DAVIS

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

file Letter

November 2, 1978

MEMORANDUM FOR: L. B. Higginbotham, Assistant Director, Division of Fuel Facilities and Materials Safety Inspection, IE

FROM: A. B. Davis, Chief, Fuel Facility and Materials Safety Branch

SUBJECT: CONCURRENCE ON LETTER FROM W. T. CROW (NMSS) TO D. G. AUBUCHON (ST. LOUIS AIRPORT AUTHORITY)

Statements in the subject letter which represent NRC commitments to perform certain radiological monitoring activities in conjunction with the removal of material from the Latty Avenue site to the airport site were discussed recently with Doug Sly of your staff. We concurred in the letter, however, it was our mutual understanding that the commitments in the penultimate paragraph of Mr. Crow's letter, viz.

> "The NRC will provide the necessary radiological monitoring during all decontamination and stabilization activities as well as during construction of the Police Academy facility . . . After the St. Louis Police Academy facility is completed, the NRC will survey the property . . . The NRC will also provide the Airport Authority with technical assistance . . . including periodic surveillance . . ."

will not involve a significant amount of RIII manpower. We understand that the initial phase will involve Dr. Frigerio from ANL. Region III will perform an audit function of this work, as we have done previously. We also understand that the latter (surveillance) phase will involve only RIII, but that this activity will not require more than about 5 man-hours/yr. If the effort required of RIII for the surveillance phase proves to be significantly more than anticipated, we reserve the right to request that this work be done under an NRC contract.

If your understanding of the above differs from ours, please contact me.

for A. B. Davis, Chief
Fuel Facility and Materials
Safety Branch

A/34

Davis

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

November 3, 1978

MEMORANDUM FOR: Region III Files

THRU: T. H. Essig, Chief, Environmental and Special Projects Section

FROM: W. B. Grant, Radiation Specialist

SUBJECT: DECONTAMINATION IN BUILDING 2 AND ITS ENVIRONS AT THE FORMER COTTER CORPORATION, LATTY AVENUE SITE, HAZELWOOD, MISSOURI

On October 2-3 and 11-12, 1978, Mr. W. B. Grant of RIII visited the Latty Avenue site to assist Dr. N. Frigerio, Division of Environmental Impact Studies, Argonne National Laboratory (ANL), in evaluating the decontamination required of the earthen floor inside Building 2 and the surrounding areas. This activity was in preparation for pouring a concrete floor in the building and paving adjacent areas with asphalt.

A direct gamma radiation dose measurement was made of the floor of Building 2 prior to the removal of approximately six inches of soil from the entire floor area. Another gamma measurement was made to identify those areas needing additional decontamination. An additional six-eight inches of soil was removed which reduced the radiation dose in those areas to 5 μR/hr or less. Soil samples of approximately 500g were taken after the final decontamination and analyzed for Radium-226 by Dr. Frigerio. He reported them to be less than the 5 pCi/gm target level.

The areas around Building 2, specifically: north-between Buildings 5 and 2; west-behind Building 2 to approximately ten feet east of the railroad spur; east-an approximate 20 feet strip in front of and extending to the south end of the building were surveyed and an initial six-eight inches of soil was removed. Another direct gamma radiation dose measurement was made to identify those areas needing additional decontamination. After several such operations, the north and west areas were found to be less than 5 μR/hr. The area east of Building 2 had an approximate 60 ft^3 area that was above 5 μR/hr. This area was marked and an additional six-eight inches of soil will be removed. (See Figure 1)

A/35

8005140591 4pp

Ten 12-inch deep soil samples were taken from the area outside of Building 2 after decontamination. The samples were taken in areas of assumed higher occupancy. The samples will be analyzed by Dr. Frigerio and will be reported at a later date.

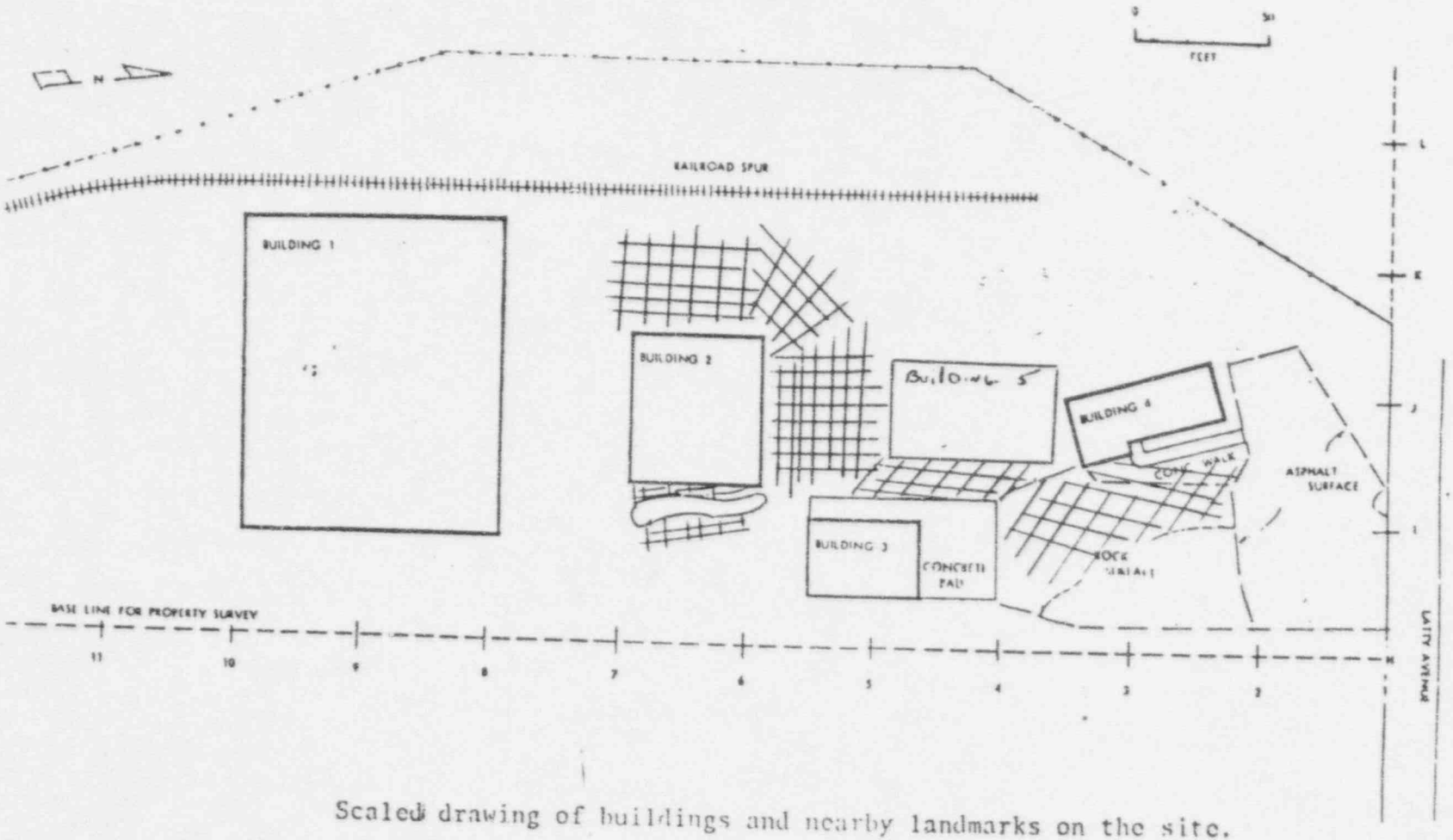
WB Grant

W. B. Grant
Radiation Specialist

Attachment:
Figure 1

cc w/attachment:
W. T. Crow, NMSS
D. K. Sly, IE

AREAS < 5 mR/h



Scaled drawing of buildings and nearby landmarks on the site.

File

1/28/79

LATTY AVE

1. St. Louis Met. Police to use Airport Authority Property property (AEC Site)

2. DOE has included this site in Govt. recovery program of former govt. sites

3. Rad surveys of site in 1977 - 78. Must remove some surface contamination near fence on north side of property. More to pit which is to be excavated.

4. 18,000 yd³ from Latty area to go to excavated pit in AEC site. Cover w. sand (4 ft.)

5. Police academy to use for Driver EJ Facility. Cover w. asphalt

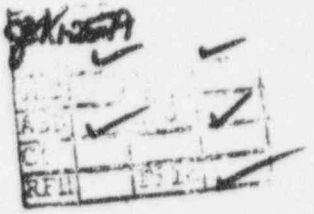
6. Jarboe Property 9200 Latty ave Hazelwood, Mo. (3.5 acres)

A/36

Distribution:
FCPF
NMSS
WTCrow
IE HQ-2

Docket 40-8035
TEssig, R:III
PDR

JAN 0 9 1979



Sgt. Edward V. Graves
Metropolitan Police Department
City of St. Louis
1200 Clark Avenue
St. Louis, Missouri 63103

Dear Sgt. Graves:

Enclosed is a copy of the Decontamination Plans for cleaning up the property at 9200 Latty Avenue, Hazelwood, Missouri. Please note that Plan II addresses the movement of the contaminated soil to the old AEC fill site adjacent to the St. Louis Airport. Also enclosed is a copy of our letter to the St. Louis Airport Authority which describes the controls the NRC plans to maintain during and after the transfer of this material.

If there are any questions, please call.

Sincerely,

Original Signed by
W. T. Crow, Section Leader
Uranium Fuel Fabrication Section
Division of Fuel Cycle and
Material Safety

Enclosures:
As stated

JAN 25 1979

7902090084 1/1

II A/37

OFFICE ▶	FCPF					
SURNAME ▶	WTCrow:mb					
DATE ▶	1/9/79					

NRC FORM 318 (9-76) NRCM 0240 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1976 — 626-624

NOV 9 1978

Mr. Donald G. Aubuchon
Assistant Director
St. Louis Airport Authority
P. O. Box 10212
Lambert Station
St. Louis, Missouri 63145

Dear Mr. Aubuchon:

This is in response to your letter dated September 19, 1978, regarding the proposed use of the Airport Authority Property, which you refer to as the AEC site, by the St. Louis Metropolitan Police Department. As you are aware, the Department of Energy (DOE) has included this site in its resurvey program of former Government-owned sites. A radiological survey of this site was performed in April 1977, and additional data was obtained to supplement the original survey in August 1978. These data indicate that it will be necessary to remove some surface contamination which exists near the fence on the north side of the property. It is expected that this contamination will be removed and put in the pit that will be excavated to contain the 18,000 yds^3 of slightly contaminated soil from Latty Avenue. After the north fence area is decontaminated, the area will be stabilized using clean fill to prevent recontamination by erosion. The pit area, mentioned above, will be covered with an additional four (4) feet of clean compacted fill and graded to the proper contour.

The proposed use of the site by the St. Louis Metropolitan Police Department, to construct an Advanced Driver Education Facility, appears to be an ideal use for the site. The rock base fill and the four to five inches of asphalt will further stabilize the site; and the storm drainage system, planned in conjunction with this construction, will aid in minimizing any further erosion as was previously experienced. Also, the Police Academy facility constructed on the site will provide additional assurance that access to the property will be controlled to prevent any unauthorized excavation or removal of fill. (We assume that the Airport Authority will obtain all necessary FAA approvals, if any are required by the deed, for use of the site by the St. Louis Police Academy.) Paragraph 7p(1) of the Quit-Claim deed to your property requires prior notice to the U.S. NRC (as successor to the AEC for this purpose) of removal of earth 12 inches below the October 7, 1971, site elevations. This letter hereby confirms that this stipulation in the deed has been satisfied.

7902070089 2PP

As noted in Dr. William E. Mott's (DOE) letter to Sgt. Edward V. Graves of the St. Louis Police Academy dated June 9, 1978, the surface contours identified in 1971 do not correspond to the surface contours identified in 1976 and that there has either been extensive settling, erosion, or unauthorized excavation. Accordingly, after the north fence line has been decontaminated and the fill from Latty Avenue has been moved to the site and stabilized, the NRC and/or DOE will provide the Airport Authority with a topographical map describing the location and elevations of all radioactive contamination. This map could be recorded in the appropriate land records and referenced to the Quit-Claim deed.

The NRC will provide the necessary radiological monitoring during all decontamination and stabilization activities, as well as during construction of the Police Academy facility, to assure that they are carried out in a manner that will not endanger public health and safety. After the St. Louis Policy Academy facility is completed, the NRC will survey the property and provide the Airport Authority with documentation to show that the surface areas are below NRC guidelines for unrestricted use and that the site poses no threat to health and safety of the public including any occupants. The NRC will also provide the Airport Authority and/or the Policy Academy technical assistance or advice related to the radioactive materials on the site including periodic surveillance to assure that the contaminants remain stabilized.

We have appreciated the cooperation we have received from the Airport Authority on this matter; and if there are any further questions, please feel free to call me at 301-427-4103.

Sincerely,

Original Signed By

W. T. Crow, Section Leader
Uranium Fuel Fabrication Section
Division of Fuel Cycle and
Material Safety

PLAN I PHASE I

DECONTAMINATION PLAN FOR LATTY AVENUE SITE

1. OBJECTIVE

To decontaminate the north end of the Jarboe Property at 9200 Latty Avenue, Hazelwood, Missouri (a 3.5 acre site).

2. CONSIDERATIONS

2.1 All of the contaminated material on the site area shown in Drawing No. 1 is to be gathered together and relocated on the site so as to be readily identifiable for subsequent relocation; secured so it will not be inadvertently used for fill material in other locations; protected so it will not be transported by the wind and water; and be far enough away from buildings to allow such structures to be utilized without subsequent re-contamination.

2.2 During cleanup activities, continual health physics monitoring of the work will take place. This work will be paid for by others and is to serve as a guide to the adequacy of depths of soil removal, removal of contamination from buildings, and proper storage. This activity should in no way slow down or change the described contractor's work. If delays or additional excavation or cleaning is required beyond that described herein then it will be authorized and paid for as a change order or extra.

2.3 Contamination levels are such that no special clothing or masks are required to be worn by workers other than masks routinely worn by workers performing sandblasting operations and removal is insulation; however, prudent practice dictates that clothing worn by earthmoving equipment operators should not be work off site.

2.4 While the contamination level of the material to be moved is low, care must nevertheless be taken by the contractor in all operations to make sure that existing contamination is not spread, but rather contained in the designated storage area.

2.5 Efforts should be taken to reduce or eliminate dust during earth relocation activities. Water is to be used by the contractor to keep the ground moist enough to contain dust at both the removal and storage locations. During severe wind conditions (over 20 M.P.H.) earth moving activities should be stopped. A fire hydrant is located at the west end of Latty Avenue. Permission to use this source must be obtained from local authorities.

2.6 Haulage equipment (trucks, pickups, etc.) will be monitored each time prior to leaving the site so that contamination carried off on tires, etc. is minimized. Haulage equipment shall not be allowed on the contaminated areas of the site unless needed for decontamination efforts. Earthmoving equipment used in the contaminated areas shall be decontaminated prior to release.

2.7 Quantities of contaminated materials are based upon specified depths of cuts and are expected to be adequate enough to remove contamination to acceptable levels. If they vary in depths as verified in the field by health physics monitoring, change orders will be issued.

2.8 The Nuclear Regulatory Commission will be responsible for required dealings with all other governmental agencies and the press. No local building permits will be required. A designated representative of the NRC will be responsible for liaison between the contractor and the health physicists.

3.0 CLEANUP PLAN IN GENERAL

Insulation in buildings 1 and 2, weeds and all debris in all buildings and at all areas to be decontaminated, contaminated soil in these areas, and contaminated material resulting from decontamination of all buildings will be gathered and stored in a fenced-in pile on the south side of the Jarboe property. Clean fill will be imported to bring the grade in buildings 1 and 2 back to their existing levels and the balance of the site will be graded smooth and even, utilizing remaining soil. No work is to be done on the Norfolk and Western railroad property, which is immediately east of the Jarboe property.

4. DECONTAMINATION PLAN IN DETAIL

The contractor shall follow this plan in the following sequence:

4.1 Drawing No. 1 indicates the maximum total depths of cut required on the various areas of the sites. These cuts shall be taken in 1 foot increments or less.

4.2 Cut and mulch all weeds and small trees and bushes on the site where excavation is to occur. Haul this material to the storage area.

4.3 Construct the east, west, and south sides of the storage fence as detailed in Drawing No. 2. The header boards are to keep the base of the pile contained. Workers and material access to the storage area is to be from parking lot north of building 4, and along the concrete pad northwest of building 3.

4.4 Remove all fences, fence posts, and loose debris on the site where excavation is to occur to the storage area. Also remove all concrete slabs and pieces in building 1 to the storage area.

4.5 Remove all insulation, electrical wiring and fixtures, broken glass, debris and loosely hanging building parts from buildings 1 and 2 to the storage area. (Use sharp knife such as a sheet rock knife to cut the insulation away from the building, cutting as close to the structural frame as possible. In some cases it will be possible to remove it completely by pulling it away.)

4.6 All steel frames, columns, posts, windows, tie rod bracing and rusted siding near the ground are to be sand blasted.

4.7 Excavate and remove to the storage area a maximum of 3 feet of soil in Building 1. Make sure that the soil is damp so as to contain dust. This is the most contaminated area.

4.8 Excavate a maximum of 2 feet of soil in building 2, then the areas west and south of building 2 to a maximum of 2 feet depth. Haul to storage area.

NOTE: In excavating the material from buildings 1 and 2 some hand work will be required to remove earth from the inside of the "U" shaped purlins which are at the base of siding, on top of the concrete foundation wall. Also, in the removal, material adjacent to both the inside and outside of the concrete foundation curtain walls may cause such walls, which are non-bearing, to fall away from their existing placement. If such occurs, these walls are to be removed to the storage area. Required excavation is not intended to disturb the soil beneath or around concrete foundations which are beneath structural columns or posts. Removal of material which would jeopardize the structural integrity of the buildings is to be avoided.

No special compaction is required for the material placed in the storage pile. Estimated volume of material is between 4,000 and 4,500 yd and the storage area would be filled to a depth slightly over 6.5 ft.

4.9 Excavate and remove to storage area the north 150 feet of the railroad spur on the Jarboe property, including track, ties, and ballast.

4.10 Excavate and remove to the storage area all remaining 1 foot removal areas in 6 inch increments avoiding crossing over areas already decontaminated.

4.11 Sand blast all remaining exposed concrete foundations and foundation walls of buildings 1 and 2, both sides.

4.12 Wash both interior and exterior sides of metal roof and siding of buildings 1 and 2. Wash their gutters and downspouts. Use a commercial cleaning agent such as "TURCO".

4.13 Clean up all sand and residue which has fallen to or onto the ground as a result of sand blasting or washing operations and haul to storage area.

4.14 Paint all steel frames, purlins, sash, tie rods and rusted siding areas of buildings 1 and 2 with a metal prime coat such as "RUSTOLIUM". (All of which have been previously sand blasted.)

4.15 Paint all exposed concrete foundations and concrete foundation walls with an epoxy base concrete paint.

4.16 Decontaminate building 3 by using commercial agents such as "TURCO". Wash both the interior and exterior of the structure - sandblast concrete floors and exterior concrete slabs - collect contaminated debris left from cleaning and bury in storage pile.

4.17 Decontaminate building 4. Remove floor tiles. Wash down all walls and floors with "TURCO". Wash down exterior masonry with this same solution. Sand blast foundation walls and concrete curb walls of parking lot area. Gather all contaminated residue and deposit on pile.

4.18 Install the north wall of the storage fence.

4.19 Replace removed earth in building 1 with imported clean fill, in an amount equal to that which was removed. Compact with truck and spreading equipment and keep damp.

4.20 Replace removed earth in building 2 with imported clean fill in an amount equal to that which was removed. Compact as in 4.19.

4.21 Replace removed earth in other areas where 2 feet of soil was removed by the addition of 1 foot of imported clean fill.

4.22 Add a minimum of 4 inches of clean fill to remaining areas and grade the site with a motor grader.

4.23 Spray the entire surface of the storage pile with a hydro mulch, such as "CONWED HYDRO MULCH 2000". This is to stabilize the pile and prevent erosion by including rapid seed germination.

PLAN II

DECONTAMINATION PLAN FOR LATTY AVENUE SITE

1. OBJECTIVE

To decontaminate the 11 acre site located on the south side of the west end of Latty Avenue in Hazelwood, Missouri, and to haul and store this material on what is known as the airport fill site on Brown Road approximately 2.5 road miles away.

2. CONSIDERATIONS

2.1 All of the contaminated material on the site and some immediately adjacent (as shown in Drawing A) is to be removed from the site and stored as designated on the 2.17 acre airport site (Drawing B).

2.2 During cleanup activities, continual health physics monitoring of the work will take place. This work will be paid for by others and is to serve as a guide to the adequacy of depths of soil removal, removal of contamination from buildings, and proper storage. This activity should in no way slow down or change the described contractor's work. If delays or additional excavation or cleaning is required beyond that described herein then it will be authorized and paid for as a change order or extra.

2.3 Contamination levels are such that no special clothing or masks are required to be worn by workers other than masks routinely worn by workers performing sandblasting operations and removal is insulation; however, prudent practice dictates that clothing worn by earthmoving equipment operators should not be worn off site.

2.4 While the contamination level of the material to be moved is low, care must nevertheless be taken by the contractor in all operations to make sure that existing contamination is not spread, but rather contained in the designated storage area.

2.5 Efforts should be taken to reduce or eliminate dust during earth relocation activities. Water is to be used by the contractor to keep the ground moist enough to contain dust at both the removal and storage locations. During severe wind conditions (over 20 M.P.H.) earth moving activities should be stopped. A fire hydrant is located at the west end of Latty Avenue. Permission to use this source must be obtained from local authorities.

2.6 Contaminated material will leave the Latty Avenue site in dump trucks with tight canvas tarp covers, to minimize the spillage of contaminated soil en route. The detailed plan will outline loading and unloading procedures so as to achieve this goal. Equipment, trucks, pickups, etc. all will be monitored before leaving either site to make sure that no contamination is carried off on tires, etc. Such equipment shall not be allowed on the contaminated areas of the site unless needed for decontamination or storage efforts.

2.7 Quantities of contaminated materials are based upon specific depths of cuts and are expected to be adequate enough to remove contamination to acceptable levels. If they vary in depths as verified in the field by health physics monitoring, change orders will be issued.

2.8 The Nuclear Regualtory Commission will be responsible for required dealings with all other governmental agencies and the press. No local building permits will be required. A designated representative of the NRC will be responsible for liaison between the contractor and the health physicists.

3. CLEANUP PLAN IN GENERAL

All Latty Avenue contaminated material including building insulation, loose site debris, weed growth, and contaminated soil (including some off-site material) is to be gathered up and hauled by truck over a designated route to the airport fill storage site. There it will be buried in a constructed pit and covered with a minimum of 4.0 ft of clean imported fill. On the Latty Avenue site clean fill will be imported to bring the grade in buildings 1 and 2 back to their existing levels and the balance of the site will be graded smooth and even, utilizing imported fill.

4. DECONTAMINATION PLAN IN DETAIL

The contractor shall follow this plan in the following sequence:

4.1 Drawing A indicates the maximum total depths of cut required on the various areas of the sites. These cuts shall be taken in 1 foot increments or less.

4.2 Drawing B indicates the storage area location and the location and typical cross section of the specific storage area and its shape.

4.3 Construct the storage basin (pit) by bulldozing existing fill material into a low area adjacent to the existing west gate of the area fence. There is to be a clean earth berm separating the main line of the existing fence which parallels Brown Road and the deposited contaminated material. This berm is to be so that it will form the north edge of the storage pit and be at least 50 ft. wide. By scooping out an area of approximately three acres to a depth of ± 3.5 ft. a storage pit will be formed as a basin of sufficient size to contain the Latty Avenue material. A considerable amount of concrete rubble and debris has been hauled into the airport fill site. But in the selected storage area it is believed that such material can be avoided.

4.4 Cut and mulch all weeds and small trees and bushes on the Latty Avenue site, and off-site areas to be excavated. Haul this material to the storage pit.

4.5 Remove all fences, fence posts and loose debris on the Latty Avenue site and its perimeter to the airport storage pit. Also remove all concrete slabs and pieces in building 1 to the storage pit.

4.6 Remove all insulation, electrical wiring and fixture, broken glass, debris and loosely hanging building parts from buildings 1 and 2 to the storage pit. (Use sharp knife such as a sheet rock knife to cut the insulation away from the building cutting as close to the structural frame as possible. In some cases it will be possible to remove it completely by pulling it away.)

4.7 All steel frames, columns, posts purlins, windows, tie rod bracing and rusted siding near the ground are to be sand blasted.

4.8 Excavate and remove to the storage pit a maximum of 3 feet of soil in building 1. Make sure that the soil is damp so as to contain dust. This is the most contaminated area. Material from this location is to be hauled by the excavating equipment to the designated "clean" area where it will be loaded onto trucks. The "clean" area is to be the concrete slab at the north end of building 3. Trucks will back on to this area, receive their load, be checked for cleanliness on tires, etc., tie down their tarp, and proceed to the storage pit. This contractor is to enlarge the already existing pit at the northwest corner of this slab so it will hold at least 3 yd^3 of water that may be needed to wash down trucks and equipment. If washing is needed it is to be done by contractor's personnel.

The route to the airport site will be east on Latty Avenue to Hazelwood Boulevard then right on Hazelwood to Frost Avenue then right on Frost to Eva Avenue. Then left on Eva to Brown Road. Then right to the airport fill site entry gate.

At the storage pit trucks will be backed into a clean area of the pit, dump their loads and proceed back to the Latty Avenue site for re-loading. Clean areas will be developed by a bulldozer which will scrape contaminated material into the pit. Back dragging by the dozer's blade may be required. If hauled contaminated material is too wet so as to cause a slurry to be formed, and thus leak from the trucks enroute, then a drying agent such as cement or vermiculite will need to be added to the bottom of the truck beds before loading so as to absorb moisture.

Because of the problem of contaminated material being caught on tow bars, trailers will not be permitted. Belly dump trucks will be allowed if, at the dumpsite, material can be deposited without getting on truck wheels or under carriages of the vehicles.

Trucks will have to adhere to the load weight limits established by the local governing agencies.

4.9 In the same manner as described in 4.8, excavate the required maximum of 2 ft. depth in building 2, then the areas west and south of building 2 to a maximum 2 ft depth.

NOTE: In excavating the material from buildings 1 and 2 some hand work will be required to remove earth from the inside of the "U" shaped purlins which are at the base of siding, on top of the concrete foundation wall. Also, in the removal, material adjacent to both the inside and outside of the concrete foundation curtain walls may cause such walls, which are non-bearing, to fall away from their existing placement. If such occurs, these walls are to be removed to the storage area. Required excavation is not intended to disturb the soil beneath or around concrete foundations which are beneath structural columns or posts. Removal of material which would jeopardize the structural integrity of the buildings is to be avoided.

4.10 Excavate and haul to the storage pit the 2 other site areas requiring a maximum of 2 ft removal. Load as described in 4.8.

4.11 At the storage pit area, material as it is received is to be spread and compacted by use of the spreading bulldozer which shall be a Cat D-8 or equivalent or larger. It is believed that the material will be damp enough that, along with 4.0 ft minimum placement lifts and dozer compaction, that 90% compaction can be achieved.

4.12 Excavate and remove to storage pit the north 150 ft of the Railroad spur on the Jarboe property, including track, ties and ballast.

4.13 Excavate and remove the storage pit all remaining 1 ft removal areas in 6 inche increments. For this removal scoop loaders may load directly from the removal area into trucks without hauling to the "clean" area by building no. 3. Before proceeding to the storage pit site, however, trucks will be required to go to the "clean" area to be checked for any contaminated material on tires or body parts. If such is present, it will be washed off by contractor's personnel. Where the drainage ditch along Latty Avenue is disturbed by excavation, it is to be replaced by rip-rap so as to prevent erosion.

4.14 Sand blast all remaining exposed concrete foundations and foundation walls of buildings 1 and 2, both sides.

4.15 Wash both interior and exterior sides of metal roof and siding of buildings 1 and 2. Use a commercial cleaning agent such as "TURCO". Wash their gutters and downspouts.

4.16 Clean up all sand and residue which has fallen to or onto the ground as a result of sand blasting or washing operations and haul to storage pit.

4.17 Paint all steel frames, purlins, sash, tierods and rusted siding areas of buildings 1 and 2 with one metal prime coat such as "RUSTOLEUM".

4.18 Paint all exposed concrete foundations and concrete foundation walls with an epoxy base concrete paint.

4.19 Decontaminate building 3 by using commercial agents such as "TURCO", wash both the interior and exterior of the structure - sand blast concrete floor and exterior concrete slabs - collect contaminated debris left from cleaning and bury in storage pit.

4.20 Decontaminate building 4. Remove floor tiles. Wash down all walls and floors with "TURCO". Wash down exterior masonry with this same solution. Sand blast foundation walls and concrete curb walls of parking lot area. Gather all contaminated residue and deposit in storage pit.

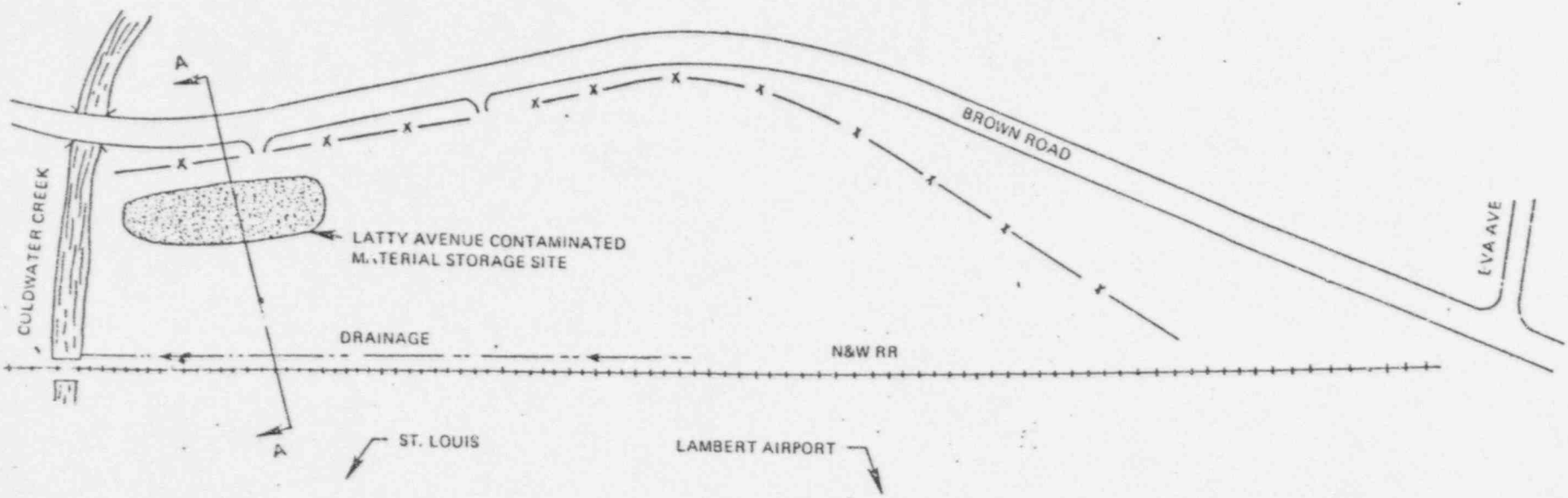
4.21 Replace removed earth in building 1 with imported clean fill in an amount equal to that which was removed. Compact with trucks, spreading equipment and keep damp.

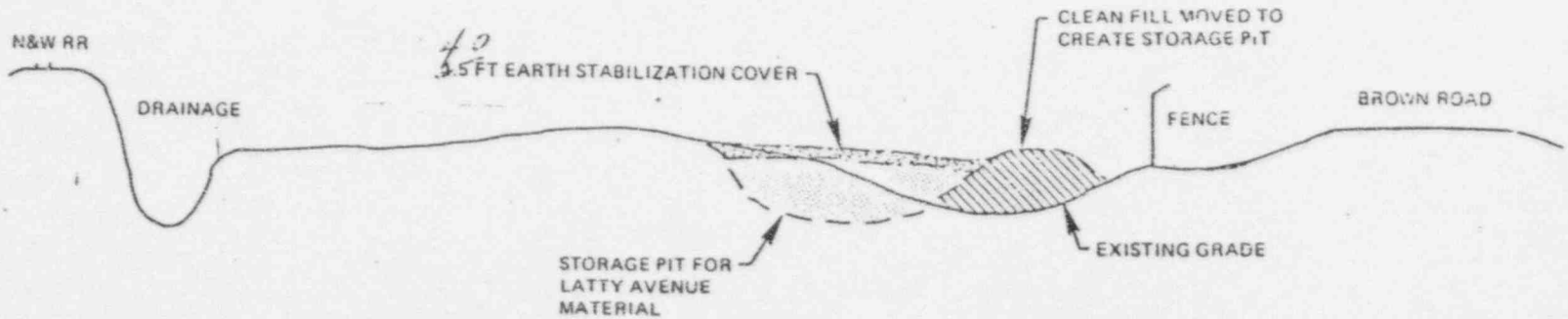
4.22 Replace removed earth in building 2 with imported clean fill in an amount equal to that which was removed. Compact as in 4.21.

4.23 Replace removed earth in other areas where 2 ft. of soil was removed by the addition of 1 ft of imported clean fill.

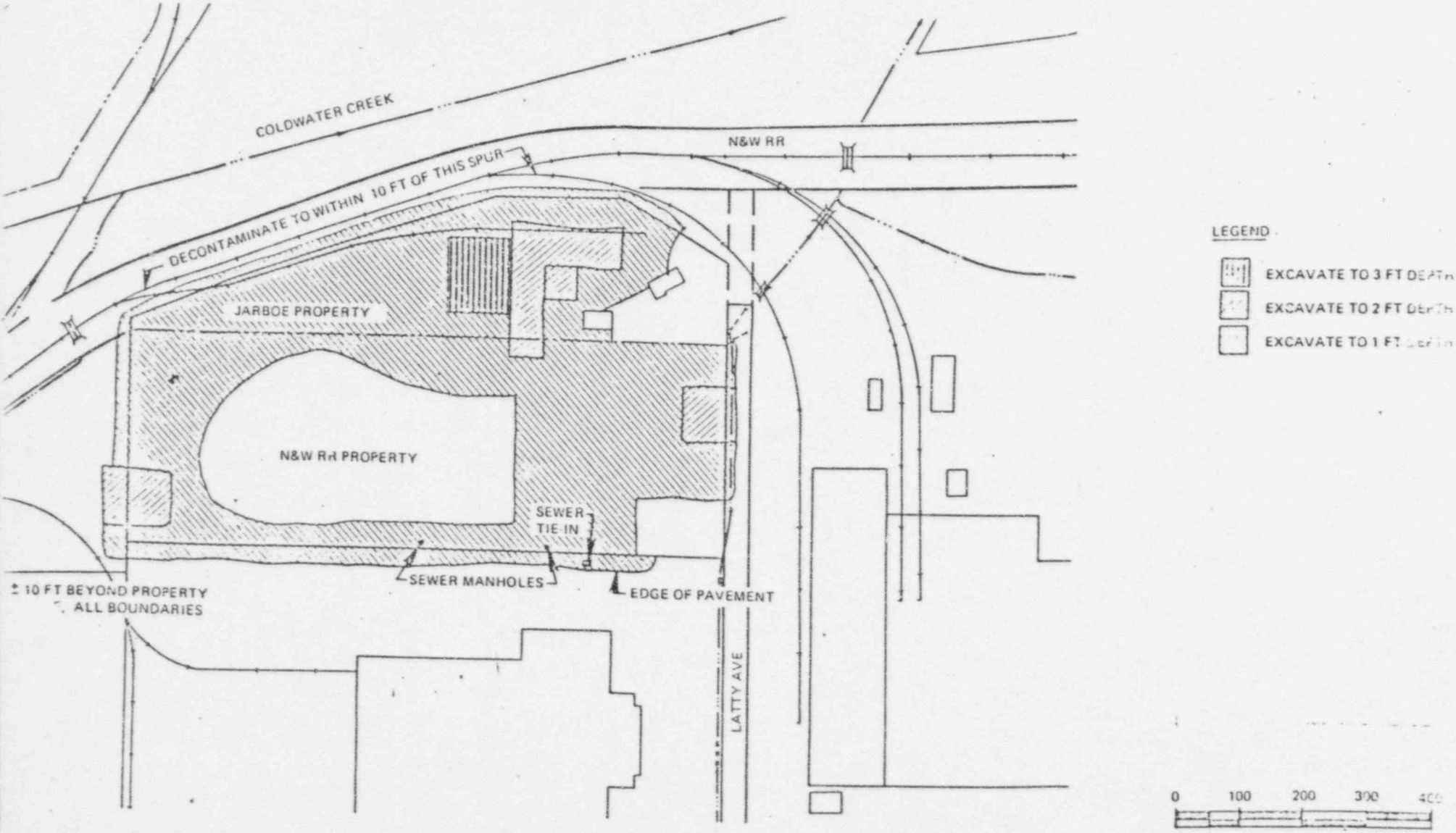
4.24 Add a minimum of 4 inches of clean fill to remaining areas and grade the site with a motor grader.

IATE





TYPICAL SECTION A-A


COLDWATER CREEK
N&W RR
DECONTAMINATE TO WITHIN 10 FT OF THIS SPUR
JARBOE PROPERTY
N&W RR PROPERTY
SEWER TIE-IN
SEWER MANHOLES
EDGE OF PAVEMENT
± 10 FT BEYOND PROPERTY ALL BOUNDARIES
LATTY AVE
LEGEND
EXCAVATE TO 3 FT DEPTH
EXCAVATE TO 2 FT DEPTH
EXCAVATE TO 1 FT DEPTH
0
100
200
300

RMC

July 25, 1979

Dr. C. J. Roberts
EIS Division
Argonne National Laboratory
9700 S. Cass Ave.
Argonne, IL 60939

Dear Lyle:

Enclosed are our cost estimates for performing the off site work at Latty Ave. as requested by Bill Crow. These funds are in addition to those allocated for our present on-site work. As you can see, 75% of the additional money would be for monitoring the movement of soil from Latty Ave to the land fill. We feel this work would require one man on site almost continuously to perform and oversee the monitoring and decon work. If our time estimates are reasonably accurate, it seems likely that this work would extend beyond September 30th, into the next fiscal year. As usual, these estimates are based on the assumption that no additional, unusual problems will be encountered during the course of this work.

As for the actual cost of the removal of dirt from the land south of the Latty Ave. site, it is difficult to estimate without knowing the actual volumes involved. However, based on our knowledge of the Latty Ave site work, we would guess that the off-site decon work would take at least two weeks, at a minimum cost of 10K. We have worked with a local concern in projects like this in the past and I am sure they would quote you rates if you are interested.

Sincerely,

Lee Booth

Leroy F. Booth
Health Physicist

radiation management corporation

Midwest Division
3356 Commercial Avenue
Northbrook, Illinois 60062
(312) 291-1030

A/38

xc Ping ~~Hoffert~~
(2) Crow ~~Lowe~~

ESTIMATED COST FOR LATTY AVE OFF SITE WORK

1) Estimate of the Volume of Off-Site Contamination.

Task	Personnel Category & Man-Hour 702	703	704
Preparation	8		8
Surface Survey			8
Bore-Hole Survey		16	8
Report & Volume Estimate	4	4	
Man Hours	12	20	24
Labor Costs	$560	$740	$630
Equipment Costs	$250		
Travel & Living Costs	$500		
Total Cost	$2680		

2) Survey of Little Cold Water Creek

Task	Personnel Category & Man-Hour 702	703	704
Preparation	8		8
External Dose Rate Survey			8
Sampling			4
Report Preparation	8		4
Man Hours	16		24
Labor Costs	$750		$630
Analyze	$1000		
Equipment Cost	$100		
Travel & Living Cost	$300		
Total Cost	$2780		

3) Monitor the Transfer of Soil from Latty Ave. to the Airport Site

Assumption: Total Volume to be Moved = 40,000 yd
One Truck Load = 8 yd
Truck Loads = 5000

With two front end loaders and a fleet of trucks;

Time to Load One Truck = 6 Min.
Truck Loads per hour = 10
Truck Loads per 10 hour day = 100
Work Days = 50

Task	Personnel Category & Man Hour 702	703	704
Preparation	16	8	8
On-Site Monitoring	40	40	400
Close Out Survey & Report	16	8	16
Man Hours	72	56	424
Labor Costs	$3380	$2070	$11,020
Travel & Living Costs	$600	$600	$4000
Equipment & Material	$1000		
Total Cost	$22,670		

Grand Total for all Additional Work = $28,130.00

rmc

August 1, 1979

Dr. C. J. Roberts
EIS Division
Argonne National Laboratory
9700 S. Cass Avenue
Argonne, IL 60439

Dear Lyle:

The following is a summary of our discussions with Bill Crow during his Latty Avenue site visit on July 20th, 1979.

Bill was shown results of external gamma measurements taken on 10,11 & 12th of July, which are enclosed. As you can see, the majority of gross gamma levels are between 20 and 30 μR/hr. Off-site levels, areas on-site which are in excess of 20 μR/hr and were cleared by Bill Grant, and levels prior to the June decon work were also reviewed and are enclosed.

Contamination checks from Bldg 1 were reviewed, with high levels of removable alpha contamination in the crossbeams noted.

We discussed the possibility of performing bioassays on the heavy equipment operator who was on site regularly. It was agreed that it would probably be best to have Argonne do this if it is necessary.

We were told that while the NRC would be interested in Th-230 levels in soil of the order of 5-10 pCi/g, no criteria would be set at this time. Thus, the only criteria for nuclides in soil is for Ra-226

Bill also indicated his desire to have us perform additional work not in the original statement of work. This includes estimating the volume of soil off-site which would have to be removed to meet NRC criteria, performing surveys and sampling in Little Cold Water Creek to assure that run-off is not contaminating Cold Water Creek, and health physics monitoring during transfer of contaminated soil from Latty Avenue to the land fill. He asked us to submit to you an estimated cost for this work, which I have done under seperate cover.

I have also included an analysis of our soil samples based on our gamma scans and on the data from Idaho Falls. The Ra-226 and Ac-227 have been determined directly from the gamma analyses, while Th-230 and Pa-231 are estimated from relationships established from the Idaho Falls data (see enclosed graphs). All samples were taken at a depth of one foot at the grid locations indicated on the maps.

radiation management corporation

Midwest Division
3356 Commercial Avenue
Northbrook, Illinois 60062
(312) 291-1030

Analysis of off-site samples indicate an average background Ra-226 content of 2 pCi/g, which is consistant with other findings. At seven of the twenty sample locations on-site, the Ra-226 concentration exceeds 10 pCi/g. The Ac-227 levels (from the Th-227 or Ra-223 daughters) are generally about the same as Ra-226, as are Pa-231 levels. Estimations of Th-230 indicate levels in excess of about 100 pCi/g in six of the twenty samples. Additional Th-230 separations are being performed at our laboratory on selected samples, but it may take as long as two months for precise Th-230 confirmatory measurements to be completed. However, we feel that our determinations, based on all the Idaho Falls data, will not seriously under estimate the Th-230 activities, since all significant Th-230 levels have been associated with gamma activities above background. A more detailed report of the soil analyses will be prepared.

If there are any questions, please call.

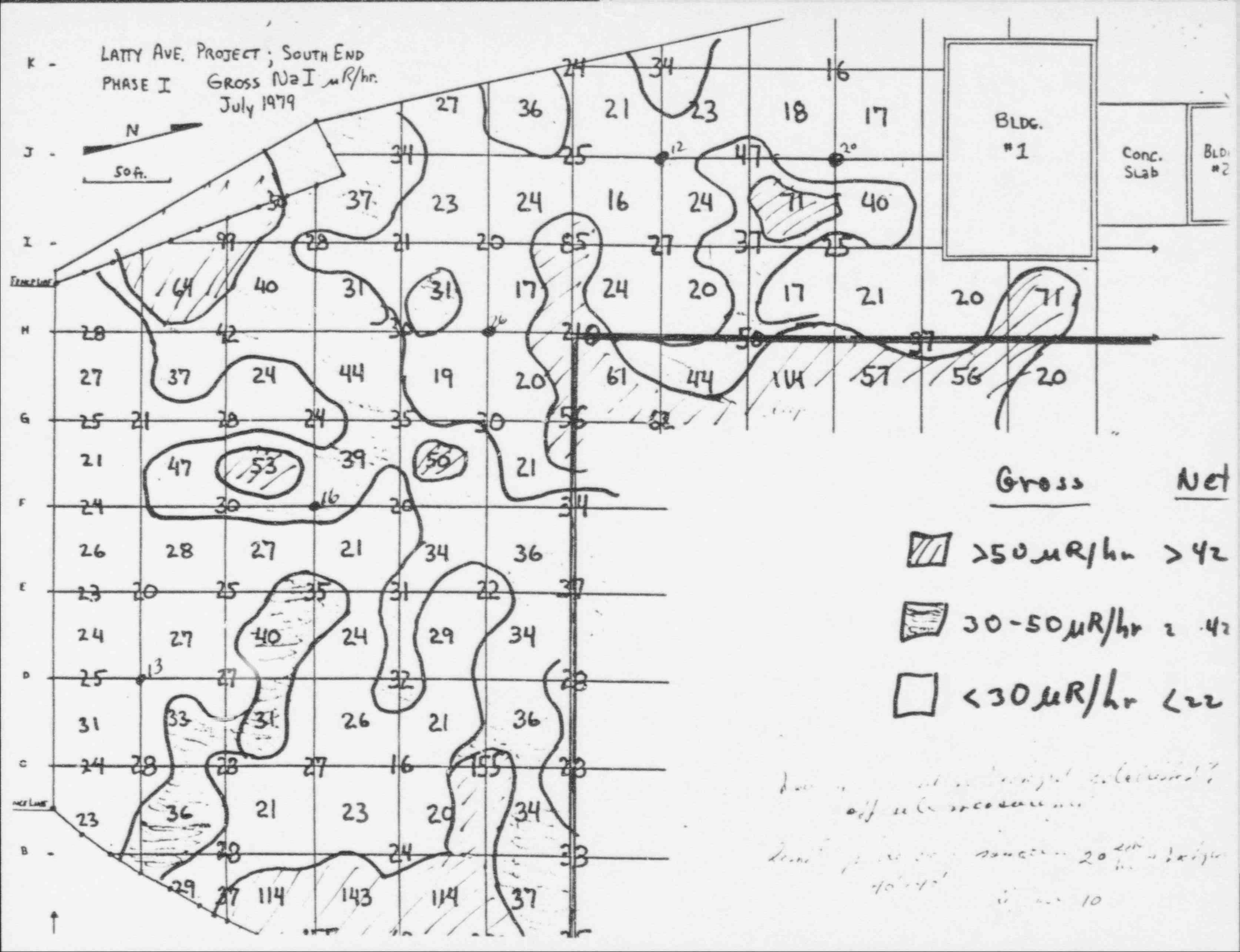
Sincerely,

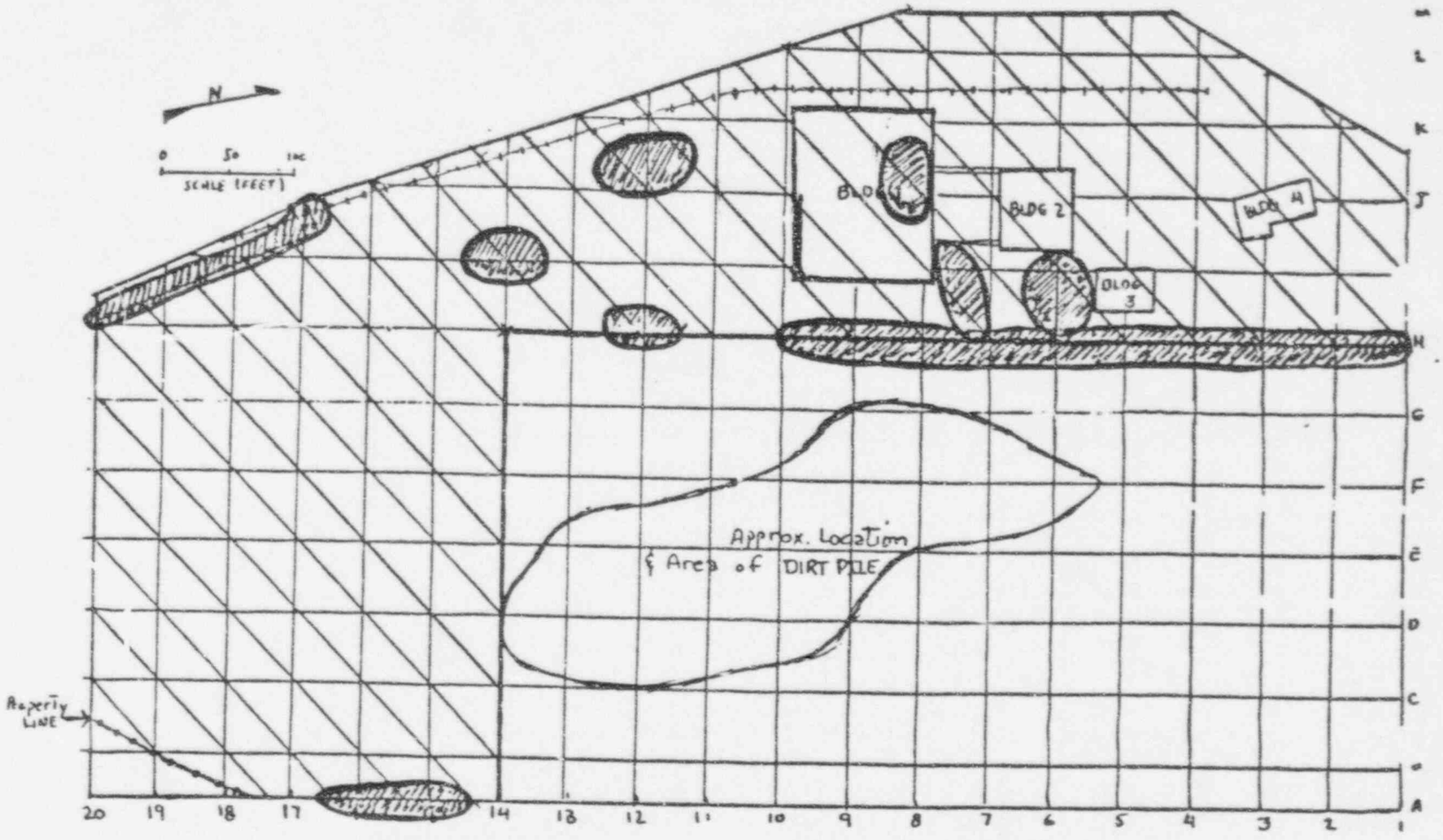
Lee Booth

Leroy F. Booth
Health Physicist

LFB/mb

CC: W. Crow
US NRC/NMSS
Division of Fuel Cycle & Material Safety
Washington, D.C. 20555


LATTY AVE. PROJECT; SOUTH END
PHASE I GROSS NaI μR/hr.
July 1979
N
50 ft.
BLDG. #1
Conc. Slab
BLDG #2
Gross
Net
>50 μR/hr > 42
30-50 μR/hr ≥ 42
<30 μR/hr < 22



DENOTES PROPOSED AREA TO BE CLEARED DURING THIS PHASE OF PROJECT.

DENOTES AREAS READING OVER 20 μR/hr, where reasonable effort was made to remove the contamination and could not be fully accomplished for insurmountable reasons (ie. reached depth of water table...). These areas were Tenatively O.K'd by Bill Grant, NRC.

Lathy Ave Soils July, 1979

RMC γ Analysis (pCi/g)				Estimates from NRC Data	
Sample	Bi214	Ra226	Ac227	Th230	Pa231
BKG1	1.0	2.0	2.7		
BKG2	0.8	1.7	3.7		
BKG3	0.9	2.6	3.5		
BKG4	0.6	2.1	1.9		
BKG5	0.8	2.0	3.4		
J-11	5.8	20.0	4.7	350	6
J-13	1.2	12.5	4.1	<10	<1
J-15	0.7	2.6	3.2	<10	<1
H-3	94	194.0	88	6000	86
H-5	1.1	2.1	4.7	<10	<1
H-9	1.2	3.0	3.5	<10	<1
H-11	0.9	2.7	3.4	<10	<1
H-13	2.0	4.5	4.9	30	<1

RMC γ Analysis (pCi/g)				Estimates from NRC Data	
Sample	Bi214	Ra226	Ac227	Th230	Pa231
H-15	2.7	25.9	4.4	110	2
H+17	2.0	5.8	4.4	70	1
H-19	1.3	10.4	3.4	10	1
F-15	0.8		3.4	<10	<1
F-17	6.3	15.5	4.5	450	6
F-19	3.9	8.9	4.1	200	5
D-15	4.2	6.7	3.8	220	5
D-17	1.2	3.1	3.7	<10	<1
D-19	9 -	13.3	3.0	620	8
B-15	0.9	2.1	3.6	<10	<1
B-17	1.3	3.1	3.2	10	<1
B-19	1.1	2.9	3.8	<10	<1
BKG-6	0.8	1.8	3.5		

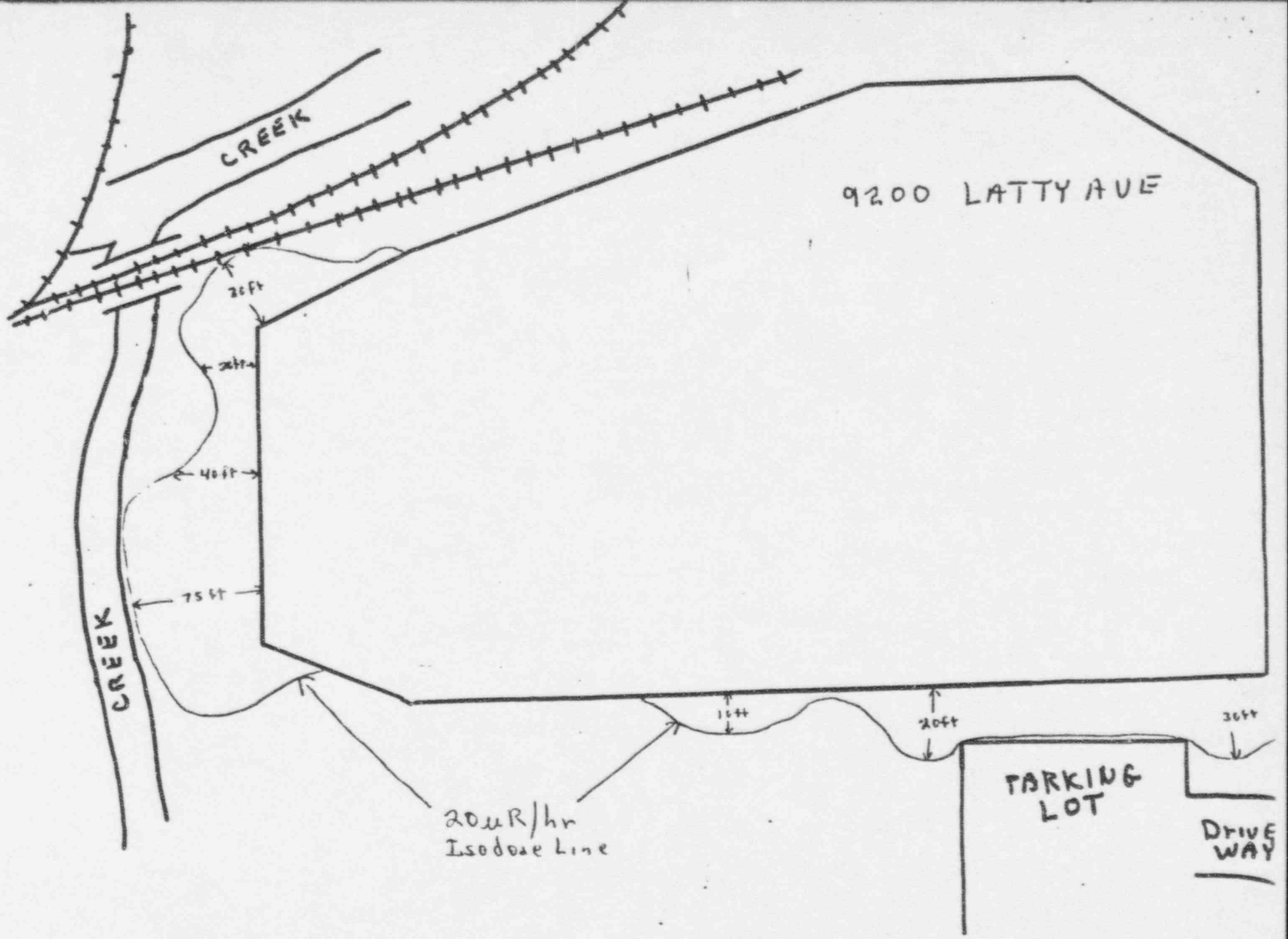
16 July '79: Confirmatory Smears, from Bldg #1, for Removable α, after 2 "wash-down".

Johnson Scaler, Count Meter & α Probe.

C.E. = 20% Background: C.T. = 20 min. Bkgd. = 1.95 cpm [39c/

C.T. = 2 min.

Smear # & Location	Gross Ct.	Gross CPM	Net CPM	Net DPM/100 cm²
1: N. wall, N.E. corner, ~3' ht.	3	1.5	Bkgd.	——
2: N. wall, ~10' from Ⓡ, 4' cross beam	18	9.0	7.05	35.25
3: N. wall, door Frame, ~6' ht.	11	5.5	3.55	17.75
4: N. wall, center, 8' cross beam	50	25.0	23.05	115.25
5: N. wall, ~15' from Ⓛ, ~7' ht.	12	6.0	4.05	20.25
6: W. wall, N.W. corner, ~2' ht.	31	15.5	13.55	67.75
7: W. wall, ~15' from Ⓡ, ~7' ht.	10	5.0	3.05	15.25
8: W. wall, center, ~15' ht.	10	5.0	3.05	15.25
9: W. wall, S.W. corner, ~3' ht.	12	6.0	4.05	20.25
10: S. wall, ~15' from Ⓡ, ~7' ht.	10	5.0	3.05	15.25
11: S. wall, center, 8' cross beam	74	37.0	35.05	175.25
12: S. wall, ~20' from Ⓛ, ~2' ht.	26	13.0	11.05	55.25
13: S. wall, S.E. corner, ~5' ht.	7	3.5	1.55	7.75
14: E. wall, S.E. corner, 8' cross beam	187	93.5	91.55	457.75
15: E. wall, center, ~2' ht.	29	14.5	12.55	62.75
16: E. wall, ~12' from Ⓛ, ~6' ht.	42	21.0	19.05	95.25
17: Floor, S.E. Quad.	5	2.5	Bkgd	——
18: Floor, S.W. Quad.	24	12.0	10.05	50.25
19: Floor, N.W. Quad.	40	20.0	18.05	90.25
20: Floor, N.E. Quad.	13	6.5	4.55	22.75



Off site Survey
June 6, 1979 (Distances are approximations)

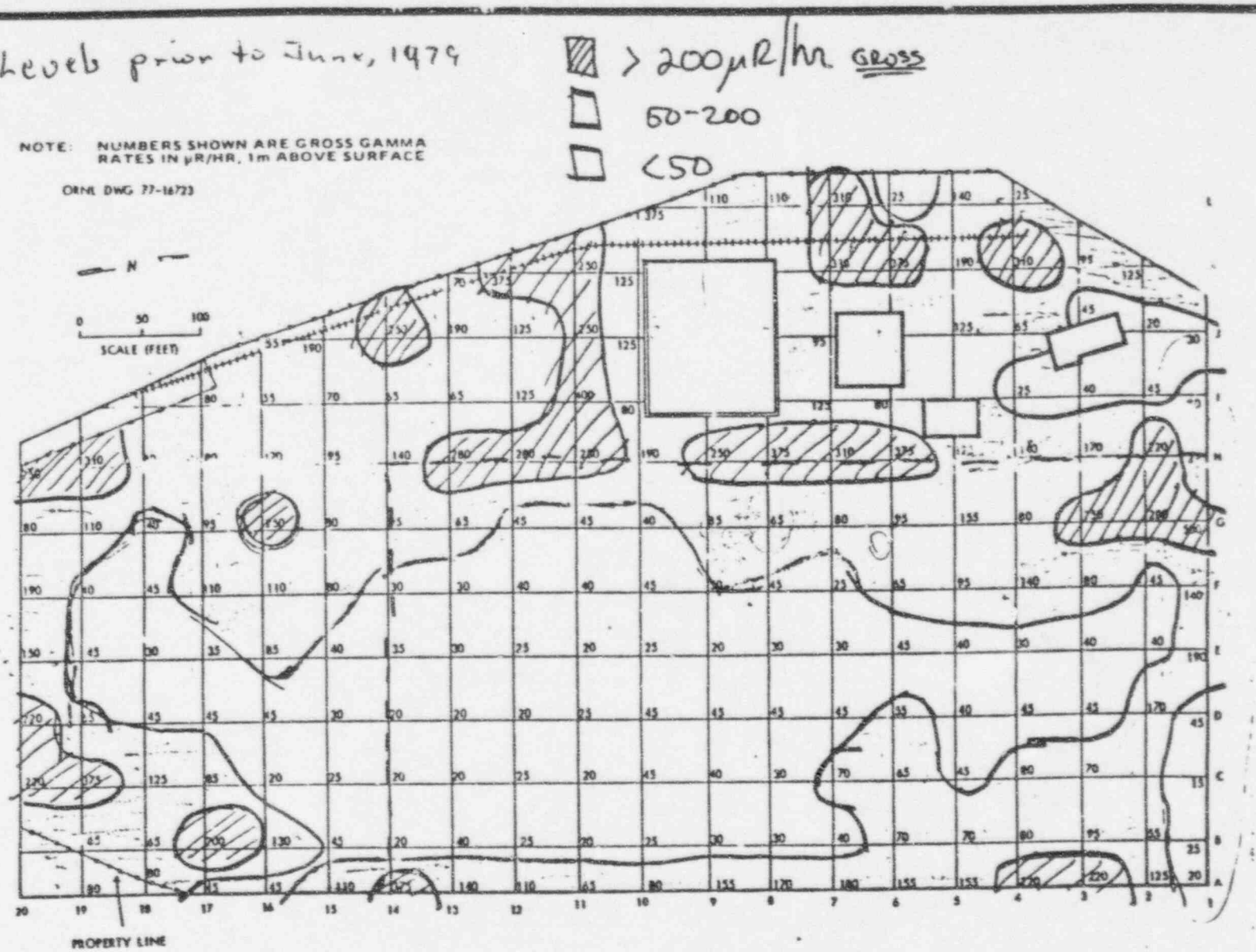
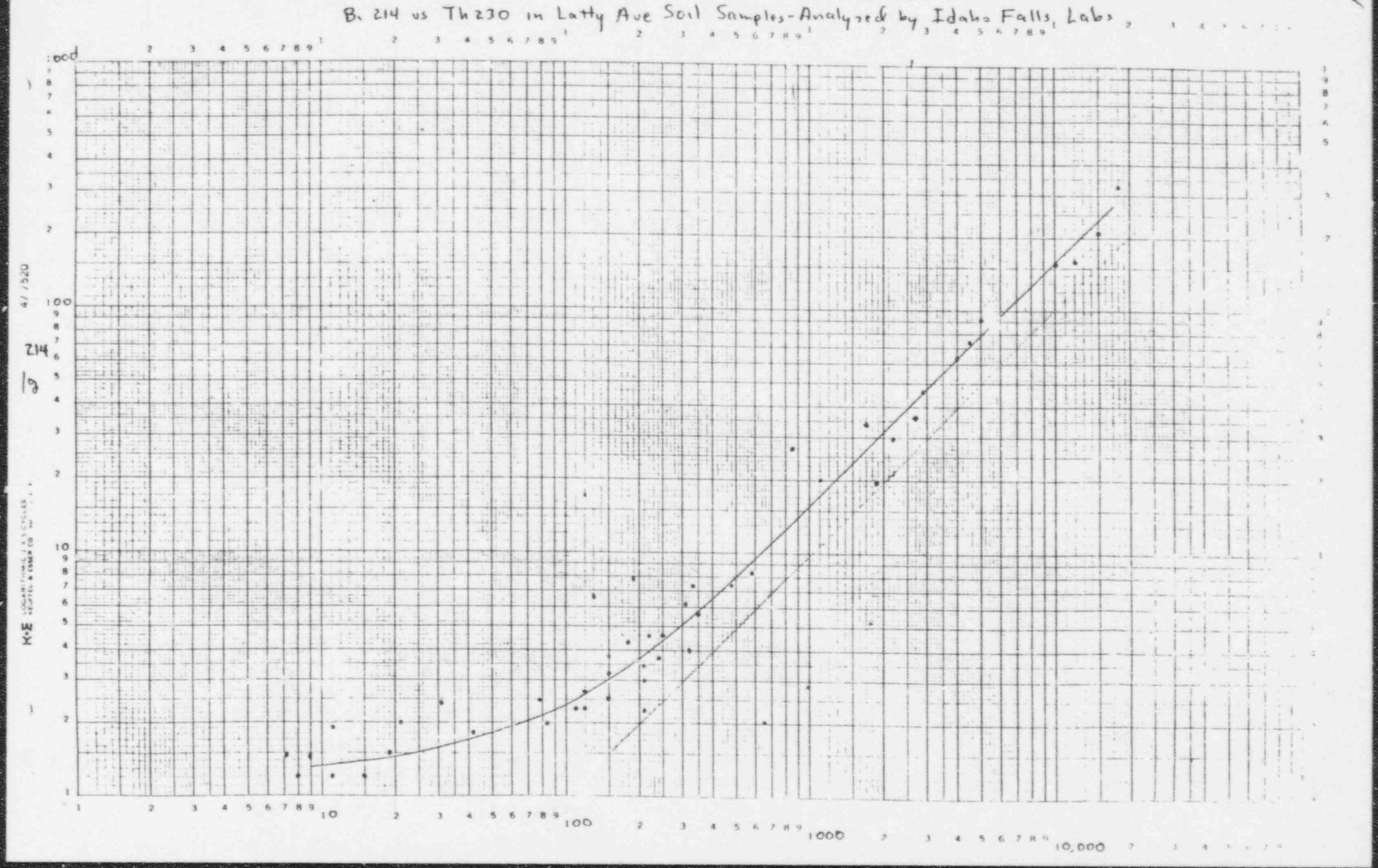
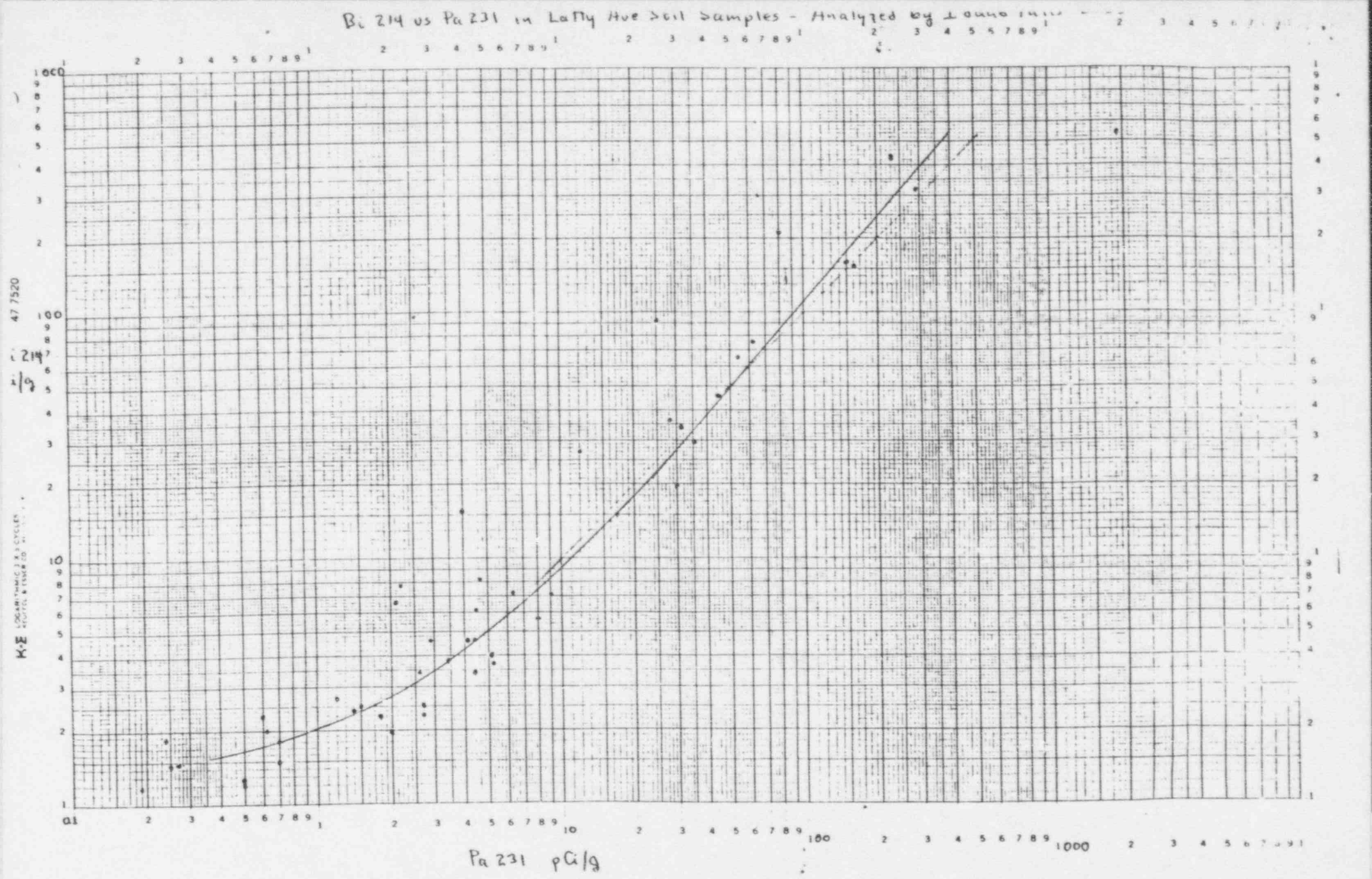


FIGURE 3-13. EXTERNAL GAMMA RADIATION ON SITE


Bi 214 vs Th 230 in Latty Ave Soil Samples - Analyzed by Idaho Falls Labs
Bi 214
100
10
1
10
100
1000
10,000


Bi 214 vs Pa 231 in Lafty Hue Soil Samples - Analyzed by
Bi 214 pCi/g
Pa 231 pCi/g
47 7520
K·E

Bi 214 vs U238 in [illegible] Soil Samples