RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-07856-RS
ADDRESS: 225 SHERMAN 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 8, 1985

REA07856:REA-607

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 Introduction

The location, DOE ID No. GJ-07856-RS, is a single-family residence located at 225 Sherman 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 $713. Remedial action on this property will take approximately 3 days to complete.

2.0 PROPERTY DESCRIPTION

2.1 General Description

Address: 225 Sherman Drive, Grand Junction, Colorado

Zoning: Residential (PR-10)

Lot Size: Approximately 9,300 sf (0.2 acre)

Legal Description: Lot 20, Block 4, Artesia Heights Replat, City of Grand Junction, County of Mesa, State of Colorado.

Point of Reference: This property is located approximately 1 mile south 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:	Sherman Drive
South:	Single-family residence
East:	Single-family residence
West:	Alley

2.2 Existing Facilities and Structures

Primary Structure:

Type:	Single-story residence
Size:	Approximately 1,072 sf
Construction Date:	1955
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:	Wood shed
Size:	Approximately 21 sf
Construction:	Wood-frame
Foundation:	Concrete slab-on-grade
Condition:	Good

Type:	Metal shed
Size:	Approximately 30 sf
Construction:	Pre-fabricated 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-07856-RS on March 24, 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) was conducted. These records indicate that no contamination was found on the property. The Bendix spill-over data shows contamination along the east fence line.

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, Memo of Understanding, 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: 16 to 17 uR/h
Highest Outside Gamma Reading (HOG): 162 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: 12 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 Figure 3.3 shows the ranges of 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) Southwest of the primary structure, an isolated deposit is contaminated to a depth of 15 inches (approximately 18 sf).

(AREA B) A small deposit along the north foundation of the primary structure has contamination extending to a depth of 6 inches (approximately 30 sf).

(AREA C) North of the attached shed, contamination extends to a depth of 3 inches. Small pieces of crushed uranium ore are scattered in this area (approximately 70 sf).

(AREA D) The depth of contamination along the east property boundary is 6 inches (approximately 246 sf).

4.0 RECOMMENDED REMEDIAL ACTION

4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-07856-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 $713.

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 3.3	Interior Gamma Exposure Rates
Figure 3.4	Exterior Sample Locations
Figure 3.5	Exterior Estimated Extent of Contamination

Official Survey Report
Memo of Understanding
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	150201	00	DS	5.4		*	Near west property
		06	DS	3.3		*	line
		12	DS	3.1		*	
		15	DS	1.3		*	DC = 15 inches
		00-06	SS			2.1	
2	155275	00	DS	1.5		*	Background
		00-06	SS			2.3	
		03	TC	3.2		*	DC = 0 inches
		06	TC	3.5		*	
		09	TC	3.5		*	
		12	TC	3.6		*	
		15	TC	3.5		*	
		18	TC	3.4		*	
		21	TC	3.4		*	
		24	TC	3.3		*	
		27	TC	3.2		*	
		30	TC	3.1		*	
3	180190	03	TC	3.4		*	Old leach field
		06	TC	3.7		*	
		09	TC	3.7		*	DC = 0 inches
		12	TC	3.9		*	
		15	TC	4.1		*	
		18	TC	4.2		*	
		21	TC	4.2		*	
		24	TC	4.2		*	
		27	TC	4.1		*	
		30	TC	3.9		*	
4	180251	00	DS	6.9		*	North of primary
		00-06	SS			18.9	structure
		03	TC	4.6		*	
		06	TC	4.8		*	DC = 6 inches
		09	TC	4.5		*	Based on the
		12	TC	4.3		*	soil sample analysis
		15	TC	4.0		*	and the deconvolution
		18	TC	4.0		*	graph
		21	TC	3.9		*	
		24	TC	3.7		*	
		27	TC	3.7		*	
		30	TC	3.6		*	
		33	TC	3.8		*	

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g) Tot. Ct	Spectr.	Chem Ra-226 (pCi/g)	Comments
5	191209	06	DS	<1.0		*	Horizontally under foundation
6	197225	24	DS	1.1		*	Gas line
7	197227	12	DS	<1.0		*	Over gas line
8	202210	03	TC	3.1		*	Abandoned septic
		06	TC	3.6		*	tank
		09	TC	3.9		*	
		12	TC	4.1		*	DC = 0 inches
		15	TC	4.1		*	
		18	TC	4.0		*	
		21	TC	4.0		*	
		24	TC	3.9		*	
		27	TC	3.7		*	
		30	TC	3.6		*	
		33	TC	3.5		*	
		36	TC	3.5		*	
9	206210	03	TC	3.0		*	Septic tank
		06	TC	3.3		*	Auger refusal
		09	TC	3.3		*	
		12	TC	3.2		*	DC = 0 inches
		15	TC	3.1		*	
		18	TC	3.1		*	
10	209244	00	DS	9.9		*	Northeast corner
		03	DS	2.0		*	of wood shed DC = 3 inches
11	209252	00	DS	2.3		*	Next to carport
		03	DS	2.4		*	
		06	DS	2.3		*	
		12	DS	2.5		*	DC = 3 inches
		03	TC	3.9		*	Based on all
		06	TC	4.1		*	available information
		09	TC	4.3		*	
		12	TC	4.3		*	
		15	TC	4.3		*	
		18	TC	4.1		*	
		21	TC	3.9		*	
		24	TC	3.7		*	
		27	TC	3.7		*	

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g) Tot. Ct	Spectr.	Chem Ra-226 (pCi/g)	Comments
11	209252	30	TC	3.5		*	
		33	TC	3.5		*	
		36	TC	3.5		*	
		39	TC	3.6		*	
		42	TC	3.7		*	
		45	TC	3.6		*	
12	216227	18	DS	1.8		*	Sewer line
13	219176	00	DS	3.4		*	East fence line
		06	DS	2.1		*	DC = 6 inches
14	219201	00	DS	3.2		*	East fence line
		06	DS	1.9		*	DC = 6 inches
		09	DS	1.9		*	
15	219215	00	DS	2.9		*	East fence line
		06	DS	1.8		*	DC = 6 inches
16	221239	00	DS	2.9		*	East fence line
		06	DS	1.6		*	DC = 6 inches
		00-06	SS			4.6	
17	221260	00	DS	1.6		*	East fence line

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 = 04-24-85
Team Leader = BJF

Table 3.2
Summary of Interior Gamma Exposure Rates
DOE ID No. GJ-07856-RS 225 Sherman 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	*	*	*	*	12-15	*
WOOD SHED	*	*	*	*	12-14	*
METAL SHED	*	*	*	*	13-14	*

* The historical data indicates the absence of interior contamination at this property. This information was investigated by performing a walking gamma scan. These areas and the ranges of gamma measurements are shown in Appendix Figure 3.3.

Table 4.1
Area and Volume Calculations
DOE ID No. GJ-07856-RS

AREA	CALCULATIONS(ft)		SF		DEPTH(ft)		CF				CUBIC YARDS
EXTERIOR											
	Contaminated Fill										
A	6 x 3	=	18	x	1.3	=	23				
B	10 x 3	=	30	x	0.5	=	15				
C	5 x 14	=	70	x	0.3	=	21				
D	3 x 82	=	246	x	0.5	=	123				
	TOTAL VOLUME - EXTERIOR					=	182	=	182/27	=	7

See Appendix Figure 3.5 For Areas

Table 4.2
Estimated Cost of Decontamination and Restoration
DOE ID No. GJ-07856-RS Page 1 of 1

EXTERIOR		
Remove identified residual radioactive material		
5 cy @ $14.50/cy (machine-open)	$	73
2 cy @ $44/cy (manual-open)		88
Replace with compacted roadbase		
2 cy @ $11.50/cy		23
Replace topsoil		
5 cy @ $9.50/cy		48
Replace sod		
40 sf @ $.50		20
TOTAL EXTERIOR	$	252
TOTAL INTERIOR		0
ACCESS CONTROL		200
SUBTOTAL	$	452
CONTINGENCY @ 5%		23
SUBTOTAL	$	475
CONTRACTOR OVERHEAD & PROFIT @ 50%		238
GRAND TOTAL	$	713

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REA07856/REA-607/LMR

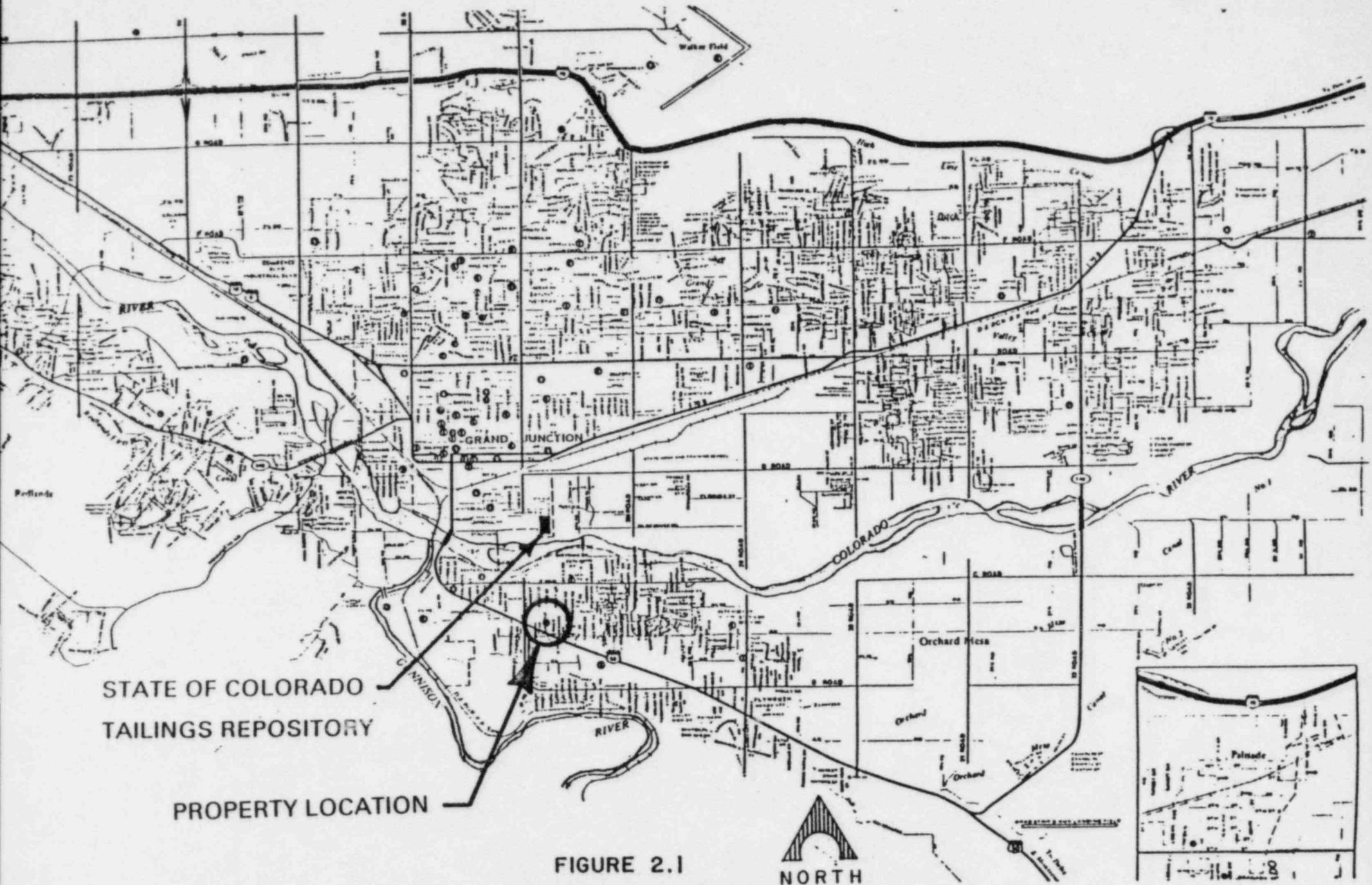
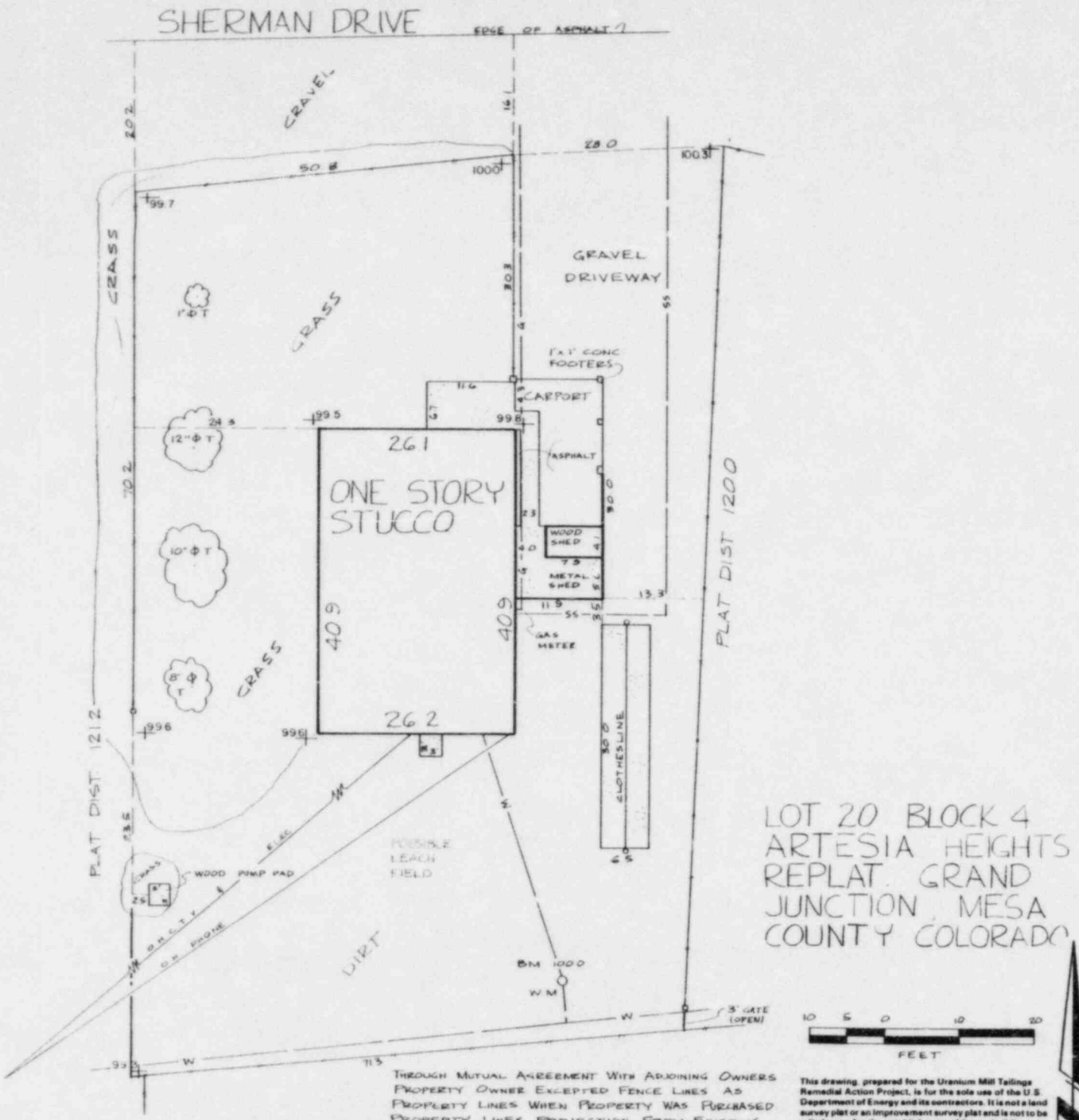


FIGURE 2.1
VICINITY MAP



LOT 20 BLOCK 4
ARTESIA HEIGHTS
REPLAT GRAND
JUNCTION, MESA
COUNTY COLORADO

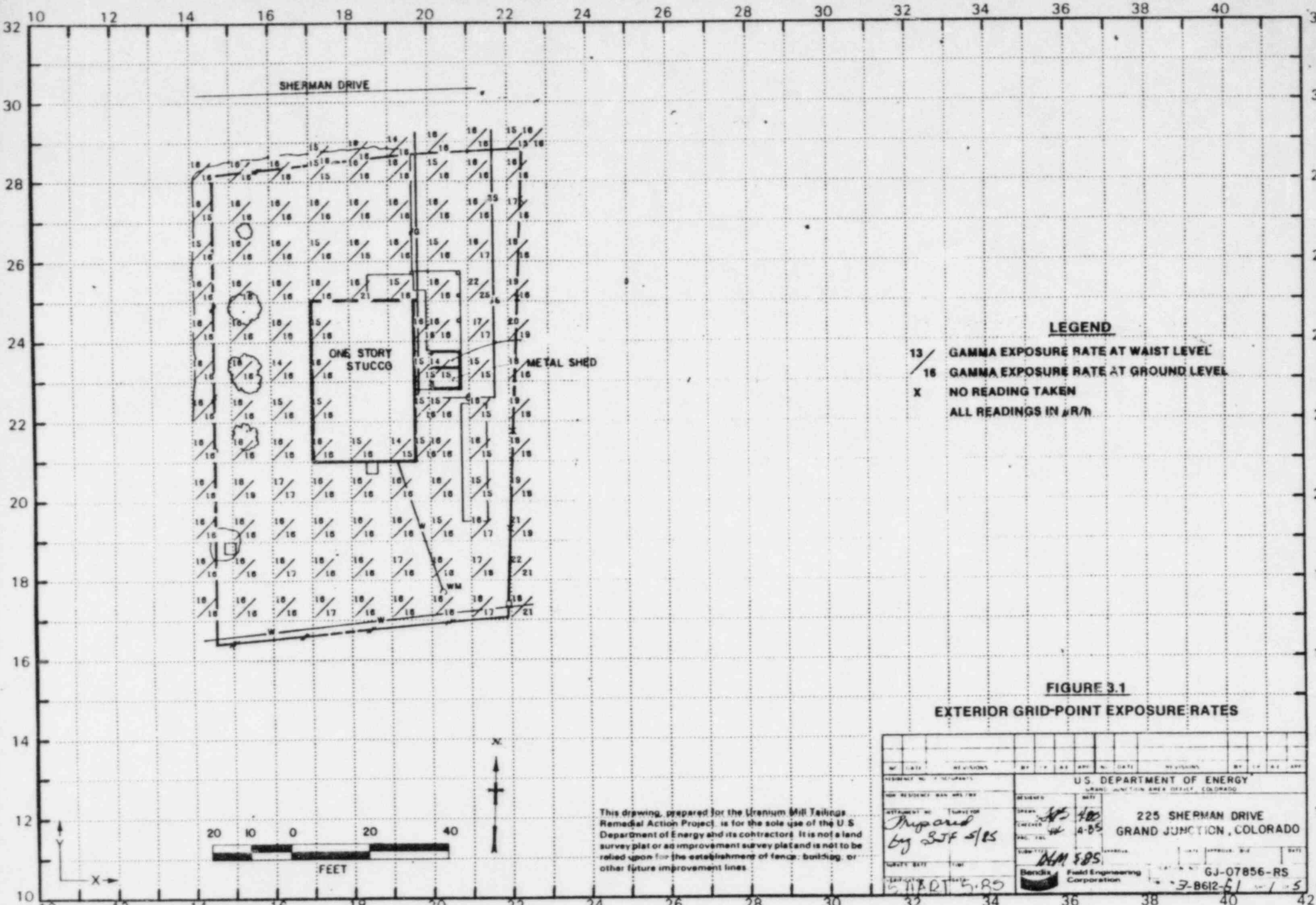
THROUGH MUTUAL AGREEMENT WITH ADJOINING OWNERS PROPERTY OWNER EXCEPTED FENCE LINES AS PROPERTY LINES WHEN PROPERTY WAS PURCHASED PROPERTY LINES PROJECTION FROM EXISTING FENCES

10 5 0 10 20
FEET

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.

FIGURE 2.2 SITE PLAN

U.S. DEPARTMENT OF ENERGY GRAND JUNCTION PROJECT OFFICE, COLORADO	DOE ID NO. GJ 07856 RS
ADDRESS 225 SHERMAN DRIVE GRAND JUNCTION, COLORADO	ALLIED Bendix Aerospace Bendix Field Engineering Corporation Grand Junction Operations
SURV R.L.B/4 10 85 DRAFT T.J./4 15 86	CK CAF 4-15-86
DRAWING NO 3 C G12 F1	SHEET 1 OF 1



LEGEND

13/16 GAMMA EXPOSURE RATE AT WAIST LEVEL / GAMMA EXPOSURE RATE AT GROUND LEVEL

X NO READING TAKEN

ALL READINGS IN μR/h

FIGURE 3.1

EXTERIOR GRID-POINT EXPOSURE RATES

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 AREA OFFICE, COLORADO

225 SHERMAN DRIVE
GRAND JUNCTION, COLORADO

Bendix Field Engineering Corporation

GJ-07856-RS

3-8612-61

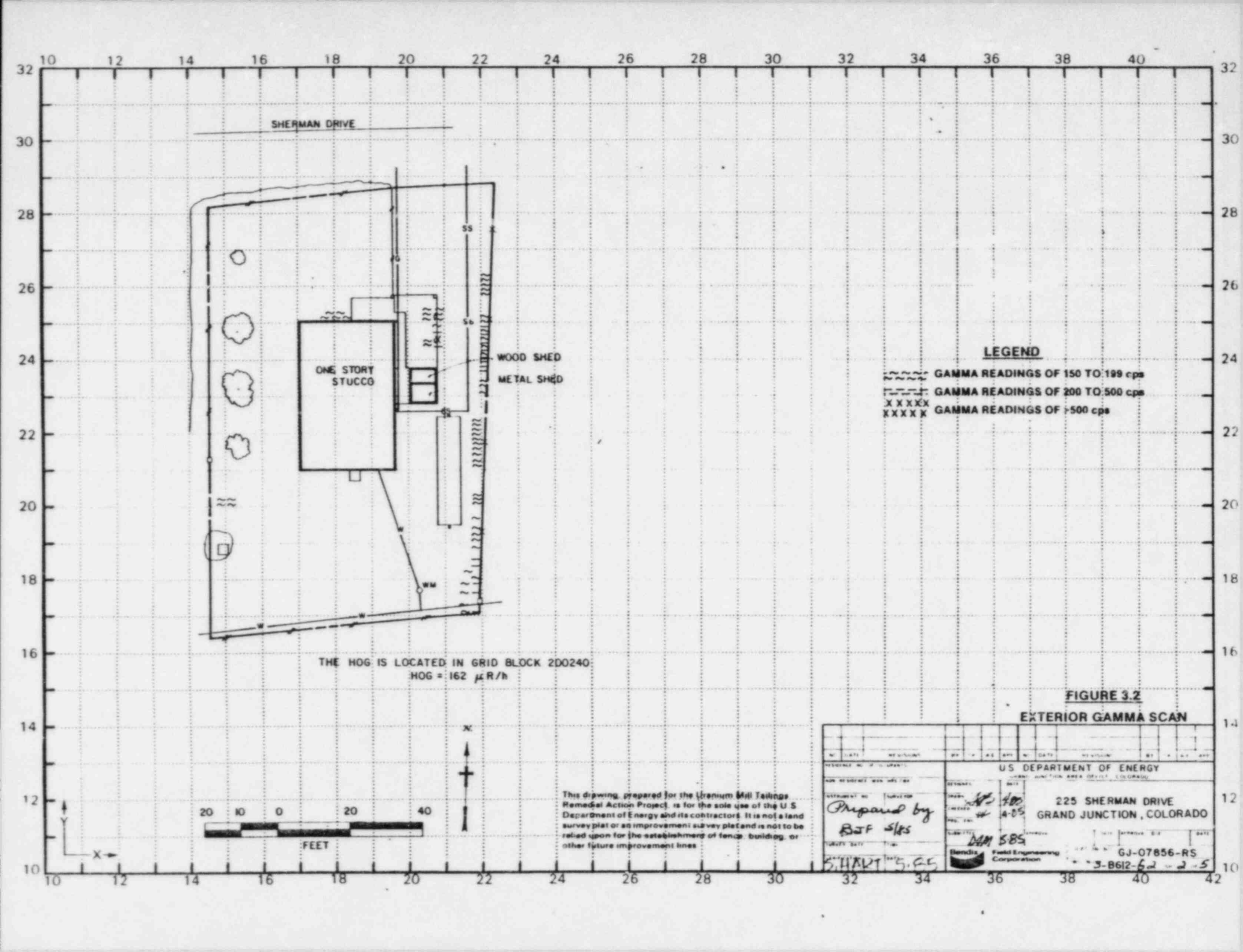


FIGURE 3.2

EXTERIOR GAMMA SCAN

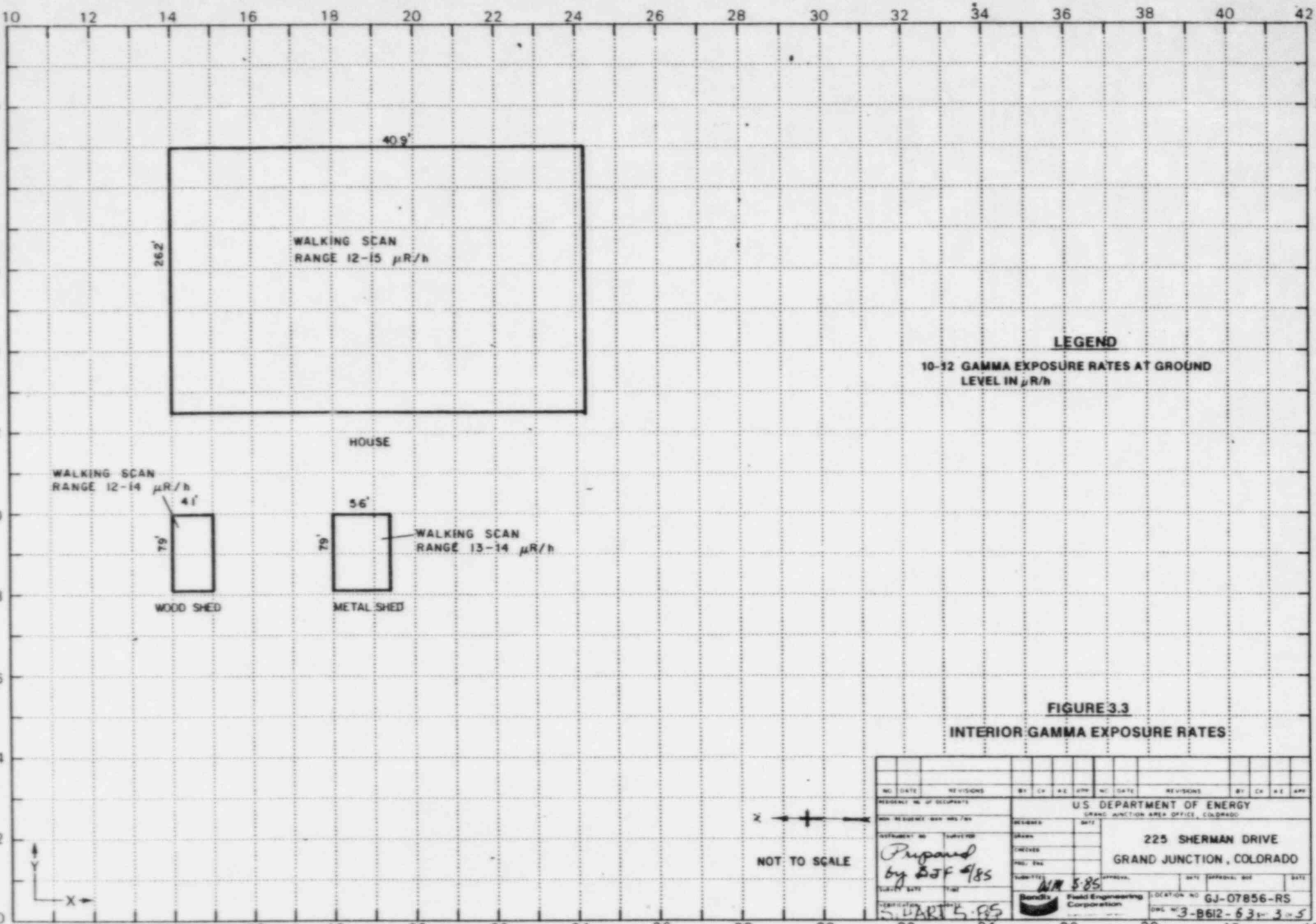


FIGURE 3.3

INTERIOR GAMMA EXPOSURE RATES

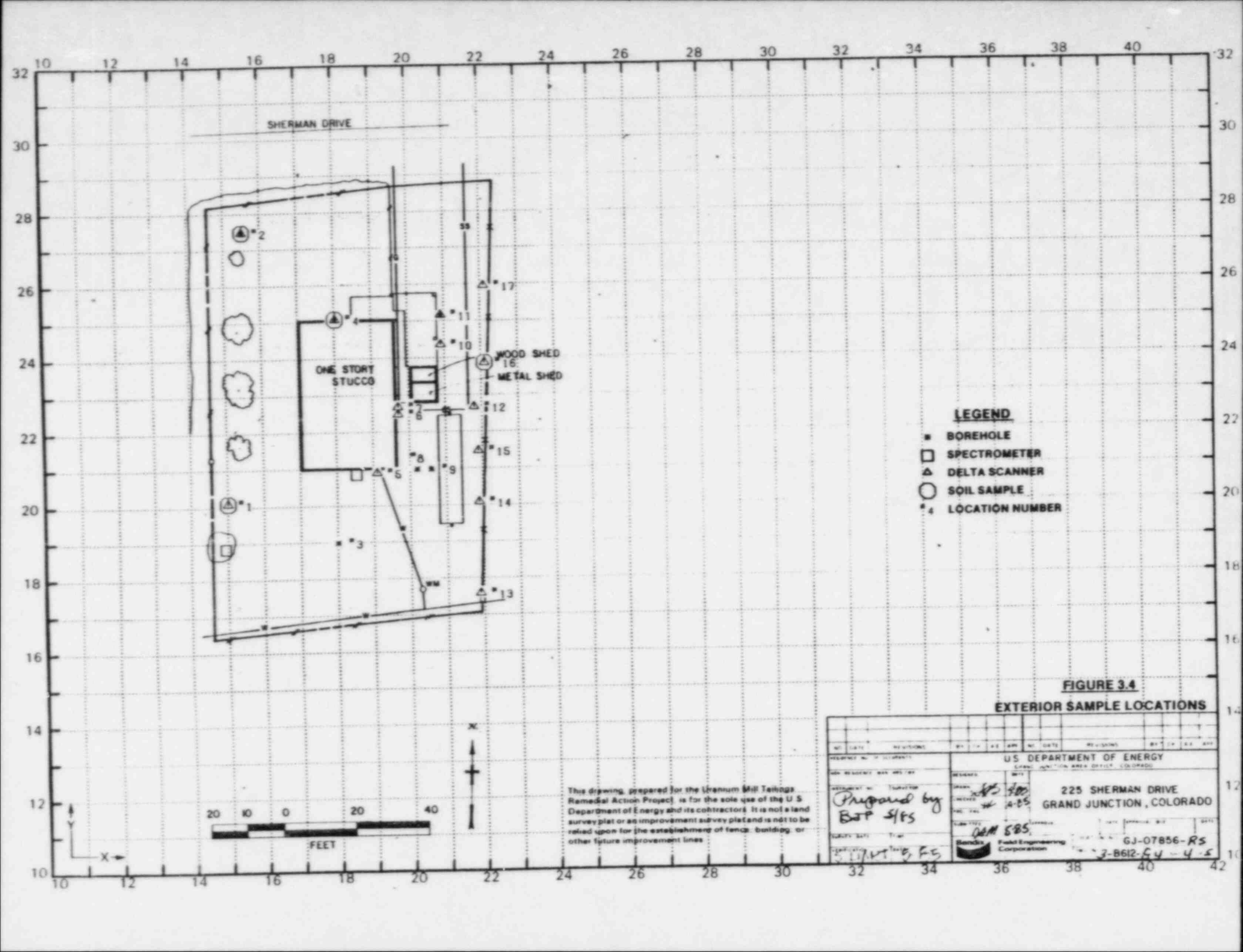


FIGURE 3.4

EXTERIOR SAMPLE LOCATIONS

FIGURE 3.5

EXTERIOR ESTIMATED EXTENT OF CONTAMINATION

3/85

DOE ID NO. GJ-07856-RS Date 5/13/85

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

Official Survey Report

Property Address 225 Sherman Drive

Property Owner Eugene Johnston

Address of Owner (if different from above) _____

Report Prepared By Billie J. Foust

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

1___1 No evidence of residual radioactive material on surveyed property.

1_X_1 Residual ractioactive materials found at the following locations:

1_X_1 In open areas.

1___1 Under or around exterior improvements.

1_X_1 Under or around a typically nonoccupied structure.

1_X_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_X_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 = 162 uR/h

ALLIED Bendix Aerospace

Bendix Field Engineering Corporation
P. O. Box 1569
Grand Junction, CO 81502-1569
Telephone (303) 242-8621
Telex: 454-338

May 13, 1985

Colorado Department of Health
222 South 6th Street
Grand Junction, CO 81501

ATTN: Jon Luellen

Dear Jon:

In response to the Technical Review held by telephone on May 9, 1985, for DOE ID No. GJ-07856-RS, the following comment is in order:

1. The sewer line and the gas line enter the house at approximately the same location.

Thank you for your time and comments. If you have further questions, please call me at 242-8621, ext. 435.

Very truly yours,

Billie J. Foust

Billie J. Foust
RAD Group Leader

Memorandum

ALLIED Bendix Aerospace

Bendix Field Engineering Corporation
Grand Junction Operations
Grand Junction, Colorado

Date: April 24, 1985

To: Files

From: Billie J. Foust BJF

Subject: Technical Review Notes - DOE ID No. GJ-07856-RS (225 Sherman Drive)

Owner: Eugene Johnston
Occupancy: 2
Age of House: Built in 1955
Weather: Sunny and Warm

Field Crew

B. Foust	M. Gilfillan	S. Larsen	T. Ciocco
V. Rothman	B. Wilkins	B. Beltz	V. Young
A. Quintana	S. Southern		

Instruments

Scintillometers: C-3502, C-1163, C-1196
PRS-1 Total Counts: C-3573, C-3959, C-4006
Deltas: C-3937, C-3940
Borehole Spectrometer: None Available

The owner located the abandoned septic tank and leach field. Holes were drilled by these. The sewer, water, and gas lines enter the house at about the same location, therefore holes were dug down to them to avoid rupturing one with the auger.

The owner started digging in search of some clean-out valves. He requested that the hole be left open.

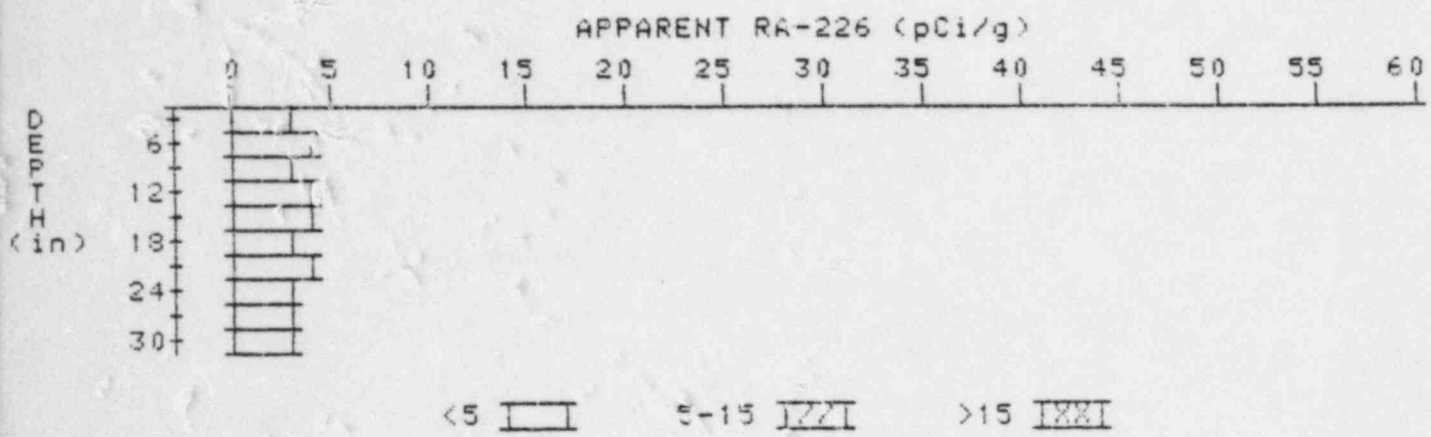
Ore samples were encountered at the east edge of the carport. The ones that could be picked up were taken to the repository, but several small chips remained.

Delta readings were taken along the east fence line to determine the depths of contamination since this was a spillover property. It was anticipated that the depths would be shallow.

All personnel were alpha scanned.

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

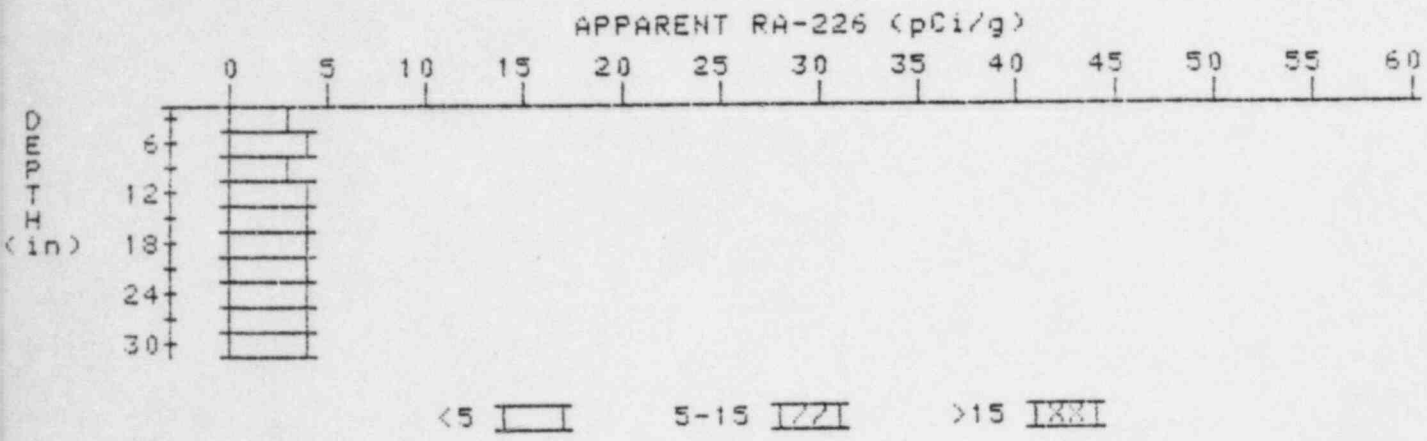
PROPERTY NUMBER: GJ-07856-RS
HOLE NUMBER: 2
LOCATION: 155275



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.2	3.2
6	3.5	4.0
9	3.5	3.3
12	3.6	4.0
15	3.5	3.5
18	3.4	3.2
21	3.4	3.6
24	3.3	3.3
27	3.2	3.2
30	3.1	3.1

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-07856-RS
HOLE NUMBER: 3
LOCATION: 180190

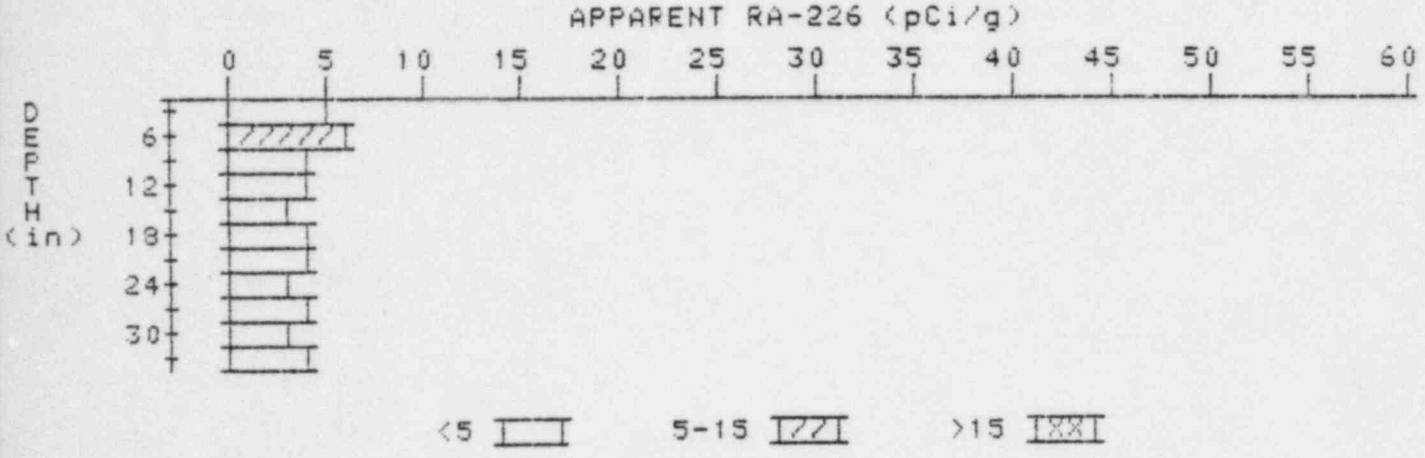


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.4	3.4
6	3.7	4.2
9	3.7	3.3
12	3.9	3.9
15	4.1	4.3
18	4.2	4.4
21	4.2	4.2
24	4.2	4.4
27	4.1	4.3
30	3.9	3.9

DECON V85.1<850117.1233>

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH 4

PROPERTY NUMBER: GJ-07856-RS
HOLE NUMBER: 4
LOCATION: 180251

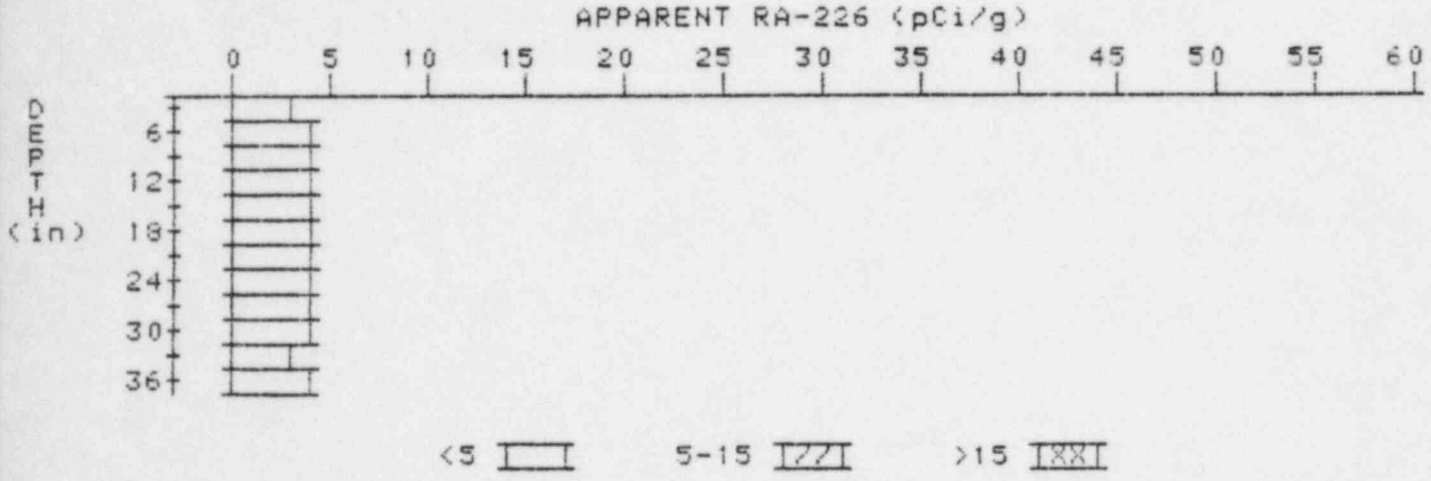


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	4.6	4.6
6	4.8	5.7
9	4.5	4.3
12	4.3	4.5
15	4.0	3.5
18	4.0	4.2
21	3.9	4.1
24	3.7	3.3
27	3.7	3.9
30	3.6	3.1
33	3.8	3.8

DECON V85.1<850117.1233>

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH 8

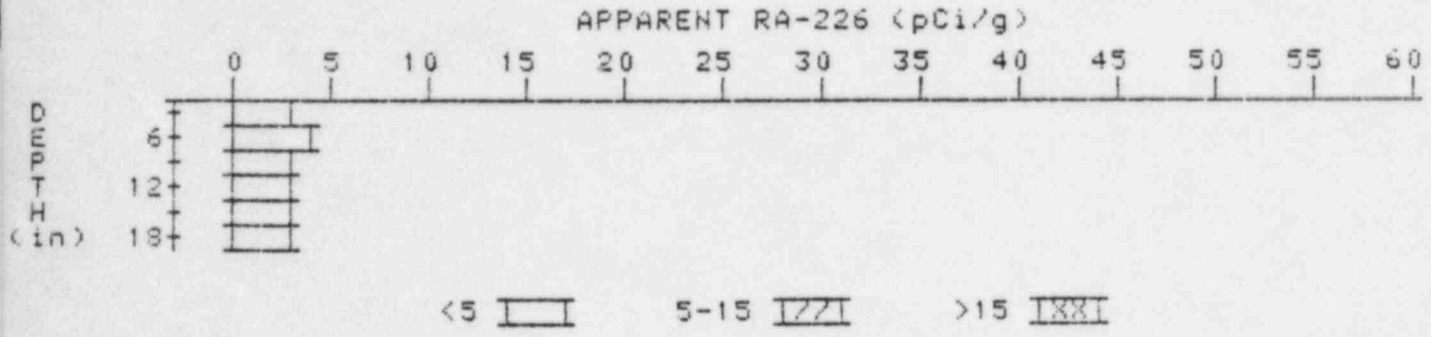
PROPERTY NUMBER: GJ-07356-RS
HOLE NUMBER: 8
LOCATION: 202210



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.1	3.1
6	3.6	4.0
9	3.9	4.1
12	4.1	4.5
15	4.1	4.3
18	4.0	3.8
21	4.0	4.2
24	3.9	4.1
27	3.7	3.5
30	3.6	3.6
33	3.5	3.3
36	3.5	3.5

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-07856-RS
HOLE NUMBER: 9
LOCATION: 206210

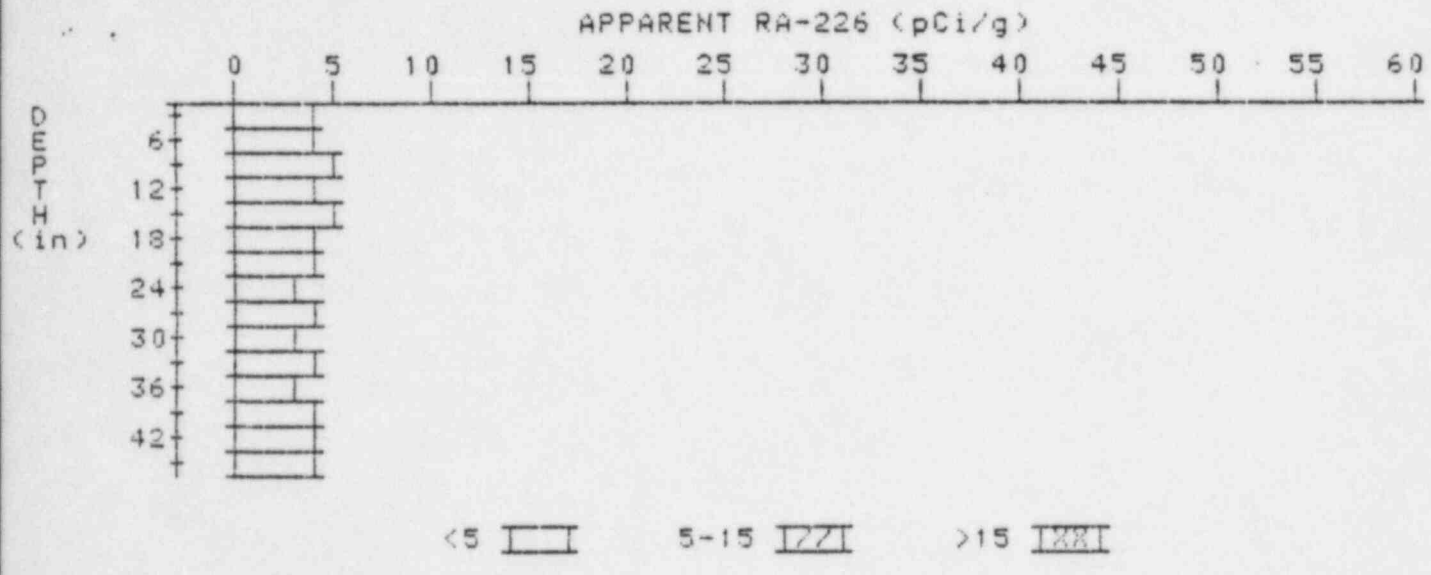


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.0	3.0
6	3.3	3.8
9	3.3	3.5
12	3.2	3.2
15	3.1	2.9
18	3.1	3.1

DECON V85.1<850117.1233>

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH 11

PROPERTY NUMBER: GJ-07856-RS
HOLE NUMBER: 11
LOCATION: 209252



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.9	3.9
6	4.1	4.1
9	4.3	4.7
12	4.3	4.3
15	4.3	4.7
18	4.1	4.1
21	3.9	3.9
24	3.7	3.3
27	3.7	4.1
30	3.5	3.1
33	3.5	3.5
36	3.5	3.3
39	3.6	3.6
42	3.7	4.1
45	3.6	3.6