

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-02288-RS
ADDRESS: 2113 NORTH 21ST STREET

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.K. Tucker 6204
M. TUCKER
DOE PROJECT ENGINEER

DATE

August 8, 1985

REA02288:REA-701

8508300374 850809
PDR WASTE
WM-54 PDR

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The location, DOE ID No. GJ-02288-RS, is a single-family residence located at 2113 North 21st Street, 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, 25 cu. yd.; interior, 0 cu. yd.

Estimated cost to perform remedial action, including dislocation when applicable, is \$4,082. Remedial action on this property will take approximately 21 days to complete.

2.0 PROPERTY DESCRIPTION

2.1 General Description

Address: 2113 North 21st Street, Grand Junction, Colorado

Zoning: Residential (RSF-8)

Lot Size: Approximately 7,500 sf (0.17 acres)

Legal Description: Lot 11, Sungold Park Annex, City of Grand Junction, County of Mesa, State of Colorado.

Point of Reference: This property is located approximately 2 mile(s) north 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:	North 21st Street
West:	Alley

2.2 Existing Facilities and Structures

Primary Structure:

Type:	Single-story residence with attached carport
Size:	Approximately 2,267 sf
Construction Date:	1955
Construction:	Wood-frame
Foundation:	Concrete stemwall on spread footing
Footing Depth:	Not determined
Basement:	Yes (full)
Crawl Space:	None
Condition:	Good

Other Structures:

Type:	Shed I
Size:	Approximately 61 sf
Construction:	Wood-frame
Foundation:	None
Condition:	Good
Type:	Shed II
Size:	Approximately 24 sf
Construction:	Prefabricated metal
Foundation:	None
Condition:	Good
Type:	Carport
Size:	Approximately 230 sf
Construction:	Prefabricated metal
Foundation:	Concrete slab-on-grade
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-02288-RS on July 5, 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 associated with the concrete driveway south and south-east of the primary structure.

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): 54 uR/h

Exterior radium-concentration measurements are presented in Appendix Table 3.1. Exterior exposure-rate survey scan 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): 18 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: Concrete
Direction From Primary Structure: South
Total Depth of Contamination: 12 inches
Other (height or thickness) 4-inch thick concrete
Comments: The west portion of the driveway is a carport.
Approximate Square Footage: 643
- (Area B) Surface Material: Lawn
Direction From Primary Structure: South
Other Directions: West of the driveway
Total Depth of Contamination: 9 inches
Approximate Square Footage: 49
- (Area C) Surface Material: Soil
Direction From Primary Structure: Northeast
Other Directions: By the corner of the primary structure.
Total Depth of Contamination: 6 inches
Approximate Square Footage: 15

4.0 RECOMMENDED REMEDIAL ACTION

4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-02288-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 \$4,082.

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, 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	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 Exposure Rates
Figure 3.2	Exterior Sample Locations
Figure 3.3	Exterior 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-02288-RS

2113 North 21st Street

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	155226	00	DS	1.2		*	Southwest of primary structure
		06	DS	1.5		*	
2	165255	00	DS	1.6		*	West of primary structure
		06	DS	1.3		*	
3	165265	00	DS	1.3		*	West of primary structure
		06	DS	<1.0		*	
4	193263	03	TC	3.1		*	Sewer line DC = 0 inches
		06	TC	3.5		*	
		09	TC	3.6		*	
		12	TC	3.6		*	
		15	TC	3.6		*	
		18	TC	3.7		*	
		21	TC	3.7		*	
		24	TC	3.8		*	
		27	TC	3.7		*	
		30	TC	3.7		*	
		33	TC	3.7		*	
		36	TC	3.7		*	
		39	TC	3.7		*	
		42	TC	3.6		*	
		45	TC	3.5		*	
		48	TC	3.4		*	
		51	TC	3.3		*	
		54	TC	3.3		*	
		57	TC	3.4		*	
		60	TC	3.4		*	
		63	TC	3.5		*	
5	200240	00	DS	<1.0		*	Southwest of primary structure on sidewalk
6	206234	00	DS	2.2		*	Southwest of primary structure
		06	DS	1.4		*	
7	210229	00	DS	38.7		*	On concrete driveway DC = 12 inches Based on the deconvolution graph
		03	TC	51.6		*	
		06	TC	44.0		*	
		09	TC	26.3		*	
		12	TC	14.8		*	
		15	TC	8.8		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-02288-RS

2113 North 21st Street

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.		
7	210229	18	TC	6.7		*	
		21	TC	5.8		*	
		24	TC	5.1		*	
		27	TC	4.8		*	
		30	TC	4.7		*	
		33	TC	4.5		*	
		36	TC	4.4		*	
		39	TC	4.3		*	
		42	TC	4.0		*	
		45	TC	3.9		*	
		48	TC	3.9		*	
8	210281	03	TC	3.4		*	Foundation DC = 0 inches
		06	TC	3.6		*	
		09	TC	3.7		*	
		12	TC	3.6		*	
		15	TC	3.7		*	
		18	TC	3.7		*	
		21	TC	3.8		*	
		24	TC	3.9		*	
		27	TC	3.9		*	
		30	TC	3.9		*	
		33	TC	3.9		*	
		36	TC	3.9		*	
		39	TC	3.8		*	
		42	TC	3.8		*	
		45	TC	3.8		*	
		48	TC	3.8		*	
		51	TC	3.9		*	
		54	TC	3.8		*	
		57	TC	3.8		*	
		60	TC	3.8		*	
		63	TC	3.8		*	
		66	TC	3.7		*	
		69	TC	3.7		*	
		72	TC	3.7		*	
		75	TC	3.7		*	
		78	TC	3.6		*	
		81	TC	3.6		*	
		84	TC	3.6		*	
		87	TC	3.5		*	
		90	TC	3.6		*	
		93	TC	3.5		*	
		96	TC	3.5		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-02288-RS

2113 North 21st Street

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.		
9	220281	00	DS	2.3		*	Gas line
		06	DS	1.3		*	
		19	DS	1.5		*	On gas line
10	230225	00	DS	8.6		*	South edge of
		06	DS	4.0		*	driveway
		06	DS	12.3		*	Horizontal
		09	DS	2.6		*	
11	230230	00	DS	16.7		*	
12	230283	00	DS	3.0		*	North of primary
		06	DS	<1.0		*	structure
13	231265	03	TC	2.6		*	Water line and
		06	TC	2.9		*	foundation
		09	TC	3.1		*	DC = 0 inches
		12	TC	3.2		*	
		15	TC	3.3		*	
		18	TC	3.4		*	
		21	TC	3.4		*	
		24	TC	3.3		*	
		27	TC	3.3		*	
		30	TC	3.3		*	
		33	TC	3.3		*	
		36	TC	3.3		*	
		39	TC	3.3		*	
		42	TC	3.3		*	
		45	TC	3.3		*	
		48	TC	3.3		*	
		51	TC	3.3		*	
		54	TC	3.3		*	
		57	TC	3.3		*	
		60	TC	3.3		*	
		63	TC	3.1		*	
		66	TC	3.2		*	
		69	TC	3.2		*	
		72	TC	3.2		*	
		75	TC	3.3		*	
		78	TC	3.5		*	
		81	TC	3.5		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-02288-RS

2113 North 21st Street

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
13	231265	84	TC	3.6		*	
		87	TC	3.7		*	
		90	TC	3.7		*	
		93	TC	3.7		*	
		96	TC	3.7		*	
14	233238	00	DS	1.1		*	
15	245243	00	DS	1.3		*	
16	250237	00	DS	1.1		*	
17	250250	00	DS	<1.0		*	Background DC = 0 inches
		03	TC	2.4		*	
		06	TC	2.7		*	
		09	TC	3.1		*	
		12	TC	3.2		*	
		15	TC	3.3		*	
		18	TC	3.3		*	
		21	TC	3.3		*	
		24	TC	3.3		*	
		27	TC	3.3		*	
		30	TC	3.3		*	
		33	TC	3.2		*	
18	260230	00	DS	9.4		*	

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 = 07-05-85
Team Leader = CA

Table 3.2

Summary of Interior Gamma Exposure Rates

DOE ID No. GJ-02288-RS

2113 North 21st Street

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	*	*	*	*	15-18	*
Ground Floor	*	*	*	*	14-18	*
Shed 1	*	*	*	*	15-17	*
Shed 2	*	*	*	*	15-16	*

* A walking gamma scan was performed to confirm the absence of interior contamination.

Table 4.1
Area and Volume Calculations
DOE ID No. GJ-02288-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					
	Concrete				
A	57 x 9 =	513			
	23 x 5 =	115			
	3 x 5 =	15			
		<hr/>			
		643	x 0.3 =	193	
				<hr/>	
	Volume of Concrete			= 193	= 193/27 = 7
	Contaminated Fill				
A	57 x 9 =	513			
	23 x 5 =	115			
	3 x 5 =	15			
		<hr/>			
		643	x 0.7 =	450	
B	49 x 1 =	49	x 0.8 =	39	
C	5 x 3 =	15	x 0.5 =	8	
				<hr/>	
	Volume of Fill			= 497	= 497/27 = 18
					<hr/>
	TOTAL VOLUME - EXTERIOR				= 25

See Appendix Figure 3.3 For Areas

=====

Table 4.2
Estimated Cost of Decontamination and Restoration
DOE ID No. GJ-02288-RS

Page 1 of 1

EXTERIOR

Remove identified residual radioactive material

17 cy @ \$14.50/cy

\$ 247

1 cy @ \$44/cy

44

Remove/replace concrete

643 sf @ \$3/sf

1,929

Replace areas with roadbase

17 cy @ \$11.50/cy

196

Replace areas with topsoil

1 cy @ \$9.50/cy

10

Replace areas with sod

49 sf @ \$.50/sf

25

TOTAL EXTERIOR \$ 2,451

TOTAL INTERIOR 0

ACCESS CONTROL 200

SUBTOTAL \$ 2,651

CONTINGENCY @ 10% 265

SUBTOTAL \$ 2,916

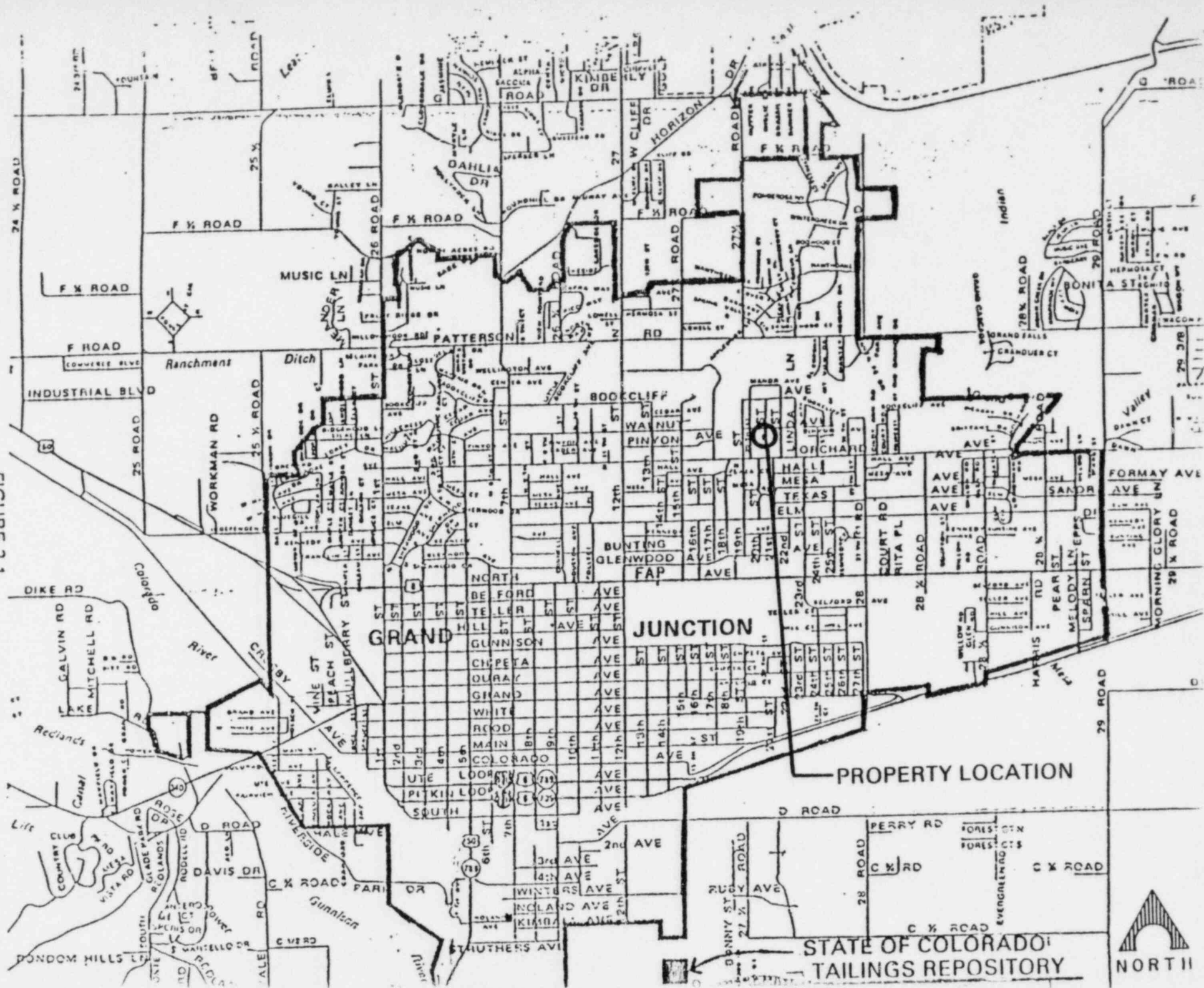
CONTRACTOR OVERHEAD & PROFIT @ 40% 1,166

GRAND TOTAL \$ 4,082

LR080285

REA02288/REA-701/AP

FIGURE 2.1
VICINITY MAP



LOT 11 SUNGOLD PARK ANNEX
CITY OF GRAND JUNCTION, COLORADO.

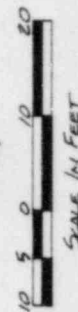
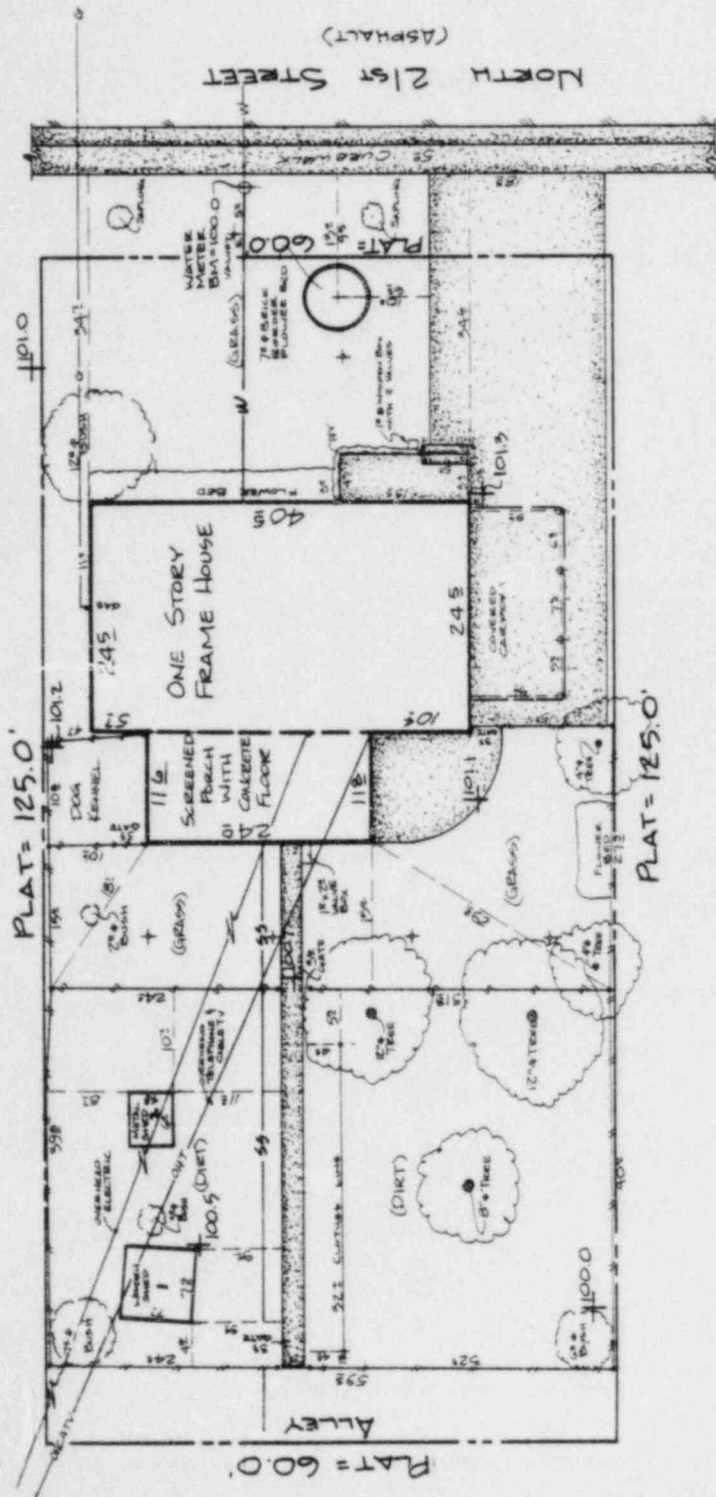
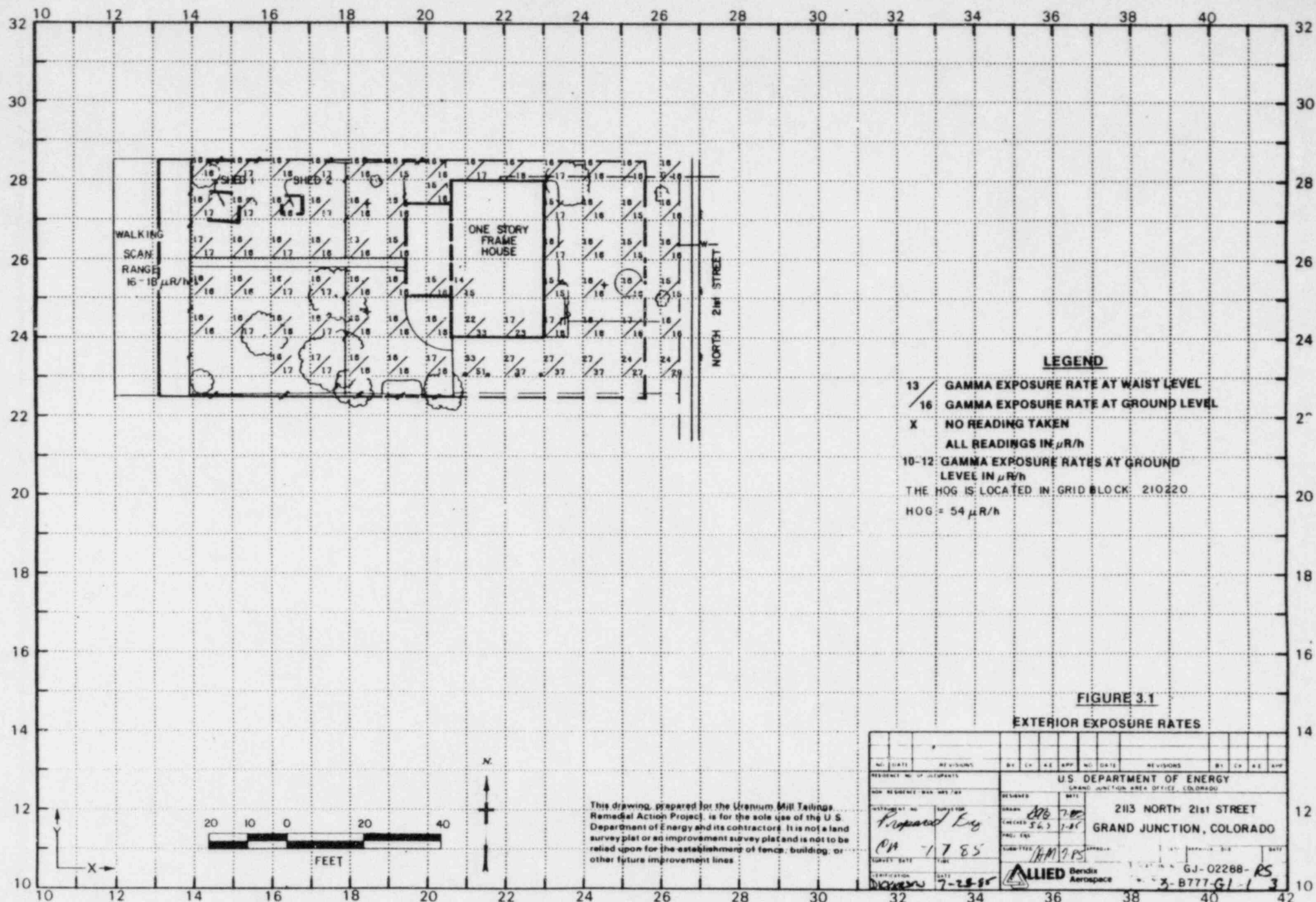


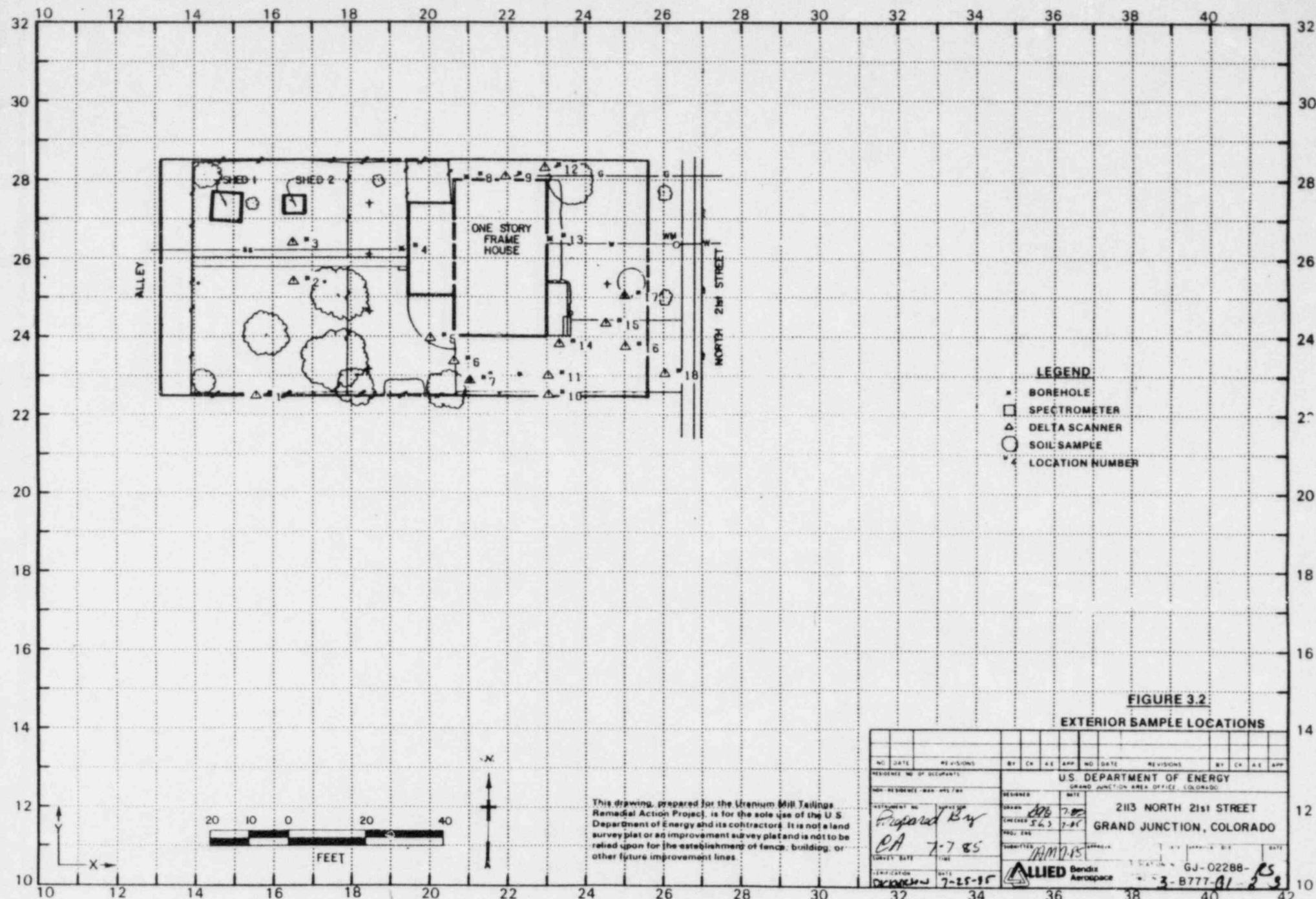
FIGURE 2.2 SITE PLAN

TAX SCHEDULE No. 294B-121-17-018

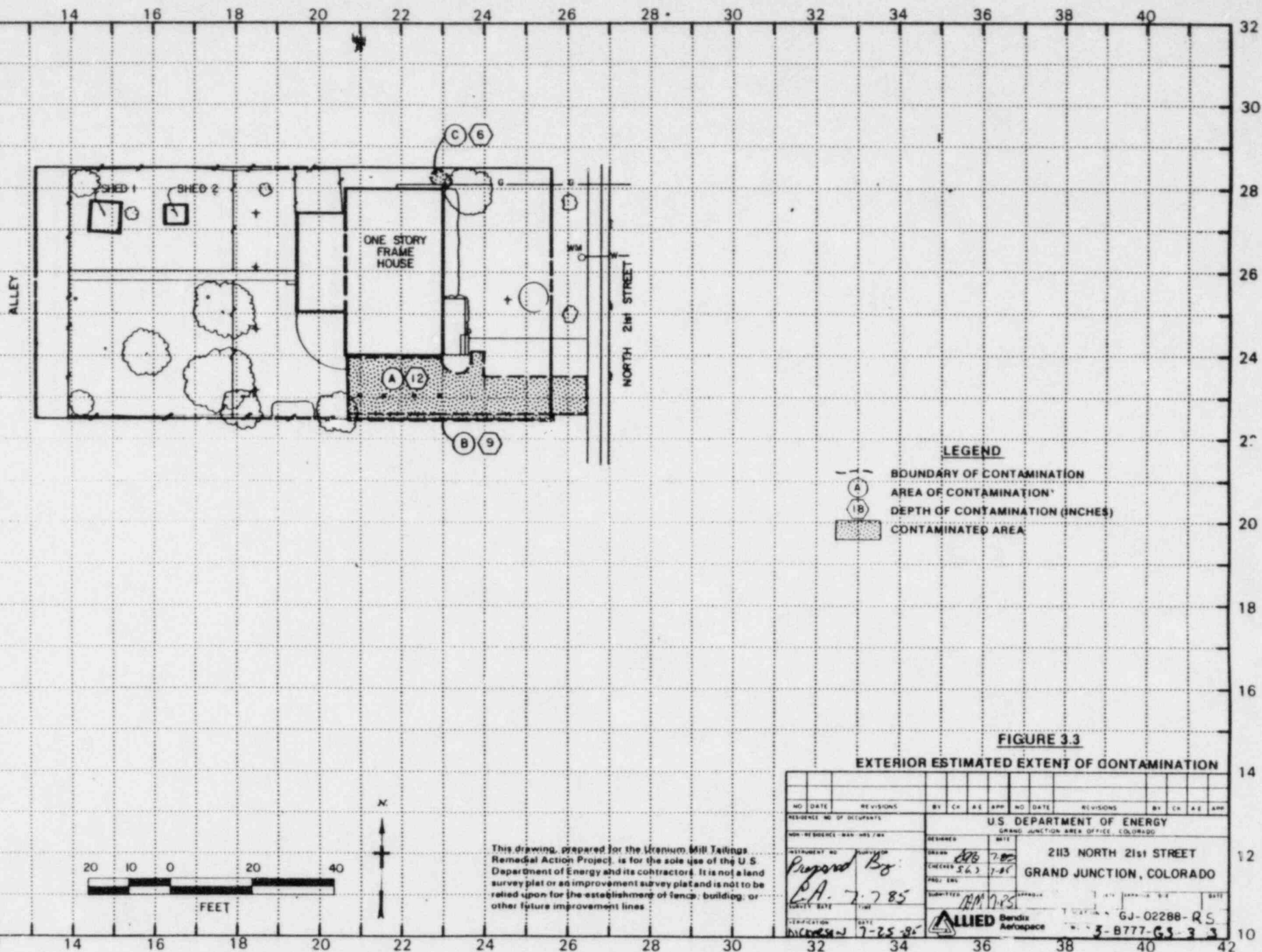
U.S. DEPARTMENT OF ENERGY	DOE ID NO. G02288ES
GRAND JUNCTION PROJECT OFFICE, COLORADO	
ADDRESS 2113 North 21st Street	
GRAND JUNCTION, COLORADO	
SURV WNL 16 26 85 DRAFT RSK 16 27 85	CK 16 27 85
DRAWING NO. 3 CTTT-FI	SHEET 1 OF 1

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 legal survey plat and should not be used for any legal purpose or for the establishment of fence, building, or other future improvement lines.





NO. DATE				REVISIONS				BY CH. A.E. APP.				NO. DATE				REVISIONS				BY CH. A.E. APP.			
RESIDENCE NO. OF OCCUPANTS												U.S. DEPARTMENT OF ENERGY											
NON-RESIDENTIAL - MAX. 400 SQ. FT.												GRAND JUNCTION AREA OFFICE, COLORADO											
DRAWING NO.				DATE				2113 NORTH 21st STREET				12											
Prepared By				7-8-85				GRAND JUNCTION, COLORADO				10											
CHECKED S.E.J.				7-8-85																			
SUBMITTED				APPROVED																			
7-7-85				ALLIED				Bendix Aerospace				GJ-02288-											
7-25-85												3-B777-01-23											



LEGEND

- BOUNDARY OF CONTAMINATION
- AREA OF CONTAMINATION
- DEPTH OF CONTAMINATION (INCHES)
- CONTAMINATED AREA

FIGURE 3.3

EXTERIOR ESTIMATED EXTENT OF CONTAMINATION

NO. DATE REVISIONS BY CK AE APP				NO. DATE REVISIONS BY CK AE APP			
RESIDENT NO. OF OCCUPANTS				U.S. DEPARTMENT OF ENERGY			
NON-RESIDENCE (DAY, MONTH, YEAR)				GRAND JUNCTION AREA OFFICE, COLORADO			
INSTRUMENT NO.		DATE		DESIGNED BY		DATE	
Proposed By		7-25-85		CHECKED BY		7-25-85	
DATE		TIME		DRAWN BY		DATE	
7-25-85				ALLIED		Bendix Aerospace	
LOCATION				PROJECT			
2113 NORTH 21st STREET				GJ-02288-RS			
GRAND JUNCTION, COLORADO				5-8777-GS-33			

3/85

DOE ID NO. GJ-02288-RS

Date July 8, 1985

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

Official Survey Report

Property Address 2113 North 21st Street

Property Owner M.M. Leighton

Address of Owner (if different from above) Same

Report Prepared By Cordell Adams

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 = 18 uR/h
HOG = 54 uR/h

MEMORANDUM

ALLIED Bendix
Aerospace

Bendix Field Engineering Corporation
Grand Junction Operations
Grand Junction, Colorado

Date: July 5, 1985
To: Files
From: Cordell Adams
Subject: Team Leader Notes - GJ-02288-RS

Address: 2113 North 21st Street

Owner: M.M. Leighton

Weather: Sunny and warm.

Team Members

C. Adams (Team Leader)	M. Heronema
J. Dickerson	G. Meeker
G. Larsen	K. Roemer
M. Dexter	P. Egidi

Instruments

See Equipment Summary sheet.

Oak Ridge National Laboratory (ORNL) and Colorado Department of Health (CDH) both indicate contamination in the driveway. Our survey confirmed this.

The interior readings of up to 145 counts per second (cps) were taken. The higher readings were noticed next to a brick fireplace. The brick seems to give off higher readings but not because of contamination (brick naturally gives off higher readings).

No other contamination was noticed.

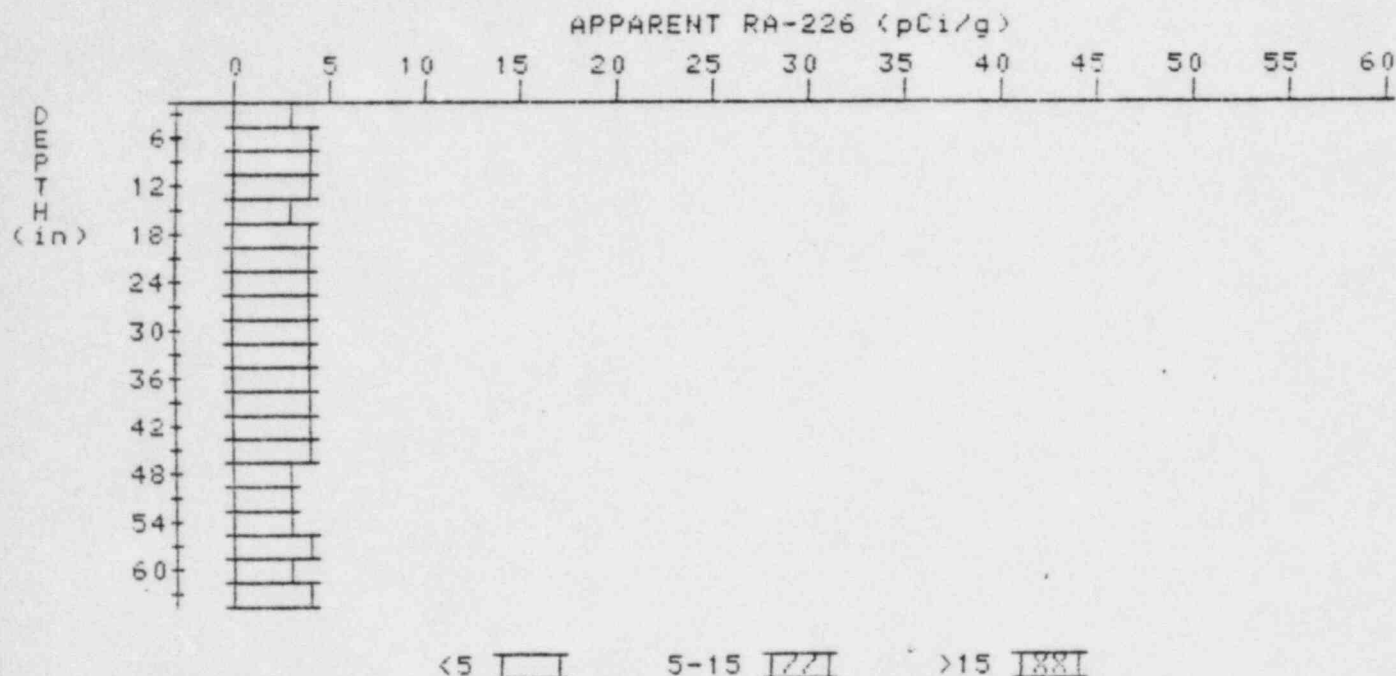
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

4

PROPERTY NUMBER: GJ-02288-RS

HOLE NUMBER: 4

LOCATION: 193263



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.1	3.1
6	3.5	4.0
9	3.6	3.8
12	3.6	3.6
15	3.6	3.4
18	3.7	3.9
21	3.7	3.5
24	3.8	4.2
27	3.7	3.5
30	3.7	3.7
33	3.7	3.7
36	3.7	3.7
39	3.7	3.9
42	3.6	3.6
45	3.5	3.5
48	3.4	3.4
51	3.3	3.1

54
57
60
63

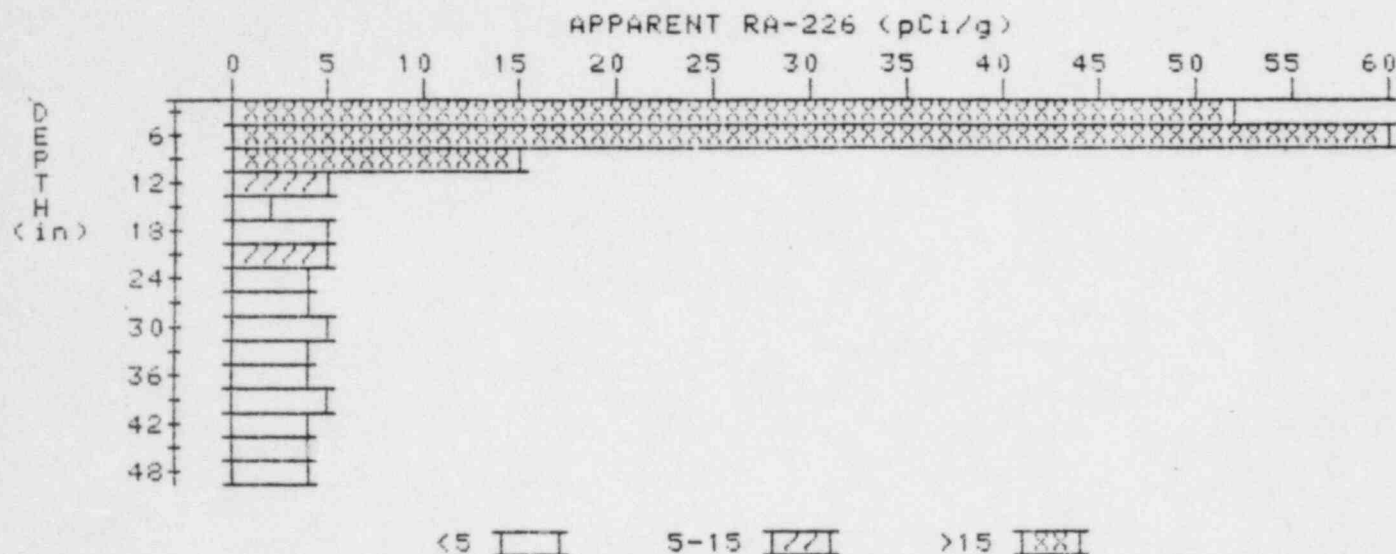
3.3
3.4
3.4
3.5

3.1
3.6
3.2
3.5

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

7

PROPERTY NUMBER: GJ-02288-RS
HOLE NUMBER: 7
LOCATION: 210229



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	51.6	51.6
6	44.0	62.0
9	26.3	15.3
12	14.8	5.0
15	8.8	1.9
18	6.7	4.6
21	5.8	5.4
24	5.1	4.4
27	4.8	4.4
30	4.7	4.9
33	4.5	4.3
36	4.4	4.4
39	4.3	4.7
42	4.0	3.6
45	3.9	3.7
48	3.9	3.9

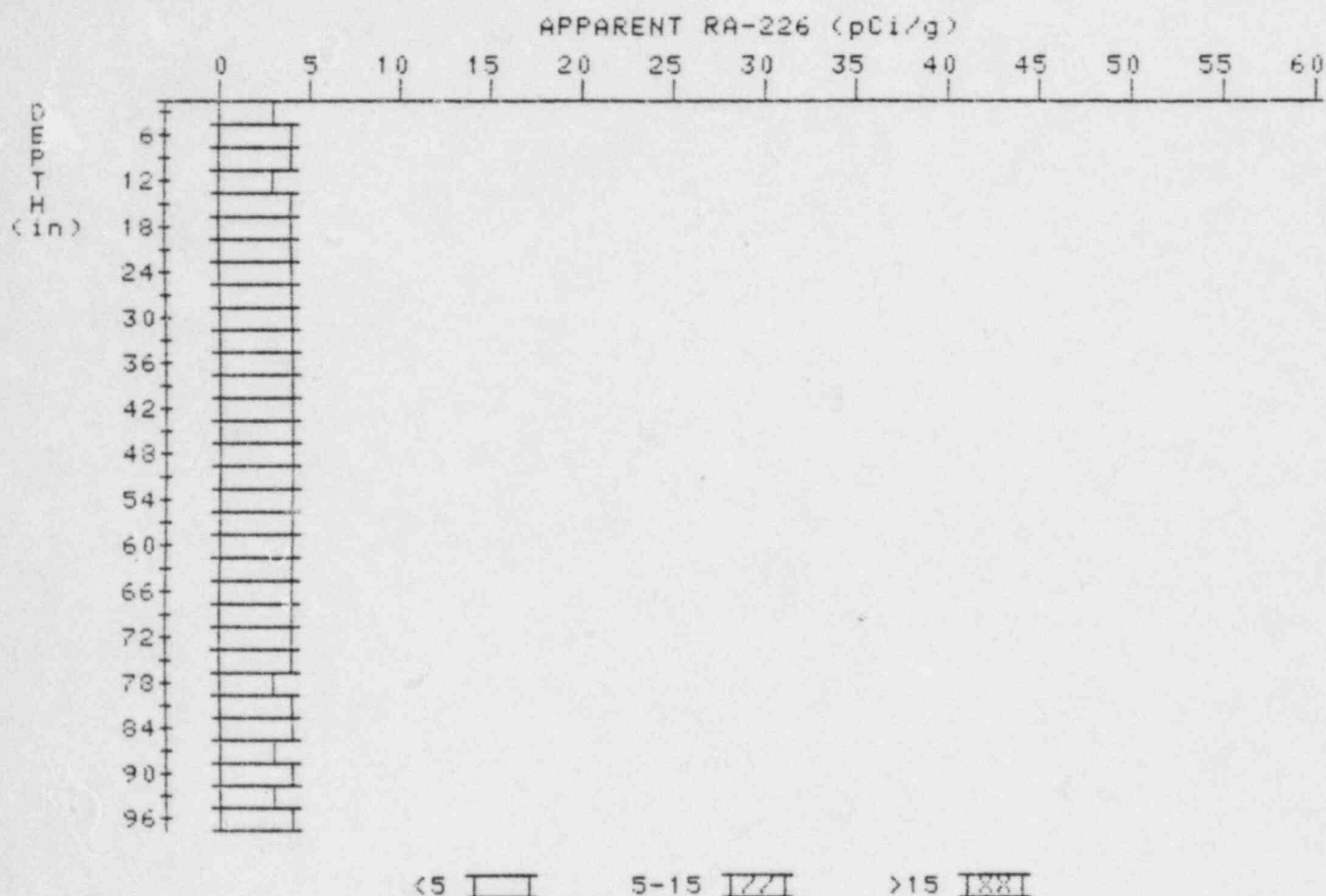
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

8

PROPERTY NUMBER: GJ-02288-RS

HOLE NUMBER: 8

LOCATION: 210281



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

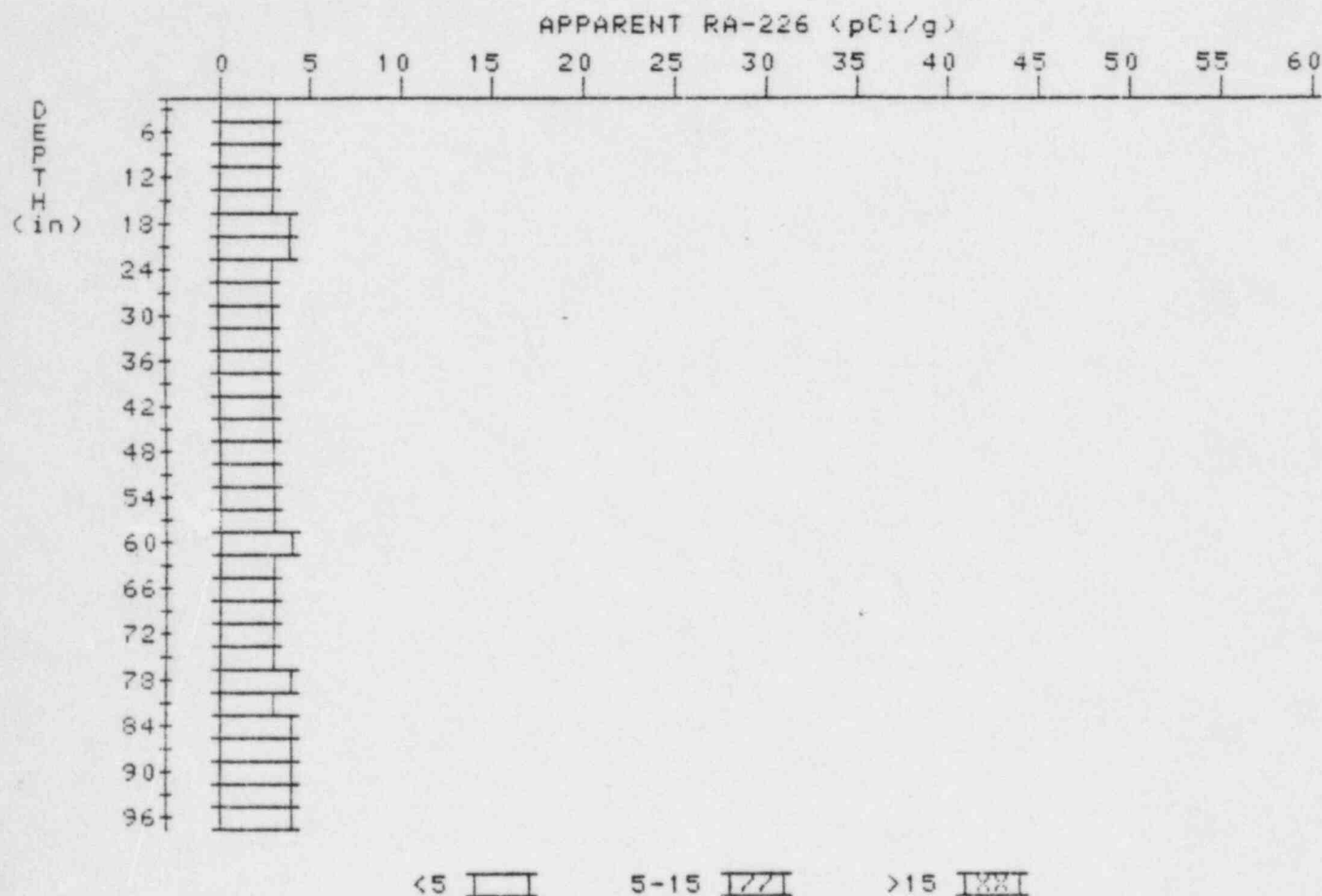
30	3.9	3.9
33	3.9	3.9
36	3.9	4.1
39	3.8	3.6
42	3.8	3.8
45	3.8	3.8
48	3.8	3.6
51	3.9	4.3
54	3.8	3.6
57	3.8	3.8
60	3.8	3.8
63	3.8	4.0
66	3.7	3.5
69	3.7	3.7
72	3.7	3.7
75	3.7	3.9
78	3.6	3.4
81	3.6	3.6
84	3.6	3.8
87	3.5	3.1
90	3.6	4.0
93	3.5	3.3
96	3.5	3.5

APPARENT RADIUM-226 CONCENTRATION 13 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-02288-RS

HOLE NUMBER: 13

LOCATION: 231265



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.6	2.6
6	2.9	3.1
9	3.1	3.3
12	3.2	3.2
15	3.3	3.3
18	3.4	3.6
21	3.4	3.6
24	3.3	3.1
27	3.3	3.3

30
33
36
39
42
45
48
51
54
57
60
63
66
69
72
75
78
81
84
87
90
93
96

3.3
3.3
3.3
3.3
3.3
3.3
3.3
3.3
3.3
3.3
3.3
3.1
3.2
3.2
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3.5
3.6
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3.3
3.3
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3.3
3.3
3.3
3.3
3.3
3.3
3.3
2.6
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3.6
3.9
3.7
3.7
3.7

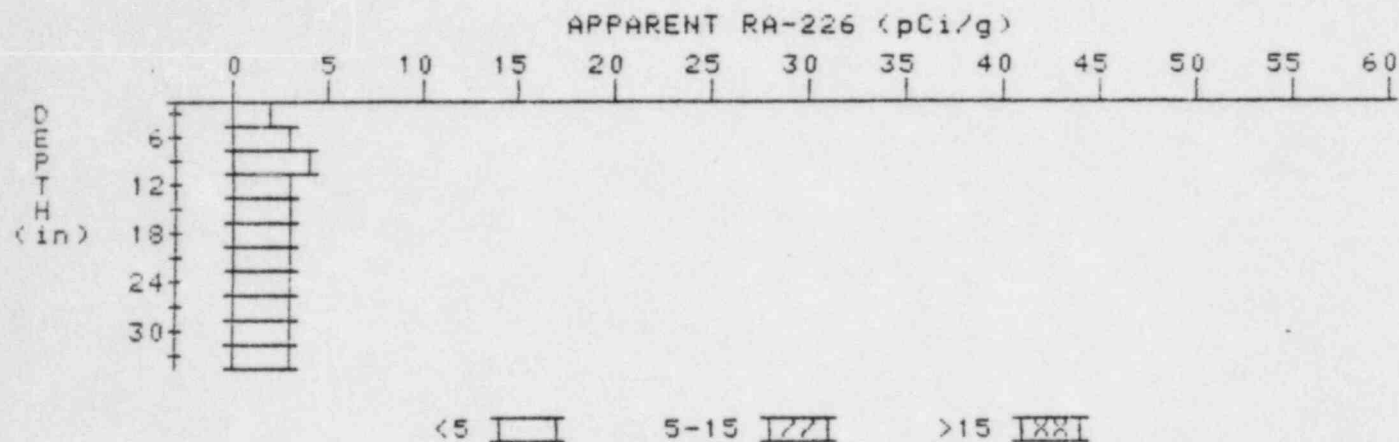
APPARENT RADIUM-226 CONCENTRATION 17

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-02283-RS

HOLE NUMBER: 17

LOCATION: 250250



Depth (in)	Apparent Radium-226 (pCi/g)	Apparent Radium-226 (pCi/g)
	Undeconvolved	Deconvolved
3	2.4	2.4
6	2.7	2.5
9	3.1	3.6
12	3.2	3.2
15	3.3	3.5
18	3.3	3.3
21	3.3	3.3
24	3.3	3.3
27	3.3	3.3
30	3.3	3.5
33	3.2	3.2



NO. DATE		REVISIONS		BY	CHK	DATE	NO. DATE		REVISIONS		BY	CHK	DATE
U.S. DEPARTMENT OF ENERGY GRAND JUNCTION AREA OFFICE, COLORADO													
2113 NORTH 21st STREET GRAND JUNCTION, COLORADO													
INSTRUMENT NO. _____ CHECKED BY: <i>CA 7-7-85</i>				DRAWN BY: <i>CA 7-7-85</i>				DATE: _____					
PROJECT NO. _____				SUBMITTER: _____				APPROVED: _____					
CERTIFY DATE: _____				ALLIED Bendix Aerospace				GJ-02288-AS O-8777-61-18					