

**RADIOLOGIC AND ENGINEERING ASSESSMENT**

FOR

DOE ID NO.: GJ-10775-RS  
ADDRESS: 522-1/2 MORNING GLORY LANE

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 24, 1985*

REA10775:REA-510

8507150425 850625  
PDR WASTE  
WM-54 PDR

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## **1.0 EXECUTIVE SUMMARY**

### **1.1 Introduction**

The location, DOE ID No. GJ-10775-RS, is a single-family residence located at 522-1/2 Morning Glory Lane, Grand Junction, Colorado.

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

### **1.2 Evaluation and Recommendation**

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

## 2.0 PROPERTY DESCRIPTION

### 2.1 General Description

Address: 522-1/2 Morning Glory Lane, Grand Junction, Colorado

Zoning: Residential (R-4)

Lot Size: Approximately 9,600 sf (0.2 acre)

Legal Description: Beginning 170 Ft West and 1119.2 Ft North of SE Corner, SW1/4 SW1/4, Section 8, T1S, R1E, North 60 Ft, West 160 Ft, South 60 Ft, East to Beginning, excluding West 20 Ft, 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:	Single-family residence
South:	Single-family residence
East:	Single-family residence
West:	Morning Glory Lane

### 2.2 Existing Facilities and Structures

Primary Structure:

Type:	Single-story residence
Size:	Approximately 876 sf
Construction Date:	1951
Construction:	Wood-frame
Foundation:	Concrete stemwall on spread footing
Footing Depth:	Approximately 18" to bottom of footing from grade
Basement:	None
Crawl Space:	Yes - under entire living area
Condition:	Good

Other Structures:     None

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-10775-RS on May 28, 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 the inclusion data from Oak Ridge National Laboratory (ORNL) was conducted. These records indicate contamination associated with the sidewalk west of the primary structure, and in two areas along the south property 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, 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: 12 to 15 uR/h  
Highest Outside Gamma Reading (HOG): 36 uR/h

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

##### 3.2.2 Interior Findings

Background Readings: 13 to 16 uR/h  
Highest Inside Gamma Reading (HIG): 16 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)

Determined by CDH: 0.013 gross working level (WL). No additional 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) The 4-inch-thick contaminated concrete sidewalk west of the primary structure is underlain with tailings material. The total depth of contamination is 12 inches (approximately 39 sf).
- (AREA B) The lawn adjacent to Area A is contaminated to a depth of 6 inches (approximately 13 sf).
- (AREA C) The flower bed adjacent to Area A is contaminated to an estimated depth of 6 inches, based on data collected in Area B (approximately 10 sf).
- (AREA D) A small area of the gravel driveway is contaminated to a depth of 9 inches (approximately 18 sf).
- (AREA E) The dirt along the south property line is contaminated to an estimated depth of 9 inches, based on data collected in Area D. The contamination extends under a pickup truck bed, used as a trash receptacle (approximately 75 sf).

NOTE: Area E was surveyed for possible spillover onto the adjacent property and no spillover was found. A discussion of this survey is presented in paragraph 4, page 2, of the May 29, 1985 team leader notes (contained in the Appendix of this REA).

#### 4.0 RECOMMENDED REMEDIAL ACTION

##### 4.1 Decontamination and Restoration

We do not recommend decontamination and restoration of this property. It is recommended that no remedial action be performed and that a brief Property Completion Report be prepared for use in the DOE certification process.

##### 4.2 Evaluation of Recommended Remedial Action

The recommendation that no remedial action be performed on this property is made because the levels of radioactivity on this property fall below the EPA Standards (40 CFR 192):

The concentration of Radium-226 in soil averaged over any area of 100 square meters shall not exceed the background level by more than

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

Appendix Table 4.1 presents the area and volume calculations of contamination present on the property. Appendix Table 4.2 presents the calculations for concentrations of Radium-226 in soil for this location.



## 5.0 REFERENCES

ARIX, A Professional Corporation, Procedures Manual for the Grand Junction Remedial Action Program, for Colorado Department of Health, Radiation Control Division, and the U.S. Department of Energy, 1983.

Bendix Field Engineering Corporation, Procedures Manual Radiologic Support Operations Grand Junction Vicinity Properties, (GJ-07), for U.S. Department of Energy, UMTRA Project Office, Albuquerque Operations Office, Albuquerque, New Mexico, 1984.

Bendix Field Engineering Corporation, Engineering, Construction, and Land Support Manual Grand Junction Vicinity Properties Project, (GJ-08), for U.S. Department of Energy, UMTRA Project Office, Albuquerque Operations Office, Albuquerque, New Mexico, 1984.

Bendix Field Engineering Corporation, Grand Junction Vicinity Properties Operating Manual, (GJ-16) for U.S. Department of Energy, Nuclear Energy Programs, Division of Remedial Action Projects, UMTRA, 1984.

Bendix Field Engineering Corporation, Vicinity Properties General Construction Specification, for U.S. Department of Energy, Nuclear Energy Programs, Division of Remedial Action Projects, UMTRA, 1984.

Bendix Field Engineering Corporation, Environmental Assessment of Preliminary Cleanup Activities at Offsite Properties Contaminated by Tailings from the Grand Junction Inactive Uranium Millsite, (GJ-04), for U.S. Department of Energy, UMTRA Project Office, Albuquerque Operations 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 3.2	Summary of Interior Gamma Exposure Rates
Table 4.1	Area and Volume Calculations
Table 4.2	Calculation for Concentrations of Radium-226 in Soil

Appendix Figures:

Figure 2.1	Vicinity Map
Figure 2.2	Site Plan
Figure 3.1	Exterior Grid-Point Exposure Rates
Figure 3.2	Sample Locations
Figure 3.3	Estimated Extent of Contamination

Official Survey Report

Exterior Gamma Scan Field Map

Memo of Understanding

Team Leader Notes

Deconvolution Graphs (Apparent Radium-226 Concentration)

## Radium Concentrations at Exterior Locations

DOE ID #GJ-10775-RS

522 1/2 Morning Glory Lane

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	163250	00	DS	4.6		*	Lawn by sidewalk
		03	TC	4.0		*	
		06	BH	4.3	2.3	*	DC = 6 inches
		09	TC	4.4		*	Based on all
		12	BH	4.4	2.2	*	available data
		15	TC	4.3		*	
		18	TC	4.4		*	
		21	TC	4.3		*	
		24	BH	4.2	1.9	*	
		27	TC	4.2		*	
		30	TC	4.2		*	
		33	TC	4.4		*	
		36	TC	4.2		*	
2	163255	00	DS	2.2		*	Water line
		03	TC	4.1		*	
		06	TC	4.7		*	
		09	TC	4.9		*	DC = 6 inches
		12	TC	4.6		*	Based on all
		15	TC	4.5		*	available data
		18	TC	4.4		*	
		21	TC	4.3		*	
		24	TC	4.2		*	
		27	TC	4.1		*	
		30	TC	4.2		*	
		33	TC	4.1		*	
		36	TC	4.2		*	
		39	TC	4.2		*	
		42	TC	4.0		*	
		45	TC	3.9		*	
		48	TC	4.0		*	
		51	TC	3.9		*	
		54	TC	3.9		*	
3	165250	00	DS	19.6		*	Concrete sidewalk
		03	TC	23.7		*	
		06	BH	25.8	16.7	*	DC = 12 inches
		09	TC	15.8		*	Based on all
		12	BH	10.4	5.5	*	available data

## Radium Concentrations at Exterior Locations

DOE ID #GJ-10775-RS

522 1/2 Morning Glory Lane

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.		
3	165250	15	TC	6.6		*	
		18	TC	5.6		*	
		21	TC	5.0		*	
		24	BH	4.7	2.4	*	
		27	TC	4.4		*	
		30	TC	4.5		*	
		33	TC	4.5		*	
		36	TC	4.6		*	
		39	TC	4.8		*	
		42	TC	4.3		*	
4	168258	00	DS	1.2		*	Concrete stoop
5	183243	00	DS	1.6		*	Gas line
		24	DS	<1.0		*	
6	189271	00	DS	1.5		*	North foundation
		03	TC	3.3		*	
		06	TC	3.7		*	
		09	TC	4.0		*	DC = 0 inches
		12	BH	3.9	1.2	*	
		15	TC	3.9		*	
		18	TC	3.8		*	
		21	TC	3.8		*	
		24	TC	3.8		*	
		27	TC	3.7		*	
		30	TC	3.8		*	
		33	TC	3.9		*	
		36	TC	4.0		*	
		39	TC	3.8		*	
		42	TC	3.6		*	
		45	TC	3.7		*	
		48	BH	3.6	1.7	*	
		51	TC	3.6		*	
		54	TC	3.6		*	
		57	TC	3.6		*	
7	206254	00	DS	1.8		*	East foundation
		03	TC	3.1		*	DC = 0 inches
		06	TC	3.6		*	

## Radium Concentrations at Exterior Locations

DOE ID #GJ-10775-RS

522 1/2 Morning Glory Lane

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.		
7	206254	09	TC	4.0		*	
		12	TC	4.1		*	
		15	TC	4.2		*	
		18	TC	4.1		*	
		21	TC	4.1		*	
		24	TC	4.0		*	
		27	TC	4.0		*	
		30	TC	4.1		*	
		33	TC	4.1		*	
		36	TC	4.1		*	
8	216234	00	DS	11.0		*	East end of gravel driveway
		03	TC	6.9		*	
		06	TC	7.9		*	
		09	TC	6.2		*	DC = 9 inches
		12	TC	5.2		*	Based on the
		15	TC	4.5		*	deconvolution graph
		18	TC	4.3		*	
		21	TC	4.0		*	
		24	TC	4.1		*	
		27	TC	4.0		*	
		30	TC	4.1		*	
		33	TC	4.2		*	
9	220260	00	DS	1.3		*	Background location
		03	TC	3.0		*	
		06	TC	3.4		*	
		09	TC	3.7		*	DC = 0 inches
		12	BH	3.9	1.4	*	
		15	TC	4.0		*	
		18	TC	4.0		*	
		21	TC	4.0		*	

## Radium Concentrations at Exterior Locations

DOE ID #GJ-10775-RS

522 1/2 Morning Glory Lane

Page 4 of 4

Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
10	243233	00	DS	<1.0		*	By truck bed
		03	TC	3.7		*	
		06	TC	4.0		*	
		09	TC	4.0		*	DC = 9 inches
		12	TC	4.1		*	Based on all
		15	TC	4.2		*	available data
		18	TC	4.3		*	
		21	TC	4.1		*	
		24	TC	4.1		*	
		27	TC	4.2		*	
		30	TC	4.3		*	
		33	TC	4.3		*	

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 = 05-28-85  
Team Leader = CRK

Table 3.2

## Summary of Interior Gamma Exposure Rates

DOE ID #GJ-10775-RS 522 1/2 Morning Glory Lane 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)
PRIMARY STRUCTURE	31	13-16	14	32	13-16	15

Table 4.1  
Area and Volume Calculations  
DOE ID No. GJ-10775-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	3 x 13 =	39	x 0.3 =	12	
	Volume of Concrete			<u>12</u>	= 12/27 = 0.4
	Contaminated Fill				
A	3 x 13 =	39	x 0.7 =	27	
B	1 x 13 =	13	x 0.5 =	7	
C	1 x 10 =	10	x 0.5 =	5	
D	6 x 3 =	18	x 0.8 =	14	
E	15 x 5 =	75	x 0.8 =	60	
				<u>113</u>	= 113/27 = 4
	TOTAL VOLUME - EXTERIOR				= <u>4</u>

NOTE: Total square feet of Areas A through E = 155  
155 square feet = 14.2 square meters

See Appendix Figure 3.3 For Areas

=====



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

Where

- $C_{avg}$  = Concentration average (pCi/g)
- $C_c$  = Concentration of Contamination (pCi/g)
- $A_c$  = Area of Concentration ( $m^2$ )
- $C_b$  = Background Concentration (pCi/g)

$$C_{avg} = \frac{25.8 \times 14.2 + 2 (100 - 14.2)}{100}$$

$$C_{avg} = 5.4 < 7$$

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

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

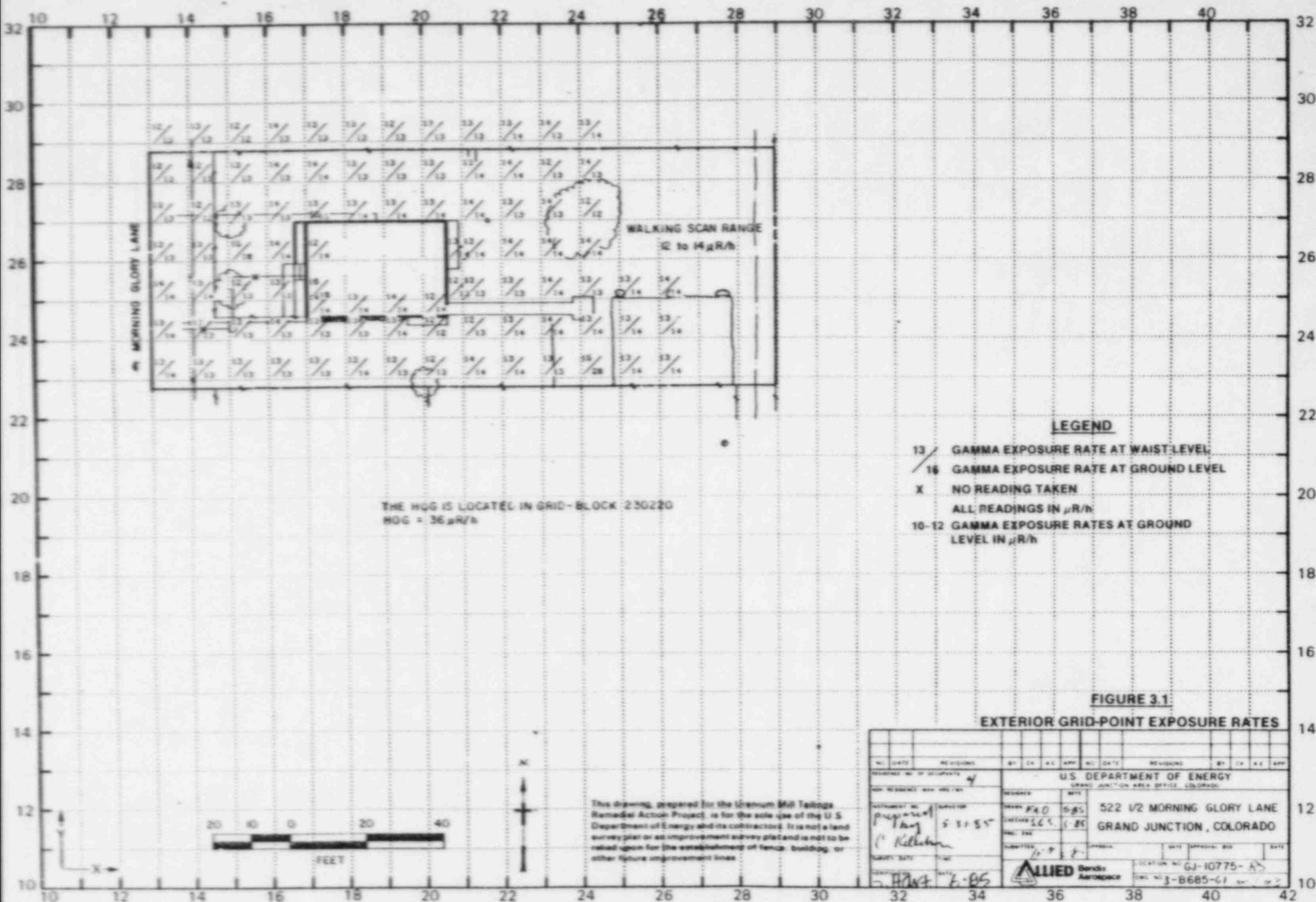
The map shows the Grand Junction area in the State of Colorado. Key features include:

- Streets:** A dense grid of streets is shown, including major roads like F K Road, Music Ln, Workman Rd, and Industrial Blvd. Other streets include 25th St, 26th St, 27th St, 28th St, 29th St, 30th St, 31st St, 32nd St, 33rd St, 34th St, 35th St, 36th St, 37th St, 38th St, 39th St, 40th St, 41st St, 42nd St, 43rd St, 44th St, 45th St, 46th St, 47th St, 48th St, 49th St, 50th St, 51st St, 52nd St, 53rd St, 54th St, 55th St, 56th St, 57th St, 58th St, 59th St, 60th St, 61st St, 62nd St, 63rd St, 64th St, 65th St, 66th St, 67th St, 68th St, 69th St, 70th St, 71st St, 72nd St, 73rd St, 74th St, 75th St, 76th St, 77th St, 78th St, 79th St, 80th St, 81st St, 82nd St, 83rd St, 84th St, 85th St, 86th St, 87th St, 88th St, 89th St, 90th St, 91st St, 92nd St, 93rd St, 94th St, 95th St, 96th St, 97th St, 98th St, 99th St, 100th St.
- Landmarks:** The Grand River is shown flowing through the area. Other landmarks include the Grand Junction Airport, the Grand Junction Water Treatment Plant, and the Grand Junction Sewerage Plant.
- Property Location:** A specific location is marked with a circle and labeled "PROPERTY LOCATION".
- State of Colorado:** The text "STATE OF COLORADO" is printed at the bottom of the map.
- North Arrow:** A north arrow is located in the bottom right corner of the map.

STATE OF COLORADO  
- TAILINGS REPOSITORY








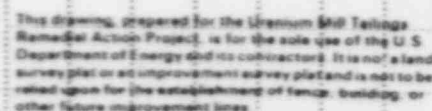




ONE STORY FRAME

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

ESTIMATED EXTENT OF CONTAMINATION



**ALLIED** Bendix  
Aerospace

LOC: ON NO GJ-10775-A5  
DWC: NO J-B685-G 3<sub>50</sub>



3/85

DOE ID NO. GJ-10775-RS

Date May 30, 1985

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

Official Survey Report

Property Address 522 1/2 Morning Glory Lane

Property Owner Edward and Edna Ryken

Address of Owner (if different from above) 519 29 1/4 Rd.

Report Prepared By Cathy Kelleher

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.

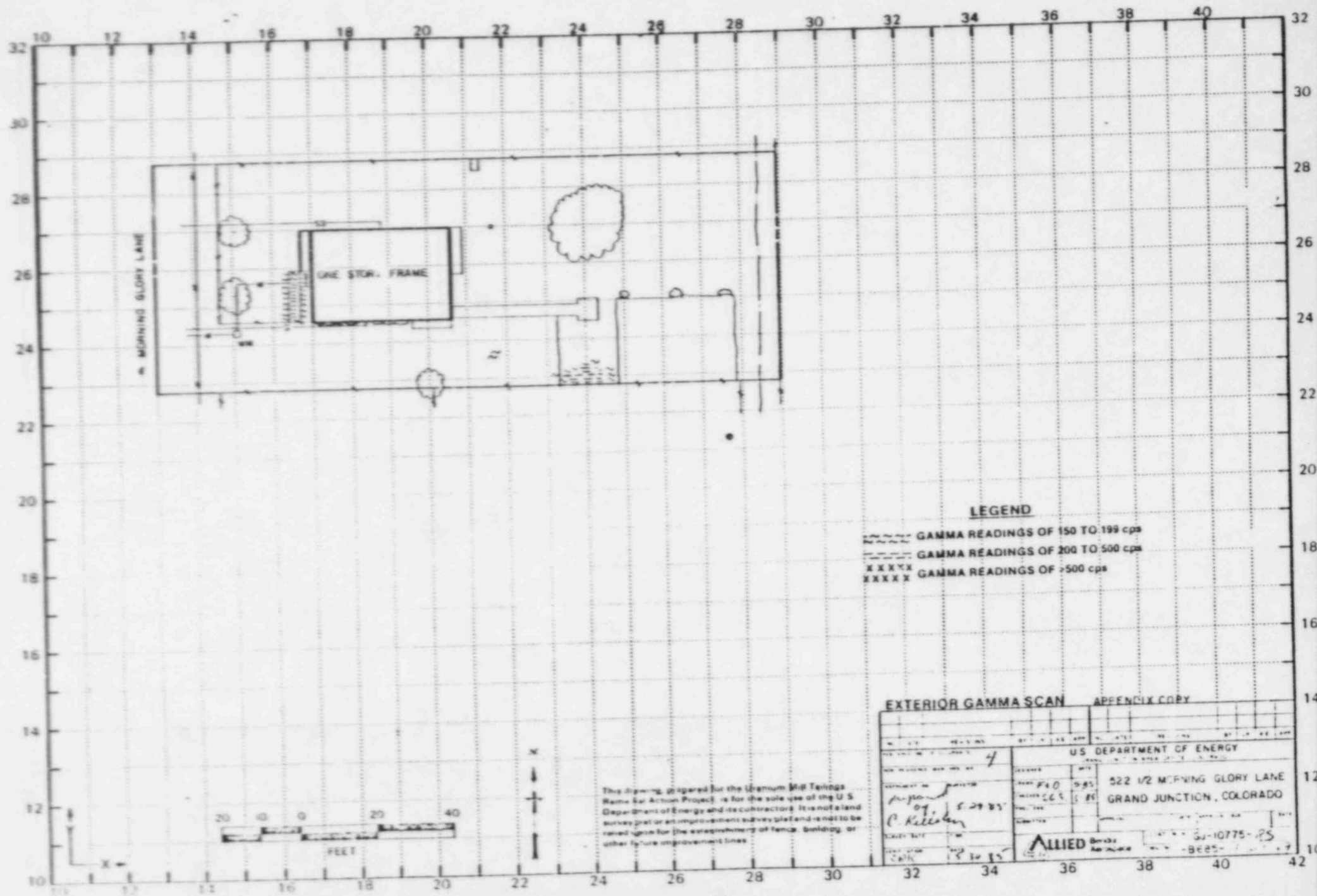
☒ Levels of radiation from residual radioactive materials exceed EPA Standards such that Remedial Action is recommended and will be accomplished, with your consent, as soon as budget and schedule permit.

cc:

G. A. Franz, III, GJ/CDH

J. Themelis, Mgr. UMTRA Proj. Off.

HIG = 16 uR/h  
HOG = 16 uR/h





June 6, 1985

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

ATTN: Jon Luellen

Dear Jon:

The following is in response to your questions and comments during the Technical Review concerning Department of Energy (DOE) Identification (ID) number GJ-10775-RS (522 1/2 Morning Glory Lane).

The working level has been changed.

Thank you for your time and cooperation. If you should have additional questions or comments you may contact me at 242-8621, extension 432.

Sincerely,

Cathy Kelleher  
RSD Survey Team Leader

CK:pr

ALLIED Bendix  
Aerospace

Bendix Field Engineering Corporation  
Grand Junction Operations  
Grand Junction, Colorado

Date: May 29, 1985

To: Files

From: Cathy Kelleher

Subject: Team Leader Notes - GJ-10775-RS

Address: 522-1/2 Morning Glory Lane

Owners: Edward and Edna Ryken

Tenants: Joe Chaney

Telephone: 242-6002

Occupancy: Four

Team Members

C. Kelleher (Team Leader)  
P.J. Bonner  
R. Herman  
V. Young  
C. Adams  
M. Gilfillan

A. Raabe  
N. Wallace  
H. Mattison  
M. Dexter  
V. Rothman

Instruments

See Equipment Summary Sheet.

The property is a rental. The tenant's name and telephone number were not given in the background information.

The primary structure is a single story frame house with no crawl space.

The background information from Oak Ridge National Laboratory (ORNL) showed contamination in the sidewalk west of the primary structure, and along the south property line. This was confirmed by our scan.

The east end of the property was walking scanned and showed a range of 90 to 120 cps.

Scanning in the east yard was difficult because of tree limbs trimmed from a large willow.

The contamination along the south property line appeared to spillover onto 522 Morning Glory Lane. A consent for access form was signed by the homeowner and the adjacent area was investigated. Readings ranging 150 to 160 cps on a 3-foot square area were noted, and appeared to be shine. Therefore, a spillover memo will not be generated for this property. The spillover maps and consent form will be retained in the folio.

A core was augered through the east sidewalk. Location 220260 was an auger refusal because of a large hard object (tree root or rock) in the hole.

#### Utilities

Gas Line: A delta was taken in the shovel hole over the gas line.

Sewer and Water Lines: Auger holes were drilled adjacent to the house, where the maps showed these lines as exiting. There was no crawl space so there was no way to confirm their actual location.

A complete interior survey was performed but no readings above background were found.

The east property line is shown as extending 10 feet into the street (Morning Glory Lane).

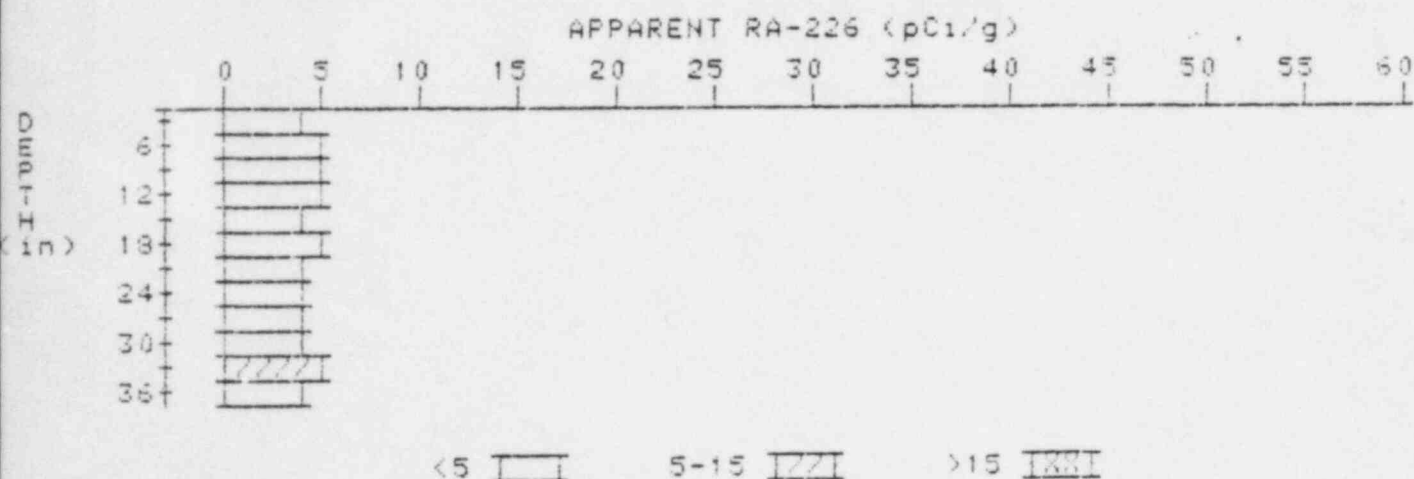
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

1

PROPERTY NUMBER: GJ-10775-RS

HOLE NUMBER: 1

LOCATION: 163250

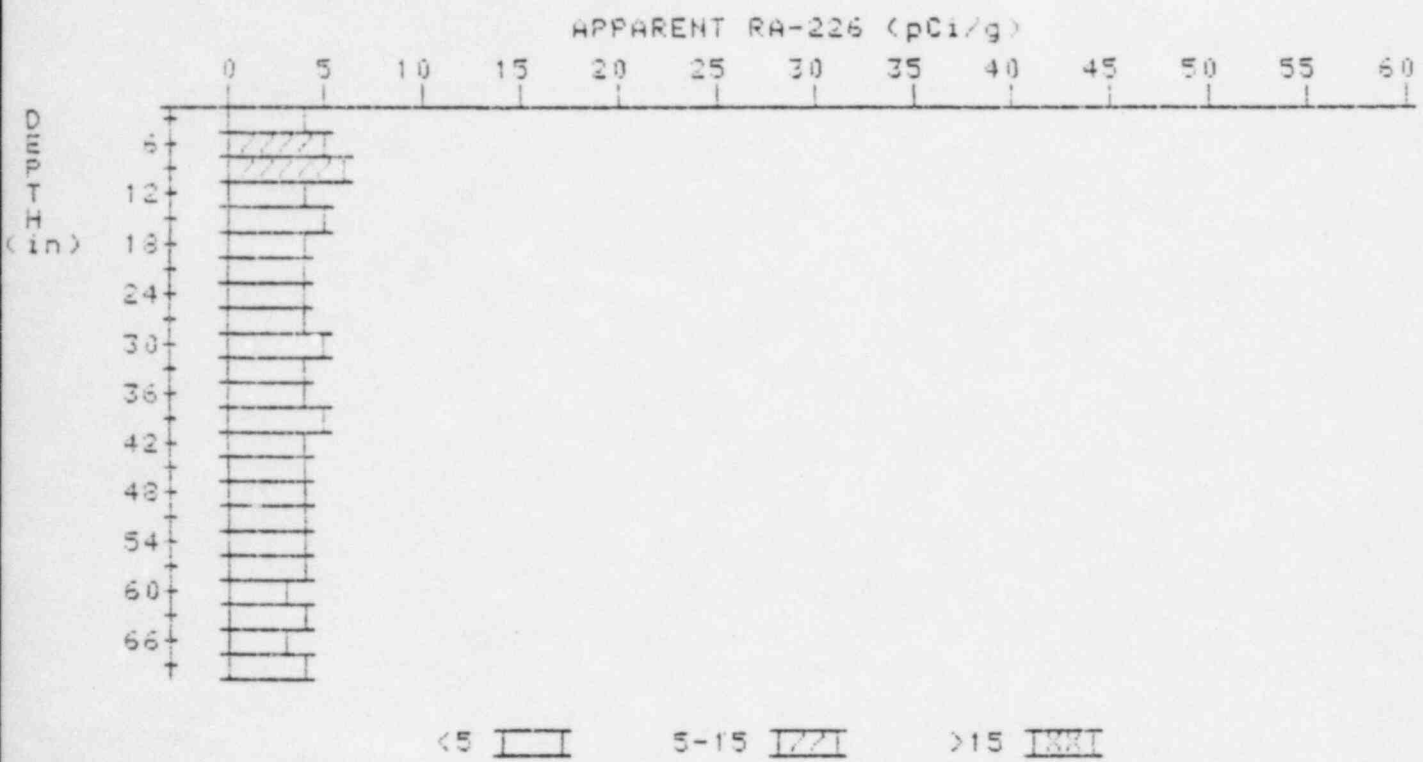


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	4.0	4.0
6	4.3	4.7
9	4.4	4.6
12	4.4	4.6
15	4.3	3.9
18	4.4	4.8
21	4.3	4.3
24	4.2	4.0
27	4.2	4.2
30	4.2	3.8
33	4.4	5.1
36	4.2	4.2

# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

2

PROPERTY NUMBER: GJ-10775-RS  
HOLE NUMBER: 2  
LOCATION: 163255



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	4.1	4.1
6	4.7	5.4
9	4.9	5.6
12	4.6	4.2
15	4.5	4.5
18	4.4	4.4
21	4.3	4.3
24	4.2	4.2
27	4.1	3.7
30	4.2	4.6
33	4.1	3.7
36	4.2	4.4
39	4.2	4.6
42	4.0	3.6
45	3.9	3.5

4.8  
5.1  
5.4  
5.7  
6.0  
6.3  
6.6  
6.9

4.0  
3.9  
3.9  
3.8  
3.7  
3.6  
3.7  
3.8

4.4  
3.7  
4.1  
3.8  
3.3  
4.2  
3.3  
3.6

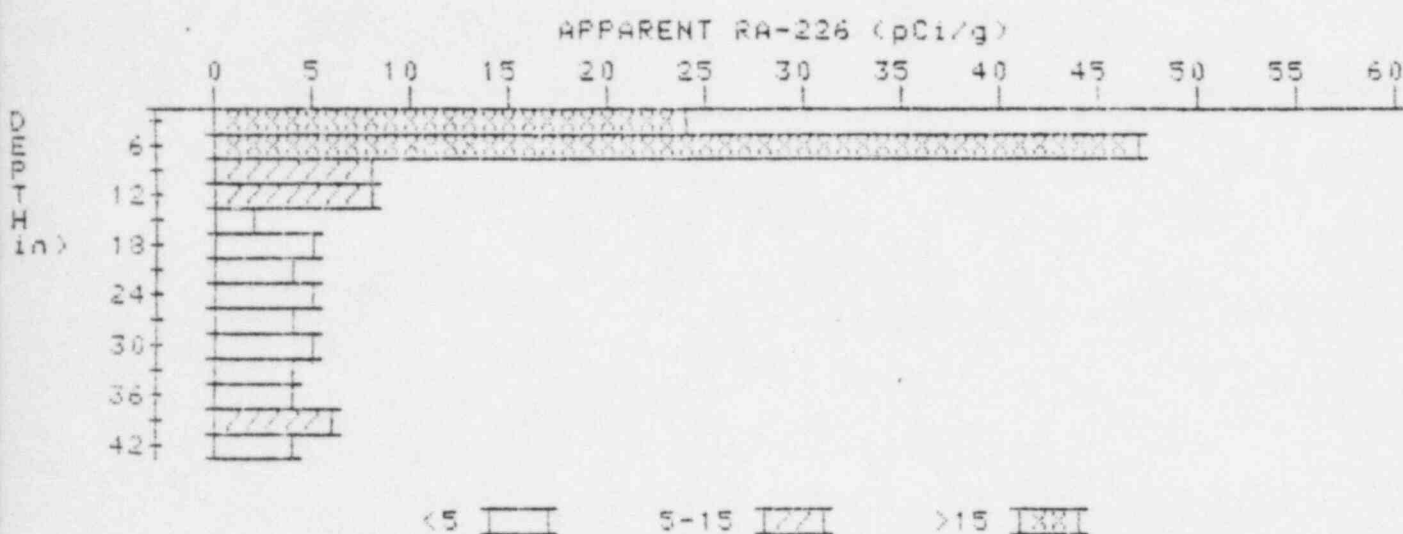
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

3

PROPERTY NUMBER: GJ-10775-RS

HOLE NUMBER: 3

LOCATION: 165250



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	23.7	23.7
6	25.8	47.3
9	15.8	7.6
12	10.4	7.6
15	6.6	1.6
18	5.6	4.9
21	5.0	4.5
24	4.7	4.7
27	4.4	3.7
30	4.5	4.7
33	4.5	4.3
36	4.6	4.4
39	4.8	6.0
42	4.3	4.3

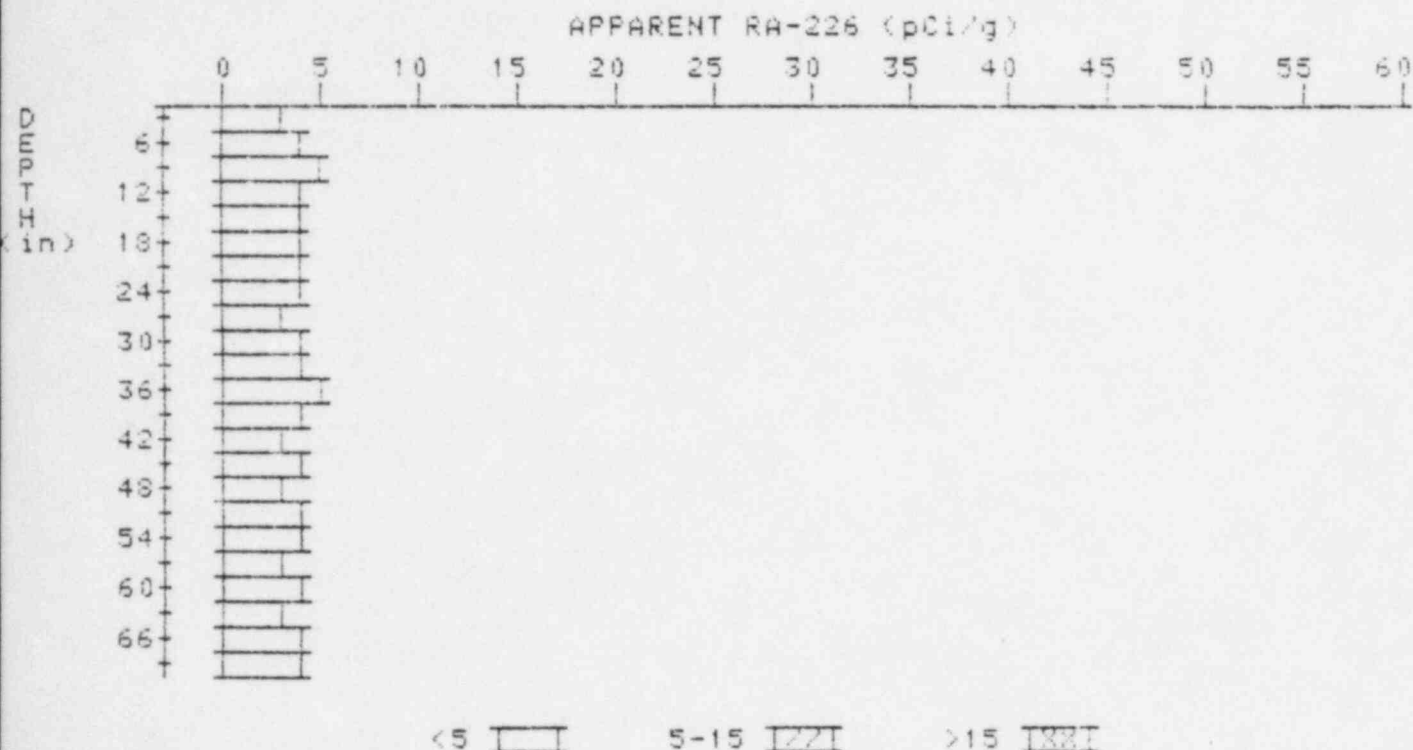
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

6

PROPERTY NUMBER: GJ-10775-R3

HOLE NUMBER: 6

LOCATION: 189271



Depth (in)	Apparent Radium-226 (pCi/g)	Apparent Radium-226 (pCi/g)
	Undeconvolved	Deconvolved
3	3.3	3.3
6	3.7	3.9
9	4.0	4.7
12	3.9	3.7
15	3.9	4.1
18	3.8	3.6
21	3.8	3.8
24	3.8	4.0
27	3.7	3.8
30	3.8	3.8
33	3.9	3.9
36	4.0	4.6
39	3.8	3.8
42	3.6	3.1
45	3.7	4.1



48  
51  
54  
57  
60  
63  
66  
69

3.6  
3.6  
3.6  
3.6  
3.7  
3.6  
3.7  
3.7

3.4  
3.6  
3.6  
3.4  
4.1  
3.0  
3.9  
3.7

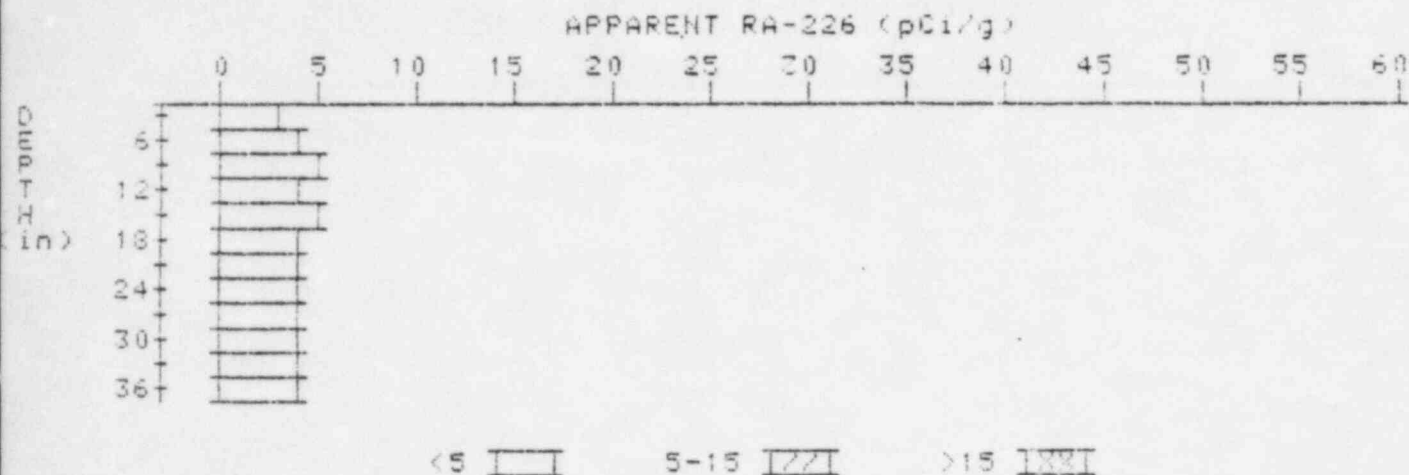
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

7

PROPERTY NUMBER: GJ-10775-R3

HOLE NUMBER: 7

LOCATION: 206254



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.1	3.1
6	3.6	3.6
9	4.0	4.5
12	4.1	4.1
15	4.2	4.6
18	4.1	3.9
21	4.1	4.3
24	4.0	3.8
27	4.0	3.8
30	4.1	4.3
33	4.1	4.1
36	4.1	4.1

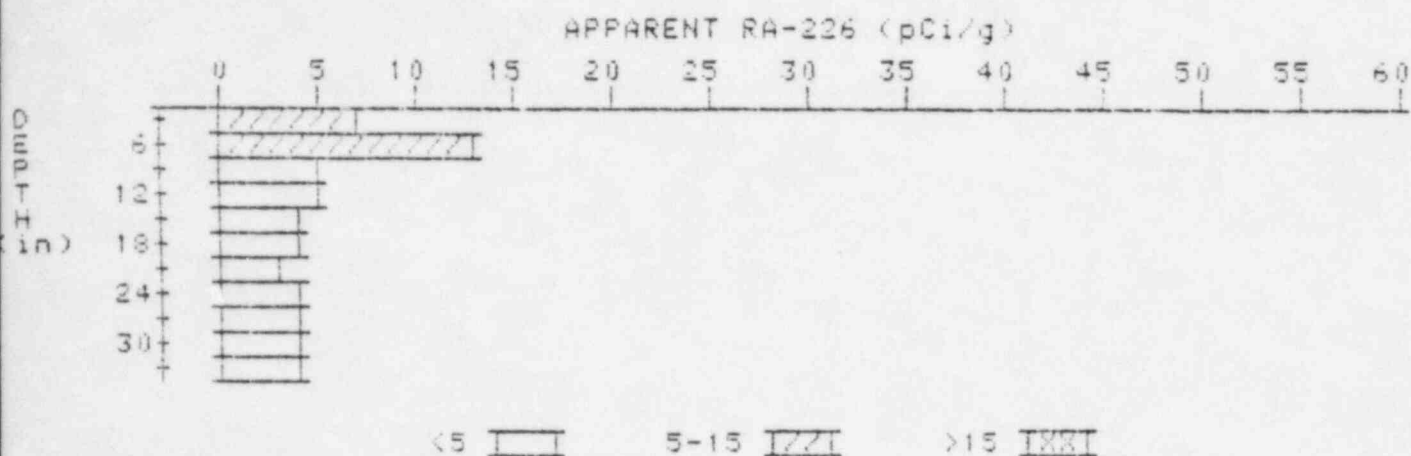
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

8

PROPERTY NUMBER: GJ-10775-RS

HOLE NUMBER: 8

LOCATION: 216234



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	6.9	6.9
6	7.9	12.7
9	6.2	5.0
12	5.2	4.7
15	4.5	3.6
18	4.3	4.5
21	4.0	3.3
24	4.1	4.5
27	4.0	3.6
30	4.1	4.1
33	4.2	4.2

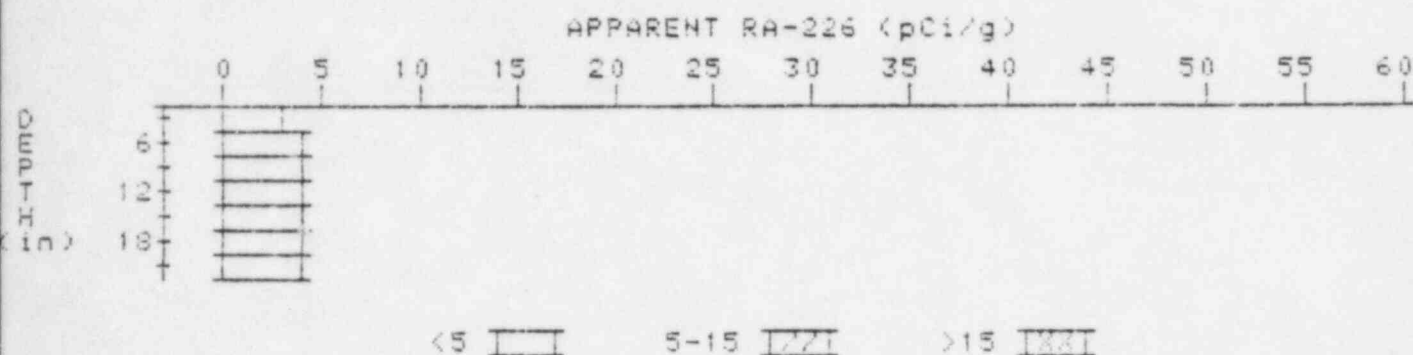
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

9

PROPERTY NUMBER: GJ-10775-RS

HOLE NUMBER: 9

LOCATION: 220260



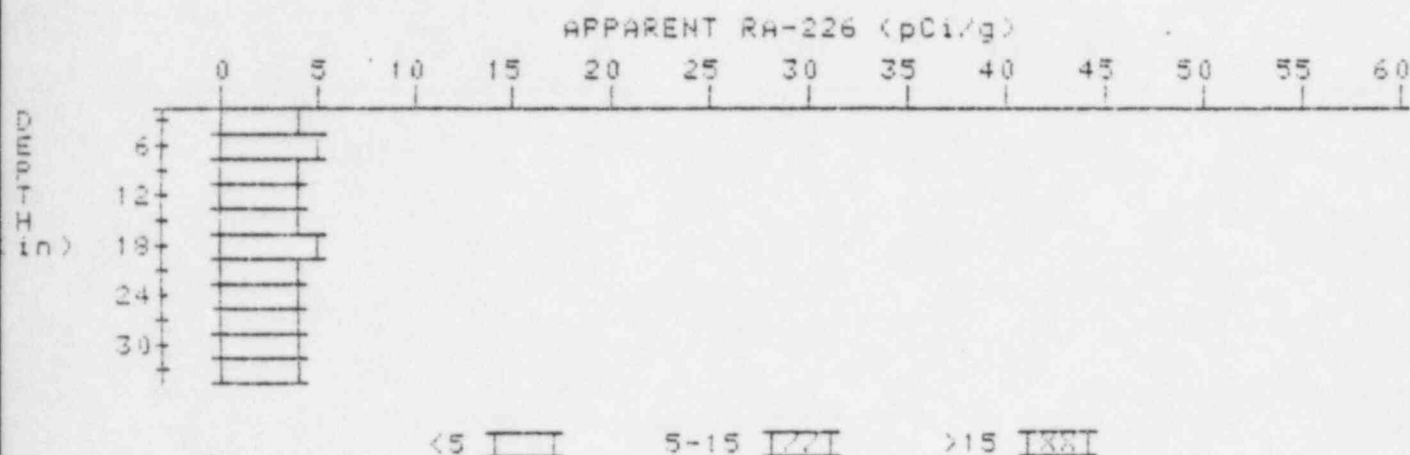
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.0	3.0
6	3.4	3.6
9	3.7	3.9
12	3.9	4.1
15	4.0	4.2
18	4.0	4.0
21	4.0	4.0

# APPARENT RADIUM-226 CONCENTRATION 10 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-10775-R3

HOLE NUMBER: 10

LOCATION: 243233



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