

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-10751-RS
ADDRESS: 444 HILL AVENUE

JUNE 1985

FOR

URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT OFFICE

ALBUQUERQUE OPERATIONS OFFICE

DEPARTMENT OF ENERGY

BY

BENDIX FIELD ENGINEERING CORPORATION
P.O. Box 1569
Grand Junction, Colorado 81502

APPROVED BY

Michael K. Tucker

M. TUCKER
DOE PROJECT ENGINEER

DATE

June 24, 1985

REA10751:REA-607

8507150431 850625
PDR WASTE
WM-54 PDR

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The location, DOE ID No. GJ-10751-RS, is a single-family residence located at 444 Hill Avenue, 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 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, 11 cu. yd.; interior, 0 cu. yd.

Estimated cost to perform remedial action, including dislocation when applicable, is \$1,336. Remedial action on this property will take approximately 4 days to complete.

2.0 PROPERTY DESCRIPTION

2.1 General Description

Address: 444 Hill Avenue, Grand Junction, Colorado 81501

Zoning: Residential (RMF-32)

Lot Size: Approximately 4,688 sf (0.1 acre)

Legal Description: Lot 23, and East half of Lot 24, Block 30, City of Grand Junction, County of Mesa, State of Colorado.

Point of Reference: This property is located approximately 2 miles northeast 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:	Alley (asphalt)
South:	Hill Avenue
East:	Single-family residence
West:	Single-family residence

2.2 Existing Facilities and Structures

Primary Structure:

Type:	1 1/2-story residence
Size:	Approximately 850 sf
Construction Date:	1905
Construction:	Wood-frame
Foundation:	Concrete grade beam
Footing Depth:	Approximately 6" to bottom of footing from grade
Basement:	Yes - under entire living area
Crawl Space:	Yes - under the porch
Condition:	Good

Other Structures:

Type:	Garage
Size:	Approximately 189 sf
Construction:	Wood-frame
Foundation:	Concrete slab-on-grade
Condition:	Good

General Remarks:

The front and rear yards are well landscaped. 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 house has been completely remodeled.

Architectural Significance: None

Historical Significance: None

3.0 RADIOLOGIC SURVEY

3.1 Introduction

Radiologic data were collected by Bendix at DOE ID No. GJ-10751-RS on April 25, 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 that there is contamination associated with the south city sidewalk.

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 16 uR/h
Highest Outside Gamma Reading (HOG): 38 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 16 uR/h
Highest Inside Gamma Reading (HIG): 16 uR/h

Interior gamma exposure-rate measurements are summarized in Appendix Table 3.2. Appendix Figure 3.3 shows 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 Figure 3.4. Data from these investigations are included in Appendix Table 3.1.

3.4 Radon/Radon Daughter Concentration (EDC)

The working level was not assessed by CDH. No RDC measurements were taken by Bendix.

3.5 Extent of Contamination

Appendix Figure 3.5 shows identified areas and estimated depths of contamination on this property, based on assessments of all measurements taken. As noted in this figure, areas recommended for remedial action that contain identified residual radioactive materials are:

- (AREA A) The soil underlying the 4-inch-thick concrete city sidewalk, south of the primary structure, is contaminated to a depth of 11 inches. The total depth of contamination is 15 inches (approximately 165 sf).
- (AREA B) The soil on both sides of the contaminated sidewalk is contaminated to a depth of 15 inches (approximately 50 sf).

4.0 RECOMMENDED REMEDIAL ACTION

4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-10751-RS, includes removal of all areas identified as containing radioactive material (as discussed in Section 3.5 and shown in Appendix Figure 3.5) and transport of removed material to the disposal site.

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 \$1,336.

This remedial action will result in removal of the identified residual radioactive materials.

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	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 3.3	Interior Gamma Exposure Rates - Basement/Garage
Figure 3.4	Exterior Sample Locations
Figure 3.5	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-10751-RS

444 Hill Avenue

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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	160250	00	DS	<1.0		*	Background
		00-06	SS			2.1	
		03	TC	2.9		*	DC = 0 inches
		06	TC	3.2		*	
		09	TC	3.3		*	
		12	TC	3.4		*	
		15	TC	3.4		*	
		18	TC	3.4		*	
		21	TC	3.5		*	
		24	TC	3.7		*	
		27	TC	3.8		*	
		30	TC	3.9		*	
		33	TC	4.0		*	
		36	TC	4.0		*	
2	171231	03	TC	2.8		*	West corner of garage
		06	TC	3.1		*	
		09	TC	3.2		*	
		12	TC	3.3		*	DC = 0 inches
		15	TC	3.4		*	
		18	TC	3.3		*	
		21	TC	3.4		*	
		24	TC	3.4		*	
		27	TC	3.5		*	
		30	TC	3.5		*	
3	182242	00	DS	1.5		*	Gas line
		06	DS	<1.0		*	
		12	DS	<1.0		*	DC = 0 inches
4	188247	03	TC	3.4		*	Next to sewer line
		06	TC	3.5		*	
		09	TC	3.5		*	DC = 0 inches
		12	TC	3.6		*	
		15	TC	3.6		*	
		18	TC	3.5		*	
		21	TC	3.6		*	
		24	TC	3.8		*	
		27	TC	3.8		*	
		30	TC	3.9		*	
		33	TC	3.9		*	
		36	TC	3.9		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-10751-RS

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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.		
4	188247	39	TC	3.9		*	DC = 0 inches
		42	TC	3.7		*	
		45	TC	3.7		*	
		48	TC	3.8		*	
		51	TC	3.6		*	
		54	TC	3.6		*	
		57	TC	3.6		*	
		60	TC	3.6		*	
		63	TC	3.6		*	
		66	TC	3.6		*	
		69	TC	3.5		*	
5	188257	03	TC	3.1		*	By sewer line
		06	TC	3.4		*	
		09	TC	3.4		*	DC = 0 inches
		12	TC	3.3		*	
		15	TC	3.3		*	
		18	TC	3.3		*	
		21	TC	3.4		*	
		24	TC	3.5		*	
		27	TC	3.6		*	
		30	TC	3.7		*	
		33	TC	3.8		*	
		36	TC	3.9		*	
		39	TC	3.7		*	
		42	TC	3.7		*	
		45	TC	3.7		*	
		48	TC	3.7		*	
		51	TC	3.7		*	
		54	TC	3.7		*	
		57	TC	3.6		*	
		60	TC	3.7		*	
		63	TC	3.7		*	
		66	TC	3.7		*	
		69	TC	3.8		*	
		72	TC	3.8		*	
6	220234	03	TC	3.0		*	West side of primary structure
		06	TC	3.2		*	
		09	TC	3.3		*	
		12	TC	3.3		*	DC = 0 inches
		15	TC	3.4		*	
		18	TC	3.5		*	
		21	TC	3.6		*	

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.		
6	220234	24	TC	3.7		*	
		27	TC	3.8		*	
		30	TC	3.8		*	
		33	TC	3.9		*	
		36	TC	3.9		*	
		39	TC	3.8		*	
		42	TC	3.7		*	
		45	TC	3.6		*	
		48	TC	3.5		*	
		51	TC	3.5		*	
		54	TC	3.4		*	
		57	TC	3.4		*	
		60	TC	3.4		*	
		63	TC	3.5		*	
		66	TC	3.6		*	
7	220262	03	TC	3.4		*	East side of primary structure
		06	TC	3.7		*	
		09	TC	3.7		*	DC = 0 inches
		12	TC	3.7		*	
		15	TC	3.8		*	
		18	TC	3.8		*	
		21	TC	3.7		*	
		24	TC	3.7		*	
		27	TC	3.7		*	
		30	TC	3.6		*	
		33	TC	3.7		*	
		36	TC	3.7		*	
		39	TC	3.8		*	
		42	TC	3.8		*	
		45	TC	3.9		*	
		48	TC	3.7		*	
		51	TC	3.7		*	
		54	TC	3.7		*	
		57	TC	3.6		*	
		60	TC	3.5		*	
8	245240	03	TC	3.2		*	By water line
		06	TC	3.5		*	
		09	TC	3.6		*	DC = 0 inches
		12	TC	3.7		*	
		15	TC	3.7		*	
		18	TC	3.6		*	
		21	TC	3.6		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-10751-RS

444 Hill Avenue

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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.		
8	245240	24	TC	3.6		*	
		27	TC	3.7		*	
		30	TC	3.7		*	
		33	TC	3.8		*	
		36	TC	3.8		*	
		39	TC	3.9		*	
		42	TC	3.8		*	
		45	TC	3.7		*	
		48	TC	3.6		*	
		51	TC	3.6		*	
		54	TC	3.6		*	
		57	TC	3.6		*	
		60	TC	3.6		*	
9	265265	00	DS	<1.0		*	Southeast property corner
		06	DS	<1.0		*	
		12	DS	1.8		*	
		00-06	SS			1.7	
10	268265	03	TC	11.5		*	Next to sidewalk DC = 15 inches Based on deconvolution graph
		06	TC	19.0		*	
		09	TC	24.3		*	
		12	TC	19.7		*	
		15	TC	13.4		*	
		18	TC	10.0		*	
		21	TC	7.9		*	
		24	TC	6.8		*	
		27	TC	6.1		*	
		30	TC	5.7		*	
		33	TC	5.2		*	
		36	TC	4.9		*	
		39	TC	4.7		*	
		42	TC	4.4		*	
		45	TC	4.4		*	
		48	TC	4.2		*	
		51	TC	4.2		*	
		54	TC	4.2		*	
		57	TC	4.0		*	
		60	TC	4.1		*	
		63	TC	4.0		*	
		66	TC	3.9		*	
		69	TC	3.9		*	

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.		
11	270247	00-05	SS			3.2	
		05-12	SS			95.2	
		03	TC	28.4		*	DC = 15 inches Based on deconvolution graph
		06	TC	47.5		*	
		09	TC	55.6		*	
		12	TC	38.5		*	
		15	TC	21.8		*	
		18	TC	14.3		*	
		21	TC	10.6		*	
		24	TC	8.5		*	
		27	TC	7.1		*	
		30	TC	6.2		*	
		33	TC	5.5		*	
		36	TC	5.1		*	
		39	TC	4.8		*	
		42	TC	4.8		*	
		45	TC	4.6		*	
		48	TC	4.4		*	
		51	TC	4.4		*	
		54	TC	4.2		*	
		57	TC	4.3		*	
		60	TC	4.2		*	
		63	TC	4.1		*	
		66	TC	4.1		*	
		69	TC	3.9		*	
		72	TC	4.0		*	
12	274265	00	DS	11.3		*	
13	275265	00	DS	3.8		*	South of walk DC = >12 inches
		06	DS	5.9		*	
		12	DS	4.1		*	
14	276242	00	DS	1.1		*	South of walk
		06	DS	1.4		*	
		12	DS	1.0		*	
		00-06	SS			1.7	

Measurement SS = Soil Sample
Types: TC = Total Count Borehole
DS = Delta Scintillometer

Notes: DC = Depth of Contamination
* = No Soil Sample Taken
Date of Survey = 04-25-85
Team Leader = KK

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)
-----	-----	-----	-----	-----	-----	-----
BASEMENT	*	*	*	*	14-16	*
GARAGE	*	*	*	*	14-15	*
=====	=====	=====	=====	=====	=====	=====

* The CDH and ORNL data indicates the absence of interior contamination at this property. This information was investigated by performing a walking gamma scan. These areas and the ranges of gamma measurements are shown in Appendix Figure 3.3.

Table 4.1
Area and Volume Calculations
DOE ID No. GJ-10751-RS

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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					
A	5 x 33 =	165	x 0.3 =	50	
	Volume of Concrete			= 50	= 50/27 = 2
Contaminated Fill					
A	5 x 33 =	165	x 1.0 =	165	
B	2 x 7 =	14			
	2 x 18 =	36			
		50	x 1.3 =	65	
	Volume of Fill			= 230	= 230/27 = 9
	TOTAL VOLUME - EXTERIOR				= 11

See Appendix Figure 3.5 For Areas

Table 4.2
Estimated Cost of Decontamination and Restoration
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Remove identified residual radioactive material 9 cy @ \$14.50/cy (machine-open)	\$ 131
Remove/replace concrete 165 sf @ \$3/sf	495
Replace areas with topsoil 3 cy @ \$9.50/cy	29
Replace area with compacted roadbase 6 cy @ \$11.50/cy	69
Replace areas with sod 50 sf @ \$.50/sf	25
	<hr/>
TOTAL EXTERIOR	\$ 749
TOTAL INTERIOR	0
ACCESS CONTROL	100
	<hr/>
SUBTOTAL	\$ 849
CONTINGENCY @ 5%	42
	<hr/>
SUBTOTAL	\$ 891
CONTRACTOR OVERHEAD & PROFIT @ 50%	445
	<hr/>
GRAND TOTAL	\$ 1,336

=====

LR061785
REAL0751/REA-607/LMR

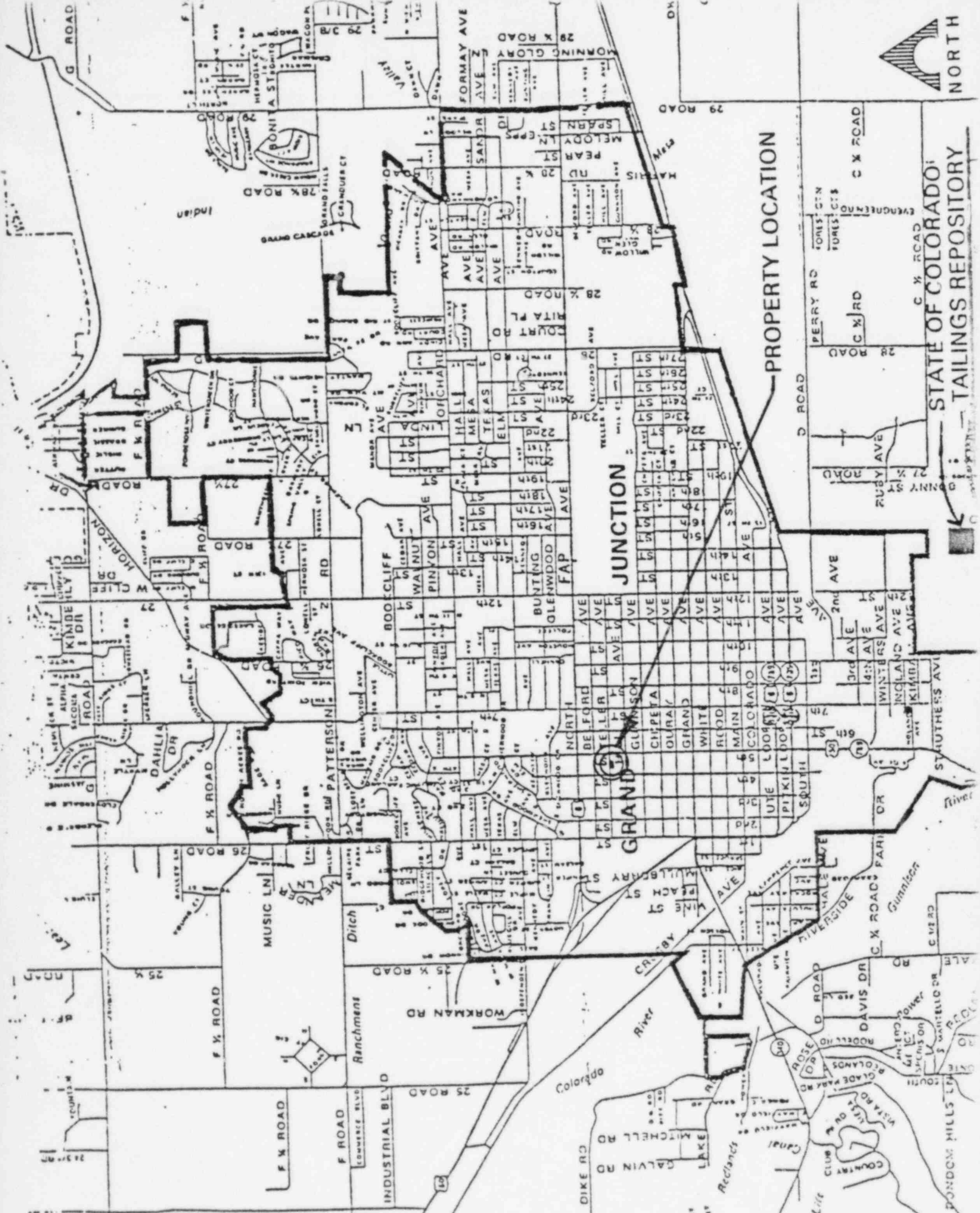


FIGURE 2.1
VICINITY MAP

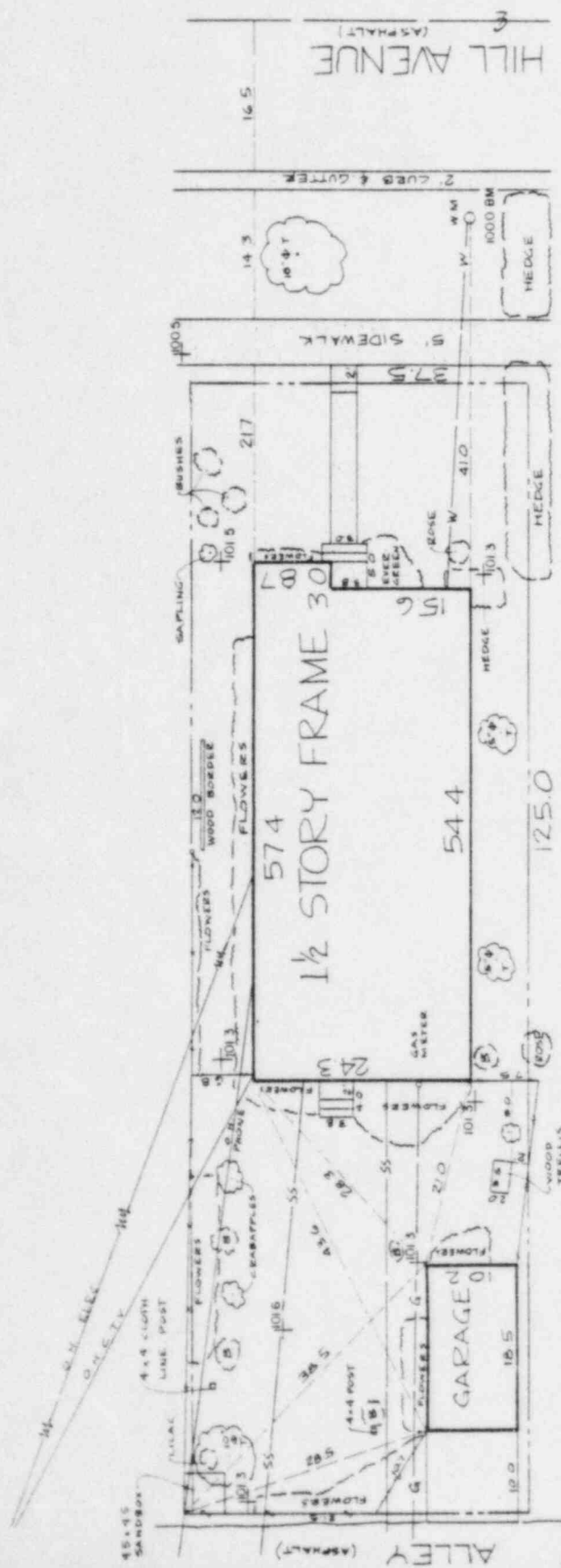
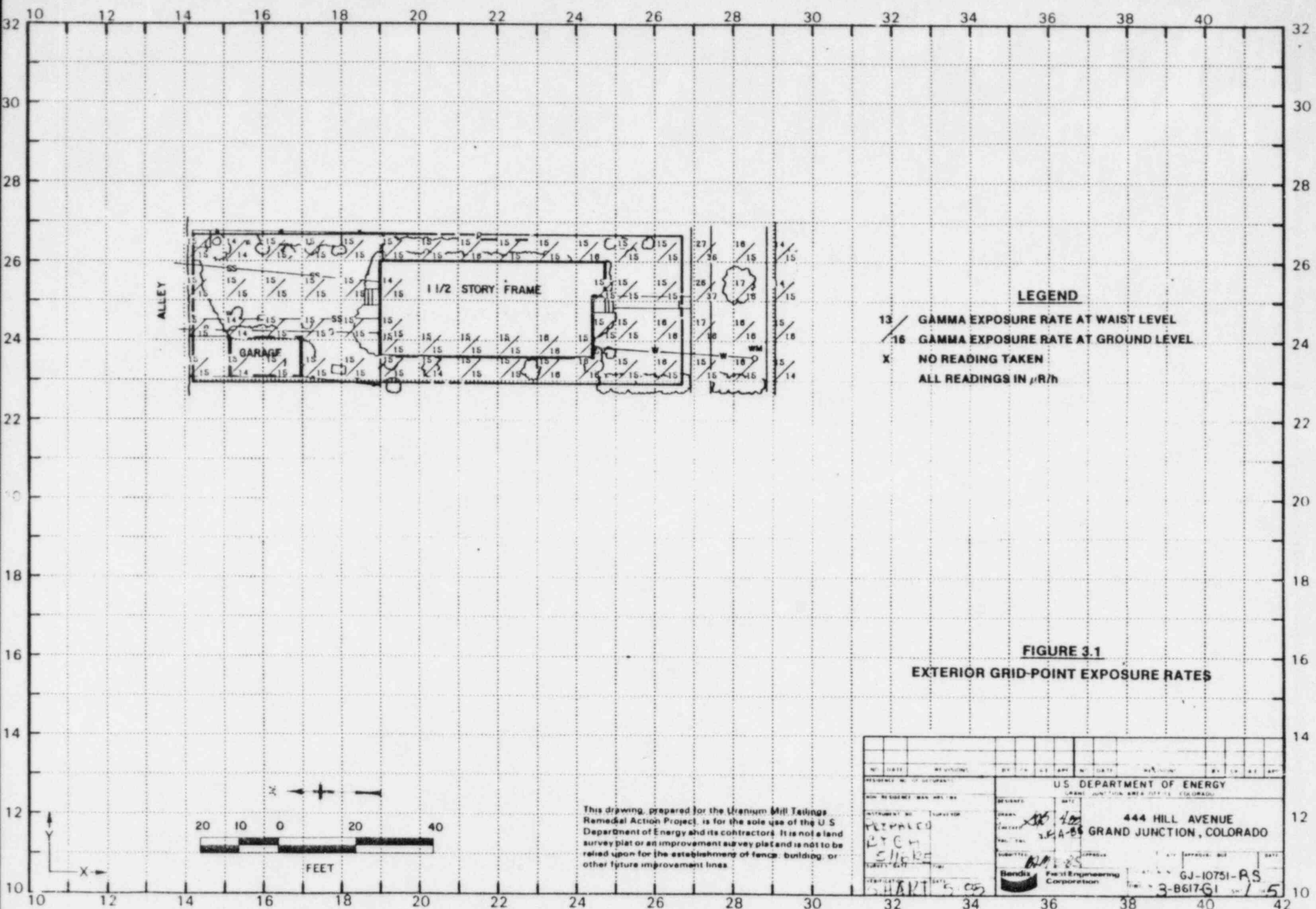
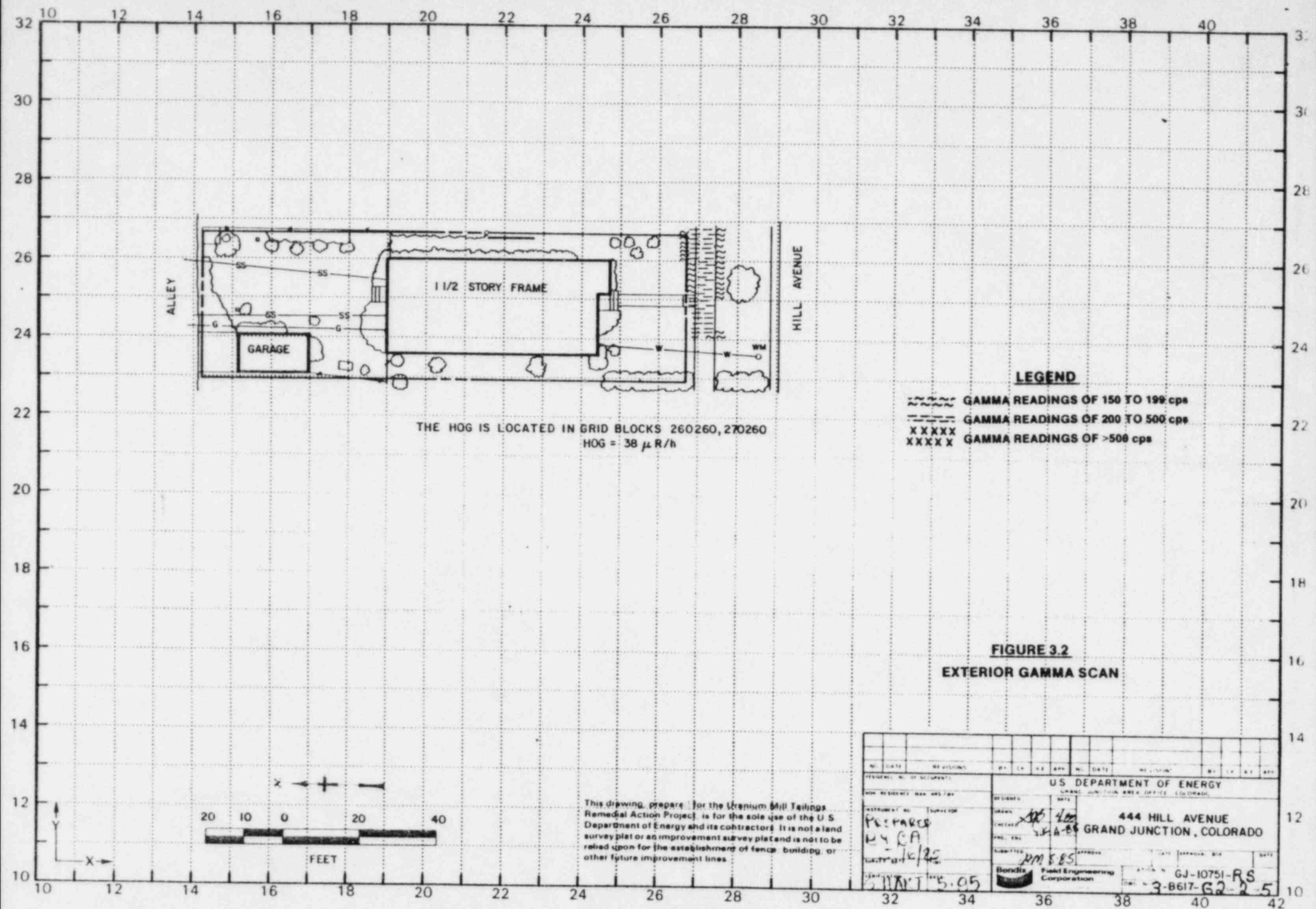


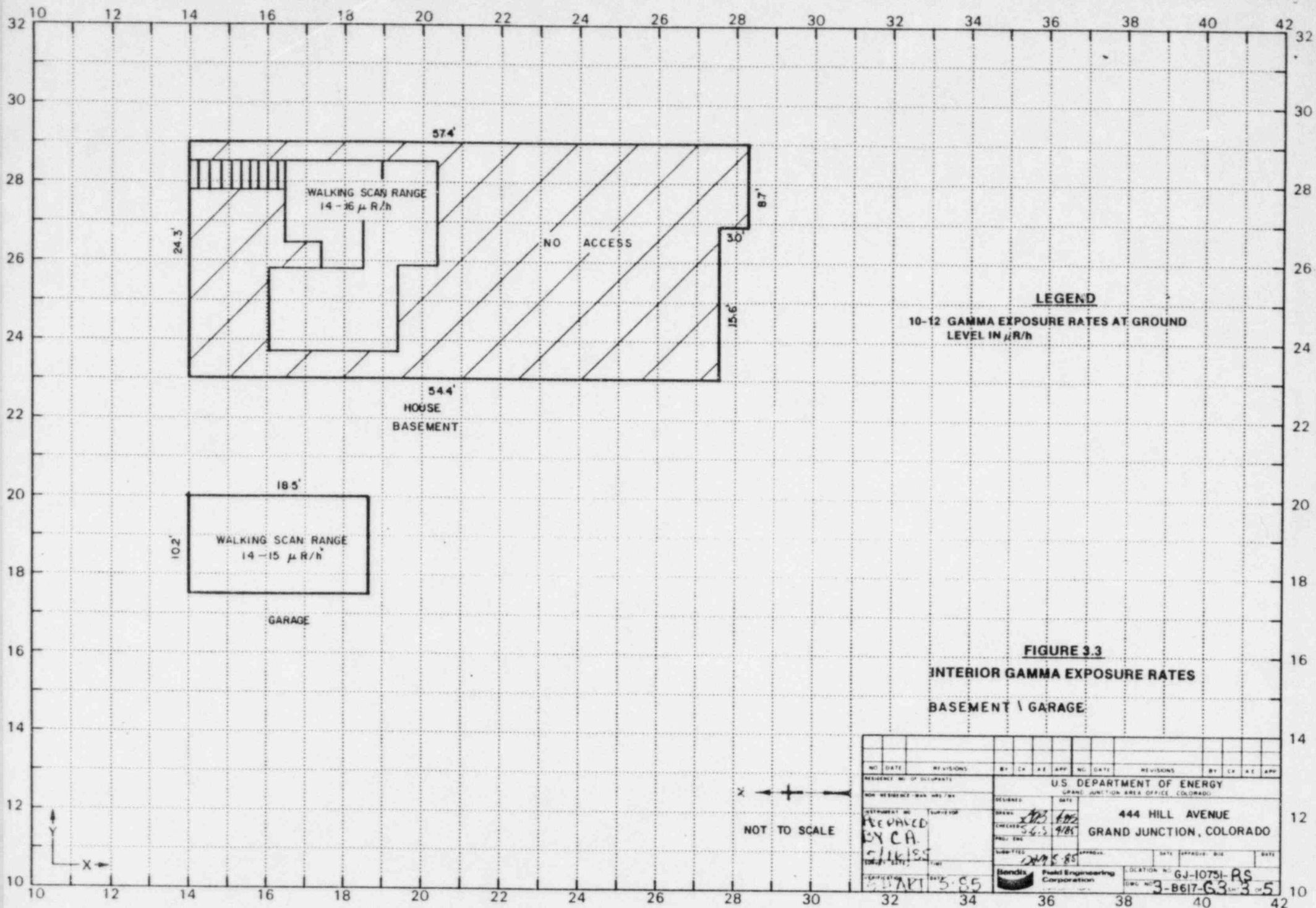
FIGURE 2.2 SITE PLAN

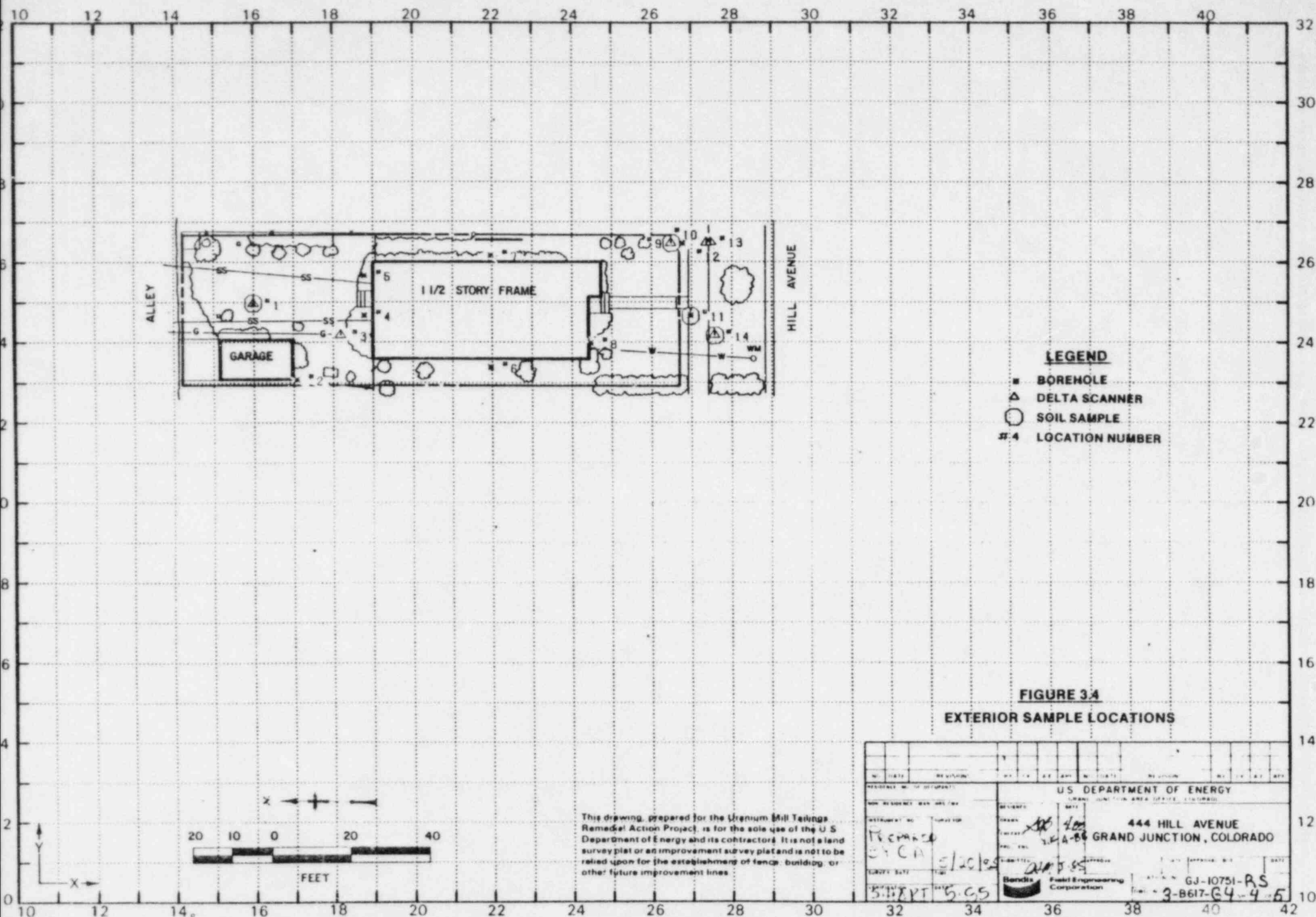


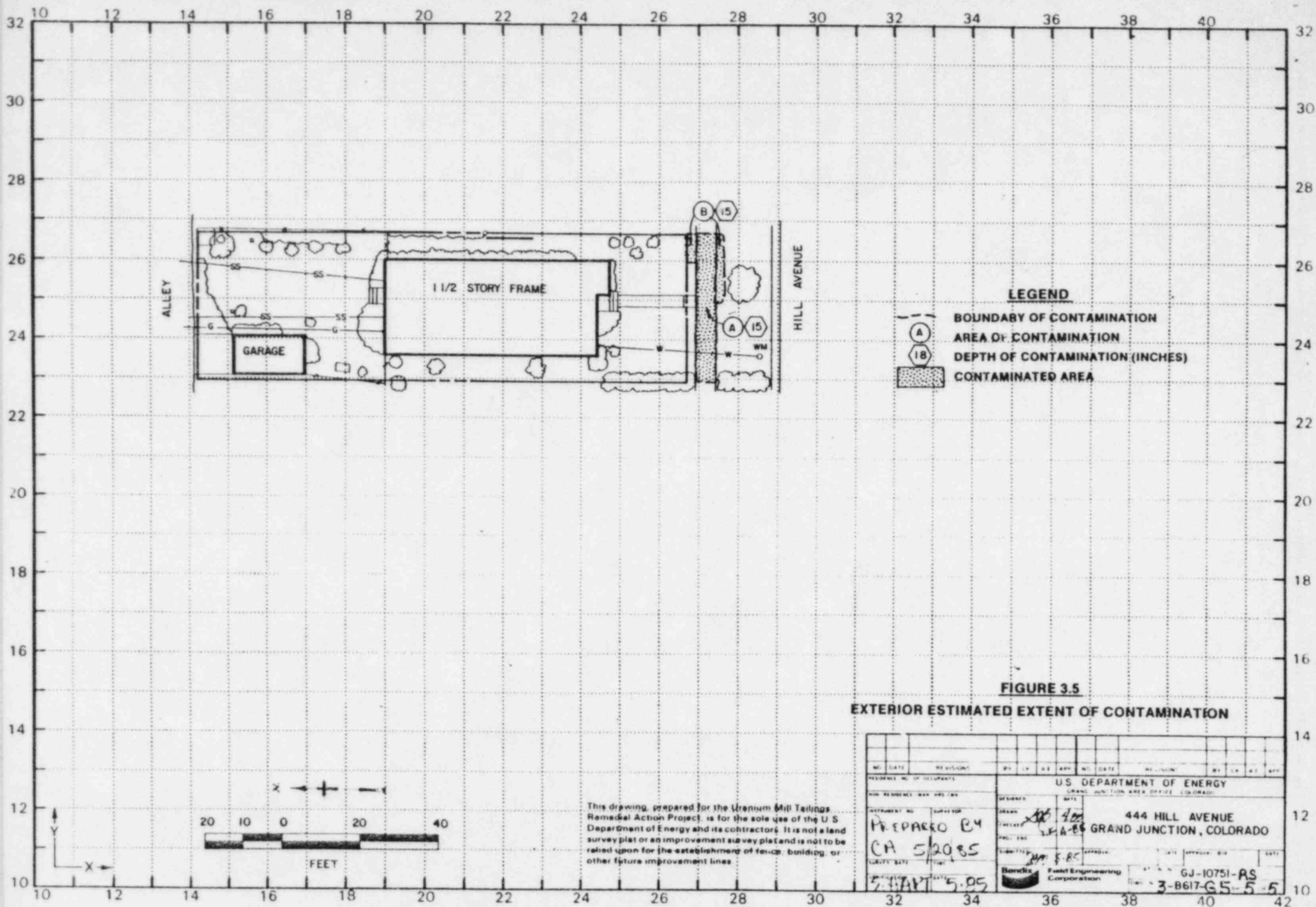
U.S. DEPARTMENT OF ENERGY GRAND JUNCTION PROJECT OFFICE, COLORADO	DATE 10 NO GJ 10/51 RS
ADDRESS 444 HILL AVENUE GRAND JUNCTION, COLO	ALIGNED Metric Feet Engineering Corporation Grand Junction, Colorado
SURV GDE 4 16 85 DRAFT TJ 4 17 85	OK H F 4 17 85
DRAWING NO 3 C 617 F 1	SHEET 1 OF 1











3/85

DOE ID NO. CJ-10751

Date May-21-85

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

Official Survey Report

Property Address 444 Hill Avenue

Property Owner Richard Gauley

Address of Owner (if different from above) _____

Report Prepared By Cordell Adams

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

☐ 1 No evidence of residual radioactive material on surveyed property.

☒ 1 Residual radioactive materials found at the following locations:

☐ 1 In open areas.

☒ 1 Under or around exterior improvements.

☐ 1 Under or around a typically nonoccupied structure.

☐ 1 Under or around a typically occupied structure.

II. RESULTS OF RADIOLOGIC ASSESSMENT

☐ 1 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.

☒ 1 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 = 16 uR/h
HOG = 22 uR/h

ALLIED Bendix
Aerospace

Bendix Field Engineering Corporation
Grand Junction Operations
Grand Junction, Colorado

Date: April 25, 1985
To: Files
From: Cordell Adams
Subject: Team Leader Notes - GJ-10751-RS

Address: 444 Hill Avenue

Owner: Richard Gauley

Weather: Cloudy, cool, and rainy.

Team Members

C. Adams (Team Leader)
B. Beltz
S. Larsen
L. Kula

K. Kanaly (Assistant Team Leader)
A. Quintana
P. Tuhey
R. Schouten

Instruments

Crutch Scintillometer - C-1247, C-1128, C-1185, C-1042, C-1151,
C-1033, C-1149
Total Count - C-4006
Delta Scintillometer - C-3940
Downhole Spectrometer - C-1372
Surface Spectrometer - C-0385

The water main was logged using scintillometer C-1247, which read 170 cps. The water main is made of concrete casing with a dirt bottom having a depth of 4 feet. The water main is located on the southwest corner of the property.

The homeowner was not home at the time of the survey.

We completed the exterior survey and data collection.

Team Leader Notes
Cordell Adams
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A revisit will be scheduled to complete the interior ground level walking gamma scan.

The walking scan was completed in the cellar using scintillometer C-1151 with a interior reading of 90 to 110 cps.

A interior walking scan of the garage showed a range of 80 to 100 counts per second (cps) using scintillometer C-1151.

There appears to be no exterior contamination abutting the structure, so there will be no need to complete the interior ground level walking scan cited above.

Spillover Contamination Information

Address: 446 Hill Avenue

Owner: A. Karp

Occupant: One (Anyone attempting to revisit A. Karp should be aware of the fact that he is blind and unable to sign his name).

This home was built in 1955. An addition was added at the rear of the home (approximately 14 feet), which was added on in 1967 or 1969.

The city sidewalk which runs directly in front of this home is contaminated. The slab adjacent to the sidewalk (which was poured in 1975) appears to be free of contamination.

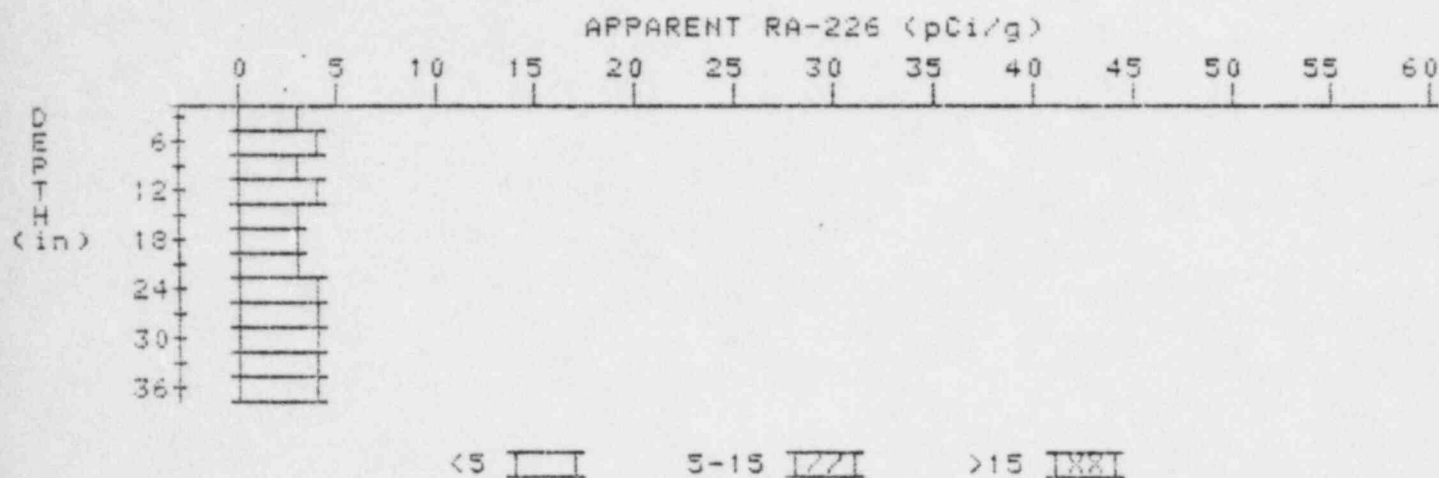
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

1

PROPERTY NUMBER: GJ-10731-RS

HOLE NUMBER: 1

LOCATION: 160250



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.9	2.9
6	3.2	3.6
9	3.3	3.3
12	3.4	3.6
15	3.4	3.4
18	3.4	3.2
21	3.5	3.3
24	3.7	3.9
27	3.8	3.8
30	3.9	3.9
33	4.0	4.2
36	4.0	4.0

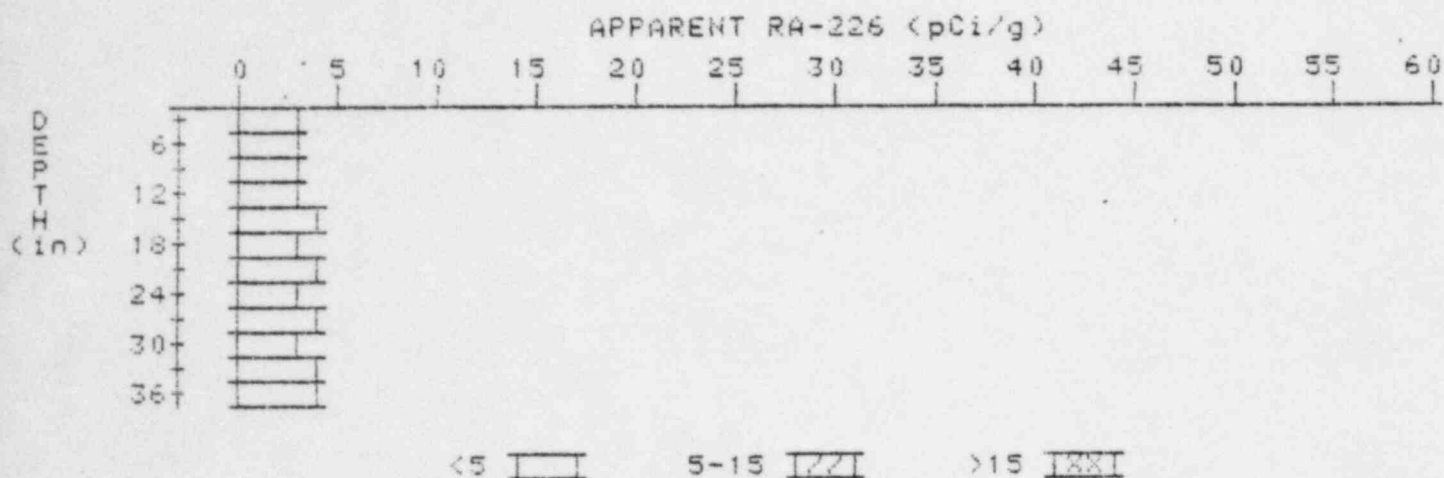
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

2

PROPERTY NUMBER: GJ-10751-RS

HOLE NUMBER: 2

LOCATION: 171231



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.8	2.8
6	3.1	3.5
9	3.2	3.2
12	3.3	3.3
15	3.4	3.8
18	3.3	2.9
21	3.4	3.6
24	3.4	3.2
27	3.5	3.7
30	3.5	3.3
33	3.6	3.8
36	3.6	3.6

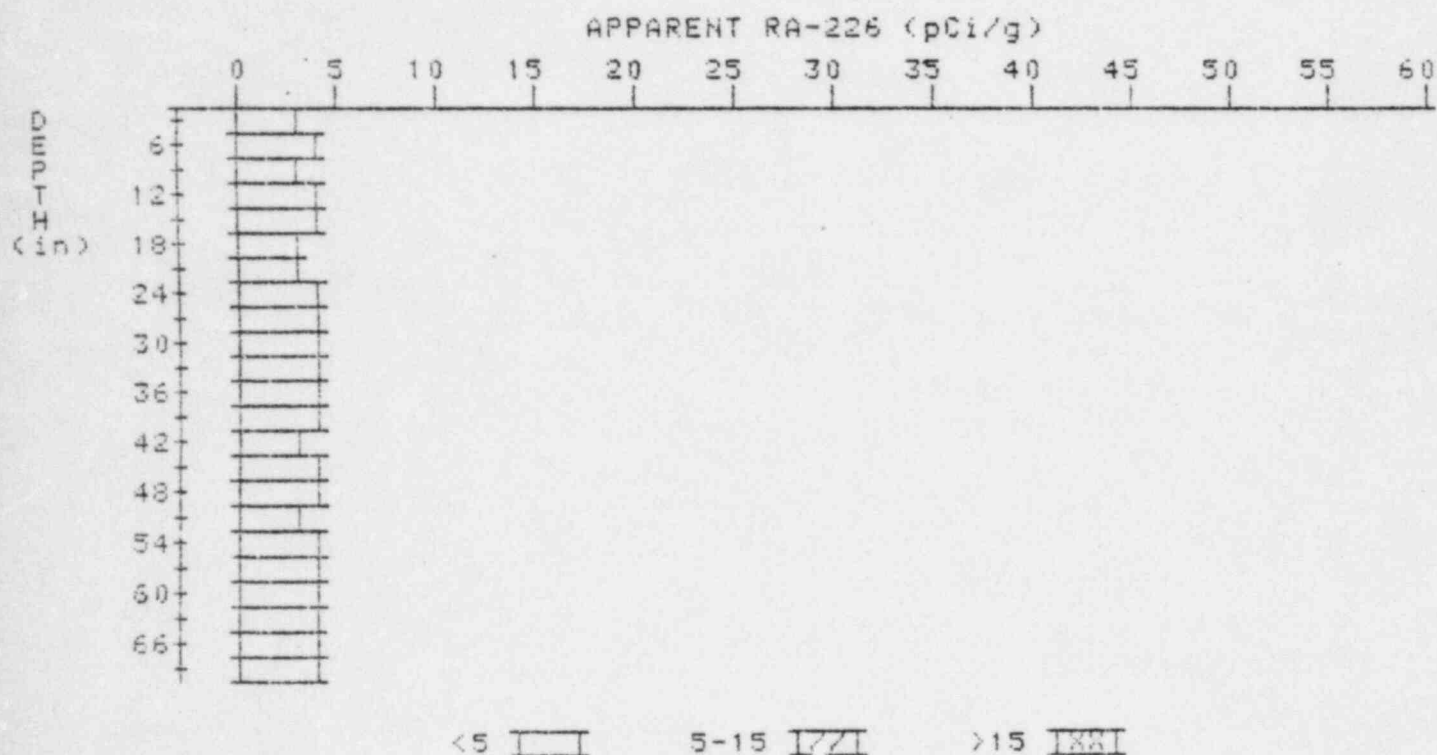
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

4

PROPERTY NUMBER: GJ-10751-RS

HOLE NUMBER: 4

LOCATION: 188247



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.4	3.4
6	3.5	3.7
9	3.5	3.3
12	3.6	3.8
15	3.6	3.8
18	3.5	3.1
21	3.6	3.4
24	3.8	4.2
27	3.8	3.6
30	3.9	4.1
33	3.9	3.9
36	3.9	3.9
39	3.9	4.3
42	3.7	3.3
45	3.7	3.5

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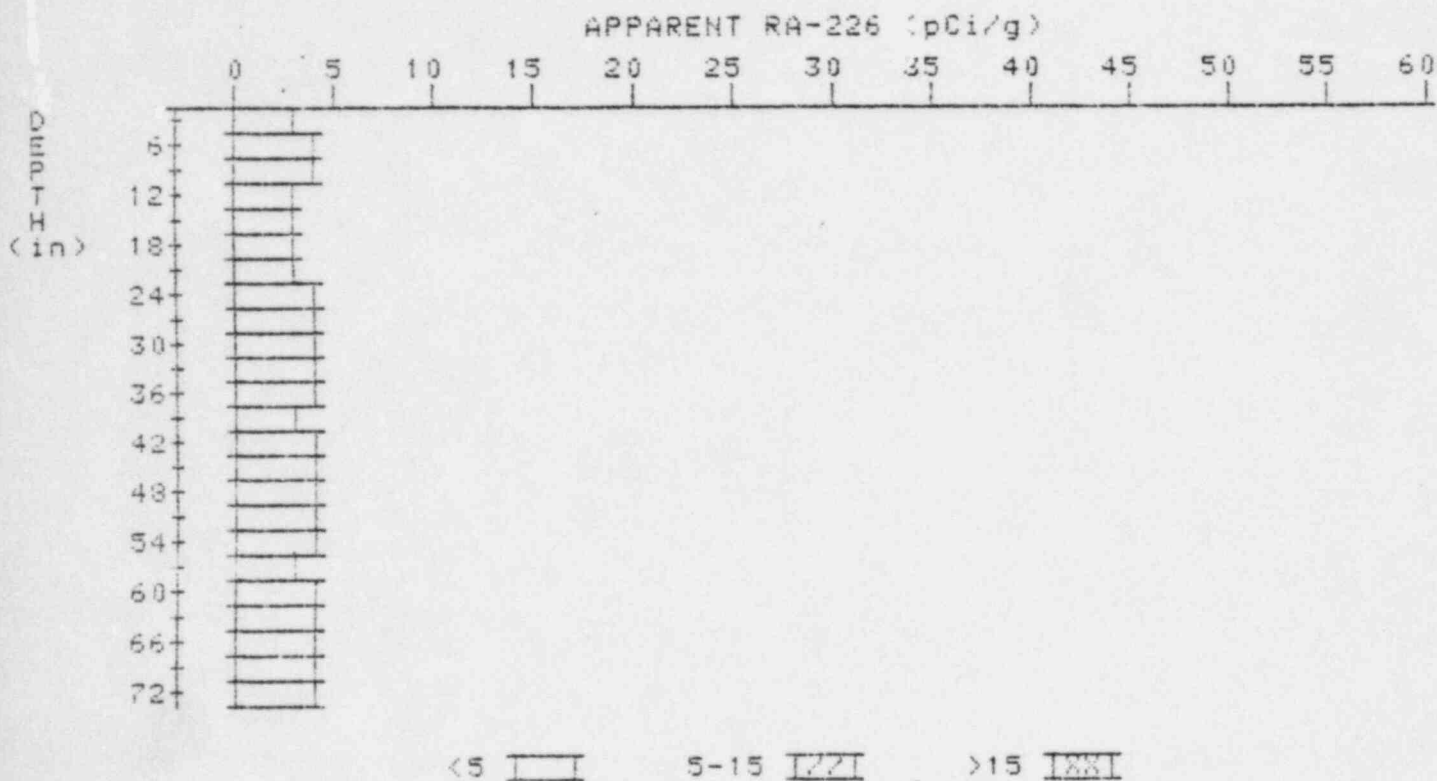
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

5

PROPERTY NUMBER: GJ-10751-RS

HOLE NUMBER: 5

LOCATION: 180257



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.1	3.1
6	3.4	3.9
9	3.4	3.6
12	3.3	3.1
15	3.3	3.3
18	3.3	3.1
21	3.4	3.4
24	3.5	3.5
27	3.6	3.6
30	3.7	3.7
33	3.8	3.8
36	3.9	4.4
39	3.7	3.3
42	3.7	3.7
45	3.7	3.7

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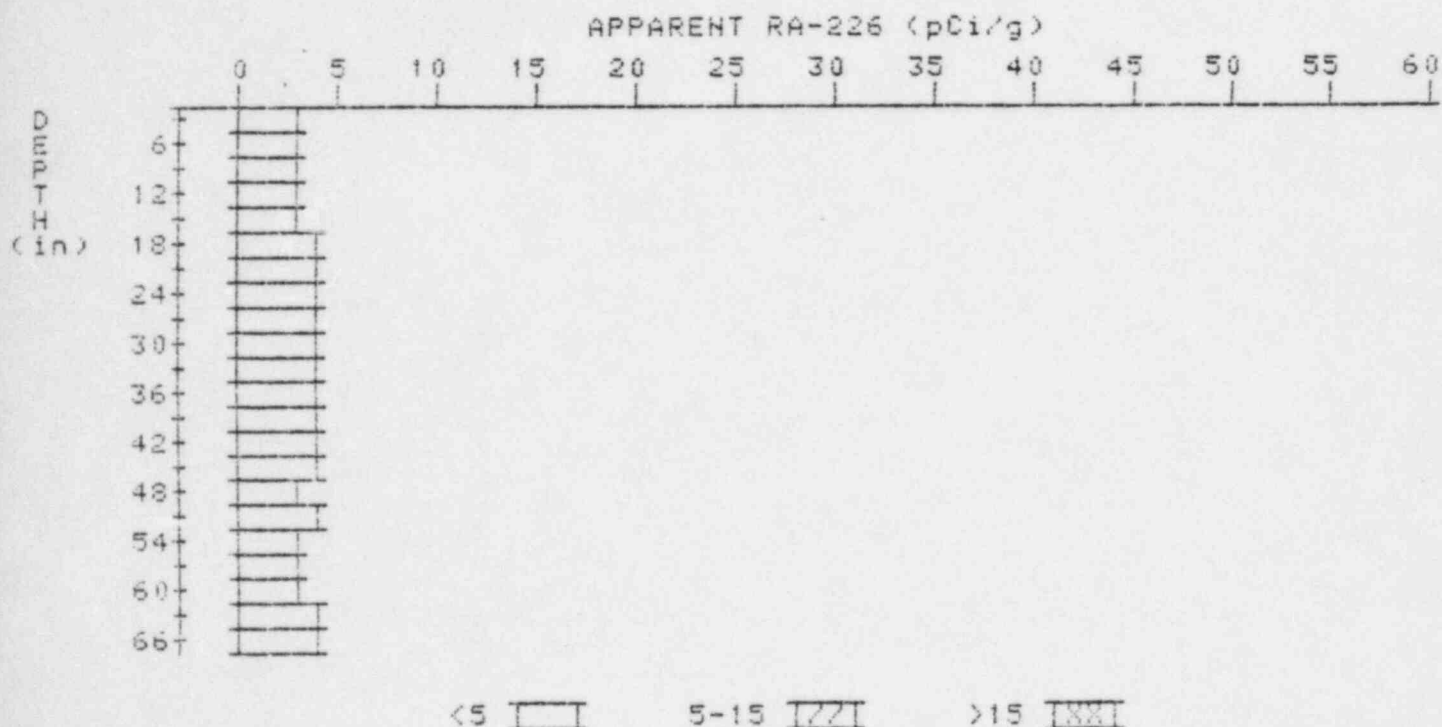
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

6

PROPERTY NUMBER: GJ-10751-R3

HOLE NUMBER: 6

LOCATION: 220234



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.0	3.0
6	3.2	3.4
9	3.3	3.5
12	3.3	3.1
15	3.4	3.4
18	3.5	3.5
21	3.6	3.6
24	3.7	3.7
27	3.7	3.7
30	3.7	3.7
33	3.9	4.1
36	3.9	4.1
39	3.8	3.8
42	3.7	3.7
45	3.6	3.6
48	3.5	3.3

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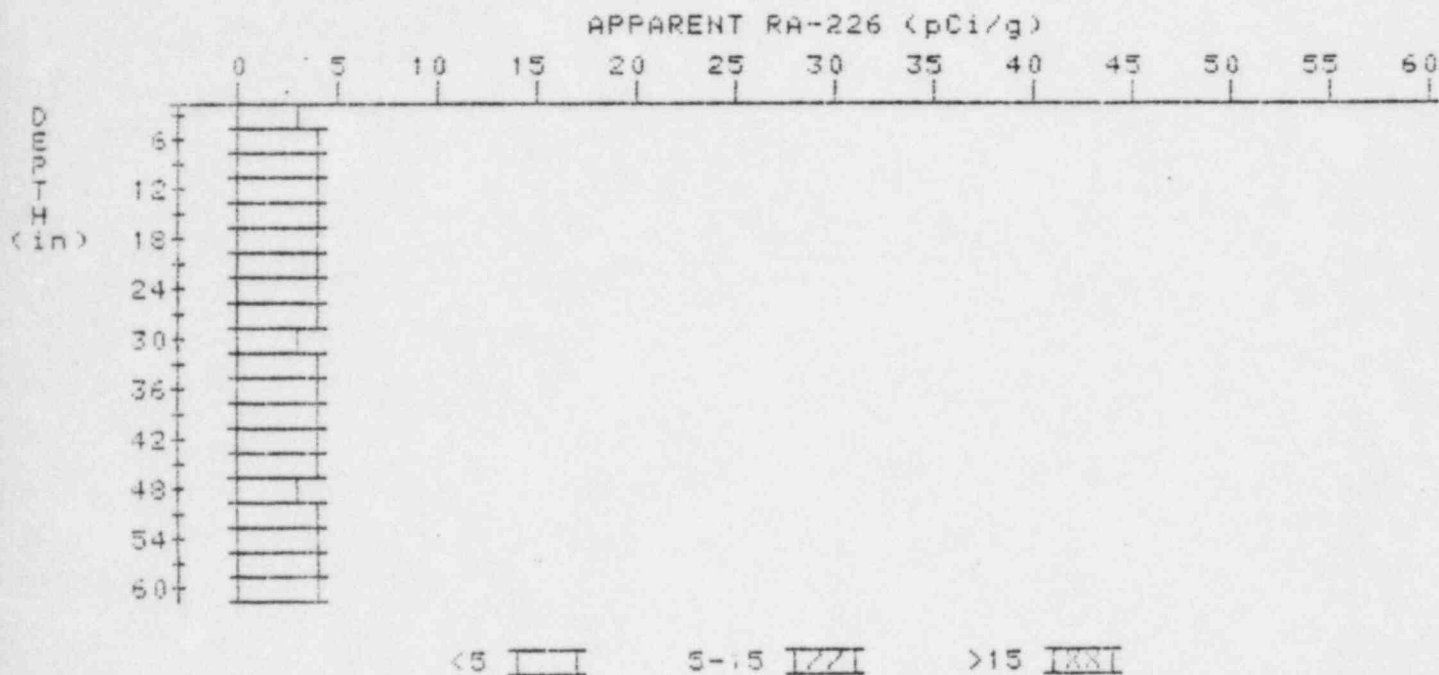
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

7

PROPERTY NUMBER: GJ-10751-RS

HOLE NUMBER: 7

LOCATION: 220262



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.4	3.4
6	3.7	4.2
9	3.7	3.7
12	3.7	3.5
15	3.8	4.0
18	3.8	4.0
21	3.7	3.3
24	3.7	3.7
27	3.7	3.9
30	3.6	3.2
33	3.7	3.3
36	3.7	3.3
39	3.8	4.0
42	3.8	3.6
45	3.9	4.4
48	3.7	3.3
51	3.7	3.7
54	3.7	3.9

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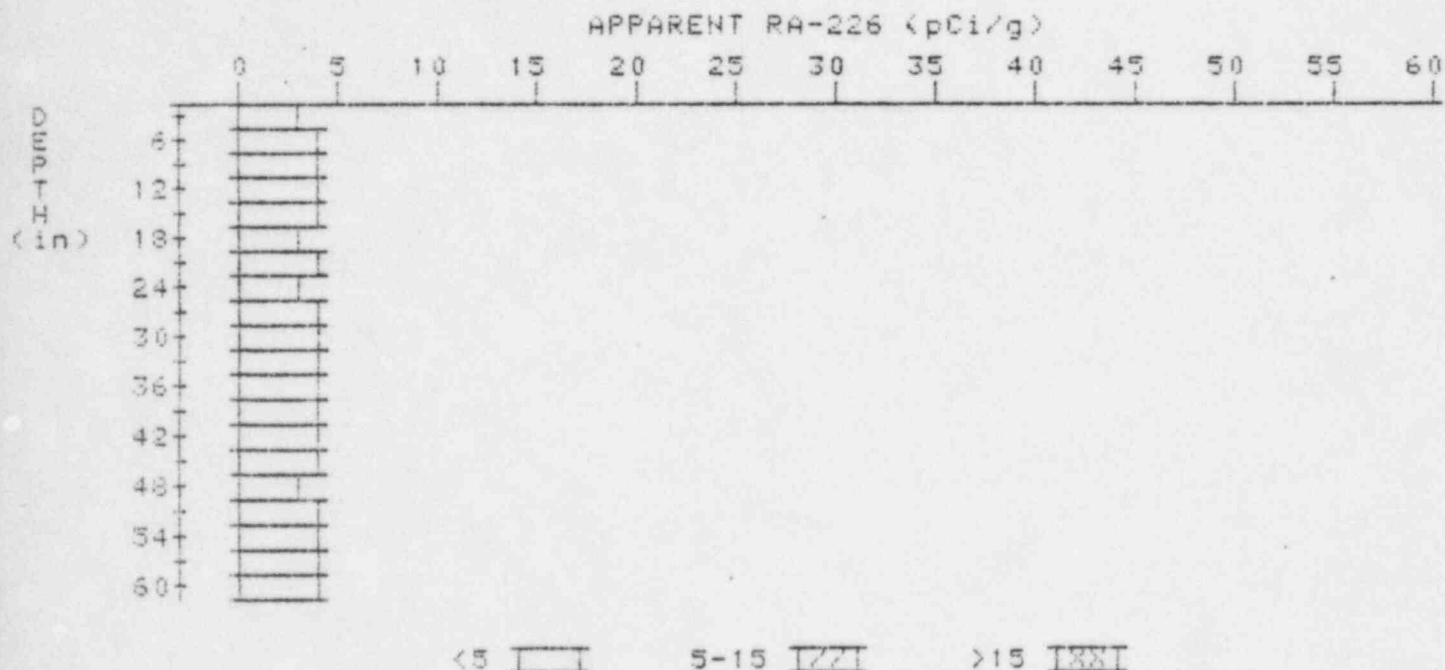
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

8

PROPERTY NUMBER: GJ-10751-RS

HOLE NUMBER: 8

LOCATION: 245240



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.2	3.2
6	3.5	3.9
9	3.6	3.6
12	3.7	3.9
15	3.7	3.9
18	3.6	3.4
21	3.6	3.6
24	3.6	3.4
27	3.7	3.9
30	3.7	3.5
33	3.8	4.0
36	3.8	3.6
39	3.9	4.3
42	3.8	3.8
45	3.7	3.7
48	3.6	3.4
51	3.6	3.6
54	3.6	3.6

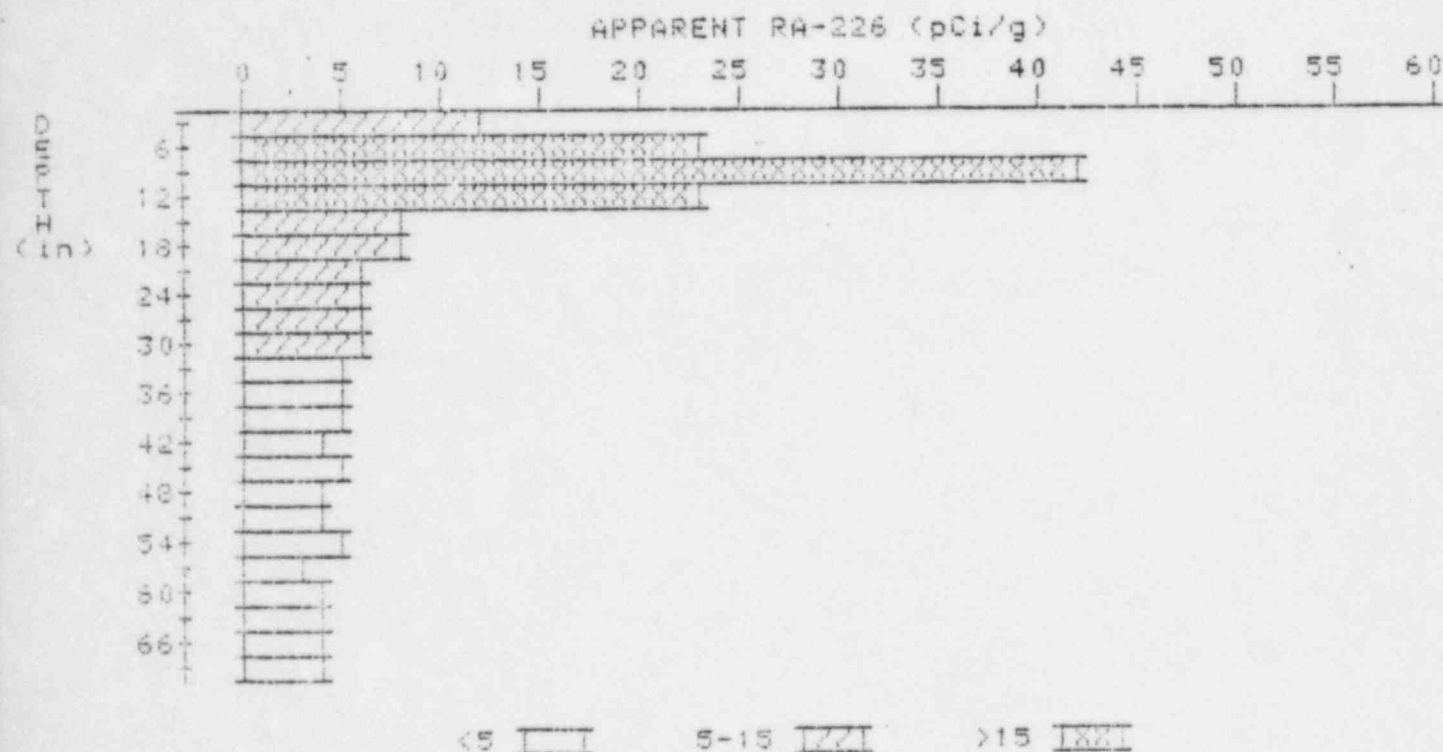
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APPARENT RADIUM-226 CONCENTRATION 10 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-10751-RS
HOLE NUMBER: 10
LOCATION: 268265



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	11.5	11.5
6	19.0	22.9
9	24.3	41.9
12	19.7	22.7
15	13.4	8.2
18	10.0	7.7
21	7.9	6.1
24	6.8	6.1
27	6.1	5.6
30	3.7	3.9
33	5.2	4.8
36	4.9	4.7
39	4.7	4.9
42	4.4	3.9
45	4.4	4.8

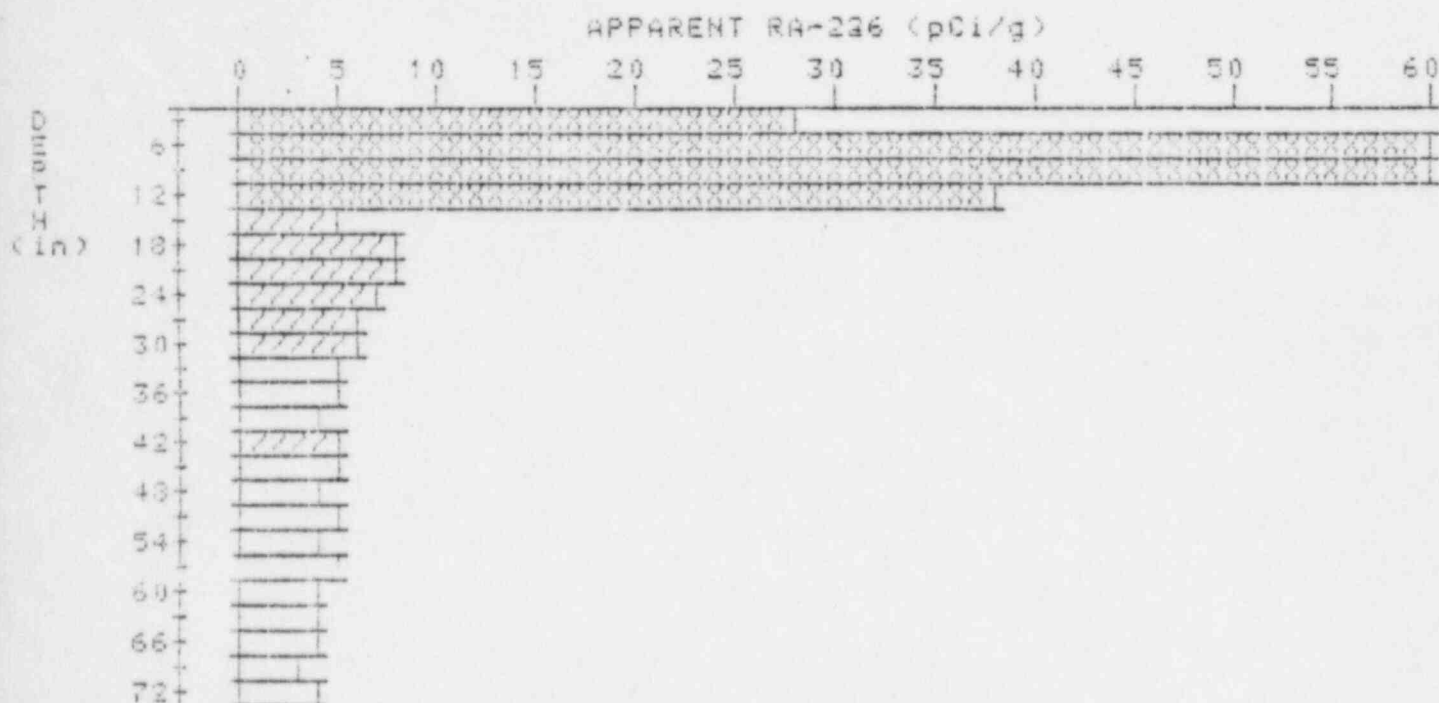
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APPARENT RADIUM-226 CONCENTRATION 11 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-10751-RS
HOLE NUMBER: 11
LOCATION: 270247



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Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	28.4	28.4
6	47.5	67.1
9	55.6	100.4
12	38.5	37.8
15	21.8	5.4
18	14.3	7.5
21	10.6	7.0
24	8.5	7.3
27	7.1	6.2
30	6.2	5.8
33	5.5	5.0
36	5.1	4.4
39	4.8	4.3
42	4.8	5.2
45	4.6	4.6

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