

UNITED STATES  
ATOMIC ENERGY COMMISSION

Post Office Box 470  
St. Charles, Missouri 63301

SEP 27 1966

IN REPLY REFER TO:  
MAILS

Mr. J. J. Donovan  
Executive Vice President  
Continental Mining & Milling Co.  
Suite 833 - 203 South LaSalle St.  
Chicago, Illinois 60604

Subject: CONTRACT NO. AT-(23-2)-56, MODIFICATION NO. 1

Dear Mr. Donovan:

We are in receipt of your letter of September 23 returning three signed copies of the subject contract modification and forwarding a cashier's check in the amount of \$14,000. Attached is one fully executed copy of the contract modification.

This is your authority to remove the material purchased under the subject contract modification. Your prompt action in this matter is appreciated.

If we can be of further assistance, please let us know.

Very truly yours,

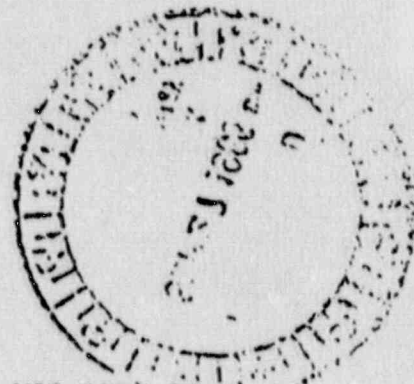
F. H. Bolcher  
Area Manager

Enclosure: 577 E. ...  
Executed by of ...  
Mod. 1

285 37  
cc: Mr. R. H. Miller, OROO  
Way encl.

NOTE: Cashier's check in the amount of \$14,000 was sent to the OROO Finance Division on Form OR-597 September 26, 1966.

9004250206 900410  
PDR ADOCK 04008035  
B PDR



WHEREAS, the UNITED STATES OF AMERICA (hereinafter called the "Government"), acting by and through the UNITED STATES ATOMIC ENERGY COMMISSION (hereinafter called the "Commission"), has heretofore conveyed to CONTINENTAL MINING & MILLING CO. (hereinafter called the "Purchaser"), a Delaware corporation, whose principal office is located at 266 South LaSalle Street, Chicago, Illinois, certain personal property located at St. Louis, Missouri, described in Bill of Sale, dated February 25, 1966, designated as Contract No. AT-(23-2)-56; and

WHEREAS, the Government desires to sell, and the Purchaser desires to buy, additional personal property similarly located;

NOW, THEREFORE, for and in consideration of the sum of Fourteen Thousand Dollars (\$14,000.00) cash in hand paid, receipt of which is acknowledged, the Government hereby bargains, sells, and conveys to the Purchaser approximately 3500 tons of C-liner slag stored on the east end of a Government-owned site located at 50 Brown Road, Robertson, Missouri, as shown on Drawing No. 6-1403-19 attached to the original Bill of Sale designated as Contract No. AT-(23-2)-56.

THIS SUPPLEMENTAL BILL OF SALE is subject to all of the terms and conditions of Bill of Sale, dated February 25, 1966, designated as Contract No. AT-(23-2)-56 as if incorporated herein except as follows:

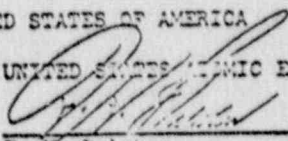
- a. The furnishing of an additional performance bond by the Purchaser is not required.
- b. The material purchased under this Supplemental Bill of Sale shall be completely removed within the 400 calendar days prescribed in Paragraph 5. b. of Contract No. AT-(23-2)-56.
- c. Payment of the purchase price in full shall be made by the Purchaser upon execution and delivery of this Supplemental Bill of Sale at which time title to the material sold hereunder shall pass to the Purchaser.

IN WITNESS WHEREOF, the United States Atomic Energy Commission has caused this Supplemental Bill of Sale to be executed in the name of and on behalf of the Government by its duly authorized representative this 26th day of September, 1966.

UNITED STATES OF AMERICA

BY: UNITED STATES ATOMIC ENERGY COMMISSION

BY:

  
F. K. Belcher  
Area Manager  
St. Louis Area Office

STATE OF MISSOURI  
COUNTY OF ST. CHARLES

Before me, John R. Renshaw, a Notary Public of the State and County aforesaid, personally appeared F. K. Belcher, with whom I am personally acquainted, and who, upon oath, acknowledged himself to be a duly authorized representative of the United States Atomic Energy Commission, an Agency of the United States of America, and that he as such authorized representative, being duly authorized so to do,

And the foregoing instrument for the purpose herein contained is a true and correct copy of the original as the same is on file in the United States District Court for the Eastern District of Missouri, himself as such authorized representative.

Witness my hand and seal at office in Weldon Spring, St. Charles County, Missouri, this 23rd day of September, 1966.

John P. B. B. B.  
Notary Public

My commission expires the 23rd  
day of September, 1966.

Accepted this 23rd day of September, 1966, on the terms and conditions hereinabove set forth.

CONTINENTAL MINING & MILLING CO.

BY:

W. J. B. B. B.  
TITLE: Executive Vice President

ATTEST:

BY:

TITLE:

Secretary



open to all types, kinds, and classes of aeronautical use without discrimination between such types, kinds and classes. Provided, that the grantee may establish such fair, equal, and not unjustly discriminatory conditions to be met by all users of the airport as may be necessary for the safe and efficient operation of the airport; and provided, further, that the grantee may prohibit or limit any given type, kind or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport or necessary to serve the civil aviation needs of the public. (2) That in its operation and the operation of facilities on the airport, neither it nor any person or organization occupying space of facilities thereupon will discriminate against any person or class of persons by reason of race, color, creed, or national origin in the use of any of the facilities provided for the public on the airport. (3) That in any agreement, contract, lease, or other arrangement under which a right or privilege at the airport is granted to any person, firm or corporation to conduct or engage in any aeronautical activity for furnishing services to the public at the airport, the grantee will insert and enforce provisions requiring the contractor: (a) to furnish said service on a fair, equal and not unjustly discriminatory basis to all users thereof, and (b) to charge fair, reasonable and not unjustly discriminatory prices for each unit of service, provided, that the contractor may be allowed to make reasonable and nondiscriminatory discounts, rebates, or other similar types of price reductions to volume purchasers. (4) That the grantee will not exercise or grant any right or privilege which would operate to prevent any person, firm, or corporation operating aircraft on the airport from performing any services on its own aircraft with its own employees (including, but not limited to maintenance and repair) that it may choose to perform. (5) That in the event the grantee itself exercises any of the rights and privileges referred to in subsection (3) above the services involved will be provided on the same conditions as would apply to the furnishing of such services by contractors or concessionaires of the grantee under the provisions of such subsection (3) of this paragraph 7 B.

C. The grantee will not grant or permit any exclusive right for the use of the airport at which the property described herein is located which is forbidden by Section 308 of the Federal Aviation Act of 1958, as amended, by any person or persons to the exclusion of others in the same class and will otherwise comply with all applicable laws. In furtherance of this covenant (but without limiting its general applicability and effect), the grantee, specifically agrees that, unless authorized by the Administrator, it will not either directly or indirectly, grant or permit any person, firm or corporation the exclusive right to conduct any aeronautical activity on the airport including but not limited to, charter flights, pilot training, aircraft rental and sightseeing, aerial photography, crop dusting, aerial advertising and surveying, air carrier operations, aircraft sales, and services, sale of aviation petroleum products whether or not conducted in conjunction with other aeronautical activity, repair and maintenance of aircraft, sale of aircraft parts, and any other activities which because of their direct relationship to the operation of aircraft can be regarded as an aeronautical activity. The grantee further agrees that it will terminate as soon as possible and no later than the earliest renewal, cancellation, or expiration date applicable thereto, any exclusive right existing at any airport owned or controlled by the grantee and that, thereafter, no such right shall be granted. However, nothing contained herein shall be construed to prohibit the granting or exercise of exclusive right for the furnishing of nonaviation products and supplies or any service of a nonaeronautical nature or to obligate the grantee to furnish any particular nonaeronautical service at the airport.

D. The grantee shall, insofar as it is within its powers and to the extent reasonable, adequately clear and protect the aerial approach to the airport. The grantee will, either by the acquisition and retention of easements or other interests in or rights for the use of land airspace or by the adoption and enforcement of zoning regulations, prevent the construction, erection, alteration, or growth of any structure, tree, or other object in the approach areas of the runways of the Airport which would constitute an obstruction to air navigation according to the criteria or standards prescribed in Part 77 of the Federal Aviation Regulations, as applicable, according to the currently approved airport layout plan. In addition, the grantee will not erect or permit the erection of any permanent structure or facility which would interfere materially with the use, operation, or future development of the Airport, in any portion of a runway approach area in which the grantee has acquired, or may hereafter acquire, property interest permitting it to so control the use, sale of the surface of the



land. Insofar as is within its power and to the extent reasonable the grantee will take action to restrict the use of the land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations including landing and take-off of aircraft.

E. The grantee will operate and maintain in a safe and serviceable condition, as deemed reasonably necessary by the Administrator of the FAA, the airport and all facilities thereon and connected therewith which are necessary to service the aeronautical users of the airport other than facilities owned or controlled by the United States and will not permit any activity thereon which would interfere with its use for airport purposes. Provided, that nothing contained herein shall be construed to require that the airport be operated for aeronautical uses during temporary periods when snow, flood, or other climatic conditions interfere with such operation and maintenance, repair, restoration or replacement of any structure or facility which is substantially damaged or destroyed due to an act of God or other condition or circumstance beyond the control of the grantee.

F. That the grantee will make available all facilities of the airport at which the property described herein is located or developed with Federal aid and all those usable for the landing and taking off of aircraft to the United States at all times, without charge, for use by aircraft of any Agency of the United States in common with other aircraft, except that if the use by aircraft of any Agency of the United States in common with other aircraft, is substantial, a reasonable share, proportional to such use, of the cost of operating and maintaining facilities so used, may be charged; and unless otherwise determined by the FAA, or otherwise agreed to by the grantee and the using Federal Agency, substantial use of an airport by United States aircraft will be considered to exist when operations of such aircraft are in excess of those which, in the opinion of the FAA, would unduly interfere with use of the landing area by other authorized aircraft or during any calendar month that (1) within five (5) or more aircraft of any Agency of the United States are regularly based at the airport or on land adjacent thereto, or (2) the total number of movements (counting each landing as a movement and each take-off as a movement) of aircraft of any Agency of the United States is 300 or more, or (3) the gross accumulative weight of aircraft of any Agency of the United States using the airport (the total movements of such Federal aircraft multiplied by gross certified weights thereof) is in excess of five million pounds.

G. The grantee will not permit any structure, other than structures required for aids to air navigation and such other structures as may be specifically excepted in writing by the FAA, to be erected or remain on the land herein described and to and in which the grantor's property interest is hereby conveyed nor will it permit any use to be made of the said land which would result in or create electrical or electronic interference with electronic air navigational aids or aeronautical radio communications or smoke, lights or glare or other impairment to the vision of pilots of aircraft using the above-identified airport or which would render it difficult for such pilots to distinguish between airport lights and others, or which would create noxious odors or attract waterfowl or otherwise endanger or be hazardous to aircraft landing at, taking off from or maneuvering in the vicinity of the said airport, or permit any object of natural growth on the said land within 200 feet of an Approach Light System component to extend above the plane of the light path thereof.

H. The grantee does hereby release the Government, and will take whatever action may be required by the Administrator of the FAA to assure the complete release of the Government from any and all liability the Government may be under for restoration or other damage under any lease or other agreement covering the use by the Government of the airport, or part thereof, owned, controlled or operated by the grantee, upon which, adjacent to which, or in connection with which, any property transferred by this instrument was located or used. Provided, that no such release shall be construed as depriving the grantee of any right it may otherwise have to receive reimbursement under Section 17 of the Federal Airport Act of 1946, as amended, for the necessary rehabilitation or repair of public airports heretofore or hereafter substantially damaged by any Federal agency.

I. That whenever so requested by the FAA, grantee will furnish without cost to the Federal Government, for construction, operation and maintenance of facilities for air traffic control activities, or weather reporting activities, or communication activities related to air traffic control, such areas of the property described herein or rights in buildings on the airport at which the property described herein is located, as the FAA may consider necessary or desirable for construction at Federal expense of space or facilities for such purposes, and the grantee will make available such areas or any portion thereof for the purposes provided herein within 4 months after receipt of written request from the FAA, if such are or will be available.

J. The grantee will: (1) furnish the FAA with annual or special airport financial and operational reports as may be reasonably requested using either forms furnished by the FAA or in such manner as it elects so long as the essential data are furnished, and (2) upon reasonable request of the FAA; make available for inspection by and duly authorized representative of the FAA the airport, at which the property described herein is located, and all airport records and documents affecting the Airport, including deeds, leases, operation and use agreements, regulations, and other instruments and will furnish to the FAA a true copy of any such document which may be reasonably requested.

K. And, that the grantee will not enter into any transaction which would operate to deprive it of any of the rights and powers necessary to perform or comply with any or all of the covenants and conditions set forth herein unless by such transaction the obligation to perform or comply with all such covenants and conditions is assumed by another public agency found by the FAA to be eligible as a public agency as defined in the Federal Airport Act of 1946, as amended, to assume such obligation and have the power, authority, and financial resources to carry out all such obligations and, if an arrangement is made for management or operation of the Airport by any agency or person other than the party of the second part, it will reserve sufficient rights and authority to insure that such Airport will be operated and maintained in accordance with these covenants and conditions, any applicable Federal Statute, and the Federal Aviation regulations.

L. And, that the grantee will keep up to date at all times an airport layout map of the Airport at which the property described herein is located showing: (a) the boundaries of the Airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the grantee for airport purposes and proposed additions thereto; (b) the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars, and roads), including all proposed extension and reductions of existing airport facilities; (c) the location of all existing and proposed nonaviation areas and of all existing improvements thereon and uses made thereof and such airport layout map and each amendment, revision, or modification thereof, shall be subject to the approval of the FAA, which approval shall be evidenced by the signature of a duly authorized representative of the FAA on the face of the airport layout map, and the grantee will not make or permit the making of any changes or alterations in the Airport or any of its facilities other than in conformity with the airport layout map as so approved by the FAA, if such changes or alterations might adversely affect the safety, utility, or efficiency of the Airport.

M. And, that if at any time it is determined by the FAA that there is any outstanding right or claim of right in or to the Airport property, described herein, the existence of which creates an undue risk of interference with the operation of the Airport or the performance of compliance with covenants and conditions set forth herein, the grantee will acquire, extinguish or modify such right or claim of right in a manner acceptable to the FAA.

N. That in the event that any of the aforesaid terms, conditions, reservations, or restrictions are not met, observed, or complied with by the grantee or any subsequent transferee, whether caused by the legal inability of said grantee or subsequent transferee to perform any of the obligations herein set out, or otherwise, the title, right of possession and all other

rights transferred by this instrument to the grantee, or any portion thereof, shall at the option of the grantor revert to the grantor in its then existing condition sixty (60) days following the date upon which demand to this effect is made in writing by the Administrator of the PAA or his successor in function, unless within said sixty (60) days such default or violation shall have been cured and all such terms, conditions, reservations and restrictions shall have been met, observed, or complied with, in which event said reversion shall not occur and title, right of possession, and all other rights transferred hereby, except such, if any, as shall have previously reverted, shall remain vested in the grantee, its transferees, successors and assigns.

O. That if the construction as covenants of any of the foregoing reservations and restrictions recited herein as covenants or the application of the same as covenants in any particular instance is held invalid, the particular reservation or restrictions in question shall be construed instead merely as conditions upon the breach of which the Government may exercise its option to cause the title, interest, right of possession, and all other rights transferred to the grantee, or any portion thereof, to revert to it, and the application of such reservations or restrictions as covenants in any other instance and the construction of the remainder of such reservations and restrictions as covenants shall not be affected thereby.

P. The grantee has inspected and is fully familiar with the physical condition of the tract of land herein conveyed. The Government has made no representation, warranties, or undertakings as to such condition or that the land is free and clear of all contamination and hidden hazards, or as to the fitness or availability of the land for any particular use. The Government has transmitted to the grantee available information on radiation and contamination levels with respect to the lands herein conveyed and the grantee acknowledges the receipt of this information. The grantee recognizes that the subsurface of the tract of land herein conveyed is contaminated with source material as defined in the Atomic Energy Act of 1954, as amended, and in the Atomic Energy Commission regulations, and that future use of such tract shall be dependent upon the effectiveness of the cover and fill material in reducing external radiation to acceptable levels. The grantee hereby covenants for itself, its successors, and assigns that:

(1) There shall be no removal of earth covered by excavation, drilling, or other disturbance without prior notice to the United States Atomic Energy Commission, Washington, D. C., or if the State of Missouri has executed and there is in effect an Agreement with the United States Atomic Energy Commission, pursuant to Section 274c of the Atomic Energy Act of 1954, as amended, to the State of Missouri department or agency responsible for the licensing and regulation of radioactive materials; provided that this restriction shall apply only to any excavation, drilling, or other disturbance affecting the earth more than 12 inches below the site elevations as they existed on October 7, 1971, as shown on topographic survey map prepared by Howland Surveying Company, Inc., Clayton, Missouri, which map is attached hereto and made a part hereof; and

(2) All applicable regulatory requirements of the Atomic Energy Commission or any State agency having regulatory authority over radioactive material shall be complied with.

8. AND IT IS FURTHER AGREED AND UNDERSTOOD by and between the parties hereto and the grantee, by its acceptance of this Quitclaim Deed, acknowledges its understanding of the agreement, and agrees that, as part of the consideration for this deed, the grantee covenants and agrees for itself, its successors and assigns, that: (1) the program for or in connection with which this Deed is made will be conducted in compliance with, and the grantee, its successors and assigns, will comply with all requirements imposed by or pursuant to the regulations of the PAA as in effect on the date of this Deed (14 CFR Part 15) issued under the provisions of Title VI of the Civil Rights Act of 1964; (2) this covenant shall be subject in all respects to the provisions of said regulations; (3) the grantee, its successors and assigns, will promptly take and continue to take such action as may be necessary to effectuate this covenant; (4) the United States shall



have the right to seek judicial enforcement of this covenant; (5) the grantee, its successors and assigns, will: (a) obtain from any person (any legal entity) who, through contractual or other arrangements with the grantee, its successors and assigns, is authorized to provide services or benefits under said program, a written agreement pursuant to which such other person shall, with respect to the services or benefits which he is authorized to provide, undertake for himself the same obligations as those imposed upon the grantee, its successors and assigns, by this covenant; (b) furnish the original of such agreement to the Administrator of the FAA, or his successor, upon his request therefor; and that this covenant shall run with the land hereby conveyed, and shall in any event, without regard to technical classification or designation, legal or otherwise, be binding to the fullest extent permitted by law and equity for the benefit of, and in favor of the grantor and enforceable by the grantor against the grantee, its successors, and assigns.

IN WITNESS WHEREOF, the party of the first part has caused this Quitclaim Deed to be executed in its name and on its behalf, the day and year first above written.

UNITED STATES OF AMERICA  
Acting by and through  
Administrator of General Services

By Charles W. McKinney  
Chief, Real Property Division  
Property Management and Disposal  
Service  
General Services Administration  
Region 6  
Kansas City, Missouri

WITNESSES:

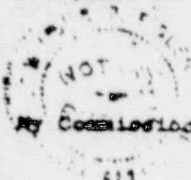
W. J. Graham  
John P. Burt

# ACKNOWLEDGMENT

STATE OF MISSOURI }  
COUNTY OF JACKSON } 35

I, Wilbur F. Fidler, a Notary Public in and for said State and County aforesaid, do certify that on the 14 day of March, 1972, before me appeared Charles W. McKinney, Chief, Real Property Division, who executed the foregoing deed, to me personally known, and known to me to be such Chief, Real Property Division, who being by me duly sworn did say that he is such Chief, Real Property Division, and that he signed his name and caused the seal of the General Services Administration to be affixed to said deed in pursuance of proper authority, and that said deed was signed and sealed by him as such Chief, Real Property Division, on behalf of the UNITED STATES OF AMERICA; and that said Charles W. McKinney acknowledged the execution of said deed to be his free act and deed as such Chief, Real Property Division, and the free act and deed of the UNITED STATES OF AMERICA, by the Administrator of General Services, and the free act and deed of the General Services Administration, acting for the UNITED STATES OF AMERICA, and that the seal affixed to said deed is the official seal of the General Services Administration.

IN WITNESS WHEREOF, I hereunto set my hand in the County and State aforesaid on the date last above written.



Wilbur F. Fidler  
Wilbur F. Fidler  
Notary Public

My Commission Expires: August 14, 1972.

6666 547

ACCEPTANCE

The St. Louis Airport Authority does hereby accept this Quitclaim Deed and by such acceptance agrees to all of the terms and conditions thereof.

Executed this 15th day of May, 1973.

(Official Seal)

Attest

Title

Grace Hancock  
Registrar

By

Title

David V. Laigh  
Acting Director of Airport  
Authority

By

Title

John P. Bass, Sr.  
Controller

Certificate of Grantee's Attorney

I, Jack L. Gosh, acting as attorney for the St. Louis Airport Authority herein referred to as the "grantee" do hereby certify: That I have examined the foregoing quitclaim deed and the proceedings taken by the grantee relating thereto and find that the acceptance thereof by the grantee has been duly authorized and that the execution thereof is in all respects due and proper and in accordance with the laws of the State of Missouri, and further that, in my opinion, the Quitclaim Deed constitutes a legal and binding compliance obligation of the grantee in accordance with the terms thereof.

Dated at St. Louis, Missouri the 15th day of May, 1973.

By

Title

Jack L. Gosh  
City Controller

Mo. 5

182929

Mo

JAN 2 8 1981

Mr. Burt McCullough  
Missouri Department of  
Natural Resources  
P. O. Box 1358  
1915 Southridge Drive  
Jefferson City, Missouri 65102

Dear Mr. McCullough:

In response to your letter of December 18, 1980, we have carefully researched the information that the Department has on the West Lake Landfill in St. Louis County and determined that we have nothing to add to the information you received from Mr. E. L. Keller (Department of Energy - Oak Ridge Operations Office) at the December 9, 1980, meeting. The Department does not have plans for future activities at the West Lake Landfill. The radioactive material deposited at the Landfill was under license by the Nuclear Regulatory Commission and therefore is under their jurisdiction. Therefore, I have forwarded your request for information to the Division of Fuel Cycle and Material Safety, Nuclear Regulatory Commission.

If I can be of any further assistance to you, contact me on 301-353-3016 or Gale Turi of my staff on 301-353-2766.

Sincerely,

William E. Mott, Director  
Environmental and Safety  
Engineering Division  
Office of Environment (EV-14)

Enclosure  
Ltr. to Cunningham from Mott, dtd. 1/28/81

bcc: E. L. Keller, OR  
R. W. Ramsey, NE-301

Aerospace

EV-14:GTuri:dr:353-2766:1/28/81:EV-14-80-161:DF-43

*Gale Turi*

CONCURRENCES	
RTG SYMBOL	EV-14
INITIALS/SIG	Barber
DATE	1/28/81
RTG SYMBOL	EV-14
INITIALS/SIG	Mott
DATE	1/28/81
RTG SYMBOL	
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D. The grantee will operate and maintain in a safe and serviceable condition, as deemed reasonably necessary by the Administrator of the FAA, the airport and all facilities thereon and connected therewith which are necessary to service the aeronautical users of the airport other than facilities owned or controlled by the United States and will not permit any activity thereon which would interfere with its use for airport purposes. Provided, that nothing contained herein shall be construed to require that the airport be operated for aeronautical uses during temporary periods when snow, flood, or other climatic conditions interfere with such operation and maintenance, repair, restoration or replacement of any structure or facility which is substantially damaged or destroyed due to an act of God or other condition or circumstance beyond the control of the grantee.

F. That the grantee will make available all facilities of the airport at which the property described herein is located or developed with Federal aid and all those usable for the landing and taking off of aircraft to the United States at all times, without charge, for use by aircraft of any Agency of the United States in common with other aircraft, except that if the use by aircraft of any Agency of the United States in common with other aircraft, is substantial, a reasonable share, proportional to such use, of the cost of operating and maintaining facilities so used, may be charged; and unless otherwise determined by the FAA, or otherwise agreed to by the grantee and the using Federal Agency, substantial use of an airport by United States aircraft will be considered to exist when operations of such aircraft are in excess of those which, in the opinion of the FAA, would unduly interfere with use of the landing area by other authorized aircraft or during any calendar month that (1) either five (5) or more aircraft of any Agency of the United States are regularly based at the airport or on land adjacent thereto, or (2) the total number of movements (counting each landing as a movement and each take-off as a movement) of aircraft of any Agency of the United States is 300 or more, or (3) the gross accumulative weight of aircraft of any Agency of the United States using the airport (the total movements of such Federal aircraft multiplied by gross certified weights thereof) is in excess of five million pounds.

G. The grantee will not permit any structure, other than structures required for aids to air navigation and such other structures as may be specifically excepted in writing by the FAA, to be erected or remain on the land herein described and to and in which the grantor's property interest is hereby conveyed nor will it permit any use to be made of the said land which would result in or create electrical or electronic interference with electronic air navigational aids or aeronautical radio communications or smoke, lights or glare or other impairment to the vision of pilots of aircraft using the above-identified airport or which would render it difficult for such pilots to distinguish between airport lights and others, or which would create noxious odors or attract waterfowl or otherwise endanger or be hazardous to aircraft landing at, taking off from or maneuvering in the vicinity of the said airport, or permit any object of natural growth on the said land within 200 feet of an Approach Light System component to extend above the plane of the light path thereof.

H. The grantee does hereby release the Government, and will take whatever action may be required by the Administrator of the FAA to assure the complete release of the Government from any and all liability the Government may be under for restoration or other damage under any lease or other agreement covering the use by the Government of the airport, or part thereof, owned, controlled or operated by the grantee, upon which, adjacent to which, or in connection with which, any property transferred by this instrument was located or used; Provided, that no such release shall be construed as depriving the grantee of any right it may otherwise have to receive reimbursement under Section 17 of the Federal Airport Act of 1946, as amended, for the necessary rehabilitation or repair of public airports heretofore or hereafter substantially damaged by any Federal agency.



I. That whenever so requested by the FAA, grantee will furnish without cost to the Federal Government, for construction, operation and maintenance of facilities for air traffic control activities, or weather reporting activities, or communication activities related to air traffic control, such areas of the property described herein or rights in buildings on the airport at which the property described herein is located, as the FAA may consider necessary or desirable for construction at Federal expense of space or facilities for such purposes, and the grantee will make available such areas or any portion thereof for the purposes provided herein within 4 months after receipt of written request from the FAA, if such are or will be available.

J. The grantee will: (1) furnish the FAA with annual or special airport financial and operational reports as may be reasonably requested using either forms furnished by the FAA or in such manner as it elects so long as the essential data are furnished, and (2) upon reasonable request of the FAA, make available for inspection by and duly authorized representative of the FAA the airport, at which the property described herein is located, and all airport records and documents affecting the Airport, including deeds, leases, operation and use agreements, regulations, and other instruments and will furnish to the FAA a true copy of any such document which may be reasonably requested.

K. And, that the grantee will not enter into any transaction which would operate to deprive it of any of the rights and powers necessary to perform or comply with any or all of the covenants and conditions set forth herein unless by such transaction the obligation to perform or comply with all such covenants and conditions is assumed by another public agency found by the FAA to be eligible as a public agency as defined in the Federal Airport Act of 1946, as amended, to assume such obligation and have the power, authority, and financial resources to carry out all such obligations and, if an arrangement is made for management or operation of the Airport by any agency or person other than the party of the second part, it will reserve sufficient rights and authority to insure that such Airport will be operated and maintained in accordance with these covenants and conditions, any applicable Federal Statute, and the Federal Aviation regulations.

L. And, that the grantee will keep up to date at all times an airport layout map of the Airport at which the property described herein is located showing: (a) the boundaries of the Airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the grantee for airport purposes and proposed additions thereto; (b) the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars, and roads), including all proposed extension and reductions of existing airport facilities; (c) the location of all existing and proposed nonaviation areas and of all existing improvements thereon and uses made thereof and such airport layout map and each amendment, revision, or modification thereof, shall be subject to the approval of the FAA, which approval shall be evidenced by the signature of a duly authorized representative of the FAA on the face of the airport layout map, and the grantee will not make or permit the making of any changes or alterations in the Airport or any of its facilities other than in conformity with the airport layout map as so approved by the FAA, if such changes or alterations might adversely affect the safety, utility, or efficiency of the Airport.

M. And, that if at any time it is determined by the FAA that there is any outstanding right or claim of right in or to the Airport property, described herein, the existence of which creates an undue risk of interference with the operation of the Airport or the performance of compliance with covenants and conditions set forth herein, the grantee will acquire, extinguish or modify such right or claim of right in a manner acceptable to the FAA.

N. That in the event that any of the foregoing terms, conditions, reservations, or restrictions are not met, observed, or complied with by the grantee or any subsequent transferee, whether caused by the legal inability of said grantee or subsequent transferee to perform any of the obligations herein set out, or otherwise, the title, right of possession and all other



rights transferred by this instrument to the grantee, or any portion thereof, shall at the option of the grantor revert to the grantor in its then existing condition sixty (60) days following the date upon which demand to this effect is made in writing by the Administrator of the FAA or his successor in function, unless within said sixty (60) days such default or violation shall have been cured and all such terms, conditions, reservations and restrictions shall have been met, observed, or complied with, in which event said reversion shall not occur and title, right of possession, and all other rights transferred hereby, except such, if any, as shall have previously reverted, shall remain vested in the grantee, its transferees, successors and assigns.

O. That if the construction as covenants of any of the foregoing reservations and restrictions recited herein as covenants or the application of the same as covenants in any particular instance is held invalid, the particular reservation or restrictions in question shall be construed instead merely as conditions upon the breach of which the Government may exercise its option to cause the title, interest, right of possession, and all other rights transferred to the grantee, or any portion thereof, to revert to it, and the application of such reservations or restrictions as covenants in any other instance and the construction of the remainder of such reservations and restrictions as covenants shall not be affected thereby.

P. The grantee has inspected and is fully familiar with the physical condition of the tract of land herein conveyed. The Government has made no representation, warranties, or undertakings as to such condition or that the land is free and clear of all contamination and hidden hazards, or as to the fitness or availability of the land for any particular use. The Government has transmitted to the grantee available information on radiation and contamination levels with respect to the lands herein conveyed and the grantee acknowledges the receipt of this information. The grantee recognizes that the subsurface of the tract of land herein conveyed is contaminated with source material as defined in the Atomic Energy Act of 1954, as amended, and in the Atomic Energy Commission regulations, and that future use of such tract shall be dependent upon the effectiveness of the cover and fill material in reducing external radiation to acceptable levels. The grantee hereby covenants for itself, its successors, and assigns that:

(1) There shall be no removal of earth covered by excavation, drilling, or other disturbance without prior notice to the United States Atomic Energy Commission, Washington, D. C., or if the State of Missouri has executed and there is in effect an Agreement with the United States Atomic Energy Commission, pursuant to Section 274b of the Atomic Energy Act of 1954, as amended, to the State of Missouri department or agency responsible for the licensing and regulation of radioactive materials; provided that this restriction shall apply only to any excavation, drilling, or other disturbance affecting the earth more than 12 inches below the site elevations as they existed on October 7, 1971, as shown on topographic survey map prepared by Howland Surveying Company, Inc., Clayton, Missouri, which map is attached hereto and made a part hereof; and

(2) All applicable regulatory requirements of the Atomic Energy Commission or any State agency having regulatory authority over radioactive material shall be complied with.

8. AND IT IS FURTHER AGREED AND UNDERSTOOD by and between the parties hereto and the grantee, by its acceptance of this Quitclaim Deed, acknowledges its understanding of the agreement, and agrees that, as part of the consideration for this deed, the grantee covenants and agrees for itself, its successors and assigns, that: (1) the program for or in connection with which this Deed is made will be conducted in compliance with, and the grantee, its successors and assigns, will comply with all requirements imposed by or pursuant to the regulations of the FAA as in effect on the date of this Deed (14 CFR Part 15) issued under the provisions of Title VI of the Civil Rights Act of 1964; (2) this covenant shall be subject in all respects to the provisions of said regulations; (3) the grantee, its successors and assigns, will promptly take and continue to take such action as may be necessary to effectuate this covenant; (4) the United States shall

have the right to seek judicial enforcement of this covenant; (5) the grantee, its successors and assigns, will: (a) obtain from any person (any legal entity) who, through contractual or other arrangements with the grantee, its successors and assigns, is authorized to provide services or benefits under said program, a written agreement pursuant to which such other person shall, with respect to the services or benefits which he is authorized to provide, undertake for himself the same obligations as those imposed upon the grantee, its successors and assigns, by this covenant; (b) furnish the original of such agreement to the Administrator of the FSA, or his successor, upon his request therefor; and that this covenant shall run with the land hereby conveyed, and shall in any event, without regard to technical classification or designation, legal or otherwise, be binding to the fullest extent permitted by law and equity for the benefit of, and in favor of the grantor and enforceable by the grantor against the grantee, its successors, and assigns.

IN WITNESS WHEREOF, the party of the first part has caused this Quitclaim Deed to be executed in its name and on its behalf, the day and year first above written.

UNITED STATES OF AMERICA  
Acting by and through  
Administrator of General Services  
By Charles W. McKinney  
Chief, Real Property Division  
Property Management and Disposal  
Service  
General Services Administration  
Region 6  
Kansas City, Missouri

WITNESSES:

Wilbur F. Fidler  
Charles W. McKinney

# ACKNOWLEDGMENT

STATE OF MISSOURI)  
COUNTY OF JACKSON) SS

I, Wilbur F. Fidler, a Notary Public in and for said State and County aforesaid, do certify that on the 28 day of March, 1972, before me appeared Charles W. McKinney, Chief, Real Property Division, who executed the foregoing deed, to me personally known, and known to me to be such Chief, Real Property Division, who being by me duly sworn did say that he is such Chief, Real Property Division, and that he signed his name and caused the seal of the General Services Administration to be affixed to said deed in pursuance of proper authority, and that said deed was signed and sealed by him as such Chief, Real Property Division, on behalf of the UNITED STATES OF AMERICA; and that said Charles W. McKinney acknowledged the execution of said deed to be his free act and deed as such Chief, Real Property Division, and the free act and deed of the UNITED STATES OF AMERICA, by the Administrator of General Services, and the free act and deed of the General Services Administration, acting for the UNITED STATES OF AMERICA, and that the seal affixed to said deed is the official seal of the General Services Administration.

IN WITNESS WHEREOF, I hereunto set my hand in the County and State aforesaid on the date last above written.



Wilbur F. Fidler  
Wilbur F. Fidler  
Notary Public

My Commission Expires: August 14, 1972.

ACCEPTANCE

The St. Louis Airport Authority does hereby accept this Quitclaim Deed and by such acceptance agrees to all of the terms and conditions thereof.

Executed this 15th day of May, 1973.

(Official Seal)

Attest

Title

By

Title

By

Title

Certificate of Grantee's Attorney

I, Jack L. Roehr, acting as attorney for the St. Louis Airport Authority herein referred to as the "grantee" do hereby certify: That I have examined the foregoing quitclaim deed and the proceedings taken by the grantee relating thereto and find that the acceptance thereof by the grantee has been duly authorized and that the execution thereof is in all respects due and proper and in accordance with the laws of the State of Missouri, and further that, in my opinion, the Quitclaim Deed constitutes a legal and binding compliance obligation of the grantee in accordance with the terms thereof.

Dated at St. Louis, Missouri the 15th day of May, 1973.

By

Title



M. 5

132929

Mo

JAN 28 1981

Mr. Burt McCullough  
Missouri Department of  
Natural Resources  
P. O. Box 1358  
1915 Southridge Drive  
Jefferson City, Missouri 65102

Dear Mr. McCullough:

In response to your letter of December 18, 1980, we have carefully researched the information that the Department has on the West Lake Landfill in St. Louis County and determined that we have nothing to add to the information you received from Mr. E. L. Keller (Department of Energy - Oak Ridge Operations Office) at the December 9, 1980, meeting. The Department does not have plans for future activities at the West Lake Landfill. The radioactive material deposited at the Landfill was under license by the Nuclear Regulatory Commission and therefore is under their jurisdiction. Therefore, I have forwarded your request for information to the Division of Fuel Cycle and Material Safety, Nuclear Regulatory Commission.

If I can be of any further assistance to you, contact me on 301-353-3016 or Gale Turi of my staff on 301-353-2766.

Sincerely,

William E. Mott, Director  
Environmental and Safety  
Engineering Division  
Office of Environment (EV-14)

Enclosure  
Ltr. to Cunningham from Mott, dtd. 1/28/81

bcc: E. L. Keller, OR  
R. W. Ramsey, NE-301

Aerospace

EV-141:GTuri:dr:353-2766:1/28/81:EV-14-80-161:DF-43

*See file*

CONCURRENCES	
RTG SYMBOL	EV-14
INITIALS/SIG	Barber
DATE	1/28/81
RTG SYMBOL	EV-14
INITIALS/SIG	Mott
DATE	1/28/81
RTG SYMBOL	
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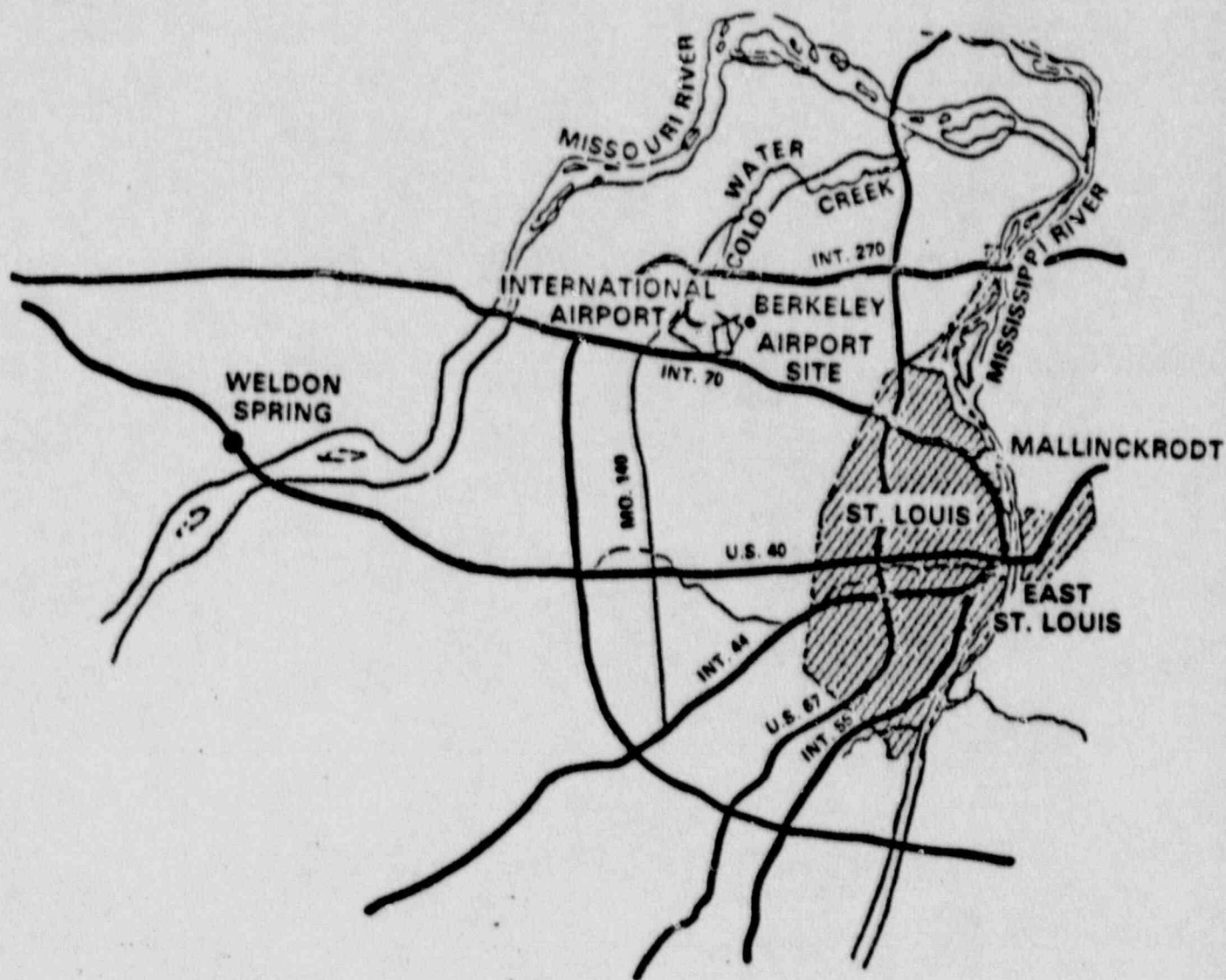


Figure 18. Location of Mallinckrodt Property

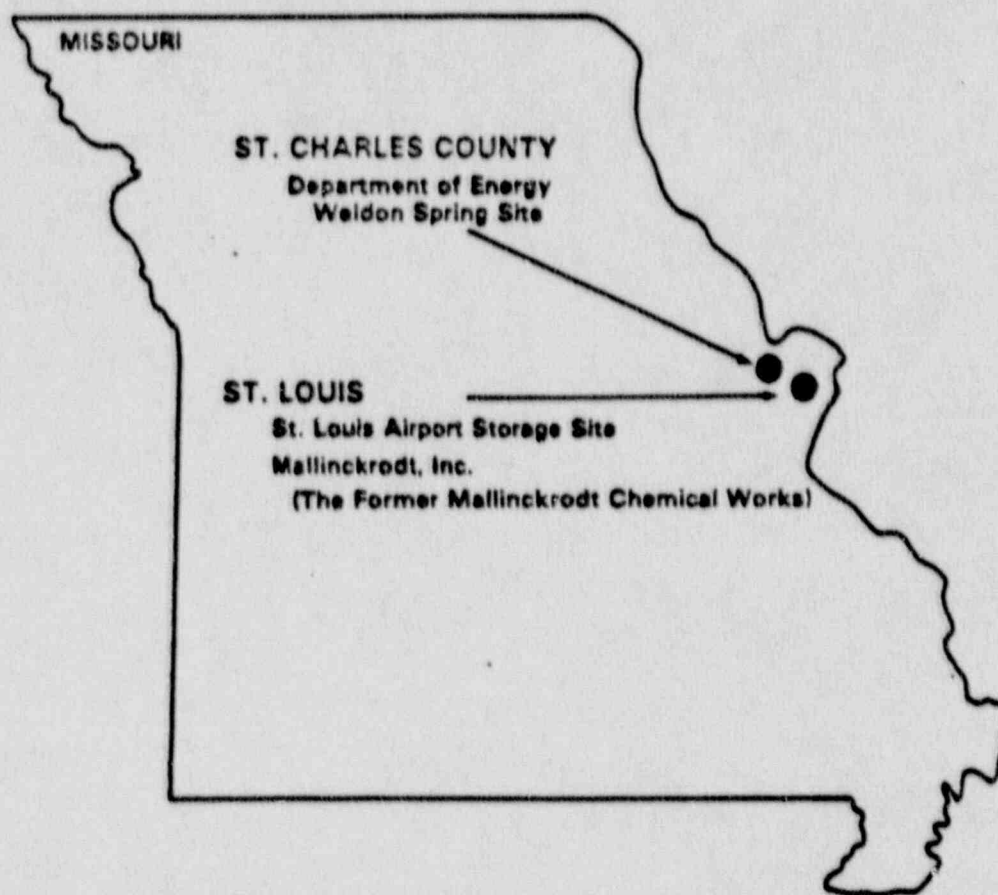


Figure 19. Formerly Utilized Sites in the State of Missouri



### Site Function

The site was used as a storage area for waste generated by the Mallinckrodt Chemical Corporation during its uranium processing operations from 1946 to 1953. This waste or residue was stored at the site until 1967.

### Site Description

The storage site is a 21.7-acre tract of land in St. Louis County, bordered on the north and east by Brown Road, on the south by the Norfolk and Western Railroad and the Airport, and on the west by Coldwater Creek.

### Owner History

This site was acquired by the Manhattan Engineer District in 1946. Since 1965, access to the site has been controlled by the Airport Manager, thus barring casual entry. A permit, dated November 10, 1969, authorized the St. Louis Airport Authority to enter upon, use, and occupy the site for the purpose of undertaking certain decontamination work. The city of St. Louis Airport Authority acquired this site from the Atomic Energy Commission through General Services Administration (GSA) transfer (deed GS-06-DR-(5)-9-0085), effective June 8, 1973. The deed contains a restriction on the use of the property because residual radioactive materials remain onsite.

### Radiological History and Status

The Atomic Energy Commission conducted a radiation survey of the Airport Site in 1965. Contamination was found on structures and at various locations and depths within the soil. During 1966 and 1967, residues were sold for processing and removed from the site. The removal of the residue resulted in decontamination of the site, restoring it to a condition where the radiation level at the ground surface was less than 1 mrad/hour except for an area where barium sulfate residue was located. This area was about 3 mrad/hour.

The St. Louis Airport Authority agreed to decontaminate this property as stated in the acquisition permit, dated November 10, 1969. An agreement with the Federal Government required that the barium sulfate residue be removed to an interim storage site at Weldon Spring, Missouri, and that all structures onsite except the fence be razed. Also, a minimum of 1 foot of clean fill was to be placed over the entire site. This work was performed during the period from January 1969 through December 1969 under procedures developed and monitored by the St. Louis Health Department as approved by the Atomic Energy Commission.

February 1976. The survey was conducted at 11 points. The results of the survey are shown in the table below. The area is to achieve adequate radiation levels.

The Atomic Energy Commission conducted another radiation survey in November 1971 to document radiation levels over the entire site. Ground surface dose rates were generally less than 0.05 mrad/hour. Certain isolated areas were found to exceed 0.2 mrad/hour and were documented. No area was found to exceed 1 mrad/hour.

During the week of November 14, 1976, Oak Ridge National Laboratory performed a comprehensive survey of the site to characterize the existing radiological status of the property. The survey report indicated that the contaminated soil in the western section of the site represents a potential source of radiation exposure. At the time when some of the stored material was sold and removed, some remaining barium sulfate cake residue was covered with fill. At the present time, most of the contamination remains covered with earth in varying thicknesses; however, this earth cover has eroded up to 3 feet in some places. In one small area of the western section, above-background readings were obtained in numerous places. Samples of soil were collected from various points within the site and, at 26 points, a concentration of radium-226 was found to be in excess of the maximum level for background concentrations observed in Missouri. An analysis of groundwater revealed measurable quantities of several nuclides. Radionuclide analysis of surface water and sediment samples showed levels near background in most cases.

The St. Louis Police Department is planning to develop this site for use as a driver training course, with due consideration to the restrictions in the deed. The Nuclear Regulatory Commission has also proposed that contaminated material from the formerly licensed Latty Avenue\* property located in Hazelwood, Missouri, be relocated to the airport site. The Department of Energy is evaluating the environmental and engineering impacts of this proposal.

On October 26, 1979, the Office of Environment notified the Office of Nuclear Energy that the St. Louis Airport site required consideration for remedial action. The Office of Nuclear Energy is currently in the process of determining and reviewing remedial action options.

\* Latty Avenue is a former uranium processing site that is under the jurisdiction of the Nuclear Regulatory Commission.

#### Site Function

The Department of Energy's Weldon Spring site consists of two separate properties. One of these properties is the raffinate pit area, which contains four pits constructed and used for the storage of wastes generated from the adjacent Atomic Energy Commission Uranium Feed Materials Plant (the plant area is now controlled by the U.S. Army). Mallinckrodt, Inc., operated this plant for the Atomic Energy Commission from 1957 until 1966. Some processing of thorium residues was also performed at the plant. The other property is an abandoned quarry located approximately 4 miles southwest of the raffinate pit area. The quarry was first used by the Atomic Energy Commission in 1959 when drummed residues containing about 3.8 percent thorium were dumped there. In 1963 to 1964, approximately 50,000 cubic yards of uranium- and radium-contaminated rubble from the demolition of the Destrehan Street plant were deposited in the quarry. Additional drummed thorium residues containing about 3 percent thorium were deposited in the quarry in 1966. During the decontamination of several of the buildings selected for herbicide production in 1967, the Army deposited approximately 6000 cubic yards of contaminated and unrecoverable material in the quarry. (The herbicide production proposal was later put aside.) Prior to the Atomic Energy Commission, the Army also used the quarry for disposition of trinitrotoluol-contaminated rubble during the operation of the Weldon Spring Ordnance Works Plant.

#### Site Description

The raffinate pit area occupies approximately 51 acres and is totally surrounded by Army property. Pits 1 and 2 are filled with residues within 3 feet of the top of the levees and Pit 3 is approximately 78-percent filled with residues. The residue fill in Pit 4 is quite irregular with about 10 percent of the total pit volume consumed. Approximately 70 percent of the residues discharged to Pits 1, 2, and 3 were neutralized raffinates from refinery operations. The remaining 30 percent of the residues consisted primarily of washed slag residues from the uranium metal production operation. In addition to some uranium residues similar to those in Pits 1, 2, and 3, Pit 4 contains raffinate solids from the processing of thorium recycle materials. Some minor amounts of thorium are also present in Pit 3. The raffinate pit area is fenced with standard 7-foot chain-link cyclone fence topped with three strands of barbed wire. Access to the pits is obtainable solely through the road system and security gates of the Army-owned areas.

- \* This site is a DOE-owned Surplus Facility. It is included in this report because it was formerly utilized by the Atomic Energy Commission for processing activities.



The quarry is located on the east side of the Weldon Spring Ordnance Works Plant. The quarry is about 2 acres in size and consists of a pond or sump. The quarry is fenced with a 7-foot cyclone fence similar to the raffinate pit area, and signs are clearly posted indicating the presence of radiological material. The general location of Weldon Spring with respect to other Missouri sites is shown in Figures 18 and 19.

#### Owner History

In 1956, approximately 220 acres of the original Weldon Spring Ordnance Works Plant were acquired by the Atomic Energy Commission from the U.S. Army for use as a uranium feed materials plant. The Atomic Energy Commission acquired the abandoned quarry in 1958, also from the Army. After the Feed Materials Plant was shut down in 1966, the Army reacquired the land and facilities, except for the 51-acre raffinate pit area and the quarry, to use portions of the plant facilities for the production of herbicide orange. However, the project was never implemented and the property was declared excess in 1970. The General Services Administration determined that the land could not be released because of the degree of radioactive contamination. Both the raffinate pit area and the quarry are under the control of the Department of Energy, but the remainder of the property is still under Army control.

#### Radiological History and Status

Since about 1967, the National Lead Company of Ohio, under contract with Oak Ridge Operations Office, makes periodic visits to the raffinate pit area for environmental control sampling. Necessary security and maintenance such as fence repair and grass-cutting is performed, under agreement, by the Army personnel located onsite. The pits are uncovered and represent a potential quicksand hazard; however, access is restricted by the 7-foot fence and the area is completely enclosed within the boundary of a U.S. Army facility. Beta-gamma radiation measurements at a point about 1 foot above the sludge were above background. Air samples taken around the pits have shown no short- or long-lived airborne activity that could be attributed to the pits. Test holes drilled in the area have shown neither lateral seepage of effluents nor selective migration of radionuclides from the raffinate pits. Data obtained from the analyses of samples of effluents and storm drainage from the pit area indicate that uranium and other radiological contaminate concentrations are within Nuclear Regulatory Commission concentration guides for uncontrolled areas.\*

The Department of Energy is currently negotiating with the Cotter Corporation of Canon City, Colorado, for the removal of the raffinates from the pits. An Environmental Assessment, DOE/EA-0031, has been prepared

\* Title 10, Code of Federal Regulations, Part 20, Standards for Protection Against Radiation.

the Department of Energy and the Department of the Army have been requested to conduct a study of the site and its potential for contamination and pits.

Data obtained from samples collected by National Lead of Ohio at the quarry in 1975 and 1976 indicate that uranium and thorium concentrations in the quarry pond are above background but within Federal guidelines for water in controlled areas.\* Water in the Femme Osage Slough, although at lower levels, is also above background, and this appears to confirm the existence of a hydraulic connection between the quarry and the Slough. Samples of incoming water to the St. Charles waterworks well field indicate that no contamination of the well field exists; however, due to the proximity of the well field to the quarry and the Femme Osage Slough, contamination could be a matter of potential concern.

Some form of remedial action is required at this site. Removal of the raffinate from the pits (possibly by Cotter Corporation for reprocessing) is required and may be followed by decontamination of the pits themselves. The disposition of the quarry must also be addressed. Meanwhile, monitoring of the site will continue, and a radiometric aerial survey is planned for fiscal year 1980.

The Department of the Army has requested that the Department of Energy accept the transfer of the 169-acre Weldon Spring Chemical Plant as they have neither the funds nor the expertise to decontaminate the property. The Department of Energy is evaluating the proposal along with other options.

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\* Title 10, Code of Federal Regulations, Part 20, Standards for Protection Against Radiation.

170

$$E_p = 3c$$

Information on FUSRAP and Surplus  
Facility Sites in Missouri

Jerry Counts, EP-32

The attached excerpts from the Background Report on Former MED/AEC sites report DOE/EV-0097A and supplemental (update) information are for your use at the Missouri Congressional staff briefing scheduled for November 12, 1981.

## Supplemental Information:

- Weldon Springs:
- o Cotter Corporation has expressed no further interest in reprocessing existing raffinates at this site.
  - o NE plans to do a study on decontaminating the quarry, e.g., moving contaminated material from the quarry to pits (to consolidate the residual radioactive materials.
  - o The Army asked DOE to take over the R/A for its portion of the site (plant); DOE lack(ed) funds.
  - o Army conducted their own study to determine the cost for D & D of their portion of the Weldon Spring Chemical Plants. Outcome: estimated cost about \$150 million  
Therefore: not interested in pursuing this
  - o ORO through NLO continues to monitor site semiannually and shares the data with the Army

Mallinckrodt: Nothing new since Background Report. ORNL's final report on the 1977 radiological survey is due to be received by OOS this month.

An aerial radiological survey was attempted in July 1980. However, due to localized complications - transmitter interference - the survey was not performed.

St. Louis Airport Storage Site (SLAPSS): ORNL continues to monitor this site; the most recent study by Weston Environmental Consultants and Designers (ORNL subcontractors) was documented in "Final Environmental Impact Assessment of Former Airport Site of the Atomic Energy Commission, St. Louis County, Missouri, July 1979.

[illegible]



NE Schedules: (1) Multitasking:

- o Preliminary Engineering (Engineering Assessment): October 1981 to January 1982
  - o NEPA documentation - ? of available funds
  - o Design Engineering (Remedial Action)?
- (2) SLAPSS - Ditches Only
- o Design Engineering (Engineering Assessment) October 1981 to November 1981
  - o Remedial Action January 1982 to March 1982

Original signed by:  
Raymond Cooperstein  
Office of Operational  
Safety (EP-32)

### Attachments

bcc:

✓ Aerospace, w/Att.  
A. J. Whitman, EP-32, w/Att.

EP-32:RCooperstein:cp:353-3639:11/10/81:DF-42

R. Cooperstein 11/10/87

### Site Function

In April 1942, the Army requested Mallinckrodt Chemical Works to set up an industrial-scale process to produce uranium dioxide and uranium trioxide. Mallinckrodt had the process operating by early summer 1942. The company was the sole source of purified natural uranium compounds until well into 1943 and processed all of the uranium used in the world's first self-sustaining nuclear reaction on December 2, 1942, at the University of Chicago. Mallinckrodt provided uranium compounds and uranium metal for use in the research, development, and production programs of the Atomic Energy Commission. Work also included (1) production of uranium tetrafluoride ( $UF_4$ ), (2) production of uranium derby metal (subsequently vacuum recast to form purified ingot metal), (3) machining of uranium metal rods for reactor fuel slugs, (4) reversion of uranium tetrafluoride to  $UO_2$  or  $U_3O_8$ , (5) recovery of scrap uranium metal, (6) production of  $UO_2F_2$ , (7) extraction and concentration of thorium-230 from pitchblende raffinate, and (8) experimental processing of very low enrichment  $UF_4$ . The St. Louis Airport Storage Site was used for storage and disposal of residues from Mallinckrodt's St. Louis operation. By the conclusion of Mallinckrodt's 24 years of uranium-processing work in 1966, the company had processed over 100,000 tons of purified natural uranium products at facilities in St. Louis and Weldon Spring, Missouri. Contracts with Mallinckrodt included W-14-108-Eng-8, AT-(23-2)-44, W-7405-Eng-1, W-7405-Eng-8, W-7405-Eng-13, and W-7405-Eng-29.

### Site Description

Mallinckrodt leased portions of two locations (Broadway Street (main plant and Plant 4) and Destrehan Street) to the Manhattan Engineer District, primarily for the processing of uranium concentrate. From 1942 through 1945, uranium processing was done exclusively at the Broadway Street location, and some uranium metallurgical research continued at Plant 4 through 1956. From 1945 to 1957, uranium ore or concentrate was processed in buildings at the Destrehan location. In 1957, all operations at Destrehan were terminated and transferred to a new Atomic Energy Commission feed material processing center that Mallinckrodt operated in Weldon Spring, Missouri. About 20 existing buildings on the Mallinckrodt property at Broadway and Destrehan, plus their surroundings, were subject to radiological contamination. Figure 18 shows the general location of the facility in St. Louis.

### Owner History

The subject property is owned and operated by Mallinckrodt, Inc. (formerly Mallinckrodt Chemical Works).

From 1949 to 1951, the main plant property was decontaminated, and final decontamination was completed in 1951. In 1951, the main plant property was returned to Mallinckrodt for unrestricted use. Between 1957 and 1962, the Destrehan properties and Plant 4 were also decontaminated, surveyed, and released for unrestricted use. In the process, some of the buildings were removed to the Atomic Energy Commission waste disposal sites. Contaminated earth was also removed and backfilled. Decontamination wastes, scrap, and rubble from these operations were buried at the west end of the St. Louis Airport Storage Site and also deposited in an abandoned quarry at Weldon Spring. Decontamination procedures were supervised by the New York Operations Office early in the program and by the Oak Ridge Operations Office during the Destrehan and Plant 4 decontamination. The Atomic Energy Commission decontamination activities did not reduce radioactivity levels to background but reduced them to prevailing permissible levels for unrestricted use.

Oak Ridge National Laboratory conducted a new radiological survey of the former uranium processing areas during the summer of 1977. Alpha and beta-gamma contamination levels inside and outside some of the buildings were above limits set by current Federal guidelines concerning the release of property for unrestricted use.\* Elevated external gamma radiation levels were measured at some outdoor locations and in some of the buildings. Quantities of uranium in an amount that may require licensing were found in soil at some places, and the concentration of uranium in one water sample taken from an old waste pit was in excess of Federal standards.\*\* Radon and radon-daughter concentrations in three buildings were in excess of current Federal guidelines for nonoccupational radiation exposure.

On February 15, 1980, the Office of Environment notified the Office of Nuclear Energy that the Mallinckrodt, Inc., site required consideration for remedial action. The Office of Nuclear Energy is currently in the process of determining and reviewing remedial action options.

\* "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," U.S. Nuclear Regulatory Commission, November 1976.

\*\* Title 10, Code of Federal Regulations, Part 20, Standards for Protection Against Radiation.



**Radiological Survey of the  
Mallinckrodt Chemical Works,  
St. Louis, Missouri**

W. A. Goldsmith	M. T. Ryan	D. L. Anderson
R. W. Leggett	P. T. Perdue	J. E. Burden
F. F. Haywood	M. E. Owens	R. W. Doane
W. D. Cottrell	H. W. Dickson	B. S. Ellis
D. J. Crawford	J. L. Danek	R. E. Hamilton
W. H. Shinpaugh		

DOE/EV-0005/27  
ORNL-5715  
Distribution Categories UC-41, UC-70

Contract No. W-7405-eng-26

Health and Safety Research Division

RADIOLOGICAL SURVEY OF THE MALLINCKRODT CHEMICAL WORKS,  
ST. LOUIS, MISSOURI

W. A. Goldsmith  
R. W. Leggett  
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B. S. Ellis  
R. E. Hamilton  
W. H. Shinpaugh

Work performed  
as part of the  
Remedial Action Survey and  
Certification Activities

Date Published: December 1981

OAK RIDGE NATIONAL LABORATORY  
Oak Ridge, Tennessee 37830  
operated by  
UNION CARBIDE CORPORATION  
for the  
DEPARTMENT OF ENERGY



Department of Energy  
Washington, D.C. 20545

FEB 27 1986

Honorable Vincent Schoemehl  
Mayor of City of St. Louis  
1200 Market Street  
Room 200 City Hall  
St. Louis, Missouri 63103

Dear Mayor Schoemehl:

This letter is in regard to the proposed transfer of ownership of a 21.7-acre parcel of land from the City of St. Louis Airport Authority to the U.S. Department of Energy (DOE) in accordance with U.S. Public Law 98-360.

The Department was prepared to testify on February 24, 1986, at a hearing before the St. Louis Board of Aldermen Committee on Transportation and Commerce regarding the transfer of this property. When we contacted the Chairwoman of the Committee on February 19, we learned that the hearing had been canceled. We want to provide you and the Committee a summary of the Department's position on the property transfer and would be glad to provide further information, in person, if desired.

DOE was directed by Congress in the Conference Report that accompanied U.S. Public Law 98-360 to "take the necessary steps to consolidate and dispose of the waste material from the Latty Avenue site and nearby St. Louis Airport vicinity properties locally, by reacquiring, stabilizing, and using the old 21.7-acre AEC airport site in a manner acceptable to the City of St. Louis. The Committee understands that this adopts the lowest cost option for the remedial action R&D program at these sites." The Latty Avenue site is at 9200 Latty Avenue, Hazelwood. The vicinity properties are those nearby properties which were contaminated from the St. Louis Airport site. Only wastes from these properties are authorized for stabilization at the Airport site, and DOE will not use the site for other wastes unless Congress were to so direct us. The DOE is working to implement the direction of Congress but does not have authority to acquire the site except as directed by Congress. If we find we cannot implement this direction, we will provide Congress our evaluation and recommendation and ask for new direction.

DOE does not know now whether all the wastes from the Latty Avenue site, the St. Louis Airport vicinity properties, and the Airport site can be accommodated at the Airport site in a manner that would be acceptable to the Missouri Department of Natural Resources (DNR), to the City of St. Louis, and to DOE. DOE has been studying design options in consultation with the Missouri DNR. We have concluded that a disposal cell constructed



completely above the existing ground-water table is the preferred option. Even though this option is more costly, it would provide added protection against migration of contamination into the ground water. The increased elevation of this cell as compared to a cell which is partially below the existing ground-water table, coupled with the limitation on the maximum height of the cell due to Airport restrictions and the narrow shape of the Airport site may result in the need for some additional adjacent property. We will not know whether the additional property is needed and the extent until we complete additional measurements of the amount of radioactive material at the Airport site, at the vicinity properties, and at Latty Avenue. We expect to complete this work during the next 14 months and return to the Board with a specific proposal for transfer of the Airport site and additional property, if needed. Whether additional property is needed or not, we will need approval for access to the adjacent City-owned properties in order to conduct necessary geologic and hydrologic measurements so that we can determine possible impacts on the disposal cell design of ground- and surface-water flows from these properties. Our Oak Ridge Operations Office will be in touch with City officials in the next few months to describe our specific plans and make arrangements for access.

During the next 14 months while DOE is obtaining the additional information which is needed, the City could continue with the title transfer process for the 21.7-acre site if you feel this would be useful to settle the issues. The DOE would continue to participate. However, DOE acceptance of the title would have to be contingent on our completing the evaluation of suitability of the site and the availability of additional property, if needed to carry out the congressional direction. Pending transfer of the title, the City will remain responsible for control of the radioactivity, including necessary maintenance and restriction of access to the site. DOE is willing to assist in this control and maintenance. As you know, DOE expended about \$400,000 in April 1985 to construct a rock wall along Coldwater Creek to prevent site erosion and spread of low-level radioactive contamination.

We recognize that this is a controversial matter for the City of St. Louis, and that it affects St. Louis County and several other municipalities. Although there is no immediate public health risk, remedial actions are needed at Latty Avenue and the Airport sites to improve public health protection in the long term. The design criteria for the disposal cell would be such as to assure an effective life of 1,000 years to the extent reasonably achievable, and in any case, at least 200 years. The estimated cost of the project is over \$60 million for onsite disposal, which we believe to be the lowest cost option. We wish to work with you and other affected governments to reach an acceptable solution which we have the authority and the means to implement. Please contact me (301-353-5006) or Mr. E. DeLaney (301-353-4716) if you wish to discuss this further, or Mr. E. L. Keller, Director, Technical Services Division, Department of Energy,

Oak Ridge Operations Office (615-576-0948). Mr. Keller is our representative for implementing the St. Louis Airport and Latty Avenue project. This letter is also being sent to those on the enclosed list.

Sincerely,

151

William R. Voigt, Jr.  
Director  
Office of Remedial Action  
and Waste Technology  
Office of Nuclear Energy

Enclosure

cc:  
Dr. Frederick Brunner, Missouri DNR  
Mr. L. Griggs, Director, St. Louis Airport Authority

CONCURRENCES	
RTG SYMBOL	NE-23
INITIALS/SIG	DeLaney
DATE	2/27/86
RTG SYMBOL	NE-20
INITIALS/SIG	Voigt
DATE	2/27/86
RTG SYMBOL	
INITIALS/SIG	
DATE	
RTG SYMBOL	
INITIALS/SIG	
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RTG SYMBOL	
INITIALS/SIG	
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RTG SYMBOL	
INITIALS/SIG	
DATE	

List of Addressees .

Mayor Vincent Schoemehl

Board of Aldermen:

President - Thomas E. Zych  
1st Ward - Jo Ann Wayne  
2nd Ward - James P. Signaigo, Sr.  
3rd Ward - Stephanie Donaldson  
4th Ward - Daisy McFowland  
5th Ward - Mary Ross  
6th Ward - Marit Clark  
7th Ward - Phillis Young  
8th Ward - John Coch  
9th Ward - Marty Aboussie  
10th Ward - Louis Buckowitz  
11th Ward - Albert Villa  
12th Ward - Fred Heitert  
13th Ward - Fred Wessels  
14th Ward - David Kinealy  
15th Ward - Geraldine Osborn  
16th Ward - James Shrewsbury  
17th Ward - Timothy Dee  
18th Ward - Samuel Kennedy  
19th Ward - Jessie L. Townsend  
20th Ward - Steven Roberts  
21st Ward - Willie Williams  
22nd Ward - Kenneth Jones  
23rd Ward - Francis G. Slay  
24th Ward - Robert Ruggeri  
25th Ward - Paul Beckerle  
26th Ward - Wayman Smith  
27th Ward - Jimmie Matthews  
28th Ward - Daniel McGuire

Counsel to Board of Aldermen - Bruce Nangle



529

MO. 4

AUG 16 1982

NE-24

Latty Avenue Residues Characterization and Monitoring Data

E. L. Keller, OR

Two copies of data received from W. Crow, NRC, during our visit to Latty Avenue on August 10, 1982, are attached for your and Bechtel's files. Note the high surface readings along the fence line near the road exceeding 100 nanocuries.

Original signed by  
Edward G. DeLaney

Edward G. DeLaney  
Program Manager  
Surplus Facilities Management  
Program  
Remedial Action Projects

Attachments

cc:

W. Mott, EP-323/w/attachments

J. White, RL/w/attachments

Subject

NE-73 (4)

Ne-24

EGD Rdr

NE-24:EGDeLaney:jtm:353-5272:8/16/82

CONCURRENCES

RTG. SYMBOL

INITIALS/SIG.

DATE

RTG. SYMBOL

INITIALS/SIG.

DATE

RTG. SYMBOL

INITIALS/SIG.

DATE

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INITIALS/SIG.

DATE

RTG. SYMBOL

INITIALS/SIG.

DATE

RTG. SYMBOL

INITIALS/SIG.

DATE

# *Residual Nitrate (Potassium)*

RADIONUCLIDE CONCENTRATIONS (PICO-CURIES PER GRAM)

	U-235	U-238	Th-232	Th-230	Th-228	Ra-226	Ra-228	Pa-231	Ac-227	
AVERAGE IN LATTY AVENUE PILE	$4.0 \pm 0.2$	$72 \pm 9$	$1.9 \pm 0.4$	$8860 \pm 190$	$2.1 \pm 190$	$57 \pm 1$	$1.9 \pm 0.4$	$116 \pm 4$	$205 \pm 2$	—
CURRENT NRC CRITERIA FOR UNRESTRICTED USE	30	35	5	~25	5	5	5	~6	~10	
EPA RECOMMENDED SOIL LIMITS FOR A HOME GARDEN	x	40	20	~280	50	x	x	40	250	
NRC CRITERIA FOR DISPOSAL BY LAND BURIAL	2500	3000	250	~1250	250	100	~250	~300	~500	

x ISOTOPES NOT IDENTIFIED

*Reynolds Industrial (Little Rock)*  
MATERIAL OFFERED IN 1962 SALE BY AEC

<u>TYPE OF MATERIAL</u>	<u>QUANTITY</u>	<u>ESTIMATED URANIUM CONTENT</u>
PITCHBLEND RAFFINATE	74,000 TONS	113 TONS
COLORADO RAFFINATE	32,500 TONS	48 TONS
BARIUM SULFATE CAKE (UNLEACHED)	1,500 TONS	22 TONS
BARIUM SULFATE CAKE (LEACHED)	8,700 TONS	7 TONS
MISCELLANEOUS RESIDUES	350 TONS	2 TONS
<hr/>		
TOTAL	117,050 TONS	192 TONS





Prepared by  
Oak Ridge Associated  
Universities

Prepared for  
Division of Fuel  
Cycle and  
Material Safety

U.S. Nuclear  
Regulatory  
Commission

PRELIMINARY RADIOLOGICAL SURVEY OF  
PROPOSED STREET RIGHT-OF-WAY

AT

FUTURA COATINGS, INC.

9200 LATTY AVENUE

HAZELWOOD, MISSOURI

L.W. COLE

Radiological Site Assessment Program  
Manpower Education, Research, and Training Division

FINAL REPORT

December 1981

8207260023 13pp.

PRELIMINARY RADIOLOGICAL SURVEY OF  
PROPOSED STREET RIGHT-OF-WAY

AT

FUTURA COATINGS, INC.

9200 Latty Avenue  
Hazelwood, Missouri

Prepared for

Division of Fuel Cycle and Material Safety  
U.S. Nuclear Regulatory Commission

L.W. Cole

Project Staff

J.D. Berger	B.M. Putnam
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W.O. Helton	C.F. Weaver

Prepared by

Radiological Site Assessment Program  
Manpower Education, Research, and Training Division  
Oak Ridge Associated Universities  
Oak Ridge, Tennessee 37830

FINAL REPORT

December 1981

This report is based on work performed under Interagency Agreement DOE No. 40-770-80 NRC Fin. No. A-9093-0 between the U.S. Nuclear Regulatory Commission and the U.S. Department of Energy. Oak Ridge Associated Universities performs complementary work under contract number DE-AC05-76OR00033 with the U.S. Department of Energy.

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PRELIMINARY RADIOLOGICAL SURVEY OF  
PROPOSED STREET RIGHT-OF-WAY  
AT FUTURA COATINGS, INC.  
9200 LATTY AVENUE  
HAZELWOOD, MISSOURI

INTRODUCTION

Between 1943 and 1946 uranium bearing ores and residues were processed by the Mallinckrodt Chemical Co. of St. Louis, Missouri, under contracts with the Atomic Energy Commission and its predecessor, the Manhattan Engineer District. Following termination of these contracts, process wastes from the operations were temporarily stored at the St. Louis airport. These wastes contained radionuclides of the naturally-occurring uranium-238, uranium-235, and thorium-232 decay series.

In early 1966, the waste materials were moved from the airport to the site at 9200 Latty Avenue in Hazelwood, Missouri. Between 1967 and 1973 several transactions occurred, resulting in the transfer of this material to other locations. Measurements of soil concentrations and radiation levels by the Nuclear Regulatory Commission in 1976, indicated residual uranium and thorium concentrations and exposure levels at the site in excess of the criteria for release for unrestricted use. An extensive survey performed in 1977 by the Health and Safety Research Division, Oak Ridge National Laboratory (ORNL), confirmed these findings. Decontamination of the property, including removal of approximately one-half meter of surface soil, was performed. A large pile of contaminated debris from cleanup activities remains on the eastern portion of that site. A survey to characterize the radionuclide concentrations in that pile was conducted by Oak Ridge Associated Universities (ORAU) in June 1981.

The city of Hazelwood, Missouri, is anticipating improvements to Latty Avenue. These improvements will include property previously used in the processing of the waste materials. At the request of the

Nuclear Regulatory Commission a preliminary radiological survey of the section of Latty Avenue property being considered for improvement was performed by the Radiological Site Assessment Program of ORAU, June 1-5, 1981.

#### Site Description

The Latty Avenue site is the property of the Futura Coatings Inc., a manufacturer of chemical coatings. The site is located in a heavily industrialized area, approximately 1 km north of the St. Louis airport (Figure 1). It occupies about 4.7 hectares. There are three buildings on the western portion of the property; the eastern portion is currently unused and overgrown with tall weeds and brush. The pile of decontamination debris is located on this section (Figure 2).

The area covered by this survey is a narrow strip along the northern boundary of the Latty Avenue site (Figure 3). It is approximately 100 m long by 15 m wide; 10 m of this width are local easement, 5 meters are on property belonging to the Futura Co. A chain-link fence designates the Futura boundary. A drainage ditch runs the length of the site between the fence and Latty Avenue. Portions of the property are covered with heavy brush and were inaccessible for complete surveying.

#### SURVEY PROCEDURES

The objectives of this survey were to measure direct gamma radiation levels and to identify and quantify radionuclides in the soil.



1. A survey reference line was established parallel to the fence. Grid markers were placed at 15 m intervals along this line.
2. A walkover surface scan was performed between the fence and the survey reference line using a gamma scintillation ratemeter to identify areas of elevated contact radiation levels. Other areas were inaccessible due to heavy brush cover.
3. Exposure rates at 1 m above the surface were measured at 15 m intervals along the reference line, the fence line, and the road edge.
4. Surface soil samples were collected at seven randomly selected locations. Subsurface samples (0.5 m) were collected at four of these locations.
5. Biased soil samples were collected at two locations where surface contact radiation levels were identified by the walkover scan as notably higher than the surrounding areas. A subsurface sample was also taken at one of these locations.

Samples were returned to Oak Ridge, Tennessee, for analysis. The locations and results of these measurements and analyses are summarized in Figures 3 and 4 and Table 1.

## RESULTS

Radiation levels at 1 meter above the surface over the entire site were above the average background levels for the St. Louis area (Figure 3). The maximum level noted was a region along the fence

near the western end of the site; exposure rates in this area were up to 1.8 mR/h.

All soil samples, including those from 0.5 m below the surface, contained elevated concentrations of radionuclides associated with the uranium processing operation. These concentrations are presented in Table 1. Thorium-230 levels in these soils were particularly high, ranging from 110 to 80,400 pCi/g in the random samples and from 96,500 to 180,000 pCi/g in the biased samples. Other concentration ranges in the random samples were: Ra-226, 0.8 to 250 pCi/g; U-235, 0.1 to 27 pCi/g; U-238, <2.4 to 470 pCi/g; Th-232, 0.7 to 4.6 pCi/g; Pa-231, 0.75 to 700 pCi/g; and Ac-227, 2.6 to 990 pCi/g. Biased samples contained concentrations up to: Ra-226, 620 pCi/g; U-235, 57 pCi/g; U-238, 1300 pCi/g; Th-232, 8.5 pCi/g; Pa-231, 1070 pCi/g; and Ac-227, 2250 pCi/g.

#### SUMMARY

A preliminary radiological survey was conducted on a section of property along Latty Avenue, under consideration for street improvements. Results indicate that external radiation levels and radionuclide concentrations in soil on that property exceed the federal guidelines for unrestricted areas.

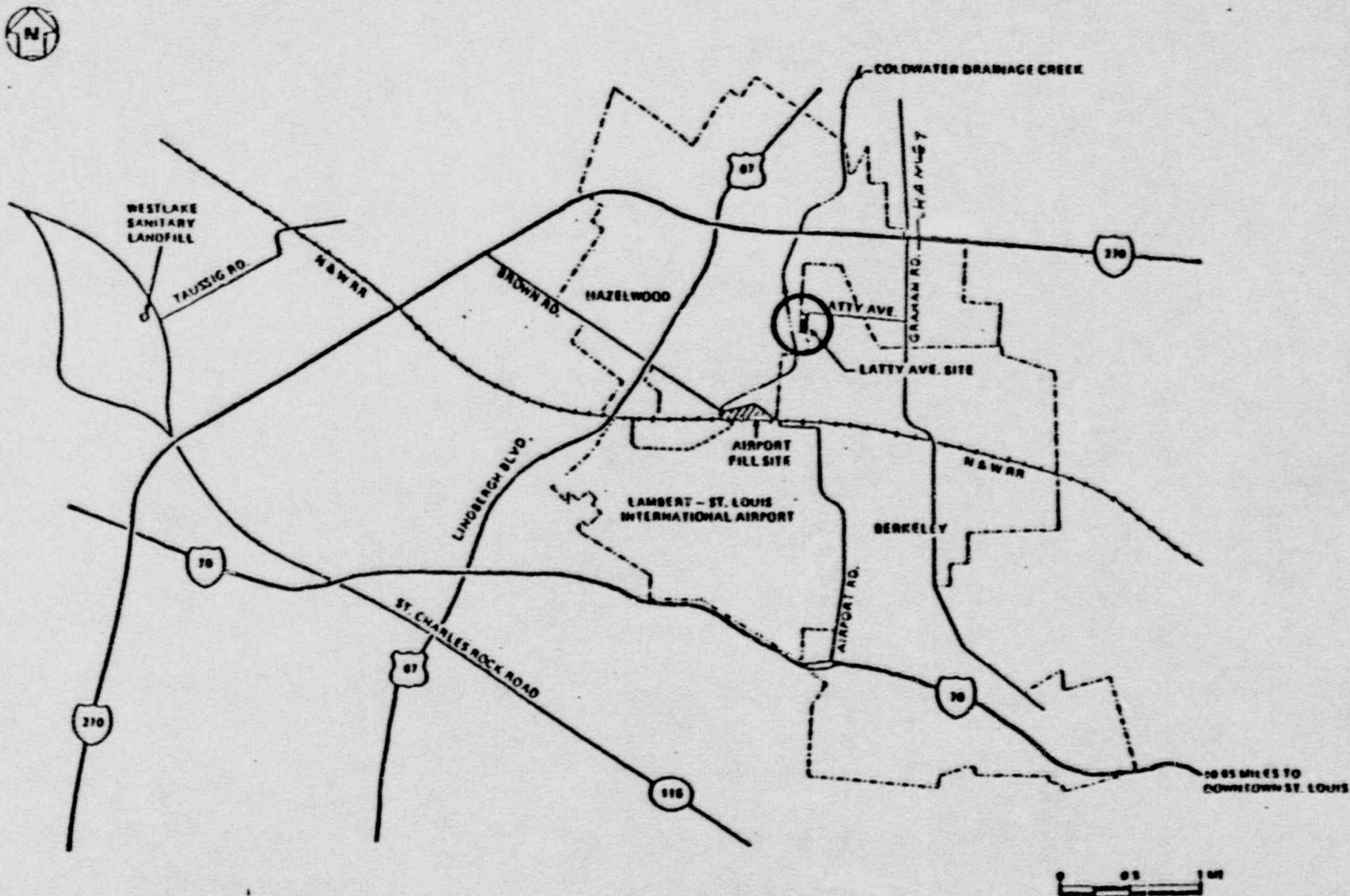


FIGURE 1. Map of Northwestern St. Louis, Missouri, Showing the Location of the Latty Avenue Site.



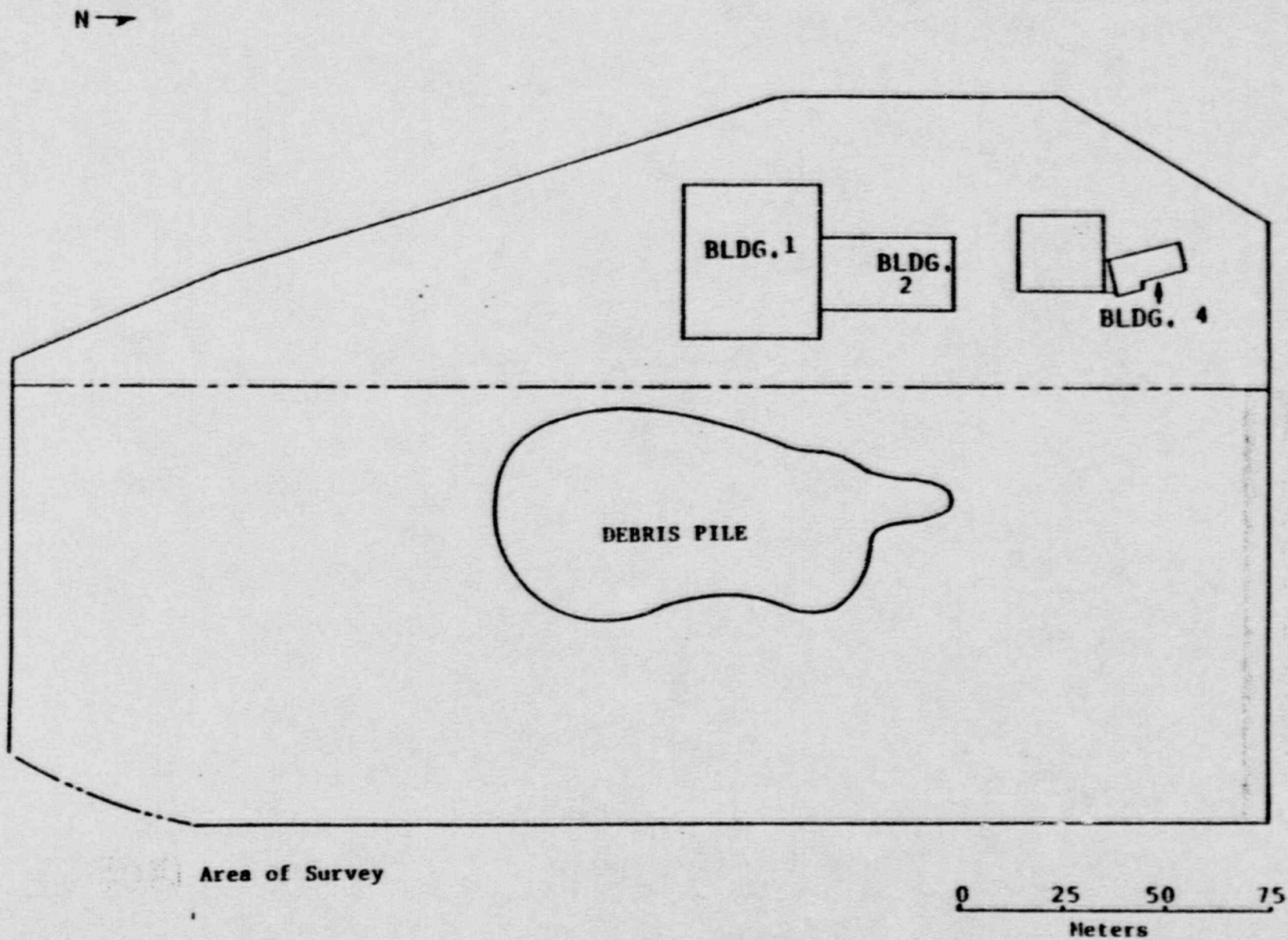


FIGURE 2. Plan View of the Futura Chemical Company Property at 9200 Latty Avenue.

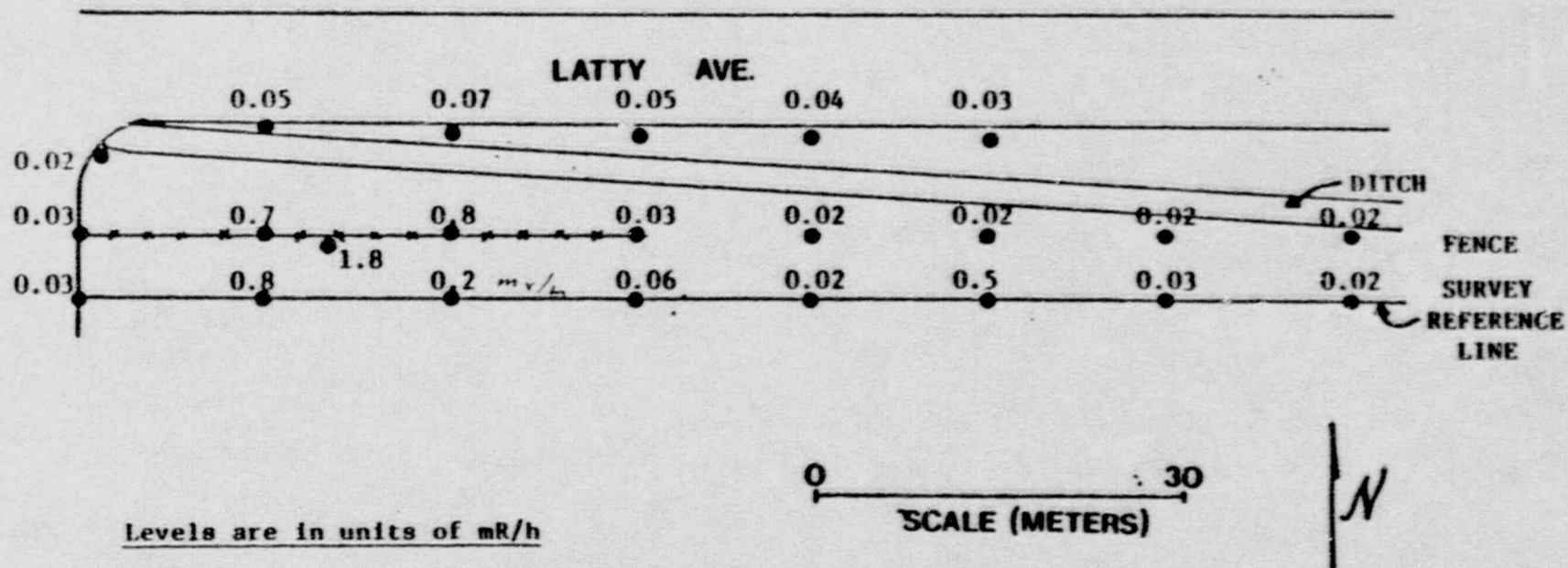


FIGURE 3. Plan View of the Survey Site Indicating Locations of Radiation Level Measurements

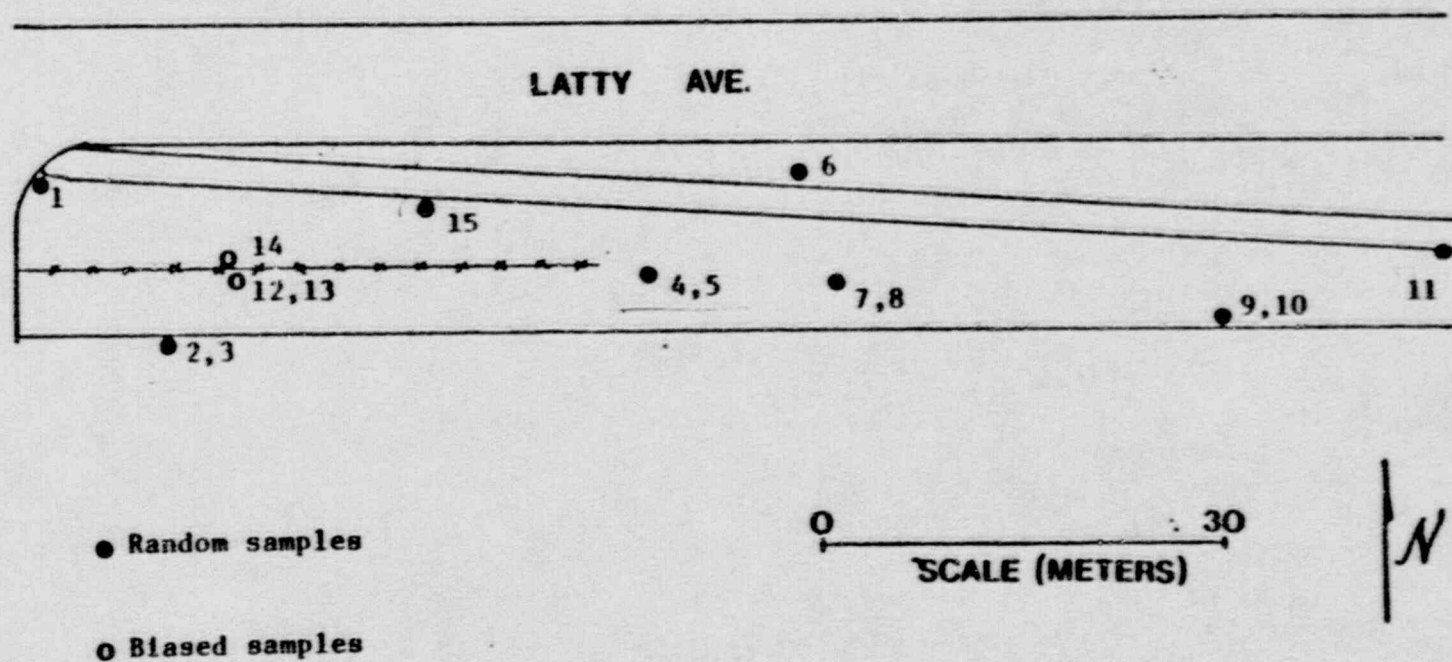


FIGURE 4. Plan View of the Survey Site Indicating Soil Sample Locations.



TABLE 1  
CONCENTRATIONS OF RADIONUCLIDES IN SOIL SAMPLES

Sample # <sup>a</sup>	Depth	Radionuclide Concentrations (pCi/g)						
		Ra-226	U-238	U-235	Th-232	Th-230	Pa-231	Ac-227
Random:								
1	Surface	1.5 ± 0.1 <sup>b</sup>	<2.8	0.17 ± 0.06	0.86 ± 0.19	190 ± 110	2.1 ± 0.8	4.1 ± 0.4
2	Surface	210 ± 2	360 ± 40	20.9 ± 0.8	2.8 ± 1.0	55,400 ± 1350	380 ± 10	780 ± 5
3	0.5 m	110 ± 1	150 ± 30	7.5 ± 0.4	2.0 ± 0.7	33,600 ± 960	230 ± 8	430 ± 4
4	Surface	250 ± 2	470 ± 60	27 ± 1	4.6 ± 1.6	80,400 ± 2000	700 ± 15	980 ± 8
5	0.5 m	19.9 ± 0.4	38 ± 12	2.1 ± 0.2	1.2 ± 0.4	5930 ± 400	56 ± 3	82 ± 2
6	Surface	1.3 ± 0.1	<2.4	0.2 ± 0.1	0.8 ± 0.2	320 ± 100	2.8 ± 0.9	4.1 ± 0.4
7	Surface	4.7 ± 0.2	16 ± 6	0.6 ± 0.1	0.7 ± 0.2	1560 ± 180	12 ± 1	17.6 ± 0.7
8	0.5 m	0.8 ± 0.1	5 ± 4	0.1 ± 0.1	0.7 ± 0.2	240 ± 80	0.75 ± 0.62	2.6 ± 0.3
9	Surface	3.5 ± 0.2	6 ± 6	0.5 ± 0.1	0.8 ± 0.2	1330 ± 190	9.4 ± 1.4	13.9 ± 0.7
10	0.5 m	1.0 ± 0.1	<3.6	0.1 ± 0.1	0.9 ± 0.2	110 ± 100	0.97 ± 0.81	3.1 ± 0.4
11	Surface	17.4 ± 0.4	40 ± 10	1.9 ± 0.2	1.2 ± 0.3	3630 ± 300	38 ± 3	66 ± 1
15	Surface	4.1 ± 0.4	<7.8	0.26 ± 0.15	0.4 ± 0.3	1130 ± 290	6.9 ± 3.9	14.5 ± 1.2
Biased:								
12	Surface	195 ± 3	510 ± 70	25 ± 1	4.8 ± 1.9	33,300 ± 2100	480 ± 30	780 ± 8
13	0.5 m	690 ± 3	470 ± 80	39 ± 1	3.7 ± 1.9	180,000 ± 2700	1070 ± 19	2250 ± 10
14	Surface	480 ± 3	1300 ± 100	57 ± 1	8.5 ± 1.9	96,500 ± 2300	819 ± 27	1590 ± 9

<sup>a</sup> Refer to Figure 4.

<sup>b</sup> 2σ error from counting statistics only.