

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-18587-VL  
ADDRESS: 2245 NORTH 15TH STREET

JULY 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* *CD4*

M. TUCKER  
DOE PROJECT ENGINEER

DATE

*July 19, 1985*

REAL8587:REA-610

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## **1.0 EXECUTIVE SUMMARY**

### **1.1 Introduction**

The location, DOE ID No. GJ-18587-VL, is a vacant lot located at 2245 North 15th 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, 120 cu. yd.; interior, 0 cu. yd.

Estimated cost to perform remedial action, including dislocation when applicable, is \$4,471. Remedial action on this property will take approximately 4 days to complete.

## 2.0 PROPERTY DESCRIPTION

### 2.1 General Description

Address: 2245 North 15th Street, Grand Junction, Colorado

Zoning: Residential (RSF-8)

Lot Size: Approximately 25,360 sf (0.58 acre)

Legal Description: A parcel of land being portion of Lot 19, Block 6, and also a portion of Lot 36, Block 10, both within Fairmount Subdivision, and also a portion of Bookcliff Avenue as vacated; said parcel located within Section 12, T1S, R1W, Ute Meridian, being more particularly described as follows: beginning at a point 31.8 feet south from the northeast corner of said Lot 19; thence north, 61.8 feet; thence N.81°25'W, 304.1 feet; thence south 107.7 feet, thence N89°54'E, 300.7 Feet; to the point-of-beginning, City of Grand Junction, County of Mesa, State of Colorado.

Point of Reference: This property is located approximately 2 miles 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 (abandoned)
Gas:	None
Telephone:	None
Sewer:	None
Water:	None
Cable TV:	None

Bordering Properties:

North:	Grand Valley Canal
South:	Apartment building
East:	North 15th Street
West:	Apartment buildings

### 2.2 Existing Facilities and Structures

Primary Structure: None

General Remarks:

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

Historical Data: Not applicable

### **3.0 RADIOLOGIC SURVEY**

#### **3.1 Introduction**

Radiologic data were collected by Bendix at DOE ID No. GJ-18587-VL on June 10, 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 located in the north, northwest, and south sections of the property.

The Bendix radiologic survey was designed to investigate the entire property, with emphasis on previously identified areas of contamination. Conclusions based upon data analyses are discussed in Section 3.4, Extent of Contamination. Photocopies of the Official Survey Report, 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: 14 to 17 uR/h  
Highest Outside Gamma Reading (HOG): 170 uR/h

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

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

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

### 3.4 Extent of Contamination

Appendix Figure 3.3 shows identified areas and estimated depths of contamination on this property, based on assessments of all measurements taken. As noted in this figure, areas recommended for remedial action that contain identified residual radioactive materials are:

- (Area A) Surface Material: Soil  
Other Directions: Northwest of old foundation  
Total Depth of Contamination: 6 inches  
Approximate Square Footage: 36
- (Area B) Surface Material: Soil  
Other Directions: Northwest of old foundation  
Total Depth of Contamination: 12 inches  
Approximate Square Footage: 56
- (Area C) Surface Material: Soil  
Other Directions: Southwest of old foundation  
Total Depth of Contamination: 18 inches  
Approximate Square Footage: 750
- (Area D) Surface Material: Soil  
Other Directions: East of old foundation  
Total Depth of Contamination: 6 inches  
Comments: This area is adjacent to the foundation.  
Approximate Square Footage: 225
- (Area E) Surface Material: Soil  
Other Directions: Southeast of old foundation  
Total Depth of Contamination: 15 inches  
Approximate Square Footage: 36
- (Area F) Surface Material: Soil  
Other Directions: East of old foundation  
Total Depth of Contamination: 6 inches  
Approximate Square Footage: 640
- (Area G) Surface Material: Soil  
Other Directions: Northeast of old foundation  
Total Depth of Contamination: 15 inches  
Approximate Square Footage: 1,200

#### (Areas Requiring Further Investigation During Remedial Action)

This property should be closely monitored during remedial action, as CDH indicates this land was once used as a trash dump. The fence line immediately south of Area C should be closely monitored during remedial action.

#### 4.0 RECOMMENDED REMEDIAL ACTION

##### 4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-18587-VL, 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.

##### 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 \$4,471.

This remedial action will result in removal of the identified residual radioactive materials.

Owner preference is to save as many trees as possible on this site. 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 4.1	Area and Volume Calculations
Table 4.2	Estimated Cost of Decontamination and Restoration

Appendix Figures:

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

Official Survey Report

Memo of Understanding

Team Leader Notes

Deconvolution Graphs (Apparent Radium-226 Concentration)

Exterior Gamma Scan Map

## Radium Concentrations at Exterior Locations

DOE ID #GJ-18587-VL

2245 North 15th 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	130288	00	DS	3.5		*	Northwest corner of property
		06	DS	1.6		*	
2	140220	03	TC	5.2		*	DC = 18 inches Based on the deconvolution graph
		06	TC	6.1		*	
		09	TC	6.5		*	
		12	TC	6.4		*	
		15	TC	5.9		*	
		18	TC	5.5		*	
		21	TC	5.4		*	
		24	TC	5.0		*	
		27	TC	4.9		*	
		30	TC	4.7		*	
		33	TC	4.6		*	
		36	TC	4.5		*	
		39	TC	4.5		*	
		42	TC	4.5		*	
		45	TC	4.5		*	
3	170200	03	TC	3.4		*	DC = 0 inches
		06	TC	3.6		*	
		09	TC	3.7		*	
		12	TC	3.7		*	
		15	TC	3.7		*	
		18	TC	3.7		*	
		21	TC	3.6		*	
		24	TC	3.6		*	
		27	TC	3.5		*	
		30	TC	3.4		*	
4	170220	00	DS	2.4		*	
		06	DS	2.0		*	
5	180270	00	DS	23.8		*	
		06	DS	4.9		*	
		12	DS	1.4		*	
6	225239	00	DS	4.0		*	DC = 6 inches Based on all available data
		03	TC	3.8		*	
		06	TC	4.3		*	
		09	TC	4.4		*	
		12	TC	4.1		*	
		15	TC	3.9		*	
		18	TC	3.8		*	

## Radium Concentrations at Exterior Locations

DOE ID #GJ-18587-VL

2245 North 15th 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.		
6	225239	21	TC	3.8		*	
		24	TC	3.7		*	
		27	TC	3.7		*	
		30	TC	3.6		*	
7	230270	03	TC	3.1		*	DC = 0 inches
		06	TC	3.6		*	
		09	TC	3.8		*	
		12	TC	3.8		*	
		15	TC	3.9		*	
		18	TC	3.8		*	
		21	TC	3.8		*	
		24	TC	3.8		*	
		27	TC	3.7		*	
		30	TC	3.6		*	
		33	TC	3.5		*	
		36	TC	3.5		*	
8	245265	00	DS	2.1		*	
		06	DS	2.9		*	
		12	DS	1.9		*	
9	258233	00	DS	2.7		*	
		06	DS	2.8		*	
10	270243	00	DS	2.3		*	
		06	DS	1.4		*	
11	270280	00	DS	108.9		*	
		06	DS	93.2		*	
12	271264	03	TC	64.6		*	DC = 15 inches Based on the deconvolution graph
		06	TC	67.2		*	
		09	TC	51.0		*	
		12	TC	29.6		*	
		15	TC	17.3		*	
		18	TC	10.4		*	
		21	TC	7.3		*	
		24	TC	5.6		*	
		27	TC	4.9		*	
		30	TC	4.4		*	
		33	TC	4.2		*	
		36	TC	4.2		*	
		39	TC	4.3		*	

## Radium Concentrations at Exterior Locations

DOE ID #GJ-18587-VL

2245 North 15th 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.		
12	271264	42	TC	4.1		*	
		45	TC	3.9		*	
		48	TC	4.1		*	
13	280218	00	DS	15.8		*	North of driveway
		03	TC	13.6		*	
		06	TC	16.3		*	DC = 15 inches
		09	TC	14.5		*	Based on the
		12	TC	10.1		*	deconvolution graph
		15	TC	6.9		*	
		18	TC	5.4		*	
		21	TC	4.7		*	
		24	TC	4.3		*	
		27	TC	4.0		*	
		30	TC	3.9		*	
		33	TC	3.9		*	
14	290240	03	TC	2.9		*	DC = 0 inches
		06	TC	3.2		*	
		09	TC	3.3		*	
		12	TC	3.3		*	
		15	TC	3.4		*	
		18	TC	3.4		*	
		21	TC	3.4		*	
		24	TC	3.4		*	
		27	TC	3.5		*	
		30	TC	3.6		*	
15	290260	03	TC	4.3		*	DC = 0 inches
		06	TC	4.5		*	
		09	TC	4.2		*	
		12	TC	3.9		*	
		15	TC	3.8		*	
		18	TC	3.7		*	
		21	TC	3.7		*	
		24	TC	3.6		*	
		27	TC	3.5		*	
		30	TC	3.4		*	
16	290282	03	TC	2.5		*	DC = 0 inches
		06	TC	2.9		*	
		09	TC	3.1		*	

## Radium Concentrations at Exterior Locations

DOE ID #GJ-18587-VL

2245 North 15th Street

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.		
16	290282	12	TC	3.3		*	
		15	TC	3.5		*	
		18	TC	3.5		*	
		21	TC	3.5		*	
		24	TC	3.5		*	
		27	TC	3.6		*	
		30	TC	3.6		*	
		33	TC	3.6		*	
		36	TC	3.6		*	
17	360230	00	DS	1.3		*	Background
		03	TC	3.2		*	
		06	TC	3.4		*	DC = 0 inches
		09	TC	3.4		*	
		12	TC	3.5		*	
		15	TC	3.4		*	
		18	TC	3.4		*	
		21	TC	3.5		*	
		24	TC	3.4		*	
		27	TC	3.5		*	
		30	TC	3.4		*	
		33	TC	3.4		*	

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

Notes:

DC = Depth of Contamination  
 \* = No Soil Sample Taken  
 [n] = Reading Taken n-Inches Above Floor or Ground  
 Date of Survey = 06-10-85  
 Team Leader = BMM

Table 4.1  
Area and Volume Calculations  
DOE ID No. GJ-18587-VL

Page 1 of 1

<u>AREA</u>	<u>CALCULATIONS(ft)</u>	<u>SF</u>	<u>DEPTH(ft)</u>	<u>CF</u>	<u>CUBIC YARDS</u>
EXTERIOR					
A	6 x 6 =	36	x 0.5 =	18	
B	8 x 7 =	56	x 1.0 =	56	
C	15 x 50 =	750	x 1.5 =	1,125	
D	15 x 15 =	225	x 0.5 =	113	
E	6 x 6 =	36	x 1.3 =	47	
F	30 x 8 =	240			
	20 x 20 =	400			
		<hr/>			
		640	x 0.5 =	320	
G	30 x 40 =	1,200	x 1.3 =	1,560	
				<hr/>	
TOTAL VOLUME - EXTERIOR				= 3,239	= 3,239/27 = 120

See Appendix Figure 3.3 For Areas

Table 4.2  
Estimated Cost of Decontamination and Restoration  
DOE ID No. GJ-18587-VL

Page 1 of 1

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EXTERIOR

Remove identified residual radioactive material

110 cy @ \$14.50/cy (machine-open)	\$ 1,595
10 cy @ \$44/cy (manual-open)	440

Replace areas with topsoil

120 cy @ \$9.50/cy	1,140
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TOTAL EXTERIOR	\$ 3,175
----------------	----------

TOTAL INTERIOR	0
----------------	---

ACCESS CONTROL	100
----------------	-----

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SUBTOTAL	\$ 3,275
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CONTINGENCY @ 5%	164
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SUBTOTAL	\$ 3,439
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CONTRACTOR OVERHEAD & PROFIT @ 30%	1,032
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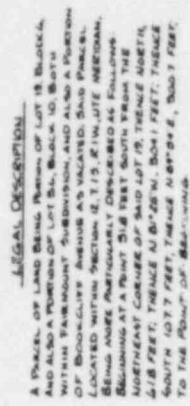
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GRAND TOTAL	\$ 4,471
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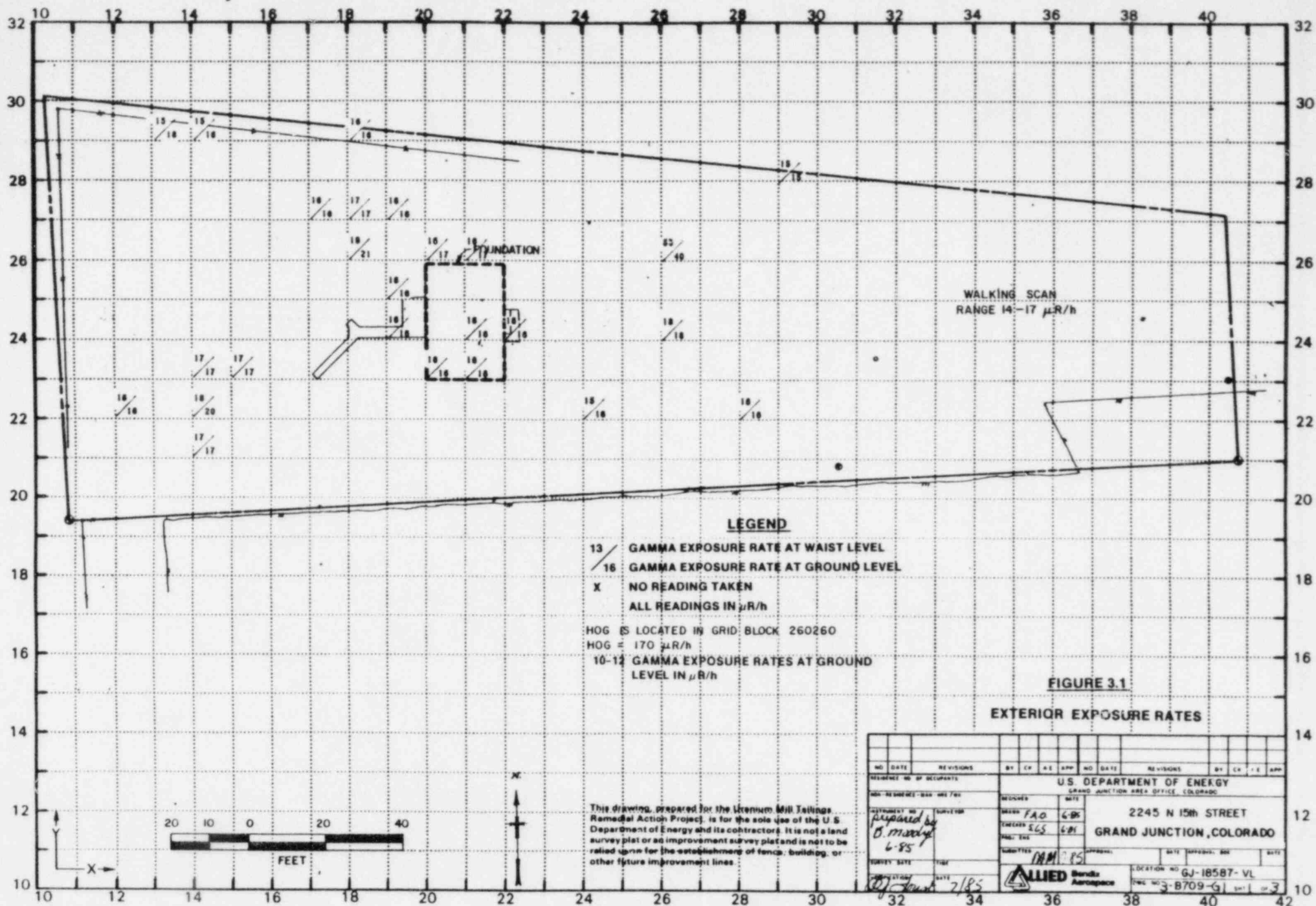
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REA18587/REA-610/LMR



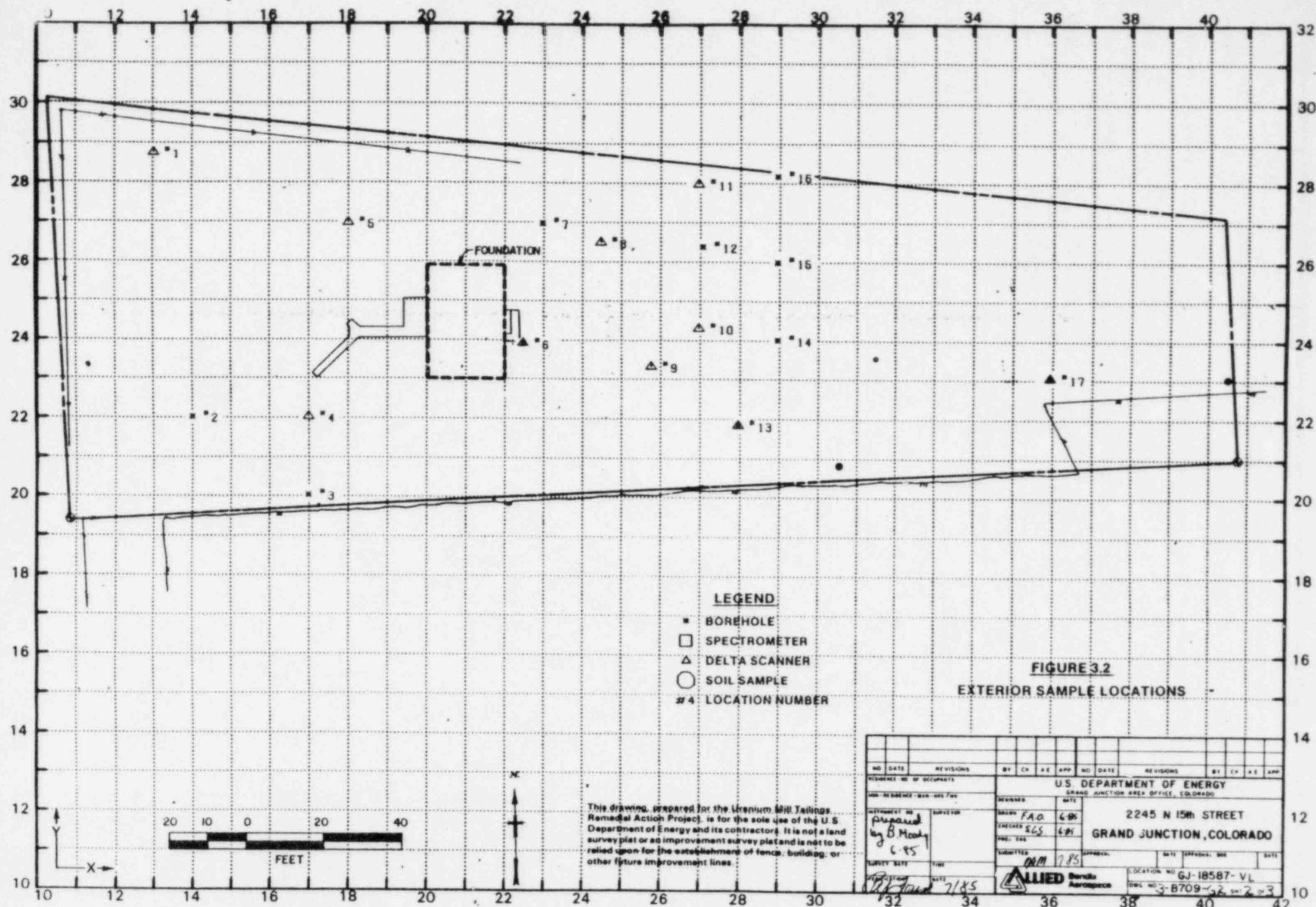


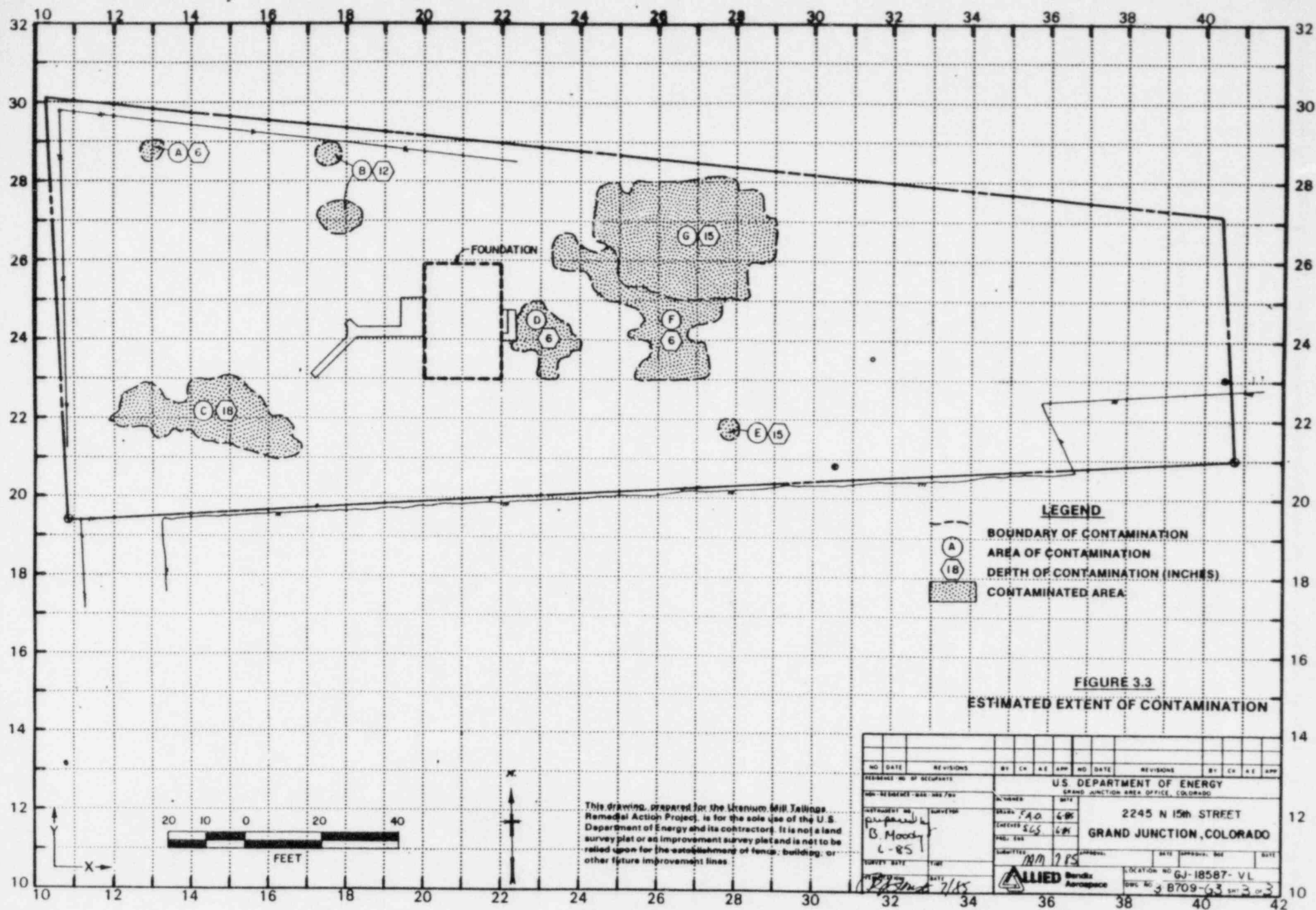
U.S. DEPARTMENT OF ENERGY GENERAL ELECTRIC COMPANY, GEORGETOWN, DELAWARE ADDRESS: 2245 ALBERTA DRIVE GEORGETOWN, DELAWARE CITY: GEORGETOWN, DELAWARE STATE: DE ZIP: 19340	SOLE AGENT 6310587VL Globe Inc. 10000 Wilshire Blvd., Suite 1000 Beverly Hills, CA 90210 Tel: (310) 274-1111 Fax: (310) 274-1112
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FIGURE 2.2 SITE PLAN



This drawing, prepared for the Wrentham 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.





NO. DATE		REVISIONS		BY CH. A.E. APP.		NO. DATE		REVISIONS		BY CH. A.E. APP.																					
RESERVED NO. OF OCCUPANTS																															
U.S. DEPARTMENT OF ENERGY GRAND JUNCTION AREA OFFICE, COLORADO																															
2245 N 15th STREET GRAND JUNCTION, COLORADO																															
LOCATION NO. GJ-18587-VL																															
DWG. NO. 8709-63 SH. 3 OF 3																															
<table border="1"> <tr> <td>DESIGN</td> <td>FAO</td> <td>6-85</td> <td>DATE</td> <td>7/85</td> </tr> <tr> <td>ENGINEER</td> <td>SGS</td> <td>6-85</td> <td>DATE</td> <td>7/85</td> </tr> <tr> <td>CHECKED</td> <td>MM</td> <td>7/85</td> <td>DATE</td> <td>7/85</td> </tr> <tr> <td colspan="2">APPROVED</td> <td colspan="2">DATE</td> <td>7/85</td> </tr> </table>												DESIGN	FAO	6-85	DATE	7/85	ENGINEER	SGS	6-85	DATE	7/85	CHECKED	MM	7/85	DATE	7/85	APPROVED		DATE		7/85
DESIGN	FAO	6-85	DATE	7/85																											
ENGINEER	SGS	6-85	DATE	7/85																											
CHECKED	MM	7/85	DATE	7/85																											
APPROVED		DATE		7/85																											

3/85

DOE ID NO. GJ-18587-VL

Date 6-12-85

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

Official Survey Report

Property Address 2245 North 15th Street

Property Owner Elsie M. Combs

Address of Owner (if different from above) 1785 Broadway

Report Prepared By Brenda Moody

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

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

1 XXXXX Residual radioactive materials found at the following locations:

1 XXXXX In open areas.

1 1 Under or around exterior improvements.

1 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 XXXXX 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 = N/A uR/h  
HOG = 170 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

July 8, 1985

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

ATTN: Jon Luellen

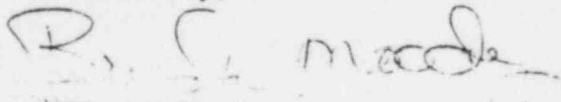
Dear Jon:

The following is in response to your questions and comments concerning Department of Energy (DOE) Identification (ID) number GJ-18587-VL (2245 North 15th Street), received 27 June 1985.

1. The gamma analogy near grid block 150200 is noted in the Radiologic and Engineering Assessment (REA) to be monitored closely during remedial action.
2. The Oak Ridge National Laboratory (ORNL) and Colorado Department of Health (CDH) historical information does not indicate any underground utilities on this property.
3. The house was built in 1938, during a time uranium mill tailings were not generally used in construction. The depth of the foundation is difficult to determine, due to the deteriorated condition of the concrete.
4. This property will be monitored closely during remedial action, to ensure that all contamination is removed.

Thank you for your time and cooperation. If you should have additional questions or comments you may contact me at 242-8621, extension 475.

Sincerely,

  
Brenda Moody  
RSD Survey Team Leader

BM:pr

CDH.LETTER.18587.MOODY

MEMORANDUM

**ALLIED** Bendix  
Aerospace

Bendix Field Engineering Corporation  
Grand Junction Operations  
Grand Junction, Colorado

Date: June 10, 1985

To: Files

From: Brenda Moody

*Brenda Moody*

Subject: Team Leader Notes - GJ-18587-VL

Address: 2245 North 15th Street

Owner: Elsie M. Combs  
1785 Broadway  
Grand Junction, Colorado

Team Members

B. Moody (Team Leader)	M. Johnson
S. Larsen	G. Meeker
H. Mattison	L. Kula
A. Raabe	M. Dexter
D. Bell	V. Young
V. Hebel	G. Larsen
D. Dow	M. Gilfillan
S. Southern	D. Krabacher
K. Roemer	

Instruments

See Operational Check sheet.

Oak Ridge National Laboratory (ORNL) and Colorado Department of Health (CDH) indicates contamination in the north, northeast, and south areas of the property.

A complete walking scan was performed. The elevated readings shown on the scan map were investigated.

Team Leader Notes  
Brenda Moody  
GJ-18587-VL  
June 10, 1985  
Page 2

The property has a partial foundation, no utility lines, large trees, and scattered brush.

No injuries occurred.

All team members were alpha scanned.

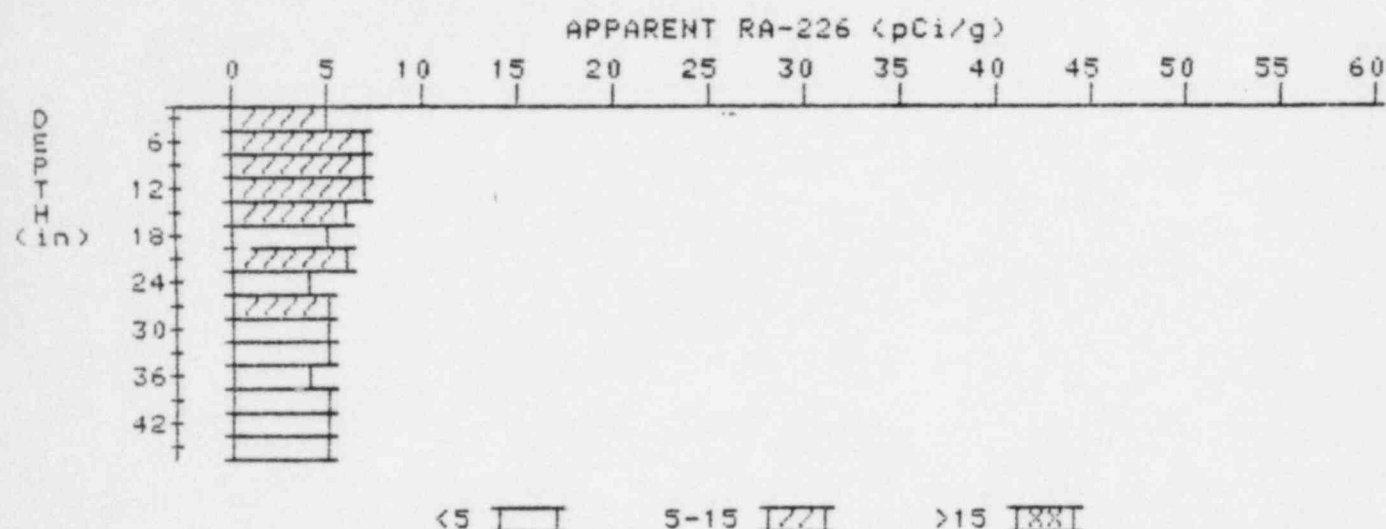
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

2

PROPERTY NUMBER: GJ-13587-VL

HOLE NUMBER: 2

LOCATION: 140220



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	5.2	5.2
6	6.1	7.0
9	6.5	7.4
12	6.4	7.1
15	5.9	5.7
18	5.5	5.0
21	5.4	5.9
24	5.0	4.5
27	4.9	5.1
30	4.7	4.5
33	4.6	4.6
36	4.5	4.3
39	4.5	4.5
42	4.5	4.5
45	4.5	4.5

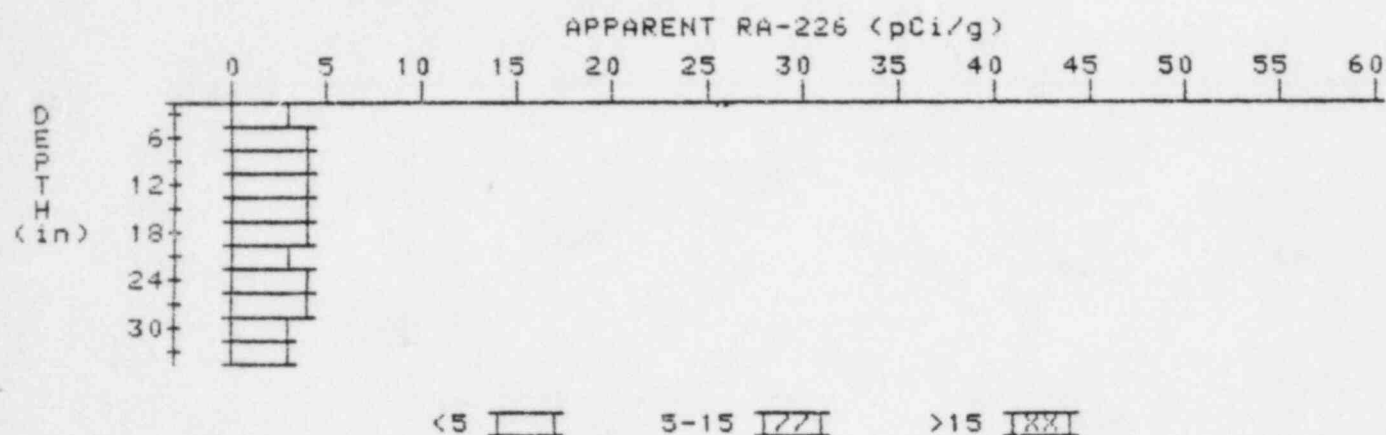
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

3

PROPERTY NUMBER: GJ-18587-VL

HOLE NUMBER: 3

LOCATION: 170200



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	3.9
12	3.7	3.7
15	3.7	3.7
18	3.7	3.9
21	3.6	3.4
24	3.6	3.8
27	3.5	3.5
30	3.4	3.2
33	3.4	3.4

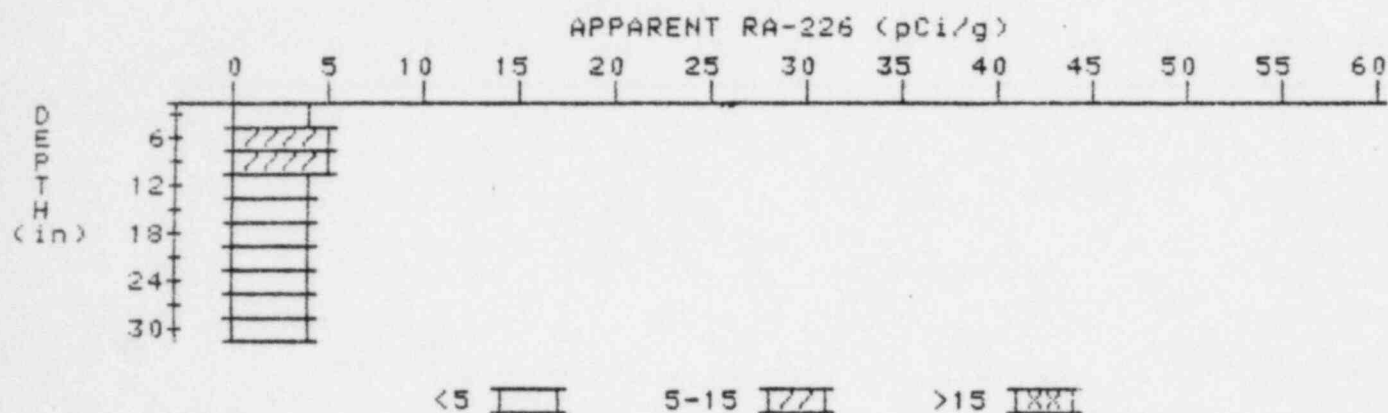
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

6

PROPERTY NUMBER: GJ-18587-VL

HOLE NUMBER: 6

LOCATION: 225239



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.8	3.8
6	4.3	5.0
9	4.4	5.1
12	4.1	3.9
15	3.9	3.7
18	3.8	3.6
21	3.8	4.0
24	3.7	3.5
27	3.7	3.9
30	3.6	3.6

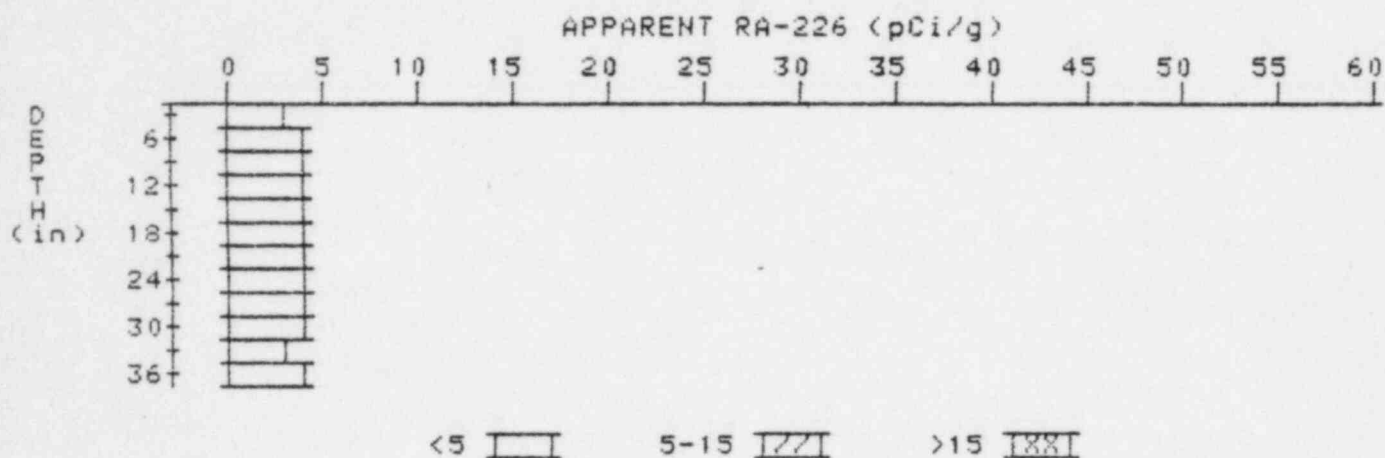
# APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

7

PROPERTY NUMBER: GJ-18587-VL

HOLE NUMBER: 7

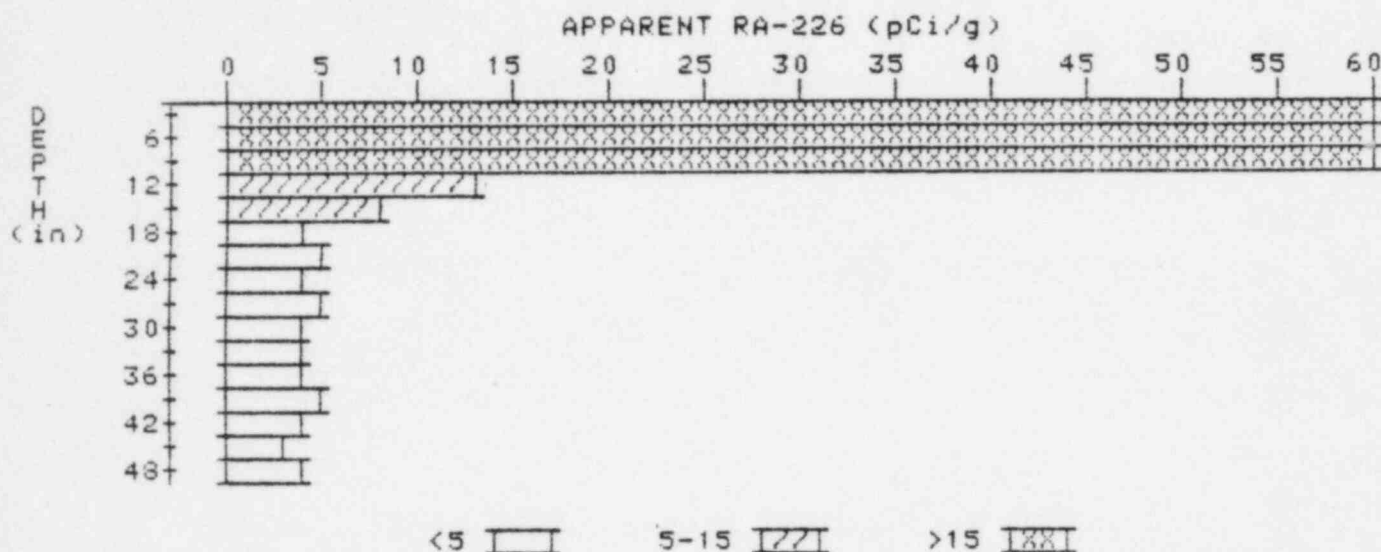
LOCATION: 230270



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

# APPARENT RADIUM-226 CONCENTRATION 12 DECONVOLUTION GRAPH

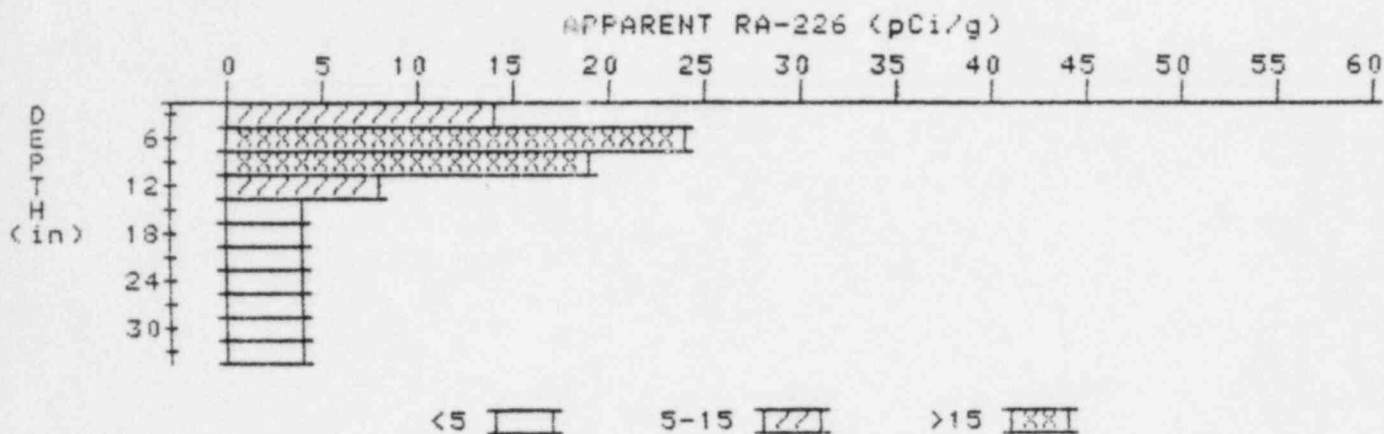
PROPERTY NUMBER: GJ-18587-VL  
HOLE NUMBER: 12  
LOCATION: 271264



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	64.6	64.6
6	67.2	100.6
9	51.0	60.2
12	29.6	13.4
15	17.3	7.7
18	10.4	3.6
21	7.3	4.8
24	5.6	3.8
27	4.9	4.5
30	4.4	3.9
33	4.2	3.8
36	4.2	4.0
39	4.3	4.8
42	4.1	4.1
45	3.9	3.2
48	4.1	4.1

# APPARENT RADIUM-226 CONCENTRATION 13 DECONVOLUTION GRAPH

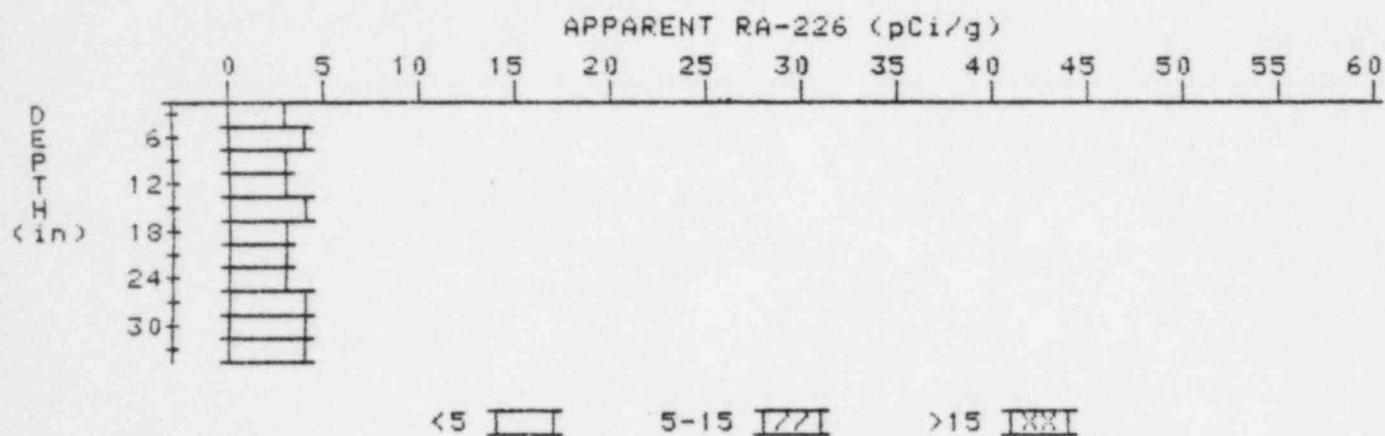
PROPERTY NUMBER: GJ-18587-VL  
HOLE NUMBER: 13  
LOCATION: 290218



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	13.6	13.6
6	16.3	24.3
9	14.5	19.1
12	10.1	8.0
15	6.9	3.9
18	5.4	4.0
21	4.7	4.2
24	4.3	4.1
27	4.0	3.6
30	3.9	3.7
33	3.9	3.9

# APPARENT RADIUM-226 CONCENTRATION 14 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-18587-VL  
HOLE NUMBER: 14  
LOCATION: 290240



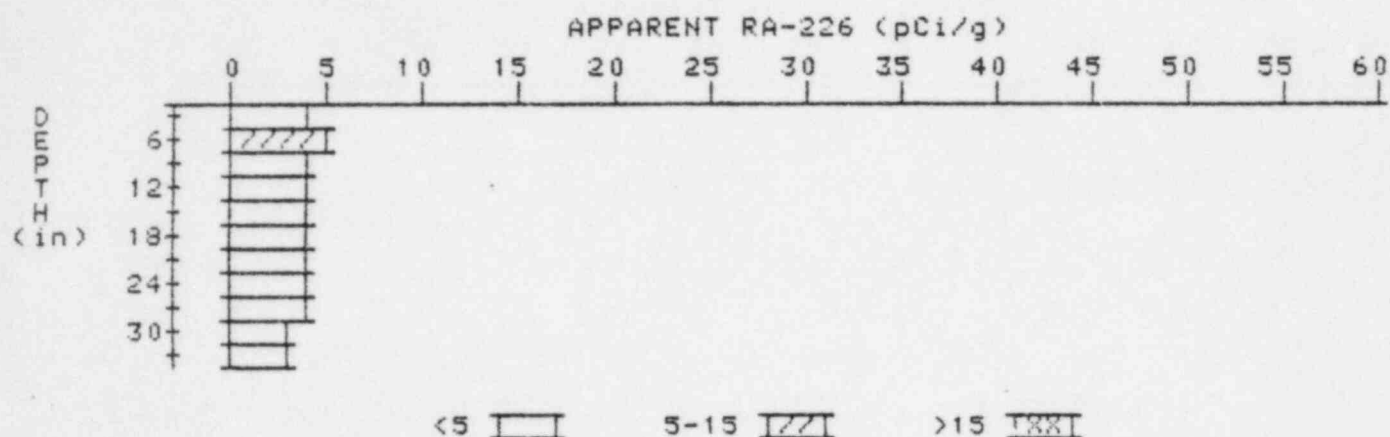
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.9	2.9
6	3.2	3.6
9	3.3	3.5
12	3.3	3.1
15	3.4	3.6
18	3.4	3.4
21	3.4	3.4
24	3.4	3.2
27	3.5	3.5
30	3.6	3.8
33	3.6	3.6

# APPARENT RADIUM-226 CONCENTRATION 15 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-18587-VL

HOLE NUMBER: 15

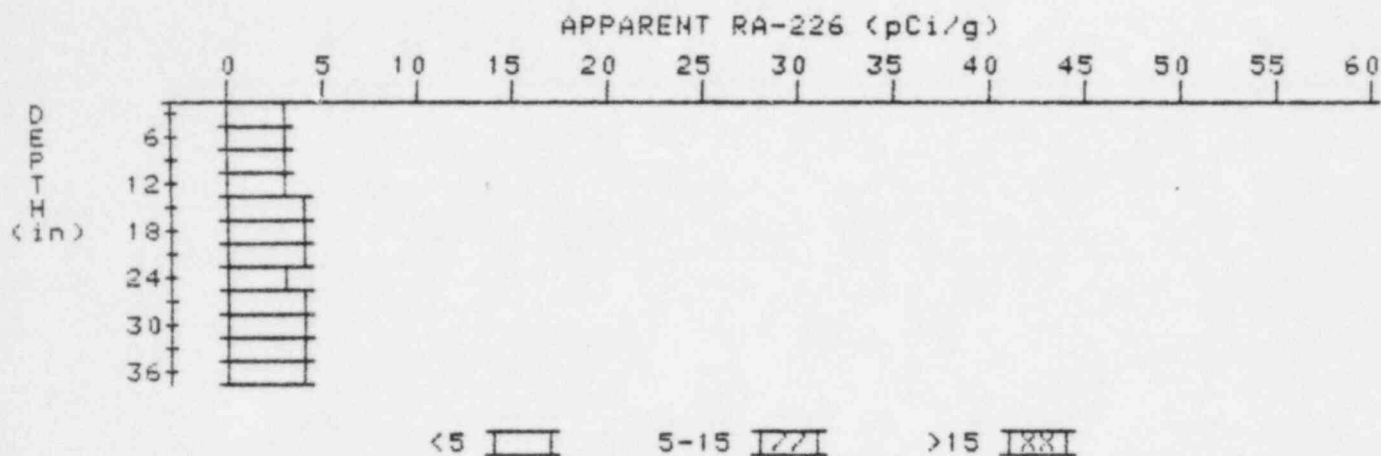
LOCATION: 290260



Depth (in)	Apparent Radium-226 (pCi/g)	Apparent Radium-226 (pCi/g)
	Undeconvolved	Deconvolved
3	4.3	4.3
6	4.5	5.4
9	4.2	4.2
12	3.9	3.5
15	3.8	3.8
18	3.7	3.5
21	3.7	3.9
24	3.6	3.6
27	3.5	3.5
30	3.4	3.2
33	3.4	3.4

# APPARENT RADIUM-226 CONCENTRATION 16 DECONVOLUTION GRAPH

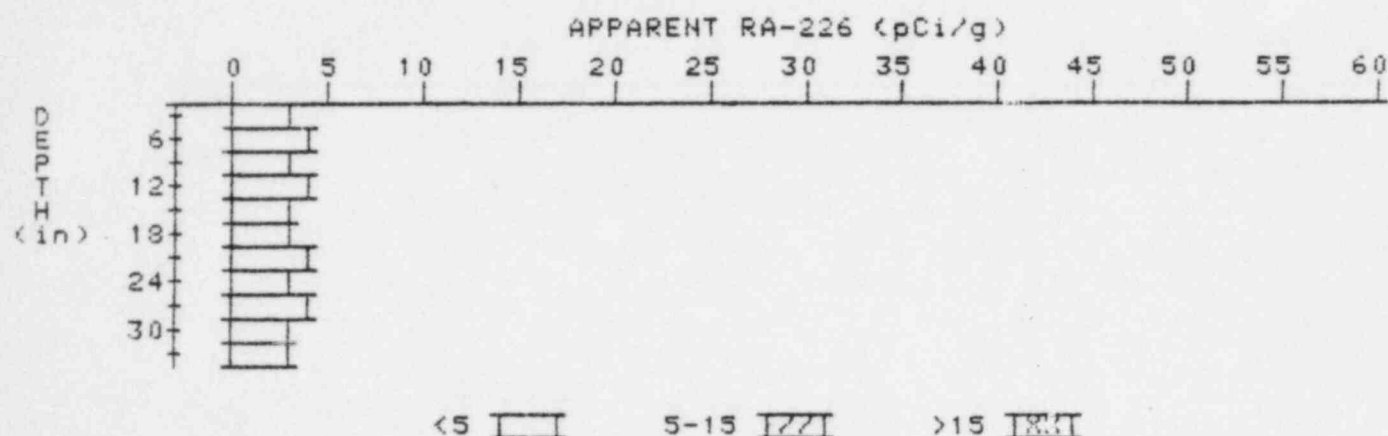
PROPERTY NUMBER: GJ-18587-VL  
HOLE NUMBER: 16  
LOCATION: 290282



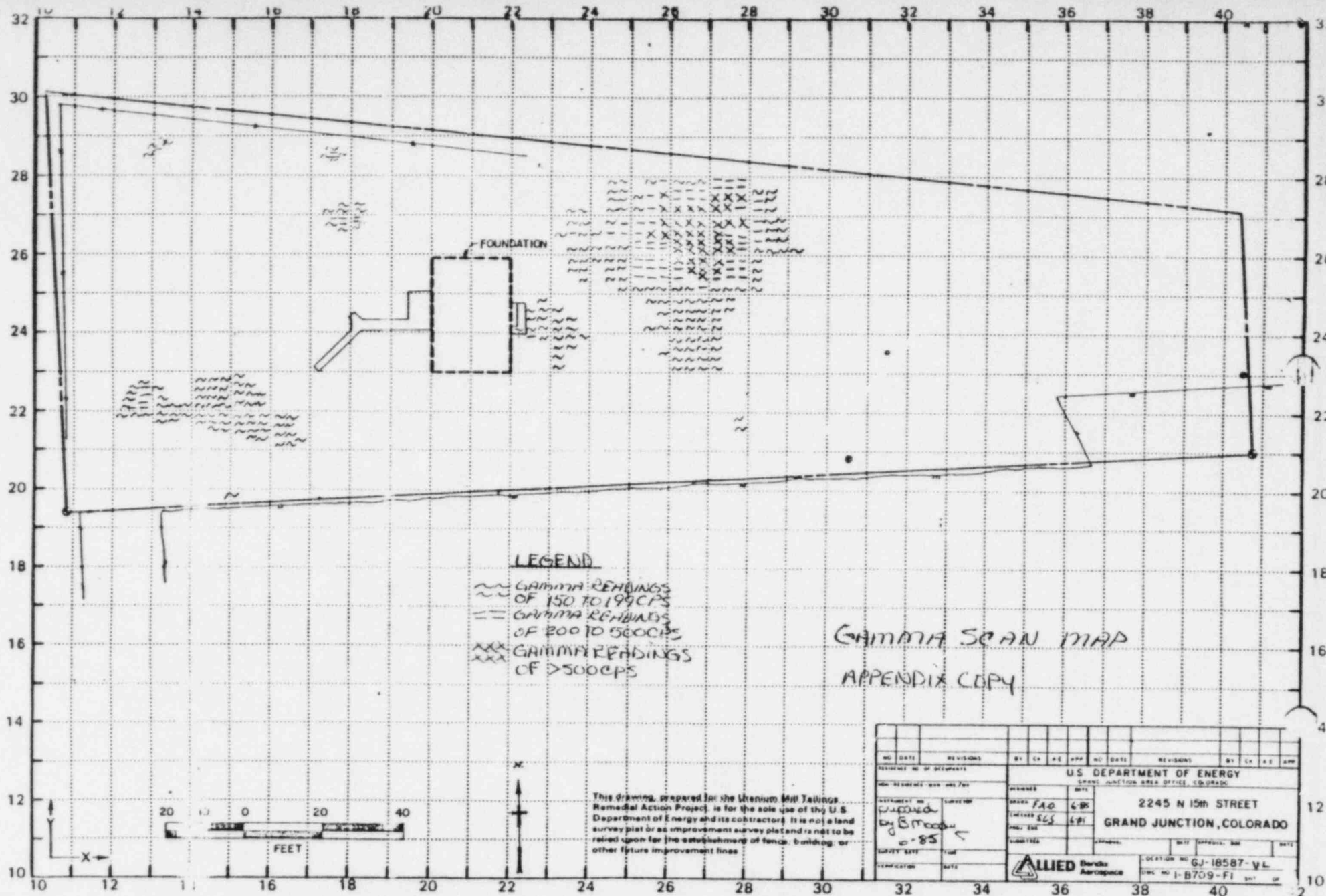
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.5	2.5
6	2.9	3.3
9	3.1	3.1
12	3.3	3.3
15	3.5	3.9
18	3.5	3.5
21	3.5	3.5
24	3.5	3.3
27	3.6	3.8
30	3.6	3.6
33	3.6	3.6
36	3.6	3.6

# APPARENT RADIUM-226 CONCENTRATION 17 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-18537-VL  
HOLE NUMBER: 17  
LOCATION: 360230



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.2	3.2
6	3.4	3.8
9	3.4	3.2
12	3.5	3.9
15	3.4	3.2
18	3.4	3.2
21	3.5	3.9
24	3.4	3.0
27	3.5	3.9
30	3.4	3.2
33	3.4	3.4



NO.	DATE	REVISIONS	BY	CA	AE	APP	NO.	DATE	REVISIONS	BY	CA	AE	APP
<b>U.S. DEPARTMENT OF ENERGY</b> GRAND JUNCTION AREA OFFICE, COLO.													
2245 N 15th STREET GRAND JUNCTION, COLORADO													
DESIGNER FAO 6-85		CHECKER SCS 6-85		DATE 6-85		LOCATION NO. GJ-18587-VL		DRAWING NO. J-B709-F1		DATE 6-85		BY CA	
<b>ALLIED</b> <small>Defense Aerospace</small>													