

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-11552-RS
ADDRESS: 2856 BUNTING AVENUE

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

M. TUCKER
DOE PROJECT ENGINEER

DATE

REA11552:REA-706

8508300207 850807
PDR WASTE
WM-54 PDR

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The location, DOE ID No. GJ-11552-RS, is a single-family residence located at 2856 Bunting Avenue, Grand Junction, Colorado.

The purpose of this assessment is to evaluate the extent of uranium millsite contamination at this property and present a recommendation based on this assessment.

1.2 Evaluation and Recommendation

It is recommended that no remedial action be performed on this property (as discussed in Section 4.0) and that a Property Completion Report be prepared for use in the DOE certification process. The identified residual radioactive material found on this property is tailings; the estimated volume is: exterior, 4 cu. yd.; interior, 0 cu. yd.

2.0 PROPERTY DESCRIPTION

2.1 General Description

Address: 2856 Bunting Avenue, Grand Junction, Colorado

Zoning: Residential (RSF-8)

Lot Size: Approximately 11,250 sf (0.26 acres)

Legal Description: West 25 feet of Lot 5 and all of Lot 6, Block 1, Hutt Subdivision, Section 7, 1S 1E, City of Grand Junction, County of Mesa, State of Colorado.

Point of Reference: This property is located approximately 2 mile(s) 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:	Utility easement
South:	Bunting Avenue
East:	Single-family residence
West:	Single-family residence

2.2 Existing Facilities and Structures

Primary Structure:

Type:	Single-story residence
Size:	Approximately 1,700 sf
Construction Date:	1955
Construction:	Wood-frame with stucco exterior
Foundation:	Concrete stemwall on spread footing
Footing Depth:	Approximately 24" to bottom of footing from grade
Basement:	None
Crawl Space:	Yes
Condition:	Good

Other Structures:

Type:	Metal Shed 1
Size:	Approximately 60 sf
Construction:	Prefabricated metal
Foundation:	Concrete slab-on-grade
Condition:	Good

Types:	Wood Shed 1, Wood Shed 2, and Metal Shed 2
Size:	Approximately 96, 50, and 92 sf, respectively
Construction:	Wood-frame, wood-frame, and prefabricated metal, respectively
Foundation:	None
Condition:	Good - All sheds

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-11552-RS on July 2, 1985. Data collection methods were performed in accordance with procedures fully described in the Radiologic Support Operations Procedures Manual GJ-07(84) (Bendix Field Engineering Corporation, 1984). These data were evaluated to determine the areal and vertical extent of uranium mill tailings contamination at this property as well as any other contaminated material that may have originated from the millsite.

A review of historical information from the files of the Colorado Department of Health (CDH) and the inclusion data from Oak Ridge National Laboratory (ORNL) was conducted. These records indicate contamination in the north yard, between the shed and the primary structure, and a small deposit on the west property boundary in the south yard.

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: 14 to 17 uR/h
Highest Outside Gamma Reading (HOG): 27 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: 15 to 17 uR/h
Highest Inside Gamma Reading (HIG): 20 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.

3.3 Boreholes, Soil Samples, and Other Measurements

Areas which displayed elevated gamma levels were further investigated; these areas are shown in Appendix Figures 3.2a and 3.2b. 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 3.3 shows identified areas and estimated depths of contamination on this property, based on assessments of all measurements taken. As noted in this figure, areas that contain identified residual radioactive materials are:

- (Area A) Surface Material: Soil
Direction From Primary Structure: East
Other Directions: West of patio
Total Depth of Contamination: 18 inches
Comments: Flower bed
Approximate Square Footage: 40
- (Area B) Surface Material: Lawn
Direction From Primary Structure: North
Other Directions: Central part of north yard
Total Depth of Contamination: 9 inches
Comments: On top of an unused septic tank
Approximate Square Footage: 68
- (Area C) Surface Material: Road base
Direction From Primary Structure: Southwest
Other Directions: In driveway near west property line
Total Depth of Contamination: 6 inches
Approximate Square Footage: 12

4.0 RECOMMENDED REMEDIAL ACTION

4.1 Decontamination and Restoration

It is recommended that no remedial action be performed and that an indoor RDC measurement be completed on this property. If the RDC measurement exceeds EPA Standards, then the REA will be revised and remedial action accomplished in accordance with the Vicinity Property Management and Implementation Manual. If EPA Standards are not exceeded, then the no-action recommendation will be considered valid, and a Property Completion Report will be prepared for DOE certification.

4.2 Evaluation of Recommended Remedial Action

The recommendation that no remedial action be performed on this property is made because the levels of radioactivity on this property fall below the EPA Standards (40 CFR 192) when averaged over 100 m².

The EPA Standards are:

- (1) 5 pCi/g above background, averaged over the first 15 cm of soil below the surface; and
- (2) 15 pCi/g above background, averaged over 15-cm-thick layers of soil more than 15 cm below the surface.

Appendix Table 4.1 presents the area and volume calculations of contamination present on the property. The average radium concentration for this property is 6.29 pCi/g which falls below the allowable EPA Standard, including background, of 7 pCi/g for this area. Appendix Table 4.2 presents the calculations for concentrations of Radium-226 in soil for this location.

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	Calculations for Concentration of Radium-226 in Soil

Appendix Figures:

Figure 2.1	Vicinity Map
Figure 2.2	Site Plan
Figure 3.1	Exterior Grid-Point Exposure Rates
Figure 3.2a	Interior Sample Locations
Figure 3.2b	Exterior 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-11552-RS

2856 Bunting 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.		
2	168224	00	DS	10.9		*	North yard
		06	DS	2.0		*	
3	170225	03	TC	8.6		*	North yard DC = 9 inches Based on the deconvolution graph
		06	TC	7.4		*	
		09	TC	5.5		*	
		12	TC	4.5		*	
		15	TC	4.0		*	
		18	TC	3.8		*	
		21	TC	3.6		*	
		24	TC	3.6		*	
		27	TC	3.6		*	
		30	TC	3.6		*	
		33	TC	3.7		*	
		36	TC	3.7		*	
4	176225	00	DS	7.1		*	North yard
		06	DS	2.4		*	
5	180225	00	DS	5.5		*	North yard
		06	DS	3.3		*	
		12	DS	1.1		*	
6	209233	03	TC	3.1		*	Background North foundation DC = 0 inches
		06	TC	3.4		*	
		09	TC	3.5		*	
		12	TC	3.7		*	
		15	TC	3.7		*	
		18	TC	3.7		*	
		21	TC	3.7		*	
		24	TC	3.7		*	
		27	TC	3.6		*	
		30	TC	3.5		*	
		33	TC	3.5		*	
		36	TC	3.4		*	
		39	TC	3.5		*	
7	215245	00	DS	5.5		*	East of primary structure in planter
		06	DS	22.9		*	
		12	DS	5.7		*	
		18	DS	3.7		*	
		00	GS		4.2	*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-11552-RS

2856 Bunting 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.		
8	220215	00	GS		2.6	*	On flagstone
9	222245	03	TC	5.8		*	Flower bed on east side of primary structure
		06	TC	8.3		*	
		09	TC	11.9		*	
		12	TC	12.8		*	
		15	TC	9.2		*	
		18	TC	6.6		*	DC = 18 inches Based on the deconvolution graph
		21	TC	5.6		*	
		24	TC	4.9		*	
		27	TC	4.5		*	
		30	TC	4.3		*	
		33	TC	4.1		*	
		36	TC	3.9		*	
10	227245	00	DS	3.2		*	Southwest of patio
		06	DS	13.7		*	In flower bed
		12	DS	8.6		*	
		18	DS	2.7		*	
11	242256	03	TC	3.5		*	East foundation DC = 0 inches
		06	TC	3.7		*	
		09	TC	3.8		*	
		12	TC	3.8		*	
		15	TC	3.9		*	
		18	TC	3.9		*	
		21	TC	3.9		*	
		24	TC	3.9		*	
		27	TC	3.8		*	
		30	TC	3.8		*	
12	243209	00	DS	2.4		*	West flower bed
		[6]	DS	1.7		*	Horizontal on wall
		[6]	GS		2.4	*	
13	243210	00	DS	<1.0		*	Southwest of
		06	DS	<1.0		*	primary structure
		00	GS		1.1	*	In flower bed
14	248246	00	DS	1.1		*	Gas line
		20	DS	<1.0		*	
15	258200	00	DS	4.5		*	In driveway
		06	DS	1.6		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-11552-RS

2856 Bunting Avenue

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
16	274255	03	TC	3.3		*	Water line
		06	TC	3.6		*	DC = 0 inches
		09	TC	3.6		*	
		12	TC	3.7		*	
		15	TC	3.8		*	
		18	TC	3.8		*	
		21	TC	3.7		*	
		24	TC	3.7		*	
		27	TC	3.7		*	
		30	TC	3.6		*	
		33	TC	3.6		*	
		36	TC	3.6		*	
		39	TC	3.6		*	

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 = 07-02-85
Team Leader = TLC

Radium Concentrations at Interior Locations

DOE ID #GJ-11552-RS

2856 Bunting 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	DS	4.0		*	On fireplace
		00	GS		4.4	*	DC = 0 inches

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 = 07-02-85
Team Leader = TLC

Table 3.3

Summary of Interior Gamma Exposure Rates

DOE ID #GJ-11552-RS

2856 Bunting 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	*	*	*	*	15-17	*
Shed 1	05	13-15	14	04	13-16	15
Shed 2	05	13-14	13	05	14-15	15
Shed 3	05	13-15	14	03	14-16	15
Shed 4	01	14-14	14	01	15-15	15
Crawl Space	*	*	*	*	16-18	*

* Walking gamma scans were performed on the ground floor and in the crawl space to confirm the absence of interior contamination.

Table 4.1
Area and Volume Calculations
DOE ID No. GJ-11552-RS

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<u>AREA</u>	<u>CALCULATIONS(ft)</u>		<u>SF</u>	<u>DEPTH(ft)</u>		<u>CF</u>		<u>CUBIC YARDS</u>
EXTERIOR								
A	2 x 20	=	40	x	1.5	=	60	
B	17 x 4	=	68	x	0.8	=	54	
C	3 x 4	=	12	x	0.5	=	6	
						<hr/>		
TOTAL VOLUME - EXTERIOR						=	120	= 120/27 = 4

NOTE: Total square feet of Areas A, B, and C = 120 square feet
120 square feet = 11.0 square meters

See Appendix Figure 3.3 For Areas

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Table 4.2
Calculations for Concentration of Radium-226 in Soil
DOE ID No. GJ-11552-RS

Page 1 of 1

$$C_{avg} = \frac{C_c \times A_c + C_b (100m^2 - A_c)}{100m^2}$$

Where

C_{avg} = Concentration average (pCi/g)

C_c = Concentration of Contamination (pCi/g)*

A_c = Area of Concentration (m²)

C_b = Background Concentration (pCi/g)

$$C_{avg} = \frac{41 \times 11 + 2 (100 - 11)}{100}$$

$$C_{avg} = 6.29 < 7$$

Therefore, concentration does not exceed EPA Standards of 7 pCi/g

NOTE: Background Radium concentration for this area is 2 pCi/g

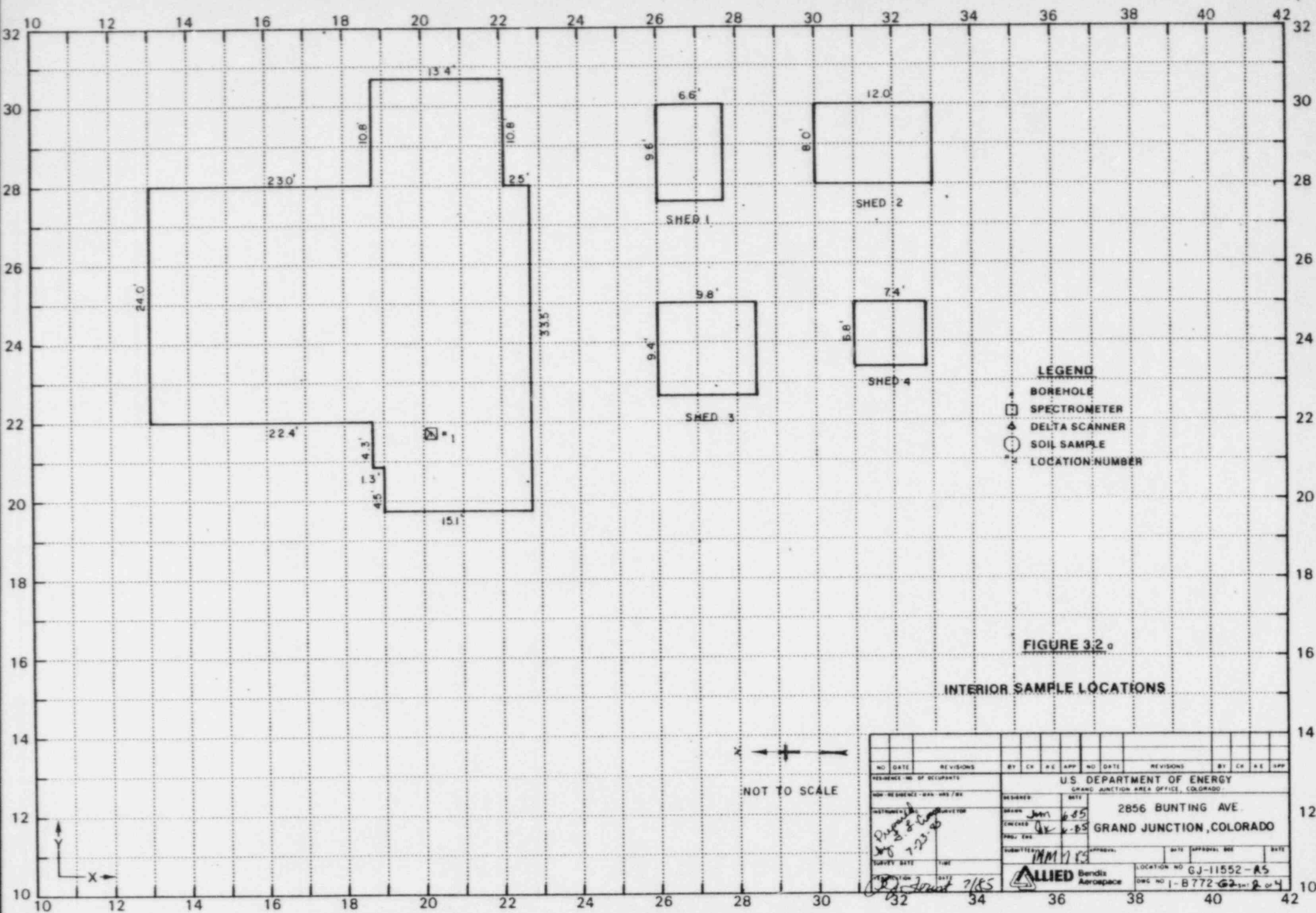
*Based on ORNL soil sample results

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RR073185
REA11552/REA-706/AP



FIGURE 2.1
VICINITY MAP



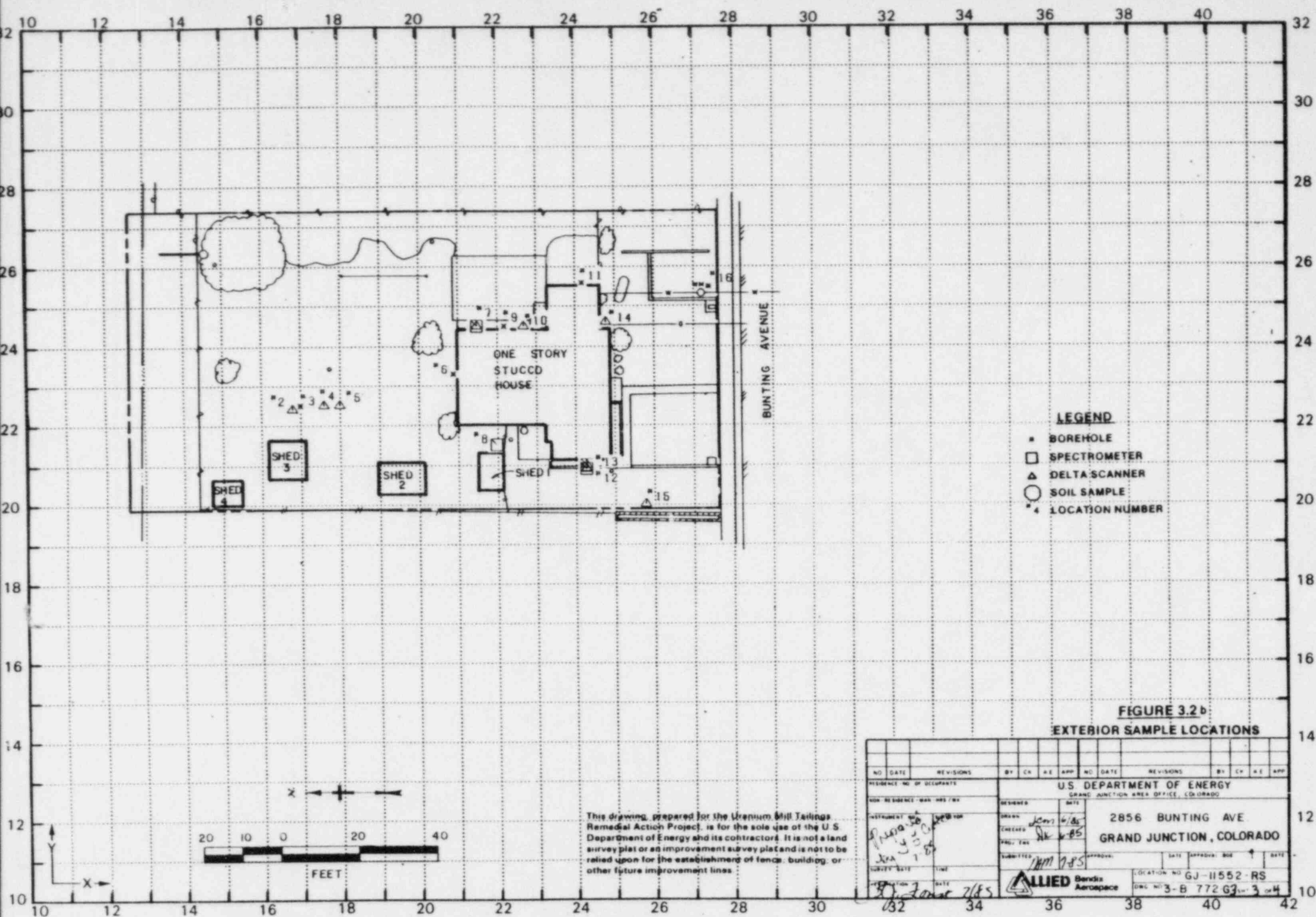
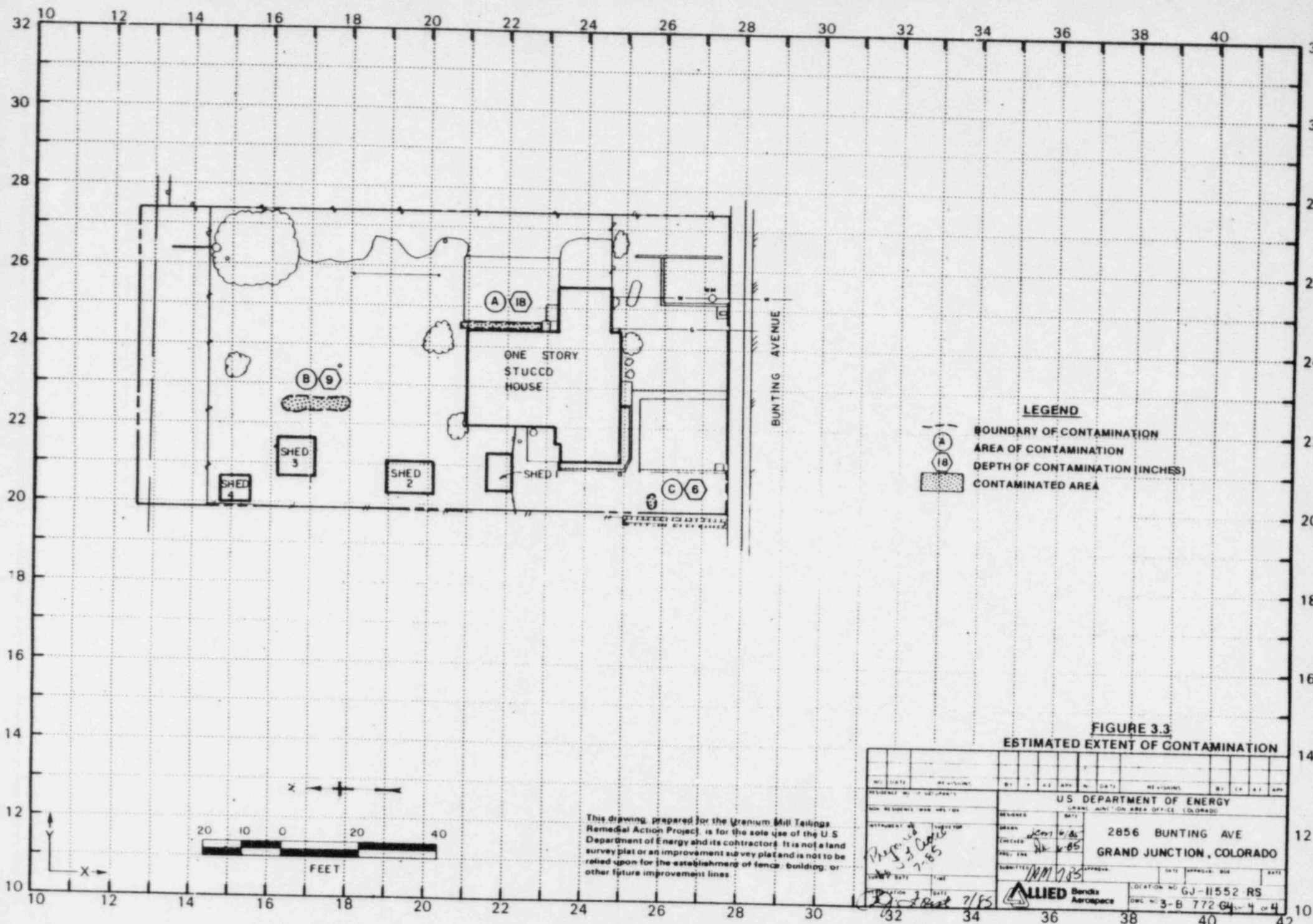


FIGURE 3.2 b
EXTERIOR SAMPLE LOCATIONS

[illegible]



LEGEND

- (A) 18 BOUNDARY OF CONTAMINATION
- (B) 9 AREA OF CONTAMINATION
- (C) 6 DEPTH OF CONTAMINATION (INCHES)
- (D) 3 CONTAMINATED AREA

FIGURE 3.3
ESTIMATED EXTENT OF CONTAMINATION

NO. DATE		REV. DATE		BY: A. J. APP. N. DATE		REV. DATE		BY: CH. A. J. APP.	
RESIDENTIAL NO. OF OCCUPANTS									
NON-RESIDENTIAL MAX. NO. OF OCCUPANTS									
<div style="display: flex; justify-content: space-between;"> <div> <p>APPROVED BY: <i>[Signature]</i></p> <p>DATE: 7/85</p> </div> <div> <p>DESIGNED BY: <i>[Signature]</i></p> <p>CHECKED BY: <i>[Signature]</i></p> <p>DATE: 7/85</p> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div> <p>LOCATION NO. GJ-11552-RS</p> <p>DATE: 3-B 772-64-4</p> </div> <div> <p>2856 BUNTING AVE</p> <p>GRAND JUNCTION, COLORADO</p> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div> <p>ALLIED</p> <p>Bondix Aerospace</p> </div> <div> <p>DATE: 7/85</p> <p>APPROVED BY: <i>[Signature]</i></p> </div> </div>									

3/85

DOE ID NO. GJ-1155²RS

Date July 8, 1985

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

Official Survey Report

Property Address 2856 Bunting Avenue

Property Owner Ronald Pray

Address of Owner (if different from above) _____

Report Prepared By Teri L. Ciocco

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

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

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

1XXXX 1 In open areas.

1XXXX 1 Under or around exterior improvements.

1 1 Under or around a typically nonoccupied structure.

1XXXX 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.

1XXXX 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 = 20 uR/h
HOG = 27 uR/h

ALLIED Bendix
Aerospace

Bendix Field Engineering Corporation
Grand Junction Operations
Grand Junction, Colorado

Date: July 2, 1985
To: Files
From: Teri L. Ciocco
Subject: Team Leader Notes - GJ-11552-RS

Address: 2856 Bunting Avenue

Owner: Ronald and Ruth Pray

Telephone: 242-7615

Occupancy: Two

Team Members

T. Ciocco (Team Leader)	L. Kula
N. Wallace	H. Lucero
V. Young	M. Heronema
K. Roemer	M. Dexter

Instruments

See Equipment Summary sheet.

Oak Ridge National Laboratory (ORNL) data indicated contamination in the north yard and a small deposit along the west fence line.

The property was checked for spillover onto the west bordering property, no contamination was found.

Ira Caley visited the property at 8:30 AM to retrieve instrument C-3935 (delta), which was not ready to be used for the field at that time. No data was taken with this instrument.

Team Leader Notes
Teri L. Ciocco
GJ-11552-RS
July 2, 1985
Page 2

Dave Diss (Health and Safety) and Dave Mackler also visited the property.

All team members were alpha scanned before break and before departing for lunch.

Additional Comments

Date: July 10, 1985

The elevated readings on the fireplace in the primary structure are attributable to the brick. Data was taken with a surface spectrometer to find the source or cause of the elevated readings.

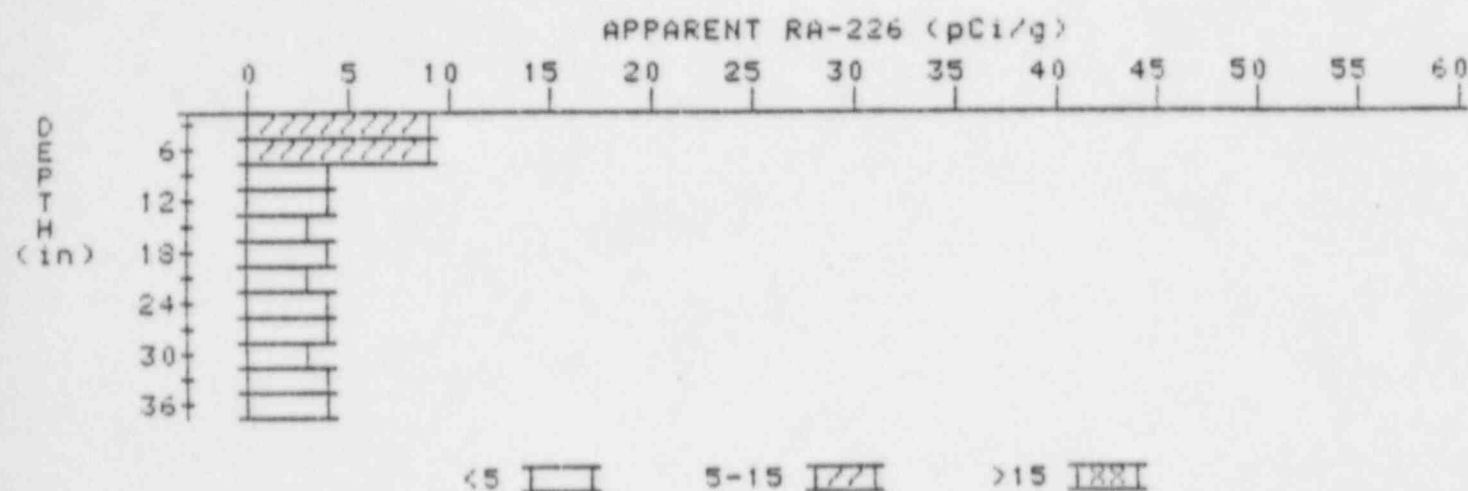
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

3

PROPERTY NUMBER: GJ-11552-RS

HOLE NUMBER: 3

LOCATION: 170225



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	8.6	3.6
6	7.4	3.6
9	5.5	3.9
12	4.5	3.6
15	4.0	3.5
18	3.8	3.6
21	3.6	3.2
24	3.6	3.6
27	3.6	3.6
30	3.6	3.4
33	3.7	3.9
36	3.7	3.7

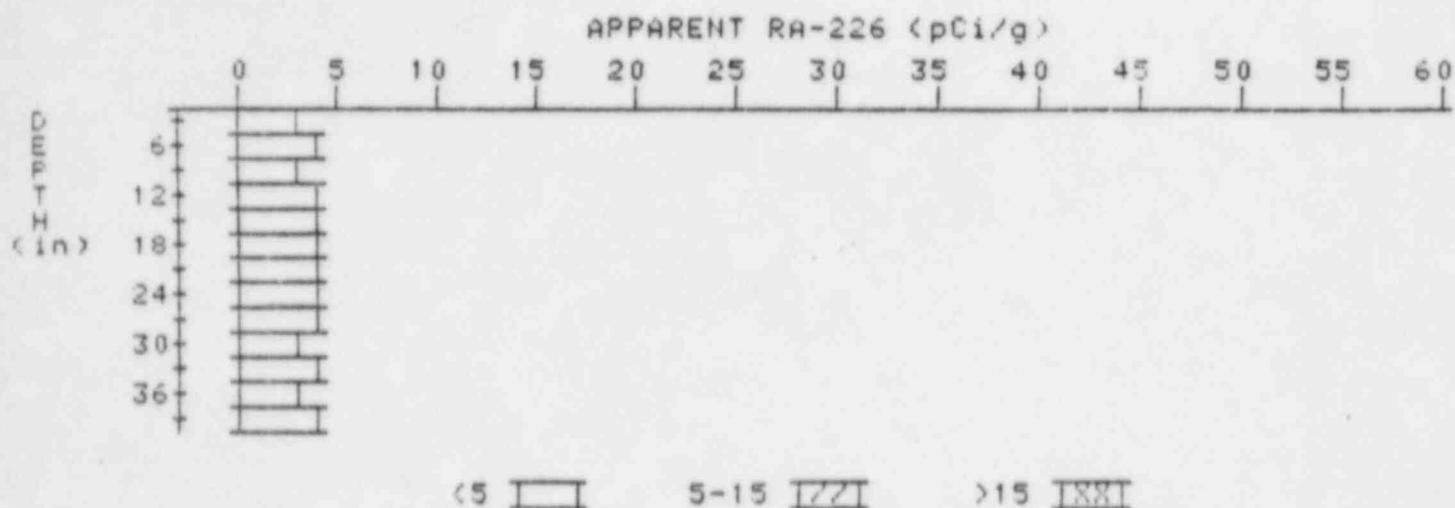
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

6

PROPERTY NUMBER: GJ-11552-RS

HOLE NUMBER: 6

LOCATION: 209233



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

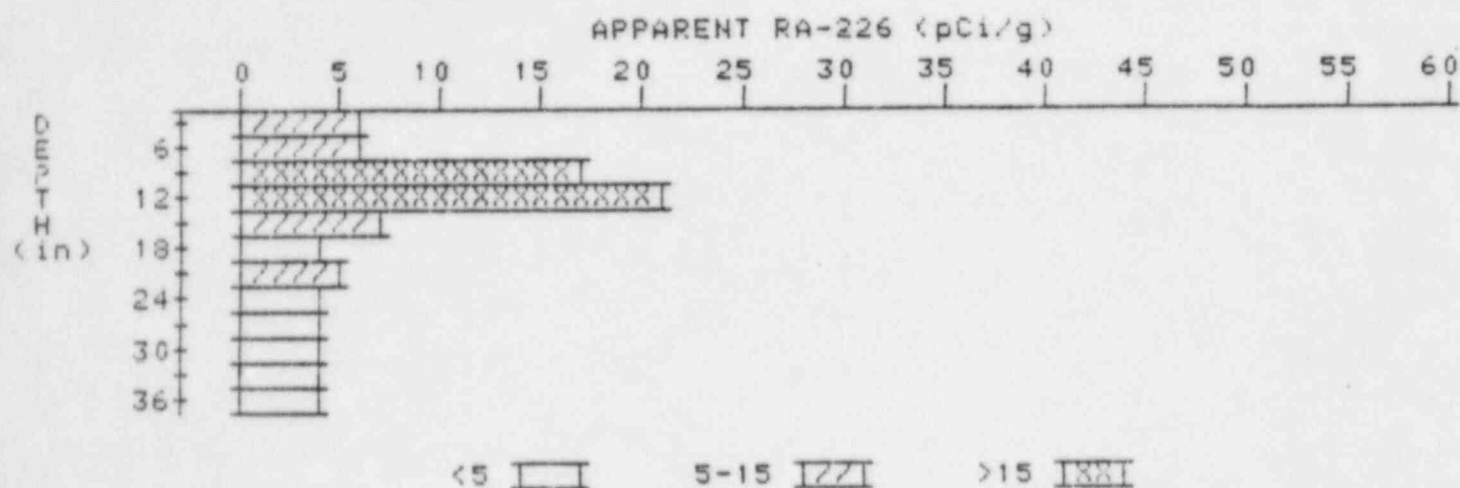
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

9

PROPERTY NUMBER: GJ-11552-RS

HOLE NUMBER: 9

LOCATION: 22245



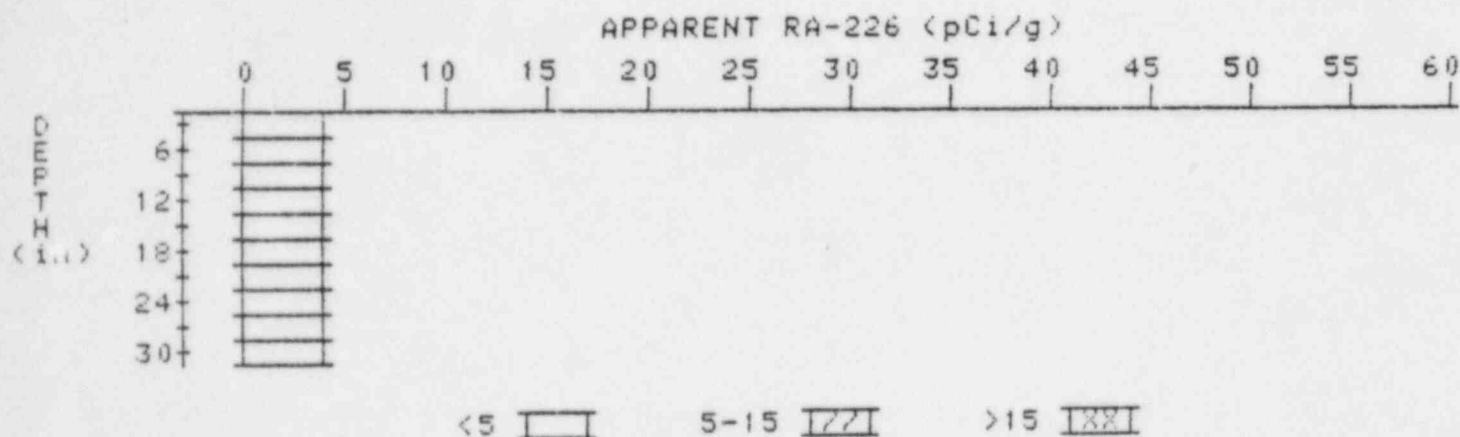
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	5.8	5.8
6	8.3	6.3
9	11.9	16.7
12	12.8	20.8
15	9.2	7.4
18	6.6	3.8
21	5.6	5.1
24	4.9	4.4
27	4.5	4.1
30	4.3	4.3
33	4.1	4.1
36	3.9	3.9

APPARENT RADIUM-226 CONCENTRATION 11 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-11552-RS

HOLE NUMBER: 11

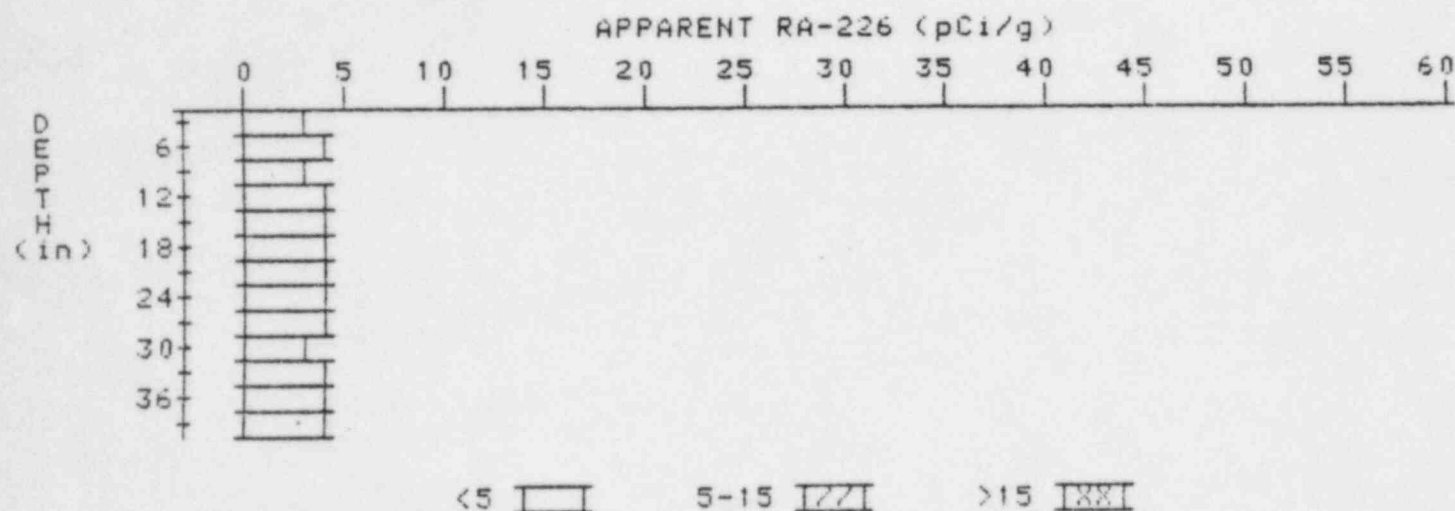
LOCATION: 242256



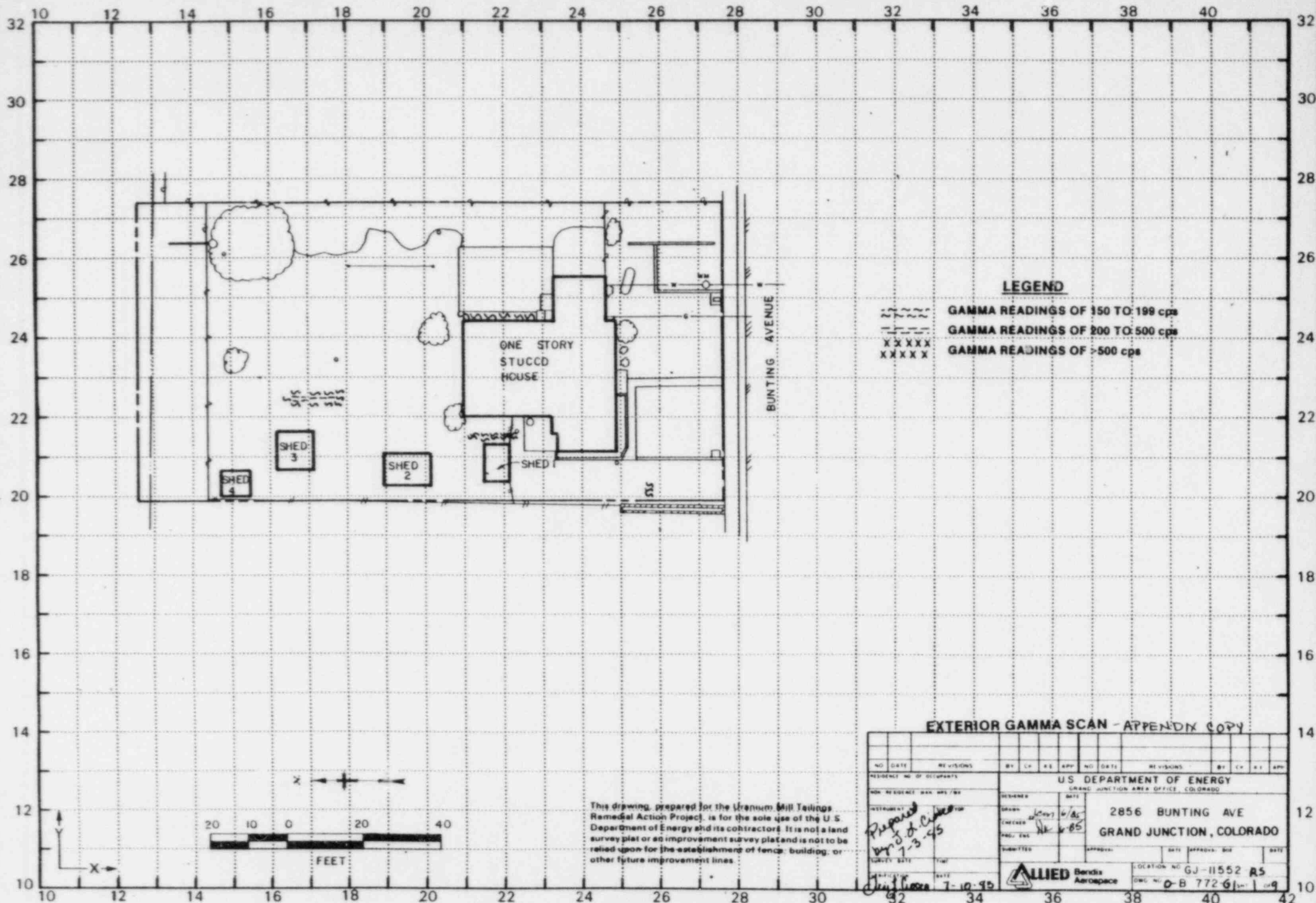
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.5	3.5
6	3.7	3.9
9	3.8	4.0
12	3.8	3.6
15	3.9	4.1
18	3.9	3.9
21	3.9	3.9
24	3.9	4.1
27	3.8	3.6
30	3.8	3.8

APPARENT RADIUM-226 CONCENTRATION 16 DECONVOLUTION GRAPH

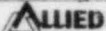
PROPERTY NUMBER: GJ-11552-RS
HOLE NUMBER: 16
LOCATION: 274255



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.3	3.3
6	3.6	4.1
9	3.6	3.4
12	3.7	3.7
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	3.4
33	3.6	3.6
36	3.6	3.6
39	3.6	3.6



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

EXTERIOR GAMMA SCAN - APPENDIX COPY											
NO.		DATE		REVISIONS		BY		CHK		APP	
RESIDENT NO. OF OCCUPANTS						U.S. DEPARTMENT OF ENERGY GRAND JUNCTION AREA OFFICE, COLORADO					
NON-RESIDENT MAX. WTS. / Ws						DESIGNED		DATE		2856 BUNTING AVE GRAND JUNCTION, COLORADO	
RESIDENT <i>Prepared by J. & C. [unclear] 7-3-95</i>						DRAWN		<i>by [unclear] 6/85</i>			
						CHECKED		<i>by [unclear] 6/85</i>			
						PROD. ENG.					
						SUBMITTED					
SUNNY DATE		TIME		APPROVED		DATE		APPROVED		DATE	
EXPIRATION DATE		DATE		 Allied Bendix Aerospace		LOCATION NO.		GJ-11552-R5			
<i>July 1995</i> 7-10-95		82 34 36 38 40 42				DWG. NO.		0-B 772.6		1 1 1 1 1 1 1 1 1 1 1 1	