

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-30306-CS
ADDRESS: 922 NORTH 1ST STREET

AUGUST 1985

FOR

URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT OFFICE

ALBUQUERQUE OPERATIONS OFFICE

DEPARTMENT OF ENERGY

BY

BENDIX FIELD ENGINEERING CORPORATION
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APPROVED BY

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DATE

August 19, 1985

REA30306:REA-617

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The location, DOE ID No. GJ-30306-CS, is two commercial structures located at 922 North 1st 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, 68 cu. yd.; interior, 0 cu. yd.

Estimated cost to perform remedial action, including dislocation when applicable, is \$5,970. Remedial action on this property will take approximately 17 days to complete.

2.0 PROPERTY DESCRIPTION

2.1 General Description

Address: 922 North 1st Street, Grand Junction, Colorado

Zoning: Commercial (C-2)

Lot Size: Approximately 23,188 sf (0.53 acres)

Legal Description: Lots 1 to 6, inclusive, block 12 and north 1/2 of lots 7, 8, and 9, block 12, section 14, 1S 1W, City of Grand Junction, County of Mesa, State of Colorado.

Point of Reference: This property is located approximately 2 mile(s) northwest 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:	Belford Avenue
South:	Alley (gravel)
East:	Single-family residence
West:	North 1st Street

2.2 Existing Facilities and Structures

Primary Structure:

Type:	Single-story commercial structure
Size:	Approximately 3,748 sf
Construction Date:	1975
Construction:	Pre-engineered steel frame building with concrete floor
Foundation:	Monolithic concrete slab-on-grade
Footing Depth:	Not determined
Basement:	None
Crawl Space:	None
Condition:	Good

Other Structures:

Type:	Single-story commercial structure
Size:	Approximately 656 sf
Construction:	Pre-engineered steel frame
Foundation:	Concrete block
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-30306-CS on June 21, 1985. Data collection methods were performed in accordance with procedures fully described in the Radiologic Support Operations Procedures Manual GJ-07(84) (Bendix Field Engineering Corporation, 1984). These data were evaluated to determine the areal and vertical extent of uranium mill tailings contamination at this property as well as any other contaminated material that may have originated from the millsite.

A review of historical information from the files of the Colorado Department of Health (CDH) and the inclusion data from Oak Ridge National Laboratory (ORNL) was conducted. These records indicate contamination associated with the city sidewalks.

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

3.2 Gamma Exposure-Rate Surveys

3.2.1 Exterior Findings

Background Readings: 14 to 17 uR/h
Highest Outside Gamma Reading (HOG): 94 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)

The working level was not assessed by CDH. No RDC measurements were taken by Bendix.

3.5 Extent of Contamination

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

- (Area A) Surface Material: Concrete
Direction From Primary Structure: West
Other Directions: Adjacent to North 1st Street
Total Depth of Contamination: 15 inches
Other (height or thickness): 4-inch-thick concrete
Comments: Three deposits are included in this area.
Approximate Square Footage: 135
- (Area B) Surface Material: Asphalt
Direction From Primary Structure: West
Other Directions: Adjacent to city sidewalk
Total Depth of Contamination: Estimated at 15 inches
Other (height or thickness): 2-inch-thick asphalt
Comments: The depth of contamination is based on data collected in Area A. Four deposits are included in this area.
Approximate Square Footage: 44 (The portion of Area B which is located in North 1st Street is excluded from remedial action.)
- (Area C) Surface Material: Concrete
Direction From Primary Structure: Northwest
Other Directions: Northwest corner of property
Total Depth of Contamination: Estimated at 15 inches
Other (height or thickness): 4-inch-thick concrete
Comments: The depth of contamination is based on data collected in Area A.
Approximate Square Footage: 20
- (Area D) Surface Material: Concrete
Direction From Primary Structure: North
Other Directions: Adjacent to the north property line
Total Depth of Contamination: 15 inches
Other (height or thickness): 4-inch-thick concrete
Comments: Five deposits are included in in this area.
Approximate Square Footage: 501

- (Area E) Surface Material: Asphalt
Direction From Primary Structure: North
Other Directions: Adjacent to the north property line
Total Depth of Contamination: Estimated at 15 inches
Other (height or thickness): 2-inch-thick asphalt
Comments: The depth of contamination is based on data collected in Area D. Three deposits are included in this area.
Approximate Square Footage: 214
- (Area F) Surface Material: Decorative rock
Direction From Primary Structure: North
Other Directions: North of the north property line
Total Depth of Contamination: 6 inches
Approximate Square Footage: 51
- (Area G) Surface Material: Decorative rock
Direction From Primary Structure: North
Other Directions: North of the north property line
Total Depth of Contamination: 15 inches
Comments: The depth of contamination is based on data collected in Area D.
Approximate Square Footage: 51
- (Area H) Surface Material: Decorative rock
Direction From Primary Structure: North
Other Directions: North of the north property line
Total Depth of Contamination: Estimated at 15 inches
Comments: The depth of contamination is based on data collected in Area D.
Approximate Square Footage: 154
- (Area I) Surface Material: Decorative rock
Direction From Primary Structure: North
Other Directions: North of the north property line
Total Depth of Contamination: 6 inches
Approximate Square Footage: 120
- (Area J) Surface Material: Decorative rock
Direction From Primary Structure: North
Other Directions: North of the north property line
Total Depth of Contamination: Estimated at 15 inches
Comments: The depth of contamination is based on data collected in Area D.
Approximate Square Footage: 42
- (Area K) Surface Material: Decorative rock
Direction From Primary Structure: North
Other Directions: North of the north property line
Total Depth of Contamination: 24 inches
Approximate Square Footage: 102

- (Area L) Surface Material: Decorative rock
Direction From Primary Structure: North
Other Directions: North of the north property line
Total Depth of Contamination: 6 inches
Approximate Square Footage: 10
- (Area M) Surface Material: Concrete
Direction From Primary Structure: North
Other Direction: In the north driveway
Total Depth of Contamination: Estimated at 24 inches
Other (height or thickness): 4-inch-thick concrete
Comments: The depth of contamination is based on data
collected in Area K.
Approximate Square Footage: 21

4.0 RECOMMENDED REMEDIAL ACTION

4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-30306-CS, includes removal of all areas identified as containing radioactive material (as discussed in Section 3.5 and shown in Appendix Figure 3.3) and transport of removed material to the disposal site.

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

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

4.2 Evaluation of Recommended Remedial Action

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

Estimated cost of remedial action is \$5,970.

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 Sample Locations
Figure 3.3	Exterior Estimated Extent of Contamination

Official Survey Report

Team Leader Notes

Deconvolution Graphs (Apparent Radium-226 Concentration)

Exterior Gamma Scan Map

Radium Concentrations at Exterior Locations

DOE ID #GJ-30306-CS

922 North 1st Street

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
1	117190	00	DS	37.0		*	On sidewalk
		03	TC	51.4		*	Through core
		06	TC	68.3		*	DC = 15 inches
		09	TC	60.1		*	Based on the
		12	TC	39.6		*	deconvolution graph
		15	TC	23.7		*	
		18	TC	14.8		*	
		21	TC	10.2		*	
		24	TC	7.7		*	
		27	TC	6.3		*	
		30	TC	5.6		*	
		33	TC	5.1		*	
		36	TC	4.9		*	
		39	TC	4.8		*	
		42	TC	4.6		*	
		45	TC	4.4		*	
		48	TC	4.2		*	
		51	TC	4.2		*	
		54	TC	4.1		*	
		57	TC	4.0		*	
2	117210	00	DS	36.1		*	
3	117235	00	DS	36.1		*	On west sidewalk
4	117303	00	DS	8.9		*	Northwest corner of property
5	120191	00	DS	10.1		*	West of primary structure
6	120212	00	DS	3.7		*	West of the west property line
7	120235	00	DS	7.2		*	
8	134288	00	DS	38.6		*	
9	140288	00	DS	1.1		*	
10	156288	00	DS	50.3		*	
11	157295	00	DS	2.0		*	In rock garden
		06	DS	2.0		*	

Radium Concentrations at Exterior Locations

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922 North 1st Street

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
12	167295	00	DS	27.9		*	
13	169295	00	DS	4.6		*	In rock garden
		06	DS	2.9		*	
		12	DS	2.7		*	
14	176288	00	DS	<1.0		*	
15	183191	00	DS	<1.0		*	Gas line surface On gas line
		19	DS	1.4		*	
16	187295	00	DS	2.0		*	In rock garden
		06	DS	1.3		*	
17	189191	00	DS	1.6		*	Gas line surface On gas line
		19	DS	<1.0		*	
18	192295	00	DS	36.4		*	
19	205295	00	DS	2.6		*	In rock garden DC = 6 inches Based on all available data
		03	TC	4.2		*	
		06	TC	4.1		*	
		09	TC	4.0		*	
		12	TC	4.0		*	
		15	TC	4.0		*	
		18	TC	4.0		*	
		21	TC	3.9		*	
		24	TC	3.8		*	
		27	TC	4.0		*	
		30	TC	3.9		*	
		33	TC	3.8		*	
		36	TC	3.8		*	
		39	TC	3.7		*	
20	215288	00	DS	77.9		*	Through core DC = 15 inches Based on the deconvolution graph
		03	TC	104.9		*	
		06	TC	139.1		*	
		09	TC	118.8		*	
		12	TC	73.5		*	
		15	TC	44.3		*	
		18	TC	28.4		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-30306-CS

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
20	215288	21	TC	19.1		*	
		24	TC	13.8		*	
		27	TC	12.4		*	
		30	TC	9.7		*	
		33	TC	8.0		*	
		36	TC	6.9		*	
		39	TC	6.2		*	
		42	TC	5.7		*	
		45	TC	5.2		*	
		48	TC	4.8		*	
		51	TC	4.5		*	
		54	TC	4.2		*	
		57	TC	4.0		*	
		60	TC	4.0		*	
		63	TC	3.9		*	
		66	TC	3.9		*	
		69	TC	3.8		*	
		72	TC	3.7		*	
		75	TC	3.6		*	
21	218284	00	DS	6.1		*	Under asphalt
		06	DS	13.6		*	
		12	DS	10.4		*	
		15	DS	9.1		*	
		18	DS	6.6		*	
		21	DS	6.1		*	
		24	DS	4.8		*	
		27	DS	4.7		*	
		30	DS	4.4		*	
22	218295	00	DS	25.2		*	
23	230293	00	DS	3.8		*	In rock garden DC = 24 inches Based on the deconvolution graph
		03	TC	7.3		*	
		06	TC	8.1		*	
		09	TC	7.9		*	
		12	TC	7.5		*	
		15	TC	7.2		*	
		18	TC	6.7		*	
		21	TC	6.3		*	
		24	TC	5.8		*	
		27	TC	5.8		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-30306-CS

922 North 1st Street

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Loc #	Grid Location	Depth (in.)	Meas. Type	In Situ Ra-226 (pCi/g)		Chem Ra-226 (pCi/g)	Comments
				Tot. Ct	Spectr.		
23	230293	30	TC	5.3		*	
		33	TC	4.9		*	
		36	TC	4.8		*	
		39	TC	4.5		*	
		42	TC	4.2		*	
		45	TC	3.9		*	
		48	TC	3.8		*	
24	236282	00	DS	1.6		*	
25	243294	00	DS	2.6		*	
26	255288	00	DS	1.4		*	
27	272282	00	DS	<1.0		*	
28	272288	00	DS	41.1		*	On sidewalk
29	272294	00	DS	2.6		*	In rock garden
		06	DS	2.8		*	
		12	DS	2.4		*	
30	274175	00	DS	<1.0		*	East of primary structure
		03	TC	2.9		*	DC = 0 inches
		06	TC	3.5		*	
		09	TC	3.9		*	
		12	TC	3.9		*	
		15	TC	4.0		*	
		18	TC	3.9		*	
		21	TC	4.0		*	
		24	TC	3.9		*	
		27	TC	3.9		*	
		30	TC	3.8		*	
31	285288	00	DS	<1.0		*	Northeast of primary structure

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 = 06-21-85

Team Leader = MJH

Table 3.2

Summary of Interior Gamma Exposure Rates

DOE ID No. GJ-30306-CS

922 North 1st Street

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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)
One story brick business	*	*	*	*	14-16	*
One story cinder block business	*	*	*	*	13-14	*

* Walking gamma scans were performed to confirm the absence of interior contamination.

Table 4.1
Area and Volume Calculations
DOE ID No. GJ-30306-CS

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<u>AREA</u>	<u>CALCULATIONS(ft)</u>	<u>SF</u>	<u>DEPTH(ft)</u>	<u>CF</u>	<u>CUBIC YARDS</u>
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EXTERIOR

Concrete and Asphalt

A	5 x 12	=	60			
	5 x 9	=	45			
	5 x 6	=	30			
			<hr/> 135	x	0.3	= 41
B	2 x 22	=	44	x	0.2	= 9
C	5 x 4	=	20	x	0.3	= 6
D	5 x 5	=	25			
	(3 x 14) x 3	=	126			
	55 x 5	=	275			
	15 x 5	=	75			
			<hr/> 501	x	0.3	= 150
E	4 x 46	=	184			
	2 x 16	=	32			
			<hr/> 216	x	0.2	= 43
M	3 x 7	=	21	x	0.3	= 6
Volume of Concrete and Asphalt				=	255	= 255/27 = 9

Contaminated Fill

A	5 x 12	=	60			
	5 x 9	=	45			
	5 x 6	=	30			
			<hr/> 135	x	1.0	= 135
B	2 x 22	=	44	x	1.1	= 48
C	5 x 4	=	20	x	1.0	= 20

Table 4.1
Area and Volume Calculations
DOE ID No. GJ-30306-CS

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<u>AREA</u>	<u>CALCULATIONS(ft)</u>	<u>SF</u>	<u>DEPTH(ft)</u>	<u>CF</u>	<u>CUBIC YARDS</u>
D	(3 x 14) x 3 =	126			
	5 x 5 =	25			
	55 x 5 =	275			
	15 x 5 =	75			
		<u>501</u>	x 1.0 =	501	
E	2 x 15 =	30			
	45 x 4 =	180			
	2 x 2 =	4			
		<u>214</u>	x 1.1 =	235	
F	3 x 17 =	51	x 0.5 =	26	
G	3 x 17 =	51	x 1.3 =	66	
H	2 x 18 =	36			
	3 x 18 =	54			
	16 x 4 =	64			
		<u>154</u>	x 1.3 =	200	
I	12 x 10 =	120	x 0.5 =	60	
J	21 x 2 =	42	x 1.3 =	55	
K	21 x 4 =	84			
	9 x 2 =	18			
		<u>102</u>	x 2.0 =	204	
L	2 x 5 =	10	x 0.5 =	5	
M	3 x 7 =	21	x 1.7 =	36	
Volume of Fill				= 1,591 = 1,591/27 =	59
TOTAL VOLUME - EXTERIOR				=	68

See Appendix Figure 3.3 For Areas

EXTERIOR

Remove identified residual radioactive material 59 cy @ \$14.50/cy (machine-open)	\$ 856
Remove/replace concrete sidewalk 677 sf @ \$3/sf	2,031
Remove/replace asphalt paving 260 sf @ \$2.50/sf	650
Replace areas with compacted roadbase 59 cy @ \$11.50/cy	679
Replace decorative rock 530 sf @ \$.25/sf	133
	<hr/>
TOTAL EXTERIOR	\$ 4,349
TOTAL INTERIOR	0
ACCESS CONTROL	200
	<hr/>
SUBTOTAL	\$ 4,549
CONTINGENCY @ 5%	227
	<hr/>
SUBTOTAL	\$ 4,776
CONTRACTOR OVERHEAD & PROFIT @ 25%	1,194
	<hr/>
GRAND TOTAL	\$ 5,970

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REA30306/REA-617/LMR

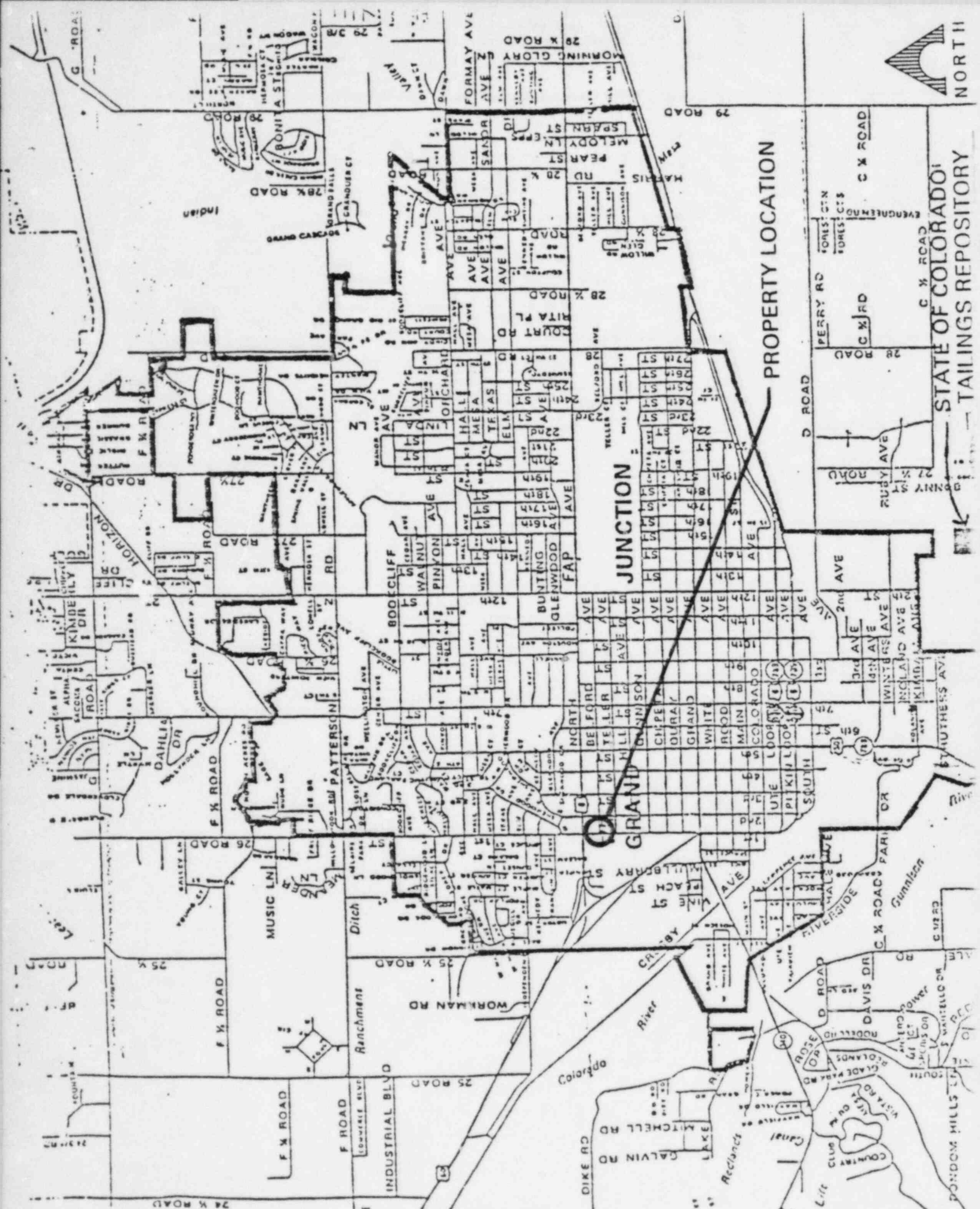
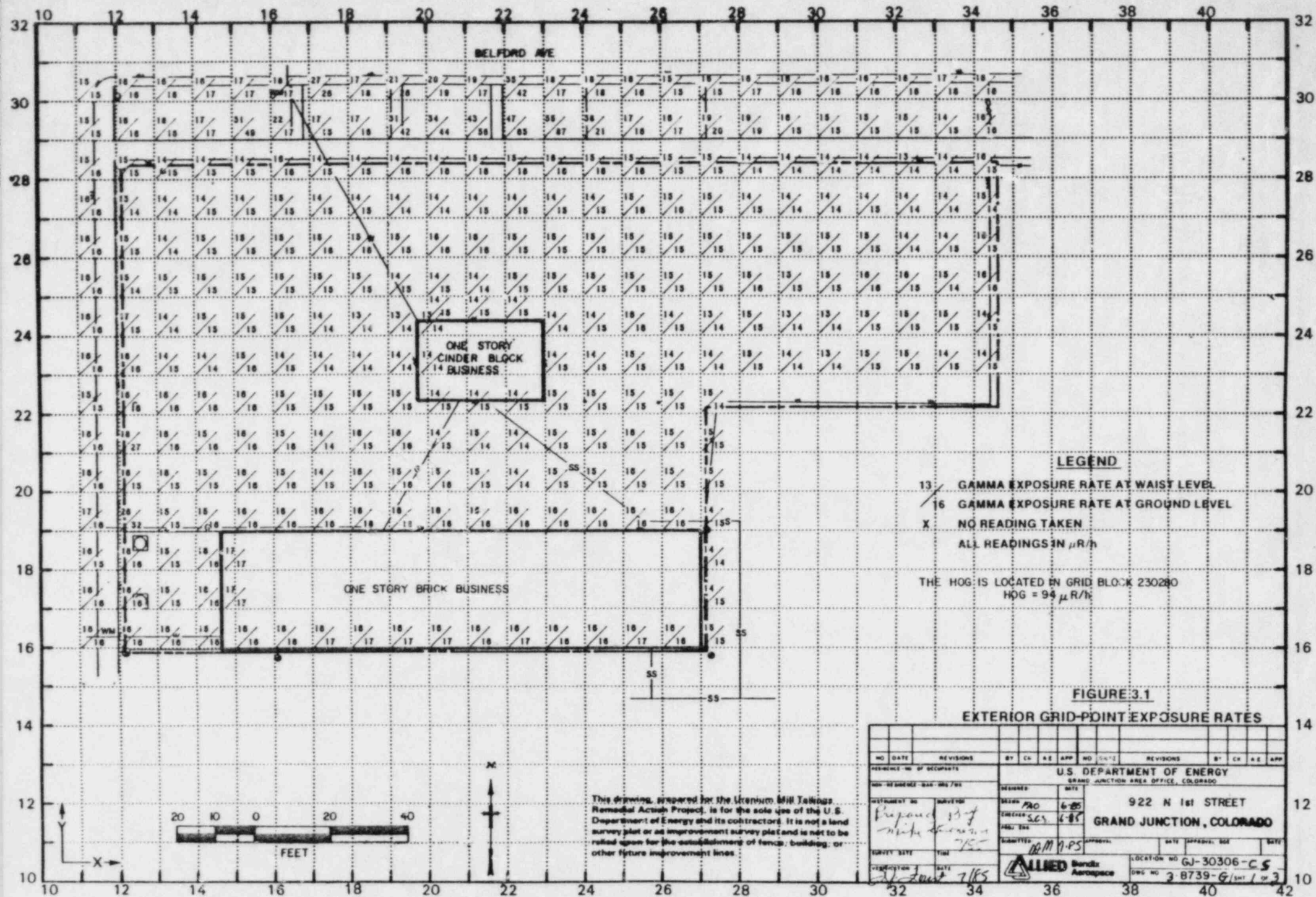


FIGURE 2.1
VICINITY MAP



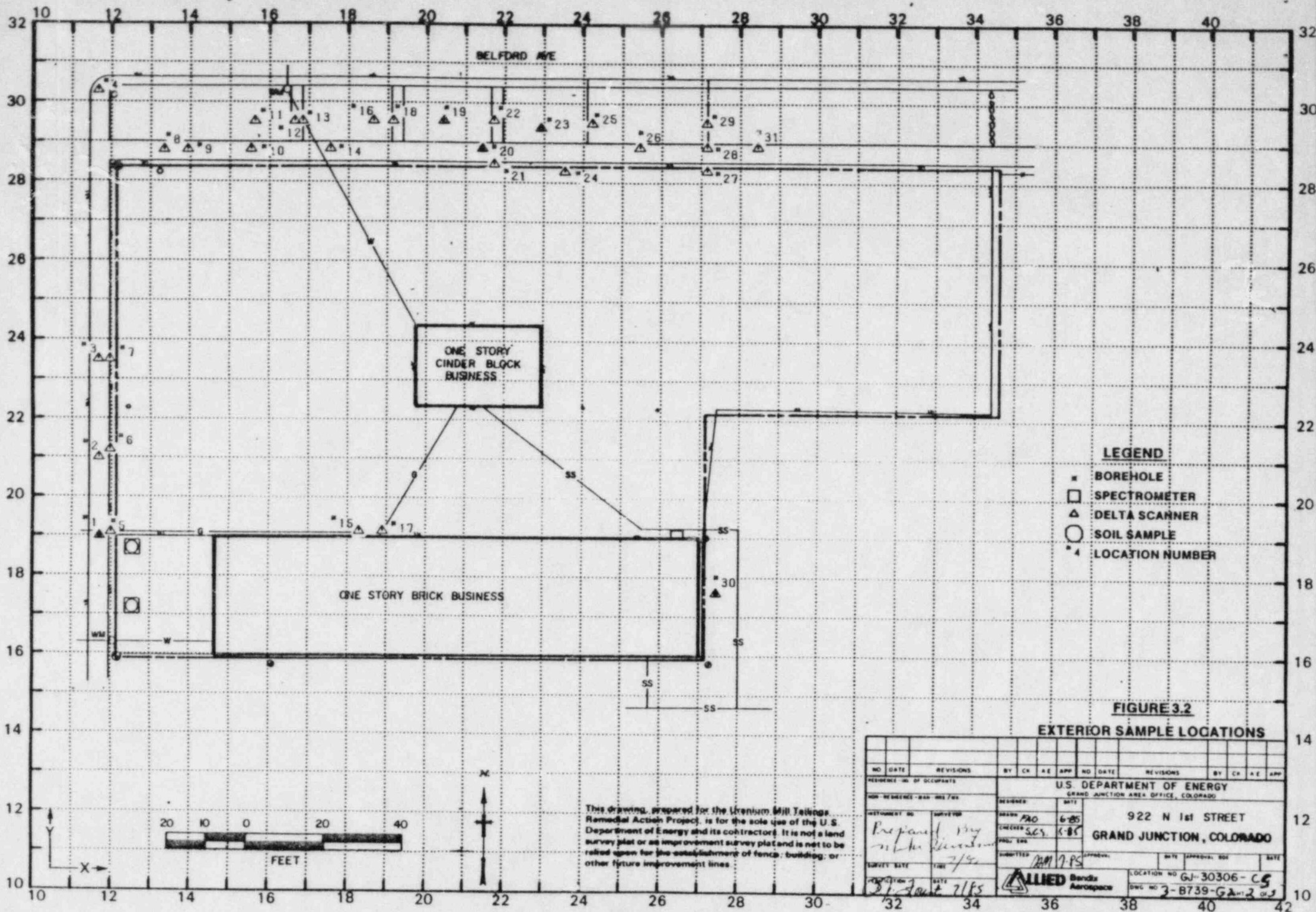
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MIN. RESIDENCE - DAY AND NIGHT															
DESIGNED								DATE							
DRAWN								DATE							
CHECKED								DATE							
APPROVED								DATE							
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LOCATION NO.								DATE							
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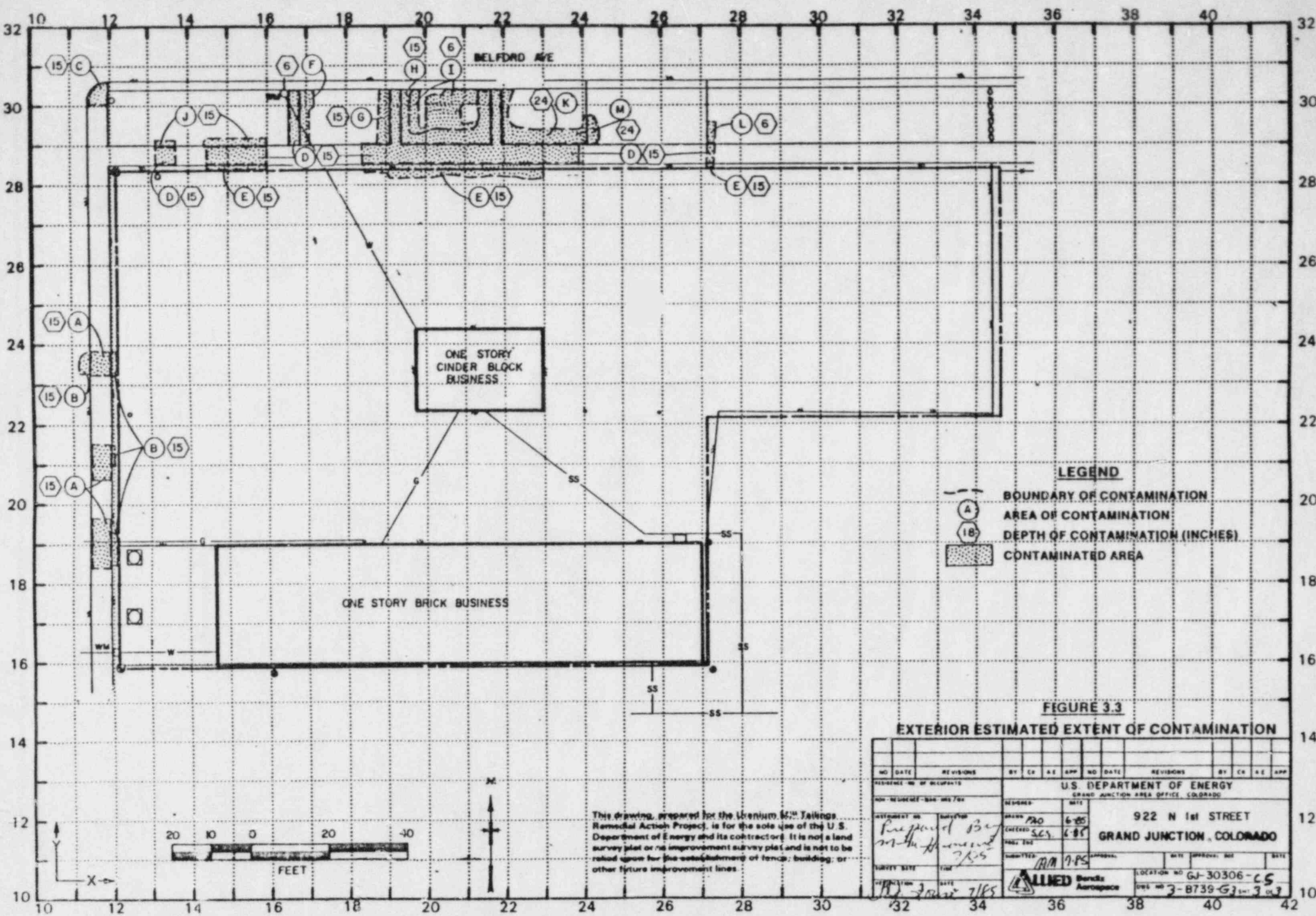
U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION AREA OFFICE, COLORADO

922 N 1st STREET
GRAND JUNCTION, COLORADO

LOCATION NO. GJ-30306-C5
DWC NO. 2-8739-G/INT 1 OF 3

ALLIED BUILDERS Aerospace





LEGEND

- BOUNDARY OF CONTAMINATION
- (A) AREA OF CONTAMINATION
- (18) DEPTH OF CONTAMINATION (INCHES)
- [Shaded Box] CONTAMINATED AREA

FIGURE 3.3

EXTERIOR ESTIMATED EXTENT OF CONTAMINATION

NO. DATE REVISIONS BY CH AE APP NO. DATE REVISIONS BY CH AE APP									
RESIDENCE NO. OF OCCUPANTS									
NON-RESIDENTIAL - NAME AND TYPE									
DESIGNED: <i>Frederick B. ...</i> DATE: <i>6-85</i>					U.S. DEPARTMENT OF ENERGY GRAND JUNCTION AREA OFFICE, COLORADO				
CHECKED: <i>...</i> DATE: <i>6-85</i>					922 N 1st STREET GRAND JUNCTION, COLORADO				
DRAWN: <i>...</i> DATE: <i>7/85</i>					LOCATION NO. GJ-30306- <i>CS</i>				
SURVEY SITE: <i>...</i> DATE: <i>7/85</i>					FILE NO. 3-B739-GJ-3-3				
APPROVED: <i>...</i> DATE: <i>7/85</i>					ALLIED <i>...</i>				

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 a improvement survey plat and is not to be relied upon for the establishment of fence, building, or other future improvement lines.

3/85

DOE ID NO.

GJ-30306-⁶⁶~~68~~

Date

7-9-85

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

Official Survey Report

Property Address 922 North 1st Street

Property Owner A. Corder

Address of Owner (if different from above) 181 Hall Avenue

Report Prepared By Mike Heronema

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

1 No evidence of residual radioactive material on surveyed property.

1 X Residual radioactive materials found at the following locations:

1 X 1 In open areas.

1 X 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 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 = 16 uR/h
HOG = 94 uR/h

ALLIED Bendix
Aerospace

Bendix Field Engineering Corporation
Grand Junction Operations
Grand Junction, Colorado

Date: June 21, 1985
To: Files
Mike Heronema
From: Mike Heronema
Subject: Team Leader Notes - GJ-30306-*CS*

Address: 922 North First Street

Owner:

Team Members

M. Heronema (Team Leader)	G. Larsen
N. Wallace	D. Clay
L. Kula	G. Meeker
M. Duran	D. Bell
S. Garcia	

All utilities were investigated with no apparent contamination. Due to a 12-inch-thick slab of aggregate concrete adjacent to Ace Sports Shop, the water line was investigated next to the meter (Location 121161).

Elevated readings in the city sidewalk were noted and investigated. The contamination is isolated to portions of new improved concrete within the city sidewalk. The concrete itself does not appear to be contaminated.

Date: July 8, 1985

At Location 21 (delta) a recorded depth below contamination was not obtainable due to slough from a deposit approximately 9 inches deep.

All team members were alpha scanned before leaving the site.

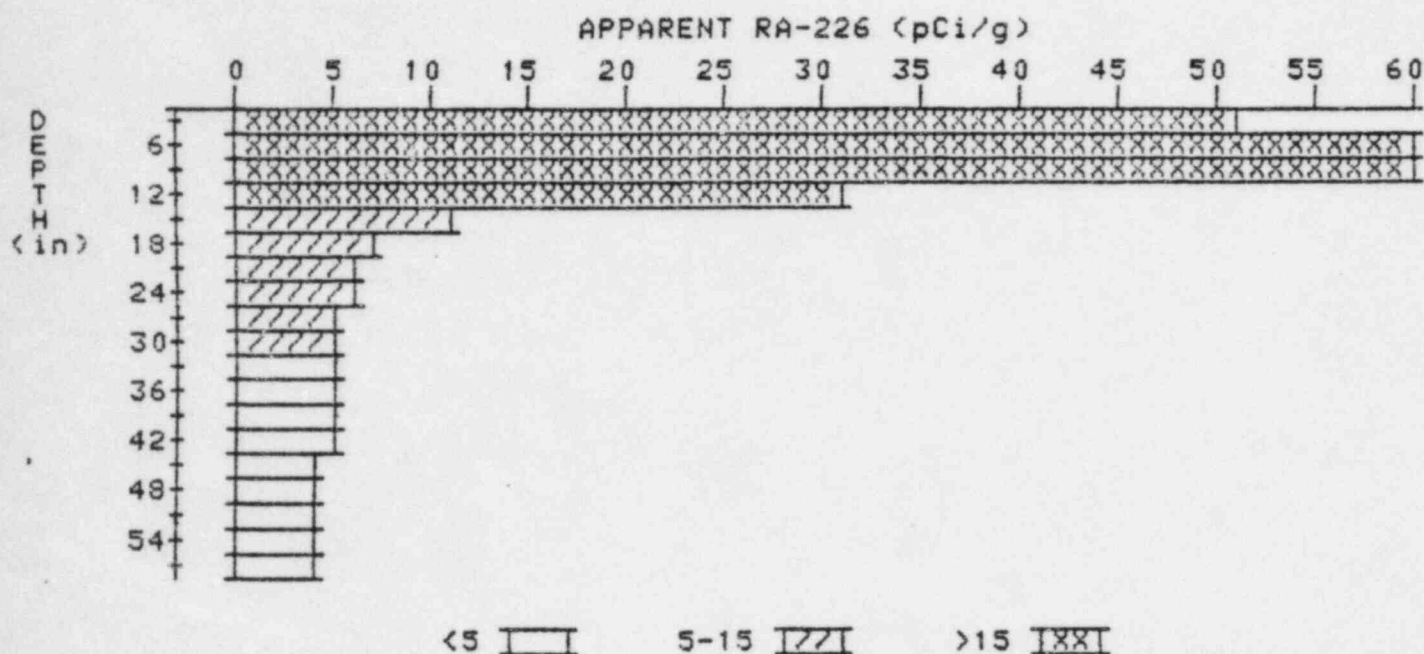
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

1

PROPERTY NUMBER: GJ-30306-C6

HOLE NUMBER: 1

LOCATION: 117190



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	51.4	51.4
6	68.3	112.9
9	60.1	82.0
12	39.6	31.4
15	23.7	11.3
18	14.8	7.2
21	10.2	6.5
24	7.7	5.7
27	6.3	5.1
30	5.6	5.2
33	5.1	4.6
36	4.9	4.7
39	4.8	5.0
42	4.6	4.6
45	4.4	4.4
48	4.2	3.8
51	4.2	4.4
54	4.1	4.1

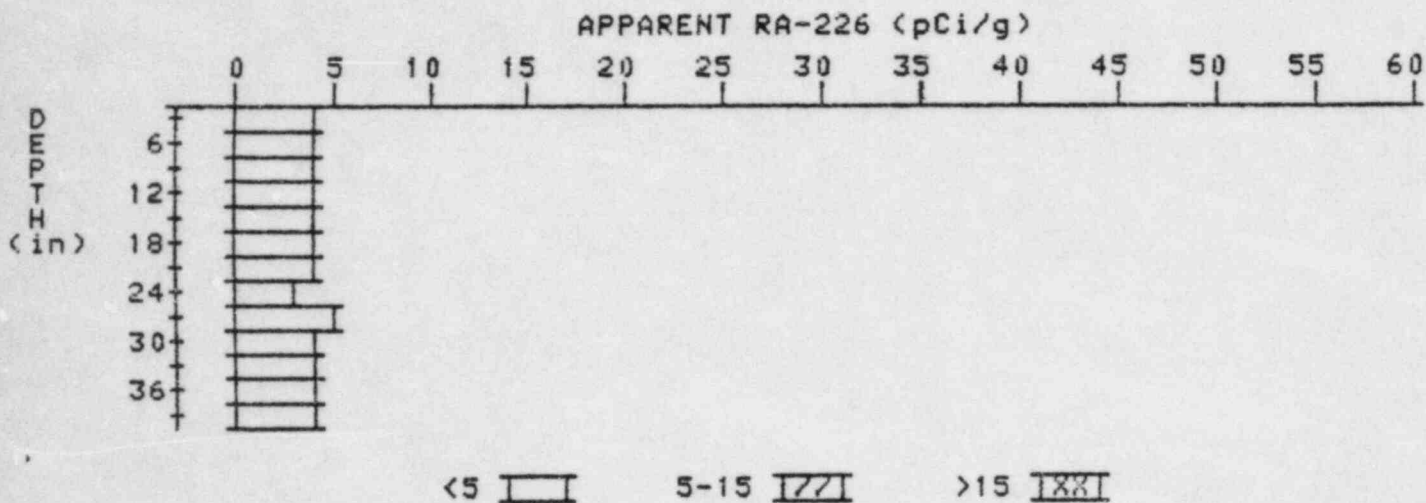
APPARENT RADIUM-226 CONCENTRATION 19

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30306-C5

HOLE NUMBER: 19

LOCATION: 205295



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	4.2	4.2
6	4.1	4.1
9	4.0	3.8
12	4.0	4.0
15	4.0	4.0
18	4.0	4.2
21	3.9	3.9
24	3.8	3.3
27	4.0	4.5
30	3.9	3.9
33	3.8	3.6
36	3.8	4.0
39	3.7	3.7

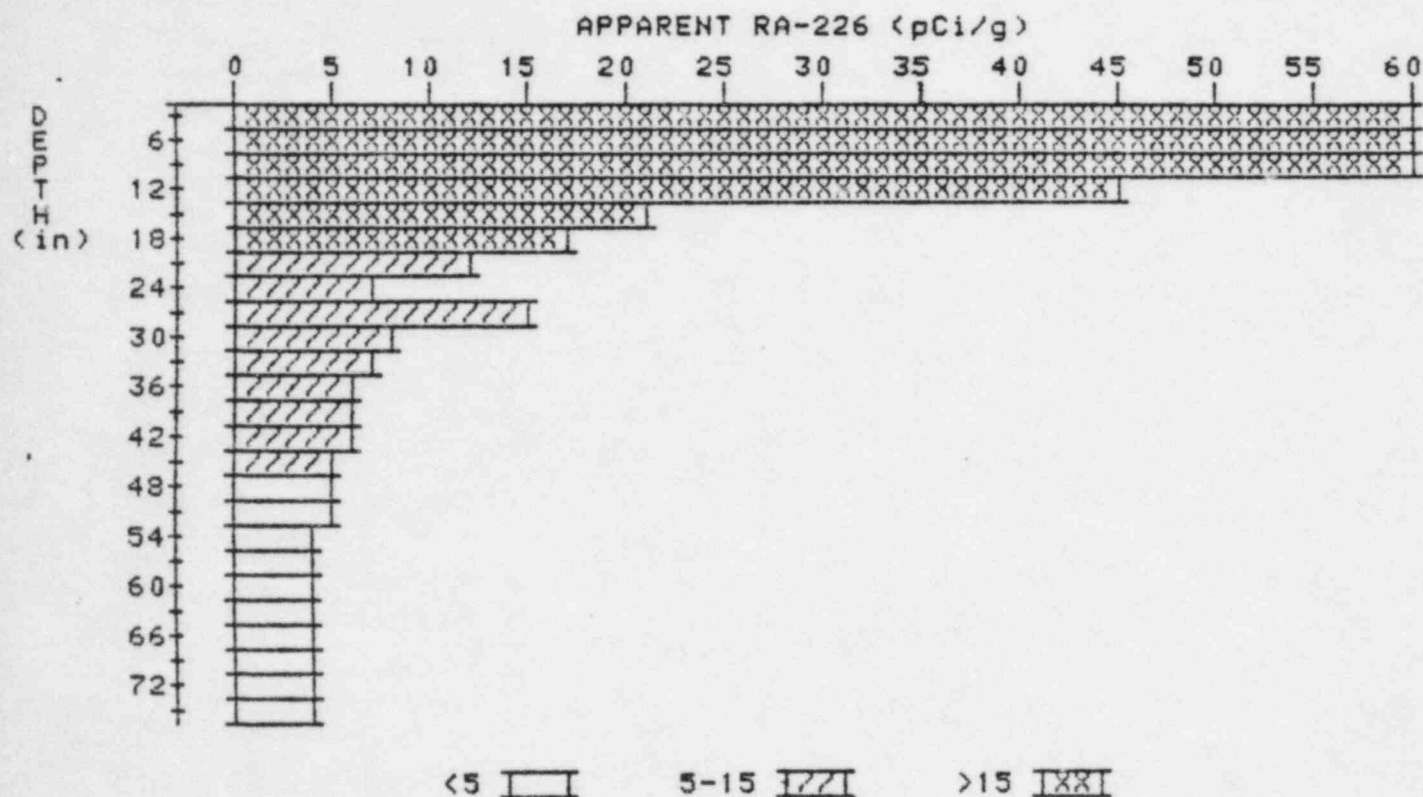
APPARENT RADIUM-226 CONCENTRATION 20

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30306-C5

HOLE NUMBER: 20

LOCATION: 215288



Depth (in)	Apparent Radium-226 (pCi/g)	Apparent Radium-226 (pCi/g)
	Undeconvolved	Deconvolved
3	104.9	104.9
6	139.1	236.0
9	118.8	163.2
12	73.5	44.9
15	44.3	20.7
18	28.4	16.7
21	19.1	12.0
24	13.8	6.9
27	12.4	14.7
30	9.7	7.9
33	8.0	6.9
36	6.9	6.2
39	6.2	5.8
42	5.7	5.7

45
48
51
54
57
60
63
66
69
72
75

5.2
4.8
4.5
4.2
4.0
4.0
3.9
3.9
3.8
3.7
3.6

5.0
4.6
4.5
4.0
3.6
4.2
3.7
4.1
3.8
3.7
3.6

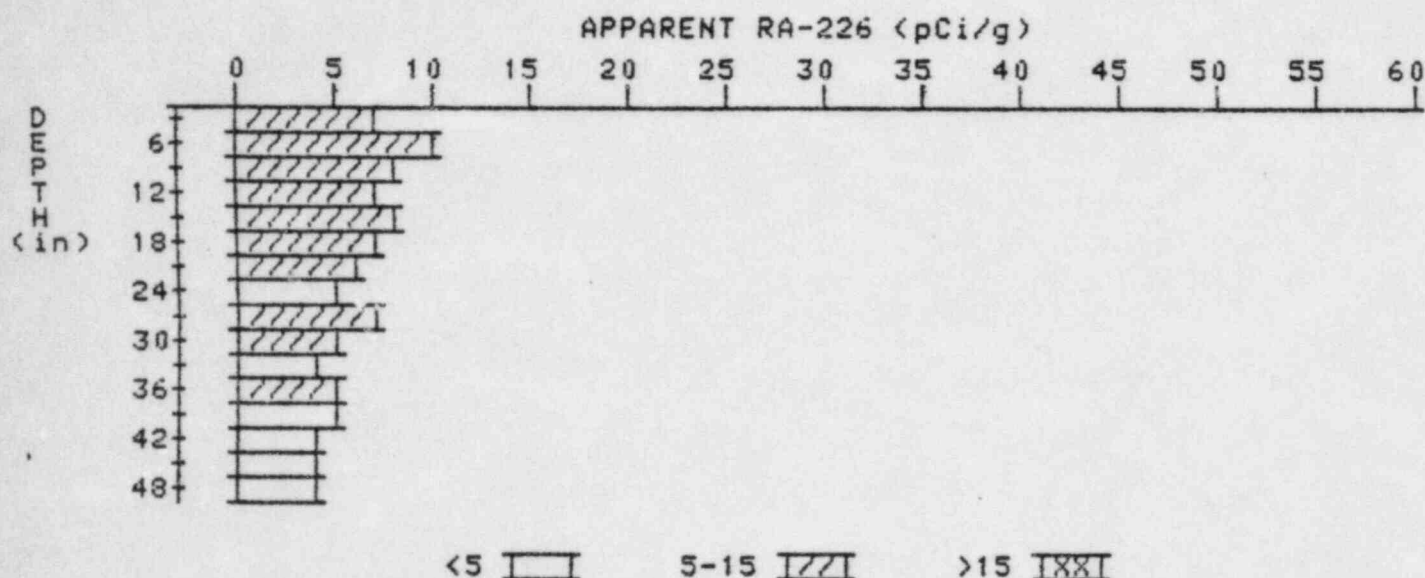
APPARENT RADIUM-226 CONCENTRATION 23

DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30306-C5

HOLE NUMBER: 23

LOCATION: 230293



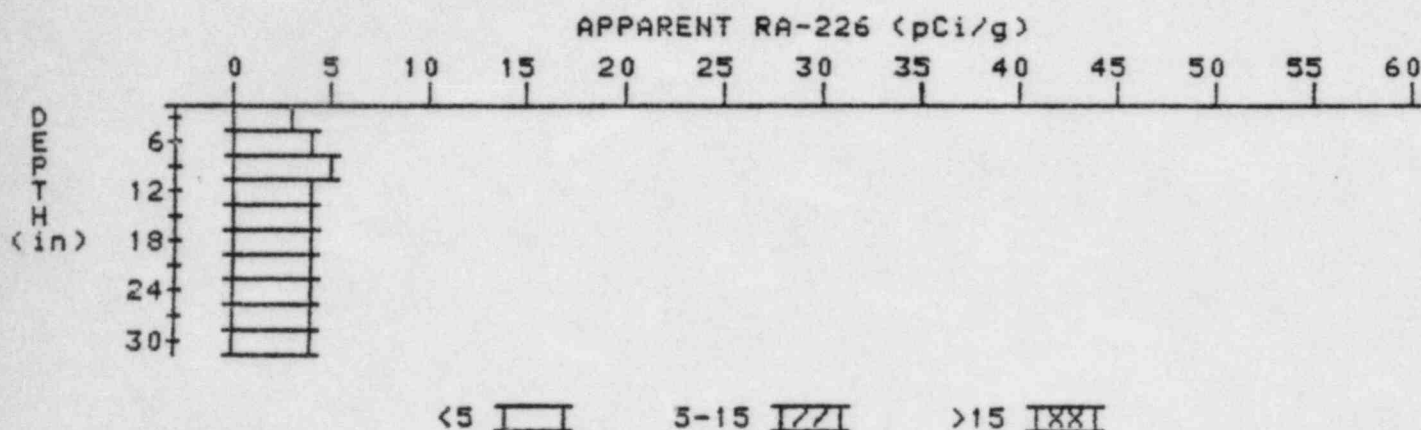
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	7.3	7.3
6	8.1	9.9
9	7.9	8.3
12	7.5	7.3
15	7.2	7.6
18	6.7	6.5
21	6.3	6.5
24	5.8	4.9
27	5.8	6.7
30	5.3	5.1
33	4.9	4.4
36	4.8	5.2
39	4.5	4.5
42	4.2	4.2
45	3.9	3.5
48	3.8	3.8

APPARENT RADIUM-226 CONCENTRATION 30 DECONVOLUTION GRAPH

PROPERTY NUMBER: GJ-30306-C5

HOLE NUMBER: 30

LOCATION: 274175



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.9	2.9
6	3.5	3.9
9	3.9	4.6
12	3.9	3.7
15	4.0	4.4
18	3.9	3.5
21	4.0	4.4
24	3.9	3.7
27	3.9	4.1
30	3.8	3.8

