

RADIOLOGIC AND ENGINEERING ASSESSMENT

FOR

DOE ID NO.: GJ-11490-RS
ADDRESS: 537 28 3/4 ROAD

AUGUST 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 ⁶²⁰⁴
M. TUCKER
DOE PROJECT ENGINEER

DATE

August 8, 1985

REA11490-REA-706

8508300376 850809
PDR WASTE
WM-54 PDR

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The location, DOE ID No. GJ-11490-RS, is a single-family residence located at 537 28 3/4 Road, 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, 16 cu. yd.; interior, 0 cu. yd.

Estimated cost to perform remedial action, including dislocation when applicable, is \$1,430. Remedial action on this property will take approximately 7 days to complete.

2.0 PROPERTY DESCRIPTION

2.1 General Description

Address: 537 28 3/4 Road, Grand Junction, Colorado

Zoning: Residential (RSF-8)

Lot Size: Approximately 22,400 sf (0.51 acres)

Legal Description: Beginning southeast corner, N 1/2, SE 1/4, NW 1/4, SE 1/4, Section 7, 1S 1E, West 225 feet, North 122 feet, East 225 feet, South to beginning, except east 25 feet for road and except south 10 feet for road, City of Grand Junction, County of Mesa, State of Colorado.

Point of Reference: This property is located approximately 3 mile(s) 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:	Texas Avenue
East:	28 3/4 Road
West:	School yard

2.2 Existing Facilities and Structures

Primary Structure:

Type:	Single-story residence
Size:	Approximately 1,450 sf
Construction Date:	1900
Construction:	Wood-frame
Foundation:	Concrete foundation wall and footing
Footing Depth:	Approximately 24" to bottom of footing from grade
Basement:	Yes - partial
Crawl Space:	Yes
Condition:	Good

Other Structures:

Type:	Metal Shed
Size:	Approximately 82 sf
Construction:	Prefabricated 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 over 50 years old. Therefore, it does meet the eligibility criteria for consideration of inclusion on the National Register of Historic Places.

Alterations to Structure: Modifications, alterations, and remodeling on all sides of original structure.

Architectural Significance: None known

Historical Significance: None known

3.0 RADIOLOGIC SURVEY

3.1 Introduction

Radiologic data were collected by Bendix at DOE ID No. GJ-11490-RS on July 3, 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 in the irrigation ditch, northeast of the primary structure.

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: 15 to 16 uR/h
Highest Outside Gamma Reading (HOG): 78 uR/h

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

3.2.2 Interior Findings

Background Readings: 14 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: Soil
Direction From Primary Structure: Northeast
Other Directions: Adjacent to 28 3/4 Road
Total Depth of Contamination: 6 inches
Comments: There is a small contaminated rock and mortar trough in the irrigation ditch adjacent to an uncontaminated concrete irrigation divider box.
Approximate Square Footage: 130
- (Area B) Surface Material: Soil
Direction From Primary Structure: Northeast
Other Directions: Adjacent to 28 3/4 Road
Total Depth of Contamination: 15 inches
Comments: This area is in a road right-of-way.
Approximate Square Footage: 120
- (Area C) Surface Material: Soil
Direction From Primary Structure: Northeast
Other Directions: Adjacent to 28 3/4 Road
Total Depth of Contamination: 12 inches
Comments: This area is in a road right-of-way.
Approximate Square Footage: 222

4.0 RECOMMENDED REMEDIAL ACTION

4.1 Decontamination and Restoration

The recommended remedial action for this property, DOE ID No. GJ-11490-RS, 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 \$1,430.

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

Owner preference is that the remedial action be done concurrently with the property to the north. 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 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-11490-RS

537 28 3/4 Road

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	131206	03	TC	3.1		*	Cistern DC = 0 inches
		06	TC	3.4		*	
		09	TC	3.5		*	
		12	TC	3.6		*	
		15	TC	3.7		*	
		18	TC	3.7		*	
		21	TC	3.7		*	
		24	TC	3.7		*	
		27	TC	3.6		*	
		30	TC	3.6		*	
		33	TC	3.6		*	
		36	TC	3.5		*	
		39	TC	3.5		*	
		42	TC	3.6		*	
		45	TC	3.5		*	
		48	TC	3.5		*	
		51	TC	3.6		*	
		54	TC	3.5		*	
		57	TC	3.4		*	
		60	TC	3.5		*	
		63	TC	3.5		*	
2	209230	03	TC	3.0		*	West of primary structure DC = 0 inches
		06	TC	3.1		*	
		09	TC	3.3		*	
		12	TC	3.5		*	
		15	TC	3.5		*	
		18	TC	3.5		*	
		21	TC	3.5		*	
		24	TC	3.5		*	
		27	TC	3.4		*	
		30	TC	3.4		*	
		33	TC	3.3		*	
		36	TC	3.4		*	
		39	TC	3.3		*	
		42	TC	3.3		*	
		45	TC	3.2		*	
		48	TC	3.2		*	
		51	TC	3.2		*	
		54	TC	3.3		*	
		57	TC	3.3		*	
		60	TC	3.3		*	
		63	TC	3.3		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-11490-RS

537 28 3/4 Road

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	216220	03	TC	2.5		*	Sewer line DC = 0 inches
		06	TC	2.8		*	
		09	TC	3.2		*	
		12	TC	3.3		*	
		15	TC	3.4		*	
		18	TC	3.4		*	
		21	TC	3.4		*	
		24	TC	3.4		*	
		27	TC	3.4		*	
		30	TC	3.4		*	
		33	TC	3.4		*	
		36	TC	3.5		*	
		39	TC	3.4		*	
		42	TC	3.4		*	
		45	TC	3.4		*	
		48	TC	3.4		*	
		51	TC	3.4		*	
4	230215	00	DS	1.8		*	Background DC = 0 inches
		03	TC	3.3		*	
		06	TC	3.8		*	
		09	TC	3.9		*	
		12	TC	3.8		*	
		15	TC	3.7		*	
		18	TC	3.8		*	
		21	TC	3.8		*	
		24	TC	3.9		*	
		27	TC	3.8		*	
		30	TC	3.9		*	
5	239213	03	TC	2.9		*	Water line DC = 0 inches
		06	TC	3.2		*	
		09	TC	3.4		*	
		12	TC	3.6		*	
		15	TC	3.7		*	
		18	TC	3.6		*	
		21	TC	3.6		*	
		24	TC	3.6		*	
		27	TC	3.5		*	
		30	TC	3.5		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-11490-RS

537 28 3/4 Road

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.		
5	239213	33	TC	3.5		*	
		36	TC	3.4		*	
		39	TC	3.4		*	
		42	TC	3.4		*	
		45	TC	3.5		*	
		48	TC	3.5		*	
		51	TC	3.5		*	
		54	TC	3.5		*	
		57	TC	3.4		*	
		60	TC	3.4		*	
6	250213	00	DS	1.5		*	Gas line
		18	DS	<1.0		*	on gas line
7	250243	03	TC	2.9		*	North of primary
		06	TC	3.1		*	structure
		09	TC	3.3		*	DC = 0 inches
		12	TC	3.5		*	
		15	TC	3.6		*	
		18	TC	3.5		*	
		21	TC	3.5		*	
		24	TC	3.6		*	
		27	TC	3.5		*	
		30	TC	3.4		*	
8	317286	[16]	DS	2.4		*	Concrete irrigation divider box
9	321287	03	TC	20.3		*	Northeast of
		06	TC	24.5		*	primary structure
		09	TC	21.6		*	DC = 15 inches
		12	TC	14.8		*	Based on the
		15	TC	8.8		*	deconvolution graph
		18	TC	6.9		*	
		21	TC	5.7		*	
		24	TC	5.0		*	
		27	TC	4.4		*	
		30	TC	4.2		*	
10	322280	00	DS	13.8		*	
		06	DS	<1.0		*	

Radium Concentrations at Exterior Locations

DOE ID #GJ-11490-RS

537 28 3/4 Road

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.		
11	327270	00	DS	4.5		*	On 28 3/4 Road right-of-way
		06	DS	11.9		*	
		12	DS	<1.0		*	
12	327280	00	DS	10.6		*	On 28 3/4 Road right-of-way
		06	DS	4.2		*	
		12	DS	1.8		*	

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 = 07-03-85
 Team Leader = TRU

Table 3.2

Summary of Interior Gamma Exposure Rates

DOE ID #GJ-11490-RS

537 28 3/4 Road

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)
Cellar	*	*	*	*	16-18	*
Crawl Space	00	00	00	13	15-17	16
Ground Floor	*	*	*	*	14-16	*
Shed	1	15-15	15	1	14-14	14

* Walking gamma scans were performed to confirm the absence of interior contamination in the cellar and on the ground floor.

Table 4.1
Area and Volume Calculations
DOE ID No. GJ-11490-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					
A	7 x 10	=	70		
	5 x 12	=	60		
			<hr/>		
			130	x 0.5 =	65
B	12 x 10	=	120	x 1.3 =	156
C	5 x 10	=	50		
	9 x 8	=	72		
	10 x 10	=	100		
			<hr/>		
			222	x 1.0 =	222
				<hr/>	
TOTAL VOLUME - EXTERIOR				= 443	= 443/27 = 16

See Appendix Figure 3.3 For Areas

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Table 4.2
Estimated Cost of Decontamination and Restoration
DOE ID No. GJ-11490-RS

Page 1 of 1

EXTERIOR

Remove/reset fencing 30 lf @ \$2.50/lf	\$ 75
Remove identified residual radioactive material 2 cy @ \$44/cy (manual-open)	88
14 cy @ \$14.50/cy (machine-open)	203
Replace areas with roadbase 14 cy @ \$11.50/cy	161
Replace areas with topsoil 2 cy @ \$9.50/cy	19
Replace shrubs 6 each @ \$20/each	120
Clean-up	100
	<hr/>
TOTAL EXTERIOR	\$ 766
TOTAL INTERIOR	0
ACCESS CONTROL	100
	<hr/>
SUBTOTAL	\$ 866
CONTINGENCY @ 10%	87
	<hr/>
SUBTOTAL	\$ 953
CONTRACTOR OVERHEAD & PROFIT @ 50%	477
	<hr/>
GRAND TOTAL	\$ 1,430

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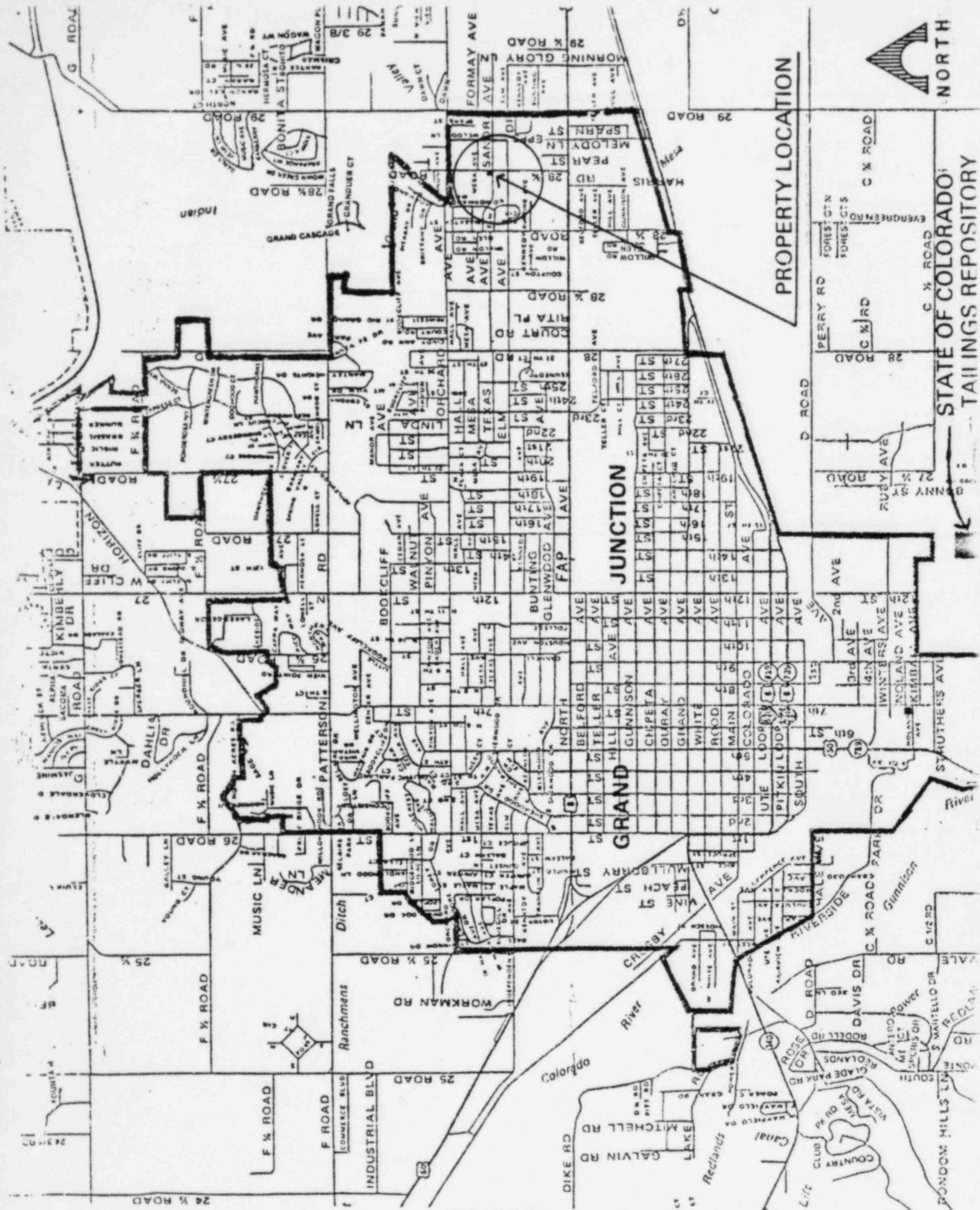


FIGURE 2.1
VICINITY MAP

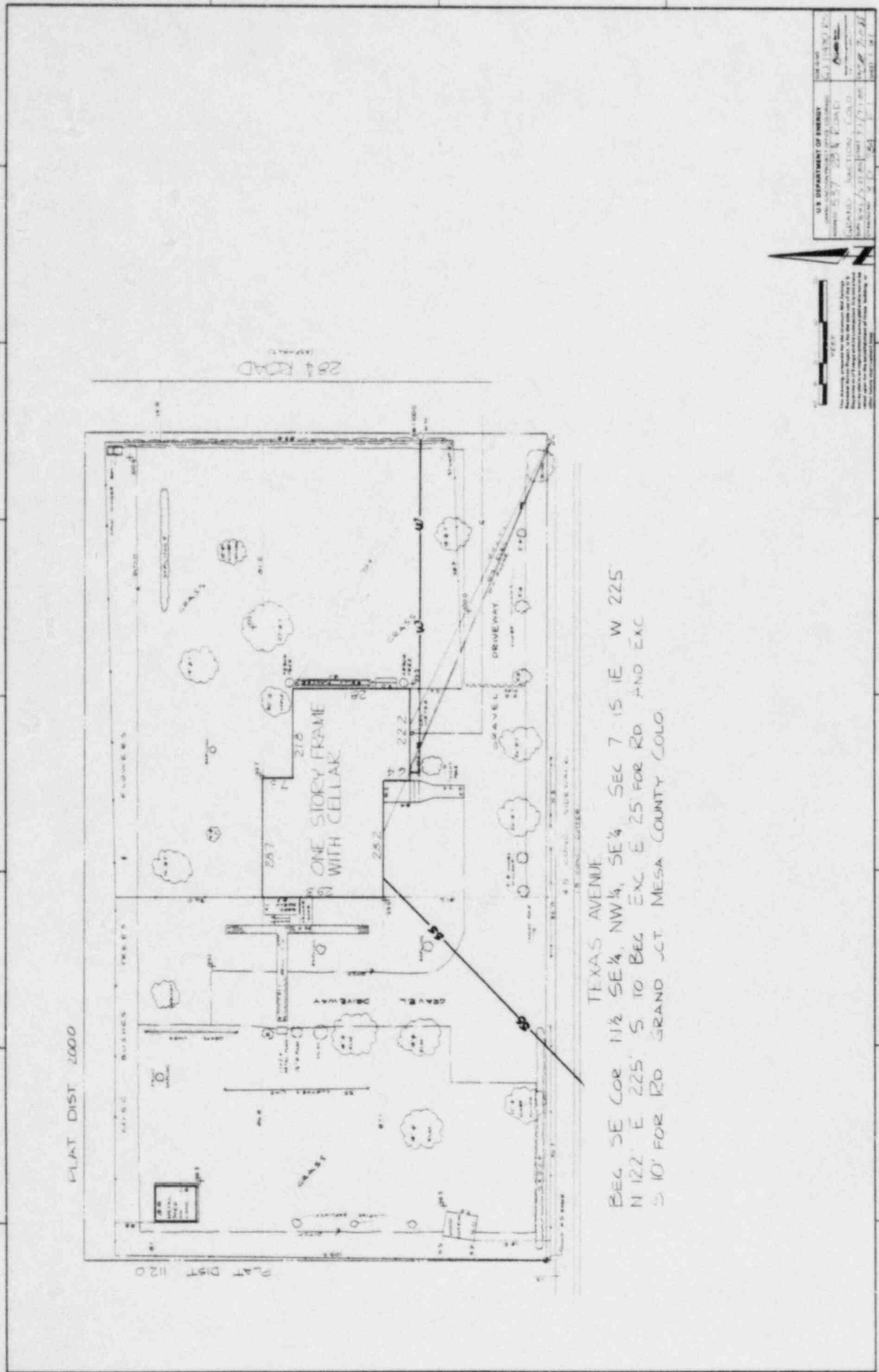
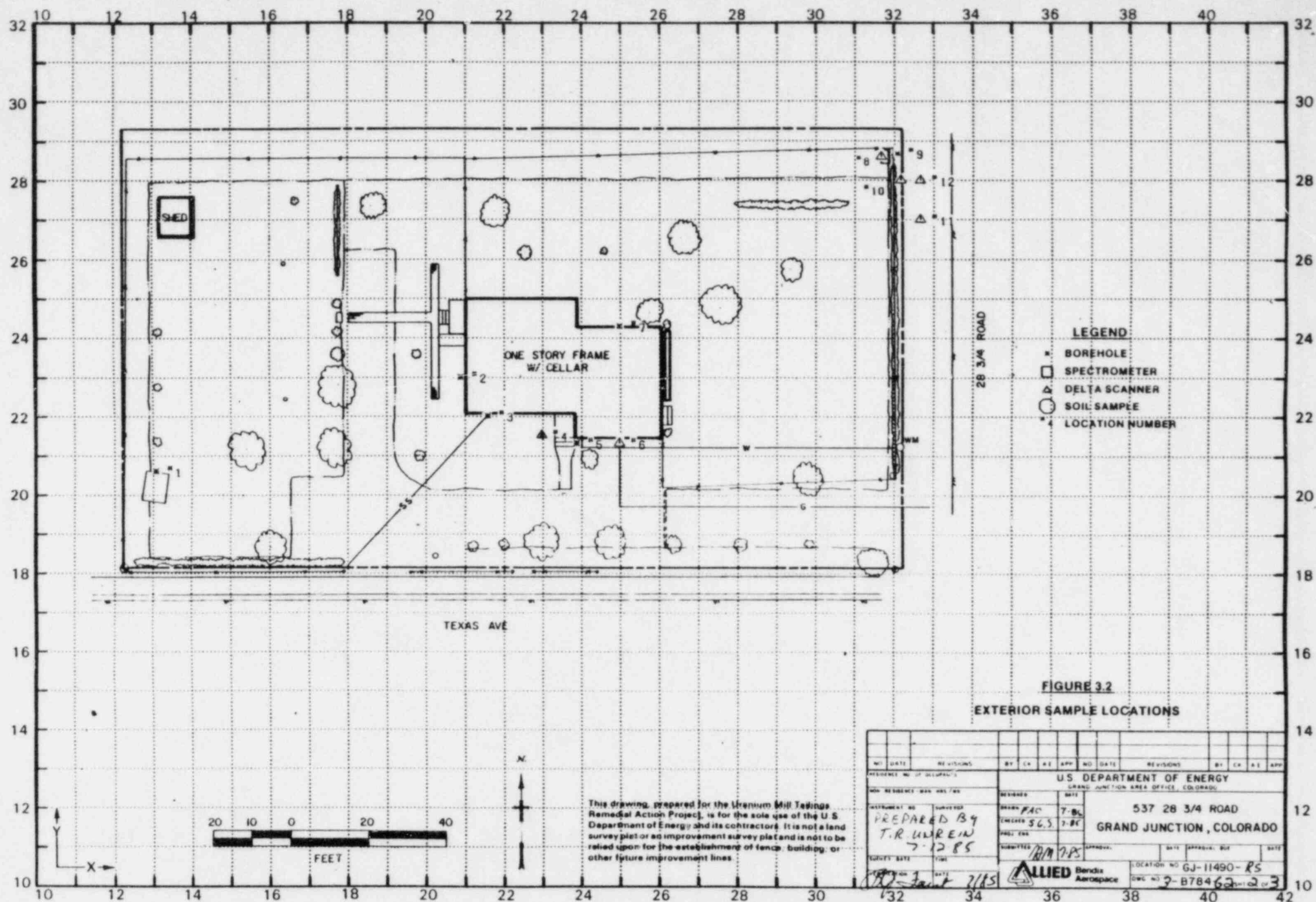
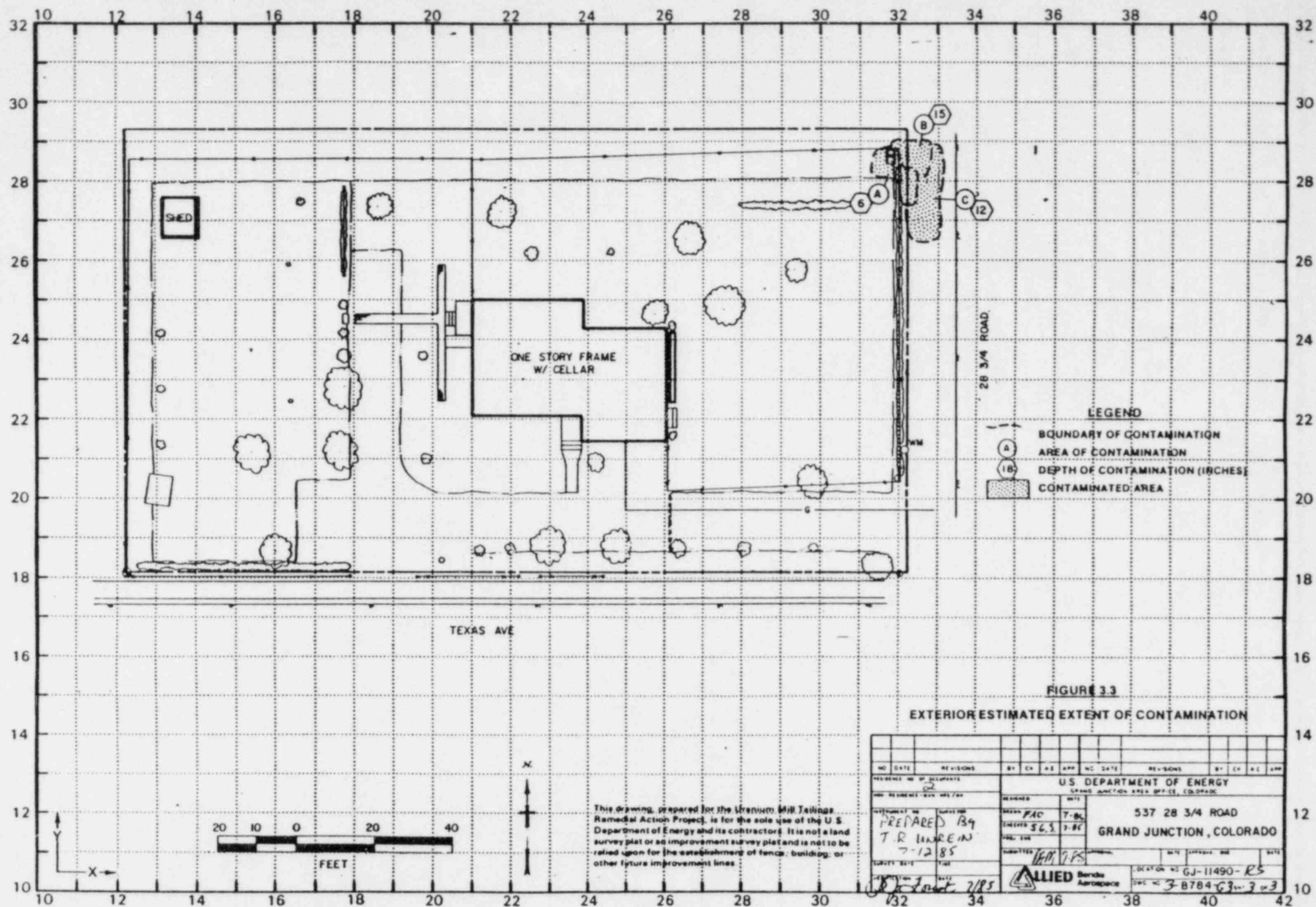


FIGURE 2.2 SITE PLAN





3/85

DOE ID NO.

GJ-11490-KS

Date

July 12, 1985

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

Official Survey Report

Property Address 537 28 3/4 Road
Property Owner W. & C. Iser
Address of Owner (if different from above) Same
Report Prepared By T.R. Unrein

I. PRESENCE/ABSENCE OF RESIDUAL RADIOACTIVE MATERIALS

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

1 XX 1 Residual radioactive materials found at the following locations:

1 XX 1 In open areas.

1 XX 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 XX 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 = 78 uR/h

July 24, 1985

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

ATTN: Chuck Thornberg

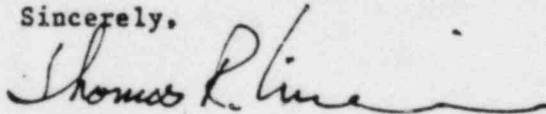
Dear Chuck:

The following is in response to your questions and comments concerning Department of Energy (DOE) Identification (ID) number GJ-11490-RS, dated 19 July 1985.

1. The garage that was mentioned in the original CDH survey has since been removed. It was located in the southeast corner of the property. Texas Avenue now lies over the old garage site.

Thank you for your time and cooperation. If you should have additional questions or comments you may contact me at 242-8621, extension 418.

Sincerely,



Thomas R. Unrein
RSD Survey Team Leader

TRU:pr

MEMORANDUM

ALLIED Bendix
Aerospace

Bendix Field Engineering Corporation
Grand Junction Operations
Grand Junction, Colorado

Date: July 3, 1985

To: Files

From: Thomas R. Unrein

Subject: Team Leader Notes - GJ-11490-RS

Address: 537 28-3/4 Road

Owner: W. and C. Iser

Arrival Time: 12:30 PM

Team Members

T. Unrein (Team Leader)
D. Clay
D. Bell
K. Roemer

V. Hebel
D. Dow
V. Rothman
R. Wilkins

Instruments

Total Count: C-4005, C-9202
Delta Scintillometer: C-4068, C-3942
Crutch Scintillometer: C-1071, C-1205, C-1181, C-1150, C-1136

No interior contamination was found.

The only exterior contamination found is in the road right-of-way (28-3/4 Road) and in a concrete slab next to a concrete irrigation divider box (which is not contaminated). The owner stated this is the only place he ever used tailings.

The survey was completed at 3:30 PM. All team members were frisked and returned to the office.

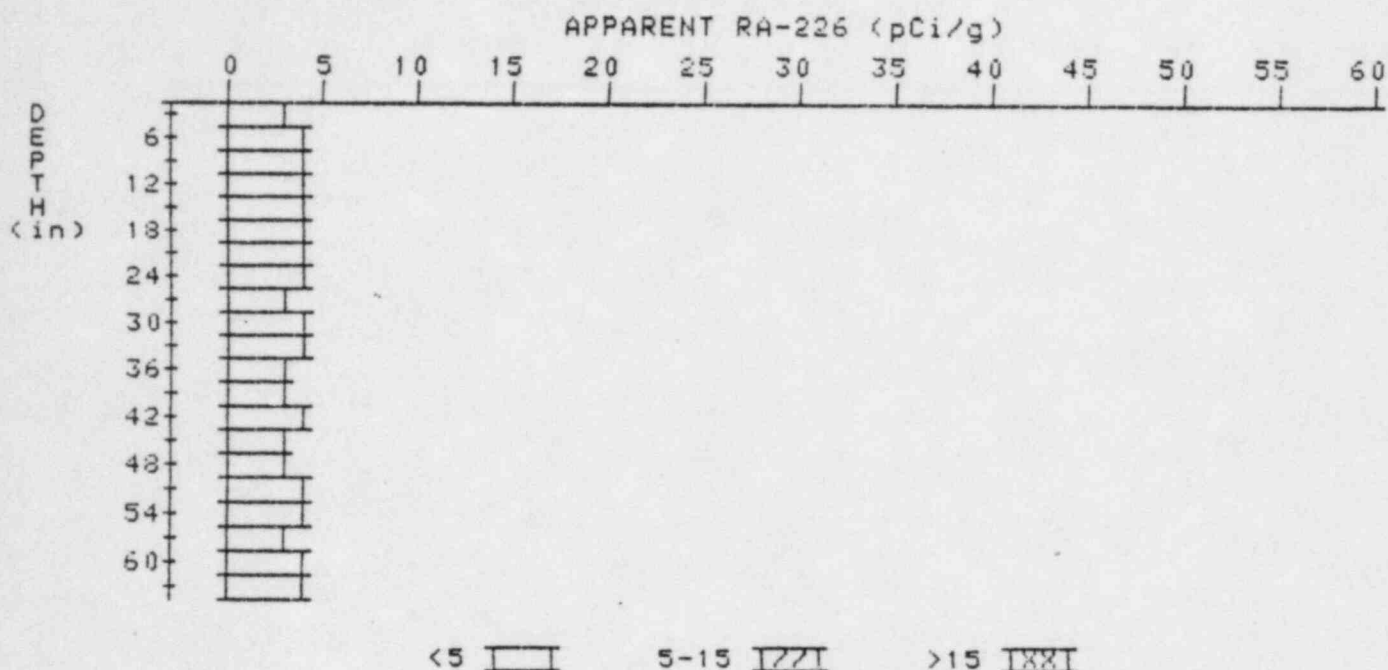
Team Leader Notes
Thomas R. Unrein
GJ-11490-RS
July 3, 1985
Page 2

Spillover contamination was noted from this property in the road right-of-way (28-3/4 Road) onto 539 28-3/4 Road, ranging from 180 to 400 counts per second (cps). The necessary paper work has been generated.

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

1

PROPERTY NUMBER: GJ-11490-RS
HOLE NUMBER: 1
LOCATION: 131206



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.1	3.1
6	3.4	3.8
9	3.5	3.5
12	3.6	3.6
15	3.7	3.9
18	3.7	3.7
21	3.7	3.7
24	3.7	3.9
27	3.6	3.4
30	3.6	3.6
33	3.6	3.8
36	3.5	3.3
39	3.5	3.3
42	3.6	4.0
45	3.5	3.3
48	3.5	3.3
51	3.6	4.0

54
57
60
63

3.5
3.4
3.5
3.5

3.5
3.0
3.7
3.5

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

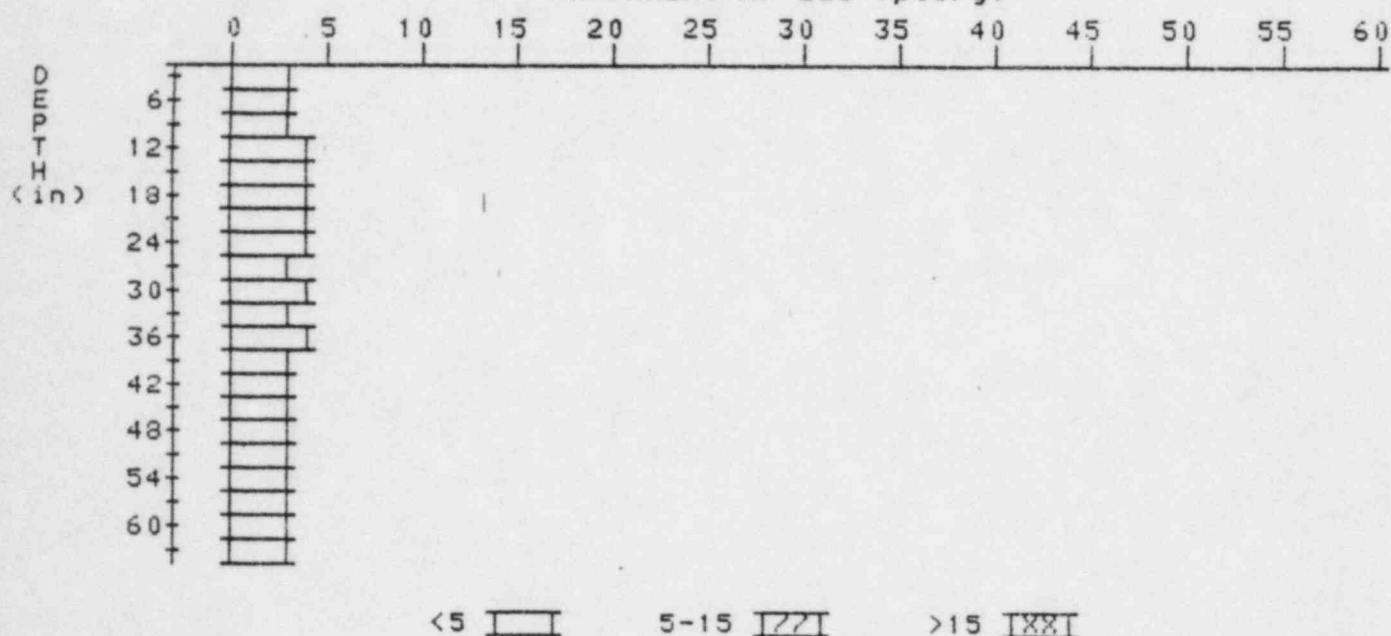
2

PROPERTY NUMBER: GJ-11490-RS

HOLE NUMBER: 2

LOCATION: 209230

APPARENT RA-226 (pCi/g)



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.0	3.0
6	3.1	2.9
9	3.3	3.3
12	3.5	3.9
15	3.5	3.5
18	3.5	3.5
21	3.5	3.5
24	3.5	3.7
27	3.4	3.2
30	3.4	3.6
33	3.3	2.9
36	3.4	3.8
39	3.3	3.1
42	3.3	3.5
45	3.2	3.0
48	3.2	3.2
51	3.2	3.0

54
57
60
63

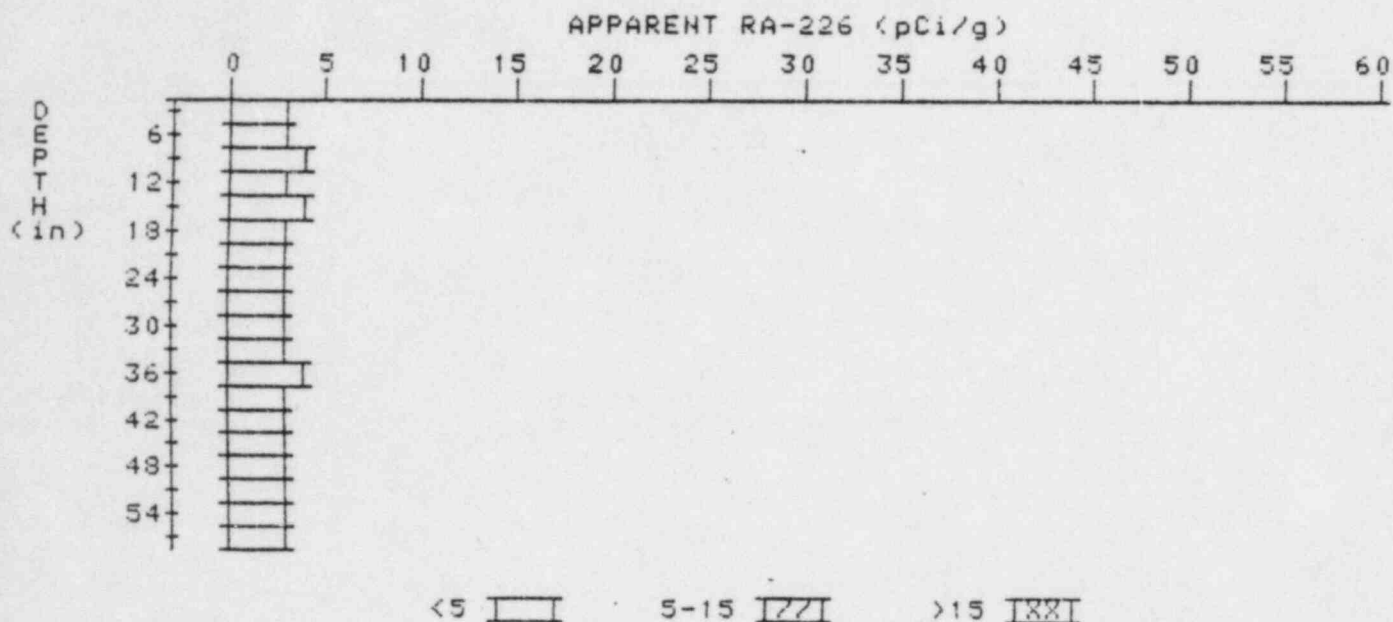
3.3
3.3
3.3
3.3

3.5
3.3
3.3
3.3

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

3

PROPERTY NUMBER: GJ-11490-RS
HOLE NUMBER: 3
LOCATION: 216220



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.5	2.5
6	2.8	2.6
9	3.2	3.7
12	3.3	3.3
15	3.4	3.6
18	3.4	3.4
21	3.4	3.4
24	3.4	3.4
27	3.4	3.4
30	3.4	3.4
33	3.4	3.2
36	3.5	3.9
39	3.4	3.2
42	3.4	3.4
45	3.4	3.4
48	3.4	3.4
51	3.4	3.4
54	3.4	3.4

57

3.4

3.4

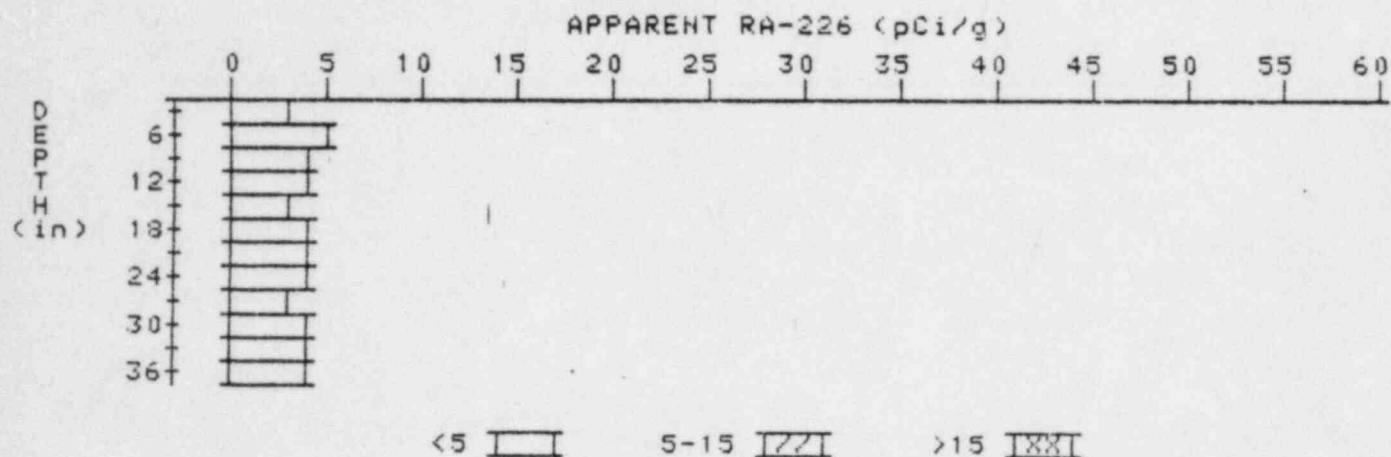
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

4

PROPERTY NUMBER: GJ-11490-RS

HOLE NUMBER: 4

LOCATION: 230215



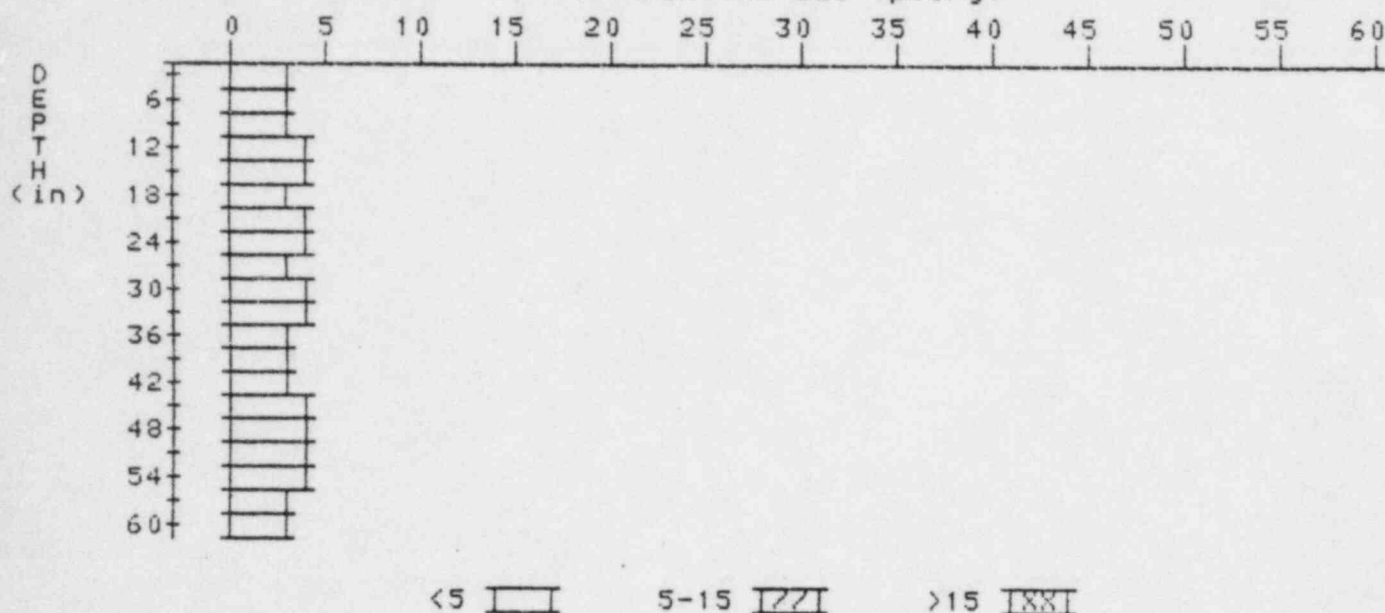
Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	3.3	3.3
6	3.8	4.5
9	3.9	4.3
12	3.8	3.8
15	3.7	3.3
18	3.8	4.0
21	3.8	3.6
24	3.9	4.3
27	3.8	3.4
30	3.9	4.1
33	3.9	4.3
36	3.7	3.7

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

5

PROPERTY NUMBER: GJ-11490-RS
HOLE NUMBER: 5
LOCATION: 239213

APPARENT RA-226 (pCi/g)



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.9	2.9
6	3.2	3.4
9	3.4	3.4
12	3.6	3.8
15	3.7	4.1
18	3.6	3.4
21	3.6	3.6
24	3.6	3.8
27	3.5	3.3
30	3.5	3.5
33	3.5	3.7
36	3.4	3.2
39	3.4	3.4
42	3.4	3.2
45	3.5	3.7
48	3.5	3.5
51	3.5	3.5
54	3.5	3.7

57
60

3.4
3.4

3.2
3.4

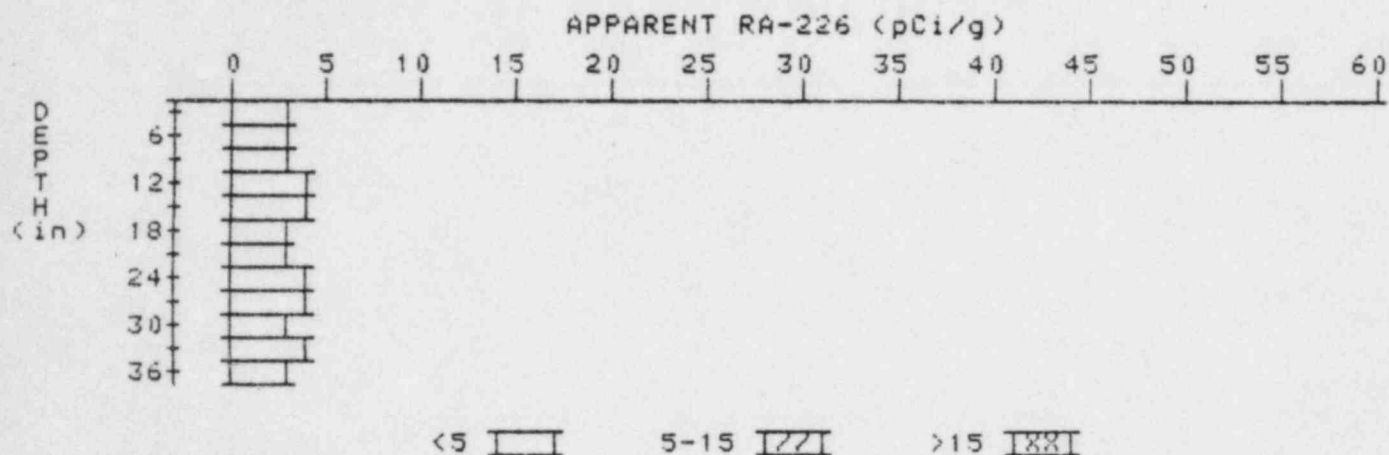
APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

7

PROPERTY NUMBER: GJ-11490-RS

HOLE NUMBER: 7

LOCATION: 250243

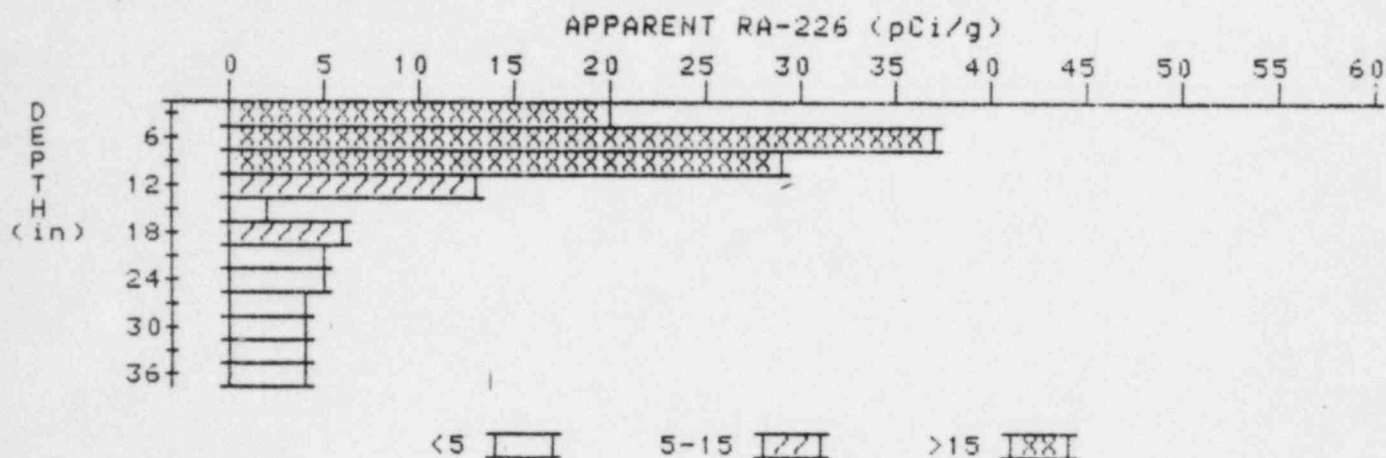


Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	2.9	2.9
6	3.1	3.1
9	3.3	3.3
12	3.5	3.7
15	3.6	4.0
18	3.5	3.3
21	3.5	3.3
24	3.6	4.0
27	3.5	3.5
30	3.4	3.0
33	3.5	3.9
36	3.4	3.4

APPARENT RADIUM-226 CONCENTRATION DECONVOLUTION GRAPH

9

PROPERTY NUMBER: GJ-11490-RS
HOLE NUMBER: 9
LOCATION: 321287



Depth (in)	Apparent Radium-226 (pCi/g) Undeconvolved	Apparent Radium-226 (pCi/g) Deconvolved
3	20.3	20.3
6	24.5	37.1
9	21.6	28.5
12	14.8	13.4
15	8.8	1.5
18	6.9	5.7
21	5.7	4.8
24	5.0	4.8
27	4.4	3.7
30	4.2	4.2
33	4.0	3.6
36	4.0	4.0

