

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-11421-VL  
ADDRESS: 503 1/2 29 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 29, 1985*

REA11421:REA-711

8509300038 850903  
PDR WASTE  
WM-54 PDR

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## 1.0 EXECUTIVE SUMMARY

### 1.1 Introduction

The location, DOE ID No. GJ-11421-VL, is a vacant lot located at 503 1/2 29 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 within the legal property boundaries 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, 21 cu. yd.; interior, 0 cu. yd.

Areas E, F, G, and a portion of D will not be included in this remedial action, as discussed in Section 4.0 of this REA.

Estimated cost to perform remedial action is \$1,082. Remedial action on this property will take approximately 4 days to complete.

## 2.0 PROPERTY DESCRIPTION

### 2.1 General Description

Address: 503 1/2 29 Road, Grand Junction, Colorado

Zoning: Residential (RSF-8)

Lot Size: Approximately 6,996 sf (0.16 acres)

Legal Description: Lot 7, Roscoe Giffin Subdivision, 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: None  
Gas: None  
Telephone: None  
Sewer: None  
Water: None  
Cable TV: None

Bordering Properties:

North: Single-family residence  
South: Single-family residence  
East: 29 Road  
West: Alley

### 2.2 Existing Facilities and Structures

Primary Structure: None

General Remarks:

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

Historical Data: Not applicable

### 3.0 RADIOLOGIC SURVEY

#### 3.1 Introduction

Radiologic data were collected by Bendix at DOE ID No. GJ-11421-VL on July 25, 1985. Data collection methods were performed in accordance with procedures fully described in the Radiologic Support Operations Procedures Manual GJ-07(84) (Bendix Field Engineering Corporation, 1984). These data were evaluated to determine the areal and vertical extent of uranium mill tailings contamination at this property as well as any other contaminated material that may have originated from the millsite.

A review of historical information from the files of the Colorado Department of Health (CDH) and Bendix spillover data was conducted to determine areas of potential contamination identified during previous radiologic assessments of this 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 3.4, 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: 17 uR/h  
Highest Outside Gamma Reading (HOG): 78 uR/h

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

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

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

### 3.4 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  
Location: North property line, western end  
Total Depth of Contamination: 6 inches  
Approximate Square Footage: 362
- (Area B) Surface Material: Soil  
Location: West end of the property  
Total Depth of Contamination: 9 inches  
Comments: This area consists of a small deposit.  
Approximate Square Footage: 25
- (Area C) Surface Material: Soil  
Location: North property line, east of and adjacent to Area A  
Total Depth of Contamination: 12 inches  
Approximate Square Footage: 255
- (Area D) Surface Material: Soil  
Location: East end of the property line  
Total Depth of Contamination: 12 inches  
Comments: This area consists of three deposits.  
Approximate Square Footage: 100 within legal property boundaries. 123 in street right-of-way; these areas are to be excluded from remedial action
- (Area E) Surface Material: Soil  
Location: On 29 Road easement  
Total Depth of Contamination: 6 inches  
Approximate Square Footage: 44 - this area is excluded from remedial action
- (Area F) Surface Material: Soil  
Location: On 29 Road easement  
Total Depth of Contamination: 18 inches  
Approximate Square Footage: 40 - this area is excluded from remedial action
- (Area G) Surface Material: Soil  
Location: On 29 Road easement  
Total Depth of Contamination: >48 inches  
Approximate Square Footage: 100 - this area is excluded from remedial action

#### **4.0 RECOMMENDED REMEDIAL ACTION**

##### **4.1 Decontamination and Restoration**

The recommended remedial action for this property, DOE ID No. GJ-11421-VL, includes removal of select 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.

Areas E, F, G and portions of D are located beyond the legal property boundaries in the street right-of-way. These areas are associated with a 6-inch diameter water line that is bedded in tailings.

If the Department of Energy determines that the water line deposits should be removed, it is recommended that Areas E, F, G, and portions of D be removed as part of DOE ID No. GJ-97002-OT remedial action project. This project would be performed in cooperation with the City of Grand Junction if water line improvements are made in this area. This DOE ID No. GJ-97002-OT remedial action project would be the most efficient and cost effective method of tailings removal. It allows for identification of tailing involvement on other adjacent properties along this utility and their removal under a single subcontract utilizing a utility subcontractor.

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.

##### **4.2 Evaluation of Recommended Remedial Action**

Volume calculations of the areas included for remedial action are presented in Appendix Table 4.1. Cost estimates are presented in Appendix Table 4.2.

Estimated cost of remedial action is \$1,082.

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 Office, 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 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 Exposure Rates
Figure 3.2	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-11421-VL

503 1/2 29 Road

Page 1 of 4

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
1	139260	00	DS	2.7		*	North property boundary
		06	DS	2.4		*	
2	139267	00	DS	6.8		*	
		06	DS	2.6		*	
3	142237	00	DS	11.0		*	Southwest corner of the property
		03	TC	6.8		*	
		06	TC	6.1		*	DC = 9 inches Based on the deconvolution graph
		09	TC	5.2		*	
		12	TC	4.8		*	
		18	TC	4.3		*	
		21	TC	4.5		*	
		24	TC	4.2		*	
		27	TC	4.4		*	
		30	TC	4.4		*	
		33	TC	4.4		*	
		36	TC	4.5		*	
4	159267	00	DS	3.2		*	North property line
		06	DS	1.8		*	
5	165254	00	DS	3.2		*	
		06	DS	2.1		*	
6	173261	00	DS	18.7		*	North property line
		03	TC	11.6		*	
		06	TC	9.9		*	DC = 12 inches Based on the deconvolution graph
		09	TC	7.8		*	
		12	TC	6.2		*	
		15	TC	5.4		*	
		18	TC	4.9		*	
		21	TC	4.4		*	
		24	TC	4.3		*	
		27	TC	4.1		*	
		30	TC	4.2		*	
		33	TC	4.2		*	
		36	TC	4.2		*	
7	175251	00	DS	3.4		*	North property line
		06	DS	1.9		*	
8	183255	00	DS	6.5		*	

## Radium Concentrations at Exterior Locations

DOE ID #GJ-11421-VL

503 1/2 29 Road

Page 2 of 4

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
8	183255	06	DS	2.6		*	
9	183265	00	DS	12.7		*	North property line  DC = 12 inches Based on the deconvolution graph
		03	TC	9.3		*	
		06	TC	7.2		*	
		09	TC	5.9		*	
		12	TC	5.1		*	
		15	TC	4.7		*	
		18	TC	4.5		*	
		21	TC	4.3		*	
		24	TC	4.1		*	
		27	TC	4.0		*	
		30	TC	4.1		*	
		33	TC	4.2		*	
10	190264	00	DS	2.2		*	
		06	DS	1.9		*	
11	224225	00	DS	1.6		*	Background DC = 0 inches
		03	TC	3.8		*	
		06	TC	4.2		*	
		09	TC	4.4		*	
		12	TC	4.5		*	
		15	TC	4.5		*	
		18	TC	4.5		*	
		21	TC	4.4		*	
		24	TC	4.3		*	
		27	TC	4.3		*	
		30	TC	4.3		*	
		33	TC	4.3		*	
		36	TC	4.2		*	
12	265224	00	DS	8.2		*	Southeast property line
		06	DS	6.1		*	
		12	DS	2.0		*	
13	272242	00	DS	2.3		*	East property line
		06	DS	2.7		*	
14	273232	00	DS	1.4		*	East property line
		06	DS	1.6		*	
15	273265	00	DS	1.4		*	West side of the ditch
		06	DS	1.4		*	

## Radium Concentrations at Exterior Locations

DOE ID #GJ-11421-VL

503 1/2 29 Road

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.		
16	282255	00	DS	5.9		*	On 29 Road easement
		06	DS	2.3		*	
17	283222	00	DS	35.5		*	On 29 Road easement Auger refusal DC = >48 inches Based on the deconvolution graph
		03	TC	60.3		*	
		06	TC	90.9		*	
		09	TC	125.3		*	
		12	TC	150.9		*	
		15	TC	162.0		*	
		18	TC	166.3		*	
		21	TC	165.0		*	
		24	TC	161.2		*	
		27	TC	155.7		*	
		30	TC	149.4		*	
		33	TC	139.1		*	
		36	TC	124.8		*	
		39	TC	109.9		*	
		42	TC	96.9		*	
18	283243	00	DS	18.9		*	On 29 Road easement
		06	DS	3.5		*	
		12	DS	2.1		*	
19	284233	00	DS	7.0		*	On 29 Road easement  DC = 18 inches Based on the deconvolution graph
		06	DS	18.2		*	
		03	TC	15.7		*	
		06	TC	22.5		*	
		09	TC	26.8		*	
		12	TC	22.6		*	
		15	TC	14.6		*	
		18	TC	9.7		*	
		21	TC	7.3		*	
		24	TC	6.1		*	
		27	TC	5.4		*	
		30	TC	5.0		*	
		33	TC	4.7		*	
		36	TC	4.5		*	
		39	TC	4.4		*	

## Radium Concentrations at Exterior Locations

DOE ID #GJ-11421-VL

503 1/2 29 Road

Page 4 of 4

In Situ Ra-226							
Loc	Grid	Depth	Meas.	(pCi/g)		Chem Ra-226	
#	Location	(in.)	Type	Tot. Ct	Spectr.	(pCi/g)	Comments
-----							
20	284267	00	DS	6.5		*	On 29 Road easement
		06	DS	5.4		*	
		12	DS	2.0		*	
-----							

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 = 07-25-85  
Team Leader = PT

Table 4.1  
Area and Volume Calculations  
DOE ID No. GJ-11421-VL

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 4 = 12				
	5 x 70 = 350				
		362	x 0.5 =	181	
B	5 x 5 = 25		x 0.8 =	20	
C	15 x 17 = 255		x 1.0 =	255	
D	10 x 10 = 100		x 1.0 =	100	
TOTAL VOLUME - EXTERIOR				= 556	= 556/27 = 21

Note: Calculations are based on deposits found within the legal property boundaries.

See Appendix Figure 3.3 For Areas

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Table 4.2  
Estimated Cost of Decontamination and Restoration  
DOE ID No. GJ-11421-VL

Page 1 of 1

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EXTERIOR

Remove identified residual radioactive material

21 cy @ \$14.50/cy (machine-open) \$ 305

Replace areas with topsoil

21 cy @ \$9.50/cy 200

---

TOTAL EXTERIOR \$ 505

TOTAL INTERIOR 0

ACCESS CONTROL 150

---

SUBTOTAL \$ 655

CONTINGENCY @ 10% 66

---

SUBTOTAL \$ 721

CONTRACTOR OVERHEAD & PROFIT @ 50% 361

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GRAND TOTAL \$ 1,082

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RR082885

REA11421/REA-711/AP



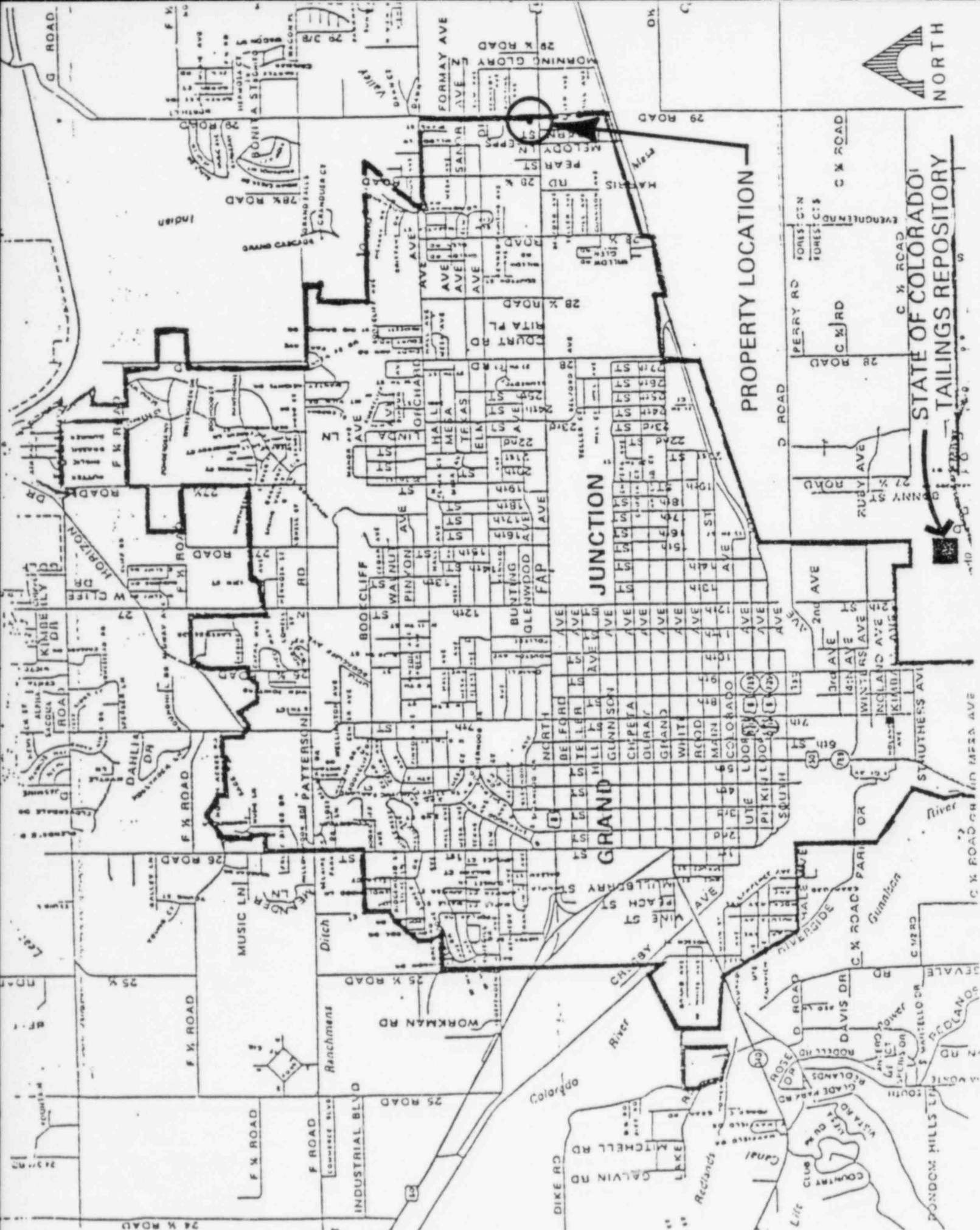


FIGURE 2.1  
VICINITY MAP

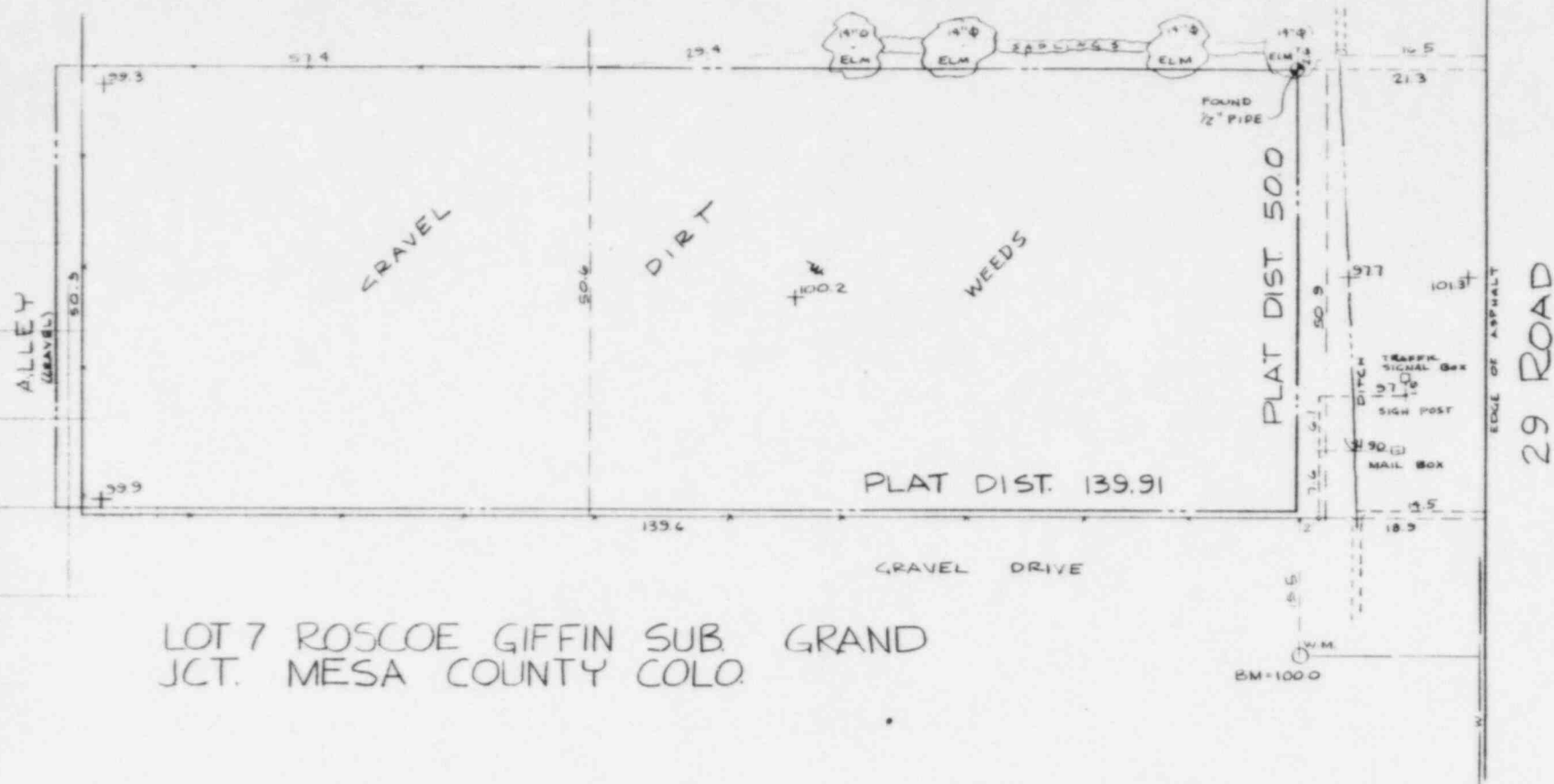
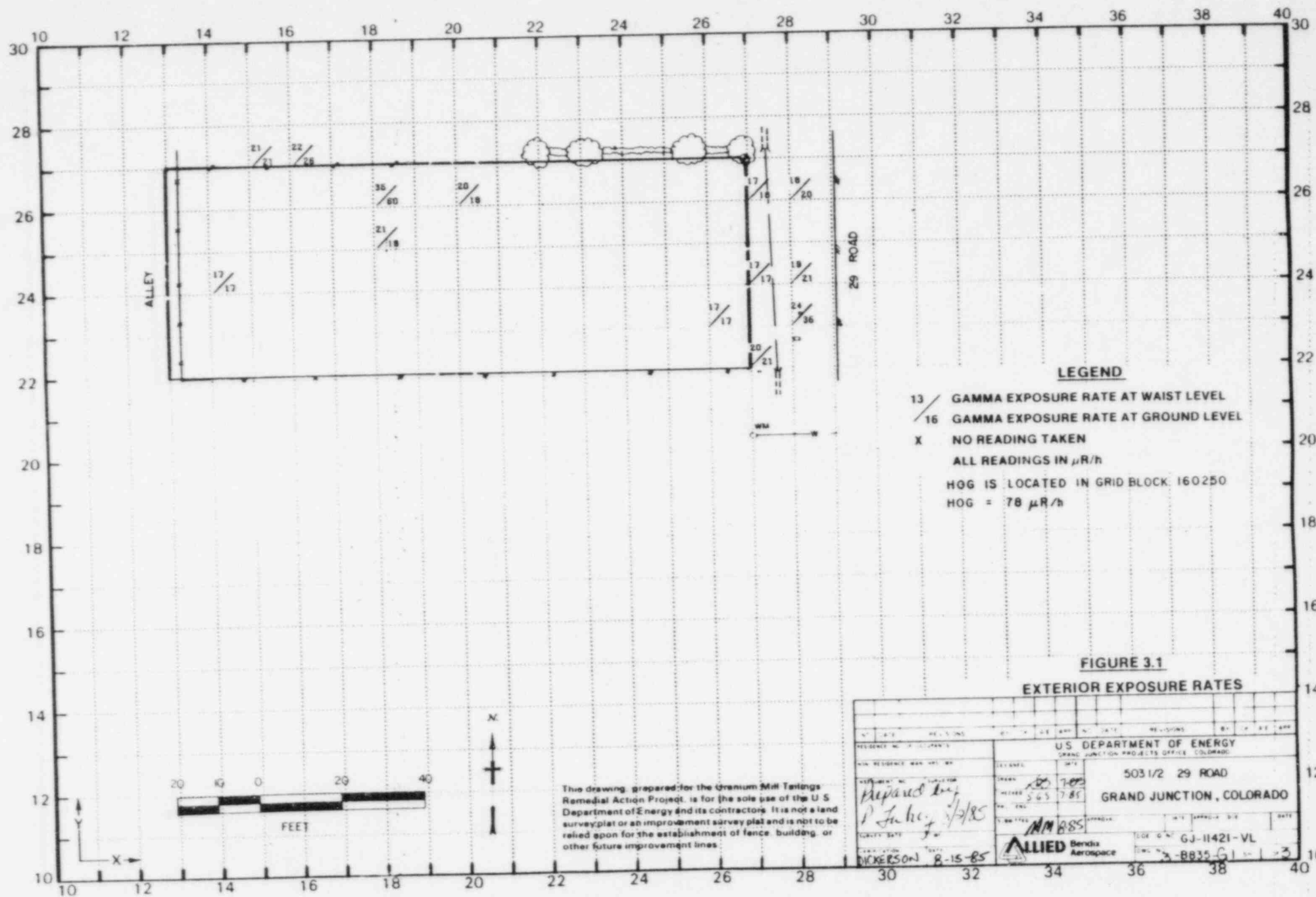


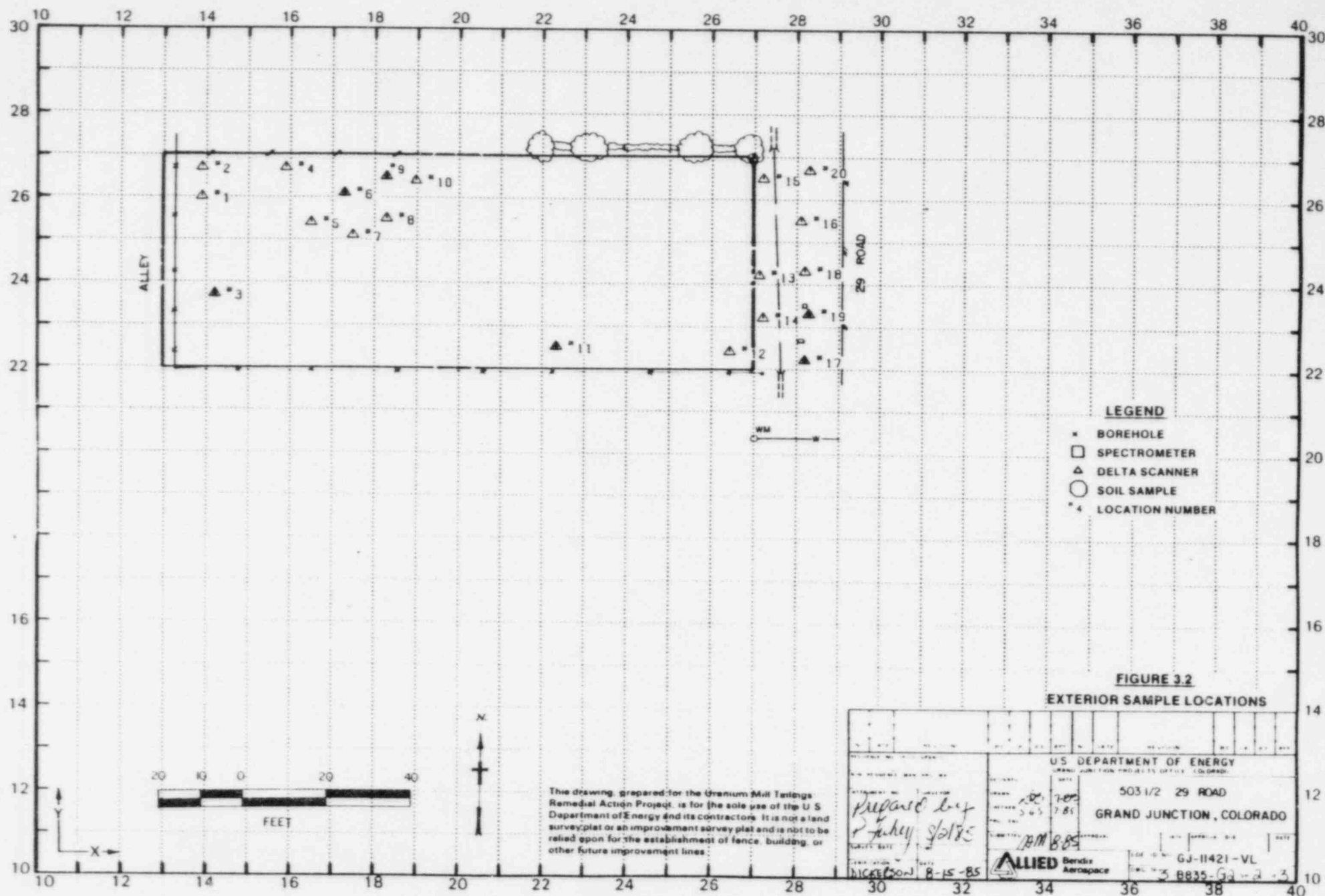
FIGURE 2.2 SITE PLAN

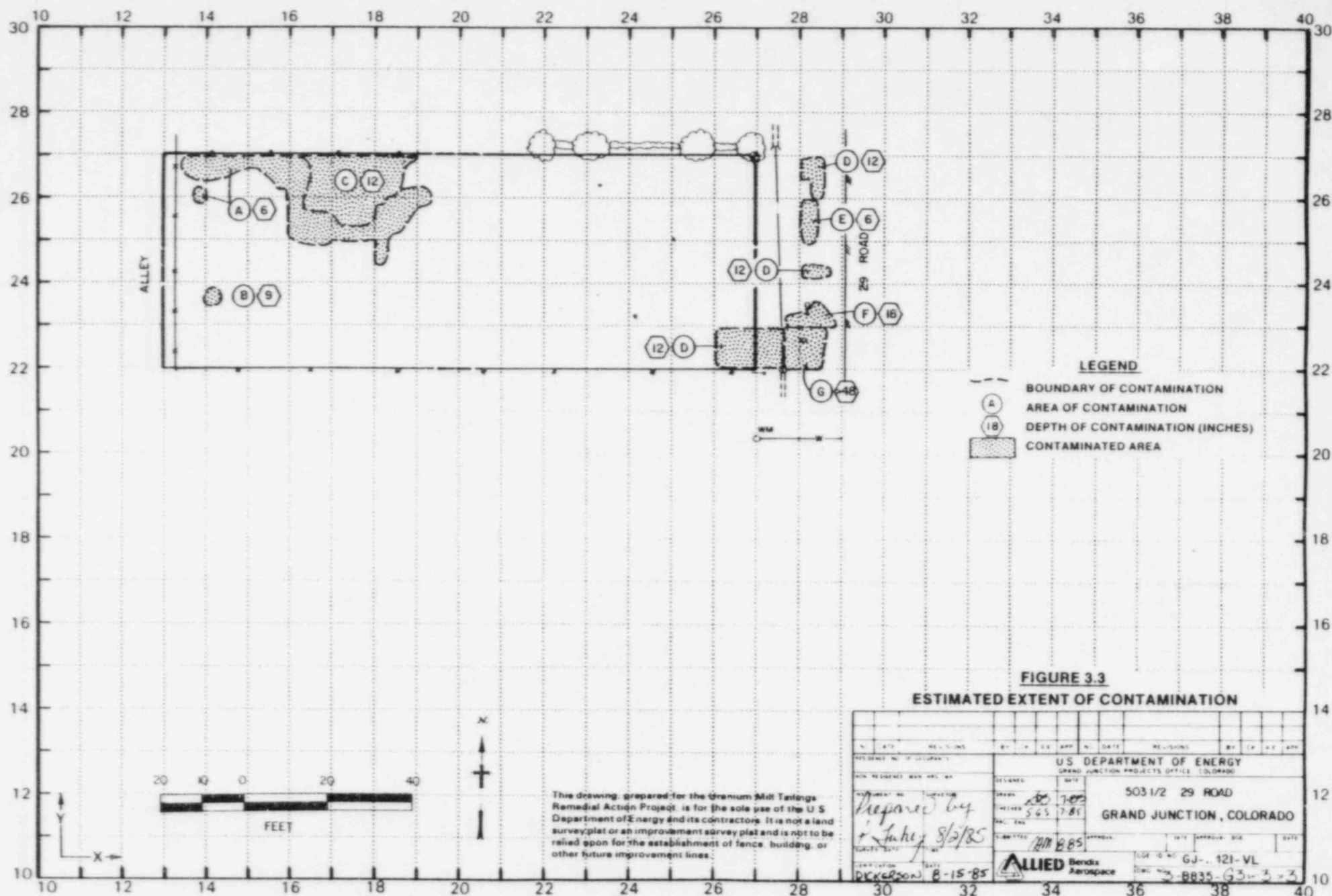


This drawing, prepared for the Uranium Mill Tailings Remedial Action Project, is for the sole use of the U.S. Department of Energy and its contractors. It is not a land survey plat or an improvement survey plat and is not to be relied upon for the establishment of fence, building, or other future improvement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

U.S. DEPARTMENT OF ENERGY		DOE ID NO.
GRAND JUNCTION PROJECT OFFICE, COLORADO		3-4-VL
ADDRESS 503 1/2 29 ROAD		
GRAND JUNCTION, COLO.		
SURV FJ/7-18-85	DRAFT FJ/7-19-85	CK [initials]
DRAWING NO. 3-C-835 F-1	SHEET 1 OF 1	







3/85

DOE ID NO. GJ-11421-VI Date July 31, 1985

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

Official Survey Report

Property Address 503 1/2 29 Road  
Property Owner Gerald and Ann S. Giffin  
Address of Owner (if different from above) 6780 West 31st Avenue Denver, CO 80214  
Report Prepared By Penny Tuhey

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

☐ No evidence of residual radioactive material on surveyed property.

☒ Residual radioactive materials found at the following locations:

☒ In open areas.

☐ Under or around exterior improvements.

☐ Under or around a typically nonoccupied structure.

☐ Under or around a typically occupied structure.

II. RESULTS OF RADIOLOGIC ASSESSMENT

☐ 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.

☒ 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.

EIG = None uR/h  
ECG = 78 uR/h



**ALLIED** Bendix  
Aerospace

Bendix Field Engineering Corporation  
Grand Junction Operations  
Grand Junction, Colorado

**Date:** July 25, 1985

**To:** Files

**From:** Penny Tuhey

**Subject:** Team Leader Notes - GJ-11421-VL

**Address:** 503-1/2 29 Road

**Owner:** Gerald and Ann S. Giffin

**Arrival Time:** 12:15 PM

Team Members

P. Tuhey (Team Leader)  
P. Hardy  
S. Garcia  
M. Dexter

L. Kula  
S. Southern  
M. Duran

Instruments

See Equipment Operation Summary sheet

This vacant lot is a spillover from DOE ID GJ-11419-RS.

There were no foundation or utility lines on this property to investigate.

Due to the water level and the borehole caving in. (grid coordinate 283232) we were unable to obtain data deeper than 48 inches.

No accidents or problems occurred while conducting the survey. The survey was completed at 3:15 PM. All team members were alpha scanned before leaving the property



Team Leader Notes  
Penny Tuhey  
GJ-11421-VL  
August 9, 1985  
Page 2

#### AMENDMENT

#### Revisit

Date: August 9, 1985

#### Team Members

P. Tuhey (Team Leader)	S. Southern
P. Hardy	

The purpose of the revisit was to investigate a possible water line, which extends along the 29 Road easement from the adjacent property (GJ-11419). The adjacent property (GJ-11419) has contamination to a depth of 72 inches at this water line. A borehole was augered to a depth of 69 inches. A total count reading of 11000 counts per second (cps) was logged at the bottom of the hole. Since the total count showed no indication of elevated readings, it was not completely logged.

During remedial action, the 29 Road easement should be closely monitored.

All team members were alpha scanned before leaving the property.

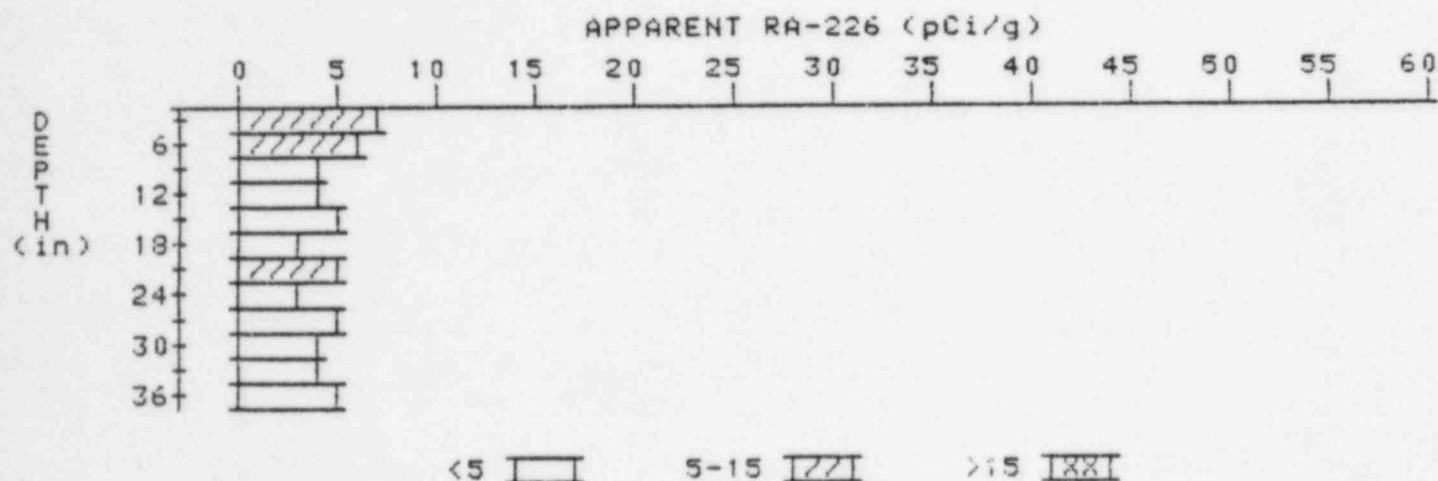
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

3

PROPERTY NUMBER: GJ-11421-VL

HOLE NUMBER: 3

LOCATION: 142237



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	6.8	6.8
6	6.1	6.5
9	5.2	4.3
12	4.8	4.4
15	4.6	4.3
18	4.3	3.4
21	4.5	5.4
24	4.2	3.3
27	4.4	4.0
30	4.4	4.4
33	4.4	4.2
36	4.5	4.5

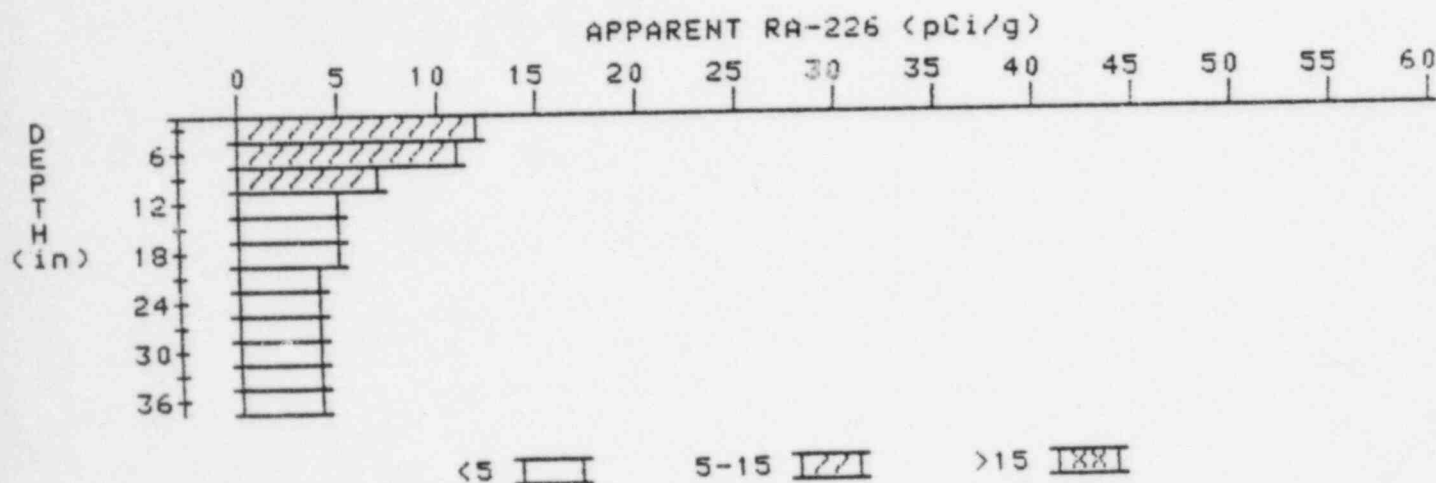
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

6

PROPERTY NUMBER: GJ-11421-VL

HOLE NUMBER: 6

LOCATION: 173261

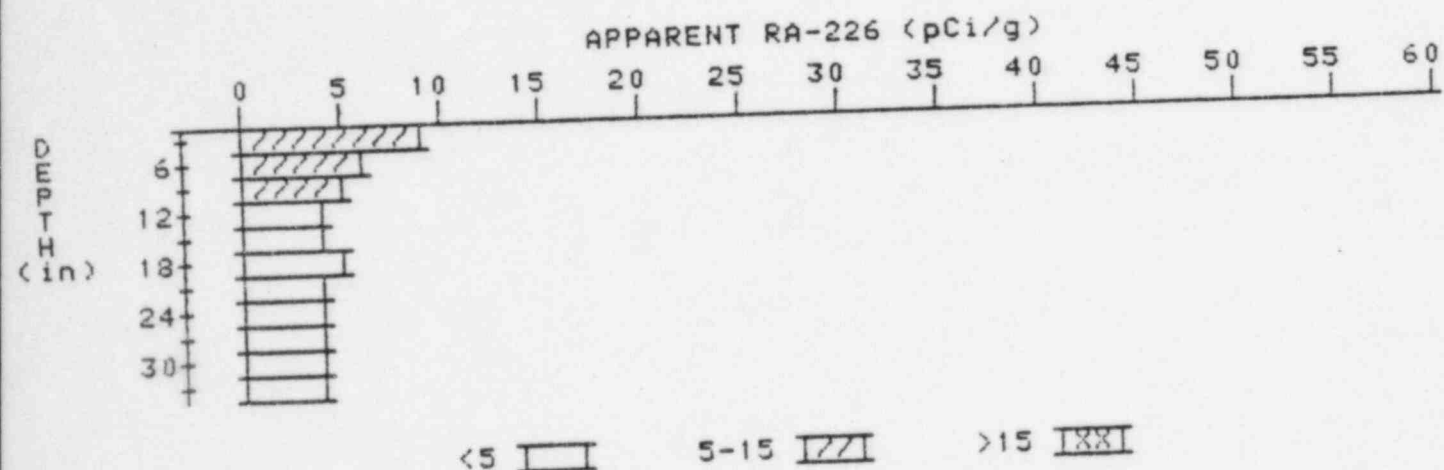


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	11.6	11.6
6	9.9	10.6
9	7.8	6.9
12	6.2	4.8
15	5.4	4.9
18	4.9	4.9
21	4.4	3.7
24	4.3	4.5
27	4.1	3.6
30	4.2	4.4
33	4.2	4.2
36	4.2	4.2

# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

9

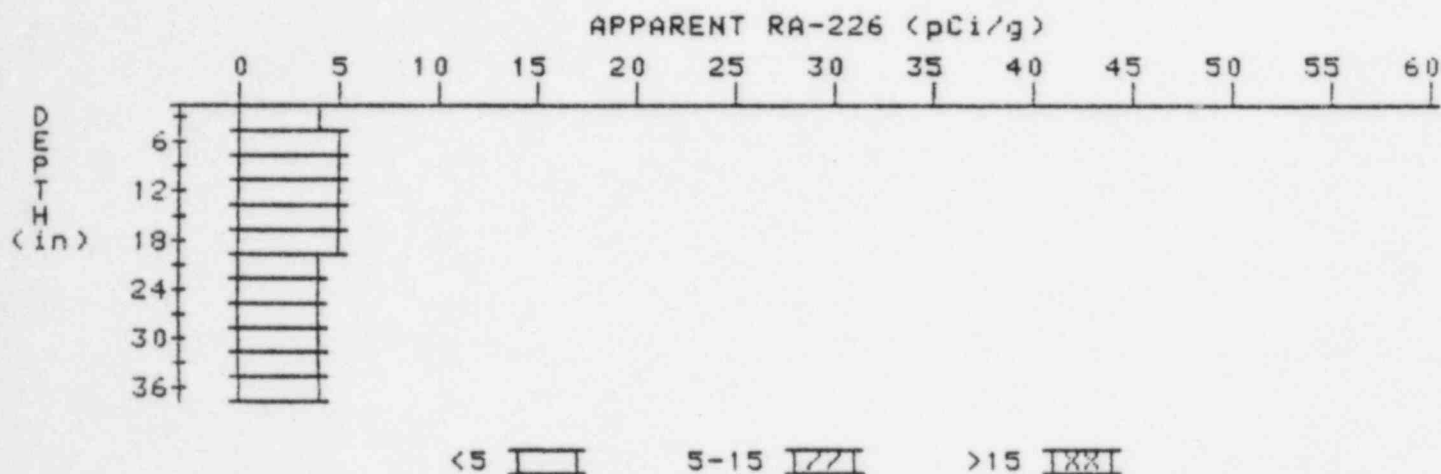
PROPERTY NUMBER: GJ-11421-VL  
HOLE NUMBER: 9  
LOCATION: 183265



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	9.3	9.3
6	7.2	5.8
9	5.9	5.0
12	5.1	4.4
15	4.7	4.3
18	4.5	4.5
21	4.3	4.3
24	4.1	3.9
27	4.0	3.6
30	4.1	4.1
33	4.2	4.2

# APPARENT RADIUM-226 CONCENTRATION 11 DECONVOLUTION GRAPH

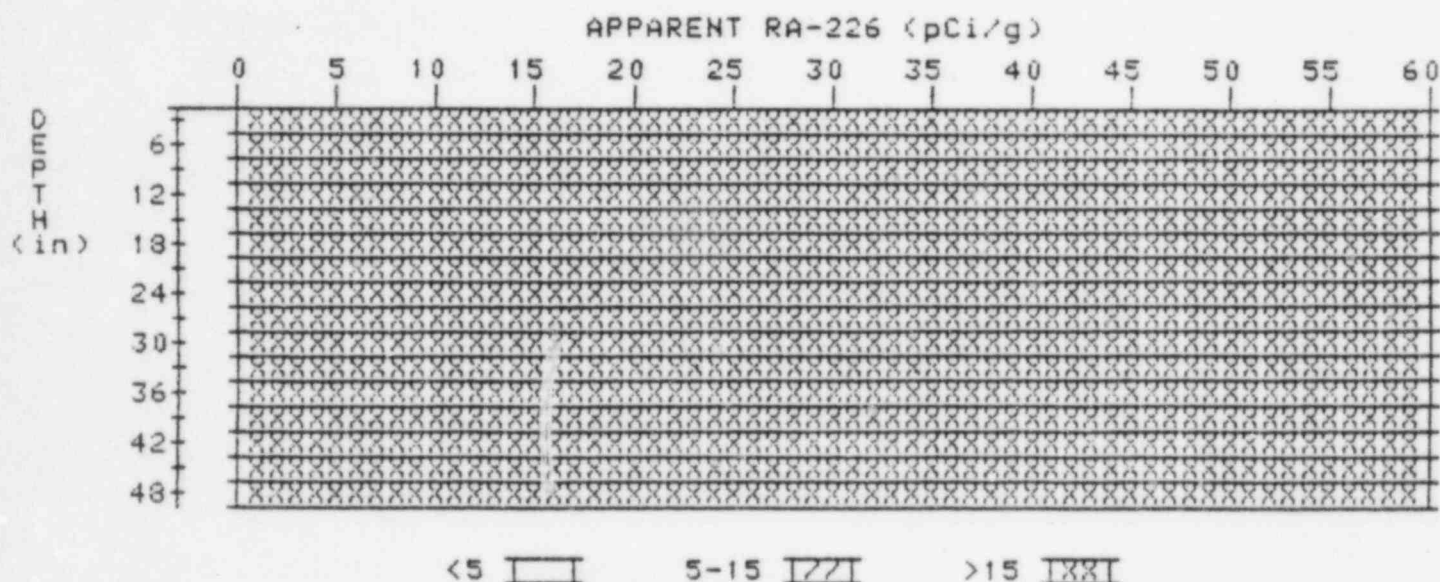
PROPERTY NUMBER: GJ-11421-VL  
HOLE NUMBER: 11  
LOCATION: 224225



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.8	3.8
6	4.2	4.6
9	4.4	4.6
12	4.5	4.7
15	4.5	4.5
18	4.5	4.7
21	4.4	4.4
24	4.3	4.1
27	4.3	4.3
30	4.3	4.3
33	4.3	4.5
36	4.2	4.2

# APPARENT RADIUM-226 CONCENTRATION 17 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-11421-VL  
HOLE NUMBER: 17  
LOCATION: 283222

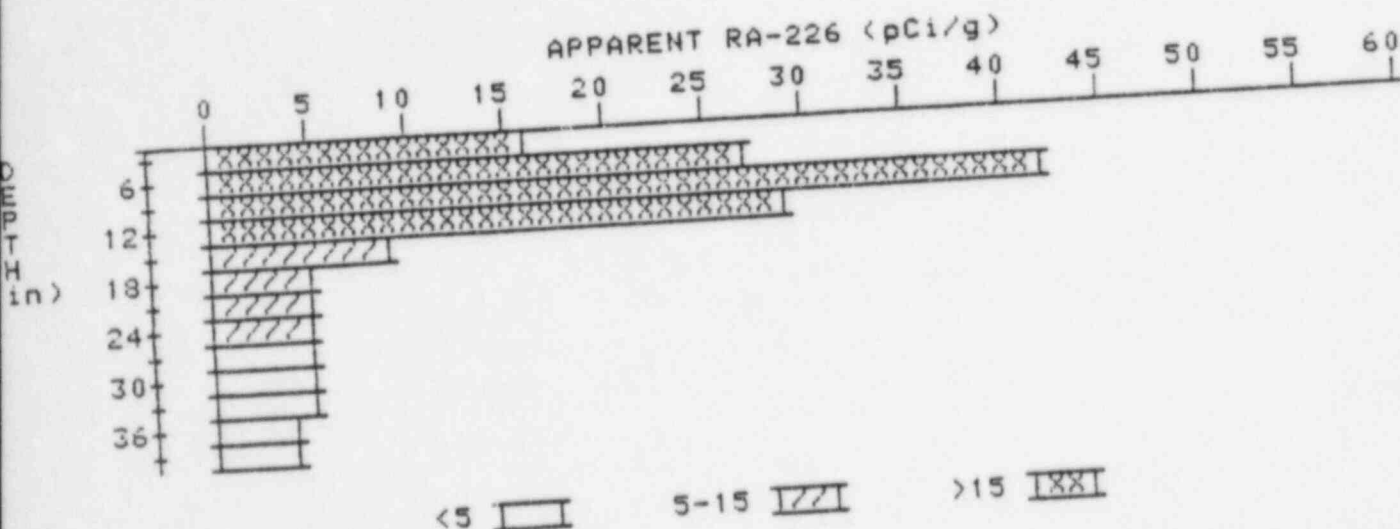


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	60.3	60.3
6	90.9	84.1
9	125.3	140.9
12	150.9	176.7
15	162.0	174.1
18	166.3	176.3
21	165.0	169.4
24	161.2	164.2
27	155.7	157.1
30	149.4	156.5
33	139.1	146.2
36	124.8	125.9
39	109.9	106.5
42	96.9	91.0
45	87.2	80.6
48	81.2	81.2

# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

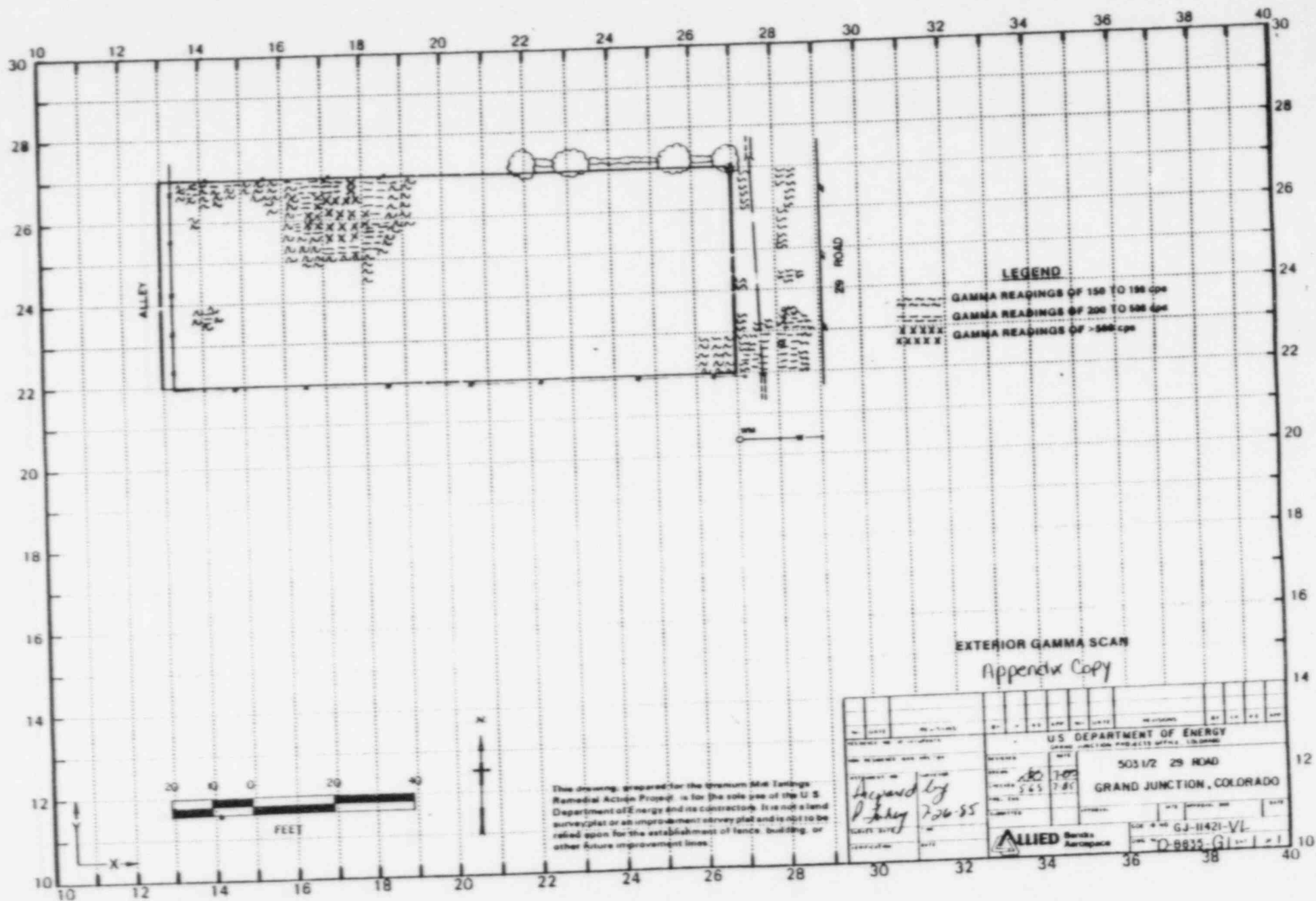
19

PROPERTY NUMBER: GJ-11421-VL  
HOLE NUMBER: 19  
LOCATION: 284233



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	15.7	15.7
6	22.5	26.9
9	26.8	41.9
12	22.6	29.4
15	14.6	9.1
18	9.7	5.3
21	7.3	5.2
24	6.1	5.2
27	5.4	4.9
30	5.0	4.8
33	4.7	4.5
36	4.5	4.3
39	4.4	4.4





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.

U.S. DEPARTMENT OF ENERGY		5031/2 29 ROAD	
GRAND JUNCTION, COLORADO		DATE: 7-26-85	
PROJECT: 5031/2 29 ROAD		DRAWN BY: [Signature]	
CHECKED BY: [Signature]		DATE: 7-26-85	
APPROVED BY: [Signature]		DATE: 7-26-85	
ALLIED		D-8825 GJ-1	