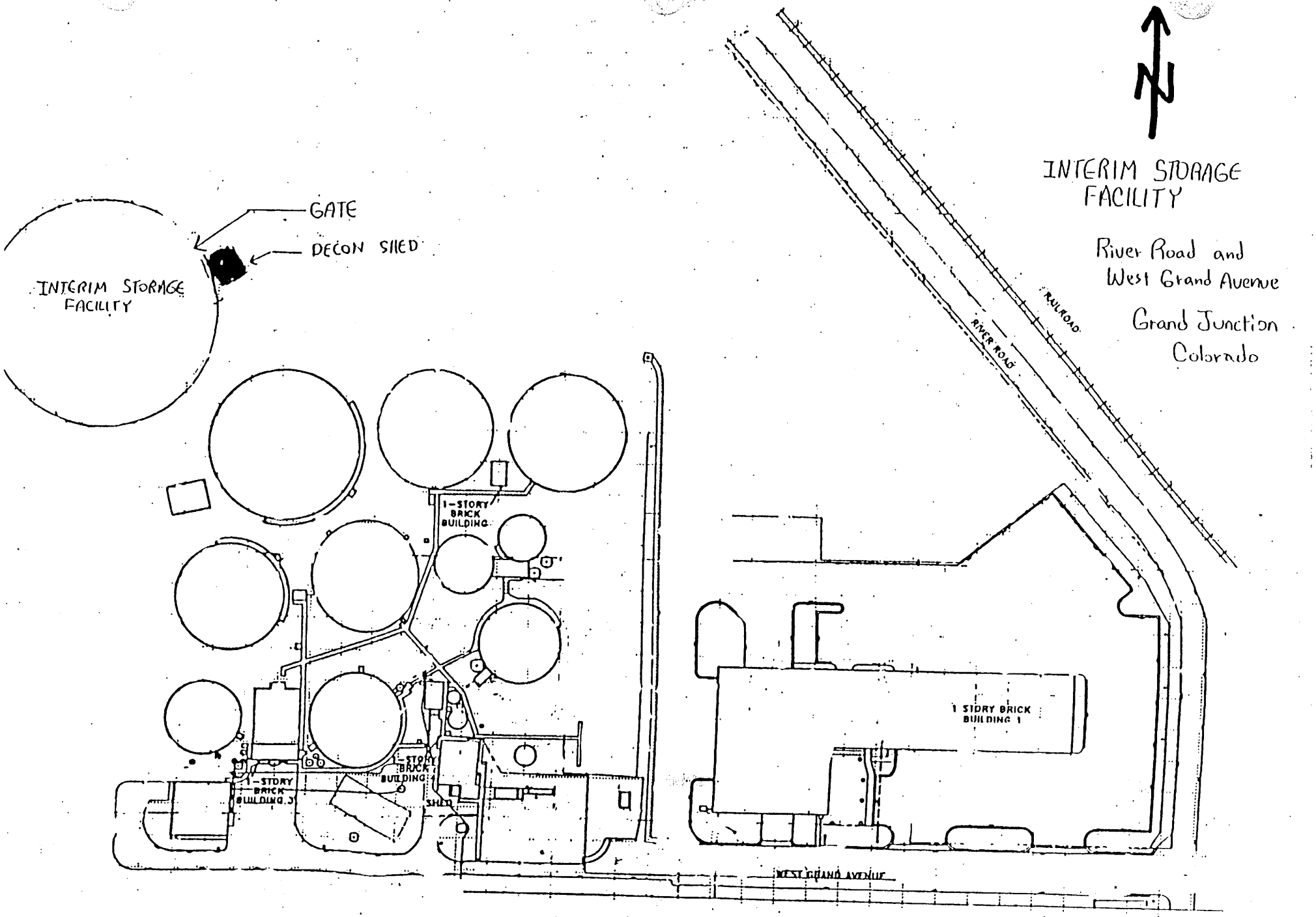
INTERIM STORAGE FACILITY
River Road and
West Grand Avenue
Grand Junction
Colorado
N
GATE
DECON SHED
INTERIM STORAGE FACILITY
RAILROAD
RIVER ROAD
1-STORY BRICK BUILDING
1-STORY BRICK BUILDING
1-STORY BRICK BUILDING 3
SHED
1 STORY BRICK BUILDING 1
WEST GRAND AVENUE

APPENDIX F

FORMS

APPENDIX F

REVISION NO. _____

PERSONNEL GAMMA RADIATION EXPOSURE LOG

PAGE _____

URANIUM MILL TAILINGS MANAGEMENT PLAN

INTERIM STORAGE FACILITY

PERSONNEL GAMMA RADIATION EXPOSURE LOG

DATE	NAME	SOCIAL SECURITY NUMBER	EMPLOYER	LOCATION (ISF)	HIGHEST GAMMA	TIME		TIME		TIME		FRISK	
						IN	OUT	IN	OUT	IN	OUT	YES	NO

APPENDIX F

REVISION No. 0

ISF USE and FRISKING LOG

PAGE_____

URANIUM MILL TAILINGS MANAGEMENT PLAN

INTERIM STORAGE FACILITY USE
and
EQUIPMENT FRISKING LOG

DATE	OPERATOR	VEHICLE I.D.	CUBIC YARDS OF TAILINGS	ORIGIN OF CONTAMINATION	HAZARDOUS WASTE INSPECTION		EQUIPMENT FRISK	
					YES	NO	YES	NO

APPENDIX G

COMMUNITY CONTACTS

MESA COUNTY

Jim Shanks
Director Public Works and Utilities
250 N. 5th Street
Grand Junction, CO 81501-2668
(970) 244-1557

John Kenney
Facilities Manager
(970) 244-1566

Tim Moore
Distribution Superintendent
Ute Water Conservancy
560 25 Road
Grand Junction, CO 81505
(970) 242-7491

Walt Hoit
City Water
(970) 260-0184

Cal Clark
Mesa County Valley School District 51
Manager Maintenance and Operations
2115 Grand Avenue
Grand Junction, CO 81501
(970) 245-2422

Rich Perske
Colorado Department of Transportation
222 South 6th Street
Grand Junction, CO 81501
(970) 248-7212

Randal Roweton
Public Service Company of Colorado
PO Box 849
2538 Blichmann Avenue
Grand Junction, CO 81505
(970) 244-2660

DURANGO

Robert Ledger Jr.
City Manager
949 E. 2nd Avenue
Durango, CO 81301-5109
(970) 385-2801

Greg Hoch
County Planner
(970) 385-2890

Carl Wilson
Colorado Department of Transportation
Region 5
(970) 385-1430

RIFLE

Tim Moore
City Engineer
PO Box 1908
Rifle, CO 81650
(970) 625-2121

Rich Perske
Colorado Department of Transportation
(970) 248-7212

GUNNISON

Ken Coleman
Public Works Director
(970) 641-8322

Eddie Balch
Water Superintendent
(970) 641-8330

John DeVore
County Manager
200 E. Virginia Ave.
Gunnison, CO 81230
(970) 641-0248

SLICK ROCK

Curt Sealey
UMETCO Minerals Corporation
2754 Compass Drive
Grand Junction, CO 81506
(970) 245-3700

Dave Schneck
San Miguel Co. Env. Health
((970) 728-0447

NATURITA

Greg Hall
Naturita Town Mayor
(970) 865-2235

Dave Reese
Colorado Department of Transportation
(970) 626-4377

Mary Helen DeKovend
Nucla Town Mayor
(970) 864-7354

Homer Sanson
San Miguel Power Co.
(970) 864-7311

MAYBELL

Deborah Murray
Moffat County Commissioners Office
221 W. Victory Way
Craig, CO 81625
(970) 824-9108

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STATE OF COLORADO

Bill Owens, Governor
Jane E. Norton, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
TDD Line (303) 691-7700
Located in Glendale, Colorado

http://www.cdphe.state.co.us

Laboratory and Radiation Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department
of Public Health
and Environment

September 26, 2001

Dan Wilson
City Attorney
City of Grand Junction
Riverview Technology Corporation
Grand Junction, CO 81501

Re: Groundwater Management under the Final Deferral Request at the Former DOE Grand Junction Office Facility

Dear Mr. Wilson:

On Wednesday September 5, 2001 the Colorado Department of Public Health and the Environment, Hazardous Materials and Waste Management Division (the Division), participated in a conference call with you and Xcel Energy to discuss the requirements for management of contaminated groundwater if it is encountered during either emergency or planned construction activities at the Grand Junction Office (GJO) Facility. Ownership of the GJO Facility will be transferred in the near future from the U.S. Department of Energy (DOE) to the Riverview Technology Corporation (RTC).

Because contaminated groundwater underneath the facility is present, and will remain until it has been remediated through natural flushing, a Deferral Request (DR) for the transfer has been completed and approved by the Division and the Governor of Colorado. The DR outlines requirements and restrictions for the groundwater designed to prevent its disturbance or exposure. Deferred remediation for the site will be completed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120(h) as outlined by the final DR. In accordance with Senate Bill No. 181 and the Colorado Water Quality Control Act, the Division is authorized as the lead regulatory agency in regard to managing the contaminated groundwater on-site at the GJO Facility.

Exhibit E to Attachment B of the final DR contains a Contingency Plan, or agreement between the DOE, RTC, and Division that outlines the procedures that will be followed in the event that contaminated groundwater or soil will be encountered during either planned construction activities or emergency operations at the facility. Such activities may include the installation of utilities or foundations during planned construction of new facilities on the property or maintenance and repair of utility lines or foundations during emergency work. This letter is written for the purpose of providing clarification to the requirements in the plan for management of contaminated or potentially contaminated groundwater.

As described in the final DR, groundwater beneath the site remains contaminated with both radioactive and hazardous constituents above state and federal groundwater standards. If contaminated groundwater is encountered during an emergency, as defined by the Contingency Plan, contaminated groundwater may be pumped out of the active excavation and discharged on-site to either the ground via sprinklers to prevent ponding, or into the surface water ponds for as long as needed to make the necessary repairs. In either case, necessary precautions must be maintained to ensure that the water is not discharged to the Gunnison River or otherwise off-site. This activity will not require a discharge permit from the Colorado Water Quality Control Division (CWQCD). Please note however, in accordance with the Contingency Plan, CDPHE and DOE will be notified of the emergency as soon as possible.

Based on the reported concentrations of contaminates in the groundwater, disposal of the groundwater to the surface soils will not result in any significant soil contamination. The Division also believes that discharge of the groundwater to the surface water ponds on-site will not deteriorate the quality of the water in the surface ponds. Groundwater beneath the site is considered to be in direct hydraulic connection with the water in the surface ponds. The water quality in the groundwater and in the surface water ponds on-site is considered to be equivalent.

When it is anticipated that planned construction activities on-site will or may encounter contaminated groundwater, then the Division and DOE will be provided with notice in the form of a Project Plan thirty (30) days prior to commencing the construction activities in accordance with Section 4 of the Contingency Plan. As required by Section 5 of the Contingency Plan, the Project Plan will include a description of whether or not groundwater will be encountered. If the potential to encounter groundwater exists, then the Project Plan must also describe how that groundwater will be managed. While this activity would also not require a discharge permit from the CWQCD, the Division reserves the right to impose any requirement deemed necessary to protect human health and the environment. Such requirements may include inspection and monitoring requirements to ensure that the integrity of the ponds are maintained and not overfilled, reporting requirements which provide updates to the Division on the status of the construction project and associated groundwater management, or other requirements that ensure groundwater will not be discharged to the Gunnison River or otherwise off-site.

I hope this clarifies any questions that you may have regarding the disposition of groundwater encountered during either planned construction activities or emergency situations. If you have any questions or comments regarding this matter, please call me at (303) 692-3414.

Sincerely,

Doug Knappe

Doug Knappe, PE
Remediation and Restoration Unit
Federal Facilities Program
Hazardous Materials and Waste Management Division

cc: Mike Liuzzi, WQCD
Wendy Naugle, HMWMD
Eldon, Lindt, Xcel Energy
Susan Nachtrieb, WQCD
Paul Oliver, HMWMD-Grand Junction
Cooper Wayman, DOE GJO