

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-30484-CS
ADDRESS: 830 WEST ROOD AVENUE

JUNE 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

June 27, 1985

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The location, DOE ID No. GJ-30484-CS, is the City Maintenance Shops located at 830 West Rood 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, 473 cu. yd.; interior, 30 cu. yd.

Estimated cost to perform remedial action, including dislocation when applicable, is \$21,956. Remedial action on this property will take approximately 30 days to complete.

2.0 PROPERTY DESCRIPTION

2.1 General Description

Address: 830 West Rood Avenue

Zoning: Industrial (I-1)

Lot Size: Approximately 187,000 sf (4.3 acres)

Legal Description: All of blocks 3, 4, and 7, Grand River Subdivision, Section 15, 1S 1W, 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 and underground
Gas:	Underground
Telephone:	Overhead and underground
Sewer:	Underground
Water:	Underground
Cable TV:	None

Bordering Properties:

North:	West White Avenue/gravel storage yard
South:	U. S. Highway 340 (Broadway)
East:	West Street
West:	Colorado River

2.2 Existing Facilities and Structures

Primary Structure: Building No. 1

Type:	Single-story office/garage
Size:	Approximately 18,750 sf
Construction Date:	Post 1940's
Construction:	8" concrete block, steel frame roof and concrete slab-on-grade
Foundation:	Concrete stemwall on spread footing
Footing Depth:	Approximately 38" to bottom of footing from grade
Basement:	None
Crawl Space:	None
Condition:	Good

Secondary Structure: Building No. 2

Type:	Quonset hut garage
Size:	Approximately 3,000 sf
Construction Date:	Post 1940's
Construction:	Galvanized metal on steel frame and concrete floor
Foundation:	Concrete stemwall on spread footing
Footing Depth:	Approximately 8" to bottom of footing from grade
Basement:	None
Crawl Space:	None
Condition:	Good

Secondary-Structure: Building No. 3

Type:	Quonset hut
Size:	Approximately 400 sf
Construction Date:	Post 1940's
Construction:	Galvanized metal on steel frame and floor
Foundation:	Monolithic concrete slab-on-grade
Footing Depth:	Approximately 4" to bottom of footing from grade
Basement:	None
Crawl Space:	None
Condition:	Good

Secondary-Structure: Building No. 4

Type:	Single-story office/garage
Size:	Approximately 900 sf
Construction Date:	Post 1950's
Construction:	Pre-engineered metal building
Foundation:	Monolithic concrete slab-on-grade
Footing Depth:	Approximately 10" to bottom of footing from grade
Basement:	None
Crawl Space:	None
Condition:	Good

Secondary-Structure: Building No. 5

Type:	Single-story garage
Size:	Approximately 500 sf
Construction Date:	Post 1950's
Construction:	Pre-engineered metal building
Foundation:	Concrete stemwall on spread footing
Footing Depth:	Approximately 9" to bottom of footing from grade
Basement:	None
Crawl Space:	None
Condition:	Good

Secondary-Structure: Building No. 6

Type:	Single-story garage
Size:	Approximately 5,700 sf
Construction Date:	Post 1950's
Construction:	Pre-engineered metal building and dirt floor
Foundation:	Concrete pads and grade beam
Footing Depth:	Approximately 32" to bottom of footing from grade
Basement:	None
Crawl Space:	None
Condition:	Good

Other Structures

Type:	Sheds 1 and 2 (Quonset huts)
Size:	Approximately 400 and 500 sf, respectively
Construction:	Galvanized metal and concrete block
Foundation:	None
Condition:	Fair

Type:	Shed 3
Size:	Approximately 230 sf
Construction:	Wood-frame
Foundation:	None
Condition:	Fair

General Remarks:

The storage yard on the west end of the property has many items (i.e. pipes, manhole covers, 2 large concrete forms, etc.) which must be removed and replaced in order to perform the remedial action on this property.

Structures, utilities, landscaping, and other special features of this property are included in Appendix Figure 2.2.

Historical Data:

These structures are not over 50 years old. Therefore, they do not meet the eligibility criteria for consideration of inclusion on the National Register of Historic Places.

3.0 RADIOLOGIC SURVEY

3.1 Introduction

Radiologic data were collected by Bendix at DOE ID No. GJ-30484-CS on February 20, 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) was conducted. These records indicate contamination associated with a building that has since been removed. They also indicate contamination located along the west edge of the property. 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, Memo of Understanding, 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: 13 to 15 uR/h
Highest Outside Gamma Reading (HOG): 127 uR/h

Exterior radium-concentration measurements are presented in Appendix Tables 3.1a and 3.1b. Grid-point survey results are shown in Appendix Figures 3.1a and 3.1b. Appendix Figures 3.2a and 3.2b present the ranges of elevated gamma readings and indicate areas of possible contamination.

3.2.2 Interior Findings

Background Readings: 11 to 13 uR/h
Highest Inside Gamma Reading (HIG): 81 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, 3.3b, 3.3c, and 3.3d 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, 3.4a, and 3.4b. Data from these investigations are included in Appendix Tables 3.1a, 3.1b, and 3.2.

3.4 Radon/Radon Daughter Concentration (RDC)

The working level for the office building was not assessed by CDH. No RDC measurements were taken by Bendix.

3.5 Extent of Contamination

Appendix Figures 3.5a, 3.5b, and 3.5c 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) Around the footing of Building No. 1, contamination extends to an estimated depth of 42 inches, measured from the surface of the uncontaminated 5-inch-thick concrete slab. This is based on data gathered in Area C (approximately 94 sf).
- (AREA B) Adjacent to Area A, contamination extends to a depth of 21 inches, measured from the surface of the uncontaminated 5-inch-thick concrete slab (approximately 266 sf).
- (AREA C) The soil along the south edge of Building No. 1 is contaminated to a depth of 42 inches (approximately 100 sf).
- (AREA D) Beneath the uncontaminated 5-inch-thick concrete sidewalk south of Area C there is contamination to a total depth of 42 inches, measured from the surface of the concrete slab (approximately 184 sf).
- (AREA E) A narrow strip of asphalt covered soil south of the sidewalk is contaminated to a total depth of 42 inches (approximately 90 sf).
- (AREA F) East of the addition to Building No. 1, contamination extends to a depth of 27 inches (approximately 54 sf).
- (AREA G) An area in the fenced yard along the west edge of the property is contaminated to a depth of 18 inches (approximately 2,580 sf).
- (AREA H) Adjacent to Area G on the southeast side, contamination extends to a depth of 15 inches (approximately 4,000 sf).
- (AREA I) Southeast of Area H, the depth of contamination is 6 inches. A small isolated deposit is included with this area (approximately 2,600 sf).
- (AREA J) The contamination east of Area I is 12 inches deep (approximately 400 sf).

- (AREA K) Two isolated deposits east of Area H are contaminated to an estimated depth of 6 inches, based on information gathered in Area I (approximately 80 sf).
- (AREA L) Northwest of Building No. 4, contamination extends to a depth of 30 inches (approximately 90 sf).
- (AREA M) A deposit between Buildings No. 2 and No. 3 is contaminated to a depth of 33 inches (approximately 90 sf).
- (AREA N) The contamination south of Area M extends to a depth of 15 inches (approximately 45 sf).

(AREAS REQUIRING FURTHER INVESTIGATION DURING REMEDIAL ACTION)

Large pipes are piled in the west fenced area, which made much of it inaccessible. It is possible that the contamination extends under some of the pipe.

4.0 RECOMMENDED REMEDIAL ACTION

4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-30484-CS, includes removal of all areas identified as containing radioactive material (as discussed in Section 3.5 and shown in Appendix Figures 3.5a, 3.5b, and 3.5c) 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 \$21,956.

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 3.1a	Radium Concentrations at Exterior Locations
Table 3.1b	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 3.1a	Exterior Grid-Point Exposure Rates
Figure 3.1b	Exterior Grid-Point Exposure Rates
Figure 3.2a	Exterior Gamma Scan
Figure 3.2b	Exterior Gamma Scan
Figure 3.3a	Interior Gamma Exposure Rates and Sample Locations
Figure 3.3b	Interior Gamma Exposure Rates
Figure 3.3c	Interior Gamma Exposure Rates
Figure 3.3d	Interior Gamma Exposure Rates
Figure 3.4a	Exterior Sample Locations
Figure 3.4b	Exterior Sample Locations
Figure 3.5a	Interior Estimated Extent of Contamination
Figure 3.5b	Exterior Estimated Extent of Contamination
Figure 3.5c	Exterior Estimated Extent of Contamination

Official Survey Report

Memo of Understanding

Team Leader Notes

Deconvolution Graphs (Apparent Radium-226 Concentration)

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.		
3	139468	03	TC	3.6		*	Gas line
		06	TC	3.8		*	Building No. 1
		09	TC	3.9		*	
		12	TC	3.9		*	DC = 0 inches
		15	TC	3.8		*	
		18	TC	3.7		*	
		21	TC	3.7		*	
		24	TC	3.7		*	
		27	TC	3.6		*	
		30	TC	3.2		*	
		33	TC	3.2		*	
		36	TC	3.4		*	
		39	TC	3.6		*	
42	TC	3.6					
4	191399	03	TC	3.5		*	Electric line
		06	TC	3.7		*	Building No. 1
		09	TC	4.0		*	
		12	TC	4.0		*	DC = 0 inches
		15	TC	4.0		*	
		18	TC	4.0		*	
		21	TC	4.1		*	
		24	TC	4.2		*	
		27	TC	4.4		*	
		30	TC	4.6		*	
		33	TC	4.7		*	
		36	TC	4.6		*	
		39	TC	4.7		*	
		42	TC	4.7		*	
		45	TC	4.6		*	
		48	TC	4.5		*	
		51	TC	4.4		*	
54	TC	4.4		*			
57	TC	4.5		*			
5	194390	03	TC	3.5		*	Sewer line
		06	TC	3.8		*	Building No. 1
		09	TC	3.9		*	
		12	TC	4.0		*	DC = 0 inches
		15	TC	3.8		*	
		18	TC	4.0		*	
		21	TC	4.5		*	
24	TC	4.8		*			

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.		
5	194390	27	TC	5.0		*	
		30	TC	4.9		*	
		33	TC	5.0		*	
		36	TC	4.8		*	
		39	TC	4.5		*	
		42	TC	4.2		*	
		45	TC	3.9		*	
		48	TC	3.8		*	
		51	TC	3.8		*	
6	194398	03	TC	3.4		*	Electric line
		06	TC	3.7		*	Building No. 1
		09	TC	3.8		*	
		12	TC	3.8		*	DC = 0 inches
		15	TC	3.9		*	
		18	TC	3.9		*	
		21	TC	3.9		*	
		24	TC	3.9		*	
		27	TC	3.9		*	
		30	TC	4.0		*	
		33	TC	4.0		*	
		36	TC	4.1		*	
		39	TC	4.2		*	
		42	TC	4.3		*	
		45	TC	4.2		*	
		48	TC	4.1		*	
		51	TC	4.0		*	
		54	TC	4.1		*	
		57	TC	4.2		*	
		60	TC	4.2		*	
7	196390	03	TC	3.6		*	Sewer line
		06	TC	3.8		*	Building No. 1
		09	TC	4.0		*	
		12	TC	3.8		*	DC = 0 inches
		15	TC	4.0		*	
		18	TC	4.3		*	
		21	TC	4.8		*	
		24	TC	5.0		*	
		27	TC	5.0		*	
		30	TC	4.9		*	
		33	TC	4.8		*	
		36	TC	4.6		*	
		39	TC	4.2		*	

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.		
7	196390	42	TC	4.0		*	
		45	TC	3.9		*	
		48	TC	3.8		*	
		51	TC	3.8		*	
8	213461	03	TC	3.8		*	Water line
		06	TC	4.0		*	Building No. 1
		09	TC	3.9		*	
		12	TC	3.9		*	DC = 0 inches
		15	TC	4.0		*	
		18	TC	4.2		*	
		21	TC	4.1		*	
		24	TC	4.0		*	
		27	TC	3.9		*	
		30	TC	3.9		*	
		33	TC	3.7		*	
		36	TC	3.6		*	
		39	TC	3.5		*	
		42	TC	3.7		*	
		45	TC	3.7		*	
		48	TC	3.7		*	
9	214441	03	TC	3.7		*	Electric line
		06	TC	3.8		*	Building No. 1
		09	TC	3.7		*	
		12	TC	3.9		*	DC = 0 inches
		15	TC	4.1		*	
		18	TC	4.1		*	
		21	TC	4.0		*	
		24	TC	4.0		*	
		27	TC	3.8		*	
		30	TC	3.6		*	
		33	TC	3.6		*	
		36	TC	3.7		*	
10	228392	03	TC	3.3		*	Sewer line by
		06	TC	3.7		*	manhole
		09	TC	4.0		*	Building No. 1
		12	TC	4.3		*	DC = 0 inches

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.		
10	228392	15	TC	4.2		*	
		18	TC	4.2		*	
		21	TC	4.3		*	
		24	TC	4.2		*	
		27	TC	4.3		*	
		30	TC	4.2		*	
		33	TC	4.1		*	
		36	TC	3.9		*	
		39	TC	3.8		*	
		42	TC	3.8		*	
		45	TC	3.8		*	
		48	TC	3.7		*	
		51	TC	3.8		*	
		54	TC	3.7		*	
11	235215	00-06	SS			7.3	Moist and dry soil
		03	TC	4.7		*	By gate on west
		06	TC	5.1		*	side of property
		09	TC	5.2		*	
		12	TC	5.2		*	
		15	TC	5.1		*	DC = 18 inches
		18	TC	5.0		*	Based on the
		21	TC	5.0		*	deconvolution graph
		24	TC	5.0		*	
		27	TC	4.9		*	
		30	TC	4.2		*	
		33	TC	3.7		*	
		36	TC	3.6		*	
		39	TC	3.5		*	
		42	TC	3.4		*	
12	238310	03	TC	3.2		*	Sewer line by
		06	TC	3.5		*	manhole
		09	TC	3.6		*	Auger refusal
		12	TC	3.8		*	North of Building
		15	TC	3.9		*	No. 2
		18	TC	4.0		*	
		21	TC	4.0		*	DC = 0 inches

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.		
13	254310	03	TC	3.3		*	Sewer and water lines Building No. 2
		06	TC	3.7		*	
		09	TC	3.9		*	DC = 0 inches
		12	TC	4.0		*	
		15	TC	4.1		*	
		18	TC	4.1		*	
		21	TC	4.2		*	
		24	TC	4.2		*	
		27	TC	4.2		*	
		30	TC	4.2		*	
		33	TC	4.2		*	
		36	TC	4.3		*	
		39	TC	4.3		*	
		42	TC	4.4		*	
		45	TC	4.4		*	
		48	TC	4.3		*	
		51	TC	4.1		*	
		54	TC	4.1		*	
		57	TC	3.8		*	
14	255205	03	TC	4.6		*	By gate west side of property
		06	TC	5.3		*	
		09	TC	5.7		*	DC = 18 inches Based on the deconvolution graph
		12	TC	5.5		*	
		15	TC	5.1		*	
		18	TC	4.5		*	
		21	TC	4.1		*	
		24	TC	3.8		*	
		27	TC	3.7		*	
		30	TC	3.5		*	
		33	TC	3.4		*	
		36	TC	3.3		*	
		39	TC	3.4		*	
		42	TC	3.3		*	
		45	TC	3.2		*	
		48	TC	3.3		*	
		51	TC	3.4		*	
15	263468	03	TC	3.4		*	Water line south of Building No. 1
		06	TC	4.1		*	
		09	TC	4.2		*	DC = 0 inches
		12	TC	4.5		*	
		15	TC	4.5		*	

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.		
15	263468	18	TC	4.6		*	
		21	TC	4.6		*	
		24	TC	4.5		*	
		27	TC	4.4		*	
		30	TC	4.3		*	
		33	TC	4.0		*	
		36	TC	3.9		*	
		39	TC	4.1		*	
		42	TC	4.2		*	
		45	TC	4.0		*	
		48	TC	3.9		*	
		51	TC	3.7		*	
		54	TC	3.6		*	
		57	TC	3.6		*	
		60	TC	3.7		*	
		63	TC	3.6		*	
		66	TC	3.5		*	
		69	TC	3.5		*	
		72	TC	3.5		*	
16	280387	03	TC	3.4		*	Sewer drain
		06	TC	3.9		*	
		09	TC	4.2		*	DC = 0 inches
		12	TC	4.1		*	
		15	TC	4.1		*	
		18	TC	4.1		*	
		21	TC	4.1		*	
		24	TC	4.1		*	
		27	TC	4.0		*	
		30	TC	4.0		*	
		33	TC	4.0		*	
		36	TC	4.1		*	
		39	TC	4.0		*	
		42	TC	4.1		*	
		45	TC	4.2		*	
17	293173	03	TC	15.9		*	West fenced area
		06	TC	12.1		*	
		09	TC	9.5		*	
		12	TC	7.6		*	

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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	293173	15	TC	6.4		*	
		18	TC	5.7		*	DC = 18 inches
		21	TC	5.2		*	Based on the
		24	TC	4.9		*	deconvolution graph
		27	TC	4.4		*	
		30	TC	4.0		*	
		33	TC	3.8		*	
		36	TC	3.5		*	
		39	TC	3.5		*	
		42	TC	3.4		*	
		45	TC	3.4		*	
		48	TC	3.4		*	
		51	TC	3.3		*	
18	298340	00	DS	2.4		*	On footing, Building No. 2
19	299340	00	DS	1.6		*	South of Building
		06	DS	1.4		*	No. 2
		16	DS	1.1		*	Horizontally under footing
20	306355	03	TC	3.4		*	Between Buildings
		06	TC	4.1		*	No. 2 and No. 3
		09	TC	4.6		*	
		12	TC	4.9		*	
		15	TC	5.3		*	
		18	TC	5.6		*	
		21	TC	5.3		*	
		24	TC	5.6		*	
		27	TC	5.3		*	DC = 33 inches
		30	TC	5.0		*	Based on the
		33	TC	4.7		*	deconvolution graph
		36	TC	4.6		*	
		39	TC	4.8		*	
21	310355	03	TC	3.5		*	Between Buildings
		06	TC	4.1		*	No. 2 and No. 3
		09	TC	4.5		*	
		12	TC	4.9		*	
		15	TC	5.1		*	
		18	TC	5.3		*	
		21	TC	5.5		*	
		24	TC	5.5		*	

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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.		
21	310355	27	TC	5.5		*	
		30	TC	5.1		*	
		33	TC	4.4		*	DC = 33 inches
		36	TC	3.7		*	Based on the
		39	TC	3.6		*	deconvolution graph
		42	TC	3.8		*	
		45	TC	3.8		*	
		48	TC	3.7		*	
		51	TC	3.6		*	
22	314365	03	TC	3.4		*	Between Buildings
		06	TC	4.0		*	No. 2 and No. 3
		09	TC	4.1		*	
		12	TC	4.3		*	DC = 0 inches
		15	TC	4.4		*	
		18	TC	4.5		*	
		21	TC	4.2		*	
		24	TC	4.2		*	
		27	TC	3.7		*	
		30	TC	3.6		*	
		33	TC	3.8		*	
		36	TC	3.7		*	
23	315344	03	TC	3.1		*	Between Buildings
		06	TC	3.6		*	No. 2 and No. 3
		09	TC	4.0		*	
		12	TC	4.1		*	DC = 0 inches
		15	TC	4.1		*	
		18	TC	4.3		*	
		21	TC	4.3		*	
		24	TC	4.0		*	
		27	TC	4.0		*	
		30	TC	3.7		*	
		33	TC	3.6		*	
		36	TC	3.6		*	
		39	TC	3.5		*	
		42	TC	3.5		*	
		45	TC	3.8		*	
		48	TC	4.1		*	
		51	TC	4.1		*	
		54	TC	4.1		*	
		57	TC	4.1		*	
		60	TC	3.9		*	
		63	TC	3.8		*	

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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.		
24	315347	03	TC	3.3		*	Between Buildings No. 2 and No. 3 DC = 0 inches
		06	TC	4.0		*	
		09	TC	4.3		*	
		12	TC	4.6		*	
		15	TC	4.6		*	
		18	TC	4.7		*	
		21	TC	4.7		*	
		24	TC	4.8		*	
		27	TC	5.0		*	
		30	TC	5.0		*	
		33	TC	4.9		*	
25	316355	00	DS	38.9		*	North of Building No. 3 DC = 15 inches Based on the deconvolution graph
		06	DS	171.5		*	
		03	TC	60.1		*	
		06	TC	82.0		*	
		09	TC	49.9		*	
		12	TC	21.8		*	
		15	TC	12.8		*	
		18	TC	9.5		*	
		21	TC	8.4		*	
		24	TC	8.0		*	
		27	TC	7.6		*	
		30	TC	7.6		*	
		33	TC	7.1		*	
		36	TC	6.5		*	
		39	TC	5.9		*	
		42	TC	5.7		*	
		45	TC	5.7		*	
		48	TC	6.0		*	
		51	TC	6.1		*	
		54	TC	5.9		*	
		57	TC	5.9		*	
		60	TC	6.1		*	
		63	TC	6.0		*	
		66	TC	6.0		*	
		69	TC	5.3		*	
		72	TC	4.7		*	
		75	TC	4.1		*	
		78	TC	3.9		*	
		81	TC	3.8		*	
		84	TC	3.8		*	
		87	TC	3.9		*	

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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.		
25	316355	90	TC	4.0		*	
		93	TC	4.1		*	
		96	TC	4.8		*	
26	319222	00-06	SS			7.4	Gravel and soil
		03	TC	5.4		*	In west fenced
		06	TC	5.8		*	yard
		09	TC	5.4		*	
		12	TC	5.1		*	
		15	TC	4.8		*	DC = 15 inches
		18	TC	4.6		*	Based on the total
		21	TC	4.3		*	count log
		24	TC	4.2		*	
		27	TC	4.1		*	
		30	TC	4.3		*	
		33	TC	4.2		*	
		36	TC	4.0		*	
		39	TC	4.0		*	
		42	TC	4.0		*	
		45	TC	3.8		*	
		48	TC	3.9		*	
		51	TC	3.9		*	
		54	TC	3.9		*	
27	340310	03	TC	3.5		*	Northwest of
		06	TC	4.2		*	Building No. 4
		09	TC	4.8		*	
		12	TC	5.2		*	
		15	TC	5.4		*	
		18	TC	5.4		*	
		21	TC	5.3		*	Estimated DC = 30
		24	TC	5.2		*	inches
		27	TC	5.2		*	Based on data from
		30	TC	5.1		*	borehole 29
28	340317	03	TC	3.8		*	Northwest of
		06	TC	4.6		*	Building No. 4
		09	TC	4.8		*	
		12	TC	5.1		*	DC = 0 inches
		15	TC	5.1		*	Shine from nearby
		18	TC	5.0		*	deposit
		21	TC	4.8		*	
		24	TC	4.4		*	
		27	TC	4.0		*	

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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.		
28	340317	30	TC	3.6		*	
		33	TC	3.4		*	
		36	TC	3.3		*	
		39	TC	3.2		*	
29	347316	03	TC	3.9		*	Northwest of Building No. 4
		06	TC	4.7		*	
		09	TC	5.1		*	
		12	TC	5.5		*	
		15	TC	5.6		*	
		18	TC	5.6		*	
		21	TC	5.4		*	
		24	TC	5.3		*	
		27	TC	5.1		*	DC = 30 inches Based on the total count log
		30	TC	4.6		*	
		33	TC	4.4		*	
		36	TC	4.3		*	
		39	TC	4.3		*	
		42	TC	4.2		*	
		45	TC	4.1		*	
		48	TC	4.2		*	
		51	TC	4.4		*	
30	347320	00	DS	6.6		*	Northwest corner of Building No. 4
		06	DS	22.4		*	
		03	TC	13.4		*	
		06	BH	10.7	5.9	*	
		09	TC	8.4		*	
		12	BH	7.3	3.3	*	
		15	TC	6.8		*	
		18	BH	6.3	3.0	*	
		21	TC	6.0		*	DC = 30 inches Based on the deconvolution graph
		24	BH	5.6	2.7	*	
		27	TC	5.3		*	
		30	BH	5.0	2.4	*	
		33	TC	4.7		*	
		36	BH	4.5	2.4	*	
		39	TC	4.3		*	
		42	TC	3.9		*	
		45	TC	3.6		*	
		48	TC	3.3		*	
		51	TC	3.3		*	
		54	TC	3.3		*	
		57	TC	3.3		*	

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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.		
30	347320	60	TC	3.3		*	
		63	TC	3.3		*	
		66	TC	3.3		*	
		69	TC	3.2		*	
		72	TC	3.0		*	
		75	TC	2.9		*	
		78	TC	3.0		*	
		81	TC	3.2		*	
		84	TC	3.4		*	
		87	TC	3.6		*	
		90	TC	3.7		*	
		93	TC	3.7		*	
		96	TC	3.7		*	
31	355220	00-06	SS			9.1	Sandy, rocky soil
		03	TC	4.0		*	West fenced area
		06	TC	3.6		*	
		09	TC	3.4		*	DC = 6 inches
		12	TC	3.3		*	Based on the soil
		15	TC	3.3		*	sample analysis
		18	TC	3.1		*	
		21	TC	2.8		*	
		24	TC	2.8		*	
		27	TC	2.8		*	
		30	TC	2.6		*	
		33	TC	2.4		*	
		36	TC	2.4		*	
		39	TC	2.5		*	
		42	TC	2.7		*	
		45	TC	2.6		*	
		48	TC	2.8		*	
		51	TC	3.2		*	
32	355265	03	TC	7.7		*	West fenced area
		06	TC	7.1		*	
		09	TC	6.1		*	
		12	TC	5.4		*	DC = 12 inches
		15	TC	5.0		*	Based on the
		18	TC	4.7		*	deconvolution graph
		21	TC	4.4		*	
		24	TC	4.0		*	
		27	TC	3.7		*	
		30	TC	3.3		*	

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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.		
32	355265	33	TC	2.9		*	
		36	TC	2.8		*	
		39	TC	3.0		*	
		42	TC	3.1		*	
		45	TC	3.2		*	
		48	TC	3.2		*	
		51	TC	3.3		*	
33	356377	03	TC	3.5		*	Water line
		06	TC	4.0		*	Building No. 4
		09	TC	4.3		*	
		12	TC	4.6		*	DC = 0 inches
		15	TC	4.6		*	
		18	TC	4.6		*	
		21	TC	4.8		*	
		24	TC	4.8		*	
		27	TC	4.7		*	
		30	TC	4.7		*	
		33	TC	4.5		*	
		36	TC	4.4		*	
		39	TC	4.3		*	
		42	TC	4.1		*	
		45	TC	4.0		*	
		48	TC	4.0		*	
		51	TC	3.9		*	
		54	TC	4.0		*	
		57	TC	3.9		*	
34	356380	03	TC	3.0		*	Water line
		06	TC	3.4		*	Building No. 4
		09	TC	3.7		*	
		12	TC	3.9		*	DC = 0 inches
		15	TC	4.0		*	
		18	TC	4.1		*	
		21	TC	4.1		*	
		24	TC	4.2		*	
		27	TC	4.2		*	
		30	TC	4.2		*	
		33	TC	4.3		*	
		36	TC	4.3		*	
		39	TC	4.3		*	
		42	TC	4.1		*	
		45	TC	4.0		*	
		48	TC	3.9		*	

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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.		
34	356380	51	TC	3.8		*	
35	360371	03	TC	3.4		*	Gas and electric lines Building No. 4 DC = 0 inches
		06	TC	3.9		*	
		09	TC	4.3		*	
		12	TC	4.6		*	
		15	TC	4.6		*	
		18	TC	4.5		*	
		21	TC	4.5		*	
		24	TC	4.5		*	
		27	TC	4.4		*	
		30	TC	4.4		*	
		33	TC	4.2		*	
		36	TC	4.2		*	
		39	TC	4.2		*	
		42	TC	4.3		*	
		45	TC	4.3		*	
		48	TC	4.2		*	
		51	TC	4.1		*	
		54	TC	4.0		*	
36	395225	03	TC	3.9		*	By concrete pipe in west fenced area DC = 6 inches Based on all available data
		06	TC	3.6		*	
		09	TC	3.4		*	
		12	TC	3.6		*	
		15	TC	3.8		*	
		18	TC	4.0		*	
		21	TC	4.1		*	
		24	TC	4.3		*	
		27	TC	4.0		*	
		30	TC	3.3		*	
		33	TC	3.0		*	
		36	TC	3.0		*	
		39	TC	2.9		*	
		42	TC	2.8		*	
		45	TC	2.7		*	
		48	TC	2.9		*	
		51	TC	3.0		*	
37	405245	00-06	SS			3.7	West fenced area
		03	TC	3.5		*	DC = 6 inches
		06	TC	3.6		*	Based on the soil
		09	TC	3.8		*	sample analysis and
		12	TC	3.8		*	deconvolution graph

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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.		
37	405245	15	TC	3.9		*	
		18	TC	3.9		*	
		21	TC	3.9		*	
		24	TC	3.9		*	
		27	TC	3.8		*	
		30	TC	3.8		*	
		33	TC	3.8		*	
		36	TC	3.6		*	
38	410255	03	TC	3.5		*	West fenced area
		06	TC	3.7		*	
		09	TC	3.9		*	DC = 0 inches
		12	TC	3.9		*	
		15	TC	4.0		*	
		18	TC	3.9		*	
		21	TC	3.9		*	
		24	TC	3.9		*	
		27	TC	3.8		*	
		30	TC	3.6		*	
		33	TC	3.6		*	
		36	TC	3.5		*	
		39	TC	3.6		*	
		42	TC	3.4		*	
39	426380	03	TC	3.2		*	Sewer and water
		06	TC	3.8		*	lines southeast
		09	TC	4.2		*	of Building No. 4
		12	TC	4.5		*	
		15	TC	4.7		*	DC = 0 inches
		18	TC	4.8		*	
		21	TC	4.6		*	
		24	TC	4.4		*	
		27	TC	4.0		*	
		30	TC	3.9		*	
		33	TC	3.8		*	

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 = 02-20-85
 Team Leader = BJF

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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.		
40	200233	00	DS	1.2		*	South of Building No. 1
		03	TC	3.9		*	
		06	TC	4.4		*	DC = 0 inches
		09	TC	4.5		*	
		12	TC	4.6		*	
		15	TC	4.7		*	
		18	TC	4.8		*	
		21	TC	4.9		*	
		24	TC	4.9		*	
		27	TC	4.9		*	
		30	TC	4.9		*	
		33	TC	4.8		*	
		36	TC	4.6		*	
		39	TC	4.5		*	
41	210233	00	DS	40.2		*	South of Building No. 1
		03	TC	82.4		*	
		06	TC	117.8		*	Auger refusal
		09	TC	135.4		*	
		12	TC	135.2		*	
		15	TC	119.5		*	
		18	TC	91.7		*	
		21	TC	65.9		*	
		24	TC	46.0		*	
		27	TC	32.5		*	
		30	TC	25.2		*	DC = 27 inches Based on the deconvolution graph
42	210237	03	TC	3.9		*	South of Building No. 1
		06	TC	4.6		*	
		09	TC	5.2		*	Auger refusal
		12	TC	5.5		*	DC = 0 inches
		15	TC	5.7		*	Shine from nearby deposit
		18	TC	5.9		*	
		21	TC	6.1		*	
		24	TC	6.1		*	
		27	TC	6.1		*	
		30	TC	6.1		*	
43	210245	03	TC	3.3		*	South of Building No. 1
		06	TC	3.6		*	
		09	TC	3.8		*	DC = 0 inches

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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.		
43	210245	12	TC	3.8		*	
		15	TC	3.8		*	
		18	TC	3.9		*	
		21	TC	3.9		*	
		24	TC	3.9		*	
		27	TC	4.0		*	
		30	TC	4.0		*	
		33	TC	4.0		*	
44	212233	00-06	SS			18.0	Soil
		03	TC	54.0		*	Caved in
		06	BH	69.7	56.4	*	Auger refusal
		09	TC	85.6		*	South of Building
		12	BH	94.5	98.1	*	No. 1
		15	TC	92.7		*	
		18	BH	83.8	100.8	*	
		21	TC	66.1		*	
		24	BH	47.3	58.6	*	DC = 27 inches
		27	TC	34.8		*	
		30	BH	27.9	34.6	*	Based on the
		33	TC	25.1		*	deconvolution graph
		36	BH	24.3	25.1	*	
		45	213192	00	DS	3.7	
46	213200	00	DS	11.4		*	On concrete
47	213210	00	DS	4.0		*	Auger refusal
		03	TC	17.3		*	South of Building
		06	BH	23.2	13.7	*	No. 1
		09	TC	30.7		*	
		12	BH	41.6	24.9	*	
		15	TC	58.8		*	
		18	BH	84.7	47.2	*	
		21	TC	116.5		*	
		24	BH	137.8	109.6	*	
		27	TC	139.9		*	
		30	BH	121.3	146.2	*	
		33	TC	89.7		*	DC = 42 inches
		36	BH	62.6	92.9	*	Based on the
39	TC	44.9		*	deconvolution graph		

Radium Concentrations at Exterior Locations

DOE ID #GJ-30484-CS

830 West Rood Avenue

Page 3 of 4

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
47	213210	42	TC	32.8		*	
		45	TC	24.9		*	
48	213218	00	DS	2.7		*	Concrete
49	213230	00	DS	20.5		*	
		00-04	SS			1.7	Concrete core
		03	TC	29.9		*	Auger refusal
		06	TC	44.2		*	
		09	TC	59.9		*	
		12	TC	76.8		*	
		15	TC	90.8		*	Estimated DC = 42
		18	TC	105.2		*	inches
		21	TC	109.8		*	Based on data from
		24	TC	101.0		*	borehole 47
		27	TC	83.4		*	
50	217215	00	DS	6.4		*	
		00-05	SS			1.7	Concrete core
		05-08	SS			132.9	Soil under core
		03	TC	13.6		*	Sidewalk south of
		06	TC	22.9		*	Building No. 1
		09	TC	38.6		*	
		12	TC	59.6		*	
		15	TC	74.2		*	
		18	TC	75.9		*	
		21	TC	65.7		*	
		24	TC	58.9		*	
		27	TC	54.3		*	
		30	TC	52.0		*	
		33	TC	48.0		*	
		36	TC	46.2		*	
		39	TC	39.3		*	
		42	TC	30.6		*	DC = 42 inches
		45	TC	23.2		*	Based on the
		48	TC	17.8		*	deconvolution graph
		51	TC	15.0		*	
		54	TC	12.5		*	
		57	TC	10.6		*	
		60	TC	8.9		*	
		63	TC	7.8		*	
		66	TC	6.4		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-30484-CS

830 West Rood Avenue

Page 4 of 4

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
51	220224	03	TC	3.9		*	South of Building
		06	TC	4.3		*	No. 1
		09	TC	4.7		*	Auger refusal
		12	TC	4.9		*	
		15	TC	5.3		*	DC = 0 inches
		18	TC	5.5		*	Elevated readings
		21	TC	5.6		*	are shine from a
		24	TC	5.8		*	nearby deposit
		27	TC	5.7		*	
		30	TC	5.8		*	
52	225225	03	TC	3.2		*	South of Building
		06	TC	3.7		*	No. 1
		09	TC	3.9		*	
		12	TC	4.0		*	
		15	TC	4.0		*	
		18	TC	4.0		*	DC = 0 inches
		21	TC	4.0		*	
		24	TC	4.0		*	
		27	TC	4.1		*	
		30	TC	4.2		*	
53	400420	00	DS	<1.0		*	Background
		00-06	SS			1.7	Clay with gravel
		03	TC	2.9		*	
		06	TC	3.3		*	DC = 0 inches
		09	TC	3.5		*	
		12	BH	3.6	1.1	*	
		15	TC	3.6		*	
		18	BH	3.6	1.3	*	
		21	TC	3.6		*	
		24	TC	3.6		*	
		27	TC	3.6		*	
		30	BH	3.5	<1.0	*	

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 = 02-20-85
 Team Leader = BJF

Radium Concentrations at Interior Locations

DOE ID #GJ-30484-CS

830 West Rood Avenue

Page 1 of 1

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
1		00-05	SS			2.6	Concrete core
		05-11	SS			287.8	Soil
		03	TC	86.3		*	Hit footing
		06	TC	144.8		*	Estimated DC = 42
		09	TC	175.4		*	inches
		12	TC	186.9		*	Based on data
		15	TC	191.2		*	collected from
		18	TC	190.4		*	borehole 50
		21	TC	183.3		*	
		24	TC	167.3		*	
		27	TC	147.9		*	
2		00-05	SS			2.9	Concrete core
		05-11	SS			281.7	Soil
		03	TC	70.0		*	Auger refusal
		06	TC	113.7		*	
		09	TC	131.1		*	
		12	TC	111.7		*	DC = 21 inches
		15	TC	77.3		*	Based on the
		18	TC	52.0		*	deconvolution graph
		21	TC	37.5		*	
		24	TC	29.9		*	
		27	TC	25.6		*	
		30	TC	22.2		*	
		33	TC	19.0		*	
		36	TC	16.4		*	
		39	TC	14.4		*	
		42	TC	11.9		*	

Measurement GB = GAD-6 Borehole
Types: 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 = 02-20-85
Team Leader = BJF

Table 3.3
Summary of Interior Gamma Exposure Rates

DOE ID #GJ-30484-CS 830 West Rood Avenue Page 1 of 2

=====

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	20	11-13	12	20	11-13	12
ROOM B	15	11-14	13	15	12-14	13
ROOM C	15	11-13	12	15	11-14	12
ROOM D	08	11-14	13	08	12-14	14
ROOM E	07	12-13	13	07	13-14	13
ROOM F	07	12-13	13	07	13-14	13
ROOM G	04	13-14	13	04	13-14	14
ROOM H	10	12-14	13	10	12-16	13
ROOM I	07	12-15	13	07	13-15	14
ROOM J	04	13-13	13	04	13-14	14
ROOM K	04	12-19	14	04	13-16	14
ROOM L	05	36-60	48	05	68-81	74
ROOM M	04	12-20	16	04	12-19	16
ROOM N	04	28-48	36	04	60-76	66
ROOM O	16	11-14	12	16	12-16	13
ROOM P	20	10-13	12	20	12-14	13
BUILDING No. 6	43	09-12	11	44	09-14	11
BUILDING No. 2	23	10-13	11	24	11-13	12

=====

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)
BUILDING No. 3	12	09-11	10	12	10-14	12
BUILDING No. 5	03	09-10	09	03	10-11	11
BUILDING No. 4	16	09-11	10	16	10-11	11

=====

*Exposure Rates and Room Locations Shown in Appendix Figures 3.3a, 3.3b, 3.3c, and 3.3d

Table 4.1
Area and Volume Calculations
DOE ID No. GJ-30484-CS

Page 1 of 2

<u>AREA</u>	<u>CALCULATIONS(ft)</u>	<u>SF</u>	<u>DEPTH(ft)</u>	<u>CF</u>	<u>CUBIC YARDS</u>
INTERIOR					
Concrete					
A	2 x 47 =	94	x 0.4 =	38	
B	7 x 38 =	266	x 0.4 =	106	
Volume of Concrete				= 144	= 144/27 = 5
Contaminated Fill					
A	2 x 47 =	94	x 3.1 =	291	
B	7 x 38 =	266	x 1.4 =	372	
Volume of Fill				= 663	= 663/27 = 25
TOTAL VOLUME - INTERIOR					= 30

EXTERIOR

Concrete and Asphalt					
D	4 x 7 =	28			
	4 x 3 =	12			
	4 x 6 =	24			
	3 x 40 =	120			
				= 184	x 0.4 = 74
E	3 x 45 =	135	x 0.2 =	27	
F	5 x 18 =	90	x 0.2 =	18	
Volume of Concrete and Asphalt				= 119	= 119/27 = 4
Contaminated Fill					
C	25 x 4 =	100	x 3.5 =	350	
D	4 x 7 =	28			
	4 x 3 =	12			
	4 x 6 =	24			
	3 x 40 =	120			
				= 184	x 3.1 = 570

Table 4.1
Area and Volume Calculations
DOE ID No. GJ-30484-CS

<u>AREA</u>	<u>CALCULATIONS(ft)</u>	<u>SF</u>	<u>DEPTH(ft)</u>	<u>CF</u>	<u>CUBIC YARDS</u>
Contaminated Fill (con't.)					
E	2 x 45 =	90	x 3.3 =	297	
F	3 x 18 =	54	x 2.1 =	113	
G	60 x 86/2 =	2,580	x 1.5 =	3,870	
H	50 x 80 =	4,000	x 1.3 =	5,200	
I	40 x 25 =	1,000			
	40 x 25 =	1,000			
	30 x 20 =	600			
		<u>2,600</u>	x 0.5 =	1,300	
J	10 x 40 =	400	x 1.0 =	400	
K	5 x 6 =	30			
	5 x 10 =	50			
		<u>80</u>	x 0.5 =	40	
L	6 x 15 =	90	x 2.5 =	225	
M	10 x 9 =	90	x 2.8 =	252	
N	5 x 9 =	45	x 1.3 =	59	
Volume of Fill				= <u>12,676</u>	= 12,676/27 = 469
TOTAL VOLUME - EXTERIOR					= <u>473</u>

See Appendix Figures 3.5a, 3.5b, and 3.5c For Areas

=====

Table 4.2
Estimated Cost of Decontamination and Restoration
DOE ID No. GJ-30484-CS

Page 1 of 2

INTERIOR

Remove/replace office furniture and equipment Lump sum	\$ 350
Remove/replace toilet fixtures and cabinet Lump sum	\$ 250
Remove/replace concrete floor 360 sf @ \$4/sf	1,440
Remove identified residual radioactive material 25 cy @ \$44/cy (manual-open)	1,100
Replace area with 3/4" washed rock 25 cy @ \$13.50/cy	338
Radon vent system 100 lf @ \$2.50/lf	250
Replace floor covering 360 sf @ \$1.50/sf	540
	<hr/>
TOTAL INTERIOR	\$ 4,268

EXTERIOR

Remove/replace concrete sidewalk 184 sf @ \$3/sf	\$ 552
Remove/replace asphalt paving 225 sf @ \$2.60/sf	585
Remove identified residual radioactive material 10 cy @ \$44/cy (manual-open)	440
459 cy @ \$10/cy (machine-open)	4,590
Replace areas with compacted roadbase 469 cy @ \$11.50/cy	5,394
Remove/replace miscellaneous equipment in yard Lump sum	700
	<hr/>
TOTAL EXTERIOR	\$ 12,261

Table 4.2
Estimated Cost of Decontamination and Restoration
DOE ID No. GJ-30484-CS

Page 2 of 2

TOTAL EXTERIOR	\$ 12,261
TOTAL INTERIOR	4,268
ACCESS CONTROL	200
	<hr/>
SUBTOTAL	\$ 16,729
CONTINGENCY @ 5%	836
	<hr/>
SUBTOTAL	\$ 17,565
CONTRACTOR OVERHEAD & PROFIT @ 25%	4,391
	<hr/>
GRAND TOTAL	\$ 21,956

=====

RH061985
REA30484/REA-510/LAJ

NOTE: Because of the large volume of tailings removal, the machine removal cost has been reduced.

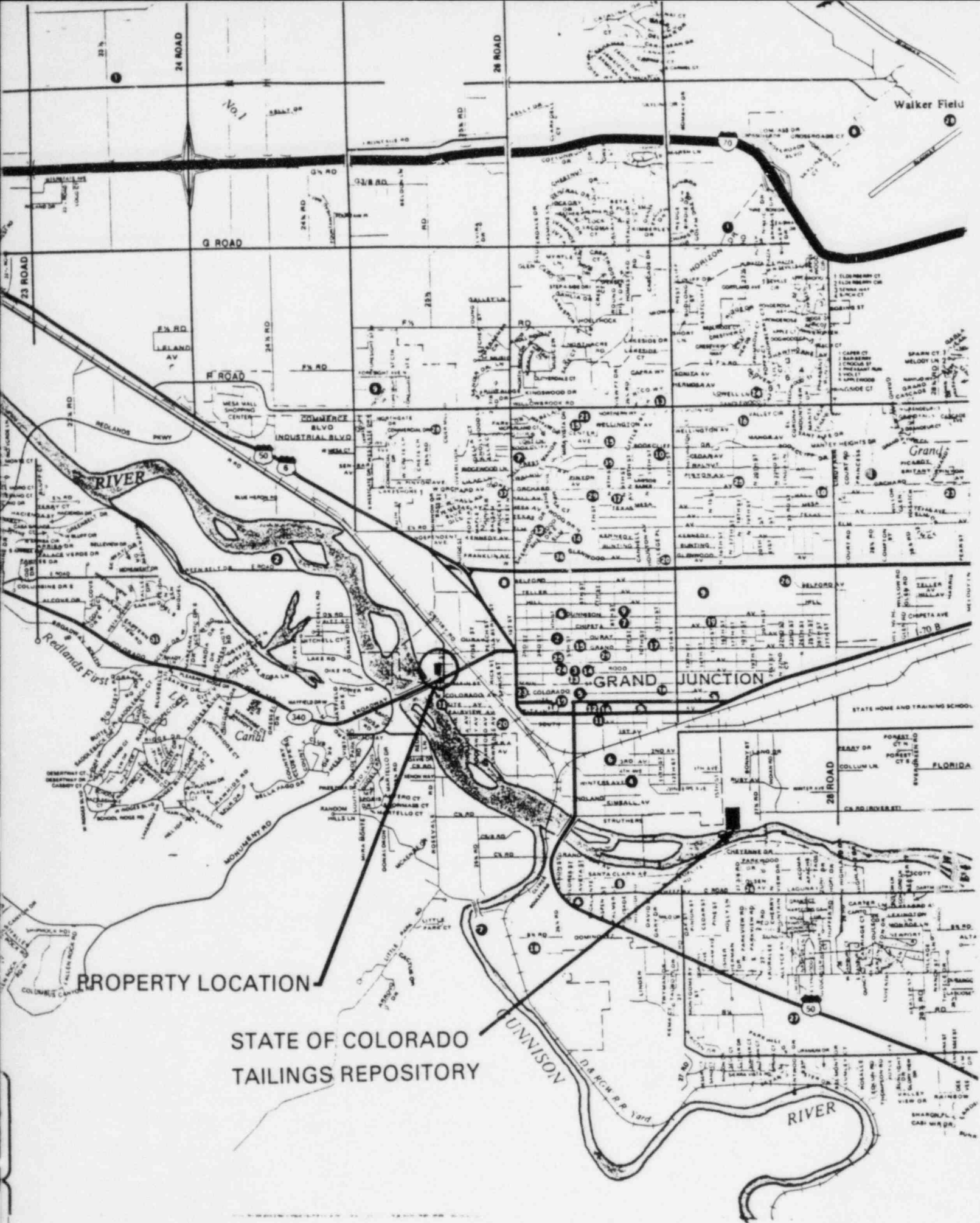
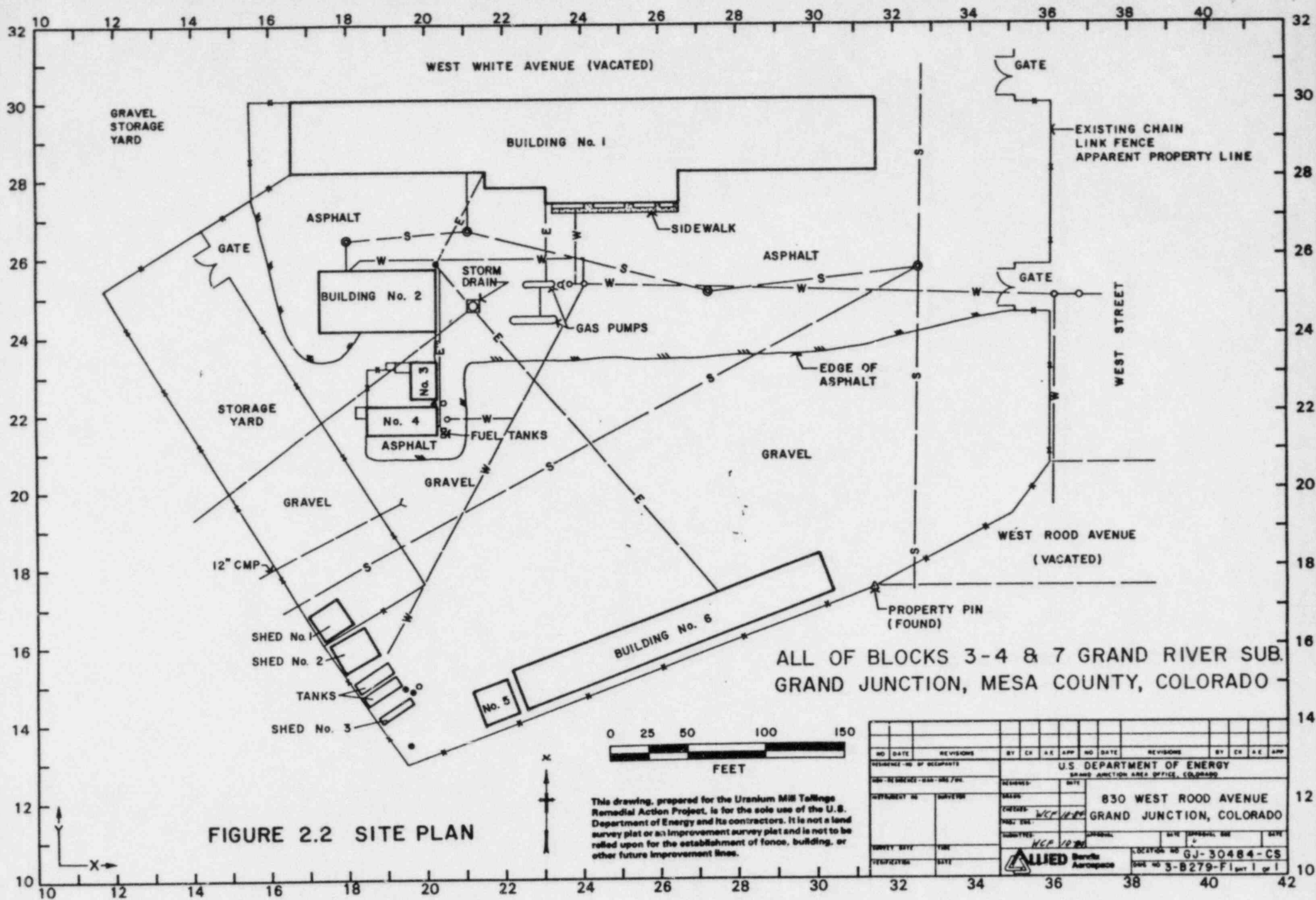
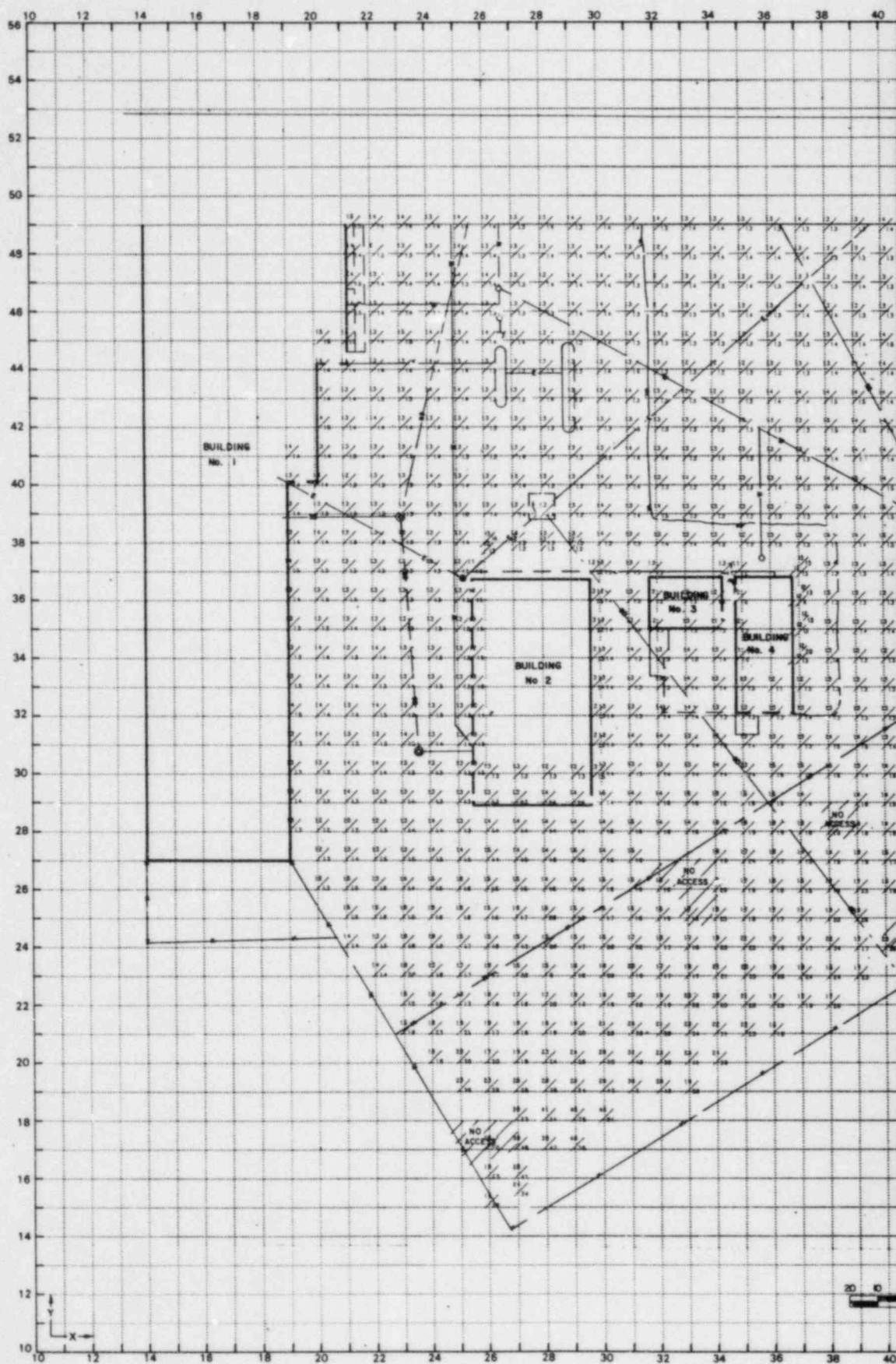
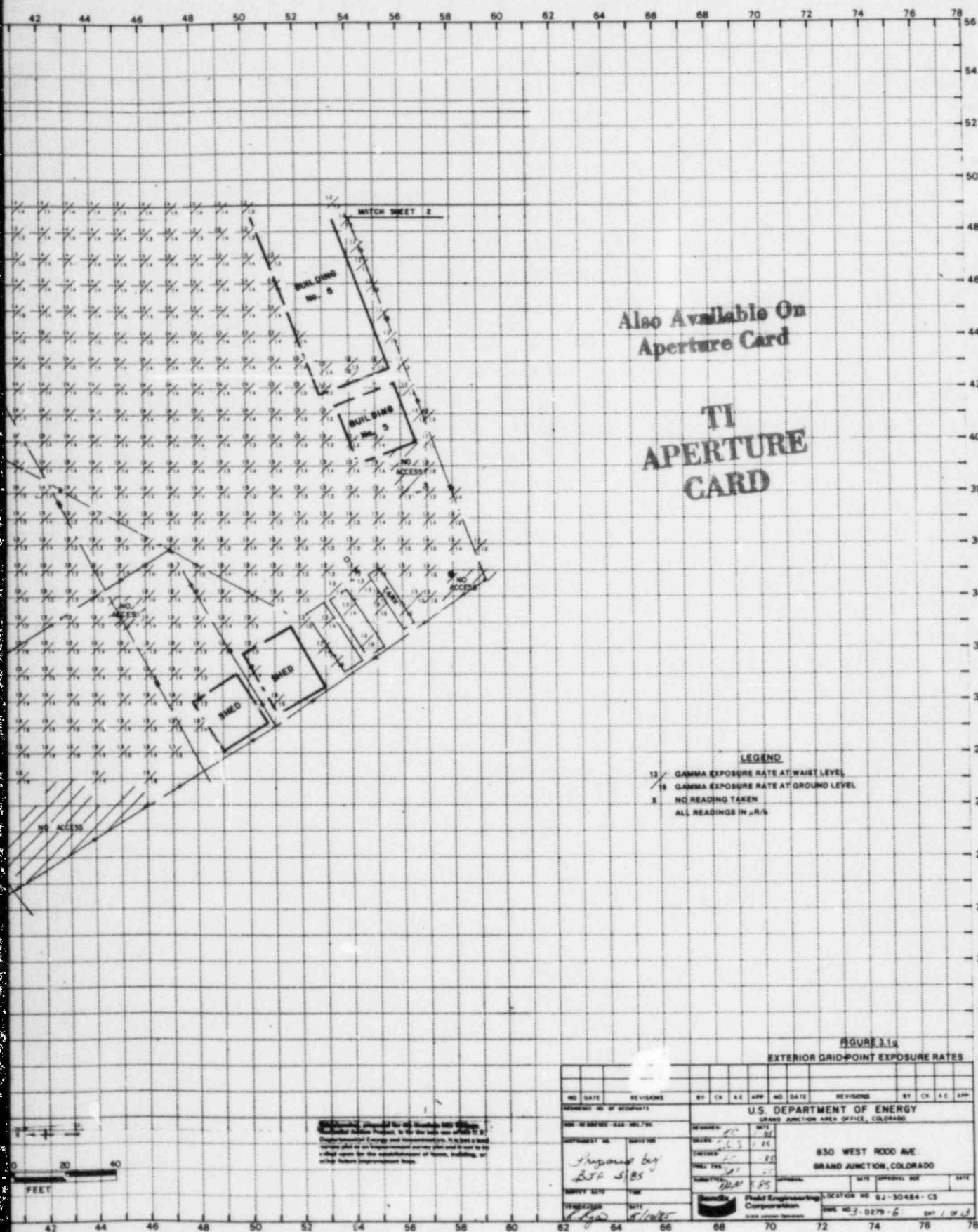


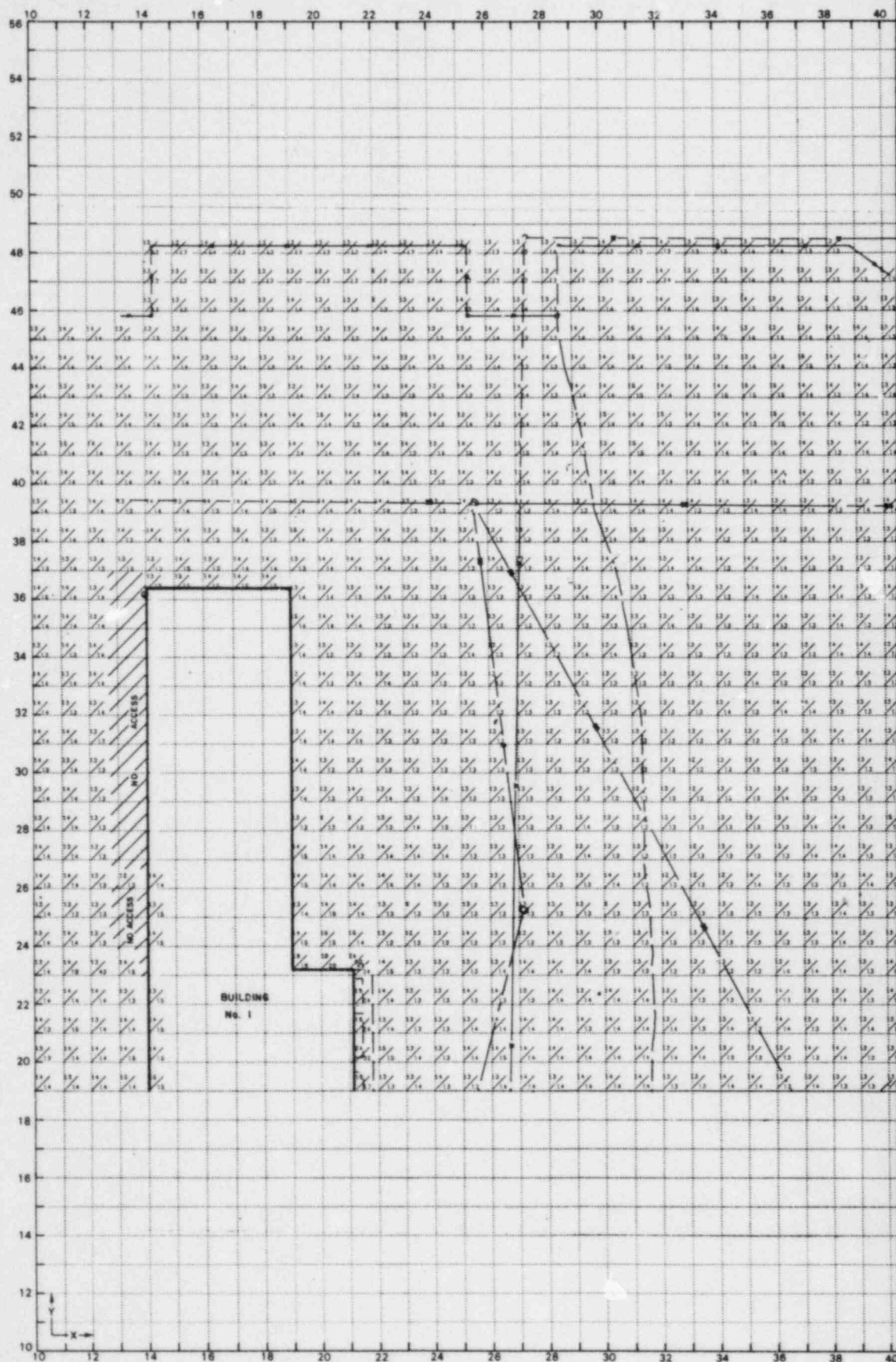
FIGURE 2.1
VICINITY MAP

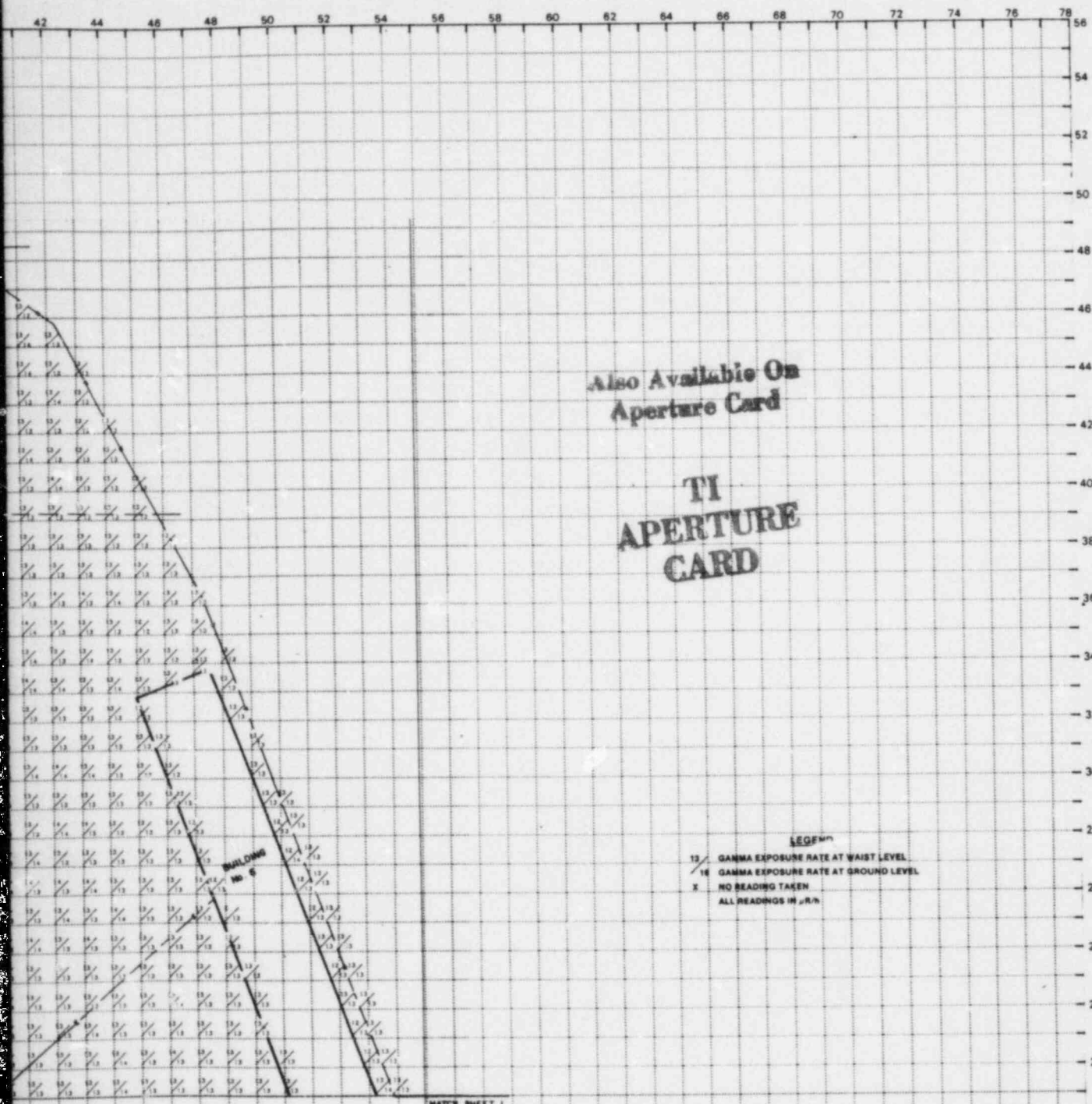






850 7180622-01





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LEGEND

- GAMMA EXPOSURE RATE AT WAIST LEVEL
 - ⊖ GAMMA EXPOSURE RATE AT GROUND LEVEL
 - X NO READING TAKEN
- ALL READINGS IN $\mu\text{R/h}$

FIGURE 3.1a

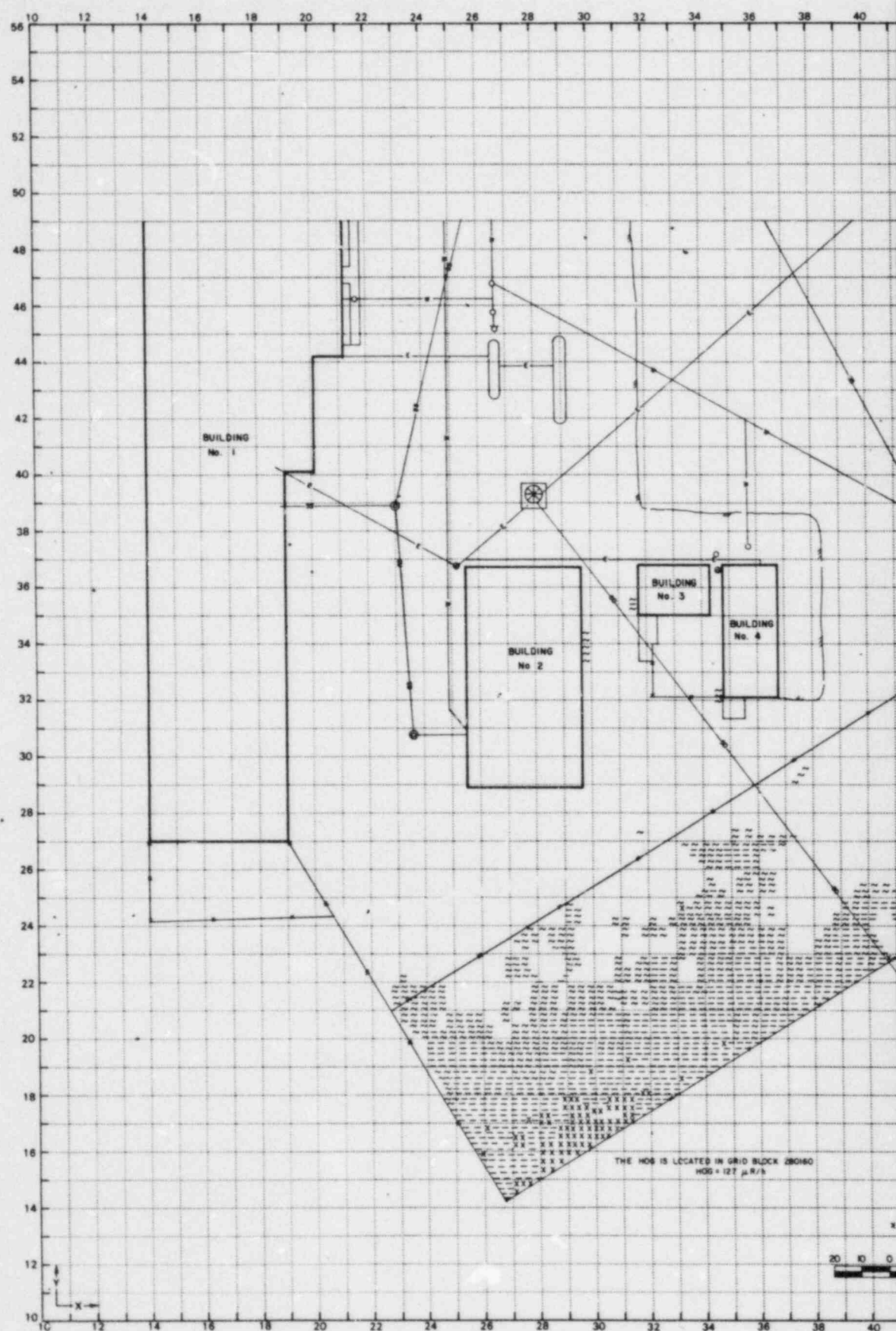
EXTERIOR GRIDPOINT EXPOSURE RATES

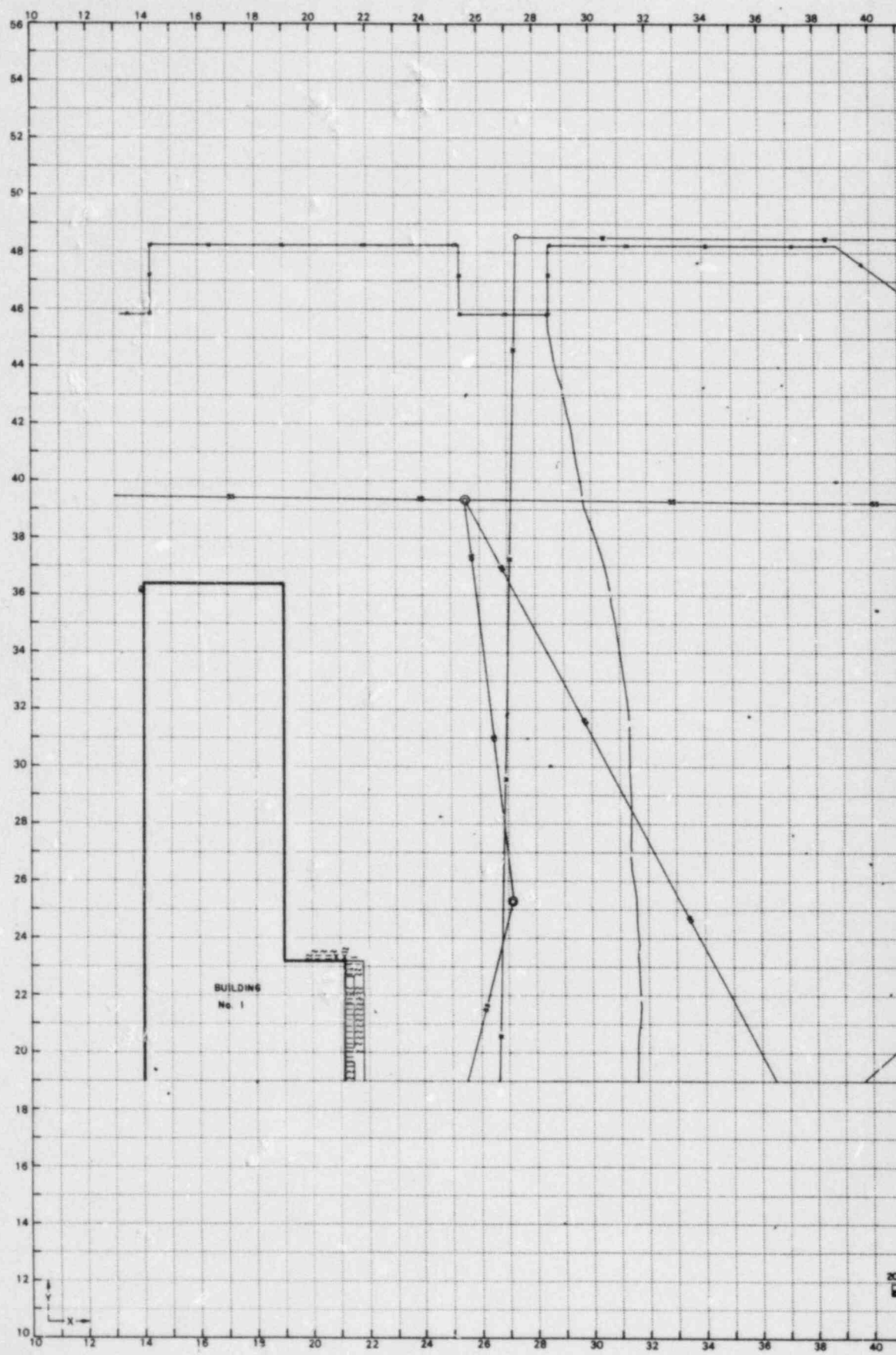


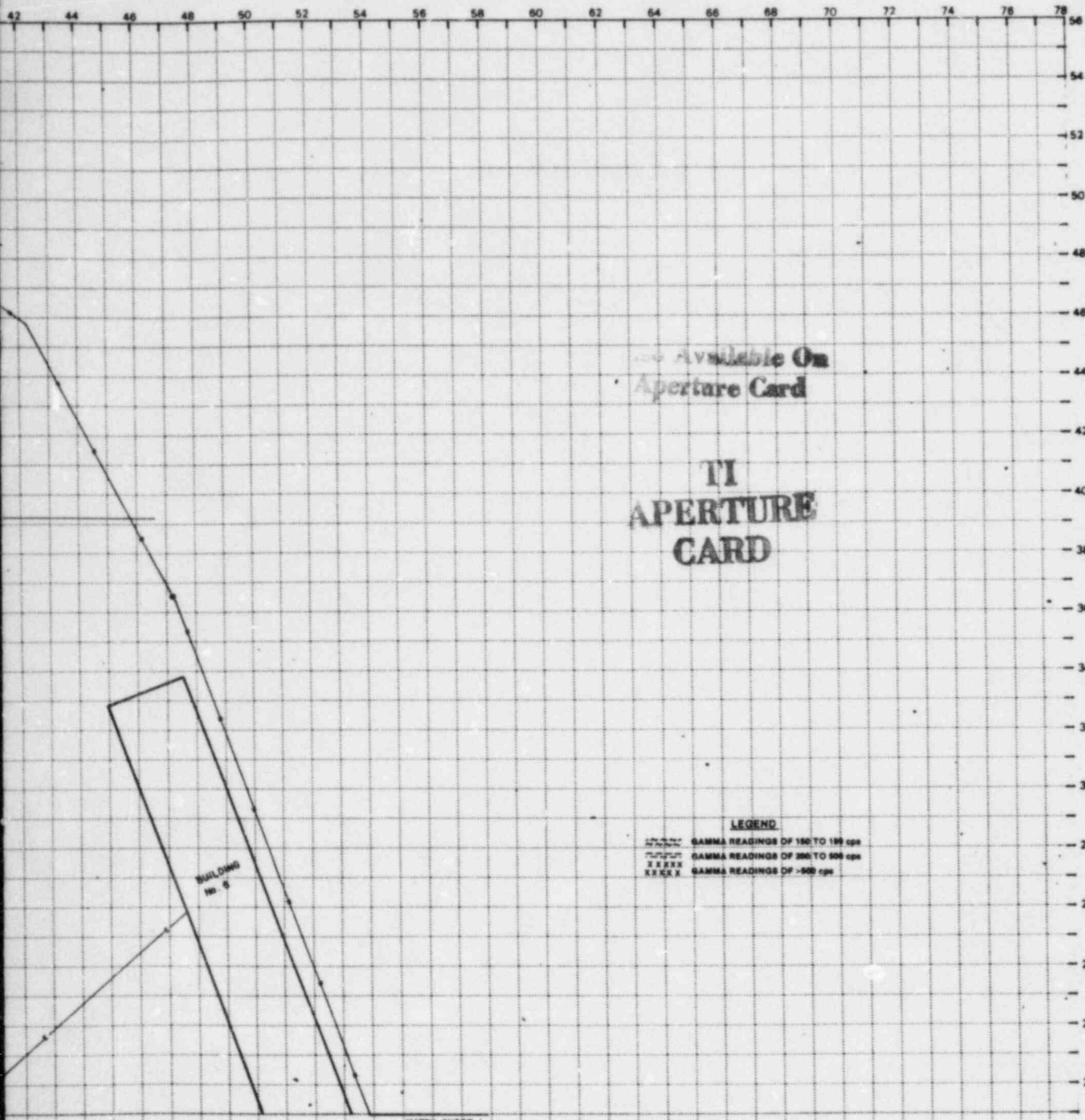
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NO. DATE		REVISIONS		BY	CR	AE	APP	NO. DATE		REVISIONS		BY	CR	AE	APP
U.S. DEPARTMENT OF ENERGY GRAND JUNCTION AREA OFFICE, COLORADO															
RESIDENCE NO. OF DEPARTMENTS NON-RESIDENTS: 848-704								DESIGNED BY: J.E. DRAWN BY: J.E. CHECKED BY: J.E. PROJECT NO.: 848-704							
ATTACHED NO.: 10-10-70 SURVEY DATE: 5/10/70								830 WEST ROOD AVE. GRAND JUNCTION, COLORADO LOCATION NO.: 848-704-05 DWS NO.: 5-0279-53							
PREPARED BY: J.E. DATE: 5/10/70								PLANT ENGINEERING CORPORATION GRAND JUNCTION, COLORADO							

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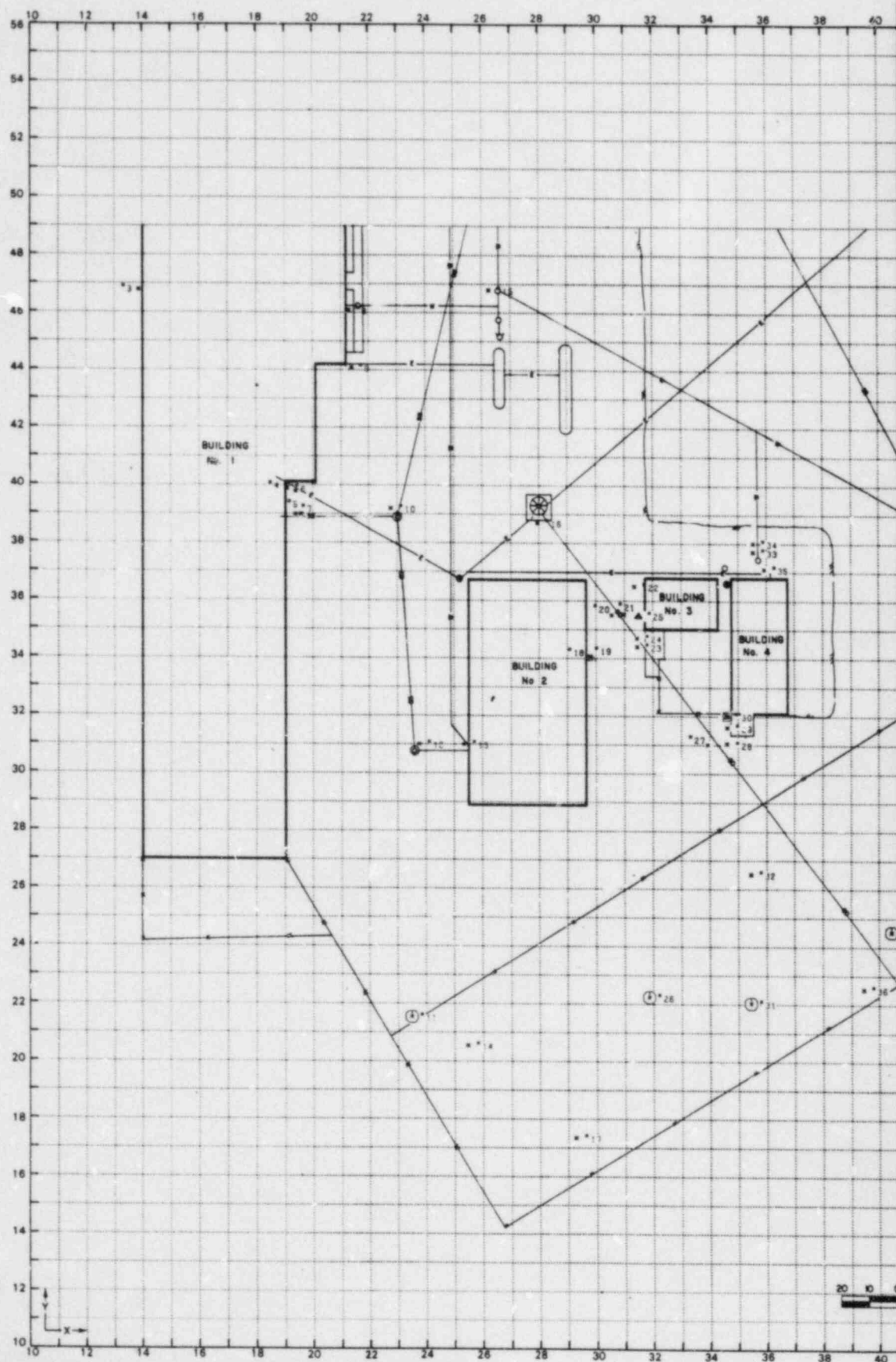


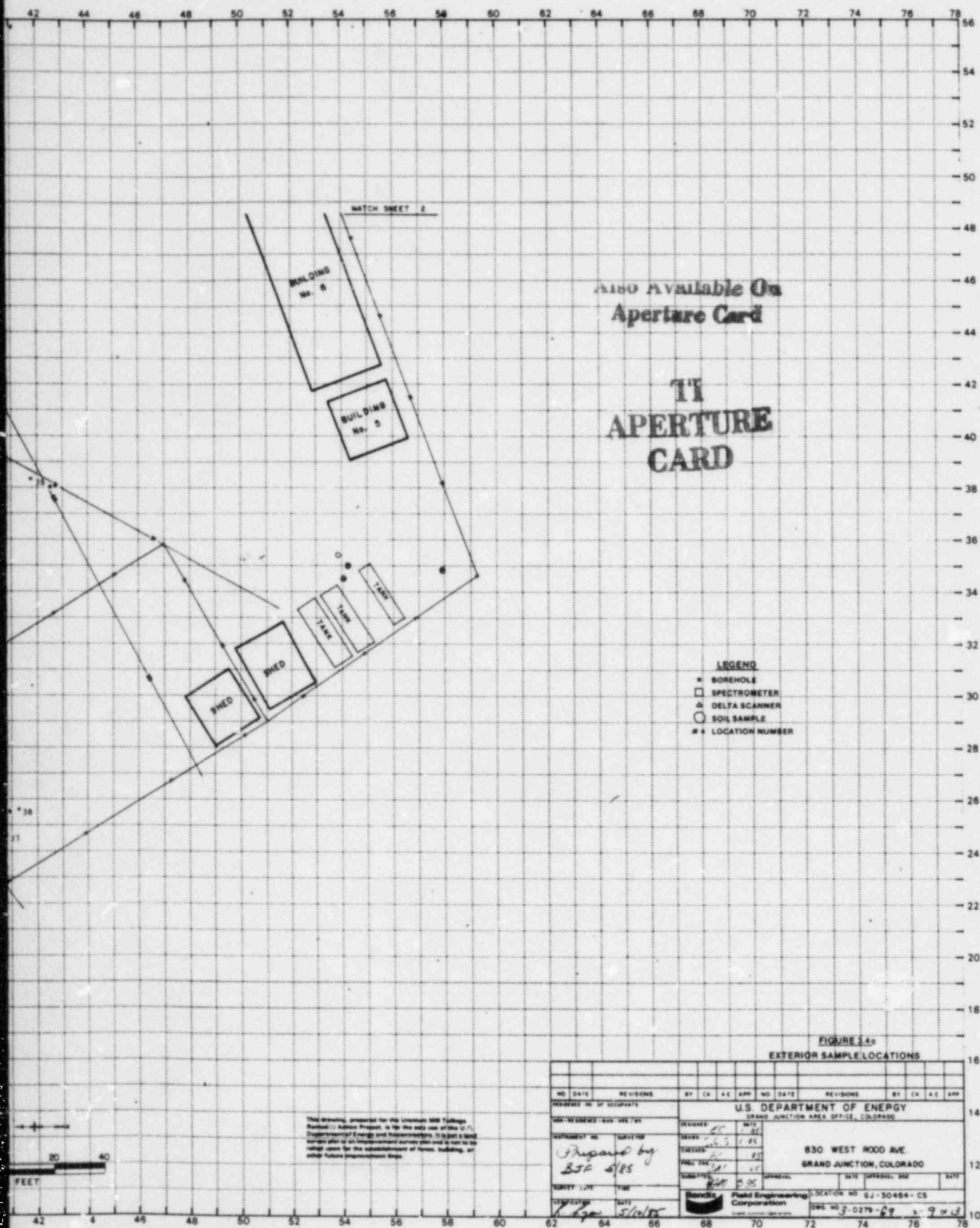
MATCH SHEET 1

FIGURE 3.15
EXTERIOR GAMMA SCAN

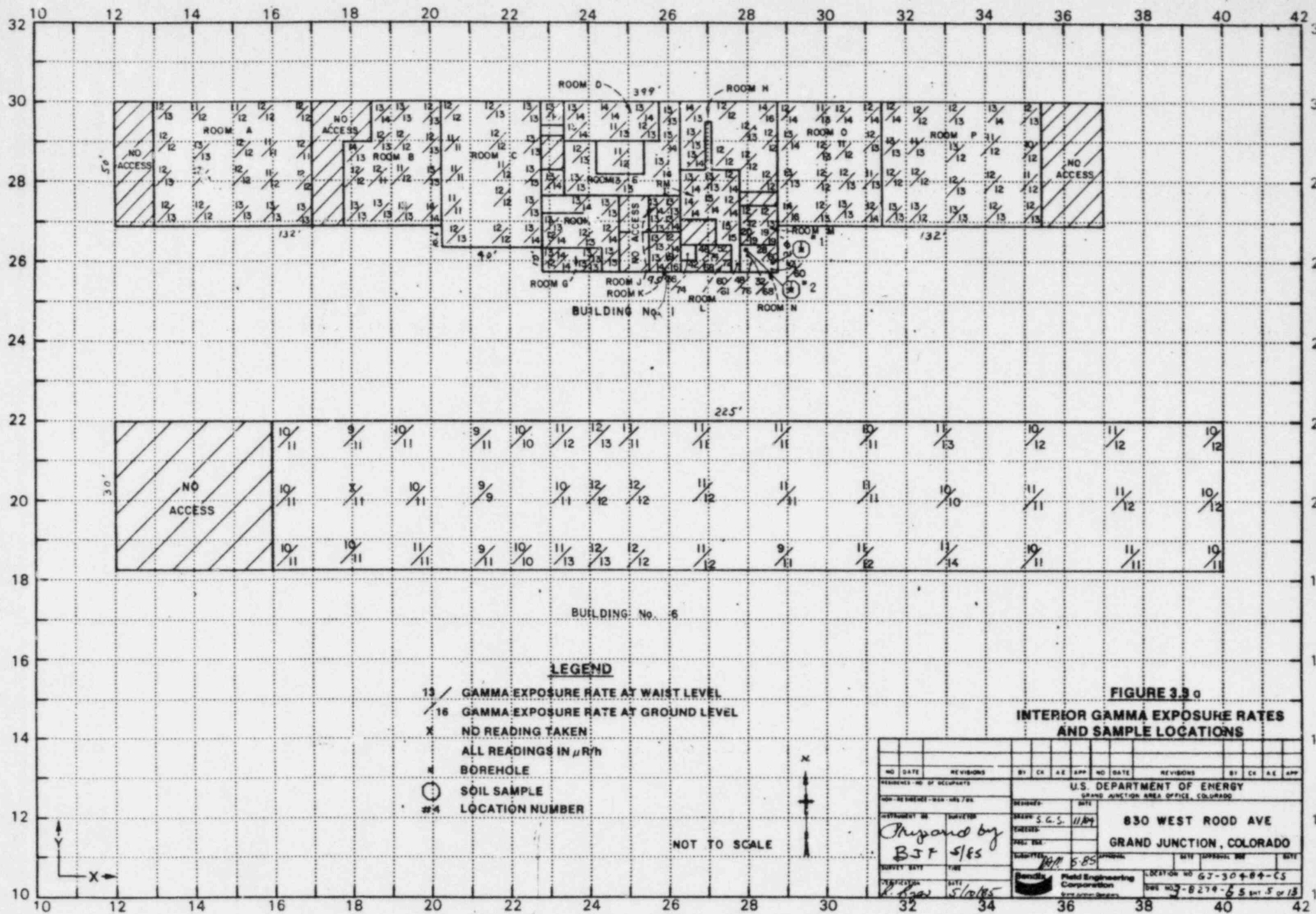
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U.S. DEPARTMENT OF ENERGY GRAND JUNCTION AREA OFFICE, COLORADO												
WORK SHEET NO. 1 DEPARTMENT NO. 1 SURVEY NO. 1				DESIGNED BY: [Signature] CHECKED BY: [Signature] DRAWN BY: [Signature] SCALE: 1" = 40' DATE: 5/1/65								
SURVEY SITE: [Location] DATE: 5/1/65				PROJECT: 830 WEST ROAD AVE. GRAND JUNCTION, COLORADO LOCATION NO. GJ-30484-C3 SHEET NO. 3-0278-64 SHEET 1 OF 1								

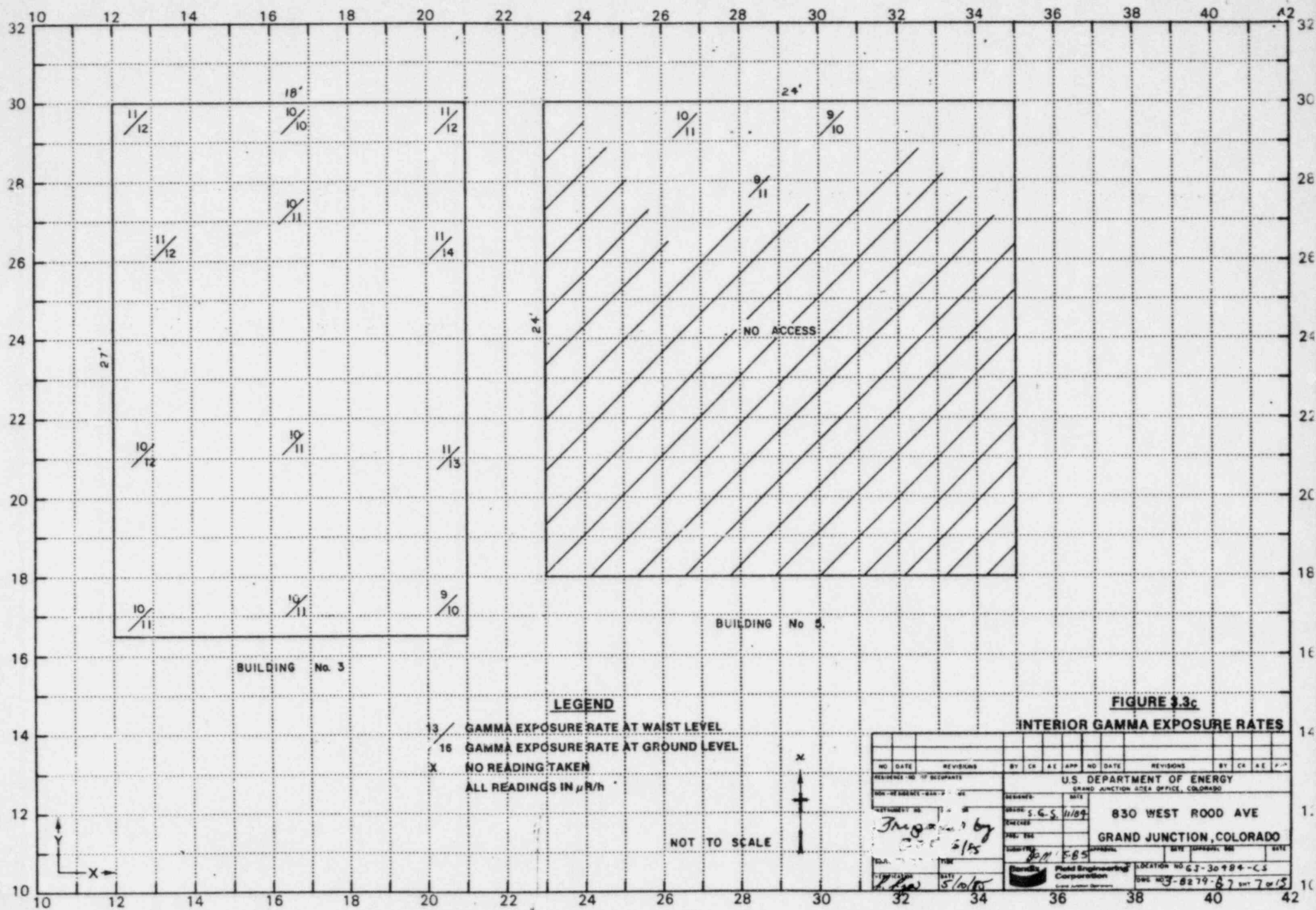
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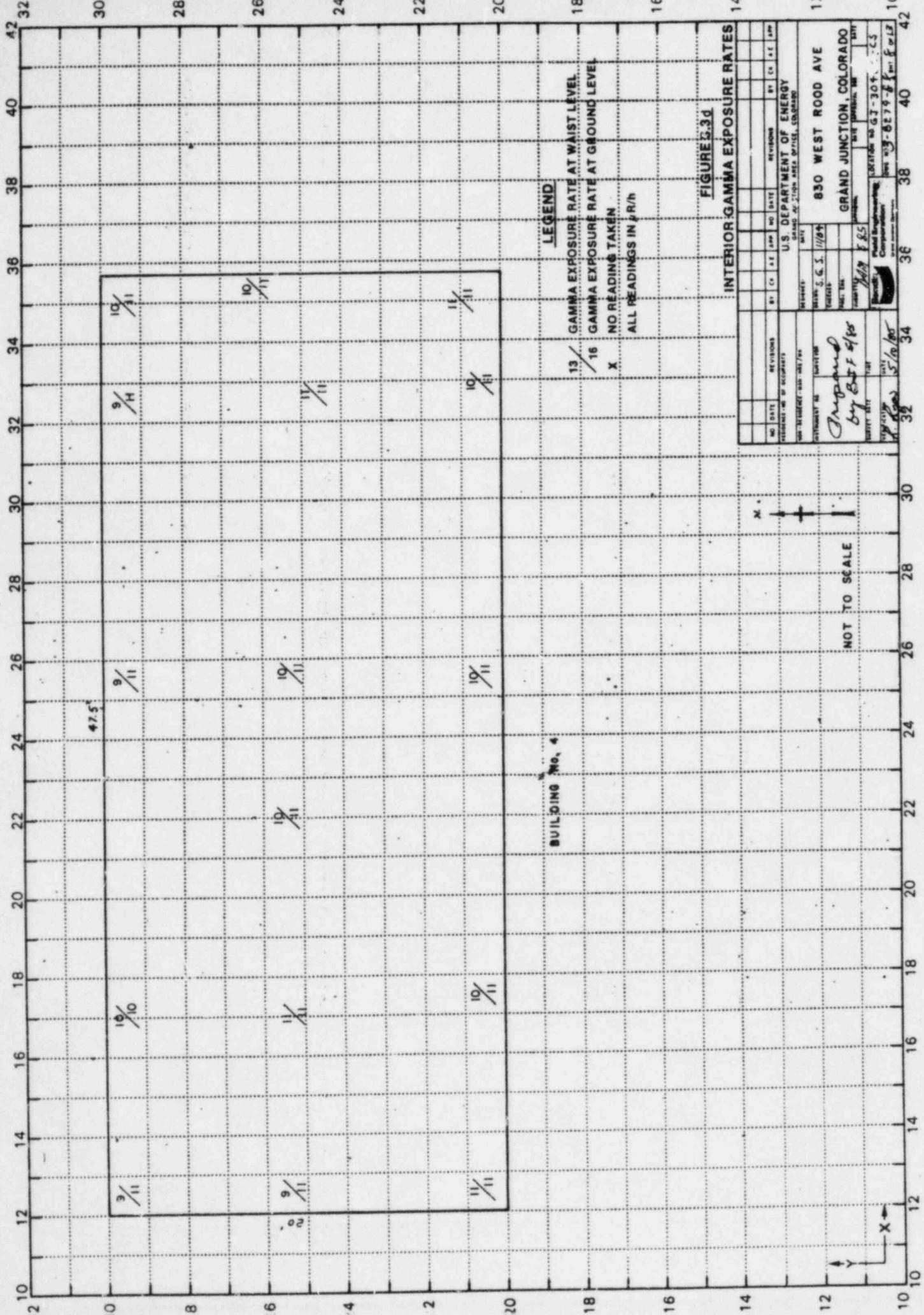
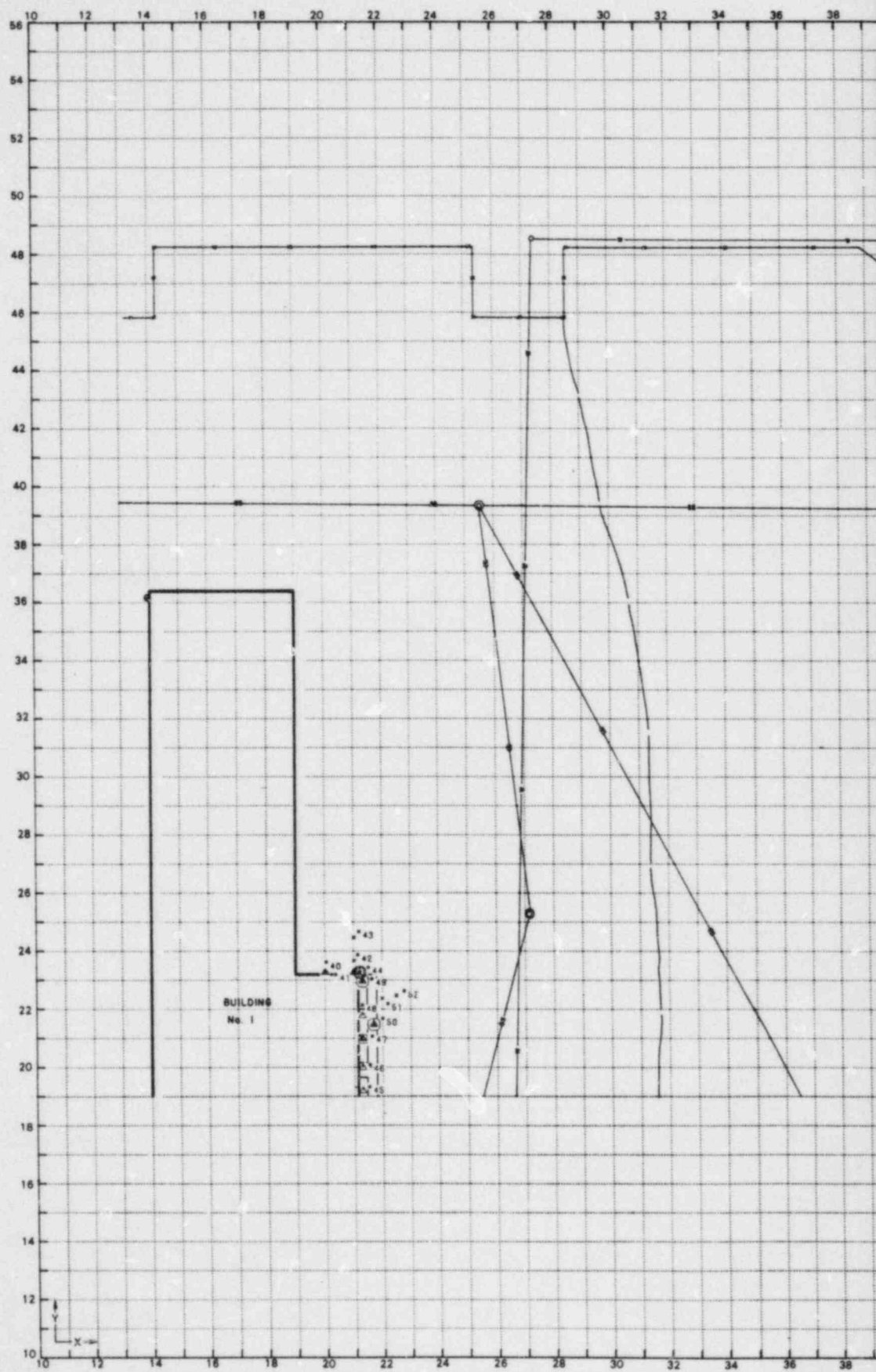


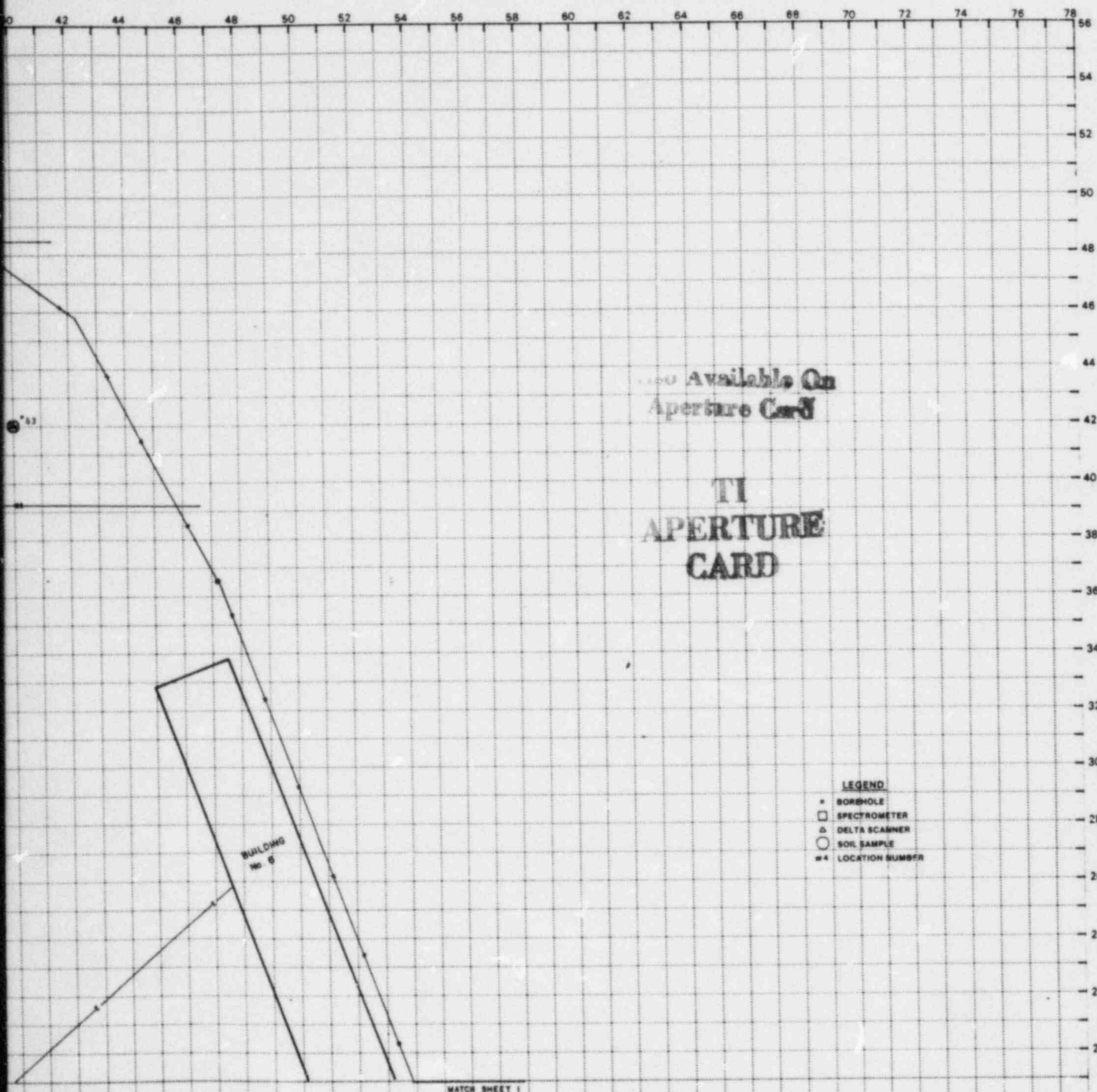
FIGURE 3d

U.S. DEPARTMENT OF ENERGY			
OFFICE OF ENVIRONMENTAL RESTORATION			
NO. DATE	REVISIONS	BY	DATE
PROJECT: <i>Grand Junction</i> LOCATION: <i>830 WEST ROOD AVE</i> COUNTY: <i>CO</i> STATE: <i>UT</i> CITY: <i>GRAND JUNCTION</i> ZIP: <i>81407</i> DATE: <i>5/10/85</i> BY: <i>BT</i> CHECKED: <i>BT</i> APPROVED: <i>BT</i> TITLE: <i>INTERIOR GAMMA EXPOSURE RATES</i>			

NOT TO SCALE

BUILDING No. 4





Also Available On
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- LEGEND**
- BOREHOLE
 - SPECTROMETER
 - △ DELTA SCANNER
 - SOIL SAMPLE
 - #4 LOCATION NUMBER

MATCH SHEET 1

FIGURE 3.4b
EXTERIOR SAMPLE LOCATIONS

NO. DATE REVISIONS				BY	CHK	APP	NO. DATE REVISIONS				BY	CHK	APP
U.S. DEPARTMENT OF ENERGY GRAND JUNCTION AREA OFFICE, COLORADO 830 WEST ROOD AVE. GRAND JUNCTION, COLORADO													
DESIGNED BY				CHECKED BY				DATE					
DRAWN BY				DATE				DATE					
PROJECT NO.				PROJECT NAME				PROJECT LOCATION					
SUBMITTED BY				SUBMITTED DATE				SUBMITTED TIME					
APPROVED BY				APPROVED DATE				APPROVED TIME					
LOCATION NO. GJ-30484-CB				DWS NO. 3-0279-B-10				SHEET 10 OF 13					

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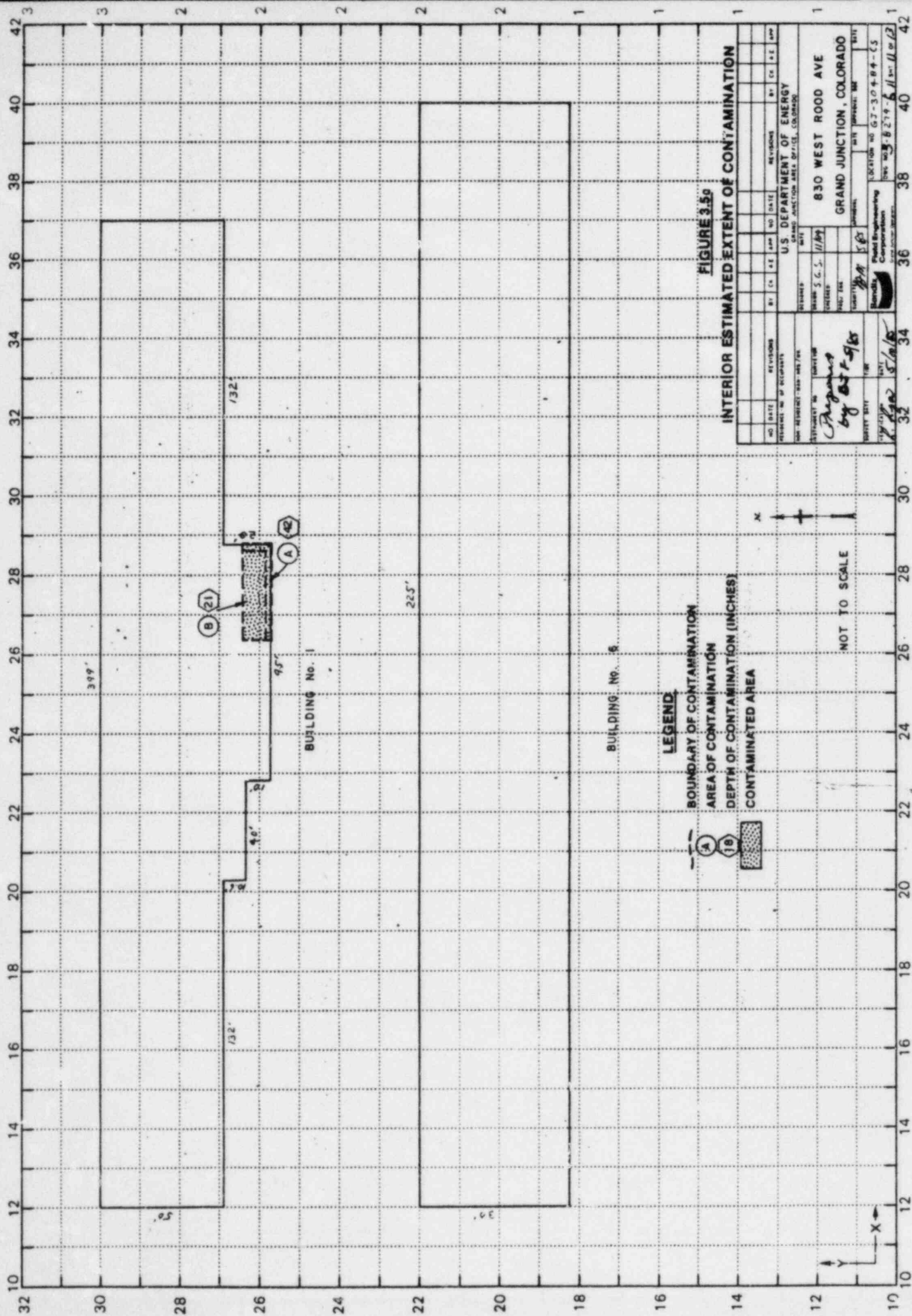
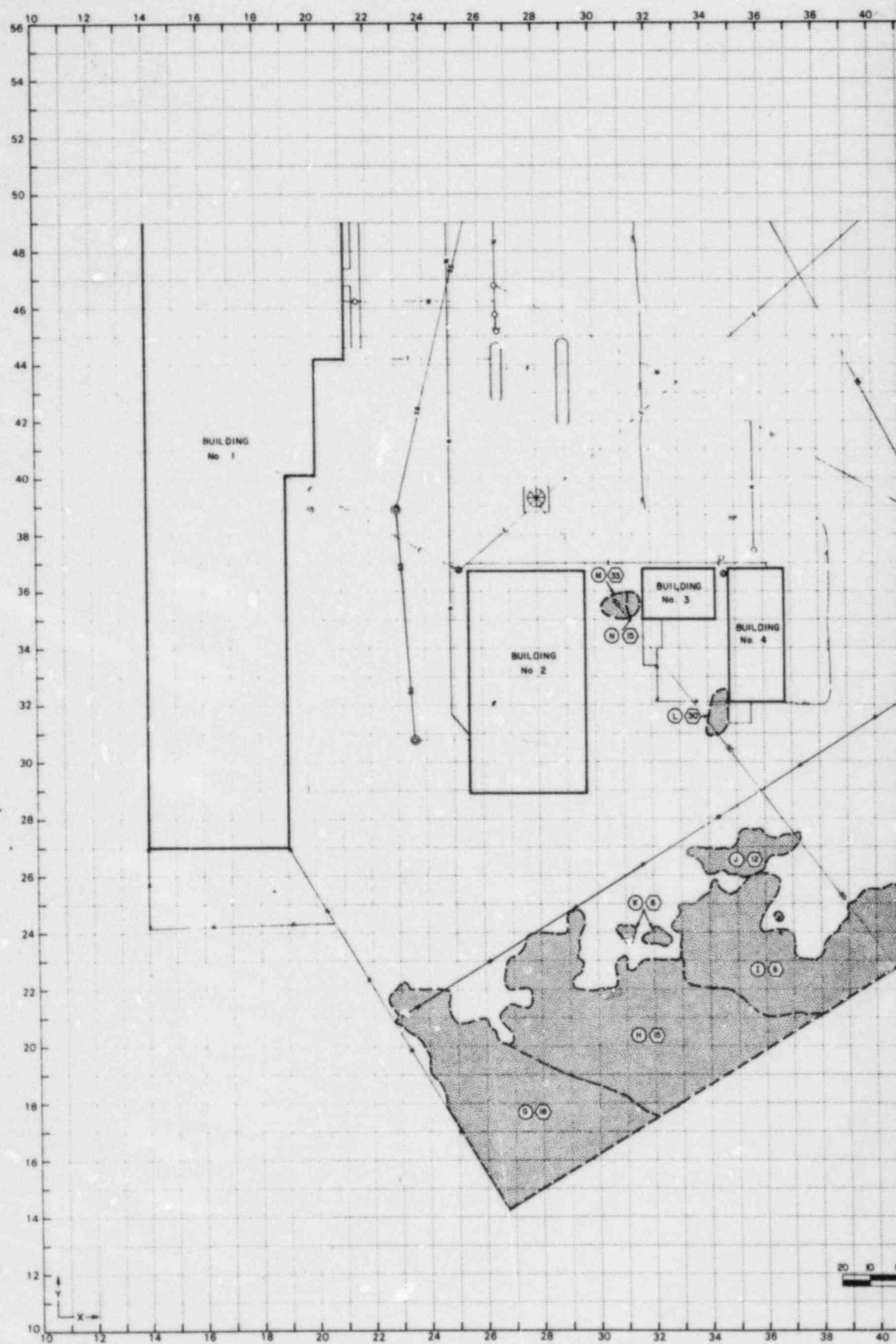
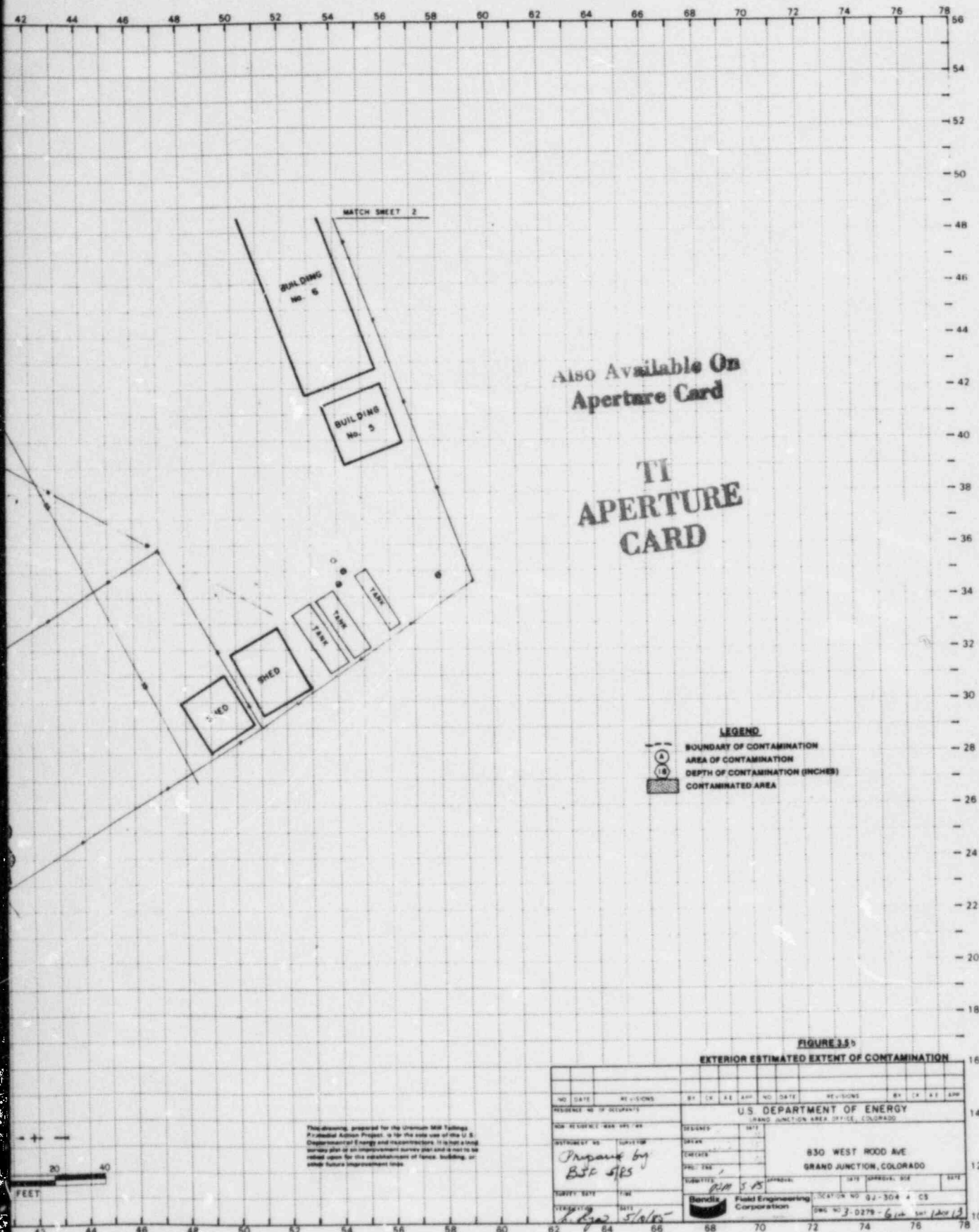
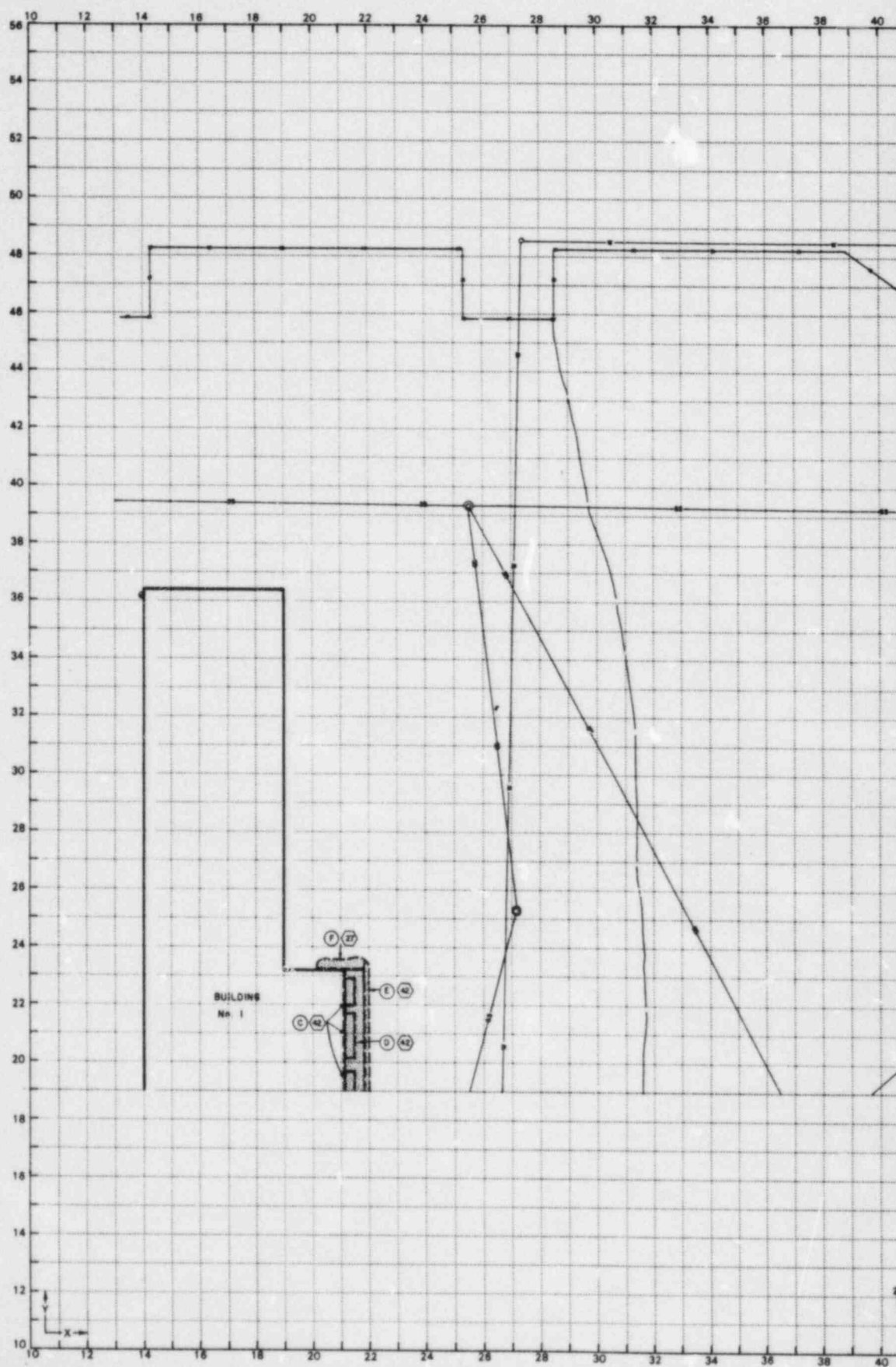


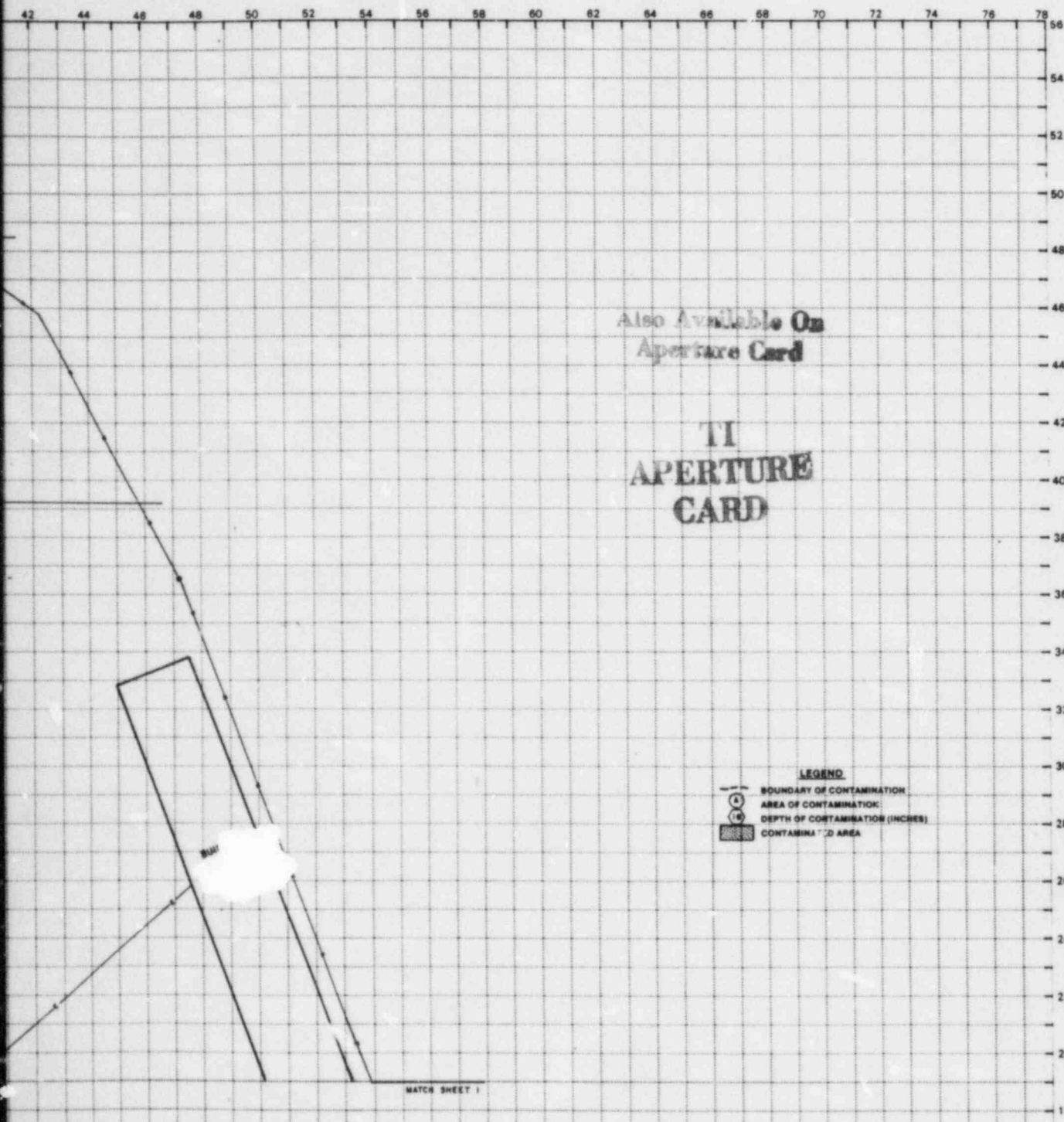
FIGURE 3.50

[illegible]









Also Available On
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LEGEND
 ○ BOUNDARY OF CONTAMINATION
 ○ AREA OF CONTAMINATION
 ○ DEPTH OF CONTAMINATION (INCHES)
 ■ CONTAMINATED AREA

FIGURE 3.8:
EXTERIOR ESTIMATED EXTENT OF CONTAMINATION



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NO. DATE REVISIONS BY CK R.E. APP. NO. DATE REVISIONS BY CK R.E. APP.		U.S. DEPARTMENT OF ENERGY GRAND JUNCTION AREA OFFICE, COLORADO	
NON-RESIDENT: 840-487-741		830 WEST ROAD AVE. GRAND JUNCTION, COLORADO	
DESIGNED BY <i>J. Thompson</i>	DATE 5/1/68	DRAWN BY <i>BJP</i>	DATE 5/1/68
CHECKED BY <i>BJP</i>	DATE 5/1/68	FIELD TSK. BY <i>BJP</i>	DATE 5/1/68
SURVEY DATE 5/1/68		LOCATION NO. GJ-30484-CS DWS NO. 3-0279-013 SHT 15 OF 13	
CONSTRUCTION DATE 5/1/68		Bentley Field Engineering Corporation	

8507180622-08

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

Official Survey Report

Property Address 830 West Rood Avenue
Property Owner City of Grand Junction
Address of Owner (if different from above) _____
Report Prepared By Billie J. Foust

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

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

1 X 1 Residual radioactive materials found at the following locations:

1 X 1 In open areas.

1 X 1 Under or around exterior improvements.

1 X 1 Under or around a typically nonoccupied structure.

1 X 1 Under or around a typically occupied structure.

II. RESULTS OF RADIOLOGIC ASSESSMENT

1 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 X 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 = 81 uR/h
HOG = 127 uR/h



Bendix
Aerospace

Bendix Field Engineering Corporation
P.O. Box 1569
Grand Junction, CO 81502-1569
Telephone (303) 242-8621
Telex: 454-338

May 5, 1985

Colorado Department of Health
222 South 6th Street
Grand Junction, CO 81501

ATTN: Elaine Brummett

Dear Elaine:

In regard to the Technical Review held on April 29, 1985 for DOE ID No. GJ-30484-CS (830 West Road) the following comments are in order:

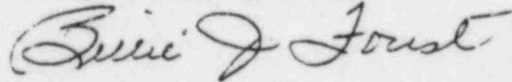
1. Large pipes and trash bins are stored in the no access areas on Figures 3.1a and 3.1b. They are too large to move.
2. The gas line for Building #1 was investigated at Location #3 (139468). The gas lines to Buildings #2 and #4 were investigated at Location #35 (360371).
3. The sewer lines were drilled 6 inches to 1 foot away from the locations indicated on the map. Judging from the location of the sewer line manhole I believe these are correct. A hole was drilled by the manhole showing no contamination. Building #1 was built in 1954 and I assume that all lines were put in then. Since no other lines indicate any contamination, I believe these are normal readings for the soil.
4. There is no crawl space in Building #1. It is a slab.
5. There are electric lines to Buildings #5 and #6. They were investigated where the line leaves Building #1.
6. Based on the total count log and the deconvolution graph, I believe the contamination at Location #11 is 18 inches deep.

Colorado Department of Health
Elaine Brummett
May 5, 1985
Page 2

7. Location #24 is near the deposit between Buildings #2 and #3. I believe this hole is uncontaminated since the total count log never goes above 5.0 pCi/g.
8. At Location #25 (316355) the slightly higher reading at the bottom of the hole is sluff from the contamination at the top.
9. Location #51 was removed from the area of contamination. It is probably shine from the adjacent deposit.

Thank you for your time and comments. If you have any questions, please call me at 242-8621, ext. 435.

Very truly yours,



Billie J. Foust
RAD Group Leader



ALLIED Bendix
Aerospace

Memorandum

Bendix Field Engineering Corporation
Grand Junction Operations
Grand Junction, Colorado

Date: February 20, 1985

To: Files

From: Billie J. Foust *BJF*

Subject: Team Leader Notes - DOE ID No. GJ-30484-CS (830 West Road)

Owner: City of Grand Junction

Field Crew

B. Foust	R. Vialpando	B. Beltz	M. Duran
C. Adams	S. Southern	V. Young	N. Wallace
P. Tuhey	L. Kula	H. Mattison	D. Martz
M. E. Dexter	R. Wilkins	S. Larsen	

Instruments

Scintillometers: C-1149, C-3502, C-1208, C-1184, C-1127, C-1205,
C-1196, C-1128, C-3510, C-1247

PRS-1 Total Counts: C-3956, C-3573, C-3959

Deltas: C-3935, C-3941, C-3943, C-3937

Borehole Spectrometer: C-0498

Arrived around 9:00 A.M. and gridded the north half of the lot. I had three people start drilling and logging holes next to the utility lines while the remainder of the crew performed interior and exterior scans and grid points.

Sandy from H & S arrived and indicated that we should stay well away from the buried gas tanks with the auger. She was also concerned about drilling because this area is an old dump area.

I talked to Dean about contamination in a small area of the office building. This is an addition which was built in 1962. The original building was built in 1954.

The footing of Building #2 has slightly elevated gamma readings up to 155 cps. The delta reading taken on the concrete was around 2 pCi/g.

February 21, 1985

Field Crew

B. Foust	R. Vialpando	D. Martz
C. Adams	M. Duran	S. Southern
N. Wallace	L. Kula	M. E. Dexter
H. Mattison	R. Wilkins	

Instruments

Scintillometers: C-3510, C-1205, C-3502, C-1247, C-1149, C-1184,
C-1128, C-1127, C-1208, C-1196

PRS-1 Total Counts: C-1062, C-3959, C-3956

Deltas: C-3937, C-3935, C-3956

Borehole Spectrometer: C-3361

Gridded and scanned the south half of the property.

Three utility lines showed slight elevations so they were redrilled at locations nearby.

Scintillometer C-3510 went dead. It was switched out for C-1247. Data taken previously was verified with this instrument to assure that readings were accurate.

Four cores need to be drilled, two outside through the sidewalk and two inside the contaminated addition on the south side of Building #1.

February 22, 1985

Instruments

Scintillometers: C-1127, C-1196, C-1128, C-3502, C-1247

Deltas: C-3941, C-3943

PRS-1 Total Counts: C-3959, C-1062

The coring will be done today. The first core on the interior was an auger refusal. The footing was hit. We moved to another location and were able to drill deeper but large rocks were encountered and elevated readings were still present at the bottom of the hole.

We had several auger refusals south of Building #1 and in most holes could not drill deep enough to get to background with the total count.

February 25, 1985

Instruments

Scintillometers: C-1196, C-1128, C-1184, C-1247

Deltas: C-3943, C-3941

PRS-1 Total Counts: C-1062, C-3959

Tried drilling holes south of Building #1 deeper with no success.

The scanning was finished on the west half of the property and drilling was almost completed.

Scintillometer C-1196 went dead. The area where this instrument was used was checked with another instrument.

March 4, 1985

Instrument

PRS-1 Total Count: C-3959

D. Bell and M. Duran went back out to finish up the drilling.

Personnel were alpha scanned each day.

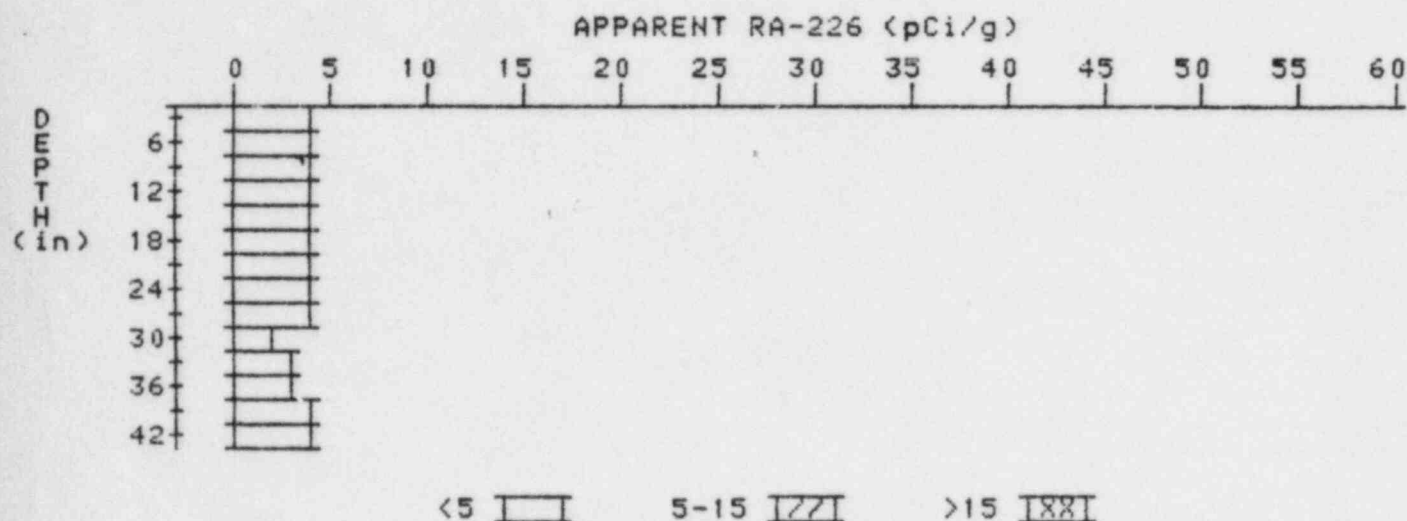
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

3

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 3

LOCATION: 139468



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.6	3.6
6	3.8	4.0
9	3.9	4.1
12	3.9	4.1
15	3.8	3.8
18	3.7	3.5
21	3.7	3.7
24	3.7	3.9
27	3.6	4.1
30	3.2	2.5
33	3.2	2.8
36	3.4	3.4
39	3.6	4.0

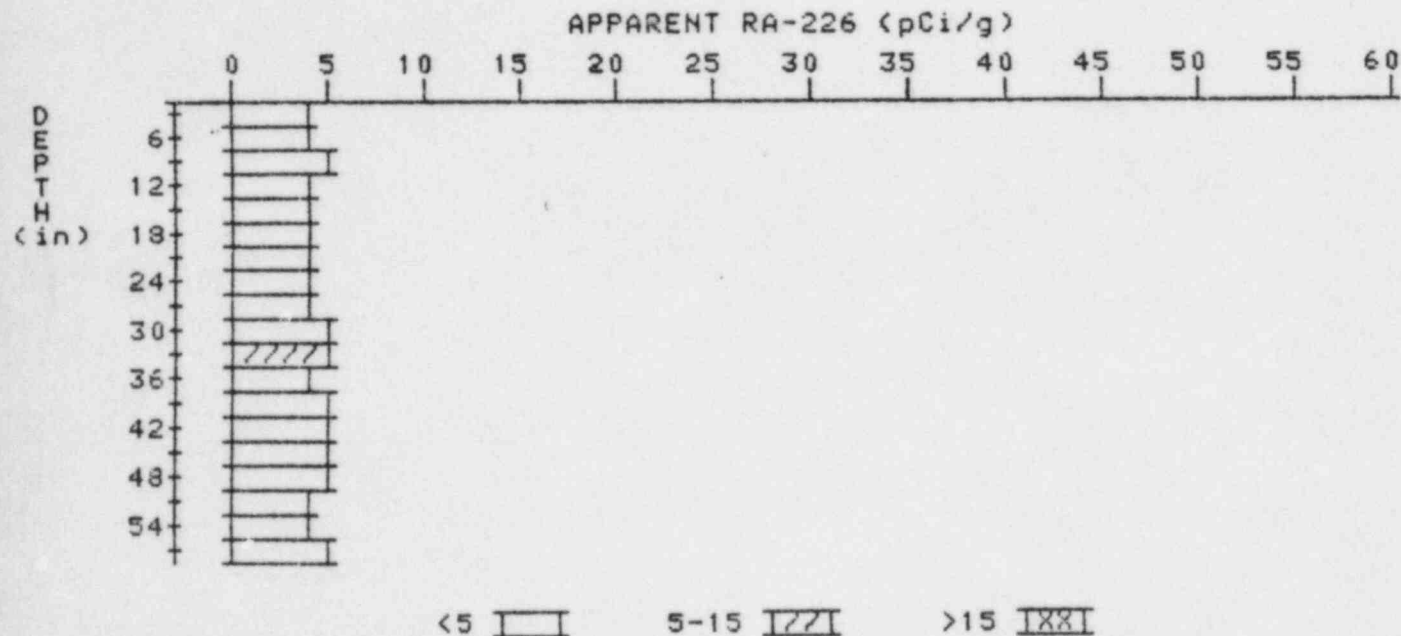
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

4

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 4

LOCATION: 191399



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.5	3.5
6	3.7	3.5
9	4.0	4.5
12	4.0	4.0
15	4.0	4.0
18	4.0	3.8
21	4.1	4.1
24	4.2	4.0
27	4.4	4.4
30	4.6	4.8
33	4.7	5.1
36	4.6	4.2
39	4.7	4.9
42	4.7	4.9
45	4.6	4.6
48	4.5	4.5
51	4.4	4.2
54	4.4	4.2

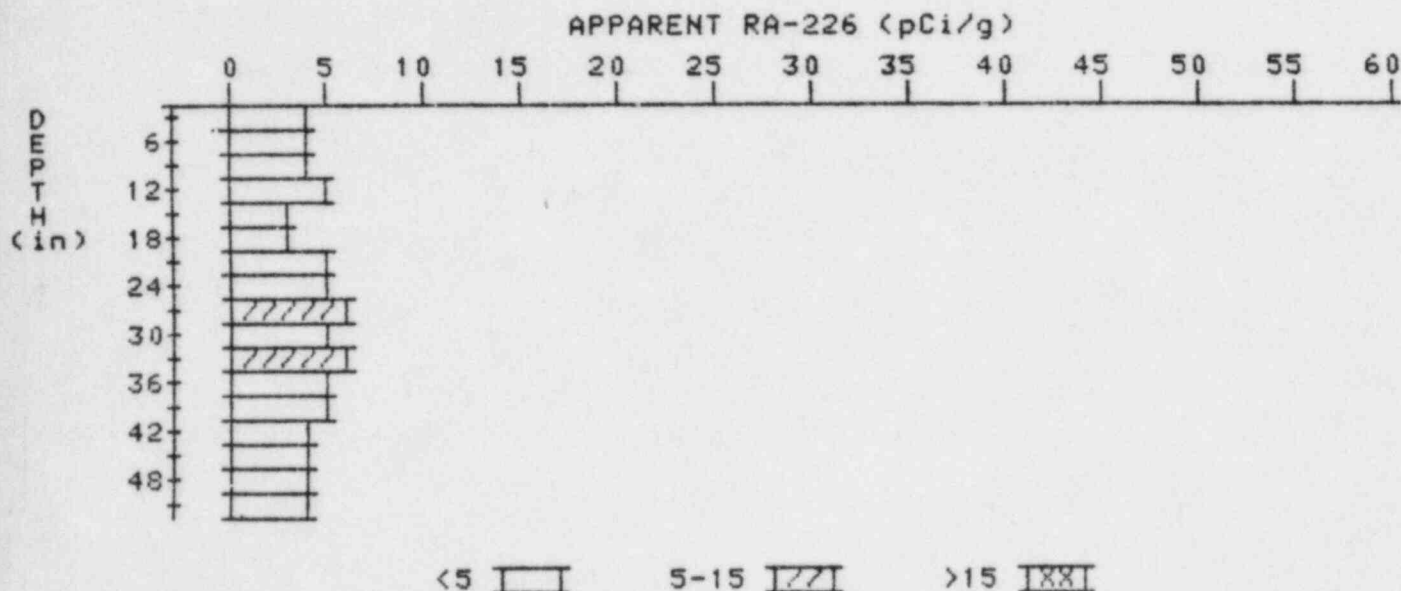
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

5

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 5

LOCATION: 194390



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.5	3.5
6	3.8	4.2
9	3.9	3.9
12	4.0	4.5
15	3.8	3.1
18	4.0	3.5
21	4.5	4.9
24	4.8	5.0
27	5.0	5.5
30	4.9	4.5
33	5.0	5.5
36	4.8	5.0
39	4.5	4.5
42	4.2	4.2
45	3.9	3.5
48	3.8	3.6
51	3.8	3.8

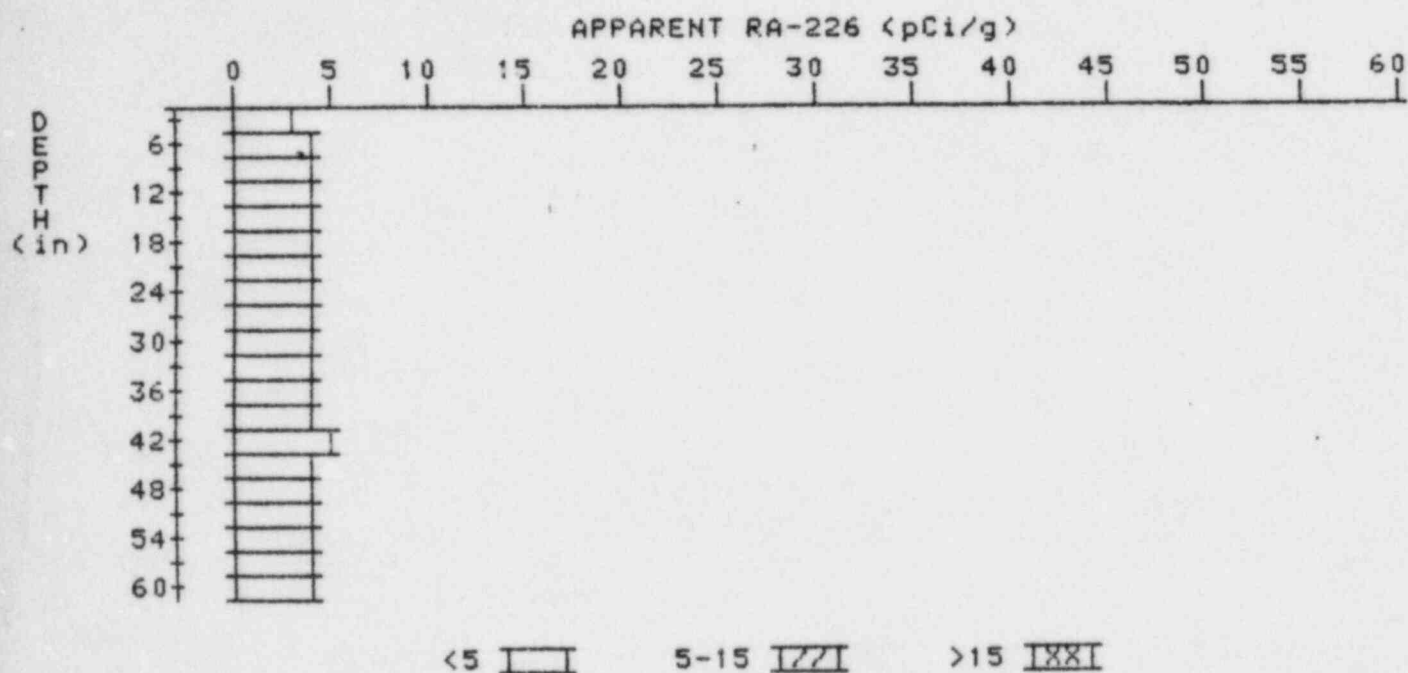
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

6

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 6

LOCATION: 194398



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.4	3.4
6	3.7	4.1
9	3.8	4.0
12	3.8	3.6
15	3.9	4.1
18	3.9	3.9
21	3.9	3.9
24	3.9	3.9
27	3.9	3.7
30	4.0	4.2
33	4.0	3.8
36	4.1	4.1
39	4.2	4.2
42	4.3	4.7
45	4.2	4.2
48	4.1	4.1
51	4.0	3.6
54	4.1	4.1

57
60

4.2
4.2

4.4
4.2

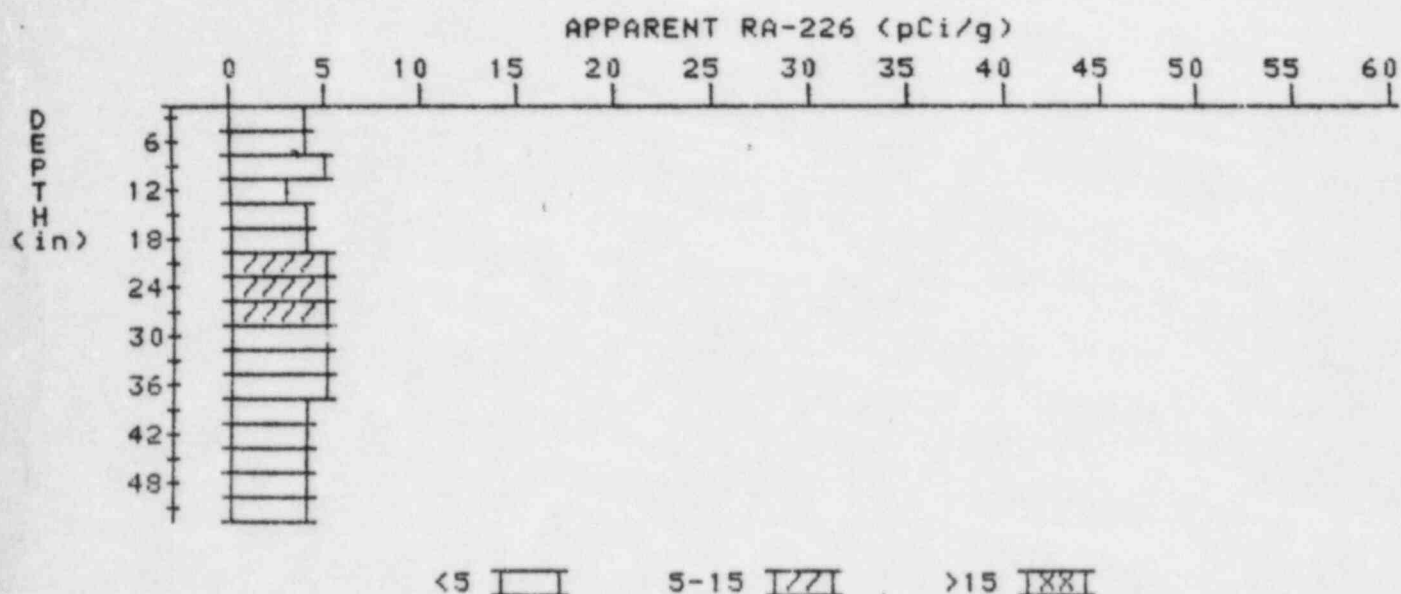
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

7

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 7

LOCATION: 196390



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.6	3.6
6	3.8	3.8
9	4.0	4.7
12	3.8	3.1
15	4.0	3.8
18	4.3	3.9
21	4.8	5.3
24	5.0	5.4
27	5.0	5.2
30	4.9	4.9
33	4.8	5.0
36	4.6	5.0
39	4.2	3.8
42	4.0	3.8
45	3.9	3.9
48	3.8	3.6
51	3.8	3.8

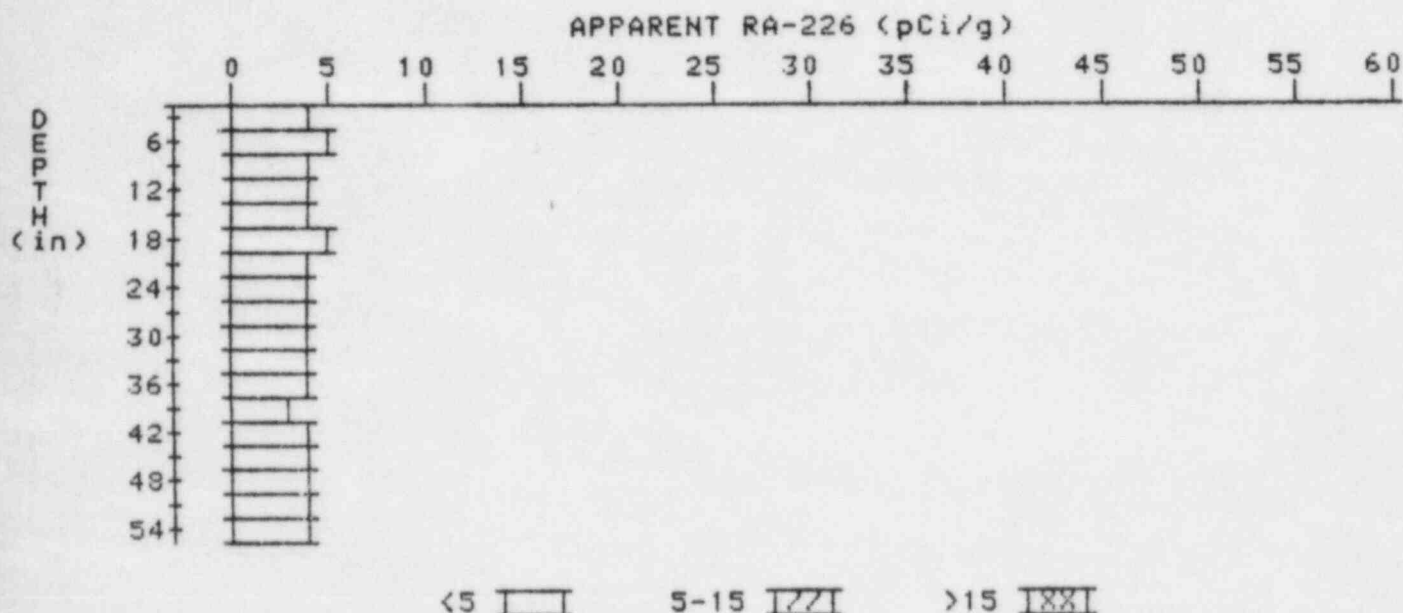
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

8

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 8

LOCATION: 213461



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.8	3.8
6	4.0	4.5
9	3.9	3.7
12	3.9	3.7
15	4.0	3.8
18	4.2	4.7
21	4.1	4.1
24	4.0	4.0
27	3.9	3.7
30	3.9	4.3
33	3.7	3.5
36	3.6	3.6
39	3.5	3.0
42	3.7	4.1
45	3.7	3.7
48	3.7	3.7
51	3.7	3.5
54	3.8	3.8

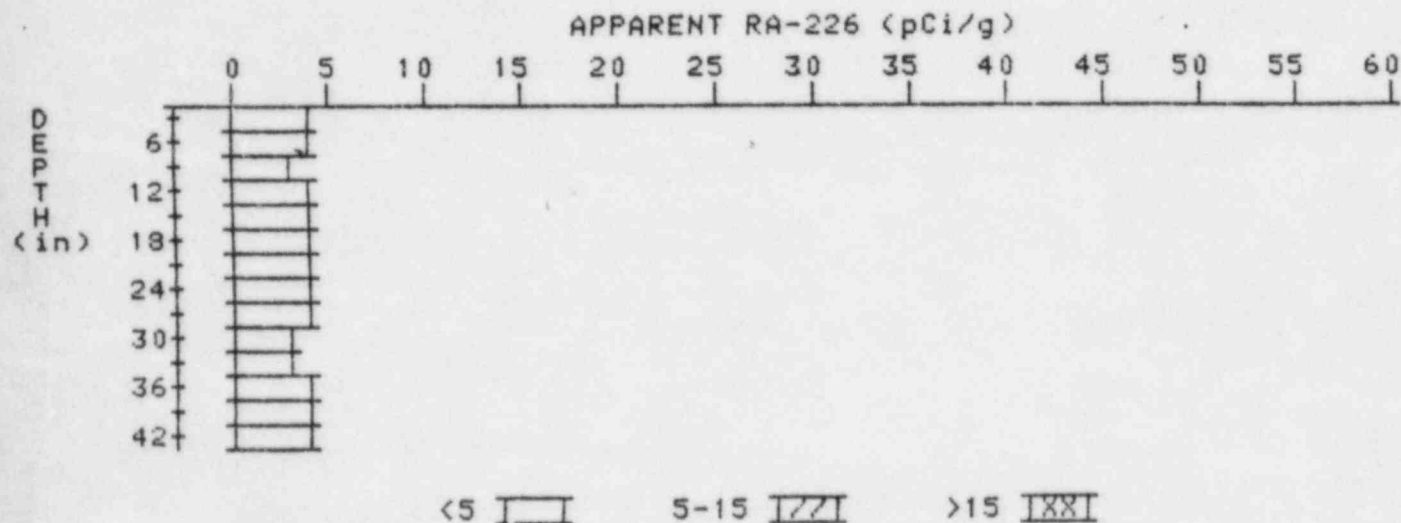
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

9

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 9

LOCATION: 214441



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.7	3.7
6	3.8	4.2
9	3.7	3.2
12	3.9	3.9
15	4.1	4.5
18	4.1	4.3
21	4.0	3.8
24	4.0	4.4
27	3.8	3.8
30	3.6	3.2
33	3.6	3.4
36	3.7	3.7
39	3.8	3.8

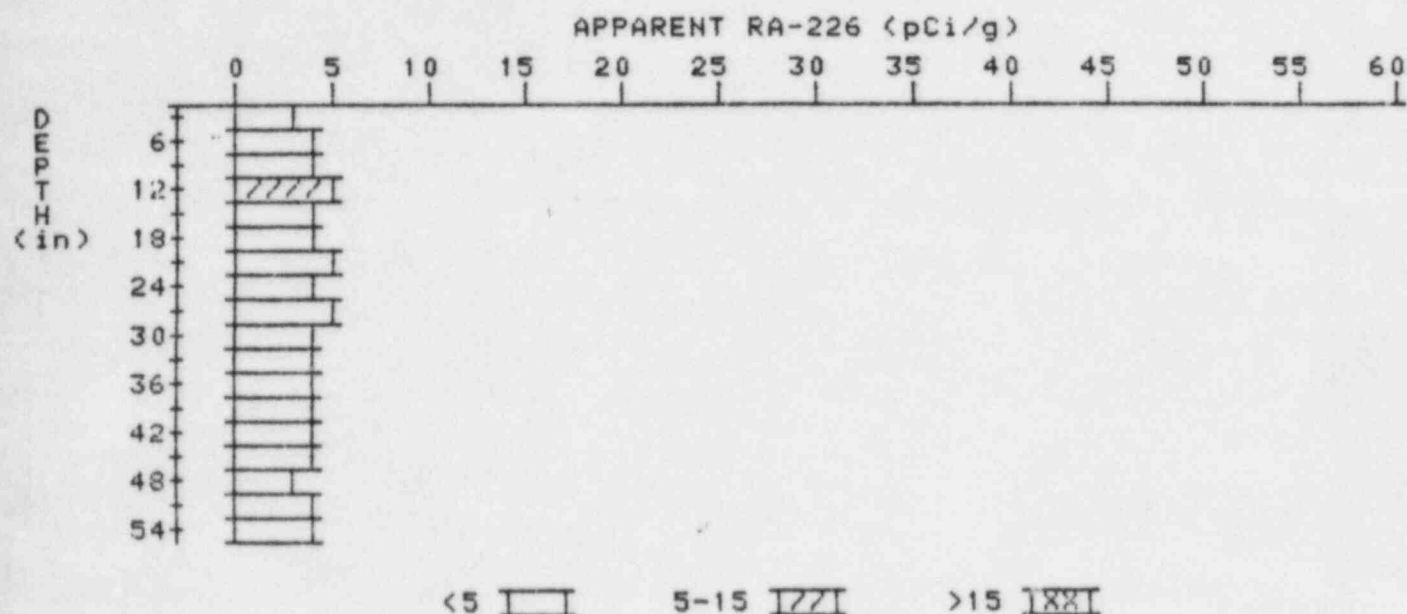
APPARENT RADIUM-226 CONCENTRATION 10

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 10

LOCATION: 228392



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.3	3.3
6	3.7	3.9
9	4.0	4.0
12	4.3	5.0
15	4.2	4.0
18	4.2	4.0
21	4.3	4.7
24	4.2	3.8
27	4.3	4.7
30	4.2	4.2
33	4.2	4.2
36	3.9	3.7
39	3.8	3.6
42	3.8	3.8
45	3.8	4.0
48	3.7	3.3
51	3.8	4.2
54	3.7	3.7

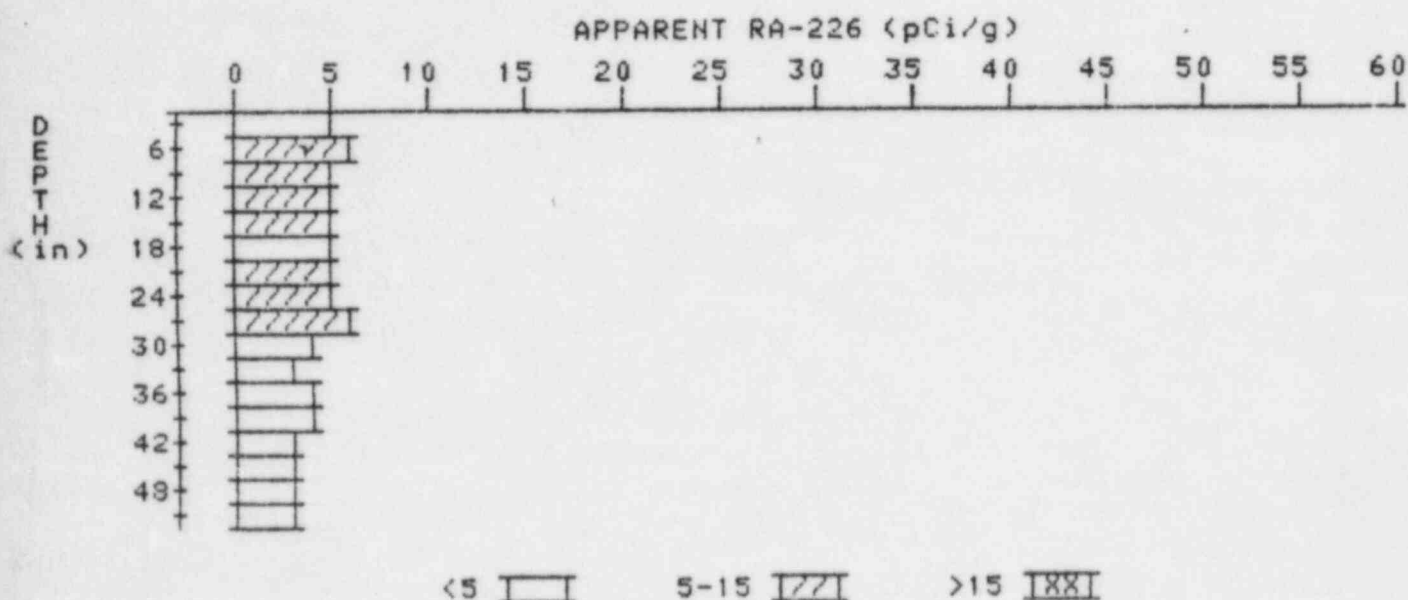
APPARENT RADIUM-226 CONCENTRATION 11

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 11

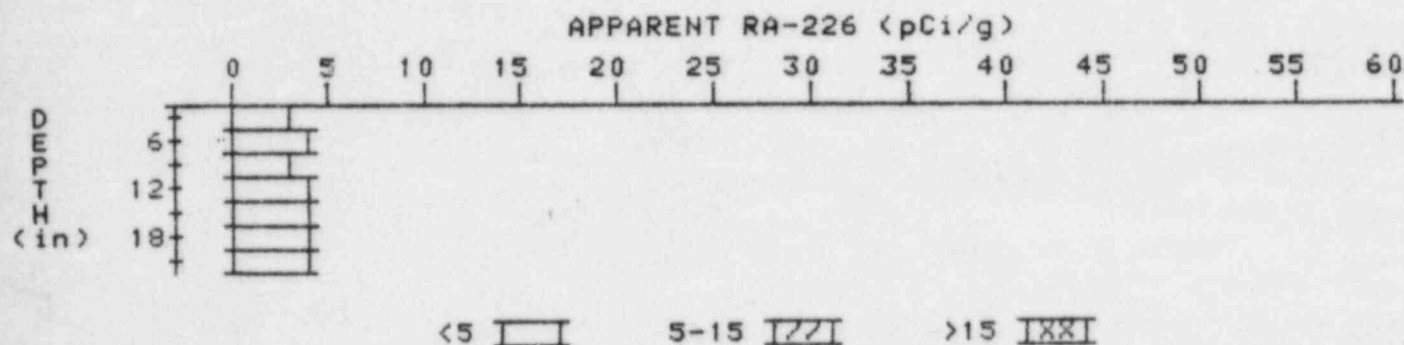
LOCATION: 235215



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	4.7	4.7
6	5.1	5.6
9	5.2	5.4
12	5.2	5.4
15	5.1	5.1
18	5.0	4.8
21	5.0	5.0
24	5.0	5.2
27	4.9	6.0
30	4.2	3.8
33	4.2	3.8
36	3.6	3.6
39	3.5	3.5
42	3.4	3.2
45	3.4	3.4
48	3.4	3.4
51	3.4	3.4

APPARENT RADIUM-226 CONCENTRATION 12 DECONVOLUTION GRAPH

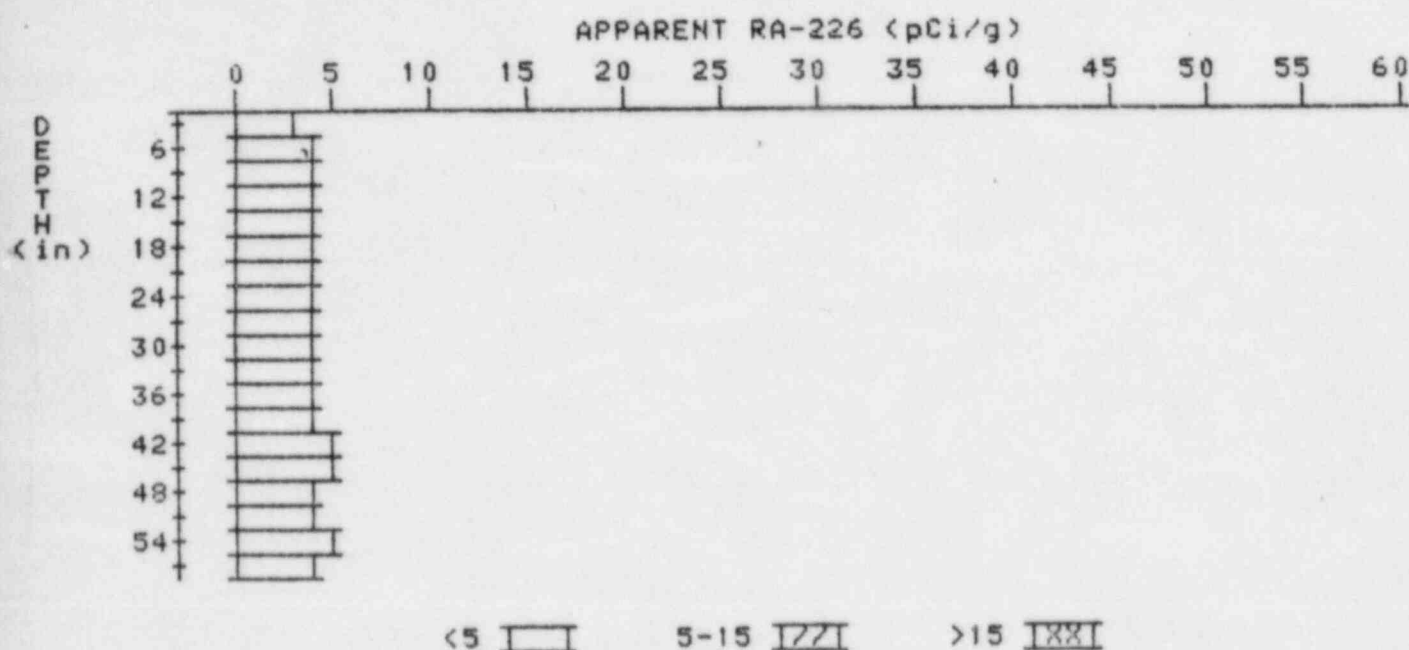
PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 12
LOCATION: 238310



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	3.4
12	3.8	4.0
15	3.9	3.9
18	4.0	4.2
21	4.0	4.0

APPARENT RADIUM-226 CONCENTRATION 13 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 13
LOCATION: 254310



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.3	3.3
6	3.7	4.1
9	3.9	4.1
12	4.0	4.0
15	4.1	4.3
18	4.1	3.9
21	4.2	4.4
24	4.2	4.2
27	4.2	4.2
30	4.2	4.2
33	4.2	4.0
36	4.3	4.5
39	4.3	4.1
42	4.4	4.6
45	4.4	4.6
48	4.3	4.5
51	4.1	3.7
54	4.1	4.6

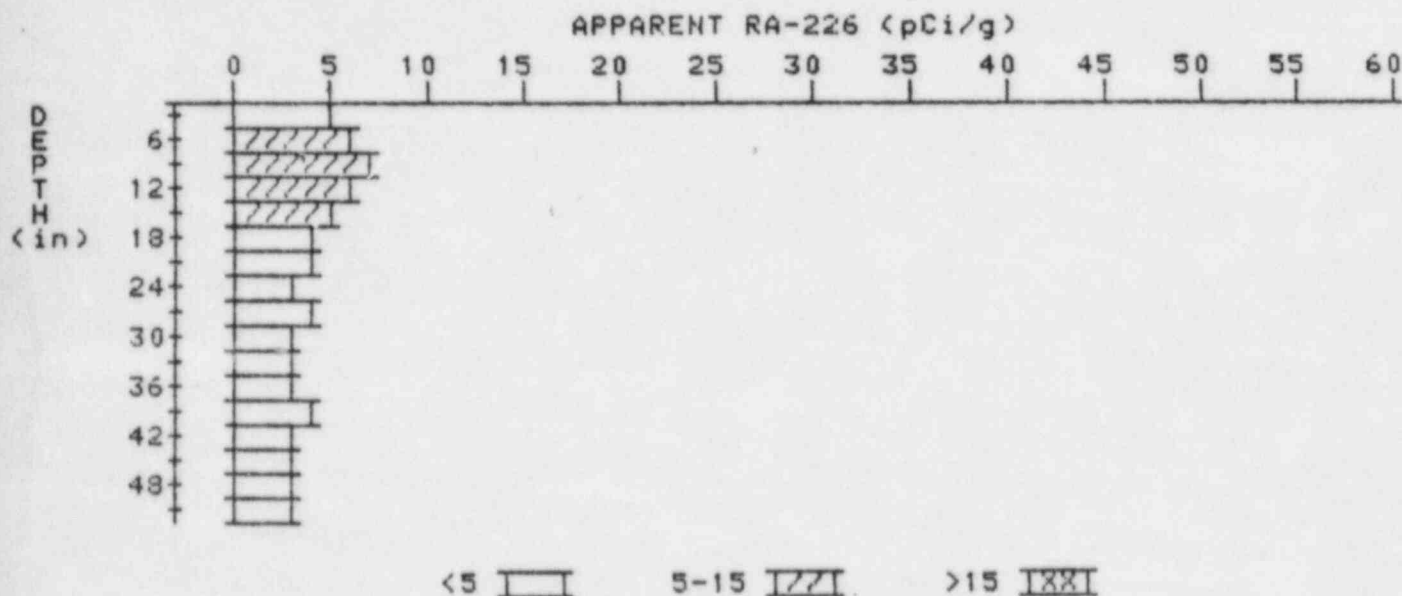
APPARENT RADIUM-226 CONCENTRATION 14

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 14

LOCATION: 255205



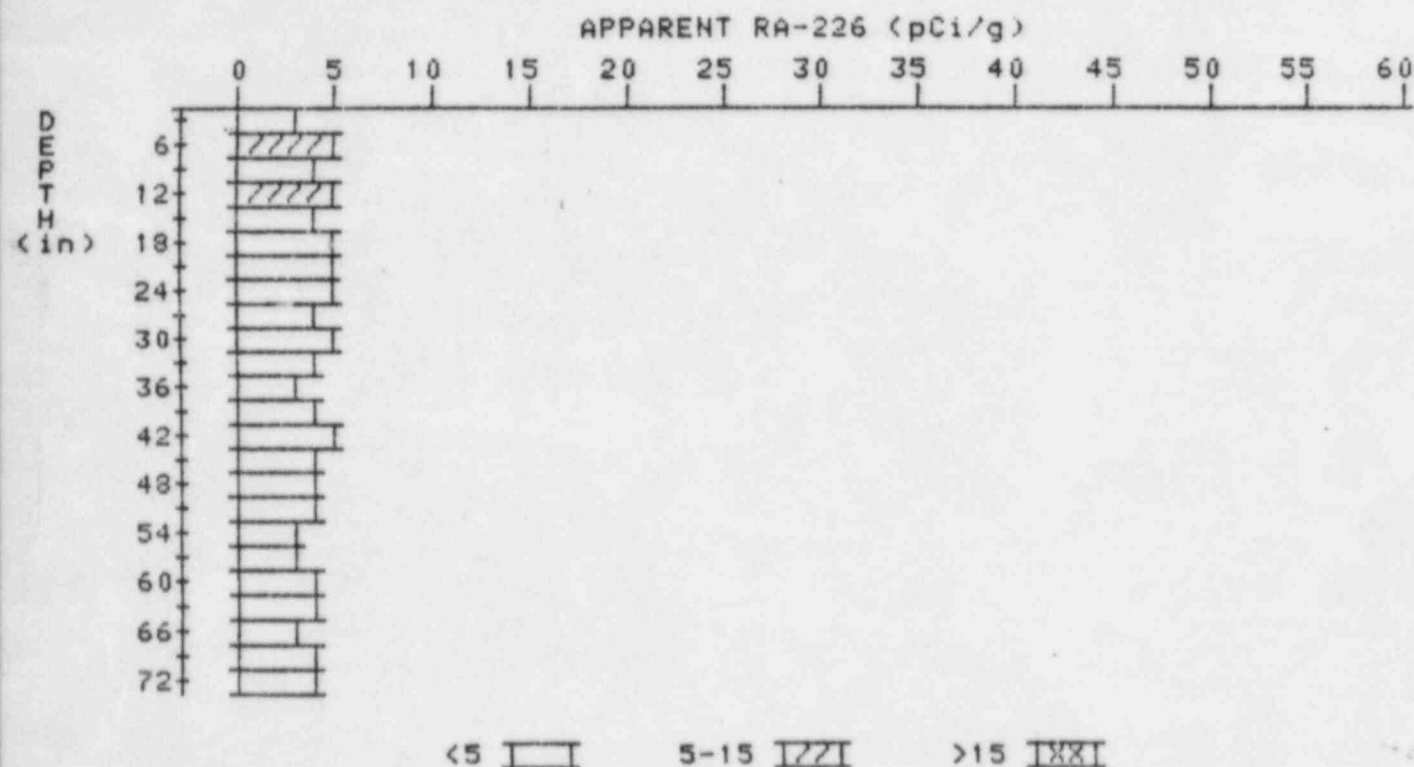
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	4.6	4.6
6	5.3	5.8
9	5.7	6.8
12	5.5	5.9
15	5.1	5.5
18	4.5	4.1
21	4.1	3.9
24	3.8	3.4
27	3.7	3.9
30	3.5	3.3
33	3.4	3.4
36	3.3	2.9
39	3.4	3.8
42	3.3	3.3
45	3.2	2.8
48	3.3	3.3
51	3.4	3.4

APPARENT RADIUM-226 CONCENTRATION 15 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 15

LOCATION: 263468



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.4	3.4
6	4.1	5.2
9	4.2	3.8
12	4.5	5.0
15	4.5	4.3
21	4.0	4.0
24	4.5	4.5
27	4.4	4.4
30	4.3	4.7
33	4.0	3.6
36	3.9	3.4
39	4.1	4.3
42	4.2	4.7
45	4.0	3.8

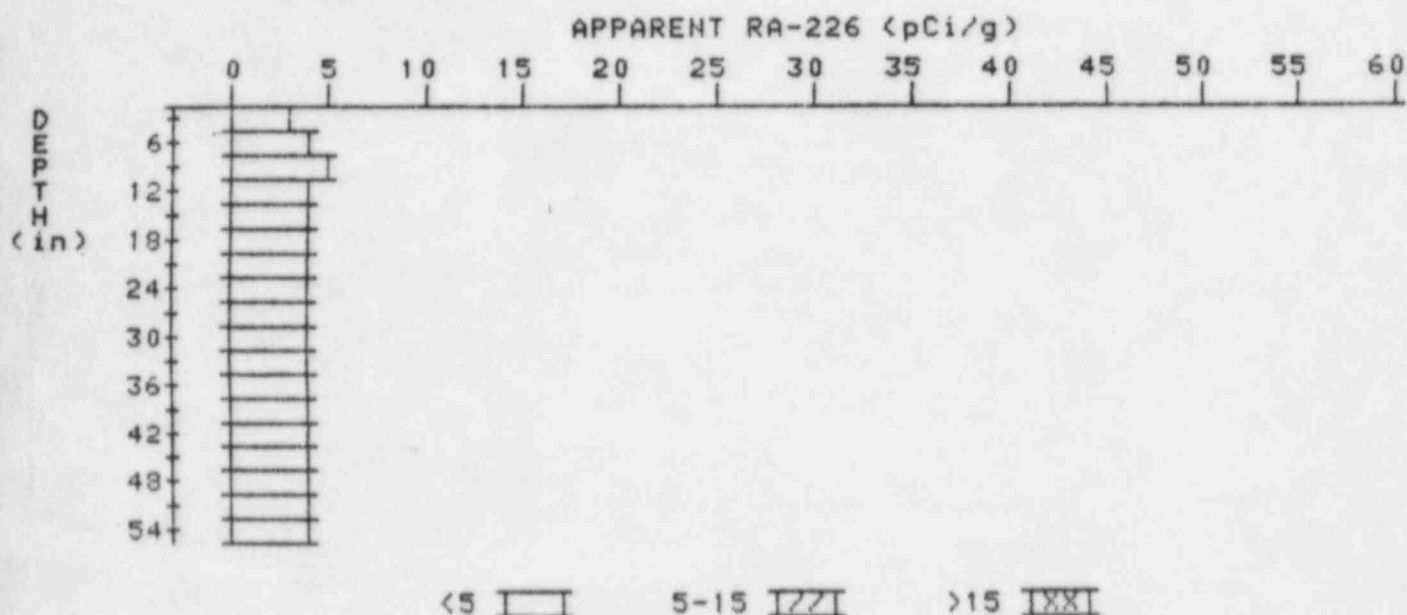
48	3.9	4.1
51	3.7	3.5
54	3.6	3.4
57	3.6	3.4
60	3.7	4.1
63	3.6	3.6
66	3.5	3.3
69	3.5	3.5
72	3.5	3.5

APPARENT RADIUM-226 CONCENTRATION 16 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 16

LOCATION: 280337



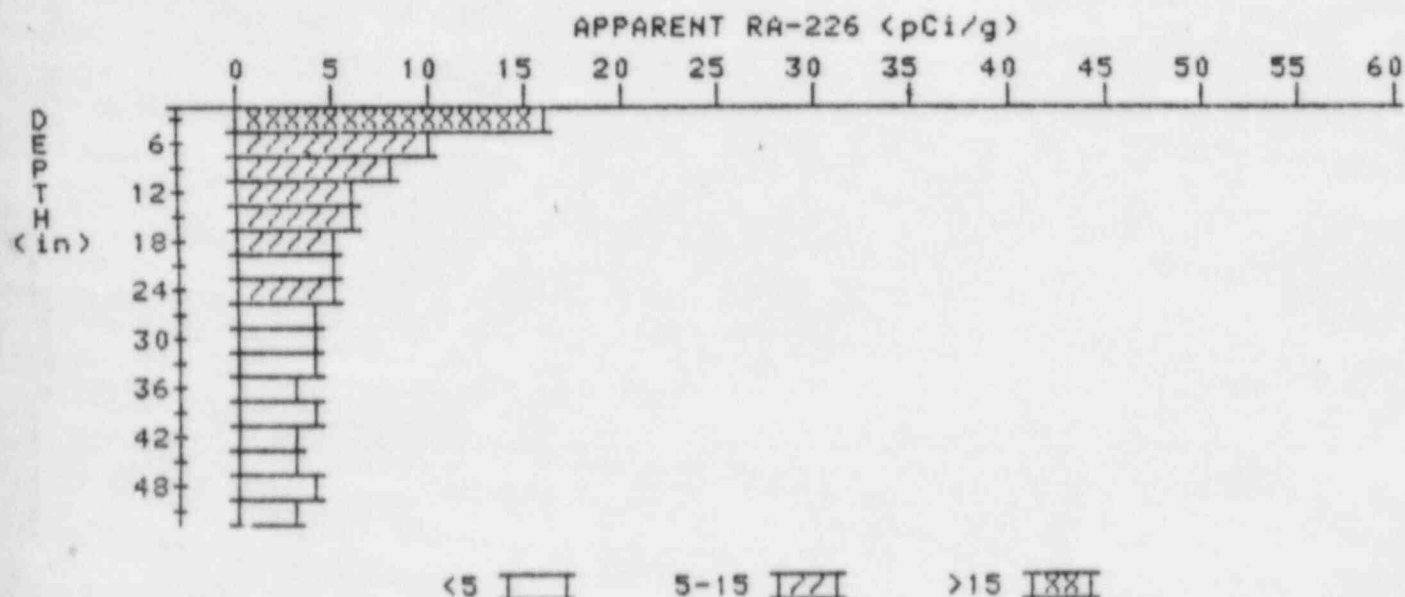
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.4	3.4
6	3.9	4.3
9	4.2	4.9
12	4.1	3.9
15	4.1	4.1
18	4.1	4.1
21	4.1	4.1
24	4.1	4.3
27	4.0	3.8
30	4.0	4.0
33	4.0	3.8
36	4.1	4.5
39	4.0	3.6
42	4.1	4.1
45	4.2	4.2
48	4.3	4.5
51	4.3	4.3
54	4.3	4.3

APPARENT RADIUM-226 CONCENTRATION 17 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 17

LOCATION: 293173



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	15.9	15.9
6	12.1	10.0
9	9.5	8.3
12	7.6	6.4
15	6.4	5.5
18	5.7	5.3
21	5.2	4.8
24	4.9	5.3
27	4.4	4.2
30	4.0	3.6
33	3.8	4.0
36	3.5	3.0
39	3.5	3.7
42	3.4	3.2
45	3.4	3.4
48	3.4	3.6
51	3.3	3.3

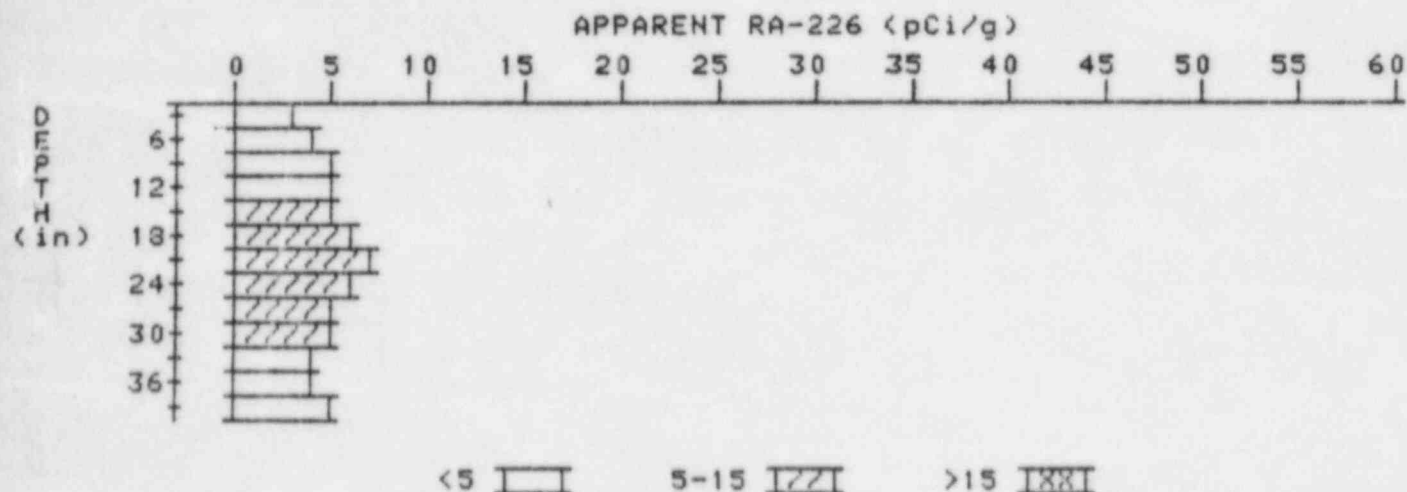
APPARENT RADIUM-226 CONCENTRATION 20

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 20

LOCATION: 306355



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.4	3.4
6	4.1	4.5
9	4.6	5.0
12	4.9	4.7
15	5.3	5.5
18	5.6	5.8
21	5.8	6.5
24	5.6	5.8
27	5.3	5.3
30	5.0	5.0
33	4.7	4.3
36	4.6	4.1
39	4.8	4.8

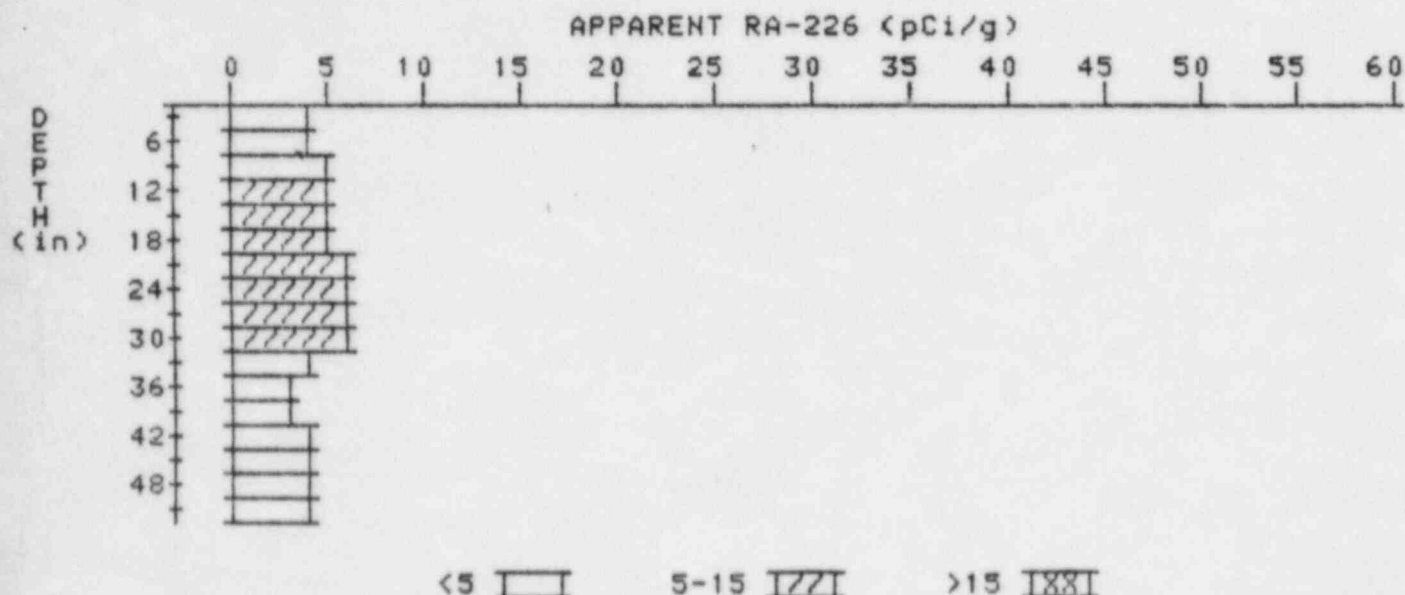
APPARENT RADIUM-226 CONCENTRATION 21

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 21

LOCATION: 310355



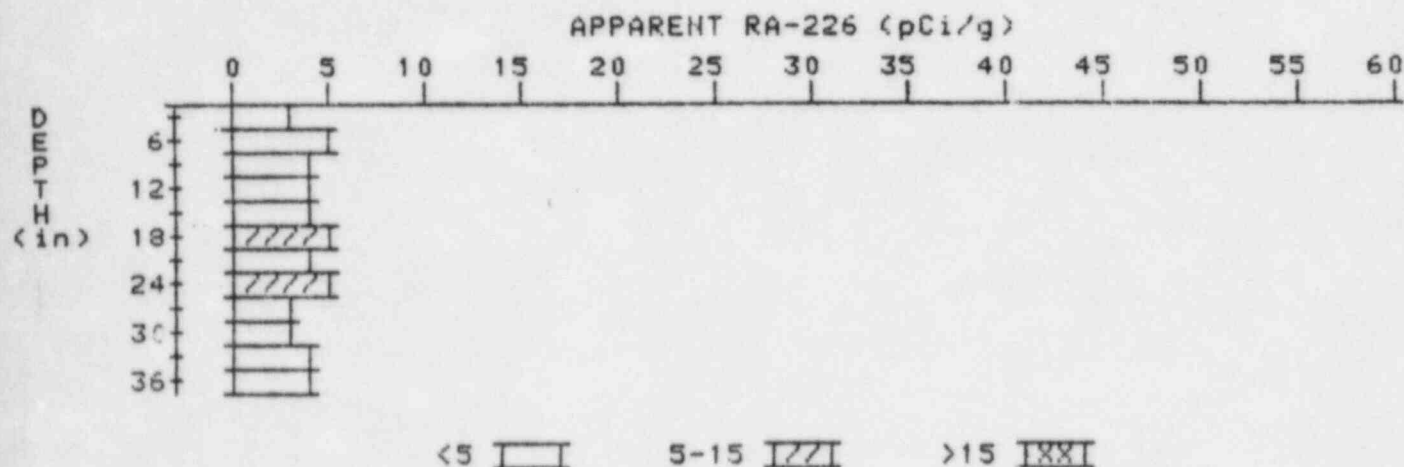
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.5	3.5
6	4.1	4.5
9	4.5	4.5
12	4.9	5.3
15	5.1	5.1
18	5.3	5.3
21	5.5	5.9
24	5.5	5.5
27	5.5	6.2
30	5.1	5.6
33	4.4	4.4
36	3.7	2.6
39	3.6	3.1
42	3.8	4.2
45	3.8	4.0
48	3.7	3.7
51	3.6	3.6

APPARENT RADIUM-226 CONCENTRATION 22 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 22

LOCATION: 314365



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
=====	=====	=====
3	3.4	3.4
6	4.0	4.9
9	4.1	3.9
12	4.3	4.5
15	4.4	4.4
18	4.5	5.2
21	4.2	3.7
24	4.2	5.1
27	3.7	3.0
30	3.6	3.1
33	3.8	4.3
36	3.7	3.7

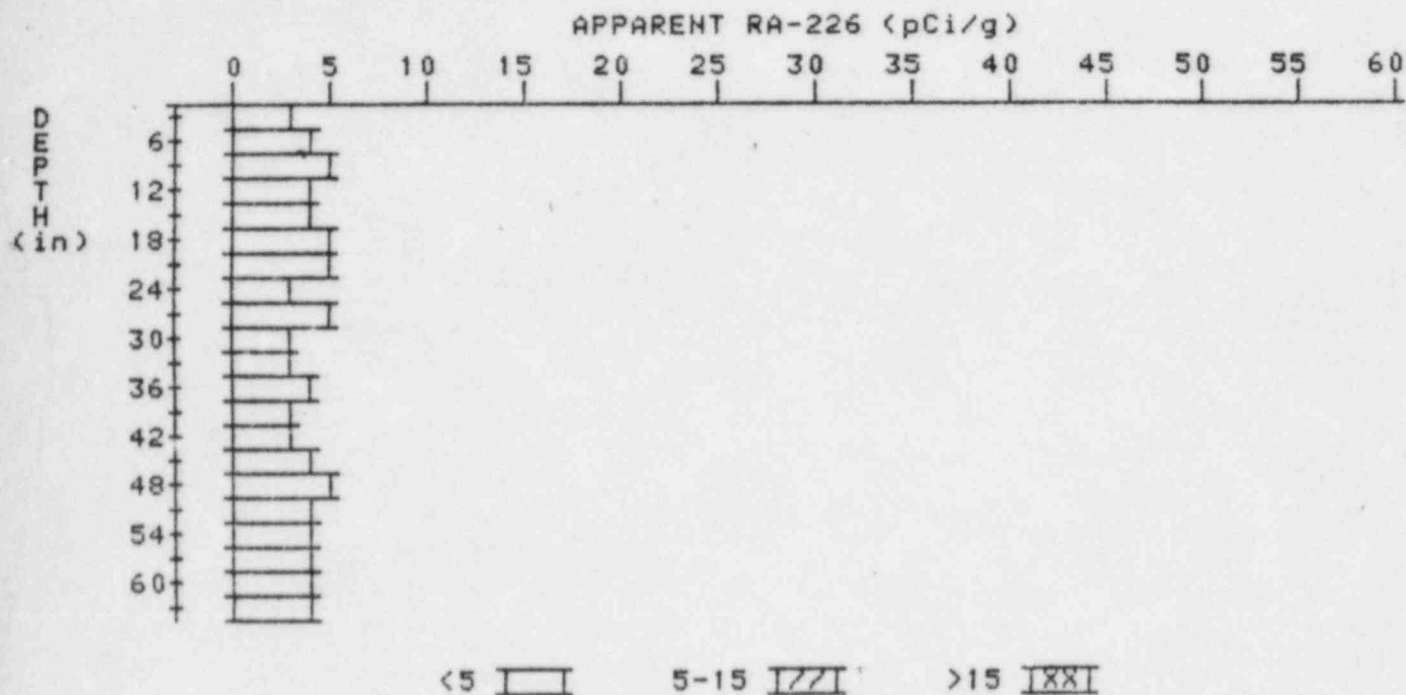
APPARENT RADIUM-226 CONCENTRATION 23

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 23

LOCATION: 315344



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.1	3.1
6	3.6	3.8
9	4.0	4.5
12	4.1	4.3
15	4.1	3.7
18	4.3	4.7
21	4.3	4.8
24	4.0	3.5
27	4.0	4.5
30	3.7	3.3
33	3.6	3.4
36	3.6	3.8
39	3.5	3.3
42	3.5	3.0
45	3.8	3.8
51	4.1	4.1

54	4.1	4.1
57	4.1	4.5
60	3.9	3.7
63	3.8	3.8

APPARENT RADIUM-226 CONCENTRATION 24

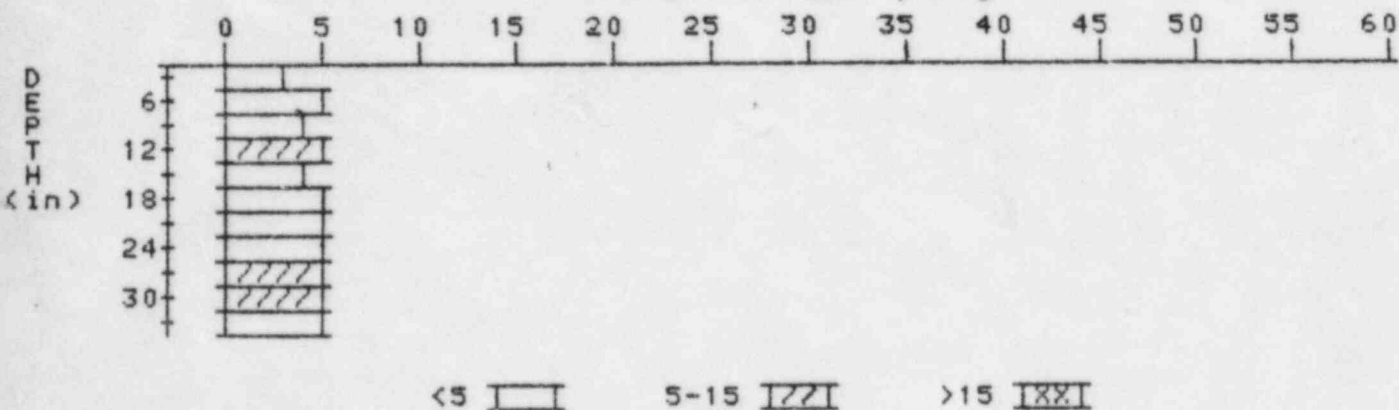
DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 24

LOCATION: 315347

APPARENT RA-226 (pCi/g)



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.3	3.3
6	4.0	4.7
9	4.3	4.3
12	4.6	5.1
15	4.6	4.4
18	4.7	4.9
21	4.7	4.5
24	4.8	4.6
27	5.0	5.4
30	5.0	5.2
33	4.9	4.9

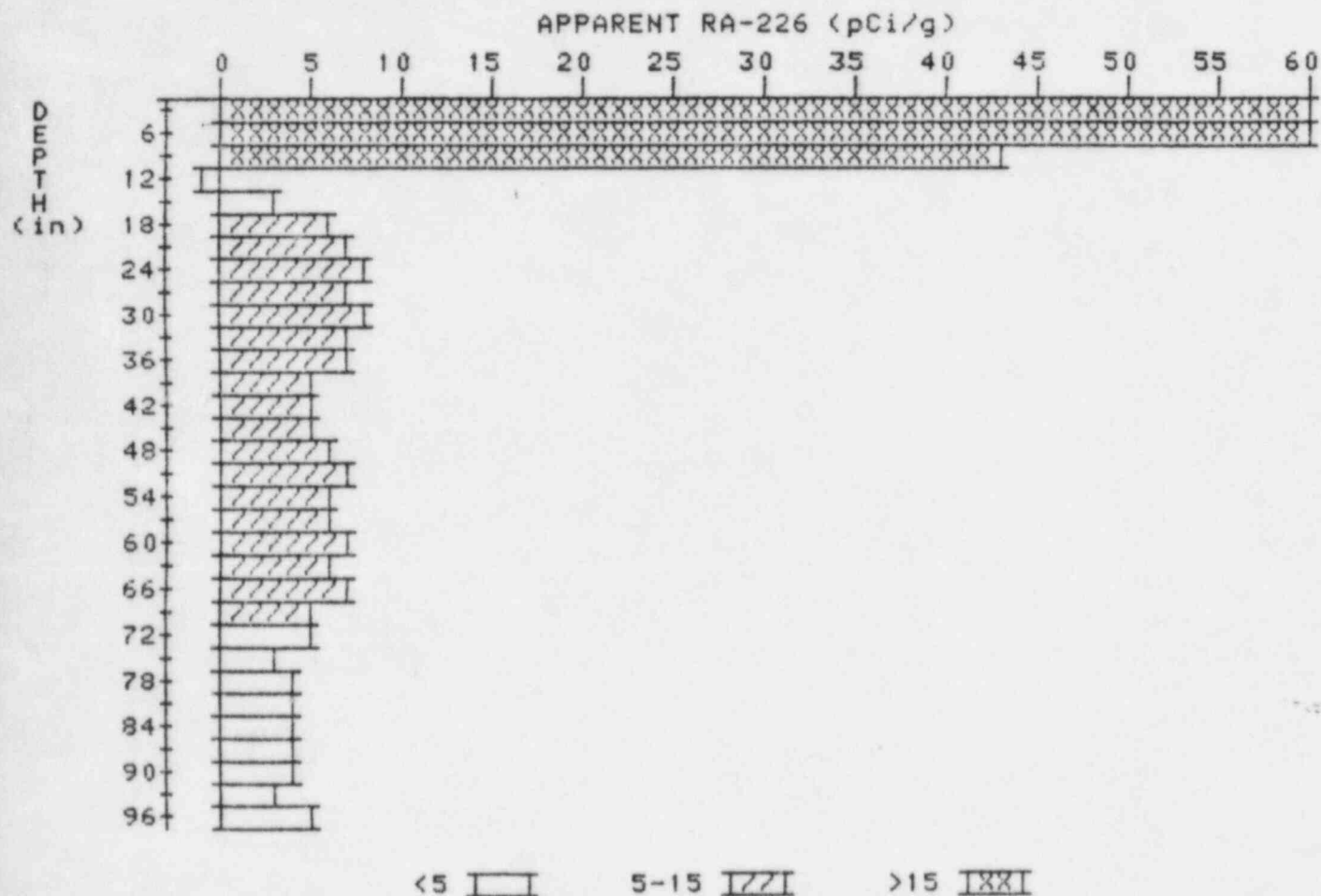
APPARENT RADIUM-226 CONCENTRATION 25

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 25

LOCATION: 316355



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	60.1	60.1
6	32.0	173.0
9	49.9	42.8
12	21.8	-12.2
15	12.8	2.7
18	9.5	5.6
21	8.4	7.2
24	8.0	8.0
27	7.6	6.9

30	7.6	8.5
33	7.1	7.3
36	6.5	6.5
39	5.9	5.2
42	5.7	5.3
45	5.7	5.2
48	6.0	6.4
51	6.1	6.6
54	5.9	5.5
57	5.9	5.5
60	6.1	6.6
63	6.0	5.8
66	6.0	7.2
69	5.3	5.1
72	4.7	4.7
75	4.1	3.4
78	3.9	3.7
81	3.8	3.6
84	3.8	3.6
87	3.9	3.9
90	4.0	4.0
93	4.1	3.0
96	4.8	4.8

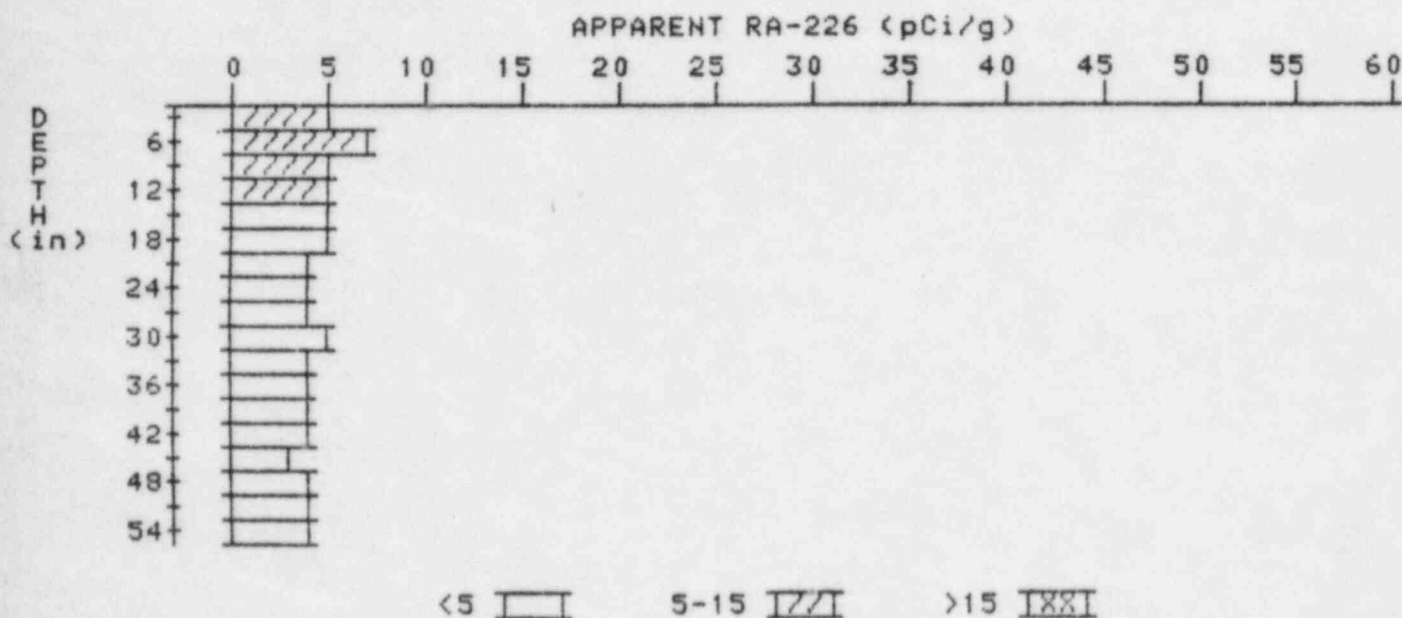
APPARENT RADIUM-226 CONCENTRATION 26

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 26

LOCATION: 319222



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	5.4	5.4
6	5.8	7.2
9	5.4	5.2
12	5.1	5.1
15	4.8	4.6
18	4.6	4.8
21	4.3	3.9
24	4.2	4.2
27	4.1	3.6
30	4.3	4.8
33	4.2	4.4
36	4.0	3.6
39	4.0	4.0
42	4.0	4.4
45	3.8	3.3
48	3.9	4.1
51	3.9	3.9
54	3.9	3.9

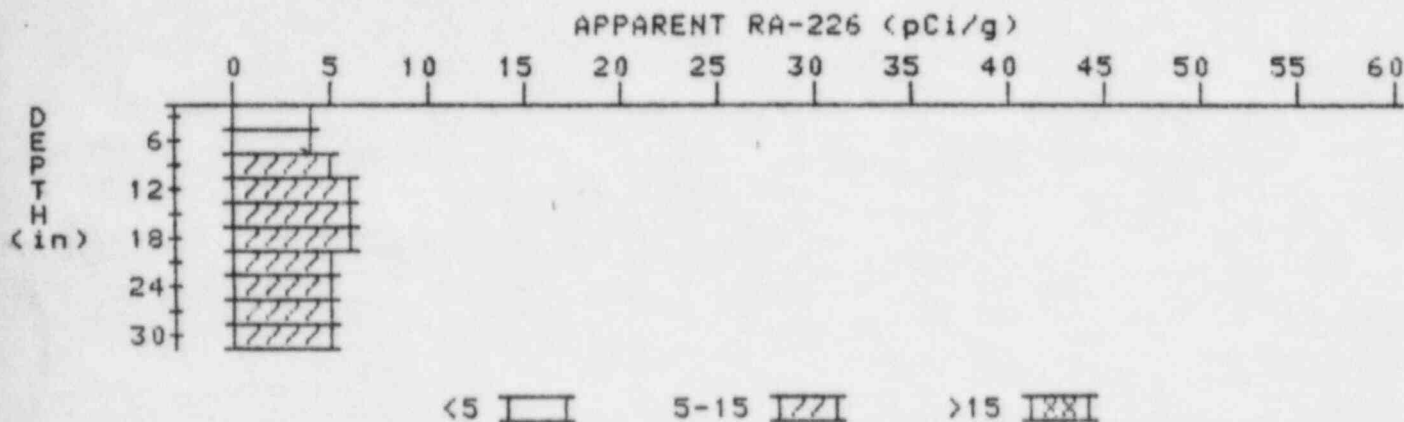
APPARENT RADIUM-226 CONCENTRATION 27

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 27

LOCATION: 340310



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.5	3.5
6	4.2	4.4
9	4.8	5.2
12	5.2	5.6
15	5.4	5.8
18	5.4	5.6
21	5.3	5.3
24	5.2	5.0
27	5.2	5.4
30	5.1	5.1

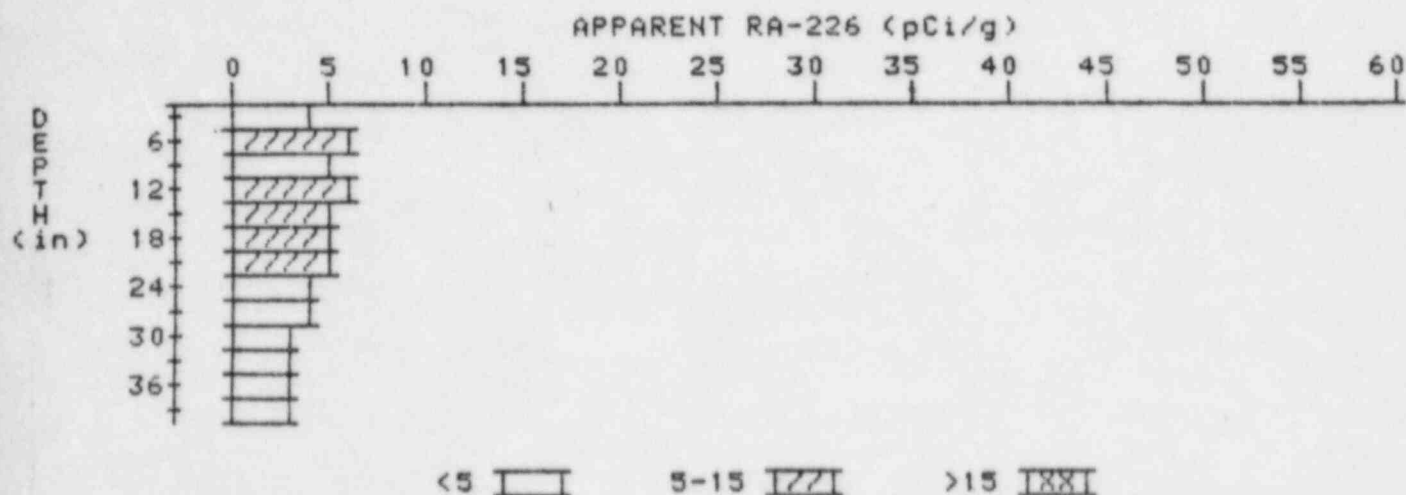
APPARENT RADIUM-226 CONCENTRATION 28

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 28

LOCATION: 340317



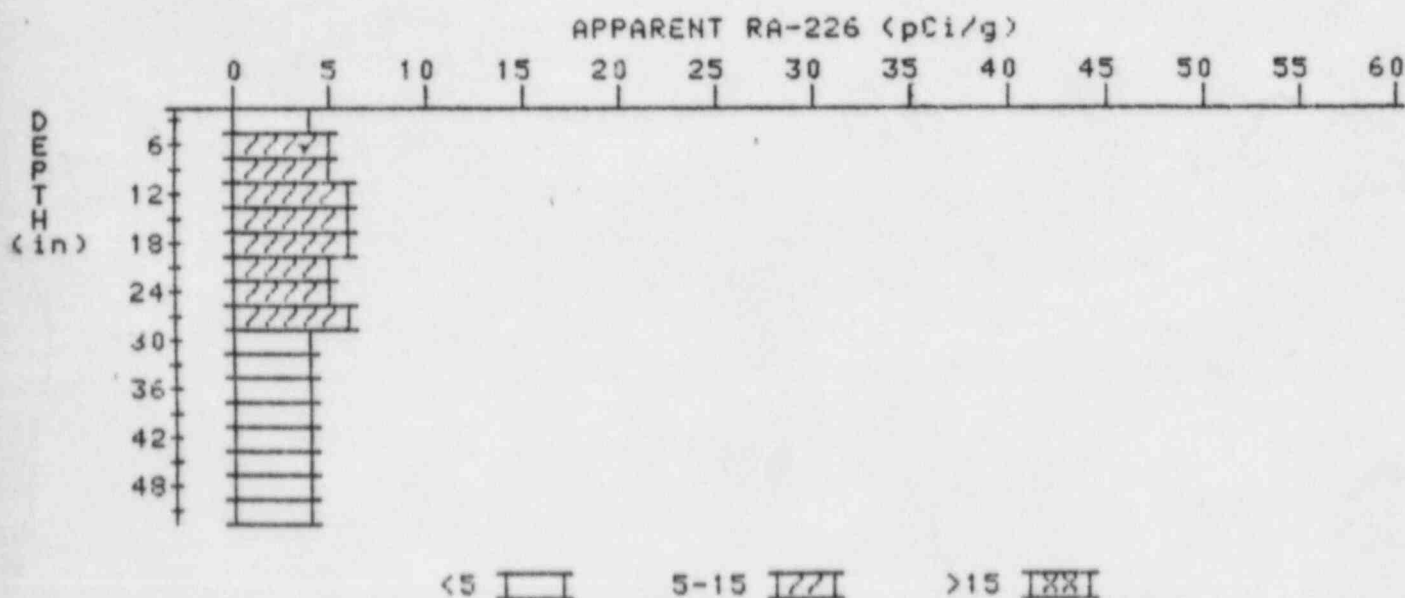
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.8	3.8
6	4.6	5.7
9	4.8	4.6
12	5.1	5.6
15	5.1	5.3
18	5.0	5.2
21	4.9	5.2
24	4.4	4.4
27	4.0	4.0
30	3.6	3.2
33	3.4	3.2
36	3.3	3.3
39	3.2	3.2

APPARENT RADIUM-226 CONCENTRATION 29 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 29

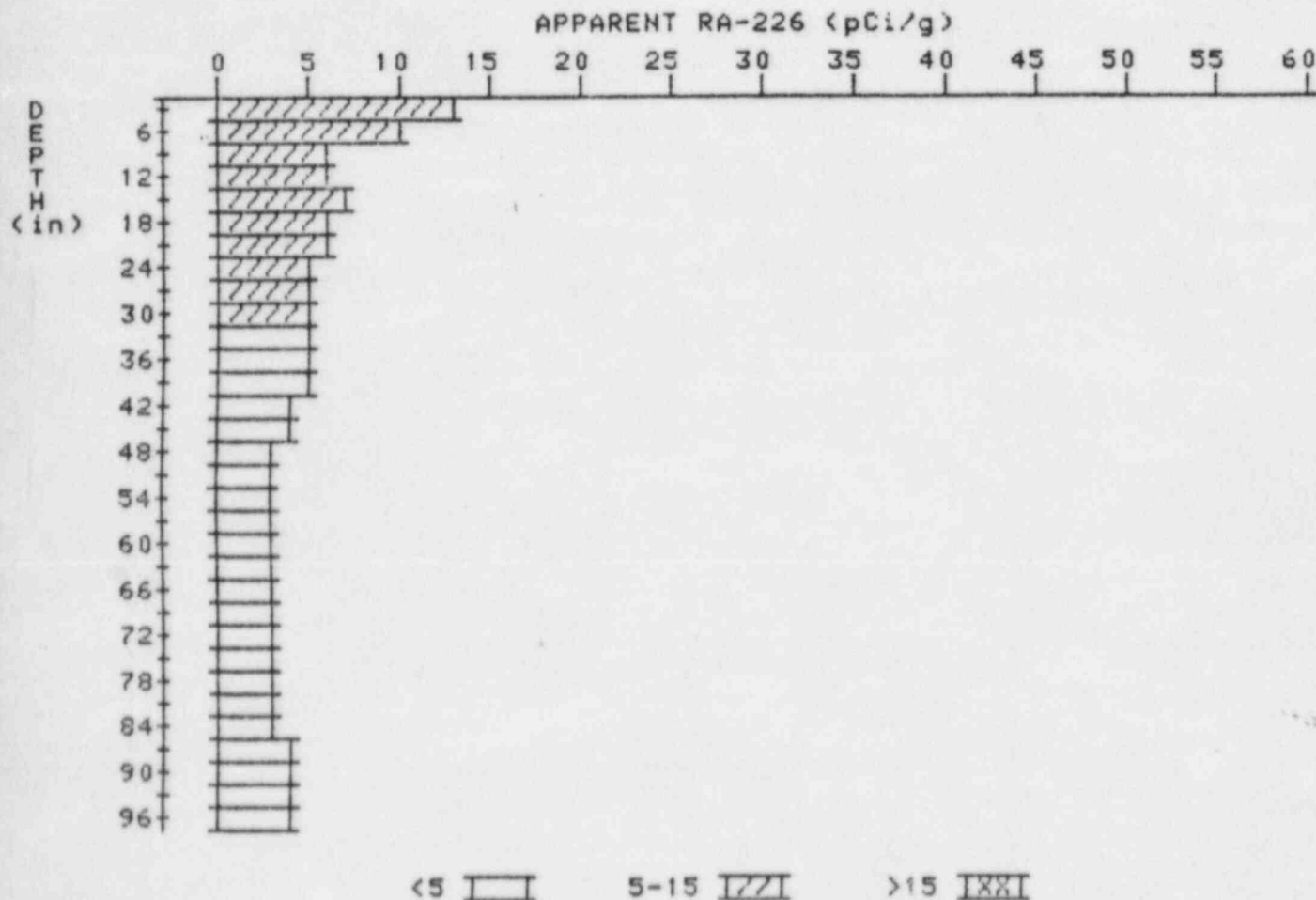
LOCATION: 347316



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.9	3.9
6	4.7	5.4
9	5.1	5.1
12	5.5	6.0
15	5.6	5.8
18	5.6	6.0
21	5.4	5.2
24	5.3	5.5
27	5.1	5.6
30	4.6	4.1
33	4.4	4.2
36	4.3	4.1
39	4.3	4.5
42	4.2	4.2
45	4.1	3.7
48	4.2	4.0
51	4.4	4.4

APPARENT RADIUM-226 CONCENTRATION 30 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 30
LOCATION: 347320



Depth (in)	Apparent Radium-226 (pCi/g)	Apparent Radium-226 (pCi/g)
	Undeconvolved	Deconvolved
3	13.4	13.4
6	10.7	10.0
9	8.4	6.3
12	7.3	6.2
15	6.8	6.8
18	6.3	5.9
21	6.0	6.2
24	5.6	5.4
27	5.3	5.3

30	5.0	5.0
33	4.7	4.5
36	4.5	4.5
39	4.3	4.7
42	3.9	3.7
45	3.6	3.6
48	3.3	2.8
51	3.3	3.3
54	3.3	3.3
57	3.3	3.3
60	3.3	3.3
63	3.3	3.3
66	3.3	3.5
69	3.2	3.4
72	3.0	2.8
75	2.9	2.5
78	3.0	2.8
81	3.2	3.2
84	3.4	3.4
87	3.6	3.8
90	3.7	3.9
93	3.7	3.7
96	3.7	3.7

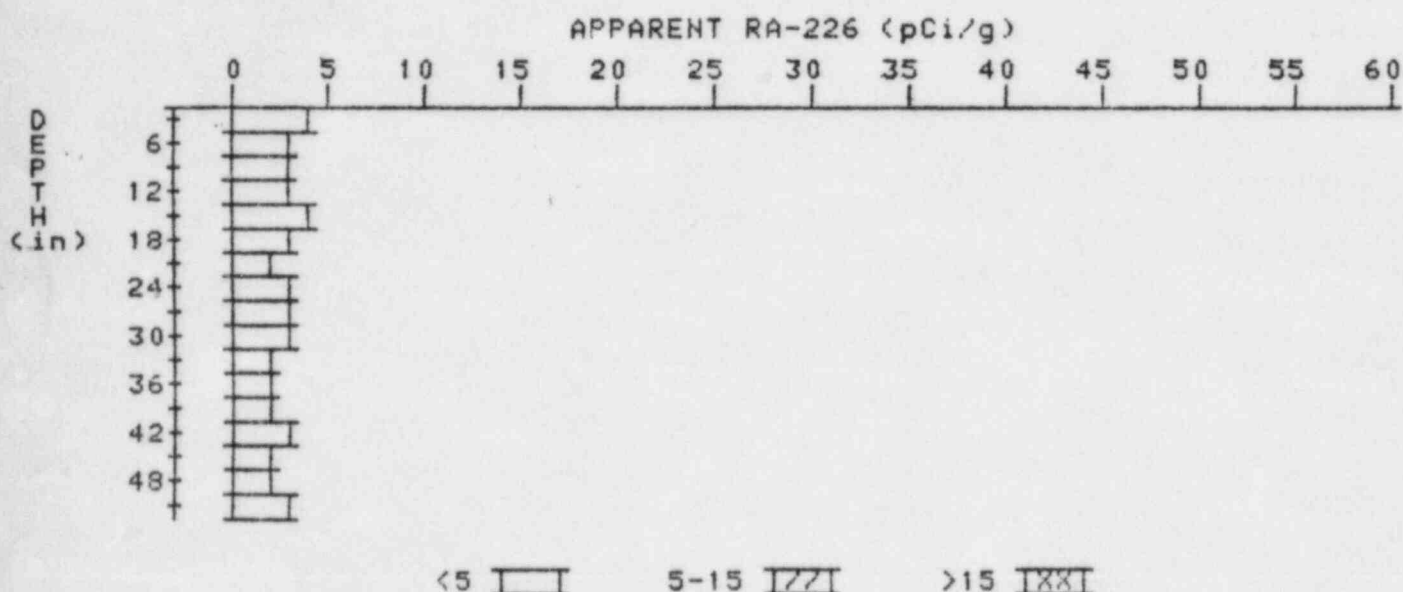
APPARENT RADIUM-226 CONCENTRATION 31

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 31

LOCATION: 355220



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	4.0	4.0
6	3.6	3.2
9	3.4	3.2
12	3.3	3.1
15	3.3	3.7
18	3.1	3.3
21	2.8	2.3
24	2.8	2.8
27	2.8	3.2
33	2.4	2.0
36	2.4	2.2
39	2.5	2.3
42	2.7	3.2
45	2.6	2.1
48	2.8	2.4
51	3.2	3.2

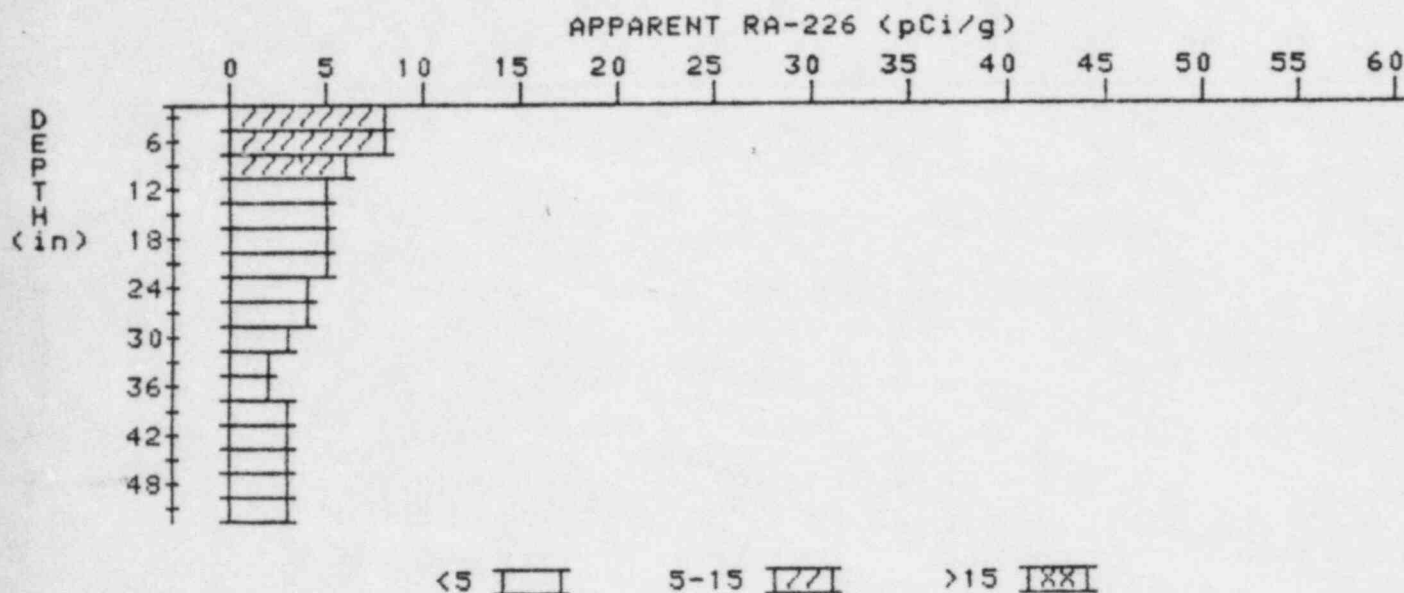
APPARENT RADIUM-226 CONCENTRATION 32

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 32

LOCATION: 355265



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	7.7	7.7
6	7.1	7.8
9	6.1	5.6
12	5.4	4.9
15	5.0	4.8
18	4.7	4.7
21	4.4	4.6
24	4.0	3.8
27	3.7	3.9
30	3.3	3.3
33	2.9	2.4
36	2.8	2.3
39	3.0	3.2
42	3.1	3.1
45	3.2	3.4
48	3.2	3.0
51	3.3	3.3

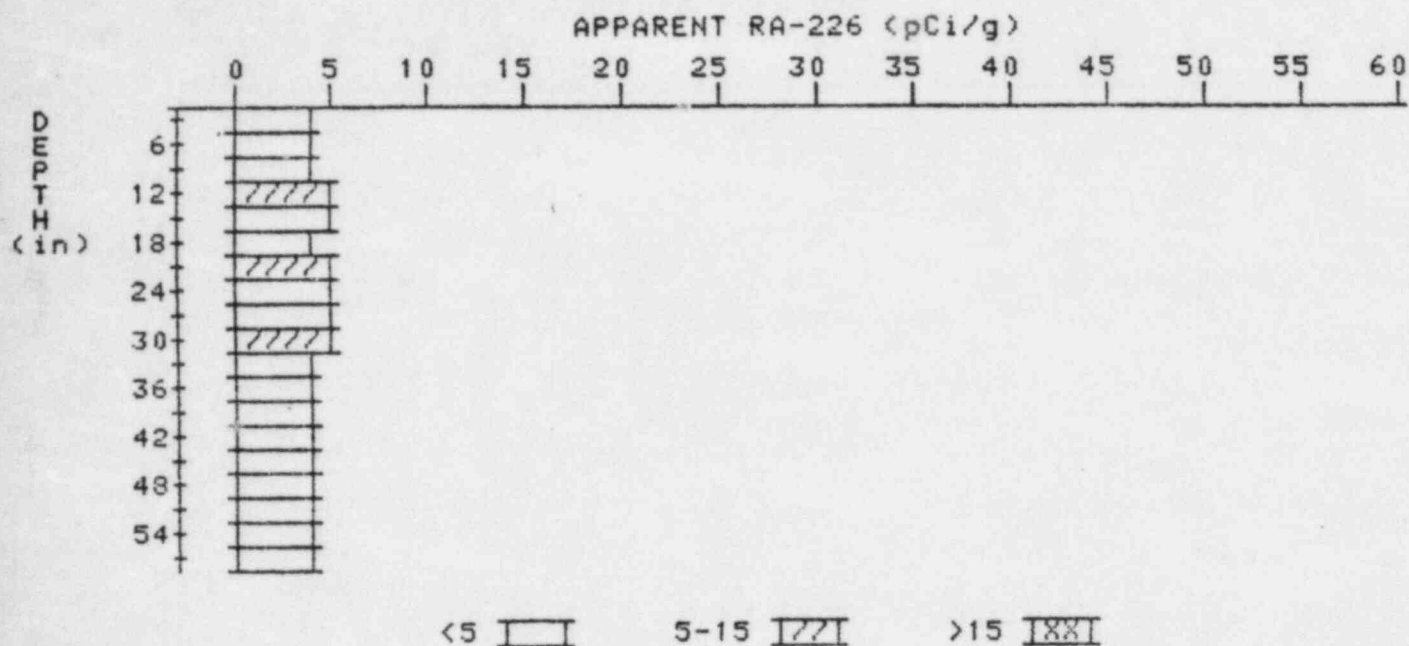
APPARENT RADIUM-226 CONCENTRATION 33

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 33

LOCATION: 356377



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.5	3.5
6	4.0	4.4
9	4.3	4.3
12	4.6	5.1
15	4.6	4.6
18	4.6	4.2
21	4.8	5.2
24	4.8	5.0
27	4.7	4.5
30	4.7	5.1
33	4.5	4.3
36	4.4	4.4
39	4.3	4.5
42	4.1	3.9
45	4.0	3.8
48	4.0	4.2
51	3.9	3.5
54	4.0	4.4

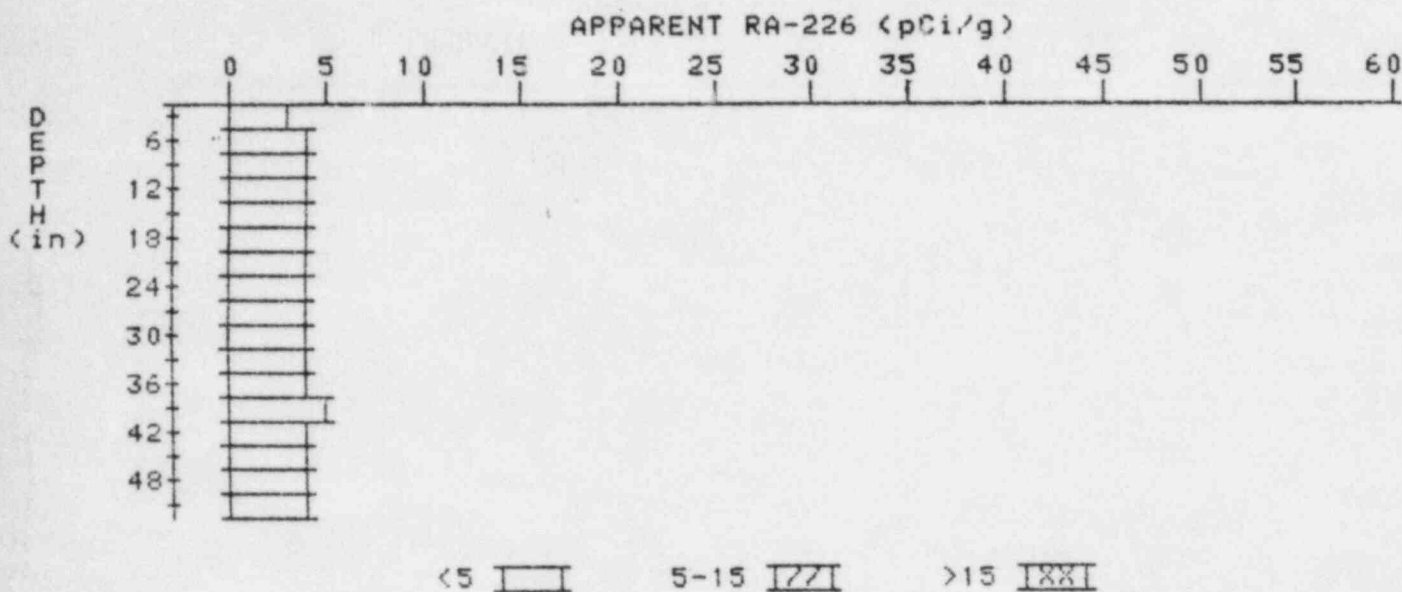
APPARENT RADIUM-226 CONCENTRATION 34

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 34

LOCATION: 356380

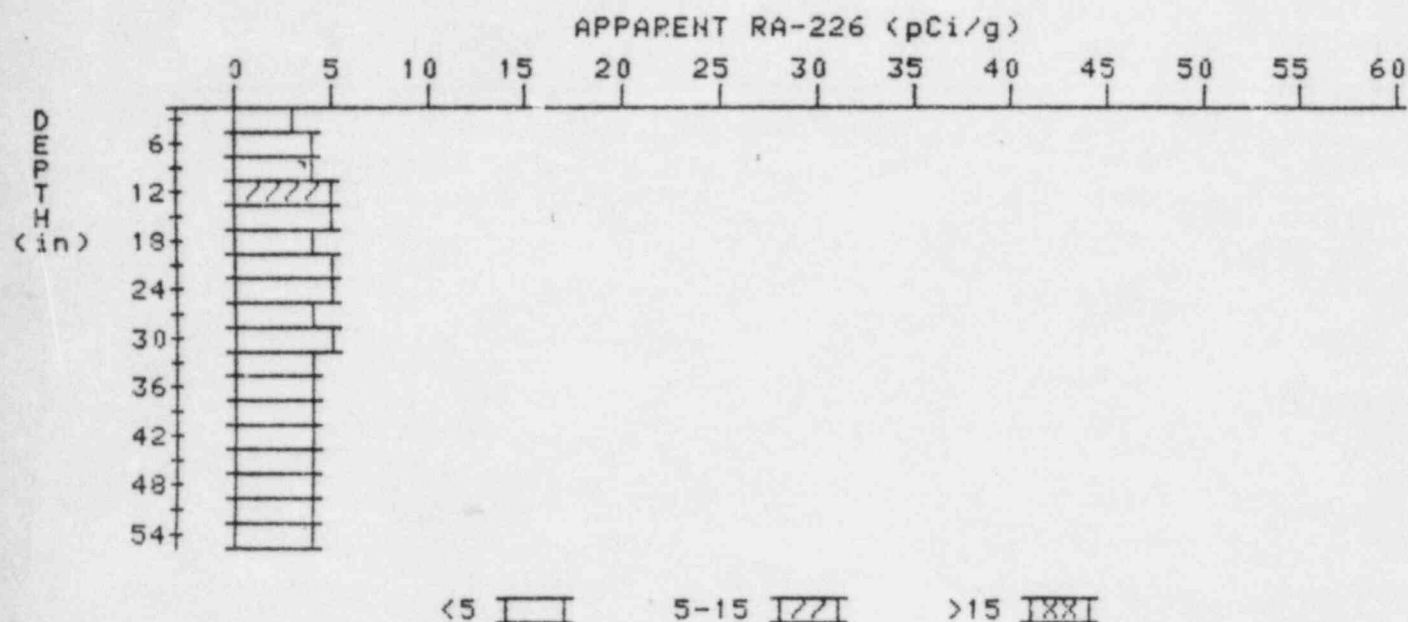


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.0	3.0
6	3.4	3.6
9	3.7	3.9
12	3.9	4.1
15	4.0	4.0
18	4.1	4.3
21	4.1	3.9
24	4.2	4.4
27	4.2	4.2
30	4.2	4.0
33	4.3	4.5
36	4.3	4.3
39	4.3	4.7
42	4.1	3.9
45	4.0	4.0
48	3.9	3.9
51	3.8	3.8

APPARENT RADIUM-226 CONCENTRATION 35

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 35
LOCATION: 360371

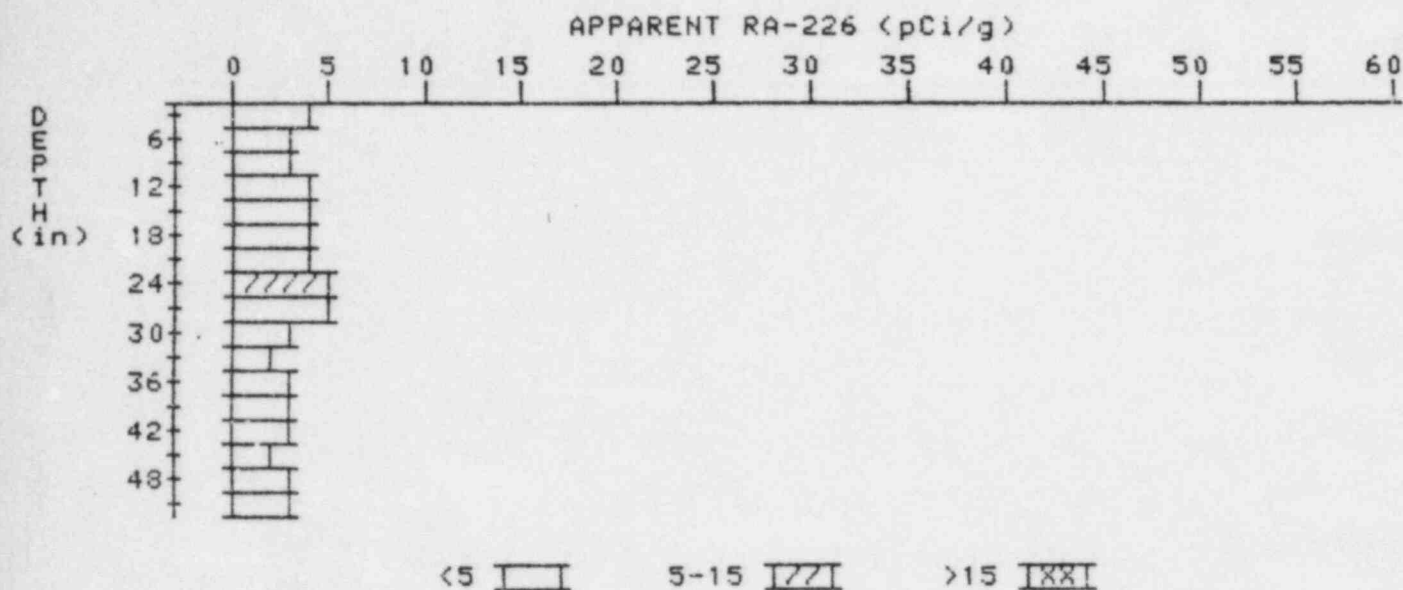


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.4	3.4
6	3.9	4.1
9	4.3	4.5
12	4.6	5.1
15	4.6	4.8
18	4.5	4.3
21	4.5	4.5
24	4.5	4.7
27	4.4	4.2
30	4.4	4.2
33	4.4	4.2
36	4.2	4.2
39	4.2	4.0
42	4.3	4.5
45	4.3	4.5
48	4.2	4.2
51	4.1	4.1
54	4.0	4.0

APPARENT RADIUM-226 CONCENTRATION 36

DECONVOLUTION GRAPH

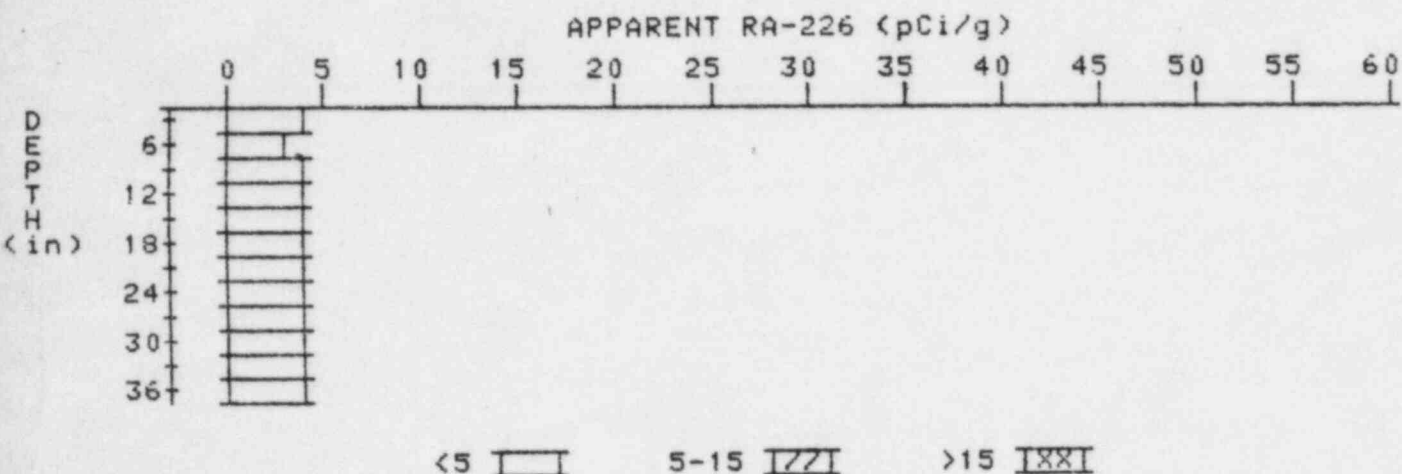
PROPERTY NUMBER: GJ-30484-CS
 HOLE NUMBER: 36
 LOCATION: 395225



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.9	3.9
6	3.6	3.4
9	3.4	2.7
12	3.6	3.6
15	3.8	3.8
18	4.0	4.2
21	4.1	3.9
24	4.3	5.2
27	4.0	4.7
30	3.3	2.6
33	3.0	2.5
36	3.0	3.2
39	2.9	2.9
42	2.8	2.8
45	2.7	2.2
48	2.9	3.1
51	3.0	3.0

APPARENT RADIUM-226 CONCENTRATION 37 DECONVOLUTION GRAPH

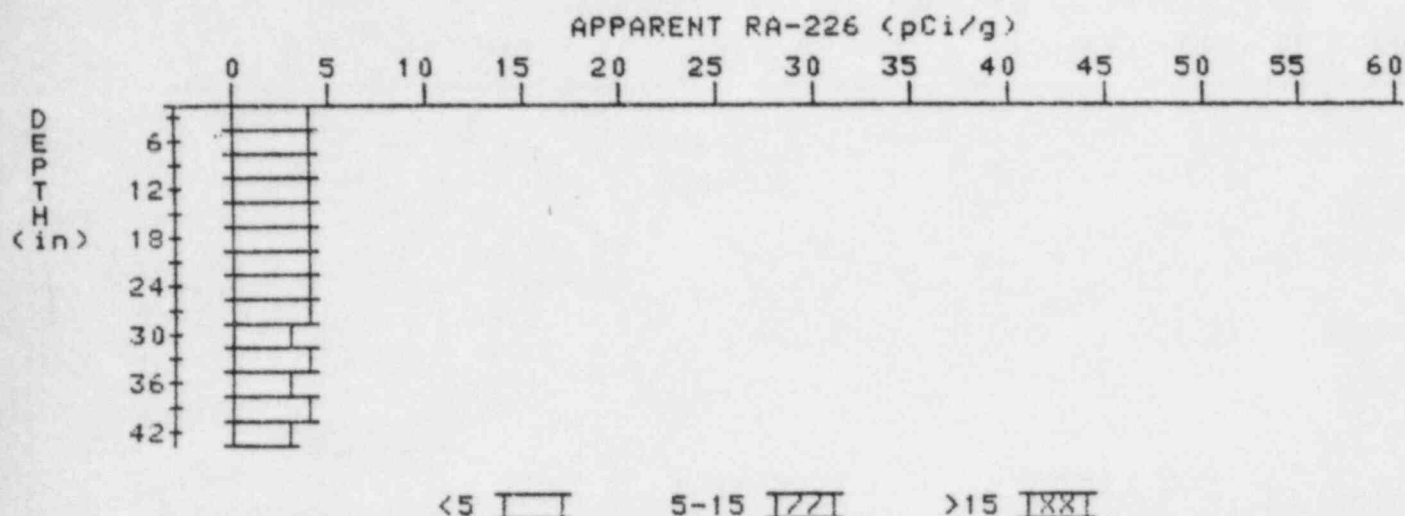
PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 37
LOCATION: 405245



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

APPARENT RADIUM-226 CONCENTRATION 38 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 38
LOCATION: 410255



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.5	3.5
6	3.7	3.7
9	3.9	4.3
12	3.9	3.7
15	4.0	4.4
18	3.9	3.7
21	3.9	3.9
24	3.9	4.1
27	3.8	4.0
30	3.6	3.2
33	3.6	3.8
36	3.5	3.1
39	3.6	4.1
42	3.4	3.4

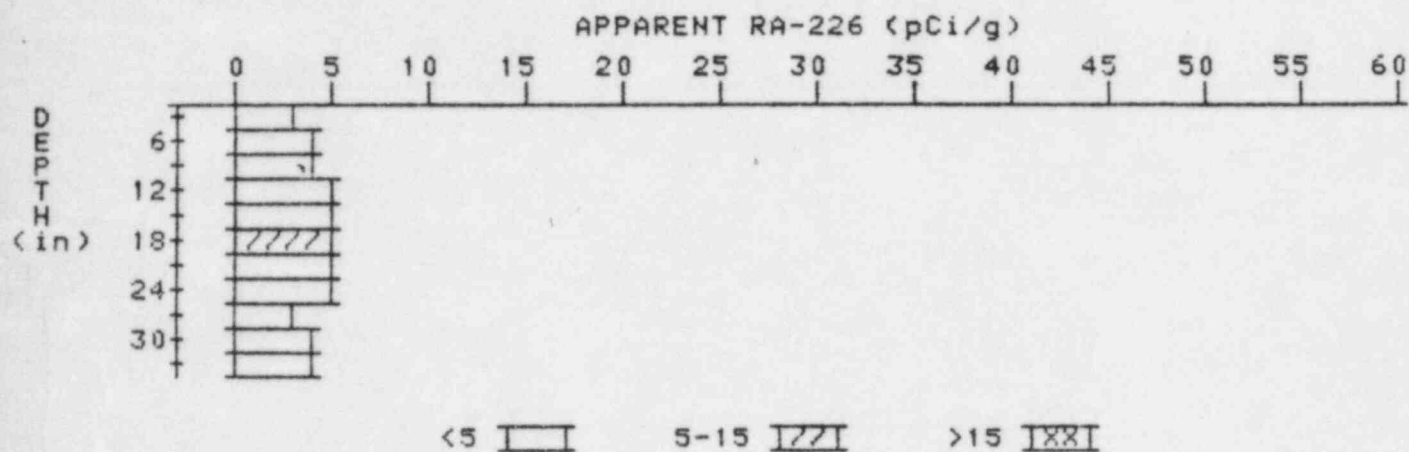
APPARENT RADIUM-226 CONCENTRATION 39

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 39

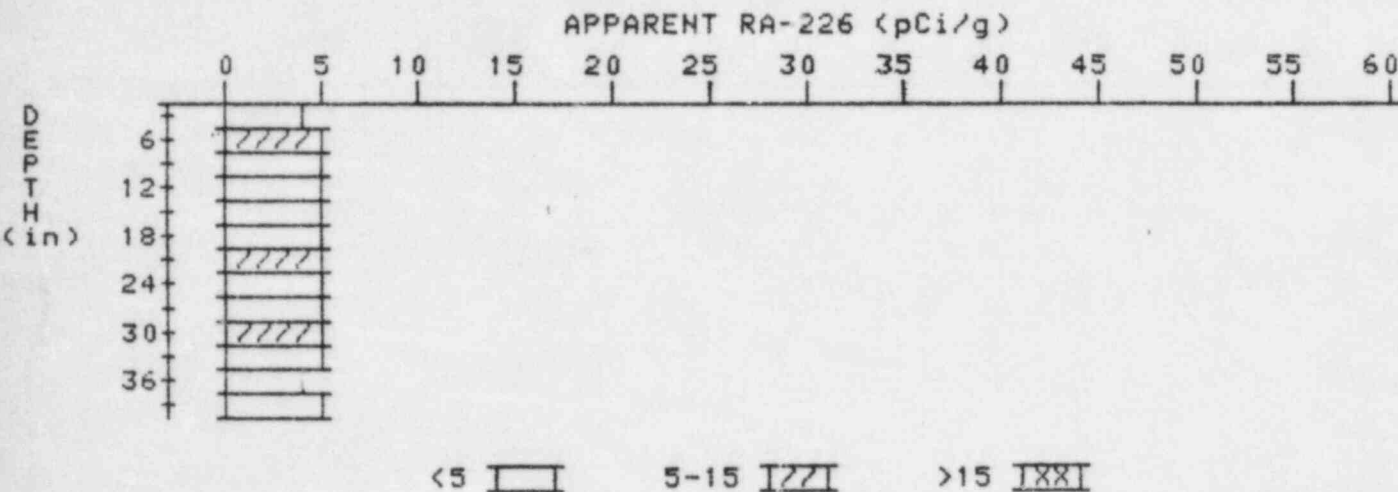
LOCATION: 426380



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
=====	=====	=====
3	3.2	3.2
6	3.8	4.2
9	4.2	4.4
12	4.5	4.7
15	4.7	4.9
18	4.8	5.3
21	4.6	4.6
24	4.4	4.8
27	4.0	3.5
30	3.9	3.9
33	3.8	3.8

APPARENT RADIUM-226 CONCENTRATION 40 DECONVOLUTION GRAPH

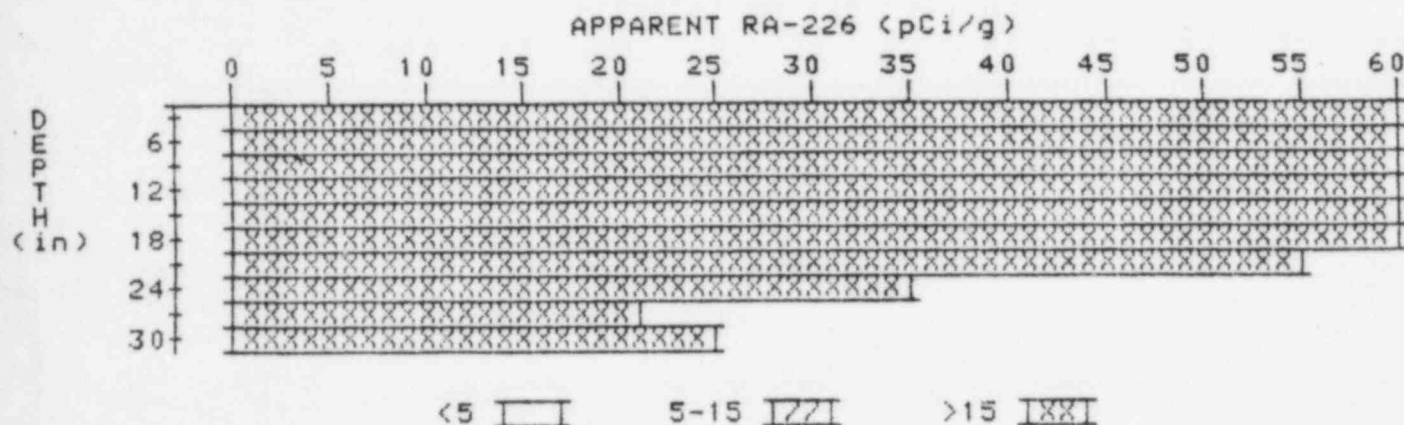
PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 40
LOCATION: 200233



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.9	3.9
6	4.4	5.1
9	4.5	4.5
12	4.6	4.6
15	4.7	4.7
18	4.8	4.8
21	4.9	5.1
24	4.9	4.9
27	4.9	4.9
30	4.9	5.1
33	4.8	5.0
36	4.6	4.4
39	4.5	4.5

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH 41

PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 41
LOCATION: 210233



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	82.4	82.4
6	117.8	149.4
9	135.4	167.0
12	135.2	162.8
15	119.5	141.0
18	91.7	88.1
21	65.9	55.4
24	46.0	34.6
27	32.5	21.5
30	25.2	25.2

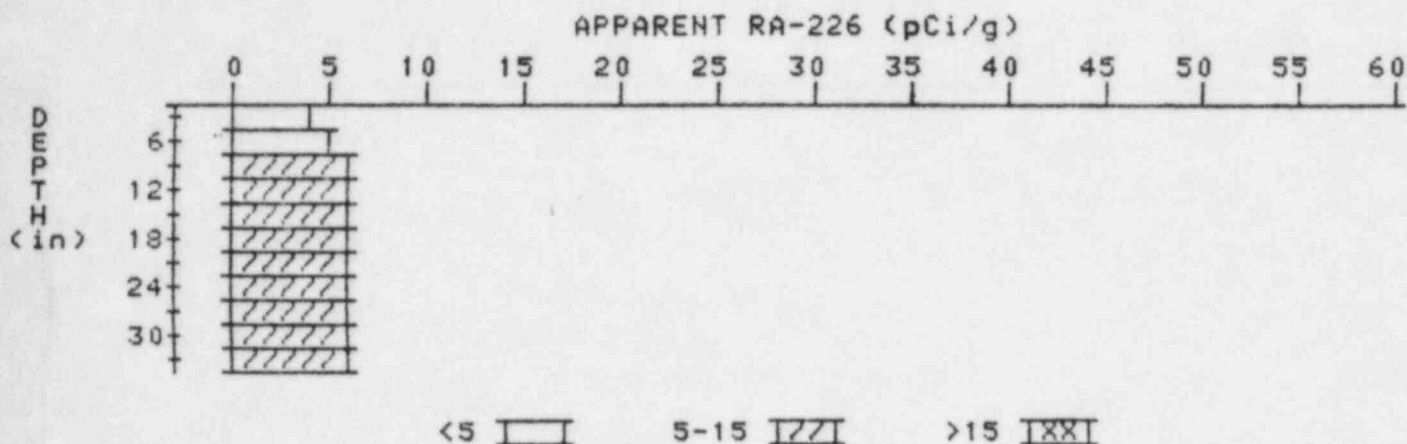
APPARENT RADIUM-226 CONCENTRATION 42

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 42

LOCATION: 210237

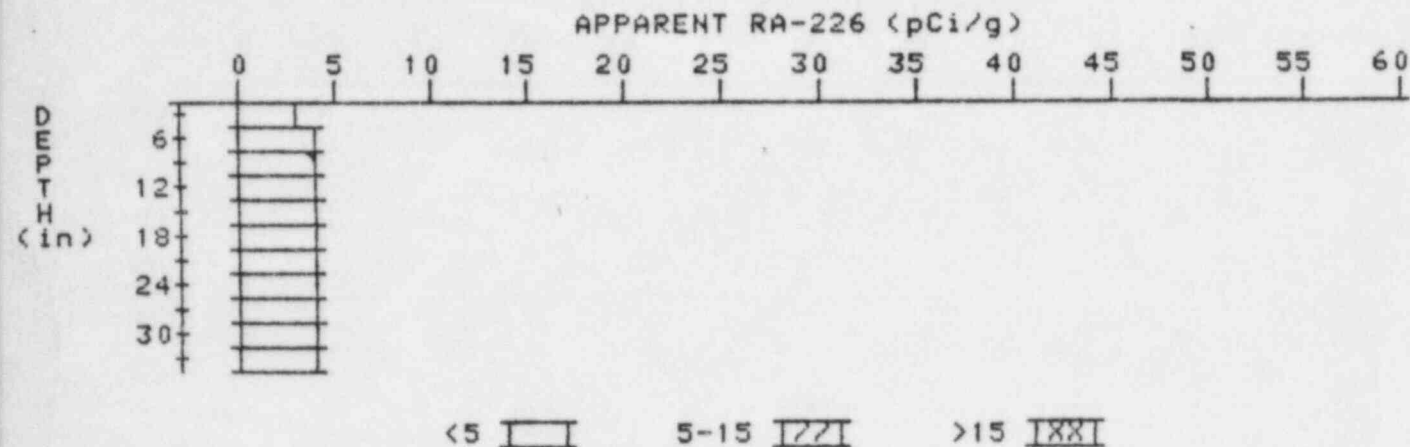


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.9	3.9
6	4.6	4.8
9	5.2	5.7
12	5.5	5.7
15	5.7	5.7
18	5.9	5.9
21	6.1	6.5
24	6.1	6.1
27	6.1	6.1
30	6.1	6.5
33	5.9	5.9

APPARENT RADIUM-226 CONCENTRATION 43

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS
 HOLE NUMBER: 43
 LOCATION: 210245



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

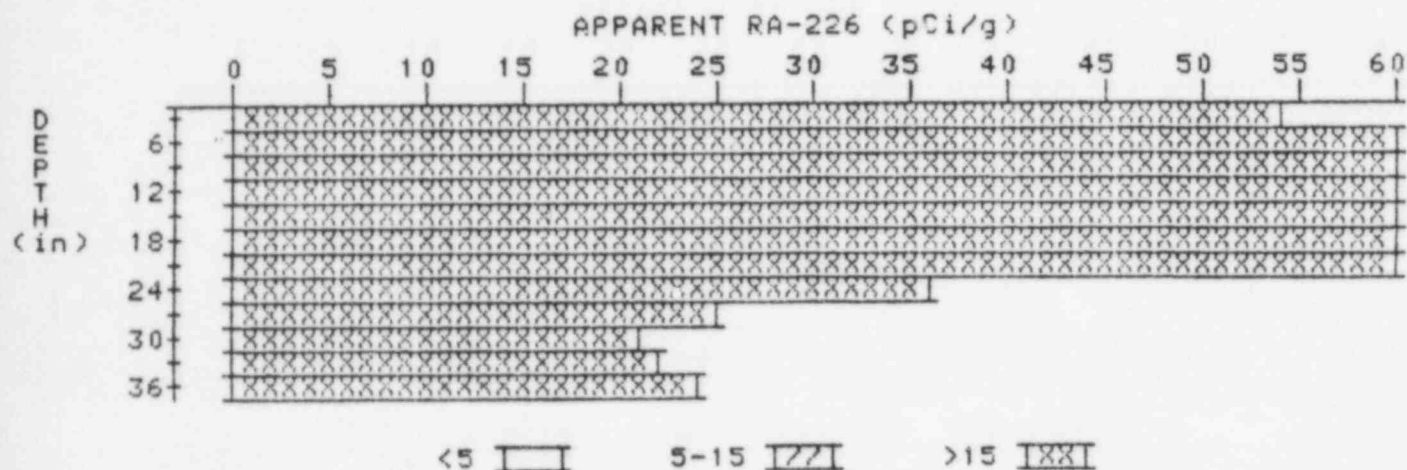
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

44

PROPERTY NUMBER: CJ-30484-CS

HOLE NUMBER: 44

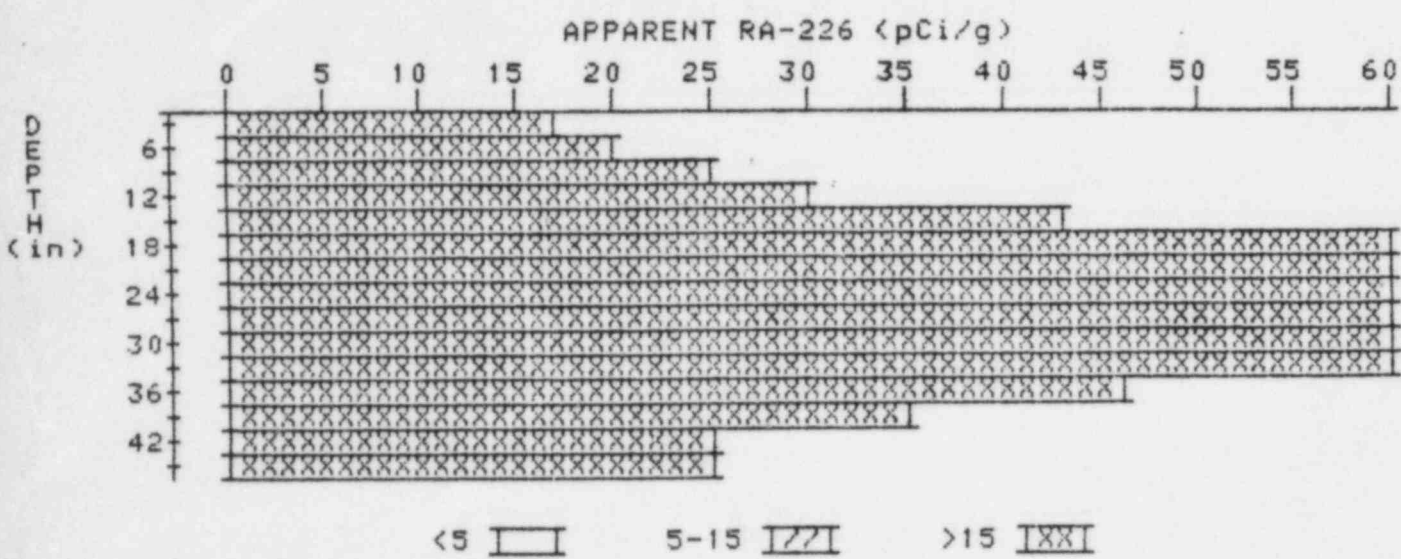
LOCATION: 212233



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
=====	=====	=====
3	54.0	54.0
6	69.7	69.3
9	85.6	98.0
12	94.5	113.5
15	92.7	105.3
18	83.8	99.4
21	66.1	68.1
24	47.3	36.1
27	34.8	24.8
30	27.9	20.6
33	25.1	21.5
36	24.3	24.3

APPARENT RADIUM-226 CONCENTRATION 47 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 47
LOCATION: 213210



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	17.3	17.3
6	23.2	20.4
9	30.7	24.7
12	41.6	30.4
15	58.8	43.3
18	84.7	74.2
21	116.5	135.2
24	137.8	171.9
27	139.9	176.7
30	121.3	144.4
33	89.7	81.7
36	62.6	45.9
39	44.9	34.9
42	32.8	25.3
45	24.9	24.9

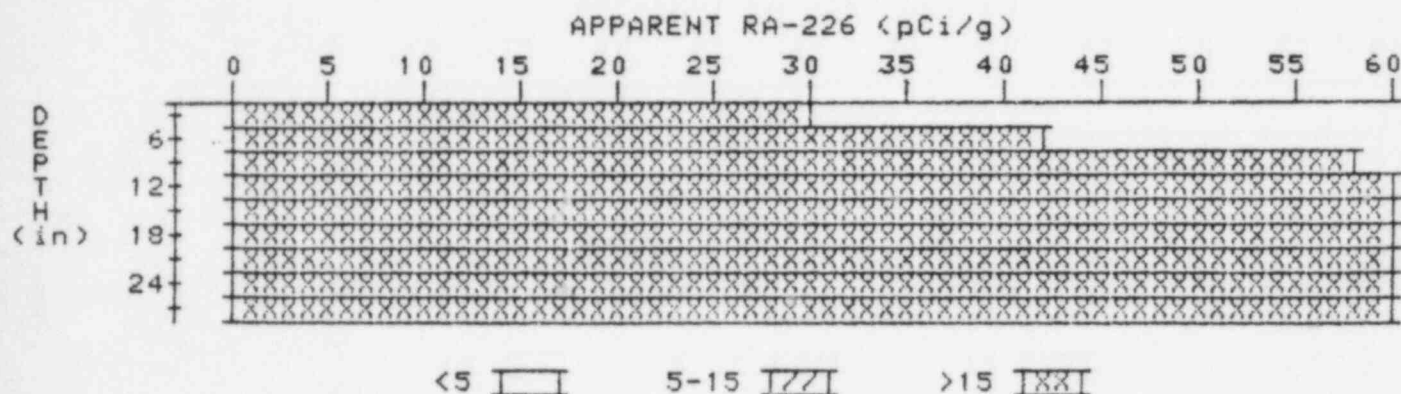
APPARENT RADIUM-226 CONCENTRATION 49

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 49

LOCATION: 213230

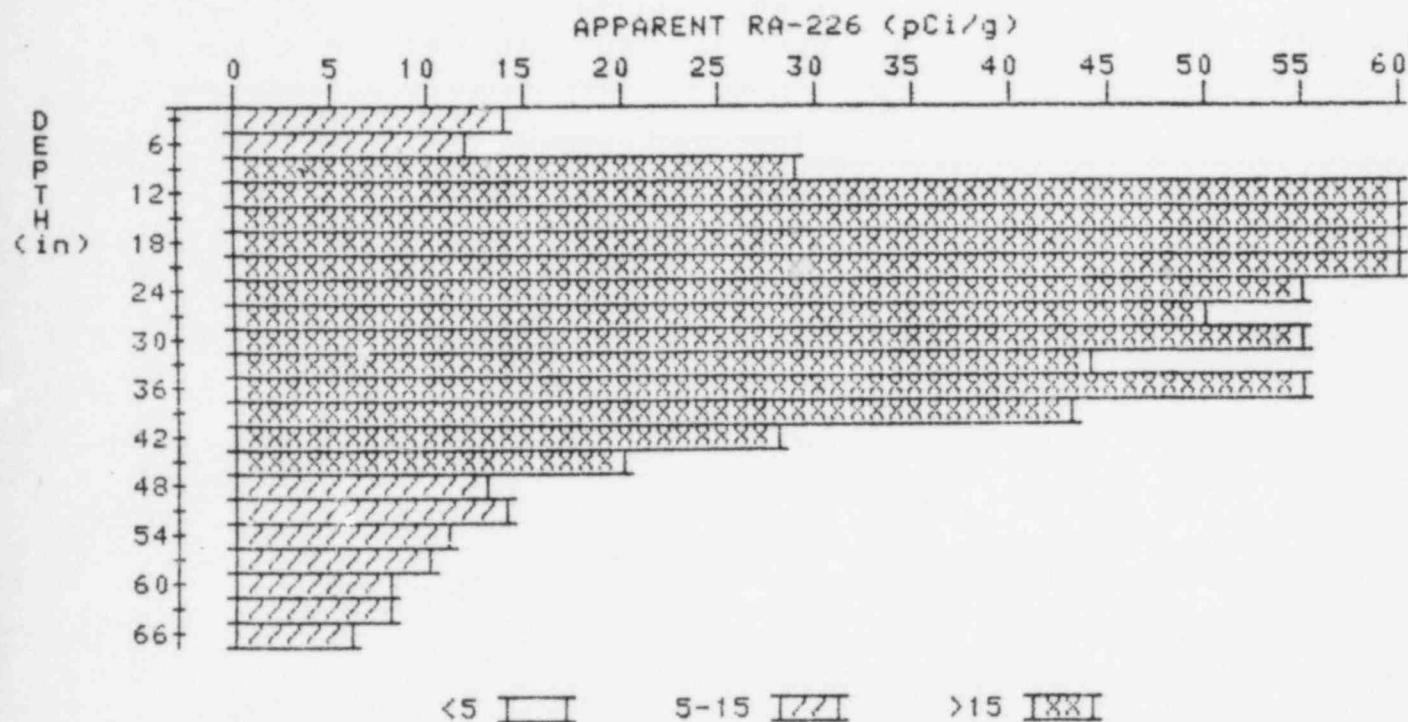


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	29.9	29.9
6	44.2	41.7
9	59.9	57.8
12	76.8	82.0
15	90.8	90.1
18	105.2	122.6
21	109.8	133.6
24	101.0	116.6
27	83.4	83.4

APPARENT RADIUM-226 CONCENTRATION 50

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 50
LOCATION: 217215



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	13.6	13.6
6	22.9	11.5
9	38.6	29.2
12	59.6	71.0
15	74.2	97.1
18	75.9	97.1
21	65.7	59.7
24	59.9	55.0
27	54.3	50.2
30	52.0	55.0
33	48.0	44.1
36	46.2	55.3
39	39.3	42.5
42	30.6	28.3
45	23.2	19.6
48	17.8	13.2

51	15.0	14.5
54	12.5	11.4
57	10.6	10.2
60	8.9	7.8
63	7.8	8.3
66	6.4	6.4

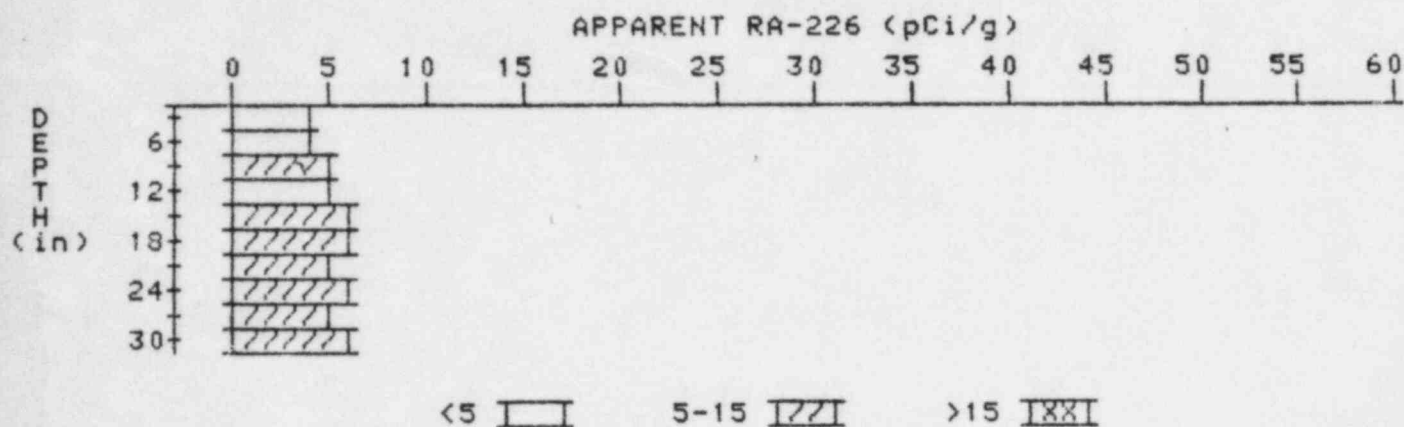
APPARENT RADIUM-226 CONCENTRATION 51

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 51

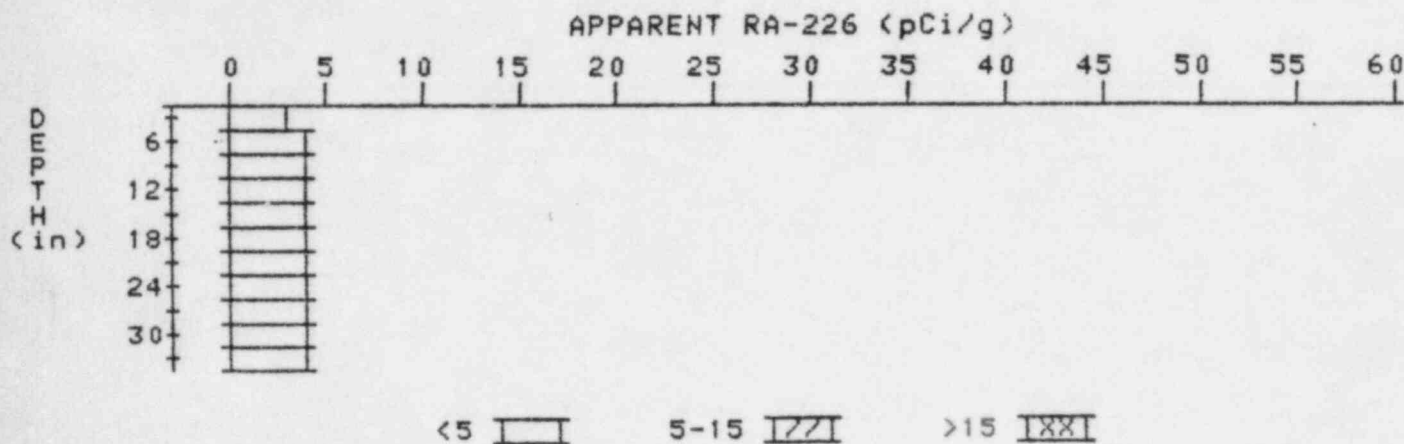
LOCATION: 220224



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.9	3.9
6	4.3	4.3
9	4.7	5.1
12	4.9	4.5
15	5.3	5.7
18	5.5	5.7
21	5.6	5.4
24	5.8	6.3
27	5.7	5.3
30	5.8	5.8

APPARENT RADIUM-226 CONCENTRATION 52 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS
HOLE NUMBER: 52
LOCATION: 225225

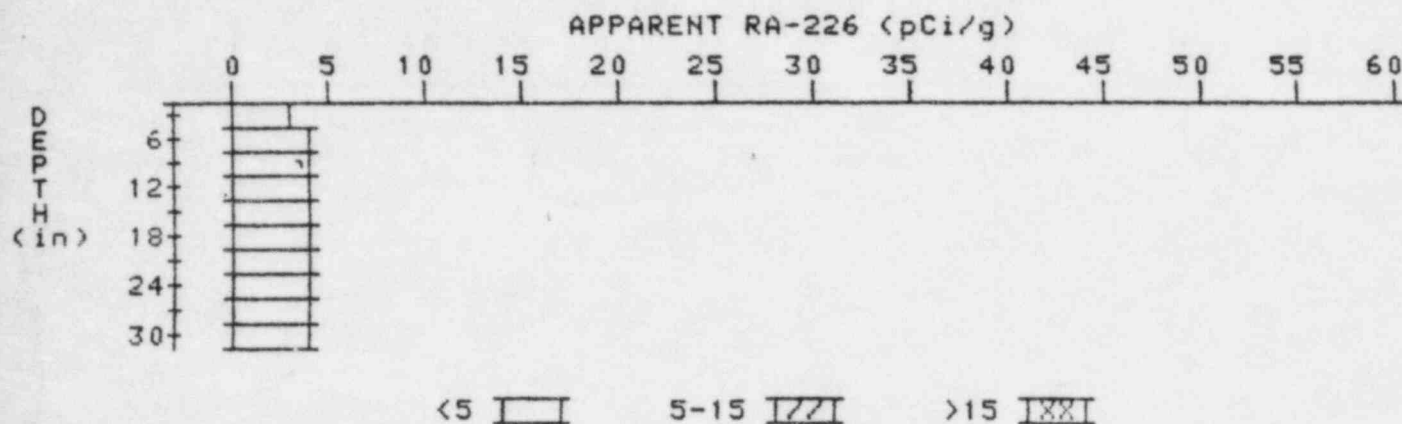


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.2	3.2
6	3.7	4.2
9	3.9	4.1
12	4.0	4.2
15	4.0	4.0
18	4.0	4.0
21	4.0	4.0
24	4.0	3.8
27	4.1	4.1
30	4.2	4.4
33	4.2	4.2

APPARENT RADIUM-226 CONCENTRATION 53

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30484-CS
 HOLE NUMBER: 53
 LOCATION: 400420



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

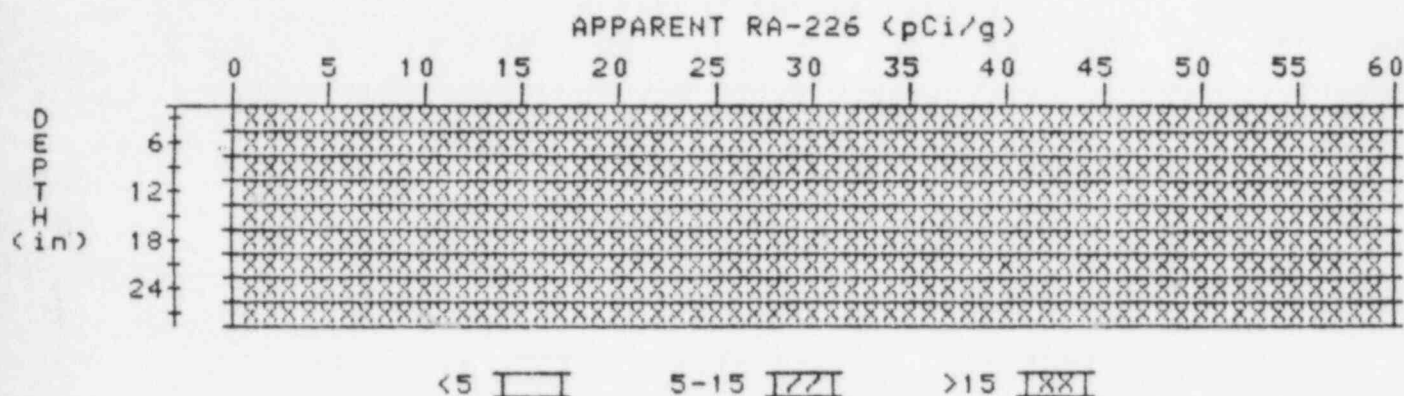
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

1

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 1

LOCATION:



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	86.3	86.3
6	144.8	194.4
9	175.4	209.4
12	186.9	199.7
15	191.2	200.3
18	190.4	201.6
21	183.3	199.1
24	167.3	173.3
27	147.9	147.9

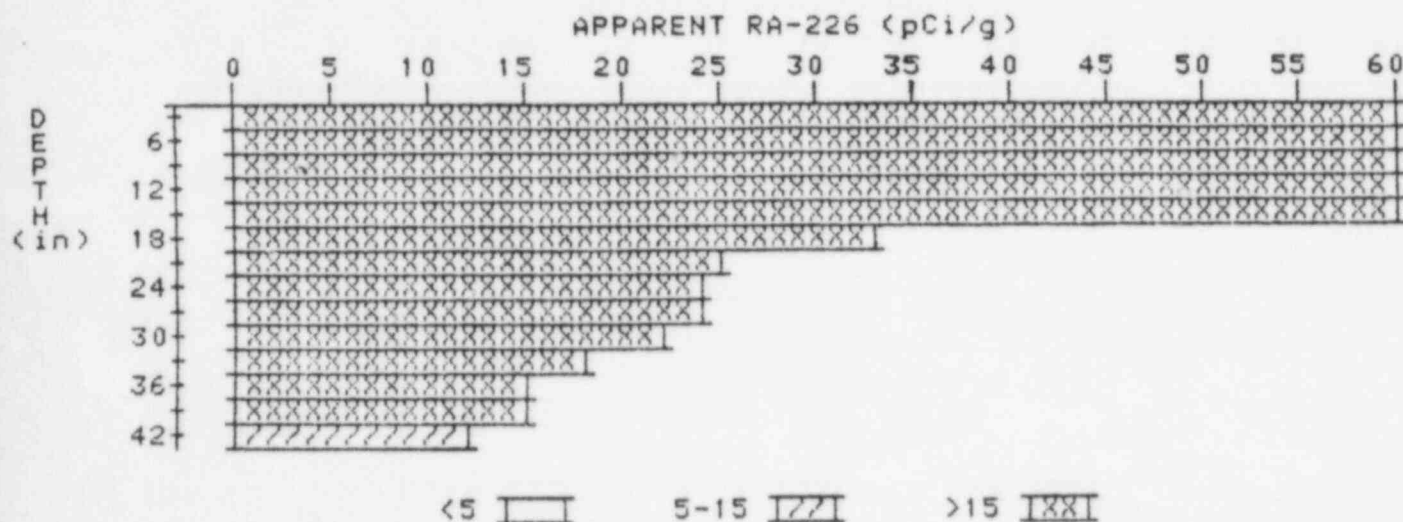
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

2

PROPERTY NUMBER: GJ-30484-CS

HOLE NUMBER: 2

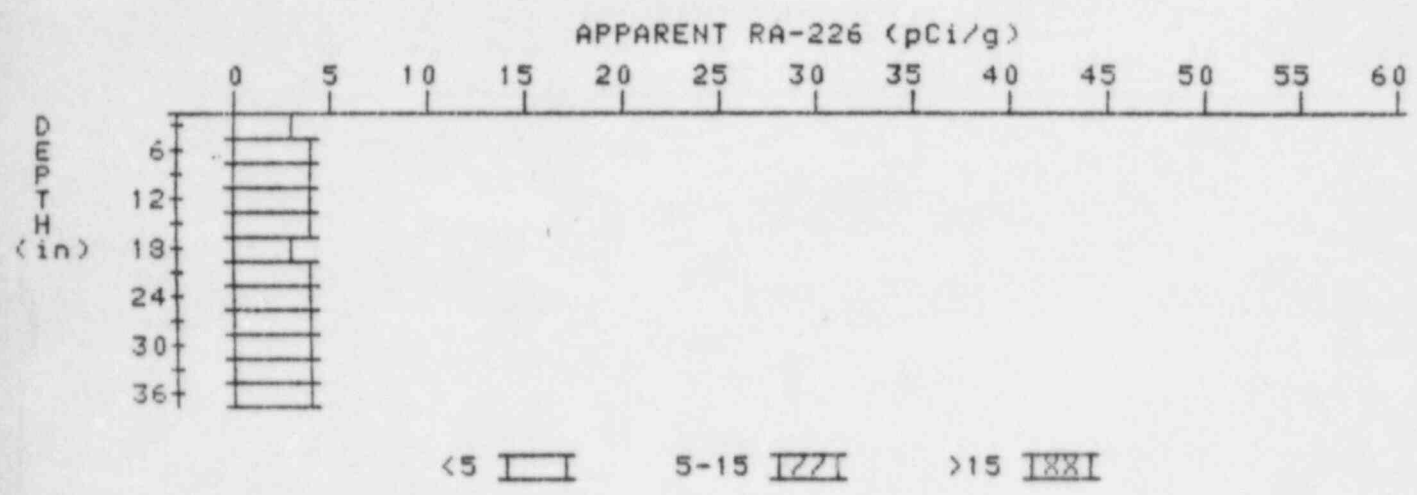
LOCATION:



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	70.0	70.0
6	113.7	160.5
9	131.1	196.5
12	111.7	138.4
15	77.3	61.1
18	52.0	32.8
21	37.5	25.2
24	29.9	24.0
27	25.6	24.0
30	22.2	21.8
33	19.0	17.9
36	16.4	15.3
39	14.4	15.3
42	11.9	11.9

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH 1

PROPERTY NUMBER: GJ-30484
HOLE NUMBER: 1
LOCATION: 130219



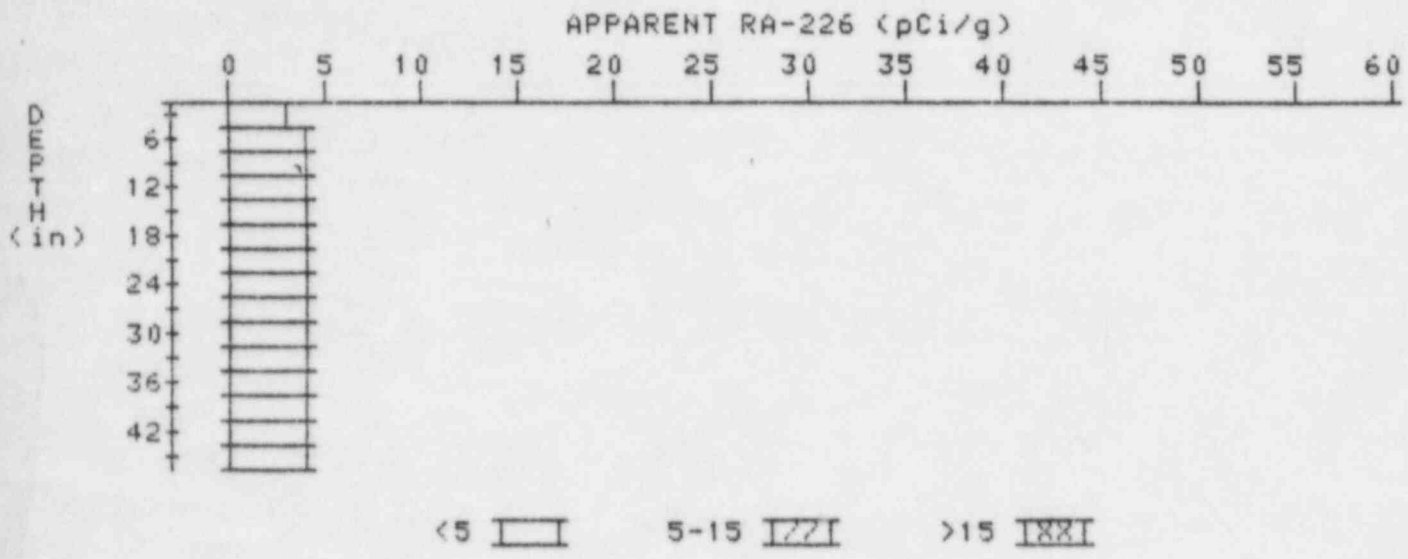
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.2	3.2
6	3.7	4.4
9	3.8	3.8
12	3.9	4.1
15	3.9	4.1
18	3.8	3.4
21	3.9	3.9
24	4.0	4.2
27	4.0	4.0
30	4.0	4.0
33	4.0	4.0
36	4.0	4.0

APPARENT RADIUM-226 CONCENTRATION

DECONVOLUTION GRAPH

2

PROPERTY NUMBER: GJ-30484
HOLE NUMBER: 2
LOCATION: 151230

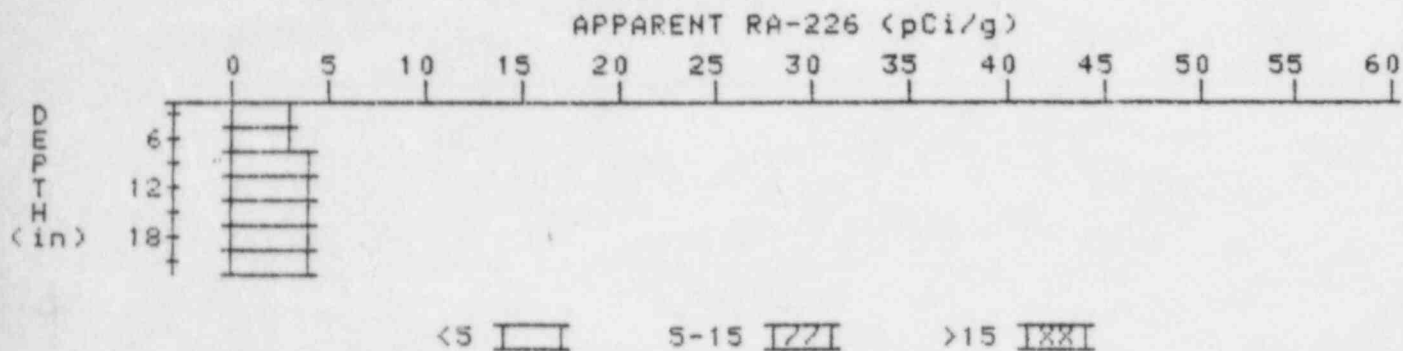


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.3	3.3
6	3.6	3.8
9	3.8	4.0
12	3.9	4.1
15	3.9	3.9
18	3.9	3.7
21	4.0	4.0
24	4.1	4.1
27	4.2	4.4
30	4.2	4.4
33	4.1	3.9
36	4.1	4.1
39	4.1	4.1
42	4.1	4.1
45	4.1	4.1

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

3

PROPERTY NUMBER: GJ-30484
HOLE NUMBER: 3
LOCATION: 180210



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.0	3.0
6	3.3	3.3
9	3.6	4.0
12	3.7	3.7
15	3.8	4.0
18	3.8	3.8
21	3.8	3.8

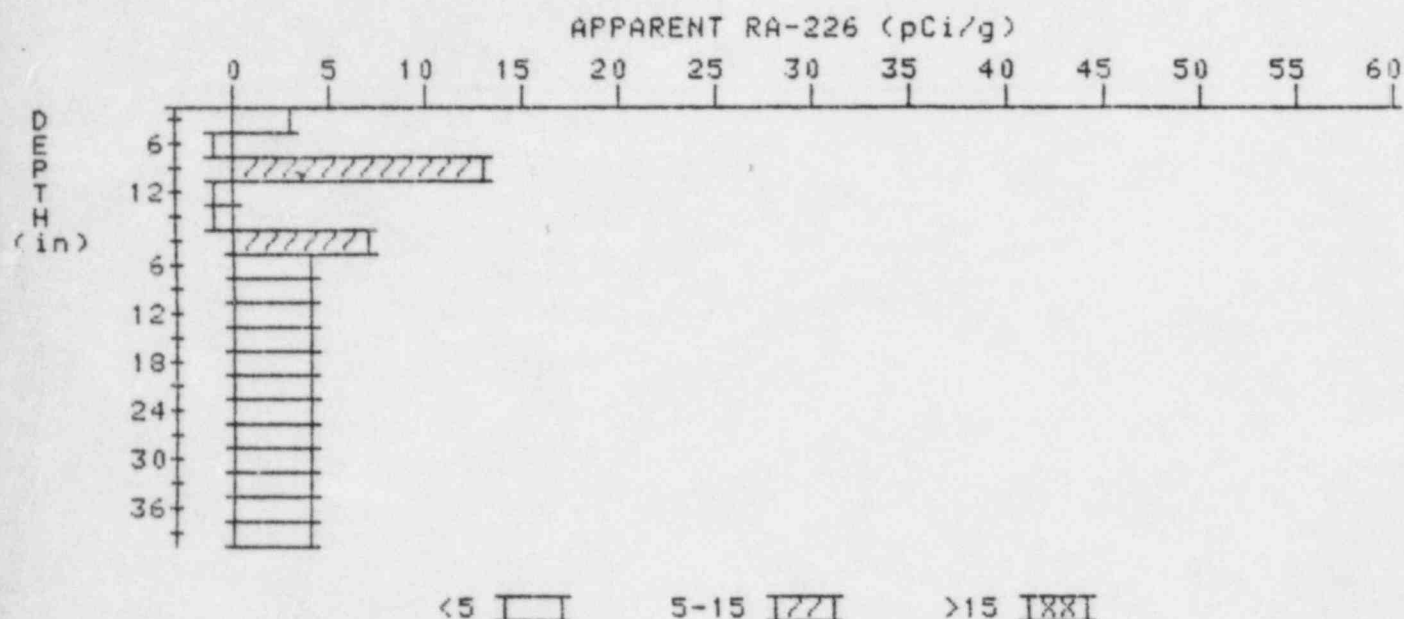
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

4

PROPERTY NUMBER: GJ-30484

HOLE NUMBER: 4

LOCATION: 183225



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.2	3.2
6	.9	-8.0
9	3.6	13.2
12	.9	-3.9
15	.9	-3.2
3	3.2	6.6
6	3.6	4.0
9	3.8	4.2
12	3.8	3.6
15	3.9	4.1
18	3.9	4.1
21	3.8	3.6
24	3.8	3.8
27	3.8	3.8
30	3.8	3.6
33	3.9	4.1
36	3.9	3.9
39	3.9	3.9

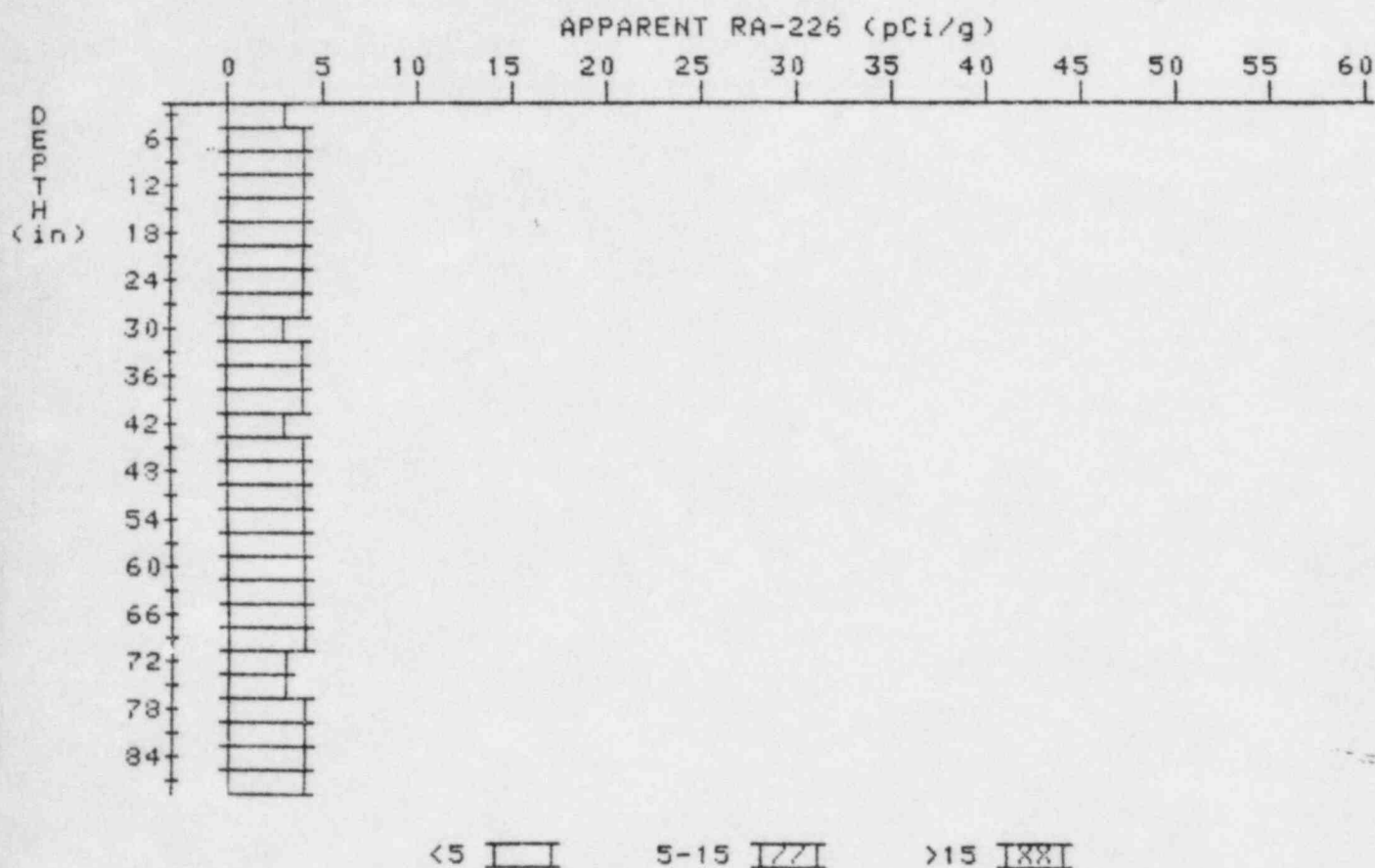
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

5

PROPERTY NUMBER: GJ-30484

HOLE NUMBER: 5

LOCATION: 202210



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.1	3.1
6	3.4	3.6
9	3.6	3.8
12	3.7	3.9
15	3.7	3.5
18	3.8	4.0
21	3.8	4.0
24	3.7	3.5
27	3.7	3.7
30	3.7	3.3
33	3.9	4.3

36	3.9	3.9
39	3.9	4.1
42	3.8	3.4
45	3.9	4.1
48	3.9	4.1
51	3.8	3.6
54	3.8	3.8
57	3.8	3.8
60	3.8	3.8
63	3.8	3.8
66	3.8	4.0
69	3.7	3.9
72	3.5	3.1
75	3.5	3.3
78	3.6	3.8
81	3.6	3.6
84	3.6	3.6
87	3.6	3.6

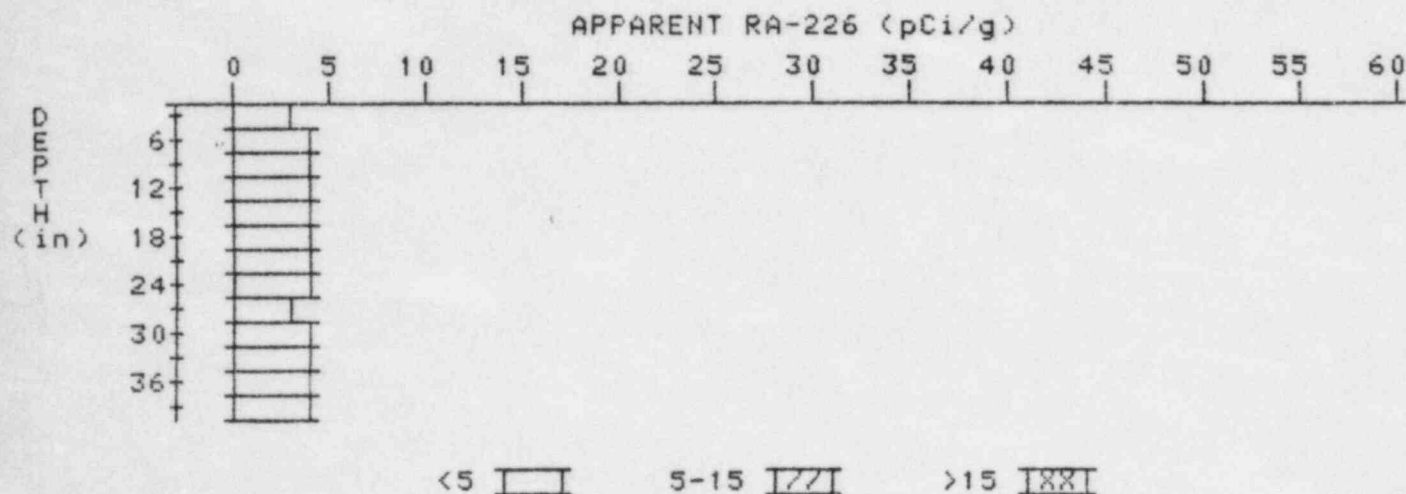
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

6

PROPERTY NUMBER: GJ-30484

HOLE NUMBER: 6

LOCATION: 225225



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