

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-05611-RS  
ADDRESS: 211 COUNTRY CLUB PARK ROAD

AUGUST 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

*August 26, 1985*

REA05611:REA-AB009

## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 EXECUTIVE SUMMARY . . . . .	1
1.1 Introduction . . . . .	1
1.2 Evaluation and Recommendation . . . . .	1
2.0 PROPERTY DESCRIPTION . . . . .	2
2.1 General Description . . . . .	2
2.2 Existing Facilities and Structures . . . . .	2
3.0 RADIOLOGIC SURVEY . . . . .	4
3.1 Introduction . . . . .	4
3.2 Gamma Exposure-Rate Surveys . . . . .	4
3.2.1 Exterior Findings . . . . .	4
3.2.2 Interior Findings . . . . .	4
3.3 Boreholes, Soil Samples, and Other Measurements . . . . .	5
3.4 Radon/Radon Daughter Concentration . . . . .	5
3.5 Extent of Contamination . . . . .	5
4.0 RECOMMENDED REMEDIAL ACTION . . . . .	6
4.1 Decontamination and Restoration . . . . .	6
4.2 Evaluation of Recommended Remedial Action . . . . .	6
5.0 REFERENCES . . . . .	7
6.0 APPENDIX . . . . .	8

## 1.0 EXECUTIVE SUMMARY

### 1.1 Introduction

The location, DOE ID No. GJ-05611-RS, is a single-family residence located at 211 Country Club Park Road, 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, 12 cu. yd.; interior, 0 cu. yd.

Estimated cost to perform remedial action, including dislocation when applicable, is \$980. Remedial action on this property will take approximately 3 days to complete.

## 2.0 PROPERTY DESCRIPTION

### 2.1 General Description

Address: 211 Country Club Park Road, Grand Junction, Colorado

Zoning: Residential (R-2)

Lot Size: Approximately 36,450 sf (0.84 acres)

Legal Description: Lot 11, Replat of Block 2, Country Club Park Subdivision, Sec. 21, T. 1S, R. 1W, Ute Meridian, County of Mesa, State of Colorado.

Point of Reference: This property is located approximately 4 miles northwest of the State of Colorado Tailings Repository. Appendix Figure 2.1 shows the property location relative to its surroundings.

Utilities: Utility locations are shown in Appendix Figure 2.2.

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

Bordering Properties:

North:	Single-family residence
South:	Single-family residence
East:	Country Club Park Road
West:	Country Club Park Road

### 2.2 Existing Facilities and Structures

Primary Structure:

Type:	Two-story residence
Size:	Approximately 2,972 sf
Construction Date:	1951
Construction:	Wood-frame
Foundation:	Concrete foundation wall on spread footing
Footing Depth:	Approximately 88" to bottom of footing from grade
Basement:	Yes - full
Crawl Space:	None
Condition:	Good

General Remarks:

A mature hedge exists adjacent to and into the contaminated area. Structures, utilities, landscaping, and other special features of this property are included in Appendix Figure 2.2.

Historical Data:

This structure is not over 50 years old. Therefore, it does 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-05611-RS on April 22, 1985. Data collection methods were performed in accordance with procedures fully described in the Radiologic Support Operations Procedures Manual GJ-07(84) (Bendix Field Engineering Corporation, 1984). These data were evaluated to determine the areal and vertical extent of uranium mill tailings contamination at this property as well as any other contaminated material that may have originated from the millsite.

A review of historical information from the files of the Colorado Department of Health (CDH) and the inclusion data from Oak Ridge National Laboratory (ORNL) was conducted. These records indicate contamination along the east property line.

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: 13 to 15 uR/h  
Highest Outside Gamma Reading (HOG): 201 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: 15 to 16 uR/h  
Highest Inside Gamma Reading (HIG): 22 uR/h

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

### 3.3 Boreholes, Soil Samples, and Other Measurements

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

### 3.4 Radon/Radon Daughter Concentration (RDC)

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) Southeast of the property line, in the right-of-way of Country Club Park Road, contamination extends to a depth of 33 inches (approximately 30 sf).
- (AREA B) Adjacent to Area A, southeast of the property line, in the right-of-way of Country Club Park Road, and including the mailbox, contamination extends to a depth of 54 inches (approximately 36 sf).
- (AREA C) South of Areas A and B, southeast of the property line, in the right-of-way of Country Club Park Road, contamination extends to a depth of 6 inches (approximately 60 sf).
- (AREA D) South of Area C, southeast of the property line, in the right-of-way of Country Club Park Road, contamination extends to a depth of 18 inches (approximately 40 sf).

#### 4.0 RECOMMENDED REMEDIAL ACTION

##### 4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-05611-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 \$980.

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	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 2.2a	Site Plan
Figure 2.2b	Site Plan
Figure 3.1	Exterior Grid-Point Exposure Rates
Figure 3.2	Exterior Gamma Scan
Figure 3.3a	Interior Gamma Exposure Rates - Basement
Figure 3.3b	Interior Gamma Exposure Rates and Sample Locations - Ground Floor
Figure 3.4	Exterior Sample Locations
Figure 3.5	Estimated Extent of Contamination

Official Survey Report

Team Leader Notes

Deconvolution Graphs (Apparent Radium-226 Concentration)

## Radium Concentrations at Exterior Locations

DOE ID #GJ-05611-RS

211 Country Club Park Road

Page 1 of 3

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
7	258309	03	TC	2.7		*	West side of primary structure DC = 0 inches
		06	TC	3.0		*	
		09	TC	3.1		*	
		12	TC	3.0		*	
		15	TC	2.9		*	
		18	TC	2.9		*	
		21	TC	3.0		*	
		24	TC	3.2		*	
		27	TC	3.2		*	
		30	TC	3.2		*	
		33	TC	3.2		*	
8	262286	[24]	DS	3.0		*	Southwest corner on bricks
9	269301	00	DS	1.3		*	On porch
10	270340	[24]	DS	3.3		*	Northwest corner on bricks
11	284340	[36]	DS	2.3		*	Center of north wall on bricks
12	285341	03	TC	2.8		*	North side of primary structure on bricks DC = 0 inches
		06	TC	2.9		*	
		09	TC	2.9		*	
		12	TC	3.0		*	
		15	TC	3.0		*	
		18	TC	3.1		*	
		21	TC	3.4		*	
		24	TC	3.3		*	
		27	TC	3.2		*	
		30	TC	3.1		*	
		33	TC	3.0		*	
		36	TC	3.0		*	
		39	TC	3.0		*	
		42	TC	3.0		*	
		45	TC	3.0		*	
		48	TC	3.1		*	
		51	TC	3.1		*	
		54	TC	3.2		*	
		57	TC	3.2		*	

### Radium Concentrations at Exterior Locations

DOE ID #GJ-05611-RS

211 Country Club Park Road

Page 2 of 3

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
12	285341	60	TC	3.1		*	
		63	TC	3.3		*	
		66	TC	3.3		*	
13	286286	[90]	DS	2.7		*	Southeast corner
14	297340	[48]	DS	1.9		*	Northeast corner on bricks
15	325326	03	TC	2.1		*	Near septic tank
		06	TC	2.5		*	
		09	TC	2.5		*	DC = 0 inches
		12	TC	2.5		*	
		15	TC	2.6		*	
		18	TC	2.5		*	
		21	TC	2.4		*	
		24	TC	2.4		*	
		27	TC	2.4		*	
		30	TC	2.5		*	
16	388234	00	DS	<1.0		*	
17	393248	00	DS	5.9		*	In trees by road
		06	DS	9.6		*	DC = 18 inches
		12	DS	3.4		*	
		18	DS	<1.0		*	
18	395248	00	DS	1.8		*	Next to road
19	395255	00	DS	2.4		*	Next to gas line
		06	DS	<1.0		*	
20	402277	00	DS	<1.0		*	In bushes by road
21	402302	00	DS	<1.0		*	In trees by road
22	403269	03	TC	57.3		*	Next to road south
		06	TC	80.5		*	of mailboxes
		09	TC	103.5		*	
		12	TC	119.5		*	
		15	TC	129.5		*	
		18	TC	133.1		*	

## Radium Concentrations at Exterior Locations

DOE ID #GJ-05611-RS

211 Country Club Park Road

Page 3 of 3

=====

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
22	403269	21	TC	131.6		*	
		24	TC	122.6		*	DC = 54 inches
		27	TC	95.1		*	Based on the
		30	TC	72.6		*	deconvolution graph
		33	TC	49.5		*	
		36	TC	34.7		*	
		39	TC	27.4		*	
		42	TC	27.0		*	
		45	TC	32.1		*	
		48	TC	35.7		*	
		51	TC	29.4		*	
		54	TC	19.9		*	
		57	TC	15.7		*	
23	407286	03	TC	109.5		*	Next to street
		06	TC	137.2		*	north of mailboxes
		09	TC	152.3		*	DC = 27 inches
		12	TC	154.5		*	Based on the
		15	TC	146.4		*	deconvolution graph
		18	TC	127.7		*	
		21	TC	96.6		*	
		24	TC	62.0		*	
		27	TC	37.9		*	
		30	TC	25.6		*	
		33	TC	17.3		*	
		36	TC	12.0		*	
		39	TC	8.5		*	
		42	TC	7.3		*	
		45	TC	6.2		*	
		48	TC	5.7		*	
		51	TC	5.4		*	
		54	TC	5.4		*	
		57	TC	5.5		*	
		60	TC	6.1		*	
		63	TC	7.6		*	
24	409309	00	DS	<1.0		*	In trees by road

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 = 04-22-85  
Team Leader = SM

## Radium Concentrations at Interior Locations

DOE ID #GJ-05611-RS

211 Country Club Park Road

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		[36]	DS	2.9		*	Northwest bedroom
		00	DS	3.5		*	Northeast corner
2		[36]	DS	3.3		*	Northwest bedroom
		00	DS	2.6		*	Northwest corner
3		[36]	DS	3.2		*	Northeast bedroom
		00	DS	3.2		*	Northwest corner
4		[36]	DS	2.9		*	Northeast bedroom
		00	DS	3.2		*	Northeast corner
5		[36]	DS	2.5		*	Dining/office
		00	DS	3.1		*	Southwest corner
6		[36]	DS	2.4		*	Dining/office
		00	DS	3.1		*	Southeast corner

=====

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 = 04-22-85  
 Team Leader = SM

Table 3.3

## Summary of Interior Gamma Exposure Rates

DOE ID #GJ-05611-RS 211 Country Club Park Road Page 1 of 1

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 AND GARAGE	*	*	*	*	16-17	*
ROOM A	02	16-19	18	02	16-19	18
ROOM B	05	15-22	18	05	15-19	17
ROOM C	01	14-14	14	01	15-15	15
ROOM D	01	15-15	15	01	16-16	16
ROOM E	02	14-16	15	02	15-17	16
ROOM F	02	15-18	17	02	14-17	16
ROOM G	02	15-16	16	02	15-16	16
ROOM H	07	16-19	17	07	16-18	17

\* The CDH and ORNL data indicate 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 3.3a. Exposure rates and room locations are shown in Appendix Figures 3.3a and 3.3b.

Table 4.1  
Area and Volume Calculations  
DOE ID No. GJ-05611-RS

Page 1 of 1

<u>AREA</u>	<u>CALCULATIONS(ft)</u>		<u>SF</u>	<u>DEPTH(ft)</u>		<u>CF</u>		<u>CUBIC YARDS</u>
EXTERIOR								
	Contaminated Fill							
A	3 X 10	=	30	X	2.8	=	84	
B	3 x 12	=	36	x	4.5	=	162	
C	6 x 10	=	60	x	0.5	=	30	
D	4 x 10	=	40	x	1.5	=	60	
	Volume of Fill					<u>336</u>	=	<u>336/27 = 12</u>
	TOTAL VOLUME - EXTERIOR							= 12

See Appendix Figure 3.5 For Areas

=====

Table 4.2  
Estimated Cost of Decontamination and Restoration  
DOE ID No. GJ-05611-RS Page 1 of 1

Remove identified residual radioactive material		
2 cy @ \$44/cy (manual - open)	\$	88
10 cy @ \$14.50/cy (machine - open)		145
Replace areas with roadbase		
7 cy @ \$11.50/cy		81
Replace areas with topsoil		
5 cy @ \$9.50/cy		48
Replace landscaping		
4 shrubs @ \$40/ea		160
		<hr/>
TOTAL EXTERIOR	\$	522
TOTAL INTERIOR		0
ACCESS CONTROL		100
		<hr/>
SUBTOTAL	\$	622
CONTINGENCY @ 5%		31
		<hr/>
SUBTOTAL	\$	653
CONTRACTOR OVERHEAD & PROFIT @ 50%		327
		<hr/>
GRAND TOTAL	\$	980

=====

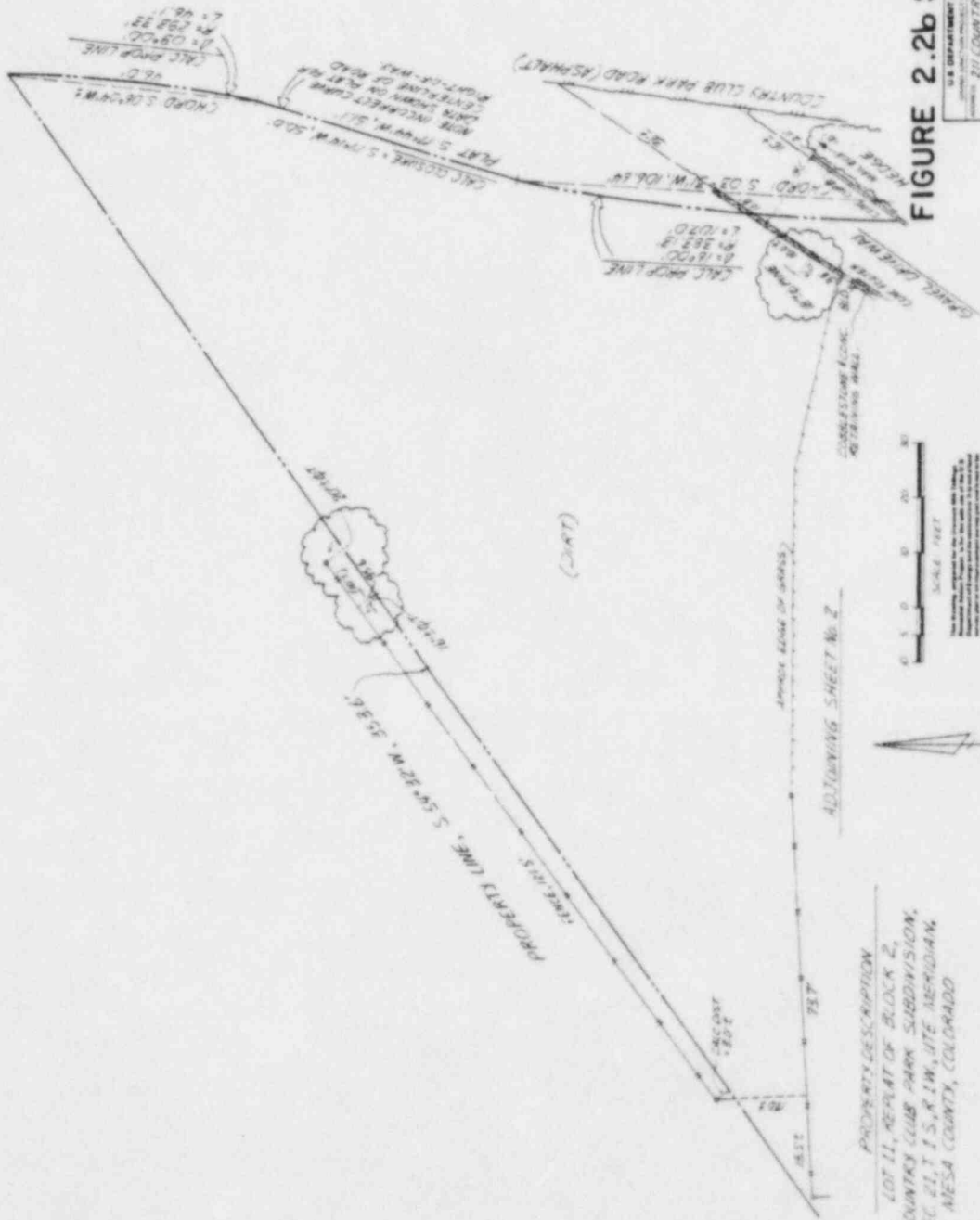
SC82385  
REA05611/REA-AB009/LMR



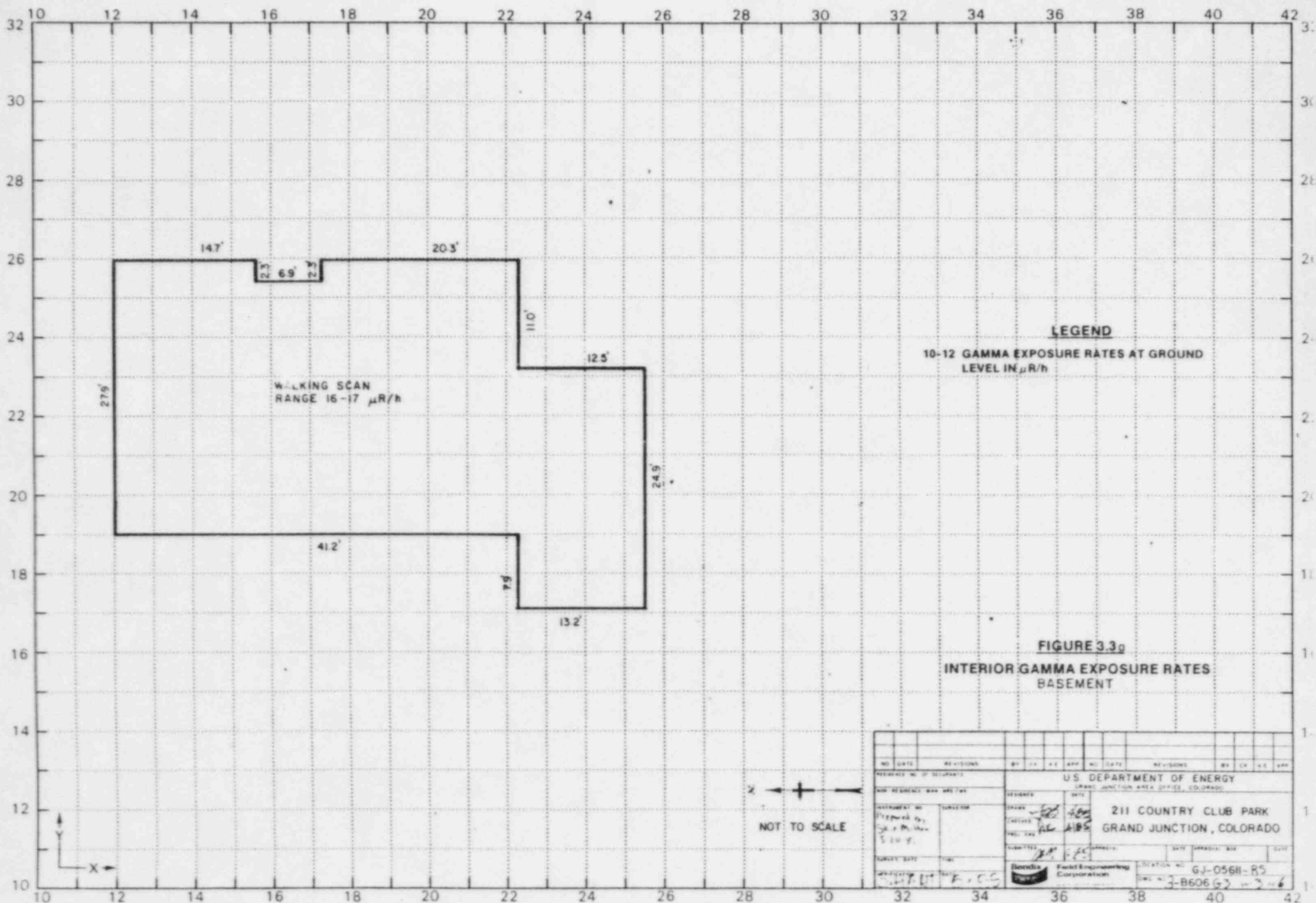


# FIGURE 2.2b SITE PLAN

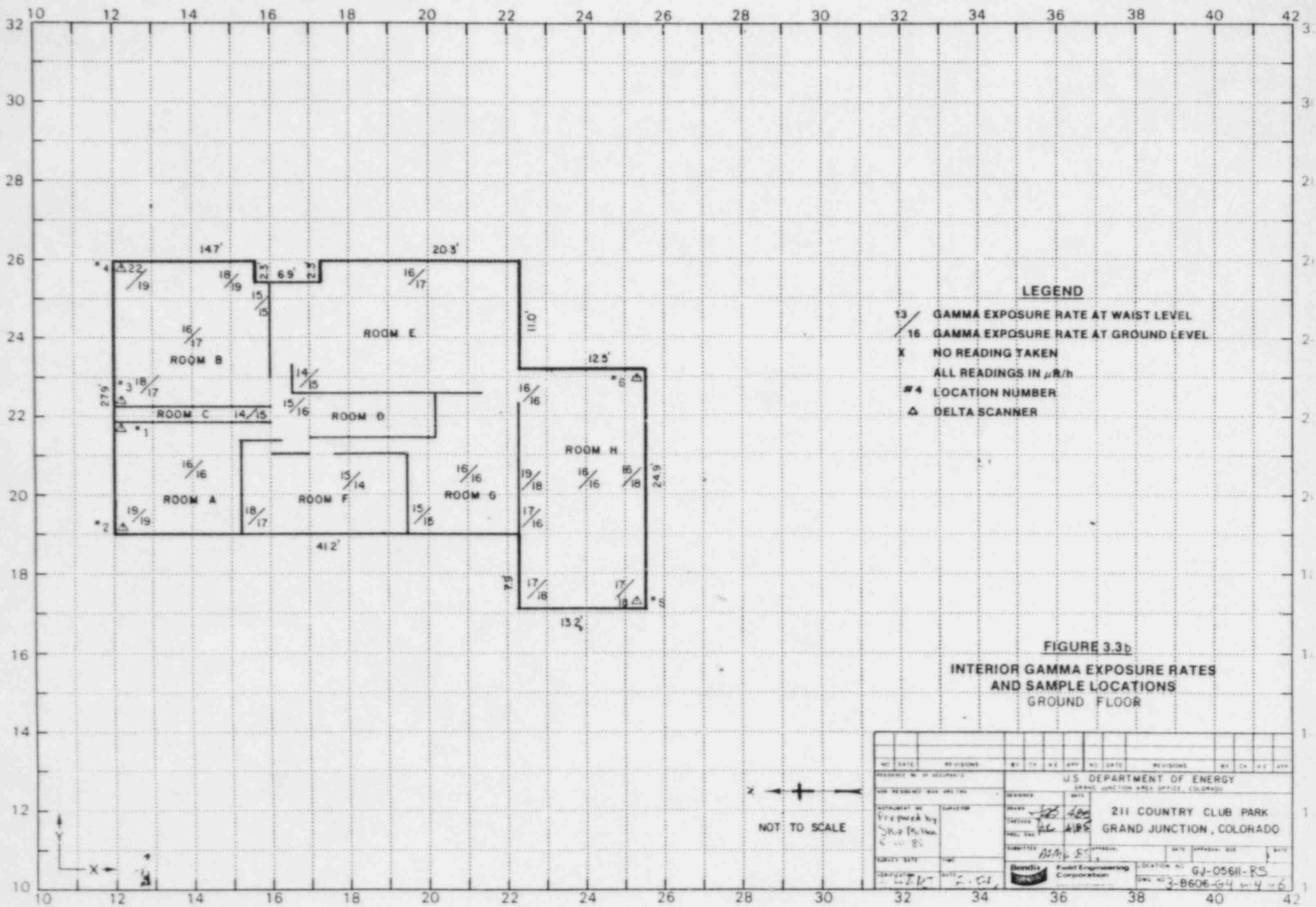
U.S. DEPARTMENT OF ENERGY	PROJECT NO. 1570541/RS
211 COUNTRY CLUB PARK	DATE: 11-1-88
GRAND JUNCTION, COLORADO	BY: T.L.G./R.S.
	DATE: 11-1-88
	BY: T.L.G./R.S.
	DATE: 11-1-88



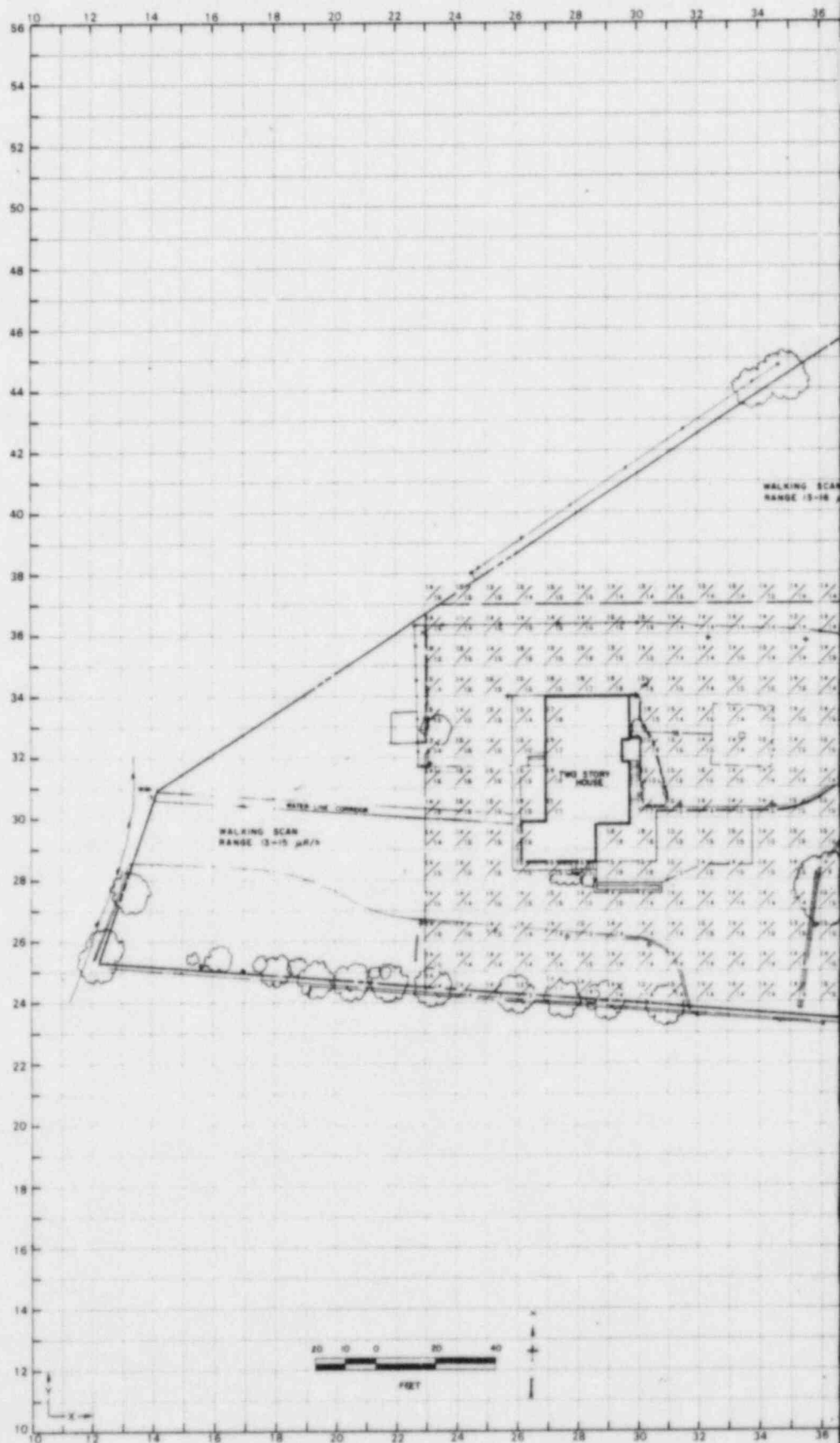
PROPERTY DESCRIPTION  
 LOT 11, REPLAT OF BLOCK 2,  
 COUNTRY CLUB PARK SUBDIVISION,  
 SEC. 21, T. 1 S., R. 1 W., 11E MERIDIAN,  
 MESA COUNTY, COLORADO



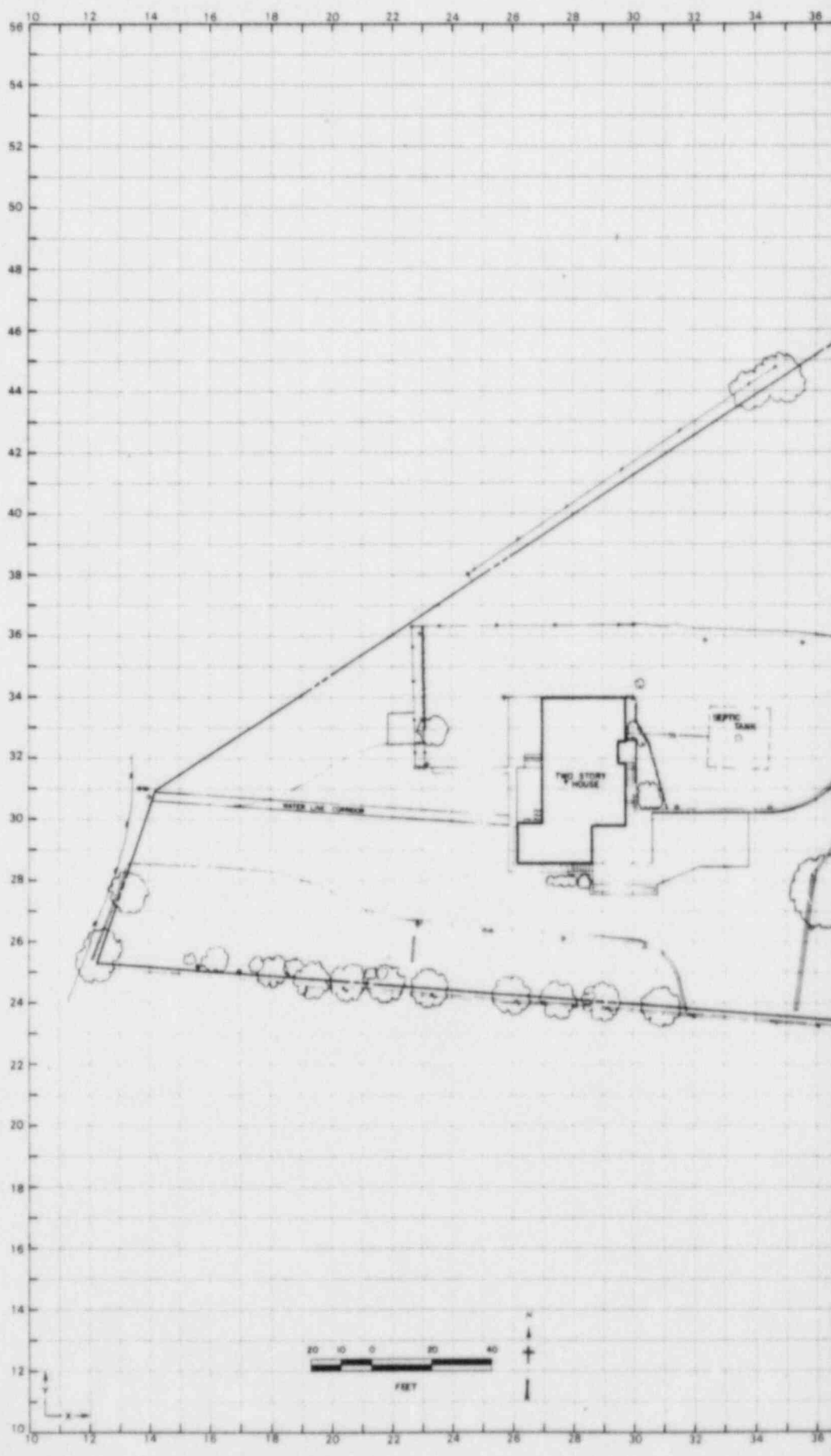
NO.	DATE	REVISIONS	BY	CHK	DATE	NO.	DATE	REVISIONS	BY	CHK	DATE
REFERENCE NO. OF SURVEY						U.S. DEPARTMENT OF ENERGY GRAND JUNCTION AREA OFFICE, COLORADO					
SURVEY NO. 0000000000						211 COUNTRY CLUB PARK GRAND JUNCTION, COLORADO					
INSTRUMENT NO. Prepared by S. J. P. M. S. S. S. S.						DESIGNED BY DATE CHECKED BY DATE APPROVED BY DATE					
SURVEY DATE						FIELD ENGINEERING CORPORATION					
APPROVED BY DATE						LOCATION NO. GJ-05611-R5 DATE 3-B606 G2 3-6					



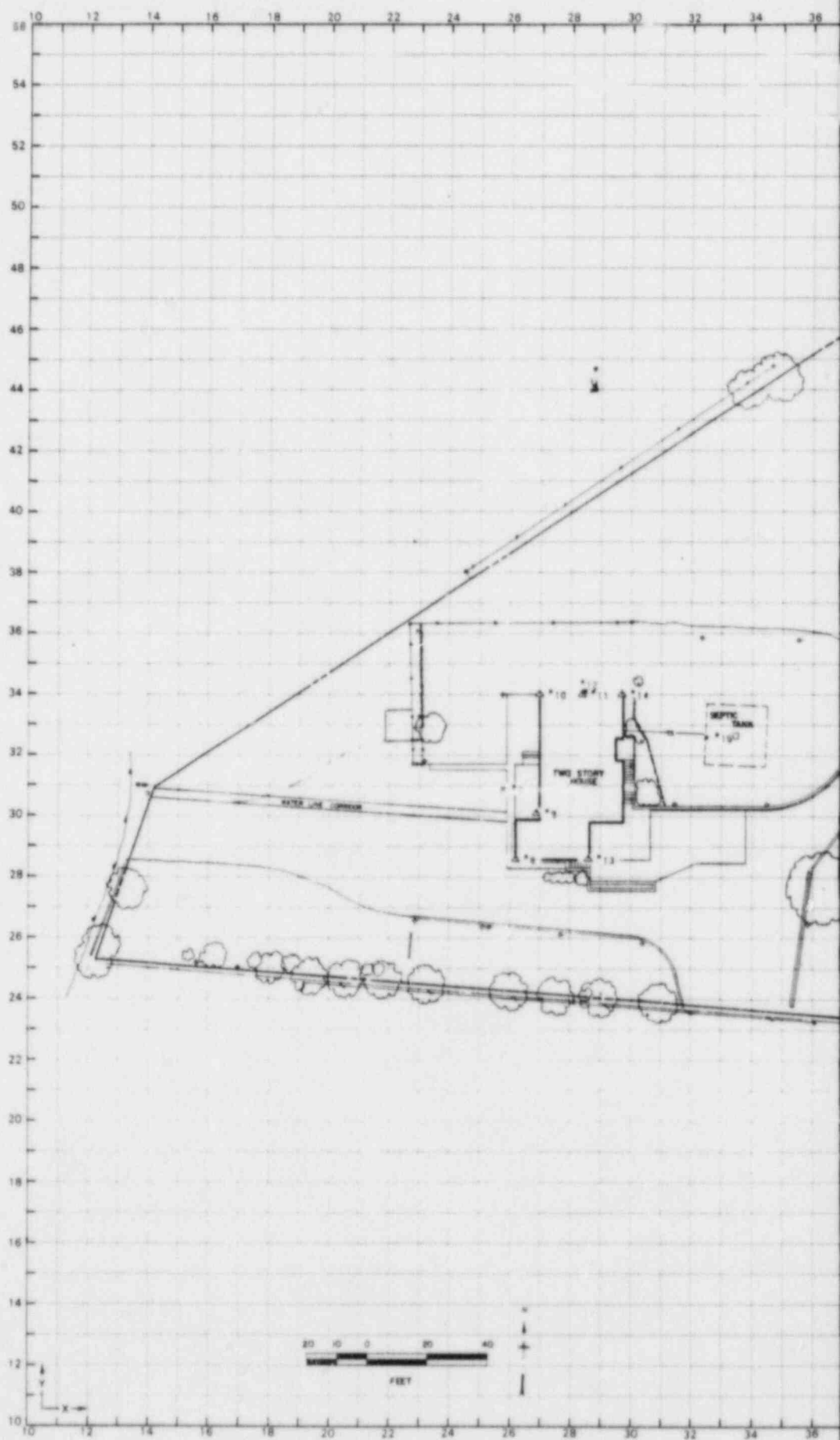
NO.	DATE	REVISIONS	BY	CA	RE	APP	NO.	DATE	REVISIONS	BY	CA	RE	APP
APPROVED BY: [Signature]							U.S. DEPARTMENT OF ENERGY GRAND JUNCTION AREA OFFICE, COLORADO						
FOR RESIDENT USE ONLY							RESIDENT: [Signature]						
ESTIMATE NO. Prepared by: [Signature]							211 COUNTRY CLUB PARK GRAND JUNCTION, COLORADO						
SURVEY DATE: [Date]							DATE: [Date]						
DRAWN BY: [Signature]							Bendix Fuel Engineering Corporation						
LOCATION NO. GJ-05611-RS							DWG. NO. 3-B606-04-4-6						



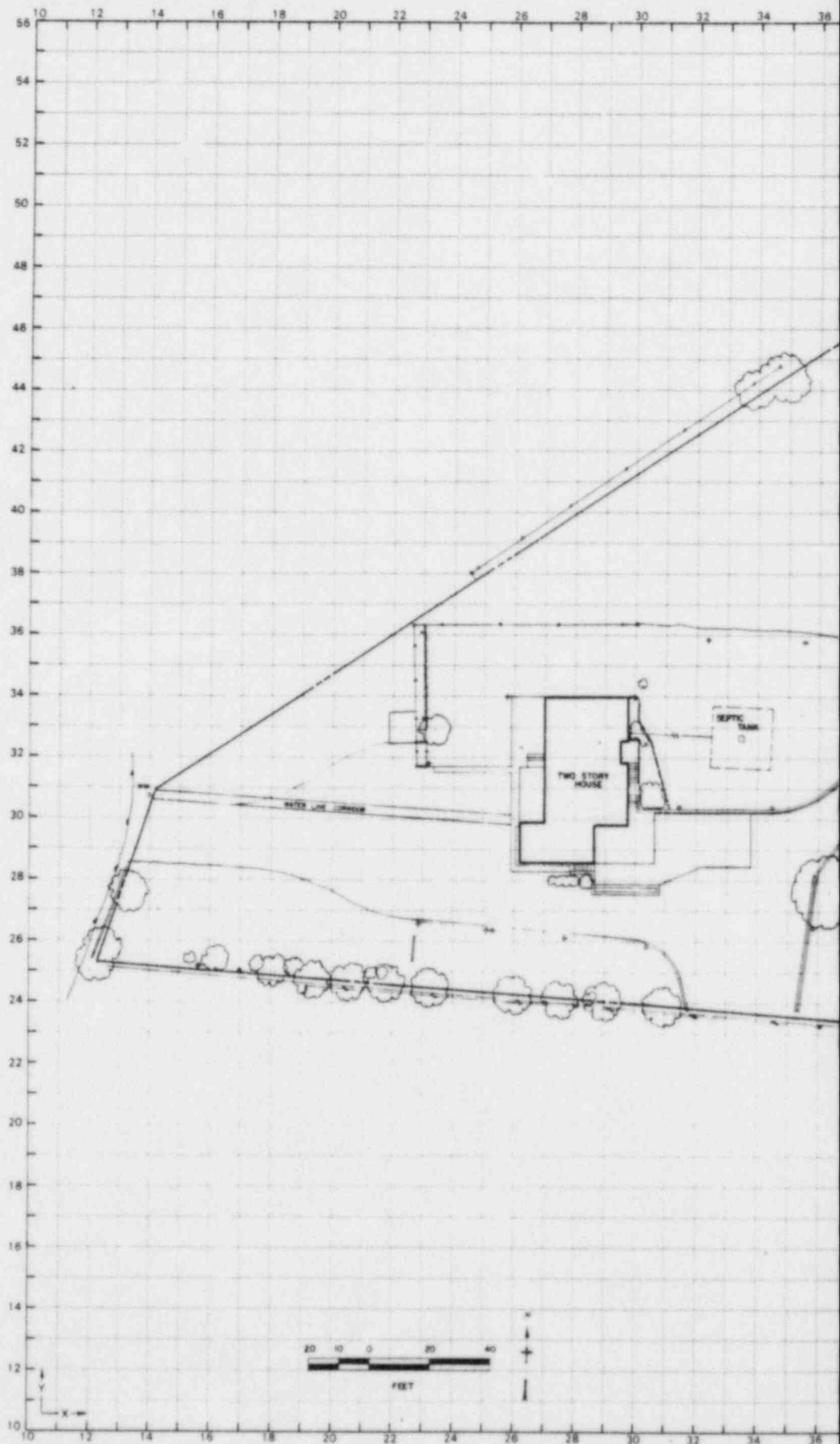














3/85

DOE ID NO. GJ-05611-RS

Date 5-20-85

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

Official Survey Report

Property Address 211 Country Club Park Rd.  
Property Owner Lawrence Aubert  
Address of Owner (if different from above) \_\_\_\_\_  
Report Prepared By Skip Milton

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

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

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

1XXX 1 In open areas.

1 1 Under or around exterior improvements.

1 1 Under or around a typically nonoccupied structure.

1 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.

1XXX 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 = 22 uR/h  
HOG = 201 uR/h

MEMORANDUM

ALLIED Bendix  
Aerospace

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

DATE: April 22, 1985

TO: Files

FROM: Skip Milton

SUBJECT: Team Leader Notes - GJ-05611-RS

Address: 211 Country Club Park

Owner: Lawrence Aubert

Weather: Cloudy, rain

Team Members

S. Milton (Team Leader)	A. Quintana
V. Young	S. Southern
P. Tuhey	L. Kula
M. Dexter	V. Rothman
H. Mattison	S. Larsen

Instruments

Crutch Scintillometer - C-1127, C-1185, C-1149, C-1042, C-1033,  
C-1180  
Delta Scintillometer - C-3942  
Total Count - C-3573, C-4005

Date: April 22, 1985

The homeowner (Mr. Aubert) informed the team leader that he personally backfilled the water line trench himself with red fill from the Monument. He also indicated tailings contamination were located in the backyard.

Team Leader Notes  
Skip Milton  
GJ-05611-RS  
April 30, 1985  
Page 2

The walking scan, ranging from 80 to 120 cps, showed no contamination in the ungridded areas.

The septic tank was located and investigated with a borehole. Auger refusal was encountered at 27-inches. No elevated readings were noted on top of the septic tank.

The water line was located 10-feet north of where it is shown on the map.

Public Service arrived on the site and located a gas main southwest of the primary structure and next to the road.

There are visible tailings next to the road and mailbox posts.

An interior survey was performed which showed elevated readings, with those in the southern section of the house being the highest.

Delta readings were taken on the exterior brick, which appeared to be naturally elevated.

Delta instrument number C-3942 failed at Location 397264. The location was discarded and the previous readings were verified with another two readings at Location 402277.

The area containing the largest amount of contamination was off the property, between the property line and the road.

A main gas line runs along the east property line.

The contaminated area was at the bottom of the hillside and adjacent to evergreen tams.

#### Revisit

Date: April 30, 1985

#### Instrument

C-3940

Team Leader Notes  
Skip Milton  
GJ-05611-RS  
April 30, 1985  
Page 3

Team members performed a delta on the porch, which showed negative results.

Team members walked through the house with a hand held scintillometer. Elevated readings appear to be associated with the bricks on the facing.

Team members attempted to locate the elevated readings in grid block 360270 but were unable to do so.

A coal room was located under the porch. It is approximately 10- to 12-feet (empty).

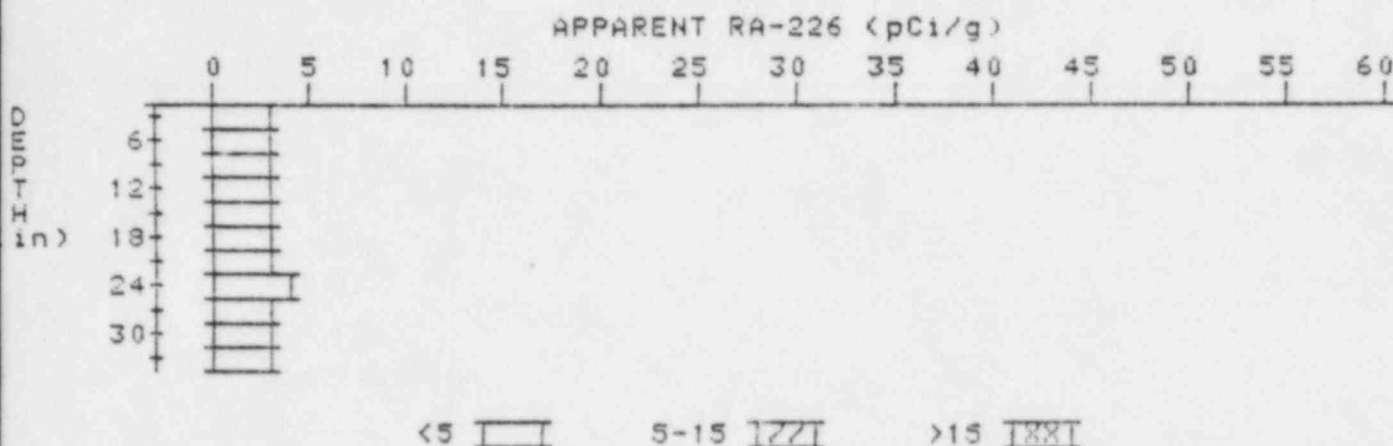
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

7

PROPERTY NUMBER: GJ-05611-RS

HOLE NUMBER: 7

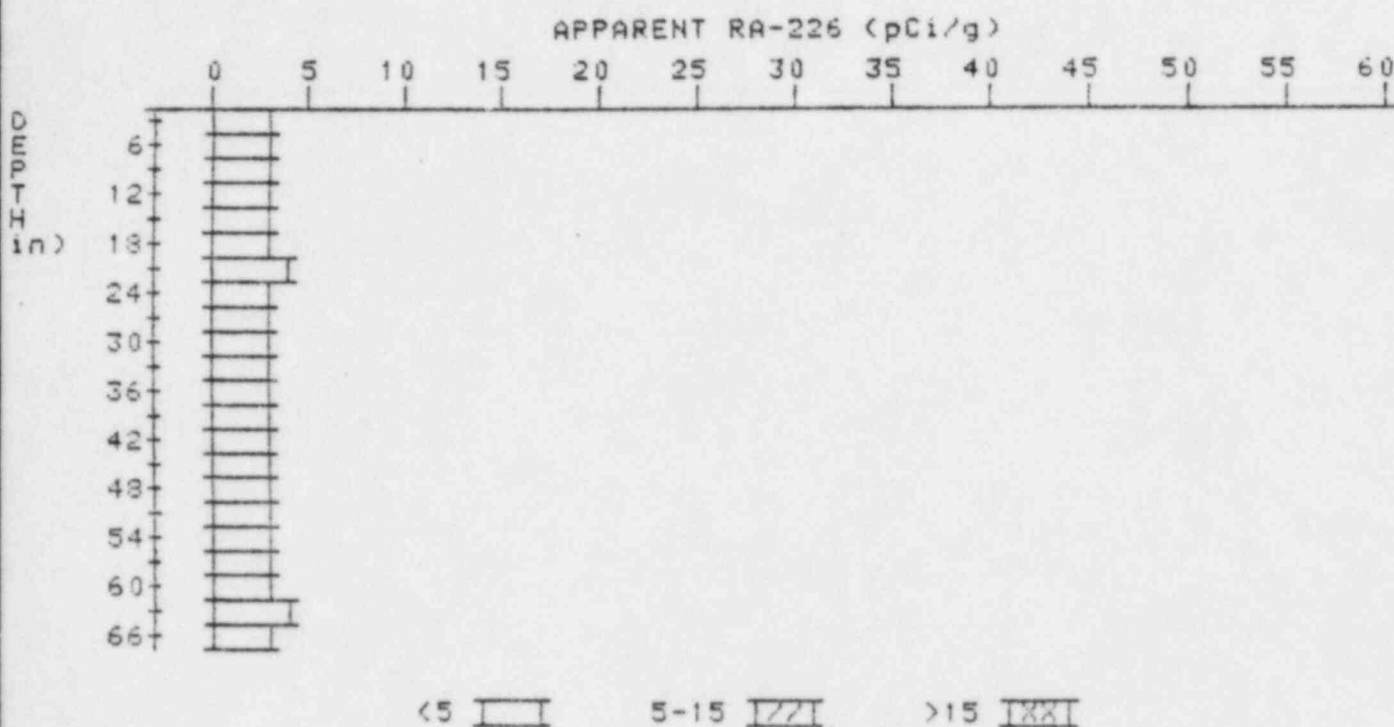
LOCATION: 258309



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.7	2.7
6	3.0	3.4
9	3.1	3.5
12	3.0	3.0
15	2.9	2.7
18	2.9	2.7
21	3.0	2.8
24	3.2	3.6
27	3.2	3.2
30	3.2	3.2
33	3.2	3.2

# APPARENT RADIUM-226 CONCENTRATION 12 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-05611-RS  
HOLE NUMBER: 12  
LOCATION: 285341



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.8	2.8
6	2.9	3.1
9	2.9	2.7
12	3.0	3.2
15	3.0	2.8
18	3.1	2.7
21	3.4	4.1
24	3.3	3.3
27	3.2	3.2
30	3.1	3.1
33	3.0	2.8
36	3.0	3.0
39	3.0	3.0
42	3.0	3.0
45	3.0	2.8
48	3.1	3.3

51	3.1	2.9
54	3.2	3.4
57	3.2	3.4
60	3.1	2.6
63	3.3	3.7
66	3.3	3.3

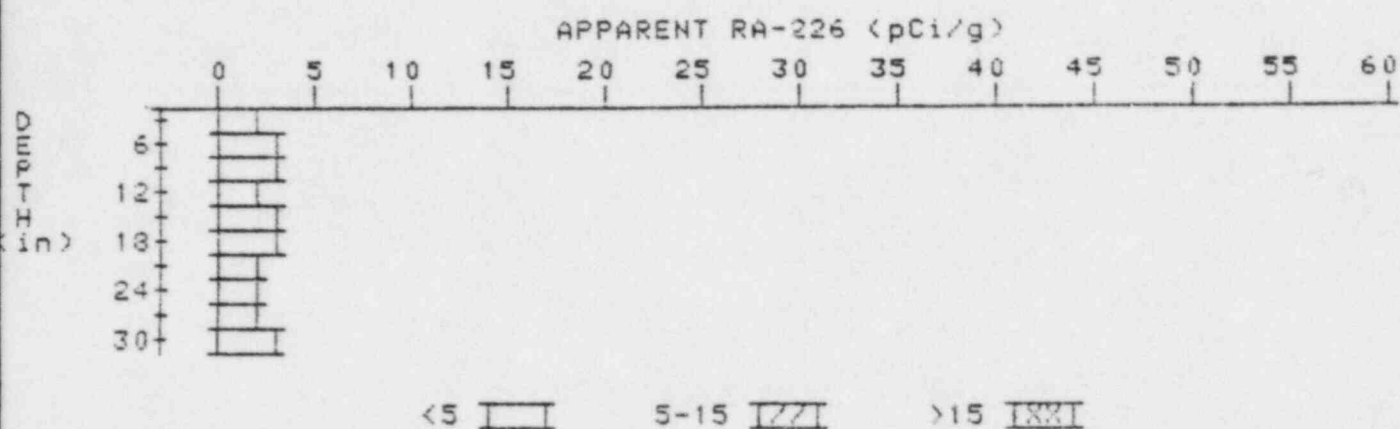
# APPARENT RADIUM-226 CONCENTRATION 15

## DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-05611-RS

HOLE NUMBER: 15

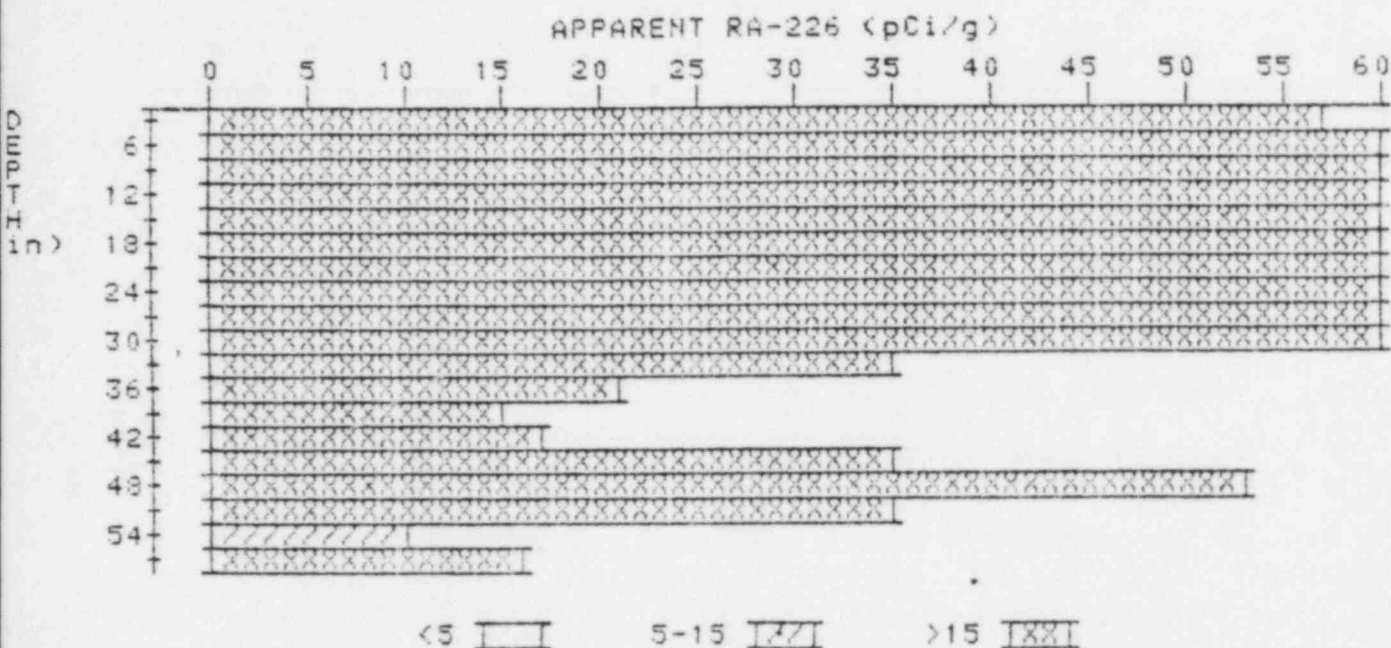
LOCATION: 325326



Depth (in)	Apparent Radium-226 (pCi/g)	Apparent Radium-226 (pCi/g)
	Undeconvolved	Deconvolved
3	2.1	2.1
6	2.5	3.2
9	2.5	2.5
12	2.5	2.3
15	2.6	3.0
18	2.5	2.5
21	2.4	2.2
24	2.4	2.4
27	2.4	2.2
30	2.5	2.5

# APPARENT RADIUM-226 CONCENTRATION 22 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-05611-R3  
HOLE NUMBER: 22  
LOCATION: 403269



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	57.3	57.3
6	80.5	80.9
9	103.5	115.9
12	119.5	130.2
15	129.5	140.9
18	133.1	142.2
21	131.6	144.9
24	122.6	155.5
27	95.1	86.2
30	72.6	73.7
33	49.5	34.7
36	34.7	21.4
39	27.4	15.1
42	27.0	17.2
45	32.1	34.8
48	35.7	53.3
51	29.4	35.1
54	19.9	10.5



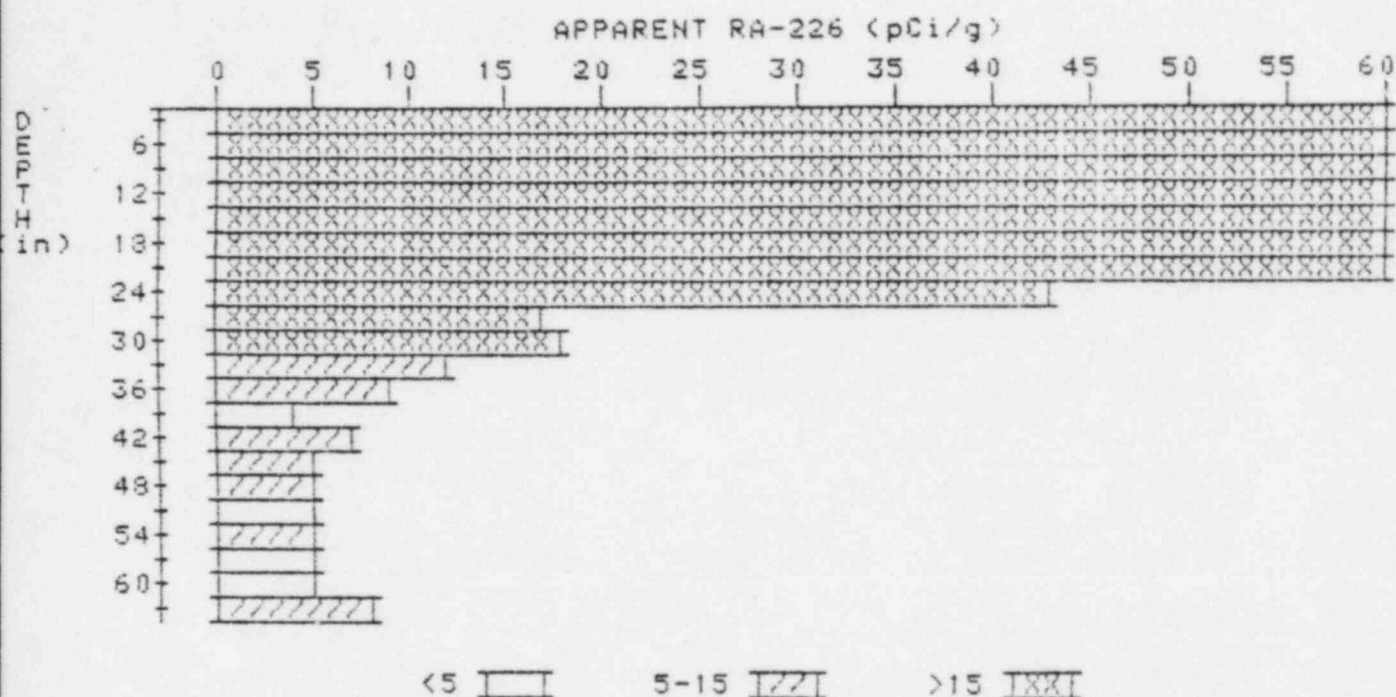
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

23

PROPERTY NUMBER: GJ-05611-RS

HOLE NUMBER: 23

LOCATION: 407286



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	109.5	109.5
6	137.2	159.6
9	152.3	175.2
12	154.5	172.8
15	146.4	165.2
18	127.7	149.7
21	96.6	102.8
24	62.0	43.3
27	37.9	16.9
30	25.6	18.5
33	17.3	12.0
36	12.0	8.8
39	8.5	4.4
42	7.3	7.1
45	6.2	5.1
48	5.7	5.3
51	5.4	4.9

54  
57  
60  
63

5.4  
5.5  
6.1  
7.6

5.2  
4.6  
4.3  
7.6