

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-05017-MR
ADDRESS: 735 NORTH 3RD STREET

JULY 1985

FOR

URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT OFFICE

ALBUQUERQUE OPERATIONS OFFICE

DEPARTMENT OF ENERGY

BY

BENDIX FIELD ENGINEERING CORPORATION
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DATE

July 12, 1985

REA05017:REA-36/KL010

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The location, DOE ID No. GJ-05017-MR, is a single-family residence located at 735 North 3rd Street, Grand Junction, Colorado.

The purpose of this assessment is to evaluate the extent of uranium millsite contamination at this property. This assessment includes recommended remedial action, estimated volume of material to be removed, and estimated cost of the proposed action.

1.2 Evaluation and Recommendation

The action recommended is the partial removal of contaminated material and restoration of the property to its original condition. The identified residual radioactive material found on this property is tailings; the estimated volume is: exterior, 8 cu. yd.; interior, 0 cu. yd.

Area A will not be included in this remedial action, as discussed in Section 4.0 of this RIA.

Estimated cost to perform remedial action, including dislocation when applicable, is \$3,142. Remedial action on this property will take approximately 7 days to complete.

2.0 PROPERTY DESCRIPTION

2.1 General Description

Address: 735 North 3rd Street, Grand Junction, Colorado

Zoning: Residential (RMF-32)

Lot Size: Approximately 6,250 sf (0.14 acres)

Legal Description: The north half of Lots 13 through 16, Block 35, City of Grand Junction, County of Mesa, State of Colorado.

Point of Reference: This property is located approximately 2 miles northwest of the State of Colorado Tailings Repository. Appendix Figure 2.1 shows the property location relative to its surroundings.

Utilities: Utility locations are shown in Appendix Figure 2.2.

Electrical:	Overhead
Gas:	Underground
Telephone:	Overhead
Sewer:	Underground
Water:	Underground
Cable TV:	Overhead

Bordering Properties:

North:	Hill Avenue
South:	Single-family residence
East:	North 3rd Street
West:	Single-family residence

2.2 Existing Facilities and Structures

Primary Structure:

Type:	Single-family residence
Size:	Approximately 2,068 sf
Construction Date:	1925
Construction:	Cinder block with stucco finish
Foundation:	Cast-in-place concrete basement wall on spread footing
Footing Depth:	Approximately 61" to bottom of footing from grade
Basement:	Yes (except under closed-in porch and stoop)
Crawl Space:	Yes (under closed-in back stoop)
Condition:	Good

Other Structures:

Type:	Garage
Size:	Approximately 222 sf
Construction:	Cinder block with stucco finish
Foundation:	Slab-on-grade and concrete footing
Condition:	Fair
Type:	Storage shed
Size:	Approximately 100 sf
Construction:	Metal
Foundation:	6" wood-on-grade
Condition:	Good
General Remarks:	Structures, utilities, landscaping, and other special features of this property are included in Appendix Figure 2.2.

Historical Data:

This structure is over 50 years old. Therefore, it does meet the eligibility criteria for consideration of inclusion on the National Register of Historic Places.

Alterations to Structure: The front porch and back stoop have been enclosed using a wood-frame wall with a stucco finish to match existing.

Architectural Significance: None

Historical Significance: None

3.0 RADIOLOGIC SURVEY

3.1 Introduction

Radiologic data were collected by Bendix at DOE ID No. GJ-05017-MR on May 2, 1985. Data collection methods were performed in accordance with procedures fully described in the Radiologic Support Operations Procedures Manual GJ-07(84) (Bendix Field Engineering Corporation, 1984). These data were evaluated to determine the areal and vertical extent of uranium mill tailings contamination at this property as well as any other contaminated material that may have originated from the millsite.

A review of historical information from the files of the Colorado Department of Health (CDH) and the inclusion data from Oak Ridge National Laboratory (ORNL) was conducted. These records indicate contamination under the dining room addition, in the driveway near the garage, in the north and south walls of the basement stairwell, and in portions of the north and west exterior stucco walls.

The Bendix radiologic survey was designed to investigate the entire property, with emphasis on previously identified areas of contamination. Conclusions based upon data analyses are discussed in Section 3.5, Extent of Contamination. Photocopies of the Official Survey Report, team leader notes, and deconvolution graphs are included in the Appendix (Section 6.0).

3.2 Gamma Exposure-Rate Surveys

3.2.1 Exterior Findings

Background Readings: 14 to 15 uR/h
Highest Outside Gamma Reading (HOG): 51 uR/h

Exterior radium-concentration measurements are presented in Appendix Table 3.1. Grid-point survey results are shown in Appendix Figure 3.1. Appendix Figure 3.2 presents the ranges of elevated gamma readings and indicates areas of possible contamination.

3.2.2 Interior Findings

Background Readings: 14 to 17 uR/h
Highest Inside Gamma Reading (HIG): 54 uR/h

Interior radium-concentration measurements are presented in Appendix Table 3.2. Interior gamma exposure-rate measurements are summarized in Appendix Table 3.3. Appendix Figures 3.3a and 3.3b show interior exposure rates and locations of these measurements.

3.3 Boreholes, Soil Samples, and Other Measurements

Areas which displayed elevated gamma levels were further investigated; these areas are shown in Appendix Figures 3.3a and 3.4. Data from these investigations are included in Appendix Tables 3.1 and 3.2.

3.4 Radon/Radon Daughter Concentration (RDC)

Determined by CDH: 0.007 gross working level (WL). No additional RDC measurements were taken by Bendix.

3.5 Extent of Contamination

Appendix Figures 3.5a and 3.5b show identified areas and estimated depths of contamination on this property, based on assessments of all measurements taken. As noted in these figures, areas recommended for remedial action that contain identified residual radioactive materials are:

- (AREA A) The north and south walls of the basement stairwell are contaminated. The height of the walls from the basement floor is 48 inches (excluded).
- (AREA B) A small deposit north of the primary structure is contaminated to a depth of 6 inches (approximately 28 sf).
- (AREA C) Portions of the north and west exterior stucco walls of the primary structure are contaminated. The height of the walls is 111 inches (approximately 240 sf).
- (AREA D) The soil under the uncontaminated 3-inch-thick concrete driveway east of the garage is contaminated to a total depth of 15 inches (approximately 115 sf).

4.0 RECOMMENDED REMEDIAL ACTION

4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-05017-MR, includes select removal of areas identified as containing radioactive material, except for Area A, which is the basement stairwell walls (as discussed in Section 3.5 and shown in Appendix Figures 3.5a and 3.5b) and transport of removed material to the disposal site.

Area A, as discussed in Section 3.5 and shown on Appendix Figure 3.5a, will not be included in this remedial action because the interior RDC working level and the interior gamma do not exceed EPA Standards.

After remedial action is completed, the areas involved will be restored to original condition in accordance with the Bendix drawings, Vicinity Properties General Construction Specification (Bendix Field Engineering Corporation, 1984), and Statement of Work for Construction Subcontractor.

Dislocation of the occupants will not be required for this remedial action.

4.2 Evaluation of Recommended Remedial Action

Volume calculations of the areas included for remedial action are presented in Appendix Table 4.1. Cost estimates are presented in Appendix Table 4.2.

Estimated cost of remedial action is \$3,142.

There is no owner preference with respect to remedial action and no legal or other complications are foreseen at this time.

5.0 REFERENCES

ARIX, A Professional Corporation, Procedures Manual for the Grand Junction Remedial Action Program, for Colorado Department of Health, Radiation Control Division, and the U.S. Department of Energy, 1983.

Bendix Field Engineering Corporation, Procedures Manual Radiologic Support Operations Grand Junction Vicinity Properties, (GJ-07), for U.S. Department of Energy, UMTRA Project Office, Albuquerque Operations Office, Albuquerque, New Mexico, 1984.

Bendix Field Engineering Corporation, Engineering, Construction, and Land Support Manual Grand Junction Vicinity Properties Project, (GJ-08), for U.S. Department of Energy, UMTRA Project Office, Albuquerque Operations Office, Albuquerque, New Mexico, 1984.

Bendix Field Engineering Corporation, Grand Junction Vicinity Properties Operating Manual, (GJ-16) for U.S. Department of Energy, Nuclear Energy Programs, Division of Remedial Action Projects, UMTRA, 1984.

Bendix Field Engineering Corporation, Vicinity Properties General Construction Specification, for U.S. Department of Energy, Nuclear Energy Programs, Division of Remedial Action Projects, UMTRA, 1984.

Bendix Field Engineering Corporation, Environmental Assessment of Preliminary Cleanup Activities at Offsite Properties Contaminated by Tailings from the Grand Junction Inactive Uranium Millsite, (GJ-04), for U.S. Department of Energy, UMTRA Project Office, Albuquerque Operations, Albuquerque, New Mexico, 1983.

U.S. Department of Energy, Programmatic Memorandum of Agreement (DOE No. DE-GM04-84AL28460) between the U.S. Department of Energy, the Advisory Council on Historic Preservation, and the Colorado State Historic Preservation Officer, for UMTRA Project Office, Albuquerque Operations Office, Albuquerque, New Mexico, 1984.

U.S. Department of Energy, Vicinity Properties Management and Implementation Manual, for UMTRA Project Office, Albuquerque Operations Office, Albuquerque, New Mexico, 1984.

U.S. Environmental Protection Agency, Standards for Remedial Action at Inactive Uranium Processing Sites (40 CFR Part 192), Washington, D.C., 1983.

6.0 APPENDIX

This Appendix contains the following:

Appendix Tables:

Table 3.1	Radium Concentrations at Exterior Locations
Table 3.2	Radium Concentrations at Interior Locations
Table 3.3	Summary of Interior Gamma Exposure Rates
Table 4.1	Area and Volume Calculations
Table 4.2	Estimated Cost of Decontamination and Restoration

Appendix Figures:

Figure 2.1	Vicinity Map
Figure 2.2	Site Plan
Figure 3.1	Exterior Grid-Point Exposure Rates
Figure 3.2	Exterior Gamma Scan
Figure 3.3a	Interior Gamma Exposure Rates and Sample Locations
Figure 3.3b	Interior Gamma Exposure Rates
Figure 3.4	Exterior Sample Locations
Figure 3.5a	Interior Estimated Extent of Contamination
Figure 3.5b	Exterior Estimated Extent of Contamination
Official Survey Report	
Team Leader Notes	
Deconvolution Graphs (Apparent Radium-226 Concentration)	

Radium Concentrations at Exterior Locations

DOE ID #GJ-05017-MR

735 North 3rd Street

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
9	158247	00	DS	<1.0		*	Northwest near patio
		06	DS	1.0		*	
10	162257	00	DS	1.1		*	North in yard
		06	DS	1.5		*	
11	163244	00	DS	1.5		*	West near patio
		06	DS	1.5		*	
12	164240	00	DS	1.5		*	North edge of patio Horizontal
		10	DS	1.1		*	
13	166241	03	TC	4.0		*	Sewer line DC = 0 inches
		06	TC	3.7		*	
		09	TC	3.7		*	
		12	TC	3.7		*	
		15	TC	3.8		*	
		18	TC	3.9		*	
		21	TC	3.8		*	
		24	TC	3.8		*	
		27	TC	3.8		*	
		30	TC	3.7		*	
		33	TC	3.8		*	
		36	TC	3.9		*	
		39	TC	3.9		*	
		42	TC	4.0		*	
		45	TC	4.0		*	
		48	TC	4.1		*	
		51	TC	4.1		*	
		54	TC	4.1		*	
		57	TC	4.1		*	
		60	TC	4.1		*	
		63	TC	4.0		*	
		66	TC	4.1		*	
14	167250	00	DS	2.2		*	West of primary structure
		06	DS	1.5		*	
15	167255	00	DS	1.7		*	West of primary structure
		06	DS	1.1		*	
16	168233	00	DS	1.2		*	Patio

Radium Concentrations at Exterior Locations

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
17	168264	00	DS	1.6		*	Backyard
		06	DS	1.7		*	
18	170246	[36]	GS		39.5	*	West wall
19	170250	03	TC	7.1		*	West side of primary structure DC = 0 inches The elevated TC readings were determined to be secondary radiation from the adjacent contaminated wall
		06	TC	5.6		*	
		09	TC	4.6		*	
		12	TC	4.3		*	
		15	TC	4.0		*	
		18	TC	4.0		*	
		21	TC	3.9		*	
		24	TC	3.9		*	
		27	TC	3.8		*	
		30	TC	3.8		*	
20	175238	00	DS	<1.0		*	Patio
		09	DS	2.3		*	
21	175257	00	DS	<1.0		*	Sidewalk Horizontal under sidewalk
		09	DS	2.3		*	
22	175265	00	DS	1.3		*	North by fence
		06	DS	1.6		*	
		12	DS	2.0		*	
		18	DS	1.6		*	
23	176232	00	DS	<1.0		*	Middle of patio
24	177255	[36]	GS		41.8	*	North wall
25	178263	00	DS	2.7		*	Backyard
		06	DS	1.1		*	
26	179239	[06]	GS		5.7	*	On wall Northeast corner of patio
		00	GS		6.0	*	
27	181226	00	DS	2.3		*	West on driveway
28	182256	00	DS	1.4		*	

Radium Concentrations at Exterior Locations

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
29	184220	00-03	SS			2.7	Core from driveway
		03-09	SS			6.7	Driveway
		03	TC	6.4		*	In front of garage
		06	TC	6.3		*	DC = 15 inches
		09	TC	5.9		*	Based on the
		12	TC	5.2		*	deconvolution graph
		15	TC	4.5		*	
		18	TC	4.5		*	
		21	TC	4.4		*	
		24	TC	4.4		*	
		27	TC	4.3		*	
		30	TC	4.2		*	
		33	TC	4.1		*	
		36	TC	4.0		*	
30	185257	03	TC	3.2		*	Water line
		06	TC	3.5		*	DC = 0 inches
		09	TC	3.5		*	
		12	TC	3.7		*	
		15	TC	3.7		*	
		18	TC	3.6		*	
		21	TC	3.7		*	
		24	TC	3.8		*	
		27	TC	3.7		*	
		30	TC	3.8		*	
		33	TC	3.7		*	
		36	TC	3.6		*	
		39	TC	3.7		*	
		42	TC	3.7		*	
		45	TC	3.8		*	
		48	TC	3.7		*	
		51	TC	3.8		*	
		54	TC	3.7		*	
		57	TC	3.6		*	
		60	TC	3.8		*	
		63	TC	3.7		*	
		66	TC	3.7		*	
31	188256	[36]	GS		1.5	*	North wall
32	190217	00	DS	1.7		*	South on driveway

Radium Concentrations at Exterior Locations

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
33	190230	[36]	GS		2.1	*	South wall
34	210290	00	DS	1.3		*	Background
		00	GS		1.5	*	DC = 0 inches
		00-06	SS			1.9	
		03	TC	3.0		*	
		06	TC	3.4		*	
		09	TC	3.6		*	
		12	TC	3.8		*	
		15	TC	3.8		*	
		18	TC	3.8		*	
		21	TC	3.9		*	
		24	TC	3.9		*	
		27	TC	3.8		*	
		30	TC	3.8		*	
35	218255	21	DS	<1.0		*	Gas line
36	221230	[36]	GS		1.1	*	East wall

Measurement Types:

GB = GAD-6 Borehole
 GS = GAD-6 Surface
 DS = Delta Scintillometer
 TC = Total Count Borehole
 SS = Soil Sample
 BH = Combined CAD-6 and
 Total Count Borehole

Notes:

DC = Depth of Contamination
 * = No Soil Sample Taken
 [n] = Reading Taken n-Inches
 Above Floor or Ground
 Date of Survey = 05-02-85
 Team Leader = TRU

Radium Concentrations at Interior Locations

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
1		00	DS	1.8		*	Crawl space footing
		06	DS	1.1		*	Horizontal under footing
2		00	DS	2.1		*	Crawl space
		00-06	SS			1.3	Dry rocky sand
3		00	DS	3.1		*	Crawl space footing
4		00	DS	<1.0		*	Crawl space footing
		06	DS	1.3		*	Horizontal under footing
5		[12]	DS	<1.0		*	East concrete wall
6		[06]	DS	4.6		*	On stairwell wall
7		[32]	DS	15.8		*	North stairwell wall
8		[32]	DS	9.9		*	South stairwell wall

Measurement Types:

GB = GAD-6 Borehole
 GS = GAD-6 Surface
 DS = Delta Scintillometer
 TC = Total Count Borehole
 SS = Soil Sample
 BH = Combined GAD-6 and
 Total Count Borehole

Notes: DC = Depth of Contamination
 * = No Soil Sample Taken
 [n] = Reading Taken n-Inches
 Above Floor or Ground
 Date of Survey = 05-02-85
 Team Leader = TRU

Table 3.3
Summary of Interior Gamma Exposure Rates

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Location *	Number of Readings Taken at Waist Level	Range at Waist Level (uR/h)	Mean at Waist Level (uR/h)	Number of Readings Taken at Surface	Range at Surface (uR/h)	Mean Surface (uR/h)

ROOM A	05	16-17	16	05	16-17	16
ROOM B	05	15-16	16	05	16-17	16
ROOM C	05	15-16	15	05	15-16	16
ROOM D	05	14-16	15	05	15-16	16
ROOM E	05	14-16	15	05	15-16	16
ROOM F	12	15-30	18	12	16-31	18
ROOM G	05	15-16	16	05	16-16	16
ROOM H	06	16-16	16	06	16-16	16
ROOM I	10	15-51	27	10	16-54	28
ROOM J	10	14-17	15	10	14-17	15
ROOM K	06	15-18	16	06	15-19	16
ROOM L	02	15-15	15	02	15-15	15
ROOM M	05	14-15	14	05	13-15	14
ROOM N	06	14-15	15	06	14-16	15
CRAWL SPACE	00	-	-	09	23-44	32
GARAGE	*	*	*	*	16-18	*
METAL SHED	*	*	*	*	16-16	*
=====						

*Exposure rates and room locations are shown in Appendix Figures 3.3a and 3.3b. Walking scans were performed in the garage and metal shed. These areas and the ranges of gamma measurements are shown in Appendix Figure 3.3b.

Table 4.1
Area and Volume Calculations
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<u>AREA</u>	<u>CALCULATIONS(ft)</u>	<u>SF</u>	<u>DEPTH(ft)</u>	<u>CF</u>	<u>CUBIC YARDS</u>
EXTERIOR					
Concrete					
D	14 x 16 =	224	x 0.3 =	67	
Total Volume of Concrete				= 67	= 67/27 = 2
Contaminated Fill					
B	7 x 4 =	28	x 0.5 =	14	
D	10 x 10 =	100			
	3 x 5 =	15			
		115	x 1.0 =	115	
Total Volume of Contaminated Fill				= 129	= 129/27 = 5
Stucco					
C	10 x 24 =	240	x 0.1 =	24	
Total Volume of Stucco				= 24	= 24/27 = 1
TOTAL VOLUME - EXTERIOR					= 8

See Appendix Figure 3.5b For Areas

Table 4.2
Estimated Cost of Decontamination and Restoration
DOE ID No. GJ-05017-MR

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EXTERIOR

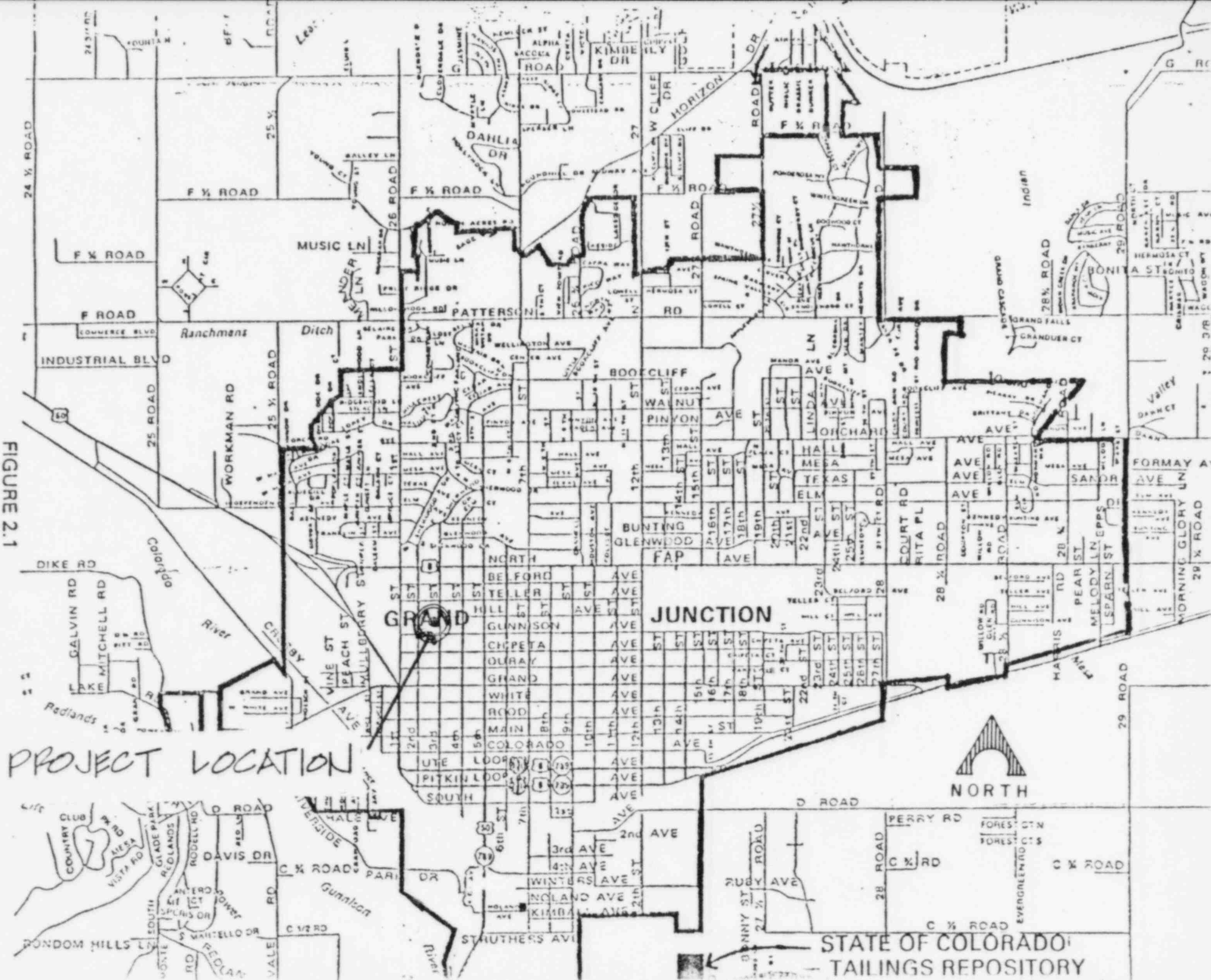
Remove concrete slab 224 sf @ \$1.48/sf	\$ 332
Remove identified residual radioactive material 4 cy @ \$18.50/cy (machine)	74
1 cy @ \$44/cy (manual)	44
Remove stucco 240 sf @ \$.50/sf	120
Saw cut 9 lf @ \$1.50/lf	14
Replace concrete slab 224 sf @ \$1.50/sf	336
Replace area with roadbase 4 cy @ \$11.50/cy	46
Replace area with topsoil 1 cy @ \$9.50/cy	10
Replace stucco 240 sf @ \$2/sf	480
Paint stucco and trim 240 sf @ \$.50/sf	120
Remove and replace window trim	50
Remove and replace gutter and downspout	50
Replace sod 28 sf @ \$.50/sf	14
General cleanup and repair	100
	<hr/>
TOTAL EXTERIOR	\$ 1,790

TOTAL EXTERIOR	\$	1,790
TOTAL INTERIOR		0
ACCESS CONTROL		250
		<hr/>
SUBTOTAL	\$	2,040
CONTINGENCY @ 10%		204
		<hr/>
SUBTOTAL	\$	2,244
CONTRACTOR OVERHEAD & PROFIT @ 40%		898
		<hr/>
GRAND TOTAL	\$	3,142

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VG/071085
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FIGURE 2.1
VICINITY MAP



STATE OF COLORADO
TAILINGS REPOSITORY

HILL AVENUE
(ASPHALT)

THE NORTH HALF OF
LOTS 13 THROUGH 16 BLOCK 35,
CITY OF GRAND JUNCTION,
COLORADO

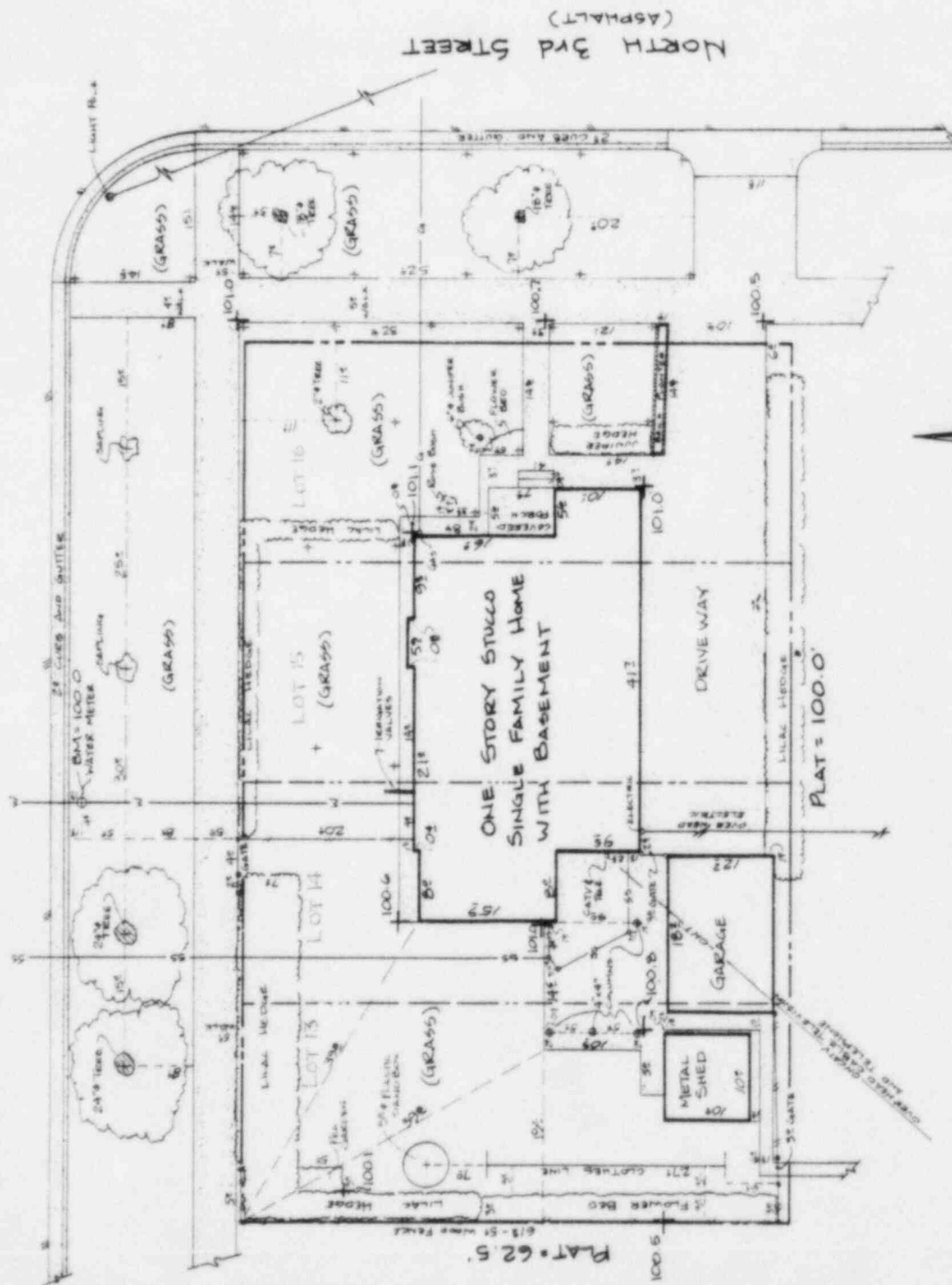
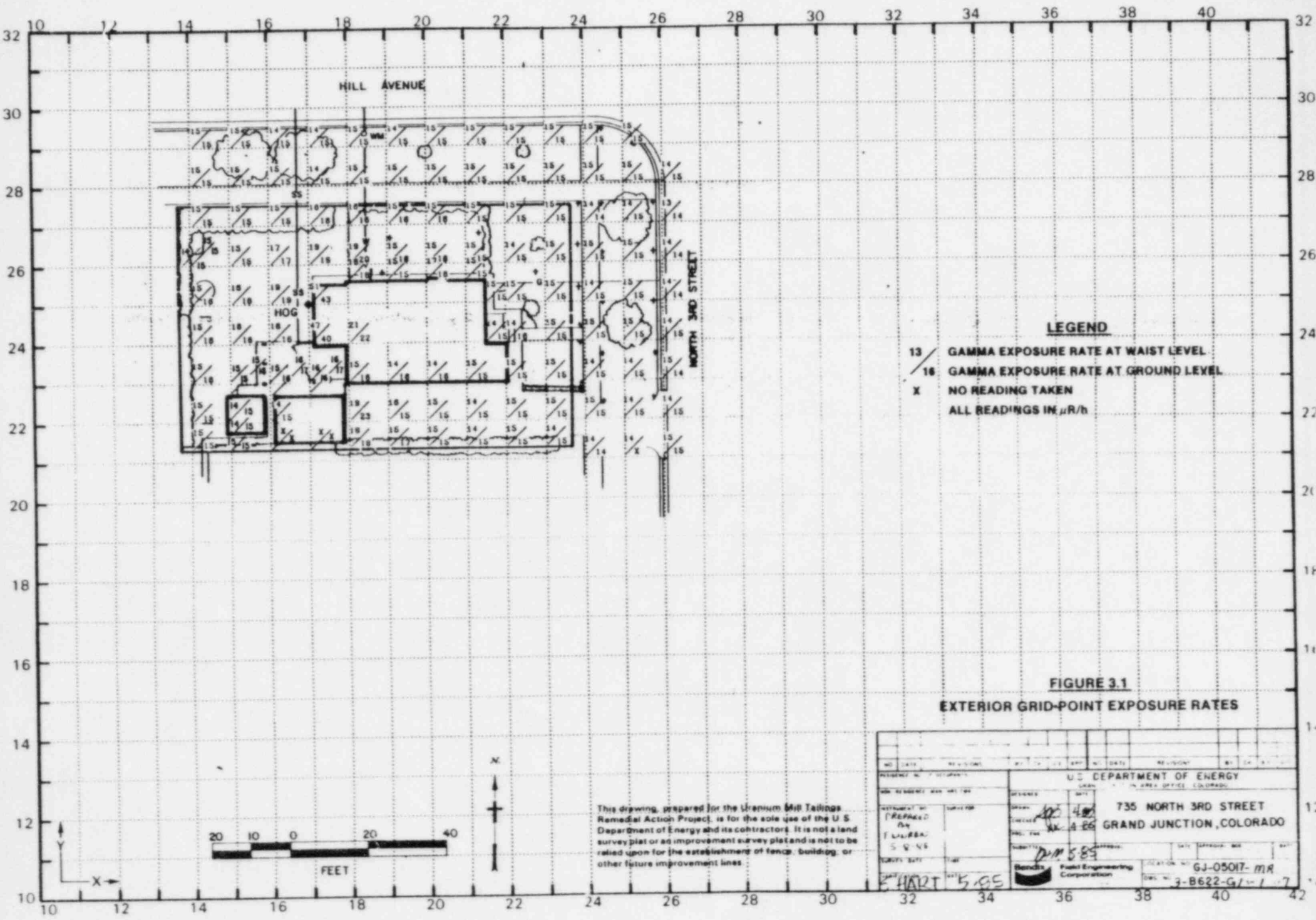


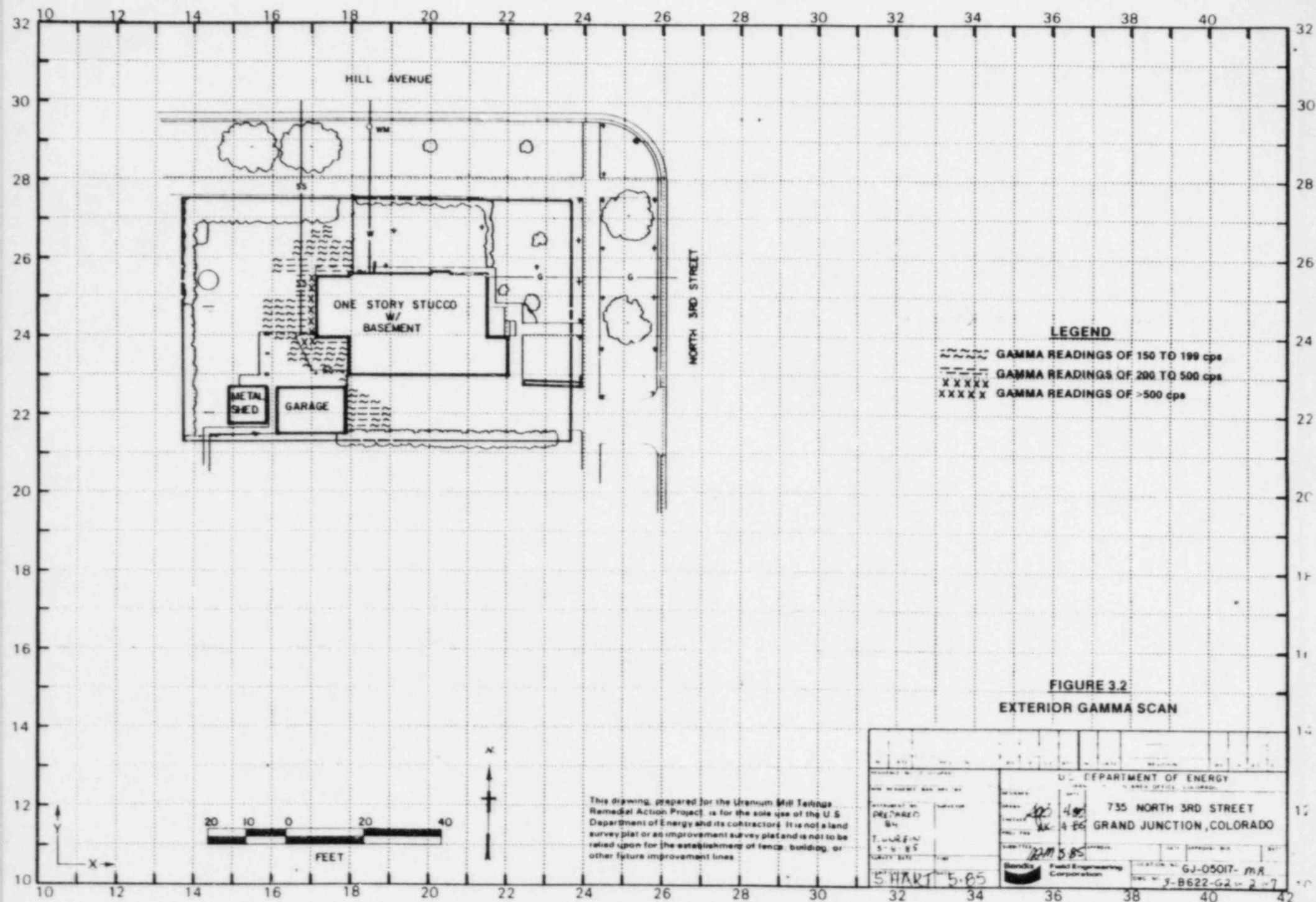
FIGURE 2.2 SITE PLAN

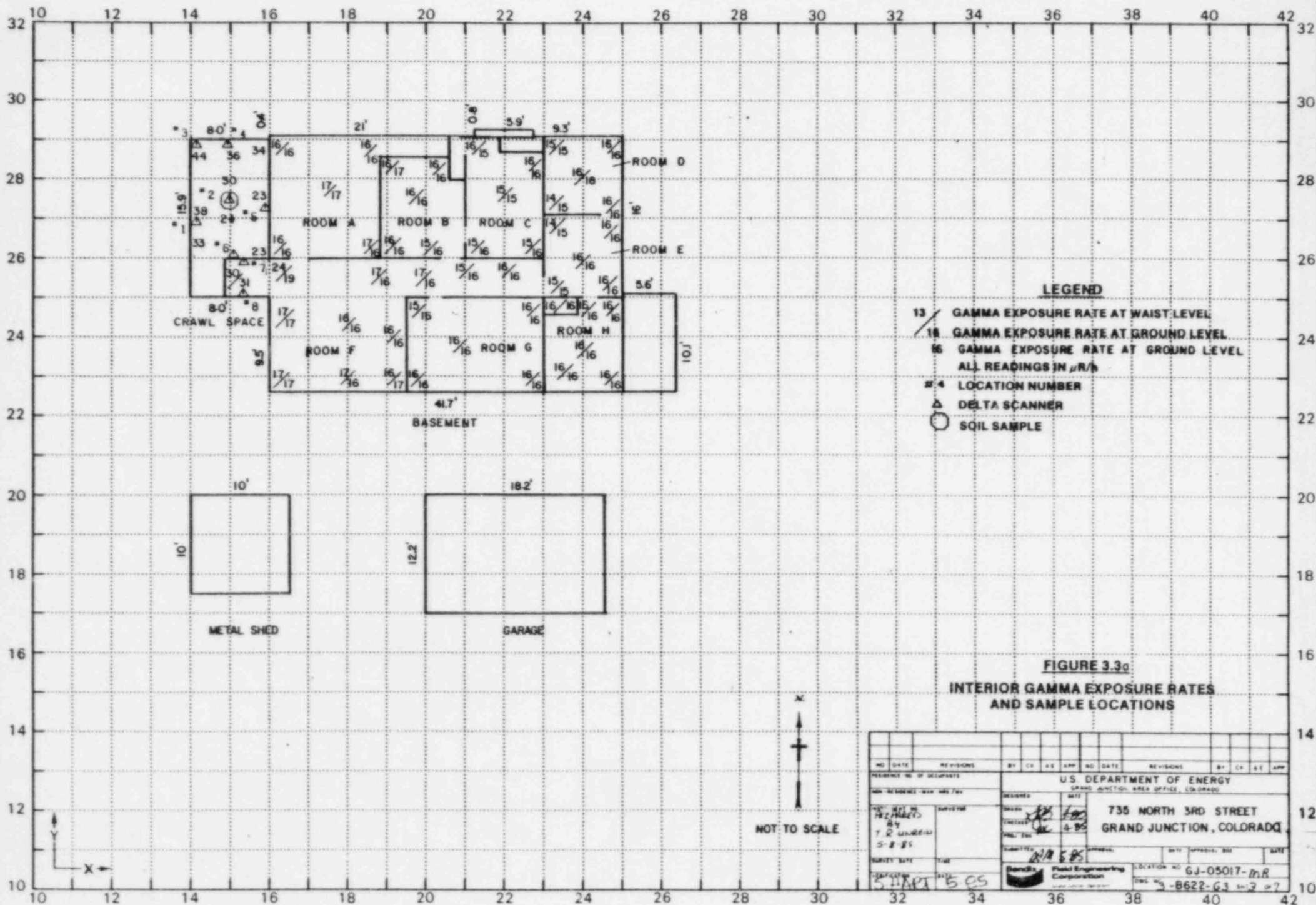
This drawing, prepared for the Uranium Mill Tailings Remedial Action Project, is for the site use of the U.S. Department of Energy and its contractors. It is not a land survey plat or an improvement survey plat and is not to be used as such for the establishment of fence, building, or other future improvement lines.



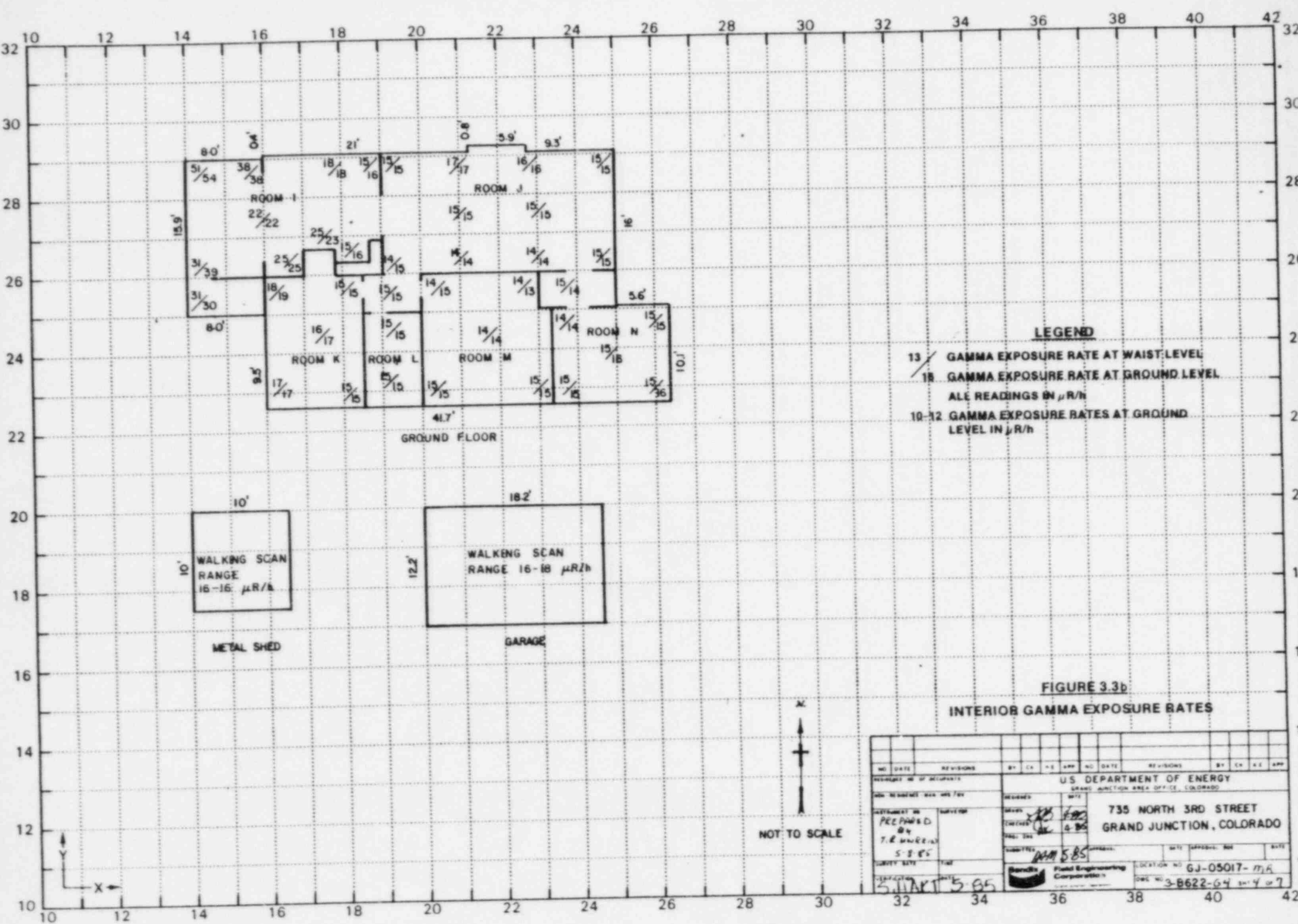
U.S. DEPARTMENT OF ENERGY GRAND JUNCTION PROJECT OFFICE, COLORADO	DOE CT NO GJ05017-MR
ADDRESS 735 NORTH 3RD STREET GRAND JUNCTION, COLORADO	ALB
SURV GDE 41785 DRAWING NO 3-C-22 F1	DATE 11/14/85 SHEET 1 OF 1







NO. DATE		REVISIONS		BY	CHK	APP	NO. DATE	REVISIONS		BY	CHK	APP
RESIDENT NO. OF DEPARTMENTS												
735 NORTH 3RD STREET GRAND JUNCTION, COLORADO												
DESIGNED				DRAWN				CHECKED				
T. R. GUNDEL				T. R. GUNDEL				T. R. GUNDEL				
5-8-85				5-8-85				5-8-85				
SURVEY DATE				TIME				DATE				
5-8-85				5:05				5-8-85				
CLASSIFICATION				PROJECT				LOCATION NO.				
5-8-85				5-8-85				GJ-05017-mR				
5-8-85				5-8-85				3-8622-63				



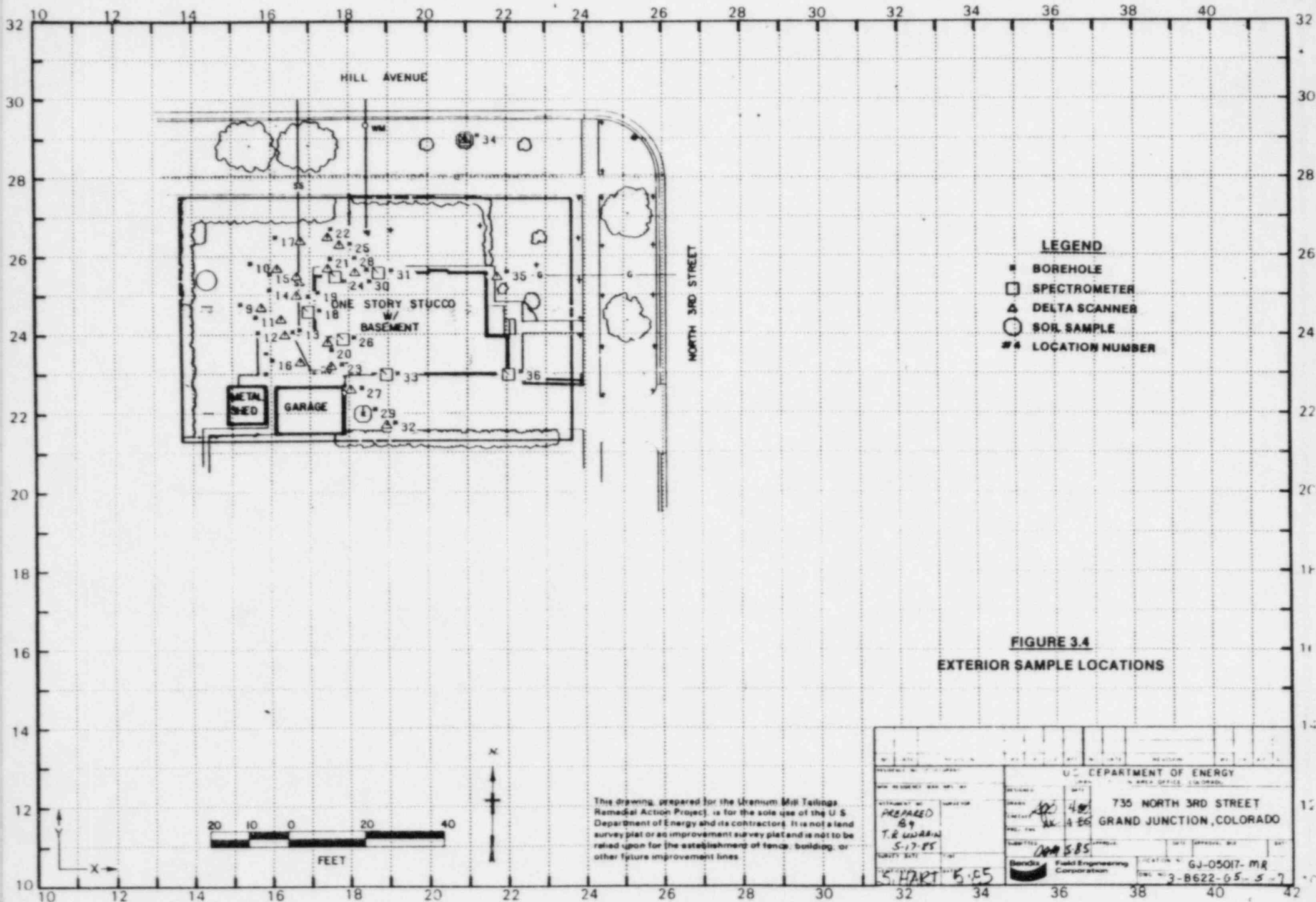
LEGEND

- 13/ GAMMA EXPOSURE RATE AT WAIST LEVEL
- 18/ GAMMA EXPOSURE RATE AT GROUND LEVEL
- ALL READINGS IN $\mu R/h$
- 10-12 GAMMA EXPOSURE RATES AT GROUND LEVEL IN $\mu R/h$

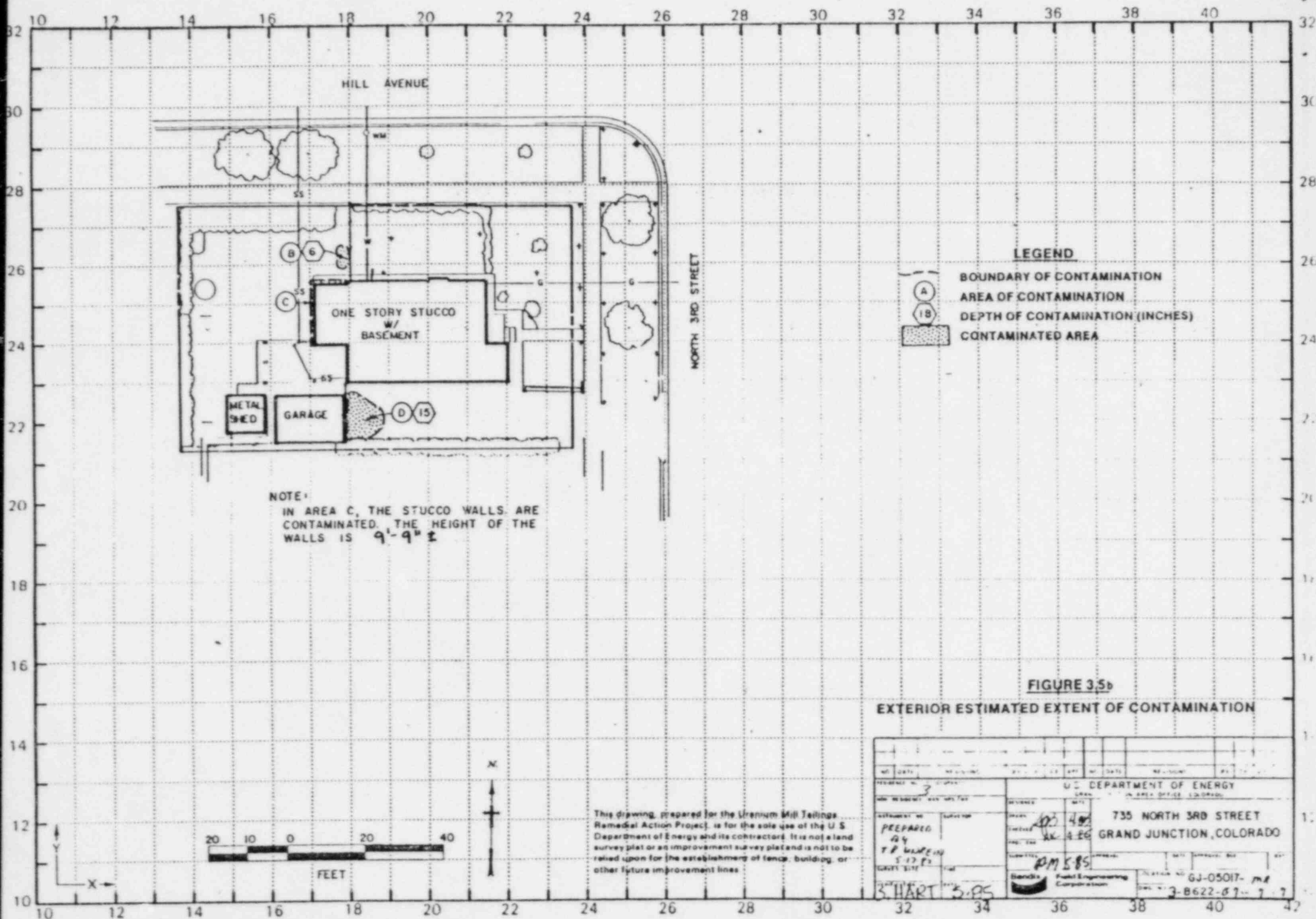
FIGURE 3.3b

INTERIOR GAMMA EXPOSURE RATES

REVISIONS				REVISIONS			
NO.	DATE	BY	CHK	NO.	DATE	BY	CHK
PREPARED BY T. R. WARE 5-8-65				SURVEYED BY T. R. WARE 5-8-65			
PROJECT NO. 3-B622-64				LOCATION NO. GJ-05017-m			
DRAWN BY T. R. WARE				CHECKED BY T. R. WARE			
DATE 5-8-65				DATE 5-8-65			
SCALE 1" = 10'				SCALE 1" = 10'			
PROJECT NO. 3-B622-64				LOCATION NO. GJ-05017-m			
DRAWN BY T. R. WARE				CHECKED BY T. R. WARE			
DATE 5-8-65				DATE 5-8-65			



U.S. DEPARTMENT OF ENERGY	
735 NORTH 3RD STREET GRAND JUNCTION, COLORADO	
PREPARED BY T.R. WILSON 5-17-85	DATE 5-17-85
DESIGNED BY A.D. 401	DATE 4-8-85
CHECKED BY A.D. 401	DATE 4-8-85
APPROVED BY A.D. 401	DATE 4-8-85
FIELD ENGINEERING CORPORATION	LOCATION NO. GJ-05017-MR
	DRAWING NO. 3-B622-65-5-7



3/85

DOE ID NO. GJ-05017-MR

Date May 15, 1985

U.S. DEPARTMENT OF ENERGY
URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT
GRAND JUNCTION VICINITY PROPERTIES

Official Survey Report

Property Address 735 North 3rd Street

Property Owner Vito and Elizabeth Rontino

Address of Owner (if different from above) Same

Report Prepared By T.R. Unrein

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

☐ No evidence of residual radioactive material on surveyed property.

☒ Residual radioactive materials found at the following locations:

☐ In open areas.

☒ Under or around exterior improvements.

☐ Under or around a typically nonoccupied structure.

☒ Under or around a typically occupied structure.

II. RESULTS OF RADIOLOGIC ASSESSMENT

☐ Levels of radiation from residual radioactive materials, if any, do not exceed EPA Standards and no action is required under the Uranium Mill Tailings Remedial Action Project.

☒ Levels of radiation from residual radioactive materials exceed EPA Standards such that Remedial Action is recommended and will be accomplished, with your consent, as soon as budget and schedule permit.

cc:

G. A. Franz, III, GJ/CDH

J. Themelis, Mgr. UMTRA Proj. Off.

HIG = 54 uR/h
HOG = 51 uR/h

ALLIED Bendix
Aerospace

Bendix Field Engineering Corporation
Grand Junction Operations
Grand Junction, Colorado 81501

DATE: May 15, 1985

TO: Files

FROM: Thomas R. Unrein

SUBJECT: Team Leader Notes - GJ-05017-MR

Address: 735 North 3rd Street

Owner: Mr. Rontino

Team Members

T. Unrein (Team Leader)
R. Herman
P. Tuhey
R. Wilkins

T. Flores
H. Mattison
V. Rothman

Instruments

Crutch Scintillometer - C-1185, C-1149, C-1128, C-1180, C-1042
Delta Scintillometer - C-3935, C-3940
Total Count - C-4006, C-3959
Surface Spectrometer - C-3413
Downhole Spectrometer - C-3361

Date: May 2, 1985

Bendix field crew arrived at the property at 8:45 A.M. and met with the owner Mr. Rontino.

The sewer line on the map exits the property going north. The owner informed me it exits the property going south. The approximate grid location is 150210.

Team Leader Notes
Thomas R. Unrein
GJ-05017.tu
May 15, 1985
Page 2

We collected data in the interior that showed elevated gamma readings in the basement stairwell, crawl space, and dining room. We did some testing in the crawl space with the delta, it showed clean. The delta testing that we did on the basement stairwell walls showed contamination. The elevated readings in the dining room are determined to be shine from the exterior stucco walls.

We finished the survey approximately at 3:00 P.M.

All team members were frisked and returned back to the office.

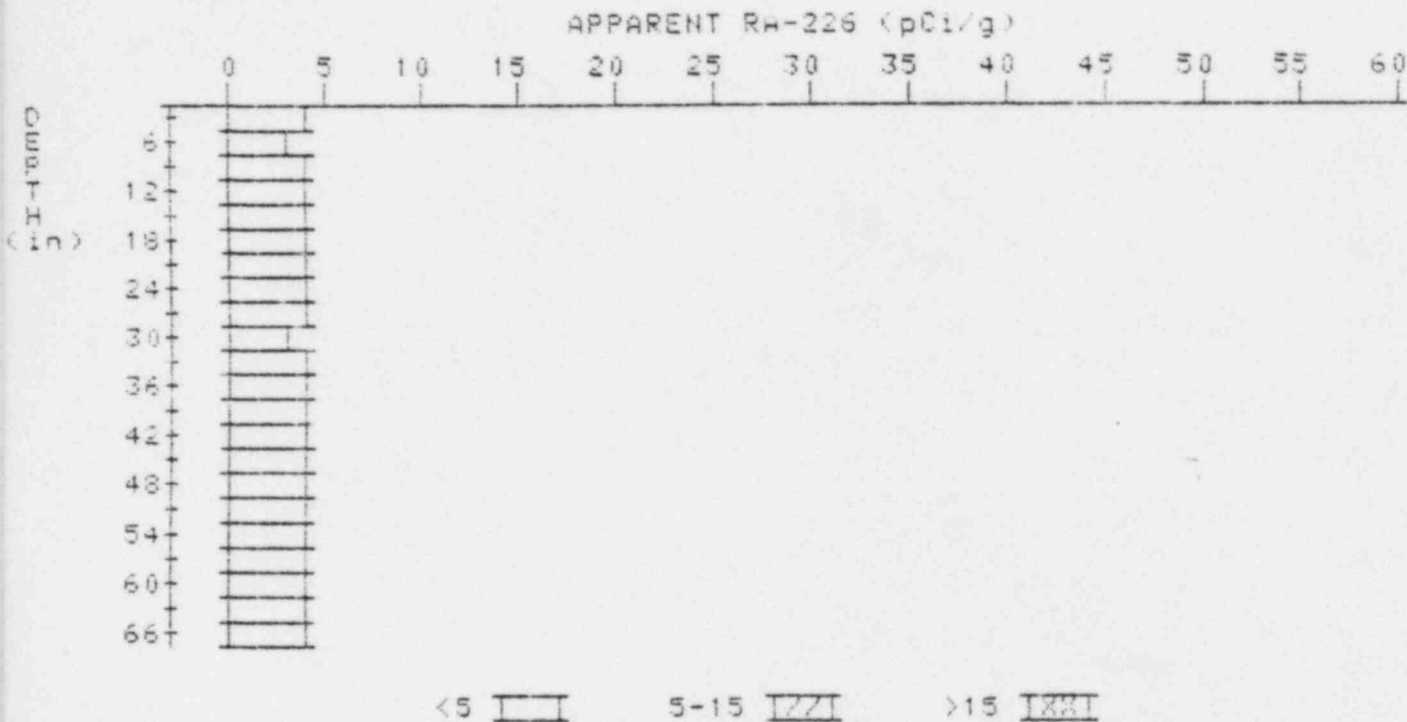
Date: May 15, 1985

I received a stucco wall sample from Oak Ridge National Laboratory (ORNL) and processed it through Petrology. The data is enclosed in the folio.

APPARENT RADIUM-226 CONCENTRATION 13

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-05017-MR
HOLE NUMBER: 13
LOCATION: 166241



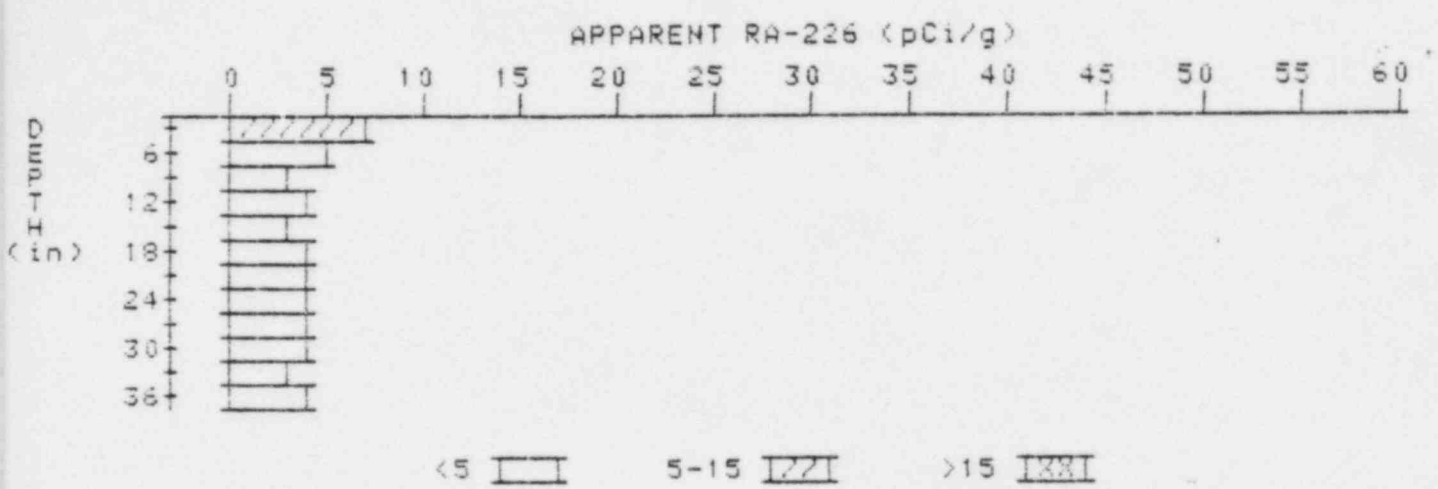
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	4.0	4.0
6	3.7	3.2
9	3.7	3.7
12	3.7	3.5
15	3.8	3.8
18	3.9	4.3
21	3.8	3.6
24	3.8	3.8
27	3.8	4.0
30	3.7	3.3
33	3.8	3.8
36	3.9	4.1
39	3.9	3.7
42	4.0	4.2
45	4.0	3.8
48	4.1	4.3

51	4.1	4.1
54	4.1	4.1
57	4.1	4.1
60	4.1	4.3
63	4.0	3.6
66	4.1	4.1

APPARENT RADIUM-226 CONCENTRATION 19

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-05017 - MR
HOLE NUMBER: 19
✓ LOCATION: 170250



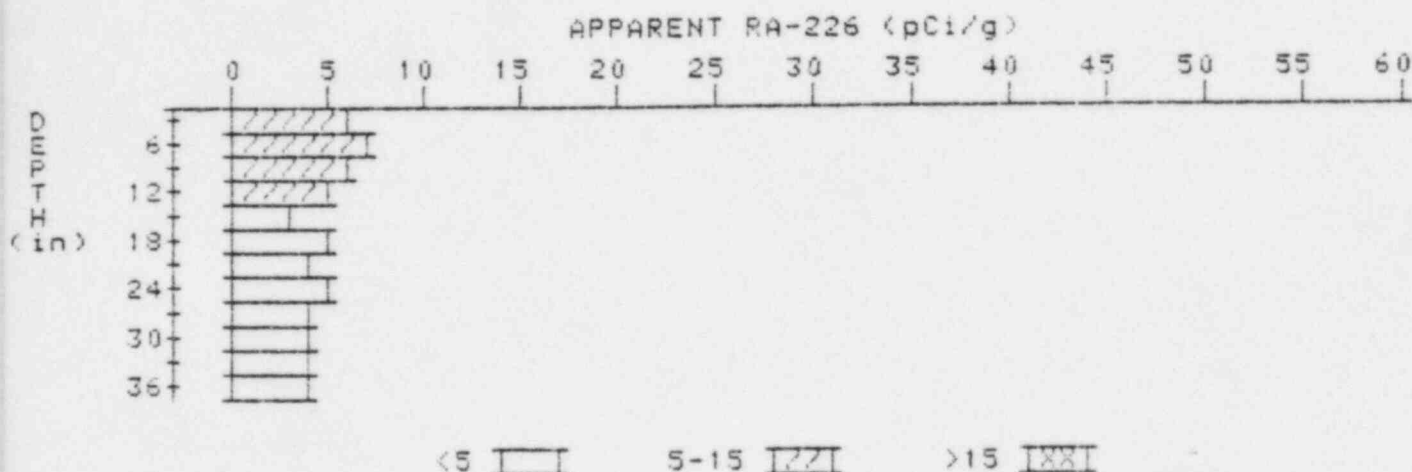
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	7.1	7.1
6	5.6	4.7
9	4.6	3.4
12	4.3	4.3
15	4.0	3.5
18	4.0	4.2
21	3.9	3.7
24	3.9	4.1
27	3.8	3.6
30	3.8	4.2
33	3.6	3.2
36	3.6	3.6

APPARENT RADIUM-226 CONCENTRATION 29 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-05017-MR

HOLE NUMBER: 29

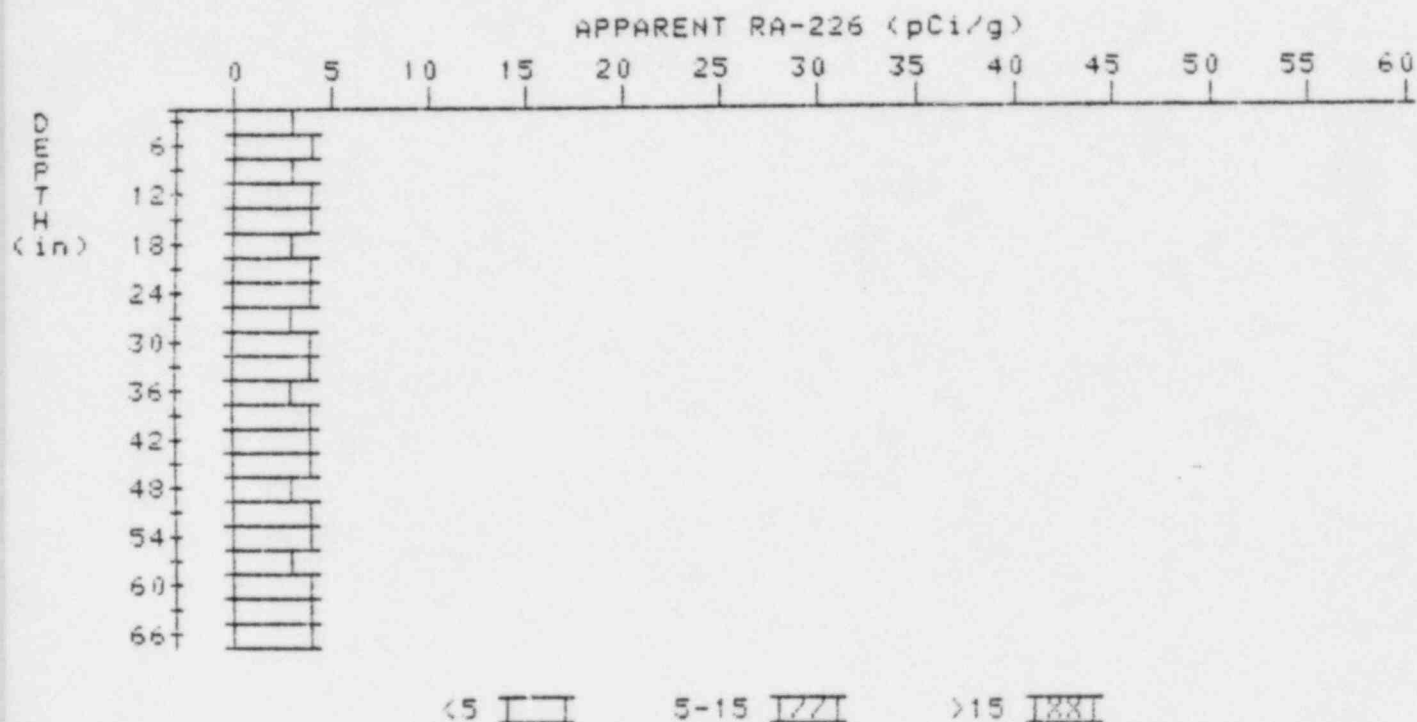
✓ LOCATION: 184220



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	6.4	6.4
6	6.3	6.3
9	5.9	6.4
12	5.2	5.2
15	4.5	3.3
18	4.5	4.7
21	4.4	4.2
24	4.4	4.6
27	4.3	4.3
30	4.2	4.2
33	4.1	4.1
36	4.0	4.0

APPARENT RADIUM-226 CONCENTRATION 30 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-05017 - MR
HOLE NUMBER: 30
✓ LOCATION: 185257



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.2	3.2
6	3.5	4.0
9	3.5	3.1
12	3.7	4.1
15	3.7	3.9
18	3.6	3.2
21	3.7	3.7
24	3.8	4.2
27	3.7	3.3
30	3.8	4.2
33	3.7	3.7
36	3.6	3.2
39	3.7	3.9
42	3.7	3.5
45	3.8	4.2
48	3.7	3.3

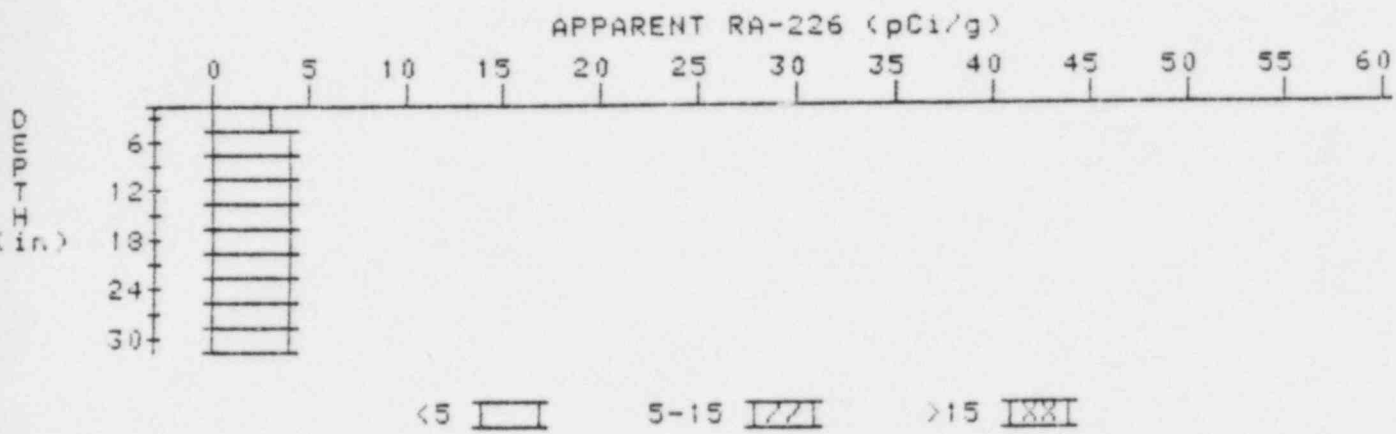
51	3.8	4.2
54	3.7	3.7
57	3.6	3.1
60	3.8	4.3
63	3.7	3.5
66	3.7	3.7

APPARENT RADIUM-226 CONCENTRATION

DECONVOLUTION GRAPH

34

PROPERTY NUMBER: GJ-05017 - MR
HOLE NUMBER: 34
✓ LOCATION: 210290



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.0	3.0
6	3.4	3.3
9	3.6	3.6
12	3.8	4.2
15	3.8	3.3
18	3.8	3.6
21	3.9	4.1
24	3.9	4.1
27	3.8	3.6
30	3.8	3.3