

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-11751-RS  
ADDRESS: 2844 ELM AVENUE

JULY 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 H. Tucker*

M. TUCKER  
DOE PROJECT ENGINEER

DATE

*July 17, 1985*

REA11751:REA-610

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PDR WASTE PDR  
WM-54

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## **1.0 EXECUTIVE SUMMARY**

### **1.1 Introduction**

The location, DOE ID No. GJ-11751-RS, is a single-family residence located at 2844 Elm 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, 40 cu. yd.; interior, 0 cu. yd.

Estimated cost to perform remedial action, including dislocation when applicable, is \$2,008. Remedial action on this property will take approximately 5 days to complete.

## 2.0 PROPERTY DESCRIPTION

### 2.1 General Description

Address: 2844 Elm Avenue, Grand Junction, Colorado

Zoning: Residential (RSF-8)

Lot Size: Approximately 12,320 sf (0.28 acre)

Legal Description: Beginning 250 feet west and 20 feet north of the southeast corner of the NE 1/4 SW 1/4, Section 7, T1S, R1E, U.M. Thence west 80 feet, thence north 154 feet, thence east 80 feet, thence south 154 feet to Beginning, City of Grand Junction, County of Mesa, State of Colorado.

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

Utilities: Utility locations are shown in Appendix Figure 2.2.

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

Bordering Properties:

North:	Single-family residence
South:	Elm Avenue
East:	Single-family residence
West:	Single-family residence

### 2.2 Existing Facilities and Structures

Primary Structure:

Type:	Single-story residence
Size:	Approximately 840 sf
Construction Date:	1954
Construction:	Wood-frame
Foundation:	Concrete grade beam
Footing Depth:	Approximately 8" to bottom of footing from grade
Basement:	None
Crawl Space:	Yes - under entire living area
Condition:	Good

Other Structures:

Type:	Shed
Size:	Approximately 210 sf
Construction:	Wood-frame
Foundation:	None (mud-sill)
Condition:	Good

General Remarks:

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

Historical Data:

This structure is 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-11751-RS on June 10, 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 in the north and east yards.

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, deconvolution graphs, and Exterior Gamma Scan map are included in the Appendix (Section 6.0).

#### 3.2 Gamma Exposure-Rate Surveys

##### 3.2.1 Exterior Findings

Background Readings: 15 to 17 uR/h  
Highest Outside Gamma Reading (HOG): 36 uR/h

Exterior radium-concentration measurements are presented in Appendix Table 3.1. Grid-point survey results are shown in Appendix Figure 3.1.

##### 3.2.2 Interior Findings

Background Readings: 14 to 16 uR/h  
Highest Inside Gamma Reading (HIG): 16 uR/h

Interior gamma exposure-rate measurements are summarized in Appendix Table 3.2.

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

Areas which displayed elevated gamma levels were further investigated; these areas are shown in Appendix Figure 3.2. Data from these investigations are included in Appendix Table 3.1.

### 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 3.3 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) Surface Material: Soil  
Direction From Primary Structure: Northeast  
Total Depth of Contamination: 12 inches  
Approximate Square Footage: 770
- (Area B) Surface Material: Soil  
Direction From Primary Structure: North  
Other Directions: East of wood shed  
Total Depth of Contamination: 6 inches  
Comments: Four small deposits are included in this area.  
Approximate Square Footage: 78
- (Area C) Surface Material: Lawn  
Direction From Primary Structure: North  
Other Directions: South and east of wood shed  
Total Depth of Contamination: 6 inches  
Comments: The depth of contamination in these two small deposits is estimated based on data collected in Area B.  
Approximate Square Footage: 22
- (Area D) Surface Material: Lawn  
Direction From Primary Structure: Northwest  
Other Directions: South of wood shed  
Total Depth of Contamination: 18 inches  
Approximate Square Footage: 49
- (Area E) Surface Material: Lawn  
Direction From Primary Structure: North and east  
Total Depth of Contamination: 12 inches  
Approximate Square Footage: 142
- (Area F) Surface Material: Lawn  
Direction From Primary Structure: East  
Total Depth of Contamination: 6 inches  
Approximate Square Footage: 80

#### 4.0 RECOMMENDED REMEDIAL ACTION

##### 4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-11751-RS, includes removal of all areas identified as containing radioactive material (as discussed in Section 3.5 and shown in Appendix Figure 3.3) 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 \$2,008.

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-GMD4-84AL28460) between the U.S. Department of Energy, the Advisory Council on Historic Preservation, and the Colorado State Historic Preservation Officer, for UMTRA Project Office, Albuquerque Operations Office, Albuquerque, New Mexico, 1984.

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

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

## 6.0 APPENDIX

This Appendix contains the following:

Appendix Tables:

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

Appendix Figures:

Figure 2.1	Vicinity Map
Figure 2.2	Site Plan
Figure 3.1	Exterior Grid-Point Exposure Rates
Figure 3.2	Sample Locations
Figure 3.3	Estimated Extent of Contamination

Official Survey Report

Team Leader Notes

Deconvolution Graphs (Apparent Radium-226 Concentration)

Exterior Gamma Scan Map

## Radium Concentrations at Exterior Locations

DOE ID #GJ-11751-RS

2844 Elm Avenue

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.		
1	150255	03	TC	2.9		*	North yard
		06	TC	3.2		*	DC = 0 inches
		09	TC	3.4		*	
		12	TC	3.7		*	
		15	TC	3.8		*	
		18	TC	3.8		*	
		21	TC	3.7		*	
		24	TC	3.7		*	
		27	TC	3.7		*	
		30	TC	3.6		*	
2	153272	03	TC	9.5		*	North yard
		06	BH	9.2	5.6	*	
		09	TC	7.4		*	
		12	TC	5.8		*	DC = 12 inches
		15	TC	4.9		*	Based on the
		18	TC	4.4		*	deconvolution graph
		21	TC	4.1		*	
		24	TC	3.9		*	
		27	TC	3.8		*	
		30	TC	3.8		*	
		33	TC	3.8		*	
		36	TC	3.7		*	
		39	TC	3.8		*	
		42	BH	3.7	2.2	*	
		45	TC	3.8		*	
3	183234	00	DS	2.6		*	
		06	DS	1.5		*	
4	200270	00	DS	1.3		*	Background
		03	TC	2.6		*	DC = 0 inches
		06	TC	3.1		*	
		09	TC	3.5		*	
		12	BH	3.6	1.2	*	
		15	TC	3.7		*	
		18	TC	3.6		*	
		21	TC	3.6		*	
		24	BH	3.5	1.0	*	
		27	TC	3.3		*	
5	201231	03	TC	2.6		*	North yard
		06	TC	3.1		*	Septic tank
		09	TC	3.5		*	DC = 0 inches

## Radium Concentrations at Exterior Locations

DOE ID #GJ-11751-RS

2844 Elm Avenue

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.		
5	201231	12	TC	3.7		*	
		15	TC	3.8		*	
		18	TC	3.8		*	
		21	TC	3.8		*	
		24	TC	3.8		*	
		27	TC	3.7		*	
		30	TC	3.5		*	
6	204218	00	DS	18.3		*	Northwest of primary structure
		06	DS	21.5		*	
		12	DS	7.4		*	
		18	DS	2.4		*	
7	223251	03	TC	4.9		*	East foundation of primary structure
		06	TC	5.4		*	
		09	TC	5.2		*	
		12	BH	4.6	2.2	*	DC = 12 inches Based on the deconvolution graph
		15	TC	4.2		*	
		18	TC	3.9		*	
		21	TC	3.7		*	
		24	TC	3.6		*	
8	224234	27	BH	3.6	1.3	*	
		03	TC	2.8		*	North foundation of primary structure
		06	TC	3.0		*	
		09	TC	3.5		*	
		12	TC	3.7		*	DC = 0 inches
		15	TC	3.7		*	
		18	TC	3.7		*	
		21	TC	3.7		*	
		24	TC	3.6		*	
		27	TC	3.5		*	
		30	TC	3.3		*	
9	235217	03	TC	3.1		*	West foundation of primary structure DC = 0 inches
		06	TC	3.6		*	
		09	TC	3.7		*	
		12	TC	3.8		*	
		15	TC	3.8		*	
		18	TC	3.7		*	
		21	TC	3.7		*	
		24	TC	3.6		*	
		27	TC	3.5		*	

## Radium Concentrations at Exterior Locations

DOE ID #GJ-11751-RS

2844 Elm Avenue

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.		
10	243217	00	DS	2.4		*	West of primary structure by gas line
		06	DS	2.2		*	
11	248217	00	DS	2.1		*	Gas line
		06	DS	2.8		*	
		24	DS	1.7		*	
12	251220	00	DS	1.5		*	Water line
		06	DS	2.2		*	
		30	DS	1.9		*	
13	251251	00	DS	4.5		*	Southeast corner of primary structure
		06	DS	2.5		*	

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 = 06-11-85  
 Team Leader = DGD

Table 3.2

## Summary of Interior Gamma Exposure Rates

DOE ID No. GJ-11751-RS

2844 Elm Avenue

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)
GROUND FLOOR	*	*	*	*	14-16	*
WOOD SHED	*	*	*	*	15-16	*

\* The historical data indicate the absence of interior contamination at this property. This information was investigated by performing a walking gamma scan.

Table 4.1  
Area and Volume Calculations  
DOE ID No. GJ-11751-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					
A	22 x 35	= 770	x 1.0	= 770	
B	2 x 5	= 10			
	4 x 5	= 20			
	2 x 6	= 12			
	12 x 3	= 36			
		78	x 0.5	= 39	
C	2 x 5	= 10			
	3 x 4	= 12			
		22	x 0.5	= 11	
D	7 x 7	= 49	x 1.5	= 74	
E	7 x 6	= 42			
	5 x 13	= 65			
	7 x 5	= 35			
		142	x 1.0	= 142	
F	6 x 10	= 60			
	5 x 4	= 20			
		80	x 0.5	= 40	
TOTAL VOLUME - EXTERIOR				1,076	= 1,076/27 = 40

See Appendix Figure 3.3 For Areas

EXTERIOR

Remove identified residual radioactive material		
37 cy @ \$14.50/cy (machine-open)	\$	537
3 cy @ \$44/cy (manual-open)		132
Replace areas with topsoil		
40 cy @ \$9.50/cy		380
Replace areas with sod		
300 sf @ \$.35/sf		105
		<hr/>
TOTAL EXTERIOR	\$	1,154
TOTAL INTERIOR		0
ACCESS CONTROL		150
		<hr/>
SUBTOTAL	\$	1,304
CONTINGENCY @ 10%		130
		<hr/>
SUBTOTAL	\$	1,434
CONTRACTOR OVERHEAD & PROFIT @ 40%		574
		<hr/>
GRAND TOTAL	\$	2,008

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RR071285  
REAL1751/ AEA-610/LMR



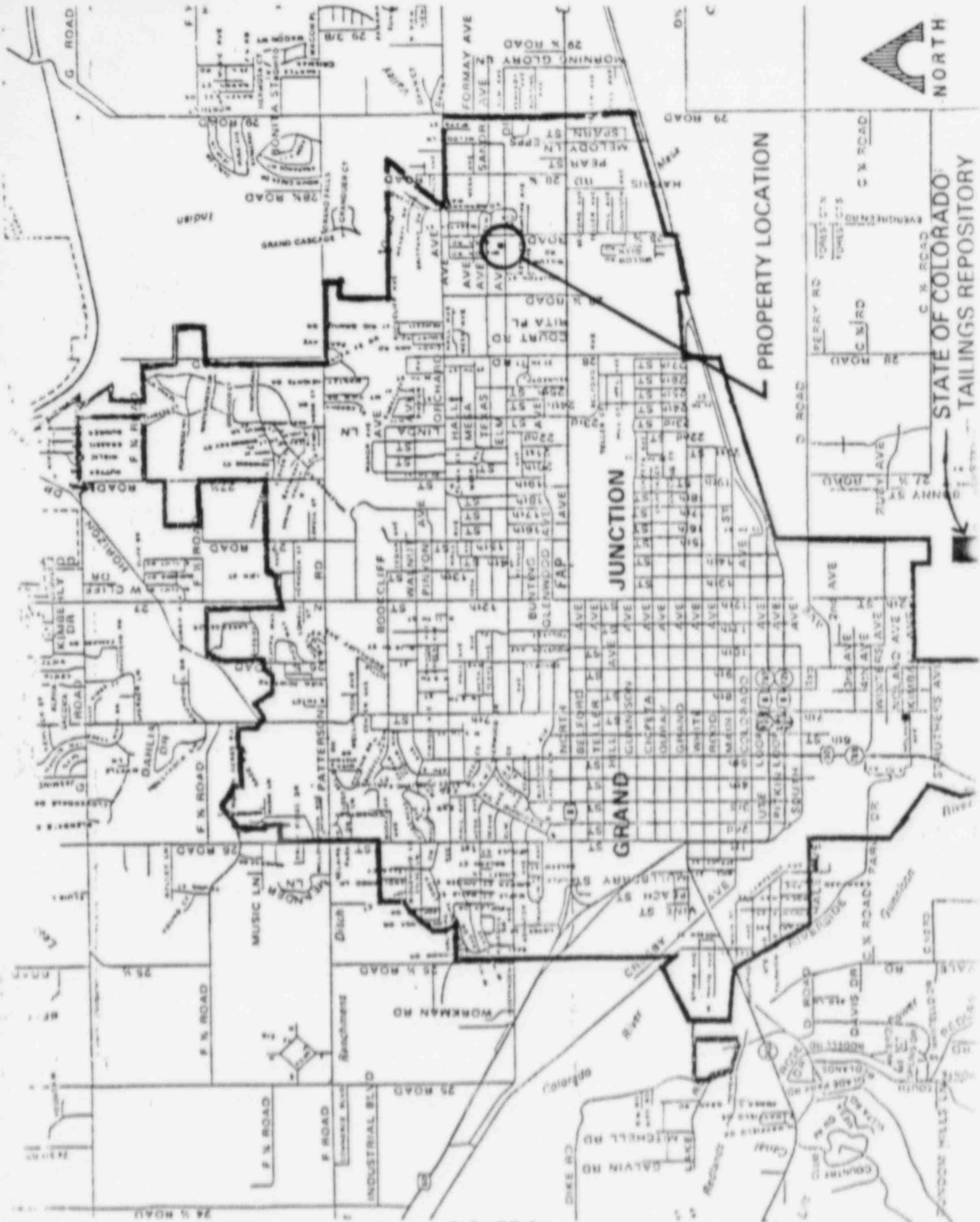


FIGURE 2.1  
VICINITY MAP

BEGINNING 250.0 FEET WEST AND 20.0 FEET NORTH OF THE  
SOUTHEAST CORNER OF THE NE 1/4 SW 1/4 SECTION 7,  
T.15, R.1E., U.M., CITY OF GRAND JUNCTION, COLORADO,  
THENCE WEST 80.0 FEET, THENCE NORTH 154.0 FEET, THENCE  
EAST 80.0 FEET, THENCE SOUTH 154.0 FEET TO BEGINNING.

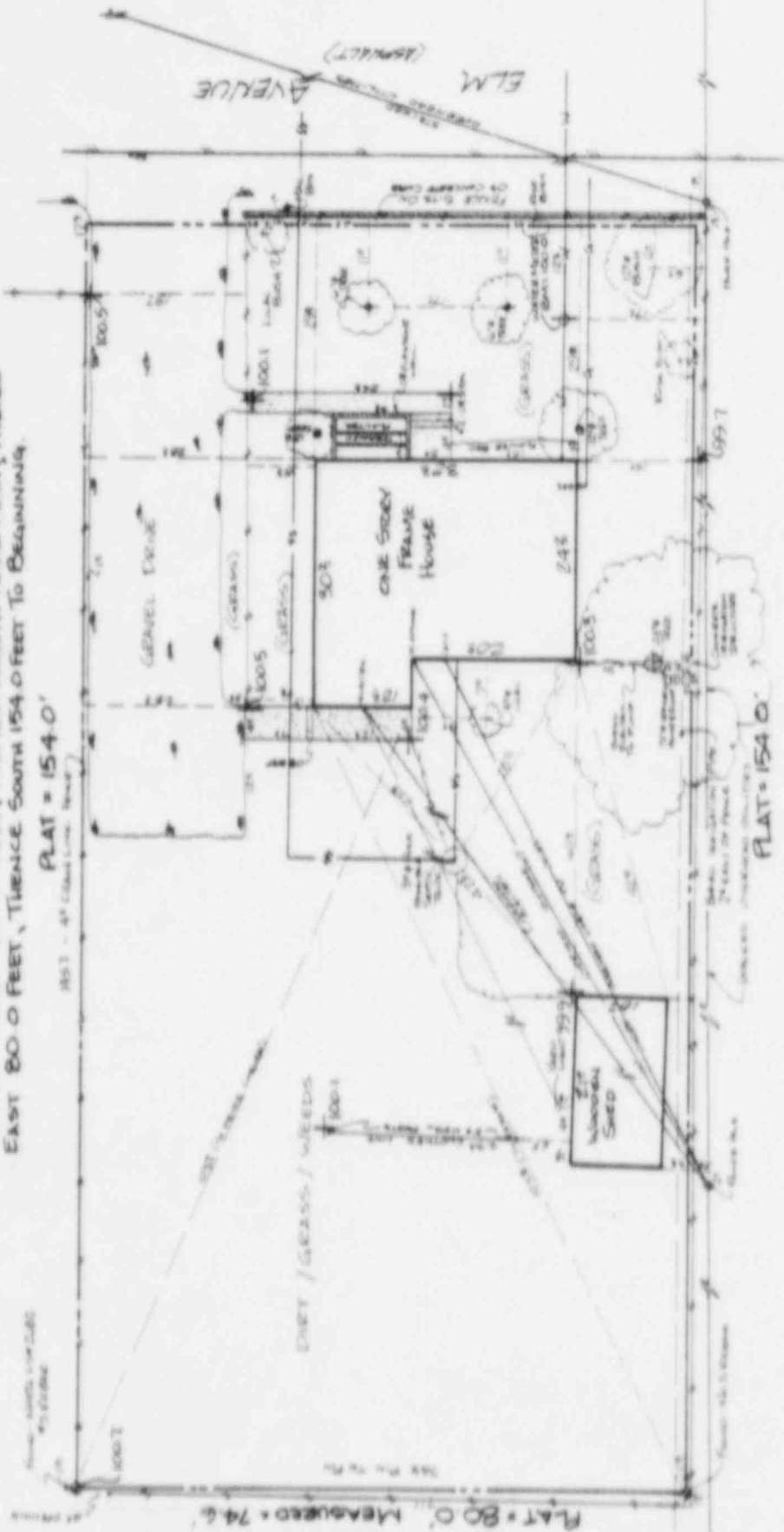
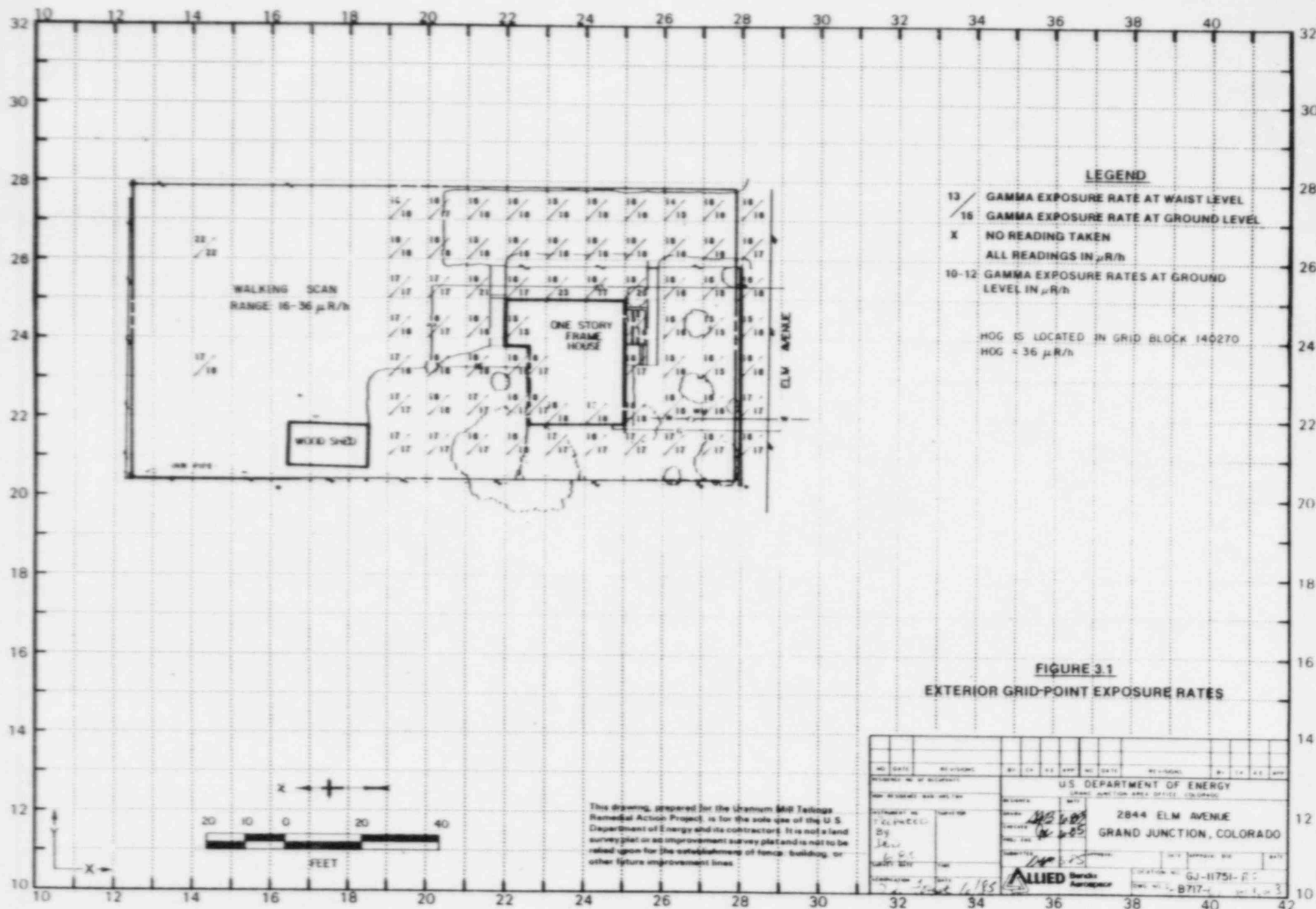
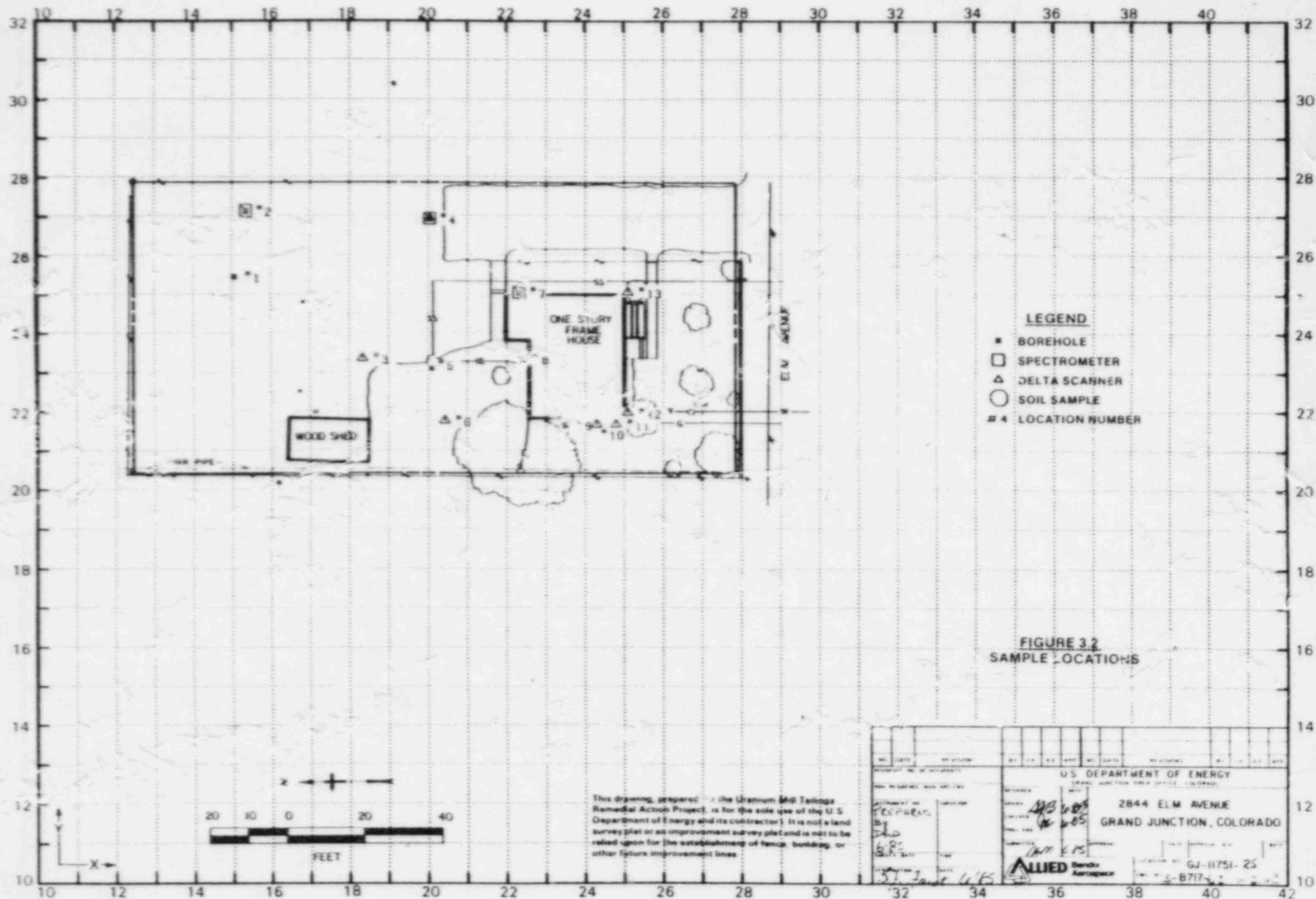


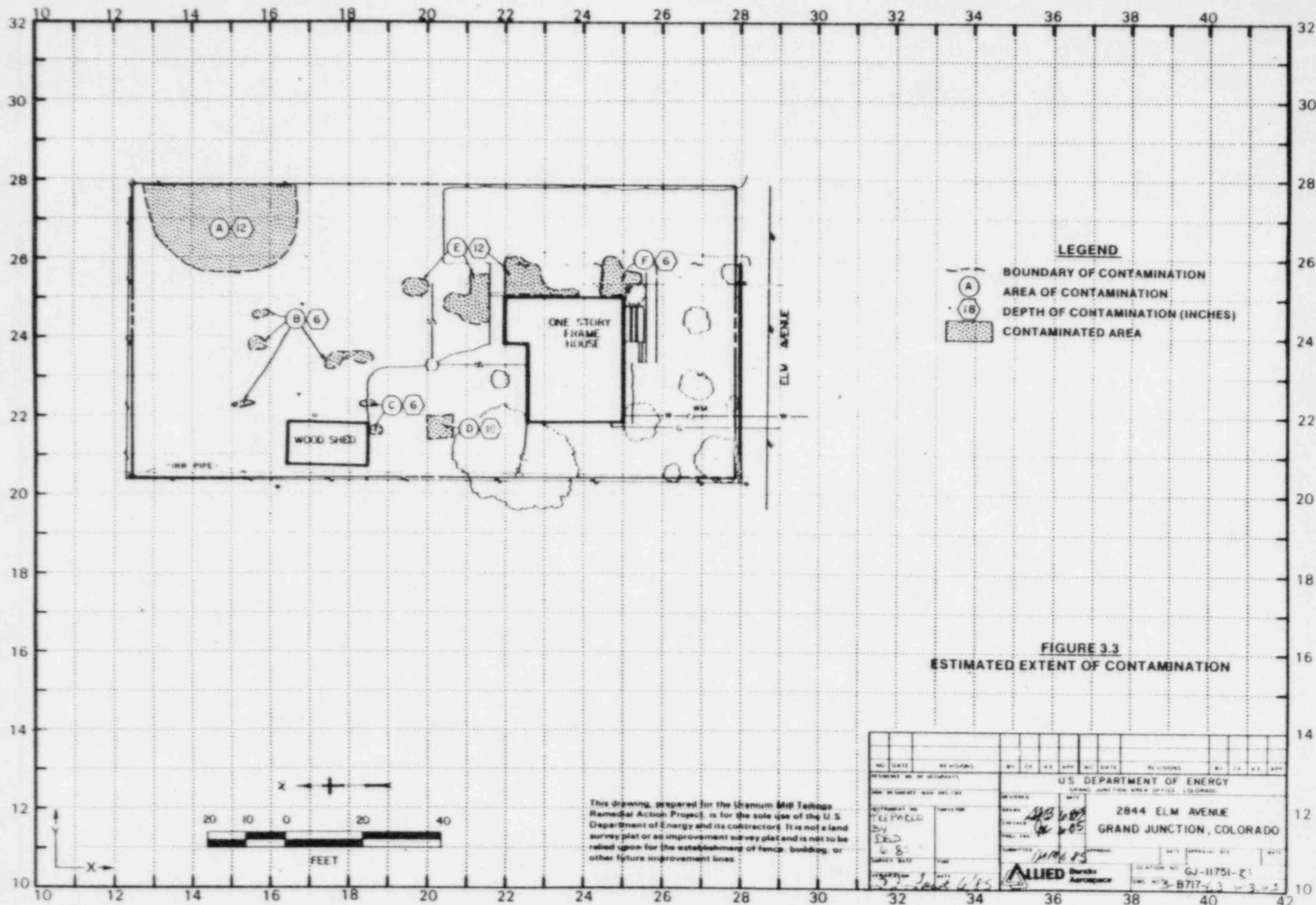
FIGURE 2.2 SITE PLAN

U.S. DEPARTMENT OF ENERGY	SUB NO.
GRAND JUNCTION PROJECT OFFICE, COLORADO	GJ11751 R'S
ADDRESS 2844 ELM AVENUE	APPROVED
GRAND JUNCTION, COLORADO	DATE 10/15/85
SUBMIT 6/5/85	DATE 10/15/85
DATE 10/15/85	DATE 10/15/85

This drawing, prepared for the Grand Junction  
Recreation Area Project, is for the sole use of the U.S.  
Department of Energy and the construction firm and is not to be  
used for any other purpose without the written consent of the  
U.S. Department of Energy. Building or other future improvements hereon.









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

Official Survey Report

Property Address 2844 Elm Avenue

Property Owner Marjorie Fortney

Address of Owner (if different from above)

Report Prepared By David Dille

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

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

☒ 1 Residual radioactive materials found at the following locations:

☒ 1 In open areas.

☒ 1 Under or around exterior improvements.

☐ 1 Under or around a typically nonoccupied structure.

☒ 1 Under or around a typically occupied structure.

II. RESULTS OF RADIOLOGIC ASSESSMENT

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

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

cc:

G. A. Franz, III, GJ/CDH

J. Themelis, Mgr. UMTRA Proj. Off.

HIG = 16 uR/h  
HOG = 36 uR/h

MEMORANDUM

ALLIED Bendix  
Aerospace

Bendix Field Engineering Corporation  
Grand Junction Operations  
Grand Junction, Colorado

Date: June 11, 1985

To: Files

From: David G. Dille

Subject: Team Leader Notes - GJ-11751-RS

Address: 2844 Elm Avenue

Owner: Marjorie A. Fortney

Occupancy: Two

Weather: Clear, warm.

Team Members

D. Dille (Team Leader)

M. Gilfillan

Date: June 10, 1985

A walking scan was performed on the primary structure and the shed.  
The owner would not allow the crawl space to be examined.

Date: June 11, 1985

Team Members

D. Dille (Team Leader)

S. Larsen

R. Herman

G. Meeker

A. Raabe

R. Wilkins

S. Garcia

P. Hardy

Team Leader Notes  
David G. Dille  
GJ-11751-RS  
June 11, 1985  
Page 2

Historical Information:

Colorado Department of Health (CDH) indicates contamination to be located in the rock stairs of the backyard. Oak Ridge National Laboratory (ORNL) indicates contamination to be located in the garden area, on the northeast and southeast sides of the primary structure.

Mrs. Fortney indicated that she had no knowledge of the tailings location on her property.

Team members gamma scanned the property.

Team members augered near the septic tank, was unable to go deeper.

Experienced auger refusals near the sewer line.

All team members were frisked before leaving the site..



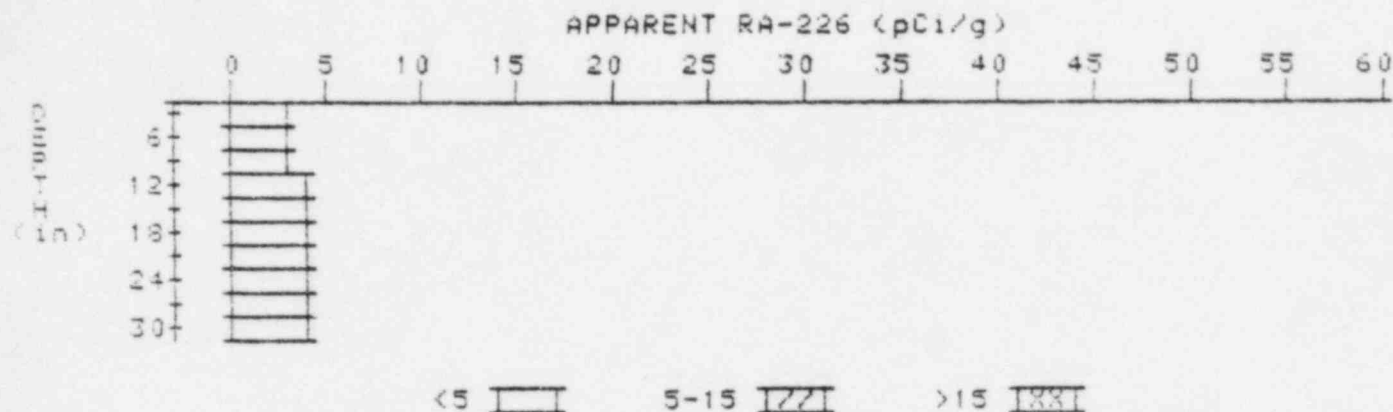
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

1

PROPERTY NUMBER: GJ-11751-RS

HOLE NUMBER: 1

LOCATION: 150255



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.9	2.9
6	3.2	3.4
9	3.4	3.2
12	3.7	4.1
15	3.8	4.0
18	3.8	4.0
21	3.7	3.5
24	3.7	3.7
27	3.7	3.9
30	3.6	3.6

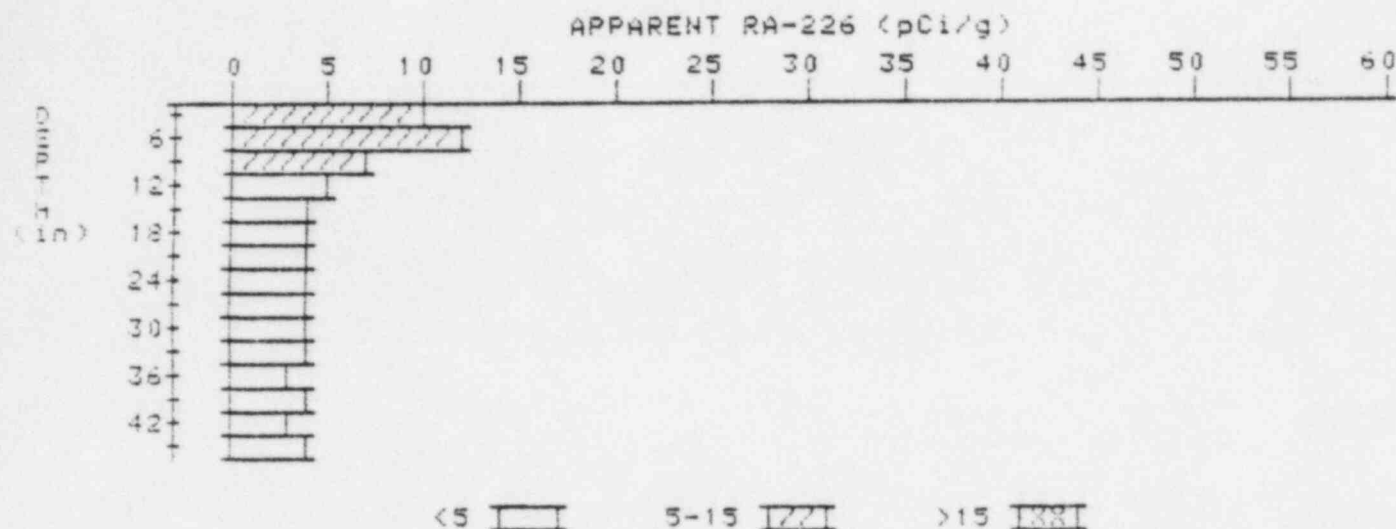
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

2

PROPERTY NUMBER: GJ-11751-RS

HOLE NUMBER: 2

LOCATION: 153272

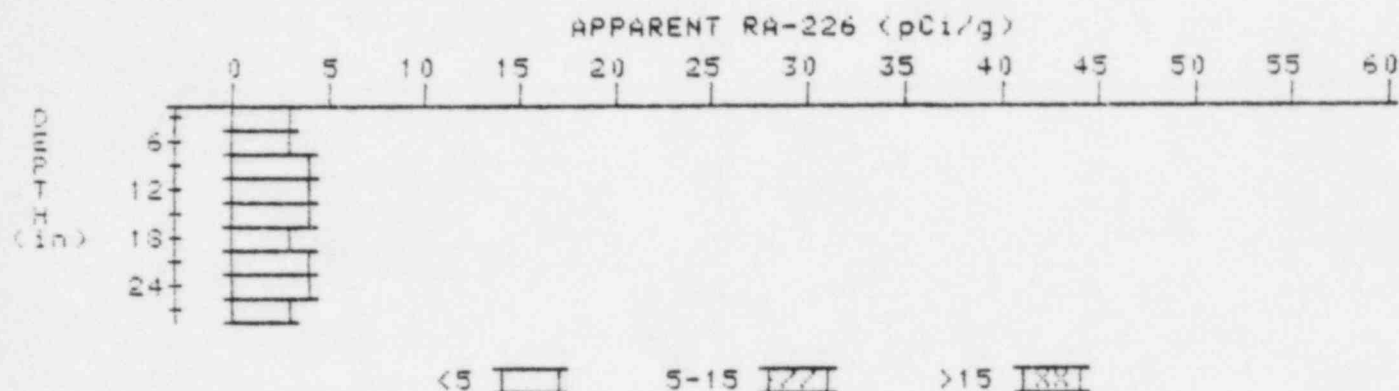


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	9.5	9.5
6	9.2	11.9
9	7.4	7.0
12	5.8	4.6
15	4.9	4.2
18	4.4	4.0
21	4.1	3.9
24	3.9	3.7
27	3.8	3.6
30	3.8	3.8
33	3.8	4.0
36	3.7	3.3
39	3.8	4.2
42	3.7	3.3
45	3.6	3.8

# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

4

PROPERTY NUMBER: GJ-11751-RS  
HOLE NUMBER: 4  
LOCATION: 200270



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.6	2.6
6	3.1	3.3
9	3.5	4.0
12	3.6	3.6
15	3.7	4.1
18	3.6	3.4
21	3.6	3.8
24	3.5	3.7
27	3.3	3.3

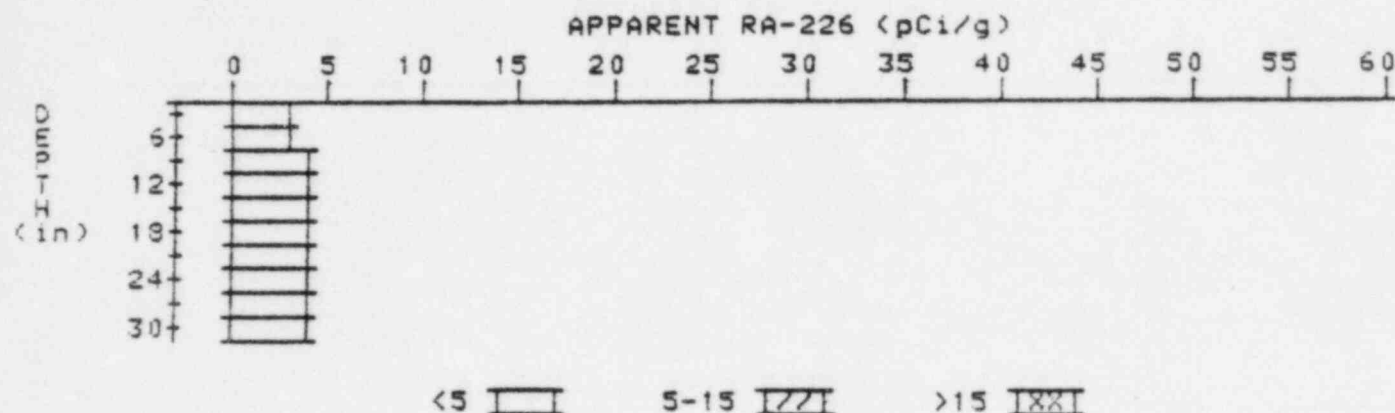
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

5

PROPERTY NUMBER: GJ-11751-RS

HOLE NUMBER: 5

LOCATION: 201231



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.6	2.6
6	3.1	3.3
9	3.5	3.9
12	3.7	3.9
13	3.8	4.0
18	3.8	3.8
21	3.8	3.8
24	3.8	4.0
27	3.7	3.9
30	3.5	3.5

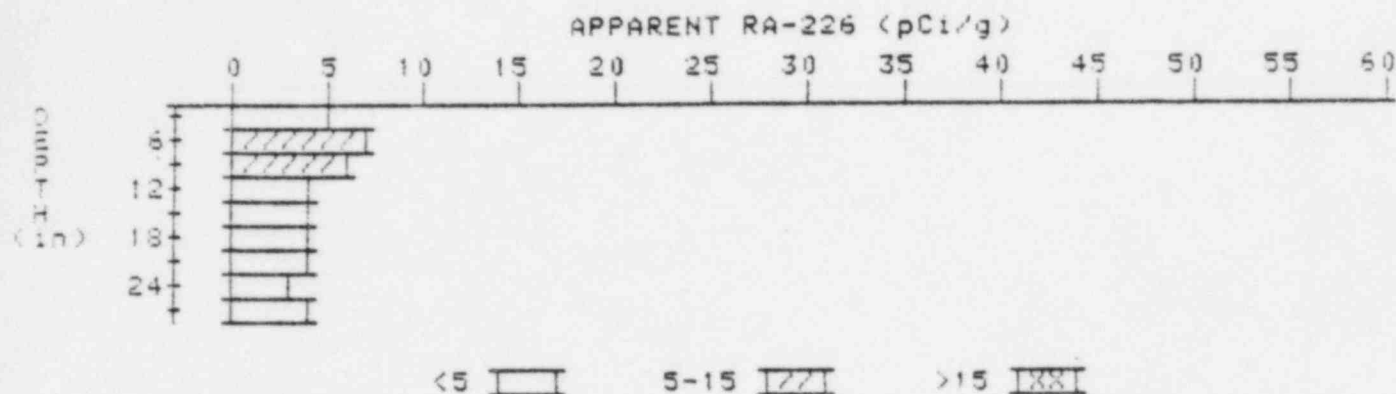
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

7

PROPERTY NUMBER: GJ-11751-RS

HOLE NUMBER: 7

LOCATION: 223251



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	4.9	4.9
6	5.4	6.6
9	5.2	5.9
12	4.6	4.2
15	4.2	4.0
18	3.9	3.7
21	3.7	3.5
24	3.6	3.4
27	3.6	3.6

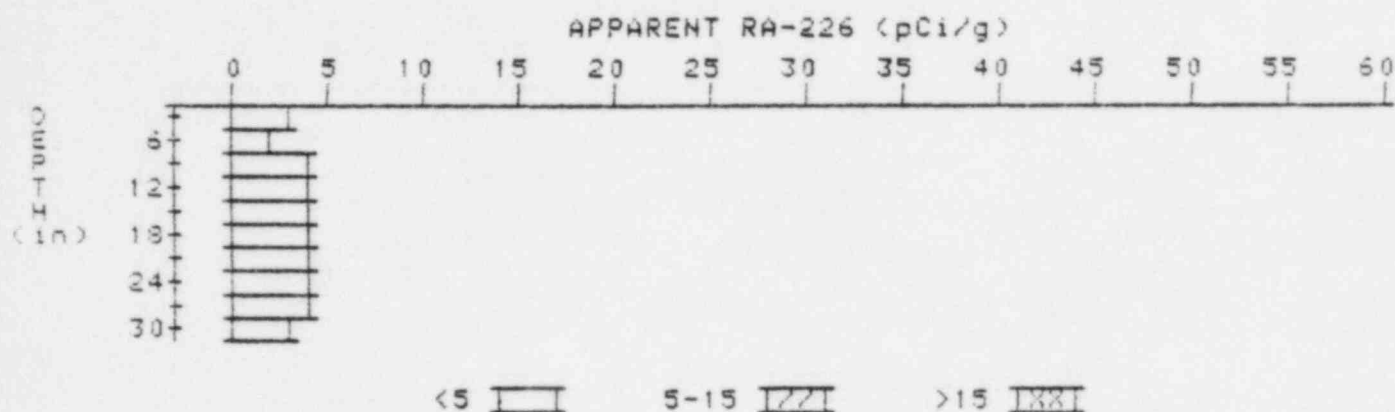
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

8

PROPERTY NUMBER: GJ-11751-RS

HOLE NUMBER: 8

LOCATION: 224234



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.8	2.8
6	3.0	2.5
9	3.5	4.0
12	3.7	4.1
15	3.7	3.7
18	3.7	3.7
21	3.7	3.9
24	3.6	3.6
27	3.5	3.7
30	3.3	3.3

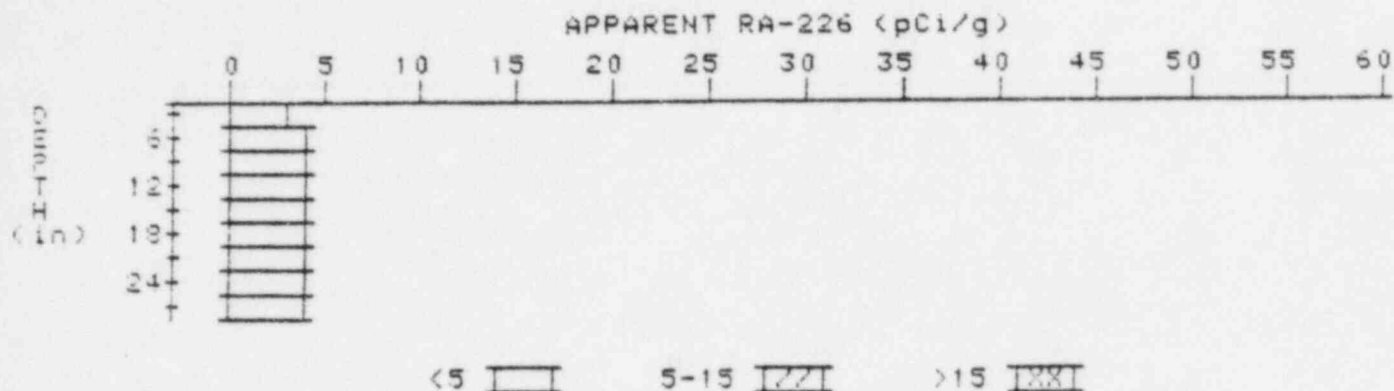
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

9

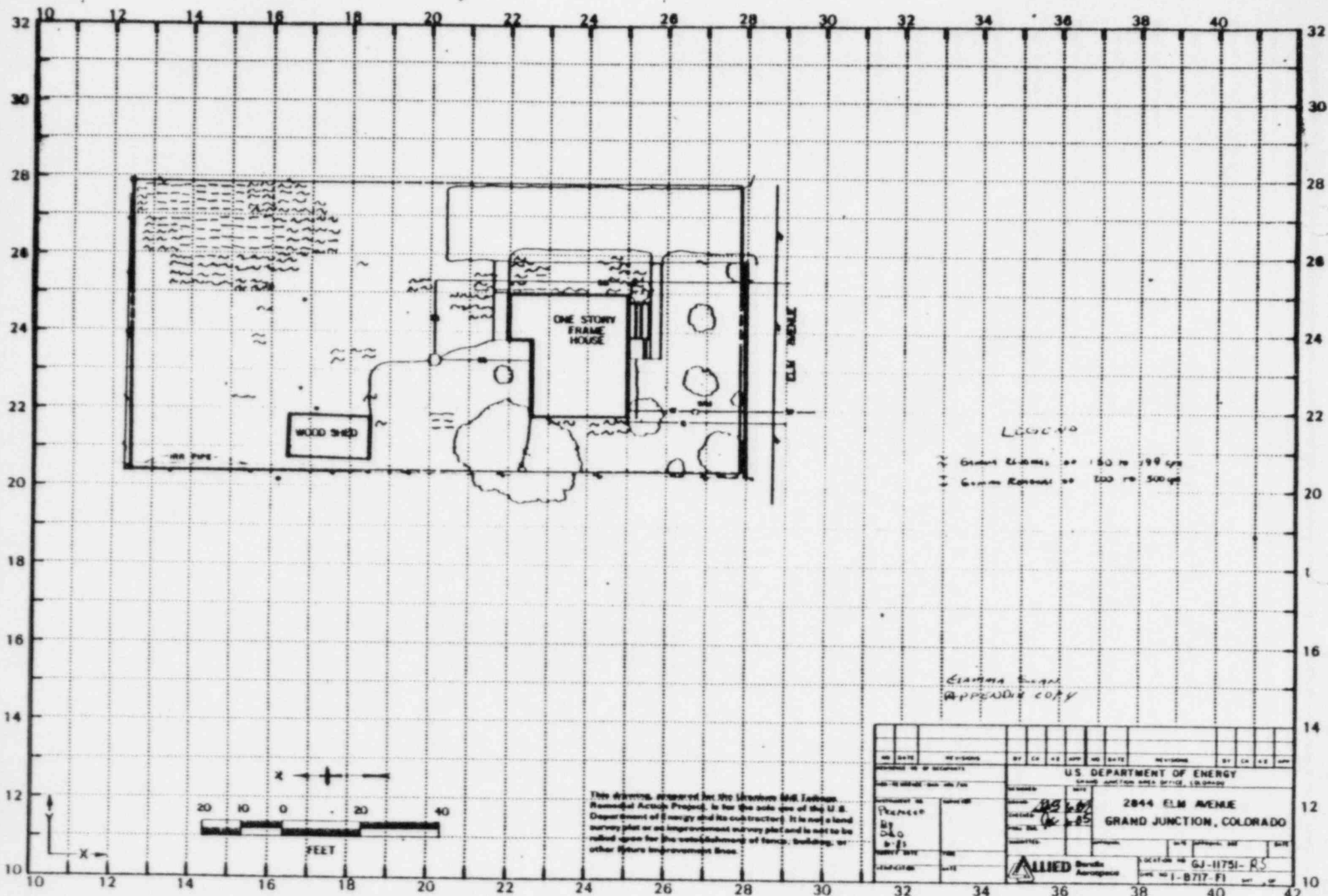
PROPERTY NUMBER: GJ-11751-RS

HOLE NUMBER: 9

LOCATION: 235217



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



This drawing, prepared for the Grand Junction Remedial Action Project, is for the sole use of the U.S. Department of Energy and its contractors. It is not a land survey plot or an improvement survey plot and is not to be relied upon for the establishment of fence, building, or other future improvement lines.

LEGEND

Grass Easement 150 ft 100 yds  
Grass Easement 100 ft 500 yds

CLARIFICATION  
APPENDIX COPY

NO.	DATE	REVISIONS	BY	CH	APP	NO.	DATE	REVISIONS	BY	CH	APP
<p>US DEPARTMENT OF ENERGY Grand Junction Area Office, Colorado</p> <p>2844 ELM AVENUE GRAND JUNCTION, COLORADO</p> <p>PROJECT NO. 85-001 DATE 8/1/85 BY D.A.O. CHECKED BY J.S. APPROVED BY J.S.</p> <p>ALLIED Aerospac</p> <p>LOCATION NO. GJ-11751-RS DATE NO. 1-8717-F1</p>											