RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-11439-RS
ADDRESS: 222 EPPS DRIVE

JUNE 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 June 13, 1985

REA11439:REA-605

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 Introduction

The location, DOE ID No. GJ-11439-RS, is a single-family residence located at 222 Epps Drive, 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, 7 cu. yd.; interior, 0 cu. yd.

Estimated cost to perform remedial action, including dislocation when applicable, is $588. Remedial action on this property will take approximately 3 days to complete.

2.0 PROPERTY DESCRIPTION

2.1 General Description

Address: 222 Epps Drive, Grand Junction, Colorado 81501

Zoning: Residential (RSF-8)

Lot Size: Approximately 8,838 sf (0.2 acre)

Legal Description: Lot 11, Block 1, Epps Subdivision Section 7, 1S 1E, City of Grand Junction, County of Mesa, State of Colorado.

Point of Reference: This property is located approximately 3 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:	Epps Drive
South:	Single-family residence
East:	Single-family residence
West:	Epps Drive

2.2 Existing Facilities and Structures

Primary Structure:

Type:	Single-story residence
Size:	Approximately 671 sf
Construction Date:	1946
Construction:	Wood-frame
Foundation:	Monolithic concrete slab-on-grade
Footing Depth:	Approximately 6" to bottom of footing from grade
Basement:	None
Crawl Space:	None
Condition:	Good

Other Structures:

Type:	Garage
Size:	Approximately 594 sf
Construction:	Wood-frame
Foundation:	Concrete slab-on-grade
Condition:	Good

General Remarks:

The front yard is landscaped. 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-11439-RS on May 8, 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 south of the primary structure and south of the garage.

The Bendix radiologic survey was designed to investigate the entire property, with emphasis on previously identified areas of contamination. Conclusions based upon data analyses are discussed in Section 3.5, Extent of Contamination. Photocopies of the Official Survey Report, team leader notes, and deconvolution graphs are included in the Appendix (Section 6.0).

3.2 Gamma Exposure-Rate Surveys

3.2.1 Exterior Findings

Background Readings: 15 to 16 uR/h
Highest Outside Gamma Reading (HOG): 62 uR/h

Exterior radium-concentration measurements are presented in Appendix Table 3.1. Grid-point survey results are shown in Appendix Figure 3.1. Appendix Figure 3.2 presents the ranges of elevated gamma readings and indicates areas of possible contamination.

3.2.2 Interior Findings

Background Readings: 14 to 15 uR/h
Highest Inside Gamma Reading (HIG): 15 uR/h

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

3.3 Boreholes, Soil Samples, and Other Measurements

Areas which displayed elevated gamma levels were further investigated; these areas are shown in Appendix Figure 3.4. 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 3.5 shows identified areas and estimated depths of contamination on this property, based on assessments of all measurements taken. As noted in this figure, areas recommended for remedial action that contain identified residual radioactive materials are:

(AREA A) South of the primary structure, in the driveway, contamination extends to a depth of 12 inches (approximately 92 sf).

(AREA B) East of Area A, contamination extends to a depth of 9 inches (approximately 110 sf). Area B includes a large bush.

(AREA C) South of the garage, a small deposit of contamination extends to a depth of 6 inches (approximately 14 sf).

4.0 RECOMMENDED REMEDIAL ACTION

4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-11439-RS, includes removal of all areas identified as containing radioactive material (as discussed in Section 3.5 and shown in Appendix Figure 3.5) and transport of removed material to the disposal site.

After remedial action is completed, the areas involved will be restored to original condition in accordance with the Bendix drawings, Vicinity Properties General Construction Specification (Bendix Field Engineering Corporation, 1984), and Statement of Work for Construction Subcontractor.

Dislocation of the occupants will not be required for this remedial action.

4.2 Evaluation of Recommended Remedial Action

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

Estimated cost of remedial action is $588.

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 Grid-Point Exposure Rates
Figure 3.2	Exterior Gamma Scan
Figure 3.3a	Interior Gamma Exposure Rates
Figure 3.3b	Interior Gamma Exposure Rates
Figure 3.4	Exterior Sample Locations
Figure 3.5	Estimated Extent of Contamination

Official Survey Report
Team Leader Notes
Deconvolution Graphs (Apparent Radium-226 Concentration)

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g) Tot. Ct	In Situ Ra-226 (pCi/g) Spectr.	Chem Ra-226 (pCi/g)	Comments
1	189207	03	TC	3.5		*	Water line
		06	TC	3.8		*	Gas line
		09	TC	4.0		*	
		12	TC	4.1		*	DC = 0 inches
		15	TC	4.1		*	
		18	TC	4.0		*	
		21	TC	3.9		*	
		24	TC	3.8		*	
		27	TC	3.9		*	
		30	TC	3.7		*	
		33	TC	3.7		*	
		36	TC	3.9		*	
		39	TC	3.9		*	
		42	TC	4.1		*	
		45	TC	4.1		*	
		48	TC	4.1		*	
		51	TC	4.0		*	
		54	TC	4.1		*	
		57	TC	4.2		*	
		60	TC	4.2		*	
		63	TC	4.2		*	
		66	TC	4.2		*	
		69	TC	4.2		*	
2	190240	00	DS	1.3		*	Background
		03	TC	3.1		*	
		06	TC	3.7		*	DC = 0 inches
		09	TC	3.8		*	
		12	TC	4.0		*	
		15	TC	4.0		*	
		18	TC	4.0		*	
		21	TC	3.9		*	
		24	TC	3.8		*	
		27	TC	3.9		*	
		30	TC	3.9		*	
		33	TC	3.8		*	
		36	TC	3.6		*	
3	191204	00	DS	1.9		*	Gas line
		06	DS	1.9		*	
		16	DS	1.8		*	
4	200231	03	TC	3.2		*	
		06	TC	3.6		*	DC = 0 inches

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g) Tot. Ct	Spectr.	Chem Ra-226 (pCi/g)	Comments
4	200231	09	TC	3.8		*	
		12	TC	3.9		*	
		15	TC	3.9		*	
		18	TC	3.9		*	
		21	TC	3.9		*	
		24	TC	3.8		*	
		27	TC	4.0		*	
		30	TC	3.9		*	
		33	TC	3.9		*	
		36	TC	3.8		*	
5	205188	00	DS	4.0		*	South of driveway
		06	DS	2.8		*	DC = 12 inches
		12	DS	2.0		*	
6	209205	03	TC	4.1		*	South side of
		06	TC	4.6		*	primary structure
		09	TC	4.8		*	DC = 0 inches
		12	TC	4.8		*	
		15	TC	4.7		*	
		18	TC	4.6		*	
		21	TC	4.5		*	
		24	TC	4.5		*	
		27	TC	4.4		*	
		30	TC	4.2		*	
		33	TC	4.1		*	
		36	TC	4.0		*	
		39	TC	4.0		*	
		42	TC	3.9		*	
		45	TC	4.0		*	
		48	TC	3.9		*	
		51	TC	4.0		*	
		54	TC	4.0		*	
		57	TC	4.1		*	
		60	TC	4.1		*	
		63	TC	4.1		*	
7	213189	03	TC	16.0		*	South side of
		06	TC	11.5		*	driveway
		09	TC	7.8		*	
		12	TC	5.9		*	DC = 9 inches
		15	TC	5.0		*	Based on the
		18	TC	4.5		*	deconvolution graph
		21	TC	4.2		*	

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g) Tot. Ct	Spectr.	Chem Ra-226 (pCi/g)	Comments
7	213189	24	TC	4.0		*	
		27	TC	3.9		*	
		30	TC	3.9		*	
		33	TC	4.1		*	
		36	TC	4.2		*	
8	220220	03	TC	3.8		*	Next to back door
		06	TC	3.9		*	
		09	TC	3.9		*	DC = 0 inches
		12	TC	3.9		*	
		15	TC	3.9		*	
		18	TC	3.7		*	
		21	TC	3.7		*	
		24	TC	3.7		*	
		27	TC	3.8		*	
		30	TC	3.8		*	
		33	TC	3.9		*	
9	250191	00	DS	<1.0		*	Gas line
		16	DS	<1.0		*	South of garage
10	257188	00	DS	19.1		*	South of garage
		06	DS	<1.0		*	DC = 6 inches

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 = 05-08-85
Team Leader = SM

Table 3.2

Summary of Interior Gamma Exposure Rates

DOE ID No. GJ-11439-RS 222 Epps Drive

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)
PRIMARY STRUCTURE	*	*	*	*	14-15	*
GARAGE	21	14-16	15	21	14-15	15

* The CDH and ORNL data indicates the absence of interior contamination at this property. This information was investigated by performing a walking gamma scan of the primary structure. These areas and the ranges of gamma measurements are shown in Appendix Figure 3.3a. Exposure rates in the garage are shown in Appendix Figure 3.3b.

Table 4.1
Area and Volume Calculations
DOE ID No. GJ-11439-RS

AREA	CALCULATIONS(ft)		SF		DEPTH(ft)		CF		CUBIC YARDS		
EXTERIOR											
A	23 x 4	=	92	x	1.0	=	92				
B	11 x 10	=	110	x	0.8	=	88				
C	7 x 2	=	14	x	0.5	=	7				
	TOTAL VOLUME - EXTERIOR					=	187	=	187/27	=	7

See Appendix Figure 3.5 For Areas

Table 4.2
Estimated Cost of Decontamination and Restoration
DOE ID No. GJ-11439-RS

Remove identified residual radioactive material		
6 cy @ $14.50/cy (machine-open)		$ 87
1 cy @ $44/cy (manual-open)		44
Replace areas with compacted roadbase		
4 cy @ $11.50/cy		46
Replace areas with topsoil		
3 cy @ $9.50/cy		29
Replace rosebush		
1 ea @ $50/ea		50
	TOTAL EXTERIOR	$ 256
	TOTAL INTERIOR	0
	ACCESS CONTROL	100
	SUBTOTAL	$ 356
	CONTINGENCY @ 10%	36
	SUBTOTAL	$ 392
	CONTRACTOR OVERHEAD & PROFIT @ 50%	196
	GRAND TOTAL	$ 588

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REA11439/REA-605/LMR

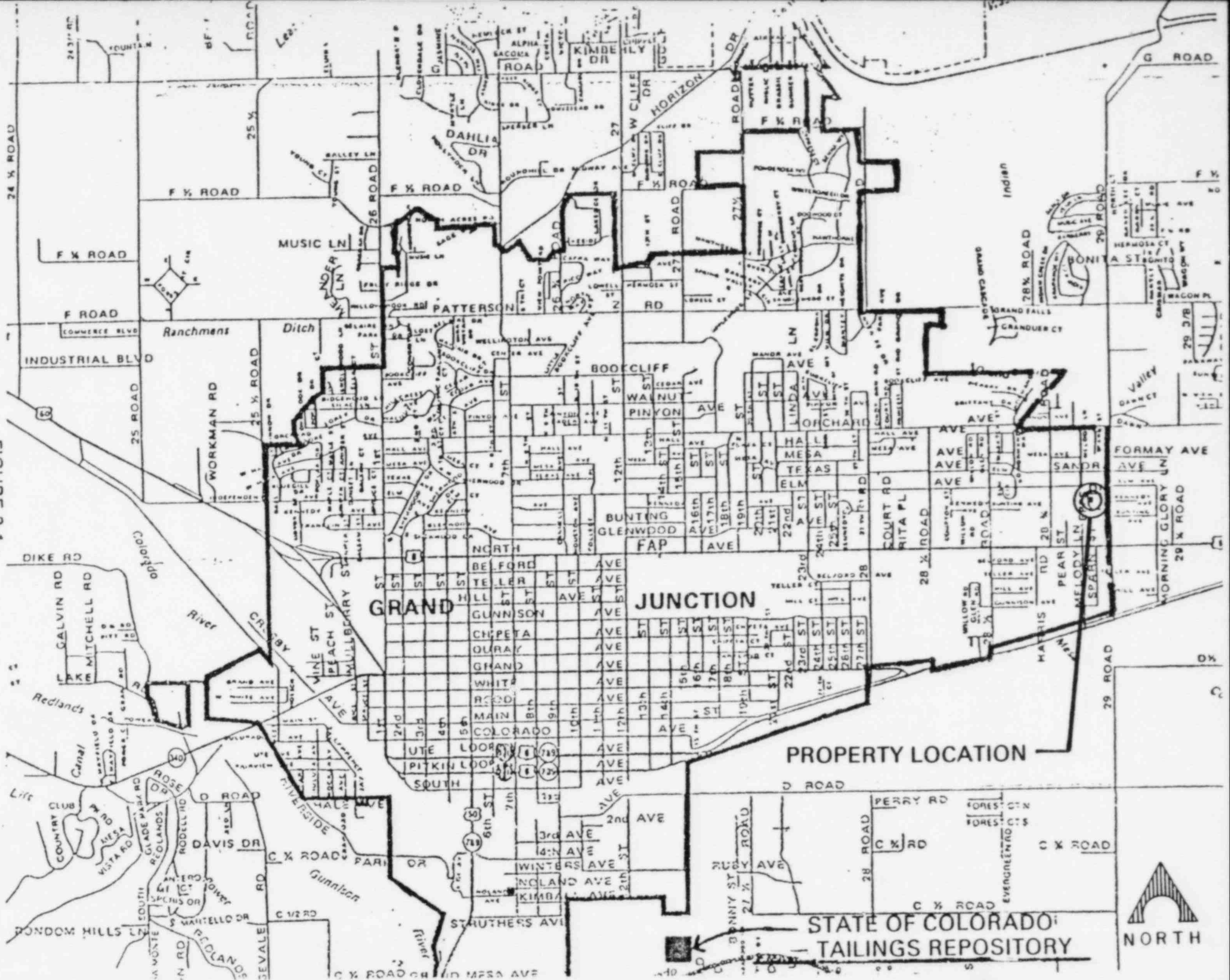


FIGURE 2.1
VICINITY MAP

LOT 11 BLOCK 1 EPPS SUBDIVISION
SECTION 7, T.1S., R.1E., U.M.,
CITY OF GRAND JUNCTION, COLORADO

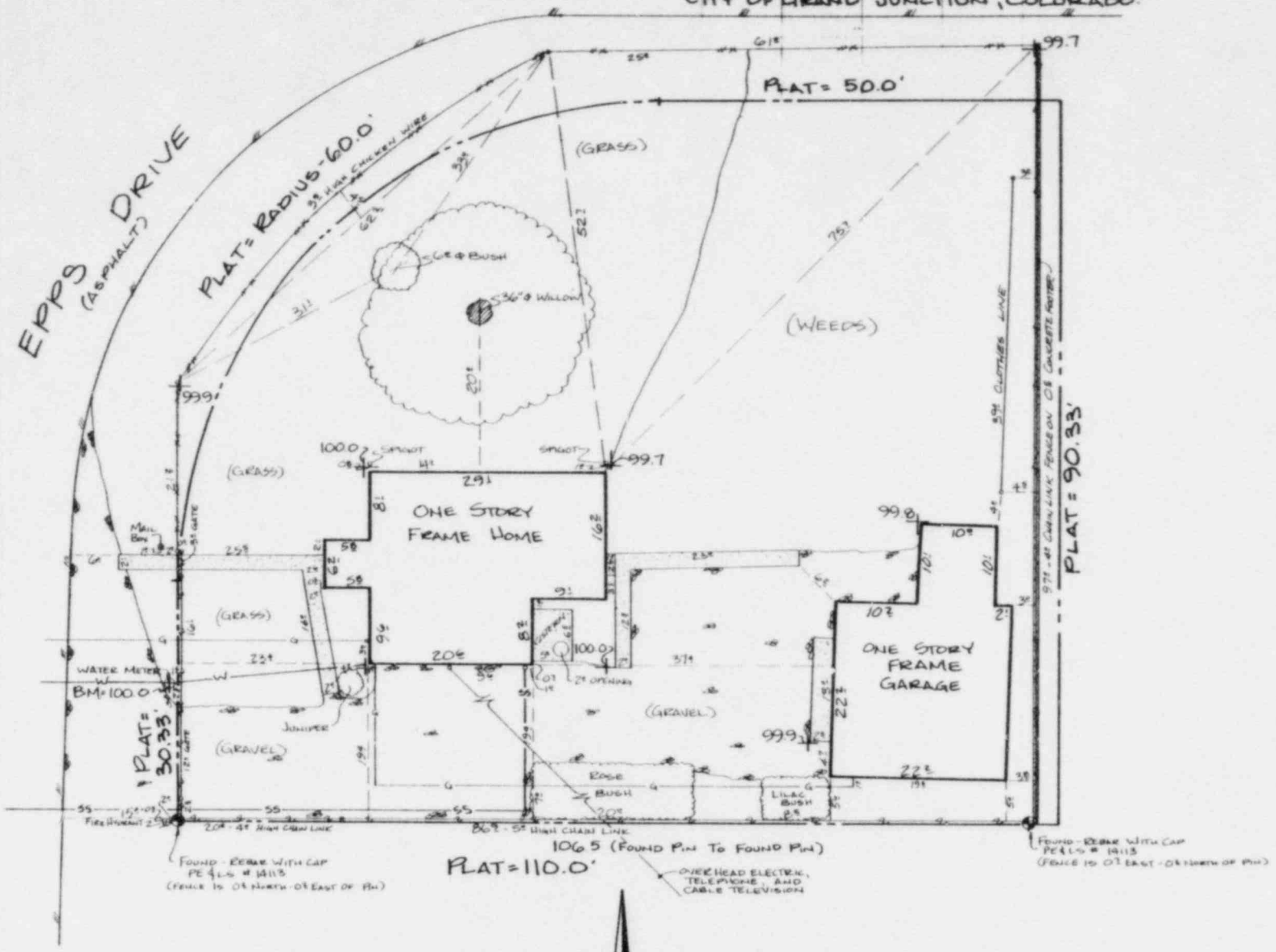


FIGURE 2.2 SITE PLAN

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 GRAND JUNCTION PROJECT OFFICE, COLORADO					DOE ID NO. GJ 11439 RS
ADDRESS 222 EPPS DRIVE GRAND JUNCTION, COLORADO					ALLIED Bendix Aerospace Bendix Field Engineering Corporation Grand Junction Operations
SURV G.E.	4.29.85	DRAFT RSK	5.1.85	CK WCF	5.1.85
DRAWING NO 3-C646-F1				SHEET 1 OF 1	

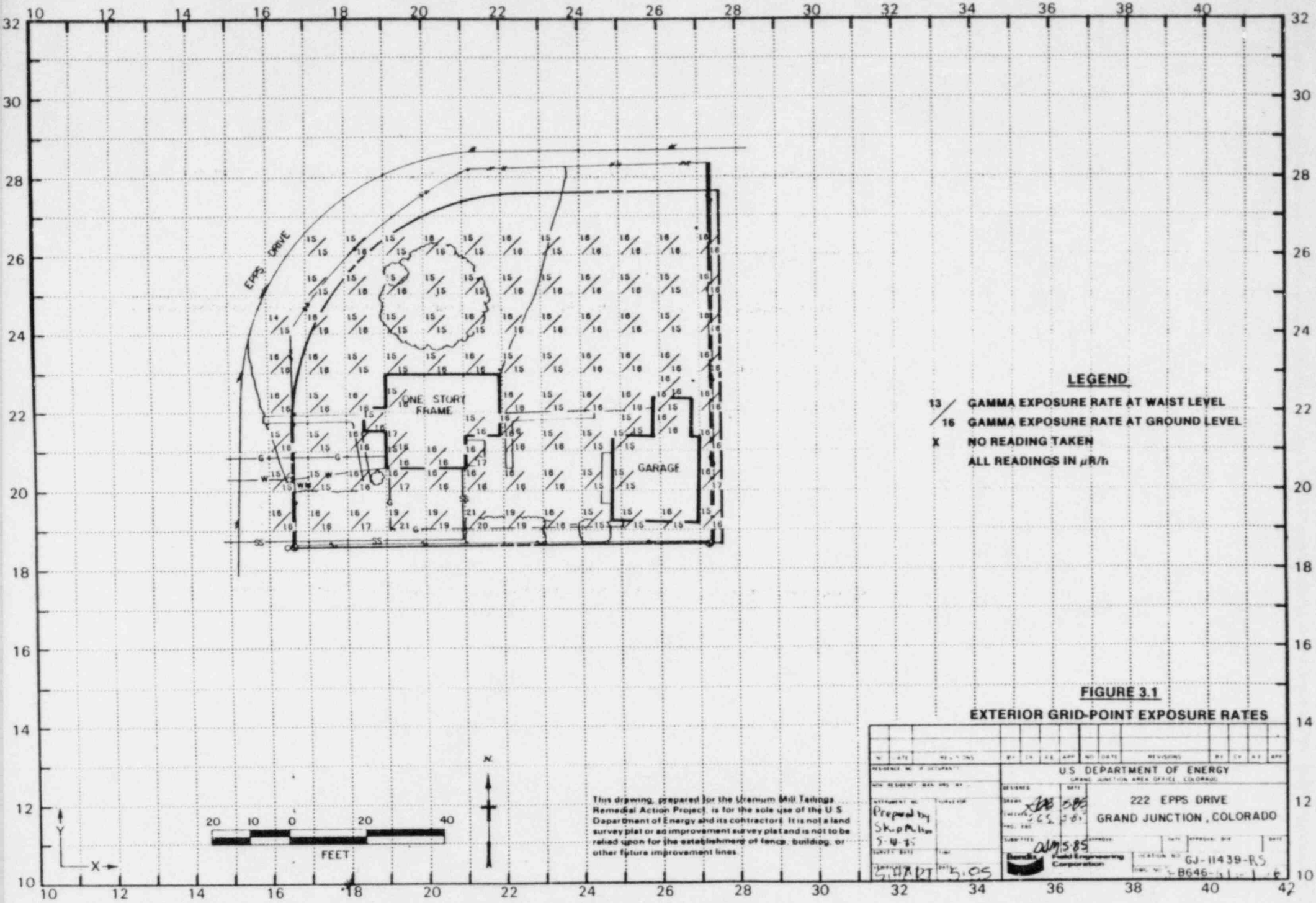
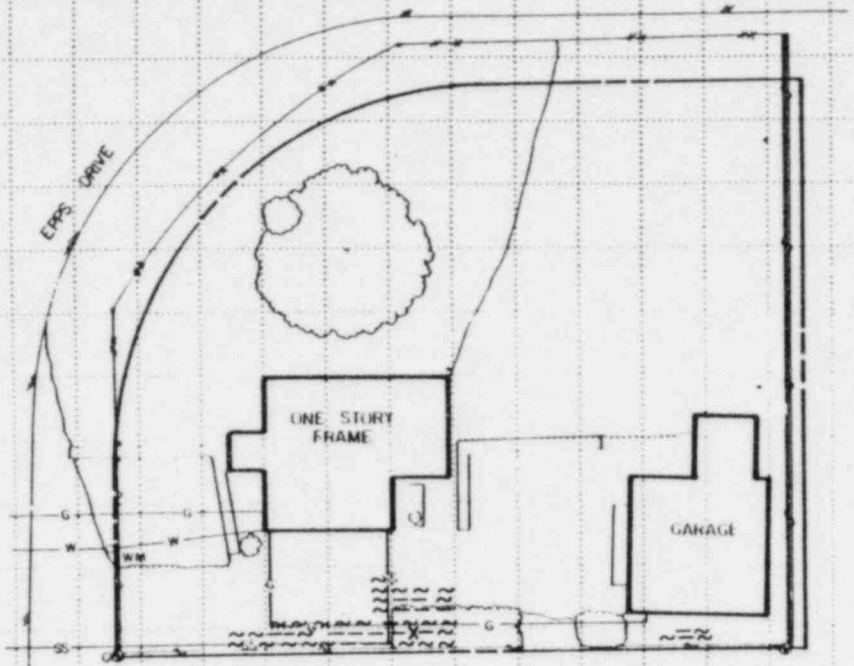


FIGURE 3.1

EXTERIOR GRID-POINT EXPOSURE RATES



THE HOG IS LOCATED IN GRID BLOCK 210180

HOG = 62 μR/h

LEGEND

GAMMA READINGS OF 150 TO 199 cps

GAMMA READINGS OF 200 TO 500 cps

GAMMA READINGS OF >500 cps

FIGURE 3.2

EXTERIOR GAMMA SCAN

20 10 0 20 40

FEET

N

Y

X

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U.S. DEPARTMENT OF ENERGY

GRAND JUNCTION AREA OFFICE, COLORADO

222 EPPS DRIVE

GRAND JUNCTION, COLORADO

Bendix Field Engineering Corporation

GJ-11439-RS

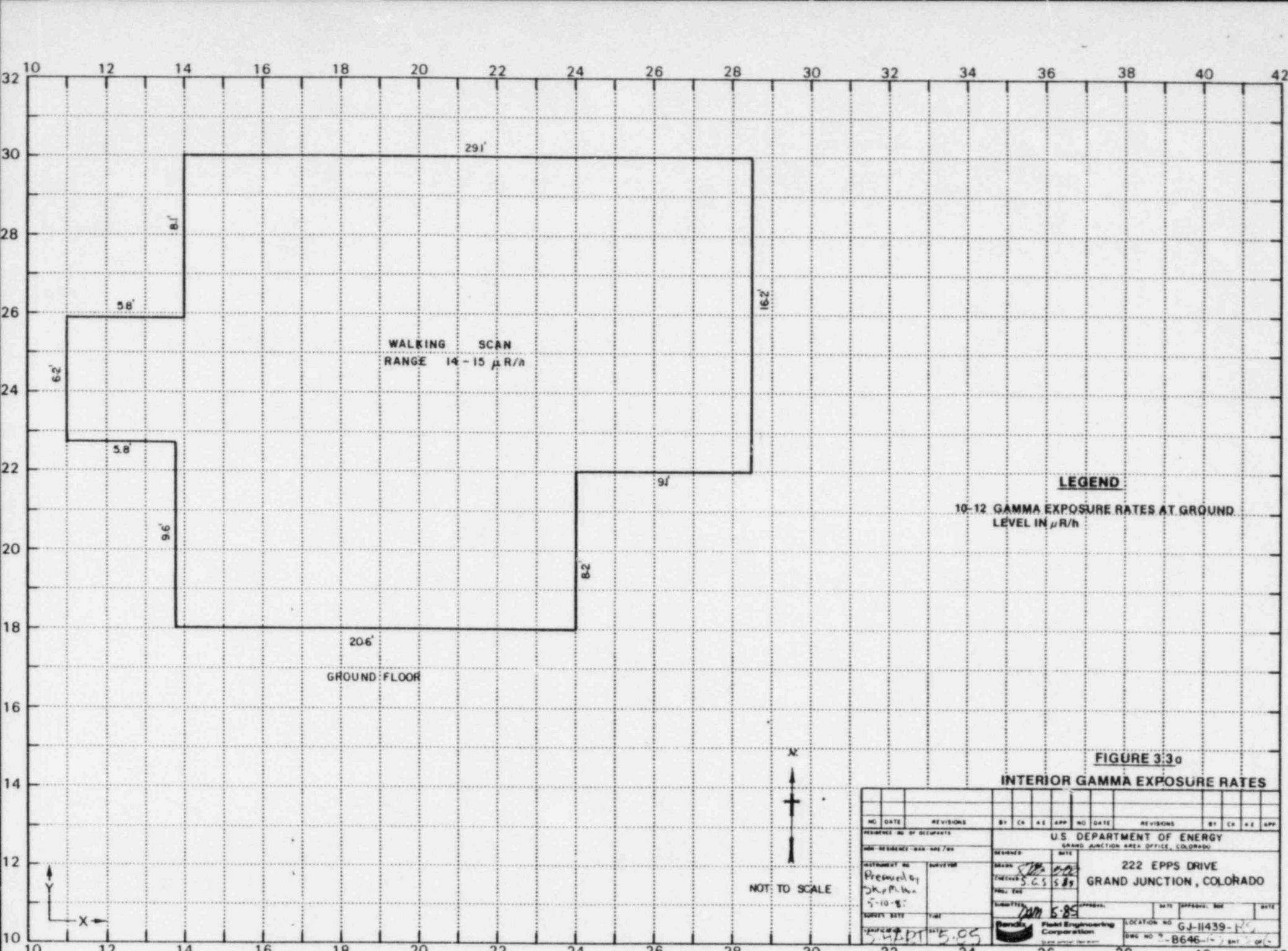


FIGURE 3.3a

INTERIOR GAMMA EXPOSURE RATES

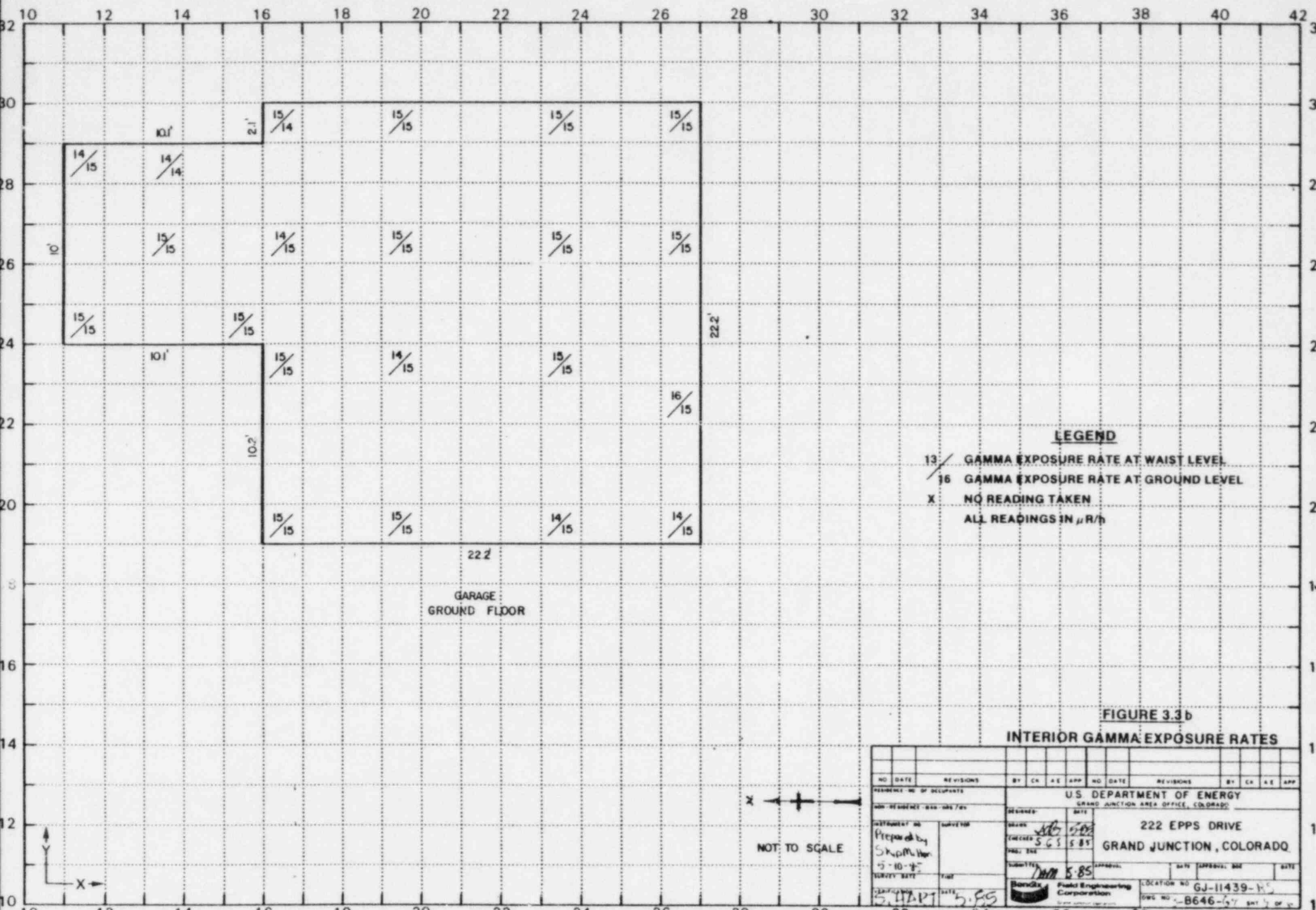


FIGURE 3.3b

INTERIOR GAMMA EXPOSURE RATES

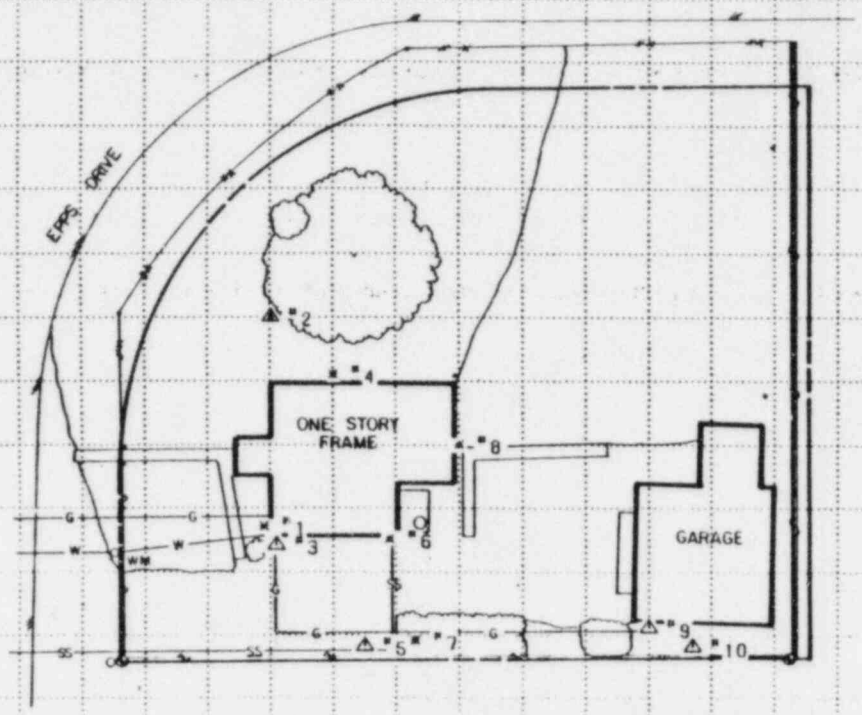
U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION AREA OFFICE, COLORADO

222 EPPS DRIVE
GRAND JUNCTION, COLORADO

Bendix Field Engineering Corporation

LOCATION NO GJ-11439-

DWG NO -8646-



LEGEND

- BOREHOLE
- SPECTROMETER
- DELTA SCANNER
- SOIL SAMPLE
- #4 LOCATION NUMBER

20 10 0 20 40
FEET

N.

Y
X

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FIGURE 3.4

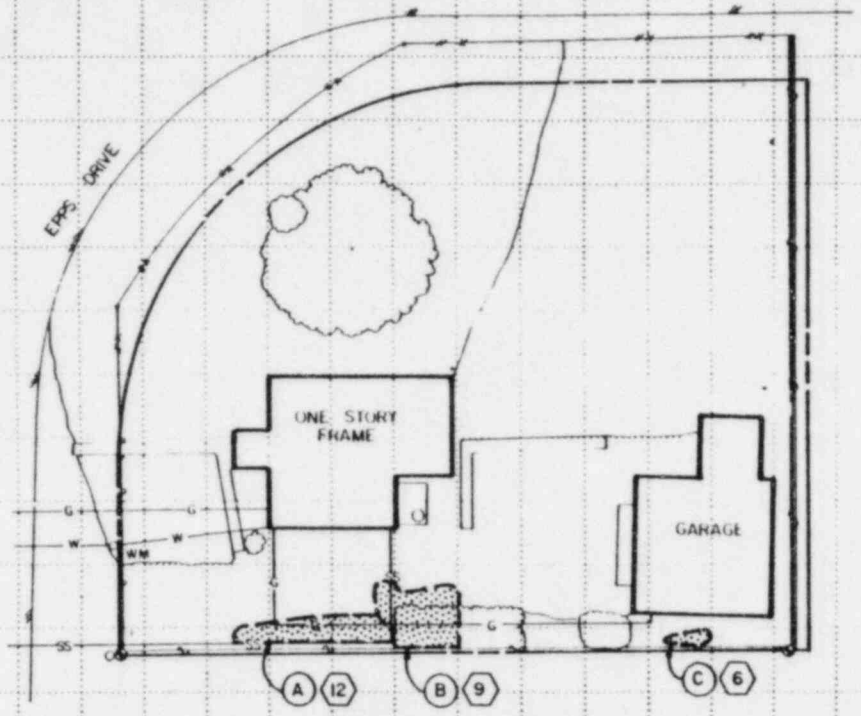
EXTERIOR SAMPLE LOCATIONS

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION AREA OFFICE, COLORADO

222 EPPS DRIVE
GRAND JUNCTION, COLORADO

Bendix Field Engineering Corporation

GJ-11439-PC
B646-(1)



LEGEND

- BOUNDARY OF CONTAMINATION
- A — AREA OF CONTAMINATION
- 18 — DEPTH OF CONTAMINATION (INCHES)
- CONTAMINATED AREA

20 10 0 20 40
FEET

Y
X

N

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Prepared by SKPatton 5-17-85

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION AREA OFFICE, COLORADO

222 EPPS DRIVE
GRAND JUNCTION, COLORADO

Bendix Field Engineering Corporation

GJ-11439-KS

FIGURE 3.5

ESTIMATED EXTENT OF CONTAMINATION

3/85

DOE ID NO. GJ-11439-RS Date 5-8-85

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

Official Survey Report

Property Address 222 Epps Drive

Property Owner Herbert R. Pruett

Address of Owner (if different from above) _____

Report Prepared By Skip Milton

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

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

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

1 XXX 1 In open areas.

1 XXX 1 Under or around exterior improvements.

1 XXX 1 Under or around a typically nonoccupied structure.

1 ___ 1 Under or around a typically occupied structure.

II. RESULTS OF RADIOLOGIC ASSESSMENT

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

1 XXX 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 = 15 uR/h
HOG = 62 uR/h

MEMORANDUM

ALLIED Bendix Aerospace

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

DATE: May 8, 1985

TO: Files

FROM: Skip Milton

SUBJECT: Team Leader Notes - GJ-11439-RS

Address: 222 Epps Drive

Owner: Herbert R. Pruett

Weather: Clear, sunny.

Team Members

S. Milton (Team Leader)	P. Egidi
C. Adams	M. Duran
A. Quintana	R. Wilkins
N. Wallace	R. Herman

Instruments

Crutch Scintillometer - C-1128, C-1247, C-1239, C-1036, C-1205
Delta Scintillometer - C-3936, C-3935
Total Count - C-4005, C-3573
Downhole Spectrometer - C-0498
Surface Spectrometer - C-3413

The grid went 30-feet north of the house. A walking scan was done on the remaining area.

The gas line was misprinted on the map. I drew the line in where it was located by the team members.

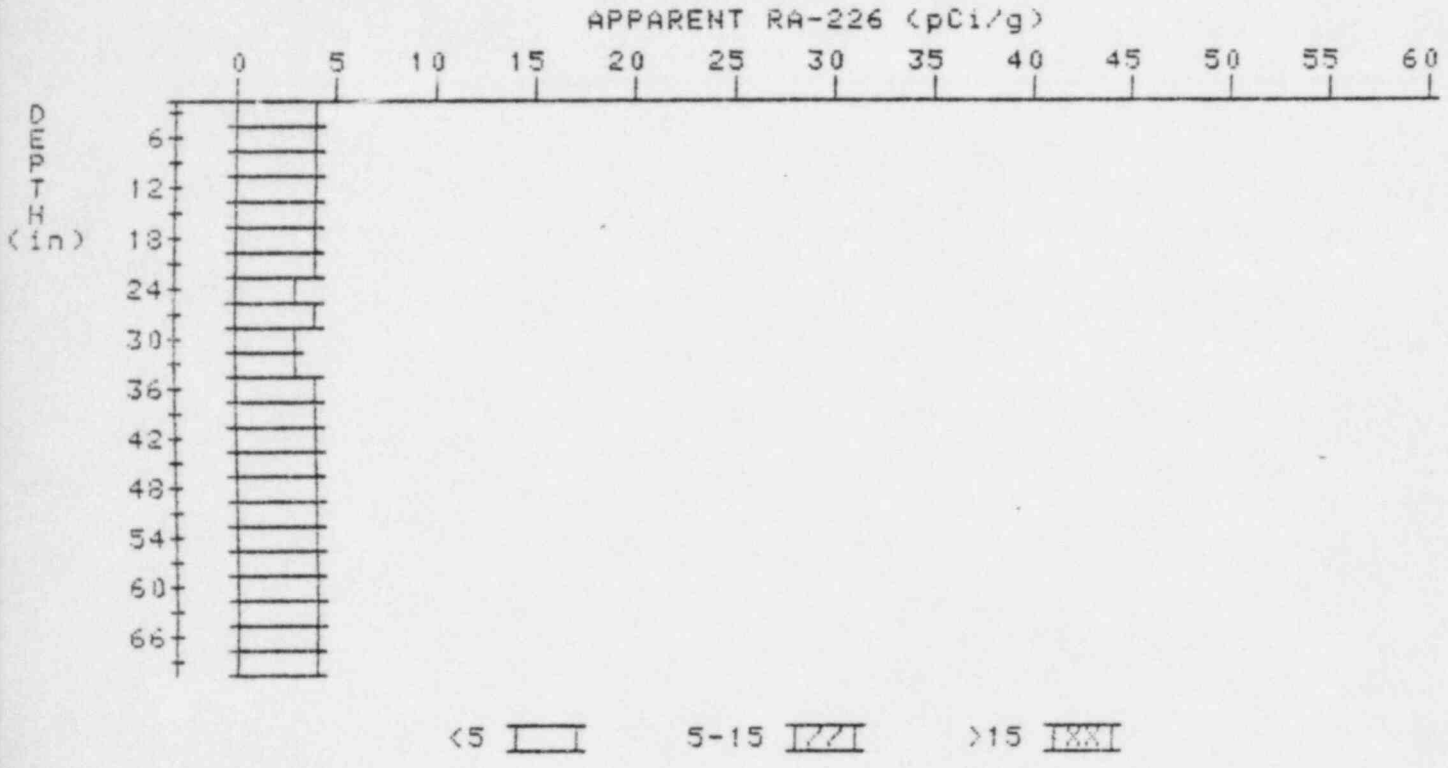
A cistern was located next to the house, it was full of water.

The contamination seemed contained to two small areas.

DECON V85.1<850215.1335>

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-11439-RS
HOLE NUMBER: 1
LOCATION: 189207



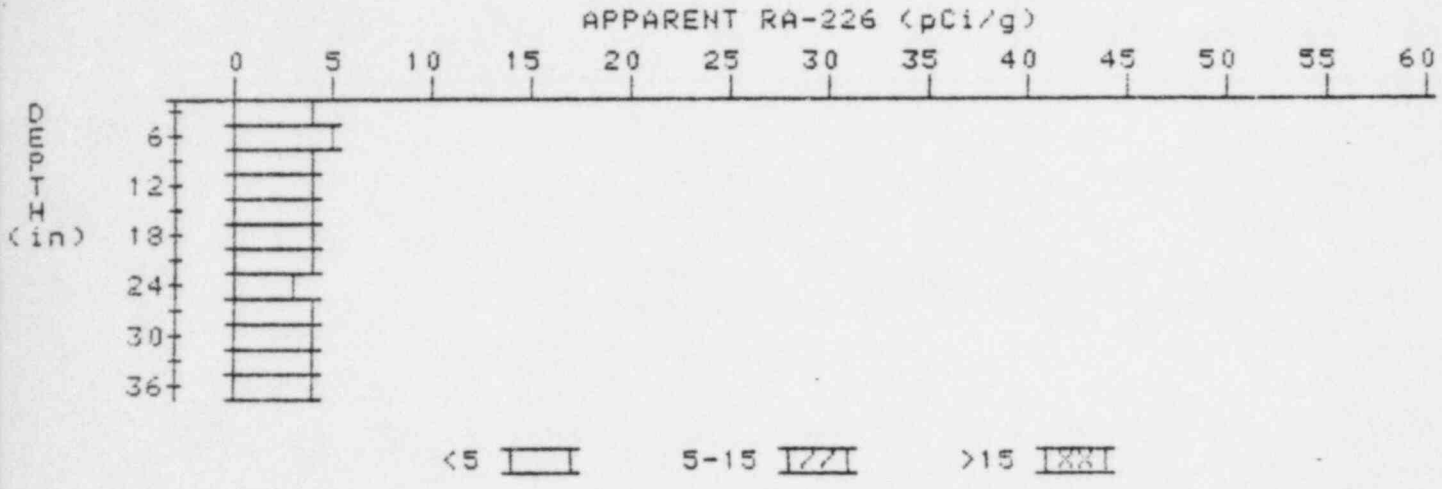
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.5	3.5
6	3.8	4.0
9	4.0	4.2
12	4.1	4.3
15	4.1	4.3
18	4.0	4.0
21	3.9	3.9
24	3.8	3.4
27	3.9	4.4
30	3.7	3.3
33	3.7	3.3
36	3.9	4.3
39	3.9	3.5
42	4.1	4.5
45	4.1	4.1

48	4.1	4.3
51	4.0	3.6
54	4.1	4.1
57	4.2	4.4
60	4.2	4.2
63	4.2	4.2
66	4.2	4.2
69	4.2	4.2

DECON V85.1<850215.1335>

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-11439-RS
HOLE NUMBER: 2
LOCATION: 190240

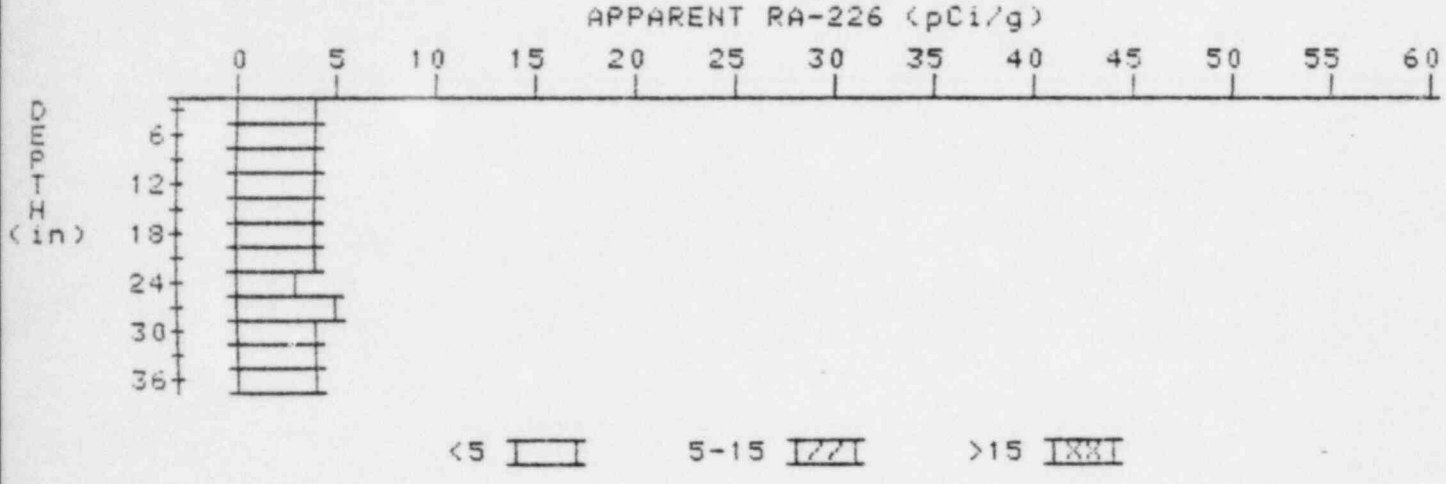


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.1	3.1
6	3.7	4.6
9	3.8	3.6
12	4.0	4.4
15	4.0	4.0
18	4.0	4.2
21	3.9	3.9
24	3.8	3.4
27	3.9	4.1
30	3.9	4.1
33	3.8	4.0
36	3.6	3.6

DECON V85.1<850215.1335>

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH 4

PROPERTY NUMBER: GJ-11439-RS
HOLE NUMBER: 4
LOCATION: 200231

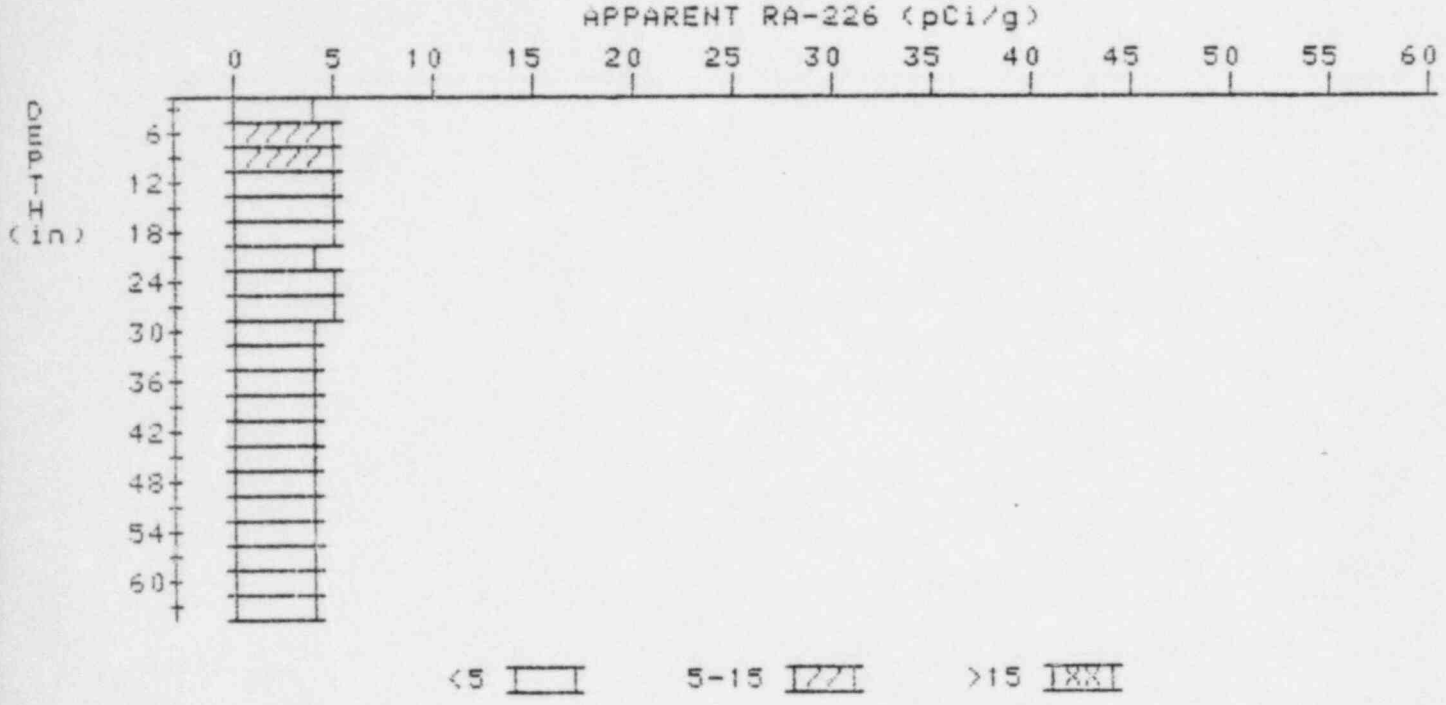


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.2	3.2
6	3.6	4.0
9	3.8	4.0
12	3.9	4.1
15	3.9	3.9
18	3.9	3.9
21	3.9	4.1
24	3.8	3.3
27	4.0	4.5
30	3.9	3.7
33	3.9	4.1
36	3.8	3.8

DECON V85.1<850215.1335>

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-11439-RS
HOLE NUMBER: 6'
LOCATION: 209205-



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	4.1	4.1
6	4.6	5.1
9	4.8	5.2
12	4.8	5.0
15	4.7	4.7
18	4.6	4.6
21	4.5	4.3
24	4.5	4.7
27	4.4	4.6
30	4.2	4.0
33	4.1	4.1
36	4.0	3.8
39	4.0	4.2
42	3.9	3.5
45	4.0	4.4
48	3.9	3.5
51	4.0	4.2

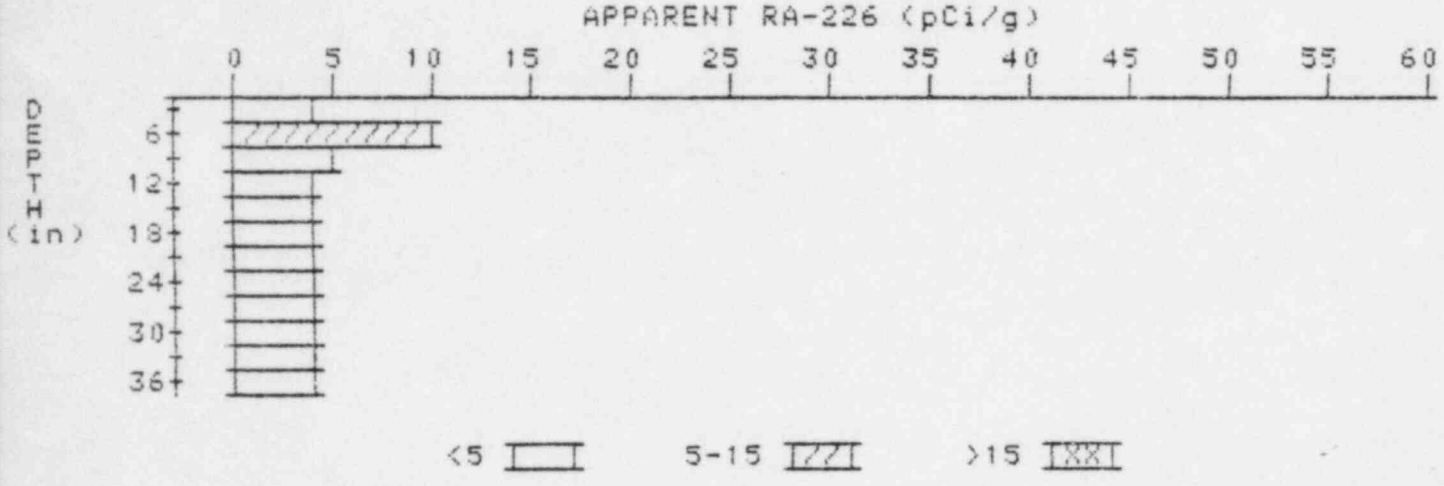
54	4.0	3.8
57	4.1	4.3
60	4.1	4.1
63	4.1	4.1

DECON V85.1<850215.1335>

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

7

PROPERTY NUMBER: GJ-11439-RS
HOLE NUMBER: 7
LOCATION: 213189

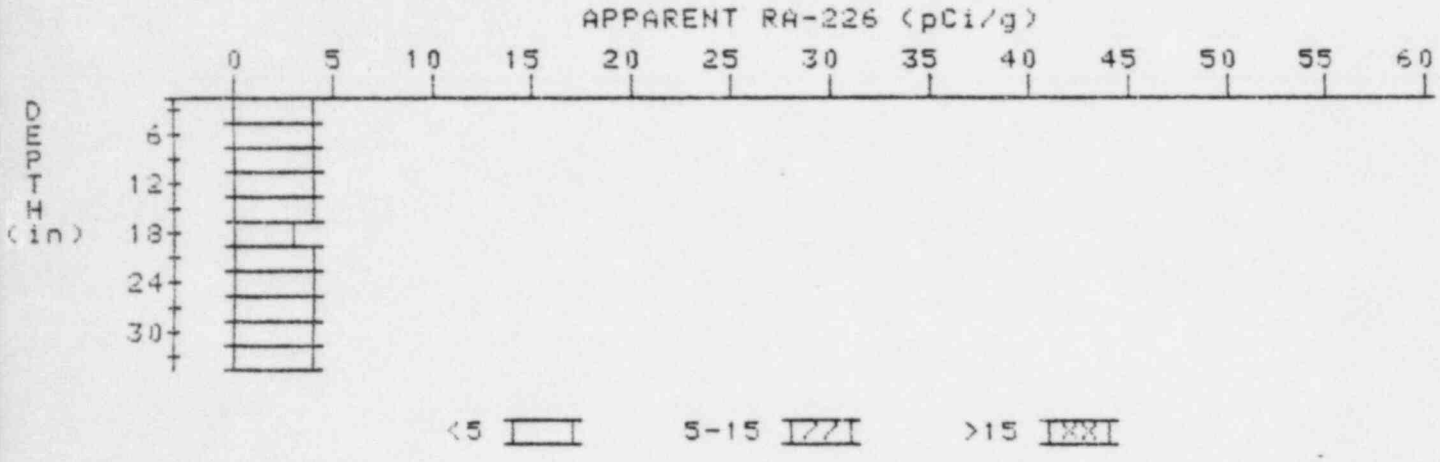


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	16.0	16.0
6	11.5	10.1
9	7.8	4.6
12	5.9	4.1
15	5.0	4.3
18	4.5	4.1
21	4.2	4.0
24	4.0	3.8
27	3.9	3.7
30	3.9	3.5
33	4.1	4.3
36	4.2	4.2

DECON V85.1<850215.1335>

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-11439-RS
HOLE NUMBER: 8
LOCATION: 220220



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.8	3.8
6	3.9	4.1
9	3.9	3.9
12	3.9	3.9
15	3.9	4.3
18	3.7	3.3
21	3.7	3.7
24	3.7	3.5
27	3.8	4.0
30	3.8	3.6
33	3.9	3.9