DEPARTMENT OF ENERGY
ALBUQUERQUE OPERATIONS OFFICE
CONTRACT NO. DE-AC04-83AL18796

Vicinity Property

Completion Report

Remedial Actions
Contractor
for the
Uranium Mill Tailings
Remedial Actions
Project

MK-FERGUSON COMPANY
A MORRISON KNUDSEN COMPANY

VICINITY PROPERTY COMPLETION REPORT

AT

DU-003

12TH STREET - 13TH STREET

DURANGO, COLORADO

SEPTEMBER 25, 1987

FOR

URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT OFFICE
ALBUQUERQUE OPERATIONS OFFICE
U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NM

BY

MK-FERGUSON COMPANY
AND
CHEM-NUCLEAR SYSTEMS, INC.

MK-Ferguson Company has been granted authorization to perform remedial action under the Uranium Mill Tailings Radiation Control Act of 1978, Public Law 95-604. Remedial action was done in accordance to the EPA Standards for Cleanup of Lands and Buildings Contaminated with Residual Radioactive Material from Inactive Uranium Processing Sites, 40 CFR 192.12, 192.20-23.

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1.0 SUMMARY

PROPERTY NUMBER:	DU-003
PROPERTY ADDRESS:	RAILROAD RIGHT-OF-WAY 12TH - 13TH STREET DURANGO, COLORADO
PROPERTY OWNER:	DURANGO & SILVERTON NARROW GAUGE RAILROAD 479 MAIN AVENUE DURANGO, CO 81301
PROPERTY CATEGORY:	COMMERCIAL/RAILROAD RIGHT-OF-WAY
REMEDIAL ACTION CONTRACTOR:	MK-FERGUSON COMPANY
CONSTRUCTION SUBCONTRACTOR:	DURANGO UNITED CONSTRUCTION
RADIOLOGICAL CONTRACTOR:	CHEM-NUCLEAR SYSTEMS, INC.
REA APPROVED:	FEBRUARY 6, 1986
REMEDIAL ACTION STARTED:	NOVEMBER 13, 1986
REMEDIAL ACTION COMPLETED (APPENDIX C SIGNED):	APRIL 30, 1987
VOLUME OF MATERIAL REMOVED:	OUTDOOR: 715 CY INDOOR: N/A

1.0 SUMMARY

Remedial action was completed on Vicinity Property DU-003. A total of 715 cubic yards of material was removed from the property.

Radiological surveys conducted following removal of contaminated materials, but before property restoration, demonstrate that a significant portion of the property has been cleaned up to the EPA standards, with some material remaining below a length of railroad tracks. This completion report recommends, and the State and NRC concur, that supplemental standards be applied to the remaining contamination.

2.0 OPERATIONS SUMMARY

2.1 Remedial Action Plan

The basic remedial action on this property was performed according to the Remedial Action Plan. A total of 715 cubic yards of material was removed from the property, compared with an estimated excavation of 744 cubic yards.

2.2 Previously Unidentified Contamination

No new areas of contamination were identified during remedial action.

2.3 Unanticipated Items During Remedial Action

No unanticipated items occurred during remedial action on this property.

2.4 JUSTIFICATION CHECKLIST FOR APPLICATION OF SUPPLEMENTAL STANDARDS

Property Number DU-003

Application of Supplemental Standards (SS) is in accordance with 40 CFR 192.22 Subpart (x) (check appropriate Subpart)

_____ a) risk injury to worker/public

_____ b) environmental harm

__X__ c) high cost relative to long-term benefits

_____ d) high cost of cleaning up building relative to benefits

_____ e) no known remedial action

_____ f) radionuclides other than Ra226 exist

Brief Condition Description and Justification:

Approximately six cubic yards of material with a concentration of 18 pCi/g remain under the railroad tracks on this vicinity property. The gamma level in the contaminated area is 14 micro R/hr, approaching the Durango background value of 16 micro R/hr. The track is used daily by the Durango and Silverton Narrow Gauge Railroad.

The health hazards from the contamination are extremely low. It is unlikely that people will spend long periods of time in the area. It is also unlikely to have a building constructed upon the site. The property provides a significant economic benefit to the community.

Remedial action would disrupt railroad operations. Coupled with the expense of remediation, the costs clearly outweigh the potential benefit produced by remedial action. We recommend supplemental standards based on 40 CFR 192.22 Subpart C.

Additional Cost w/o application of supplemental standards:

Yes	No	If Supplemental Standards are Applied:
X		1. Open Land?
	X	2. Occupied building?
N/A		3. If yes to No. 2, is contaminated area beneath or within 10 ft. of building?
	X	4. Anticipated change of land use within next 5 years?
N/A		5. If yes to No. 4, then will land use produce health risk?
	X	6. Is contamination in habitable area?
X		7. Have owners comments been solicited? (Attach comments or record of teleconference, Appendix B).

Estimated volume of contaminated material to remain = 6 (cy).

Contaminated area to remain = 17 (sy).

Average gamma for contaminated areas = 14 (uR/h) [at surface].

Average radium-226 concentration in soil in contaminated area = 18 (pCi/g).

If tailings are below or within 10 feet of the structure, Radon Daughter Concentration = N/A (WL).

3.0 VERIFICATION SUMMARY

3.1 Radiological Survey Data

All survey data were acquired according to approved procedures.

3.1.1 Pre-Remedial Action Survey

The results of the survey defining the contaminated area requiring remedial action are presented on Drawing DU-003-016.

3.1.2 Pre-Restoration Survey

Exterior:

After removal of contamination, and prior to backfilling, a soil sample survey was conducted in the excavated areas. Soil samples were aliquoted from each of the 10 verification grids and analyzed by gamma spectroscopy with the opposed crystal system in accordance with Health Physics Procedure 015. The radium concentrations in these soil samples ranged from less than 1.3 to 4.0 pCi/g, as described in Table 3.1. See Appendix A for Radiological Survey Data.

Drawing DU-003-020 shows the actual areas of excavation.

These results confirm that the majority of the exterior contamination has been reduced to levels below the EPA standards for radium in soil. Background for the Durango site is 1.4 pCi/g.

Contamination was identified under the paved street adjacent to this property (see Appendix C).

Interior:

No remedial action was performed indoors on this property, as there are no structures.

3.2 Recommendation for Certification

Exterior:

One extensive area of contamination was identified and removed. Soil samples after excavation and prior to backfilling indicate that the limits of 5 pCi/g in the surface 15 cm. and 15 pCi/g in any 15 cm. layer below the surface in the excavated regions are exceeded. No remedial action was performed under the railroad tracks. Based on this information, we recommend application of supplemental standards.

Table 3.1
VERIFICATION SOIL SAMPLE SURVEY
Property DU-003

GRID NO./SAMPLE ID	DEPTH (cm.)	CONCENTRATION(pCi/g)
1 - D-SV-3780	157	mda*
2 - D-SV-3783	76	4.1
3 - D-SV-3784	99	3.9
4 - D-SV-3803	140	2.9
5 - D-SV-3804	38	2.4
6 - D-SV-3805	74	3.3.
7 - D-SV-3806	56	2.2
8 - D-SV-3813	41	3.6
9 - D-SV-3814	46	4.0
10 - D-SV-3815	46	3.4

*mda is estimated to be less than 1.3 pCi/g

4.0 REFERENCES

4.1 Results of the Radiological Survey of Property DU-003; Oak Ridge National Laboratory; Oak Ridge, Tennessee; January 1985.

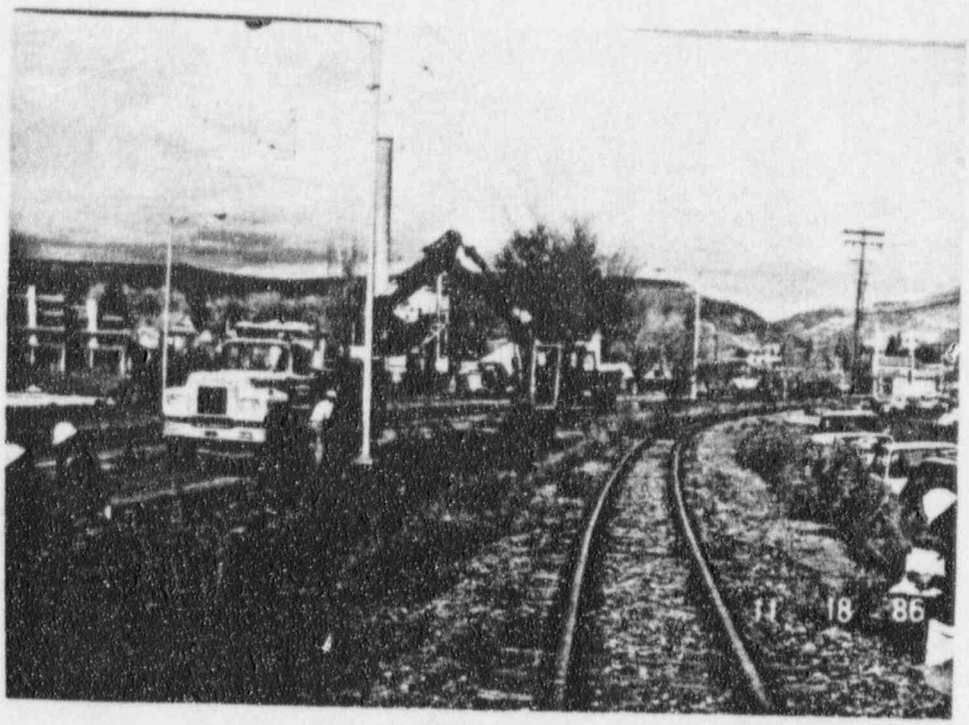
4.2 The Radiological and Engineering Assessment for Durango Property DU-003; MK-Ferguson Company/Chem-Nuclear Systems, Inc.; Albuquerque, New Mexico; February 6, 1986.

4.3 Health Physics Procedures; Chem-Nuclear Systems, Inc., for MK-Ferguson Company, Remedial Action Contractor; Albuquerque, New Mexico; June 1986.

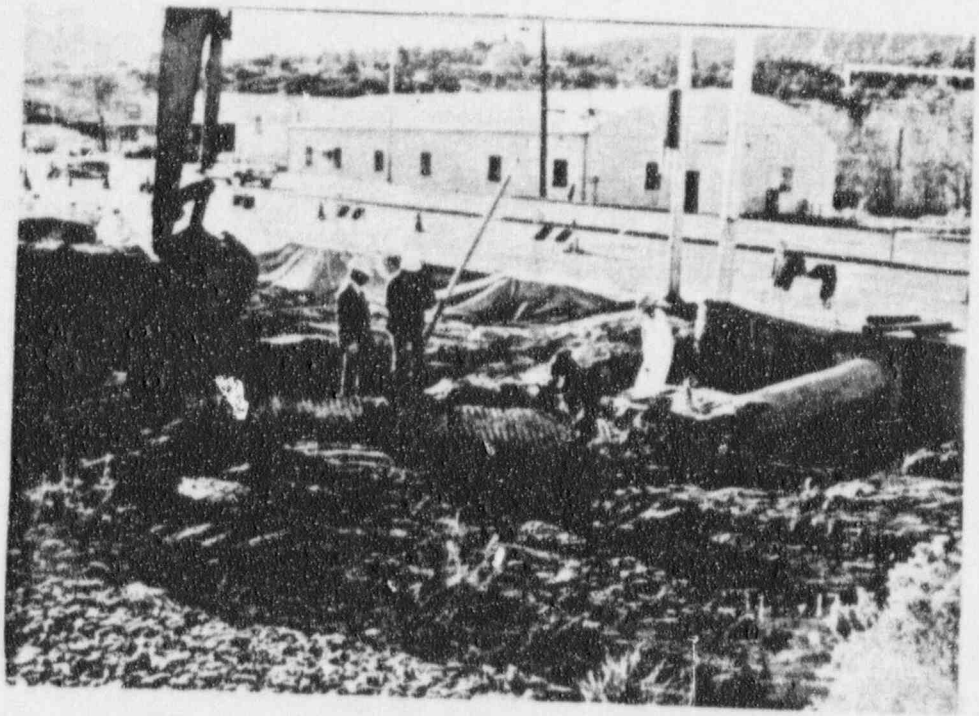
4.4 Vicinity Properties Management and Implementation Manual; UMTRAP, U.S. Department of Energy; Albuquerque, New Mexico; August 1986

4.5 Title 40, Code of Federal Regulations, Part 192.12-23; U.S. Environmental Protection Agency; Washington, D.C.; July 1983

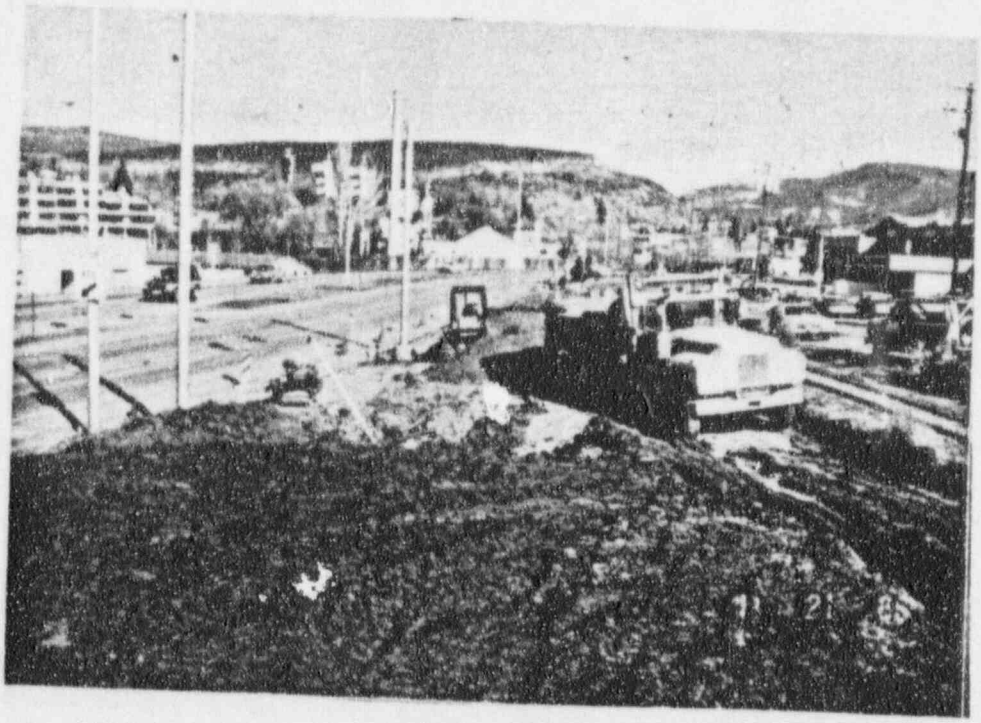
Prior to Remedial Action Looking North from Station 0+00



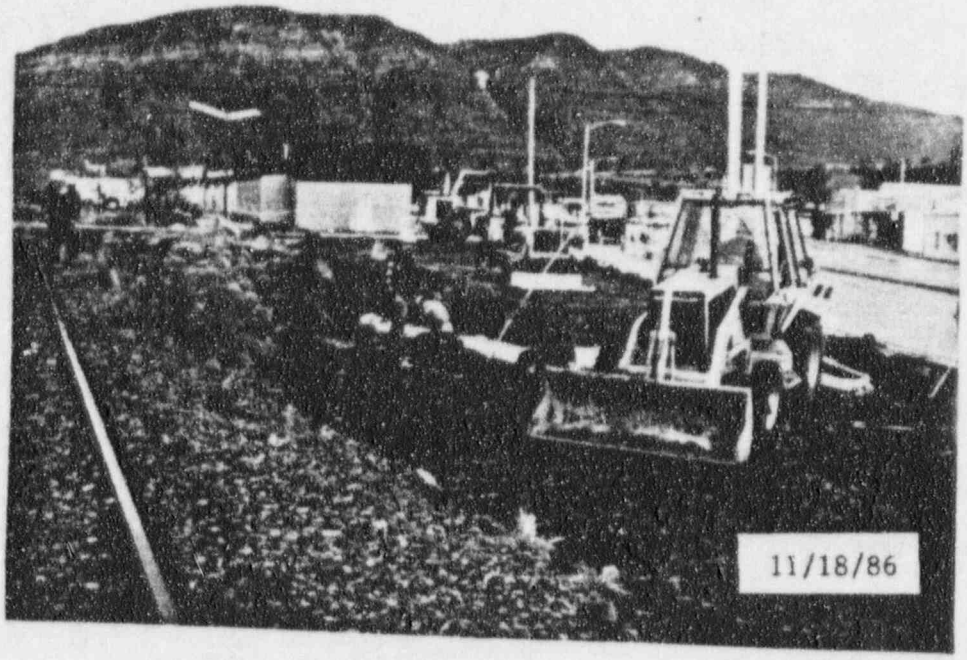
During Excavation Looking North from Station 2+50



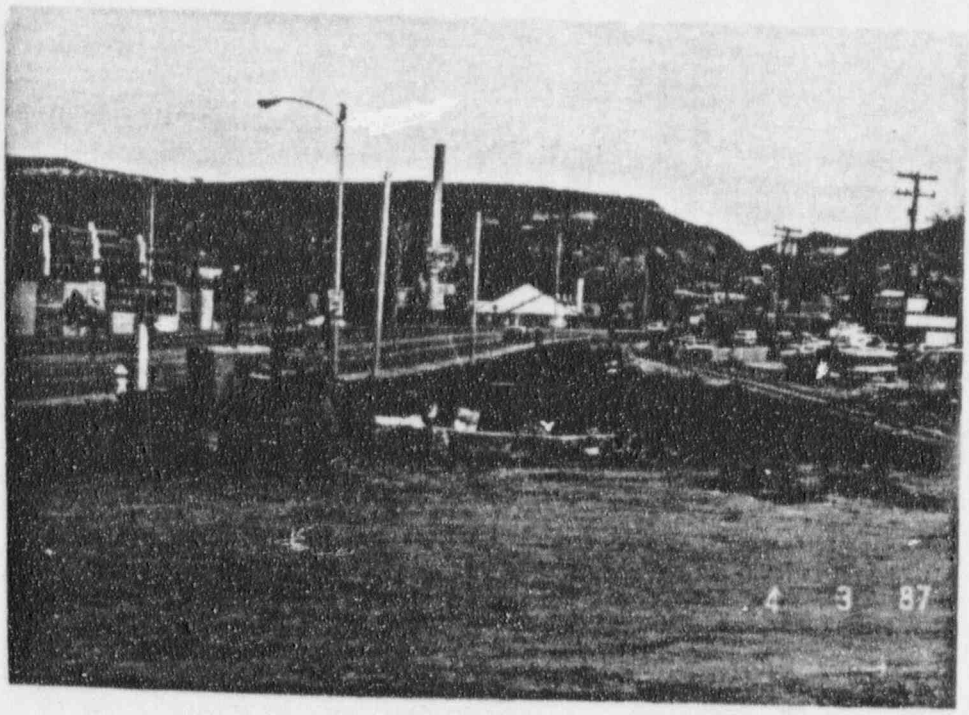
Looking West at Excavation and Culvert at Station 1+10,30L



Looking North at Backfill Station 1+00 to 2+00

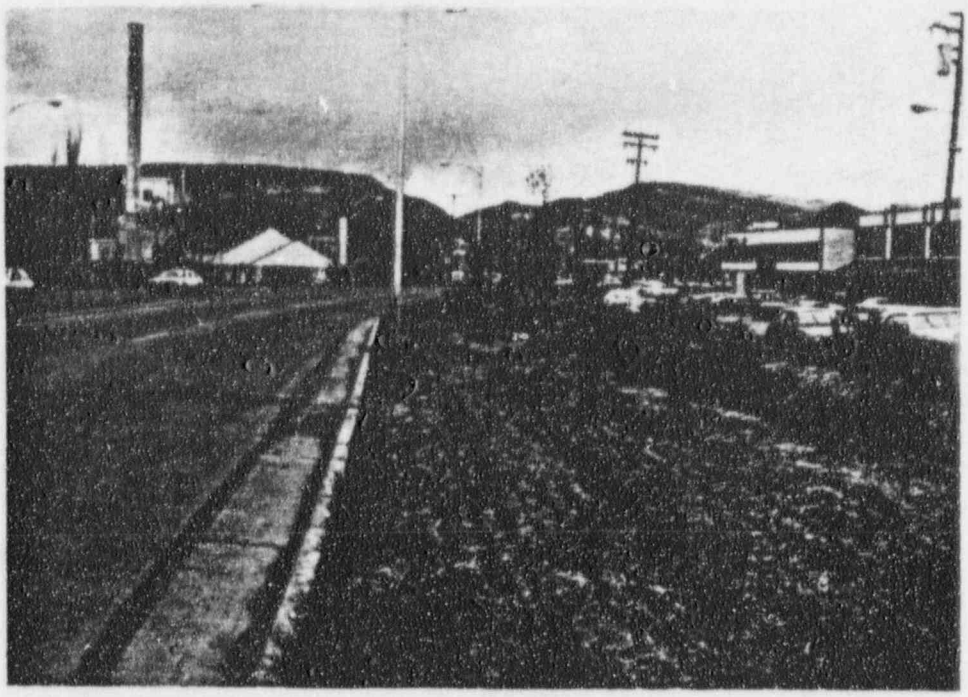


Looking South at Backfill Station 0+00 to 1+00

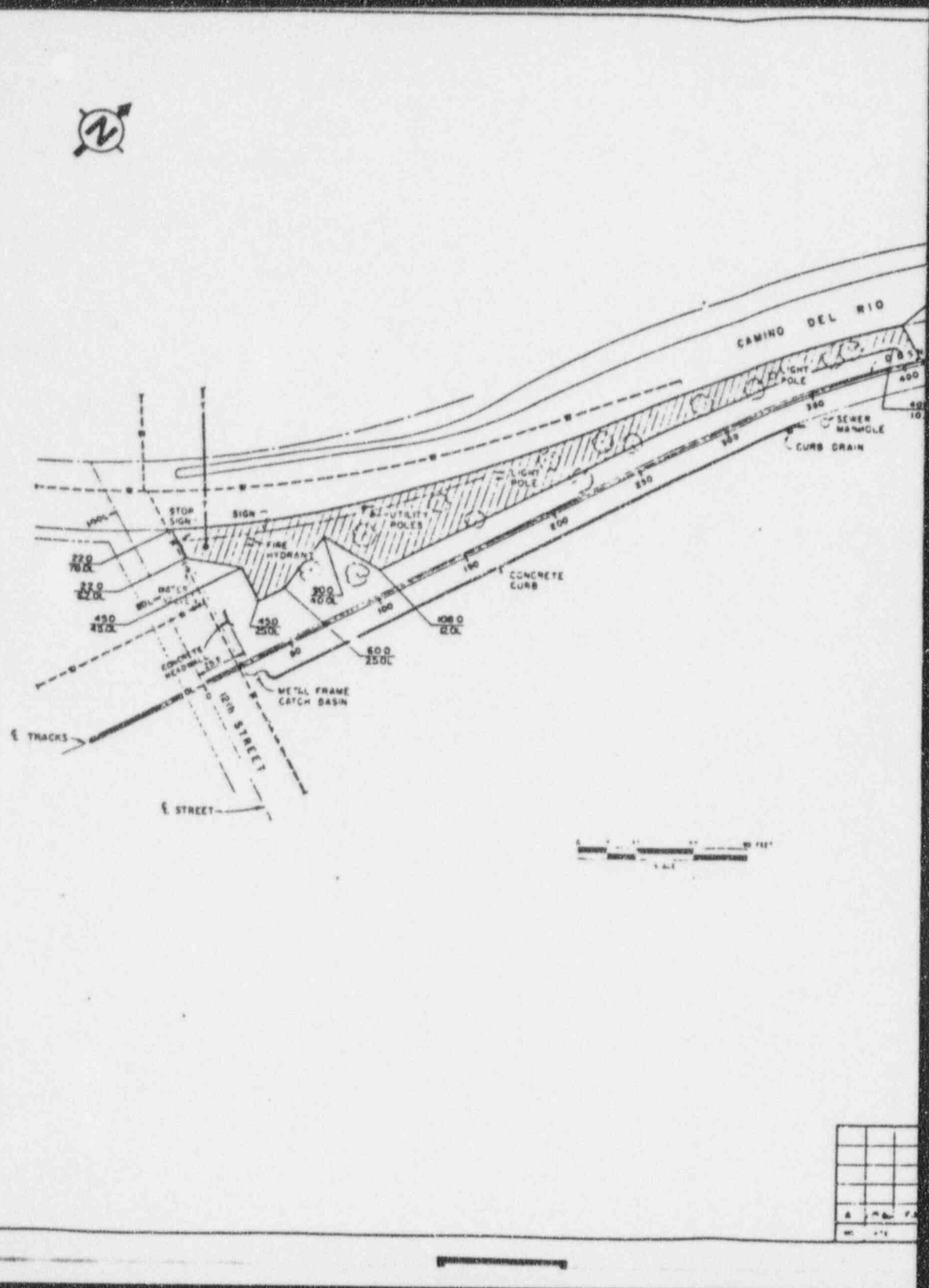


Looking North at Seed, Mulch and Fertilizer in Place

Looking North After Restoration



Looking North After Restoration


CAMINO DEL RIO
LIGHT POLE
SEWER MANHOLE
CURB DRAIN
STOP SIGN
SIGN
UTILITY POLES
FIRE HYDRANT
CONCRETE CURB
METAL FRAME CATCH BASIN
IRON STREET
℄ TRACKS
℄ STREET

ESTIMATED DEPTH OF CONTAMINATION

1'-5"

9707080308-01

U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

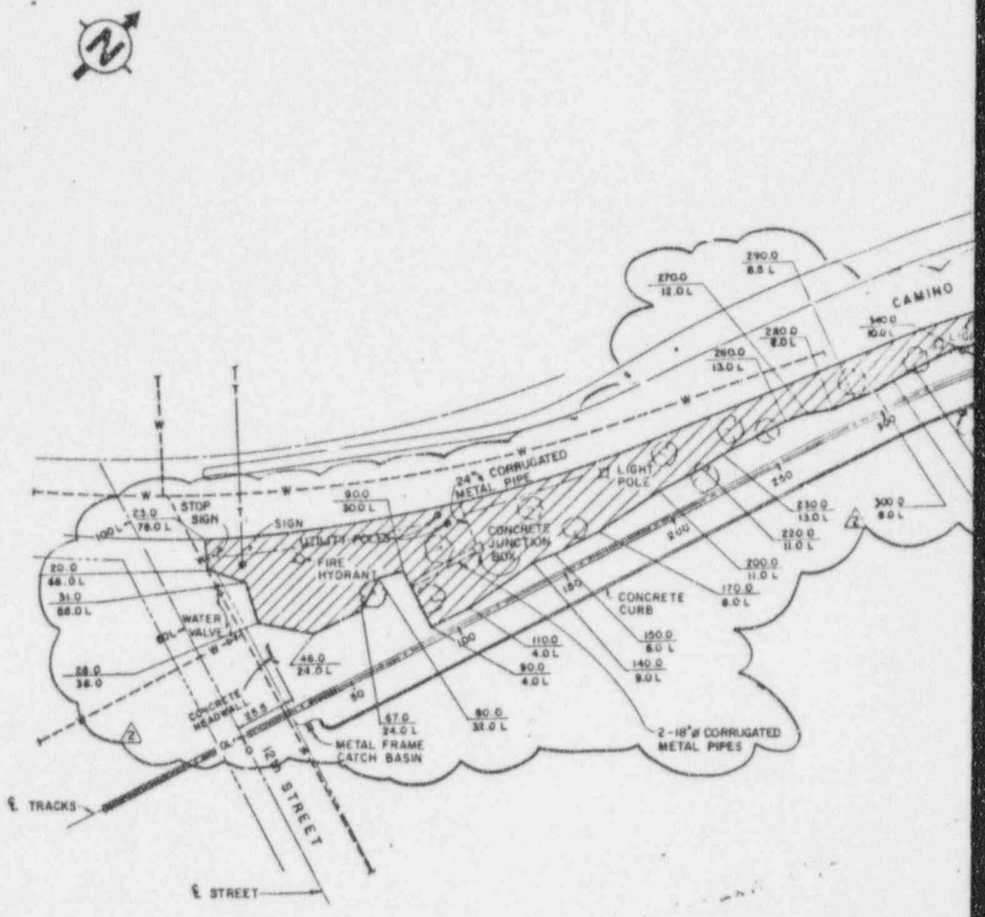
RADIOLOGICAL SURVEY DATA DU-003
EXTENT OF CONTAMINATION
DURANGO, COLORADO
URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT

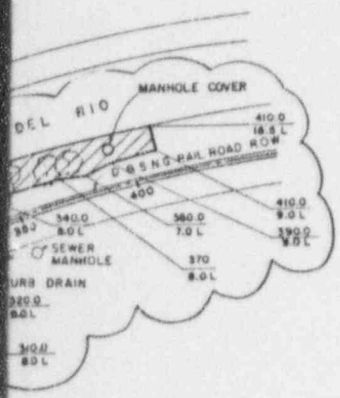
NR	NR	NR

MORRISON KNUDSEN

DE-AC04-83AL18796

DU-003-016 A


N
CAMINO
24" CORRUGATED METAL PIPE
LIGHT POLE
STOP SIGN
SIGN
UTILITY POLES
CONCRETE JUNCTION BOX
FIRE HYDRANT
WATER VALVE
CONCRETE HEADWALL
METAL FRAME CATCH BASIN
2-18"ø CORRUGATED METAL PIPES
CONCRETE CURB
℄ TRACKS
12th STREET
℄ STREET
SCALE



LEGEND

- W — WATER LINE
- G — GAS LINE
- GM — GAS MAIN
- S — SEWER LINE
- SM — SEWER MAIN
- STM — STORM SEWER
- E — ELECTRICAL LINE
- T — TELEPHONE LINE
- TV — CABLE TV
- PROPERTY LINE
- FENCE LINE
- METER
- VALVE
- PROPERTY PIN
- POWER POLE
- REMEDIAL ACTION AREA

NOTE: OVERHEAD SERVICE DENOTED BY SOLID LINE
UNDERGROUND SERVICE DENOTED BY DASHED LINE

NOTES:

1. THE LATEST REVISION OF THE FOLLOWING TECHNICAL SPECIFICATIONS APPLY TO THE REMEDIAL ACTION WORK REQUIRED FOR PROPERTY NO. DU-003.

   SECTION 02110
   CLEARING AND GRUBBING

   SECTION 02130
   CONTAMINATED MATERIAL REMOVAL

   SECTION 02200
   EXCAVATION AND BACKFILL

   SECTION 02480
   LANDSCAPING

2. UTILITY LOCATIONS ARE FOR REFERENCE ONLY. SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ACTUAL LOCATIONS OF UTILITIES PRIOR TO START OF CONSTRUCTION.

3. THE EXCAVATION LIMITS AND DEPTHS ARE BASED ON A LIMITED NUMBER OF BOREHOLE TAKEN DURING THE RADIOLOGICAL SURVEYS OF THIS PROPERTY. ADDITIONAL RADIOLOGICAL SURVEYS PERFORMED DURING REMEDIAL ACTION MAY REQUIRE MORE OR LESS EXCAVATION TO BE TAKEN FROM THE DESIGNATED AREAS. ALL CHANGES TO THE LIMITS AND DEPTHS OF EXCAVATION AS SHOWN ON THE DESIGN DRAWINGS SHALL BE AS DIRECTED BY THE CONTRACTOR'S REPRESENTATIVE.

4. CONTRACTOR'S REPRESENTATIVE TO VERIFY LOCATION OF CONTAMINATED AREAS PRIOR TO START OF EXCAVATION.

5. DELETED

6. DELETED

7. REMOVE LINKAGE AND REMOVED EXISTING CONCRETE STORM DRAIN JUNCTION BOX.

8. EXCAVATE AREA AT TO THE LIMITS INDICATED ON THIS DRAWING TO A DEPTH OF 30 INCHES BELOW EXCAVATED AROUND EXISTING CONTAMINATED METAL PIPE AS DIRECTED.

9. BACKFILL WITH COMPACTED CONTROL FILL AND 6 INCHES TOP SOIL. TOP WITH SEED AND MULCH.

10. PROVIDE TEMPORARY STOP SIGN AT STREET DURING CONSTRUCTION.

11. INSTALL NEW CONCRETE STORM DRAIN [illegible] INDICATED ON [illegible]

9707080308-02

AS-BUILT DRAWING

U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

EXCAVATION & RESTORATION PLAN DU-003

DURANGO, COLORADO
URAVAN MILLING PROJECT REMEDIAL ACTION PROJECT

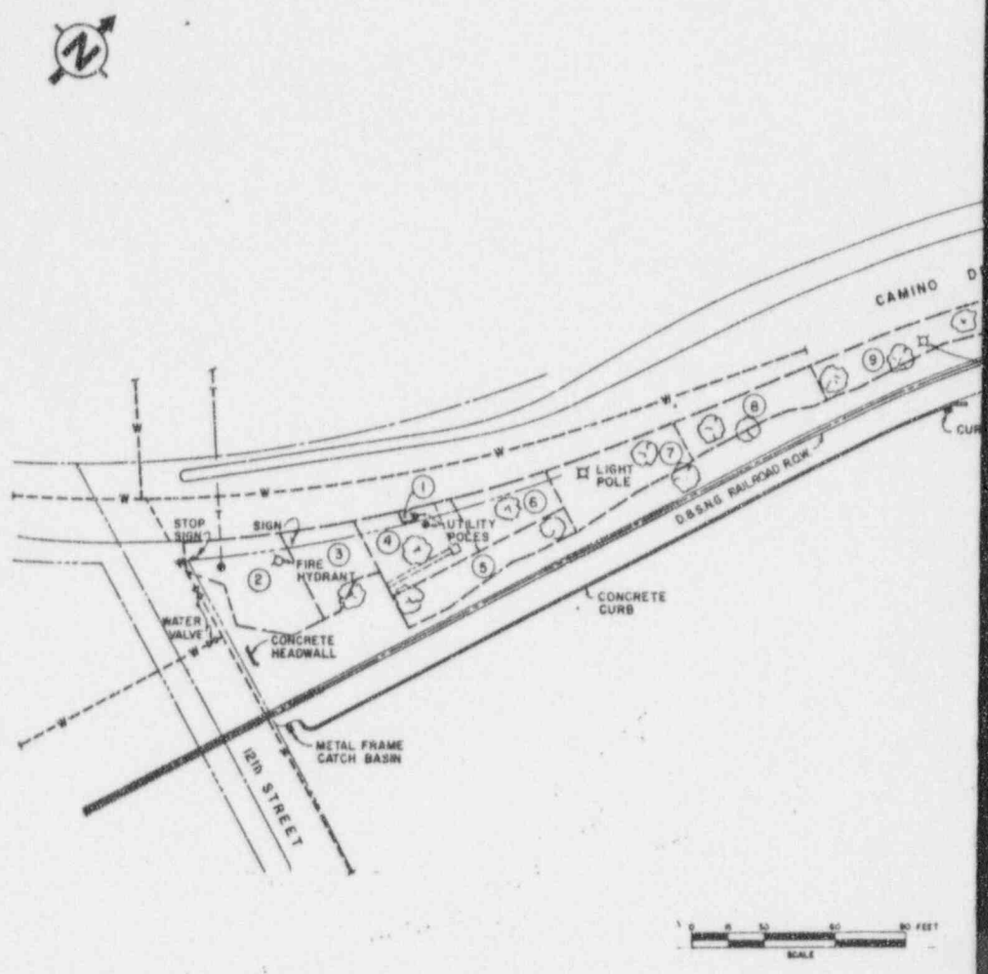
NO.	DATE	REVISIONS	DRAWN BY	CHK'D BY	APPROVED SITE	APPROVED QA	PROJ ENG	APPROVED DOE
2	9/11/97	AS-BUILT DRAWING	SGH	MEH	ASG	ASG	ASG	-
1	10-8-96	ADDED NOTE & REVISED CALLOUTS	EMD	ASG	ASG	VCB	ASG	-
0	8/12/96	ISSUED FOR CONSTRUCTION	SGH	SGH	ASG	VCB	VCB	-

DATE: NR | NR | NR

MORRISON KNUDSEN

DE-AC04-83AL18796

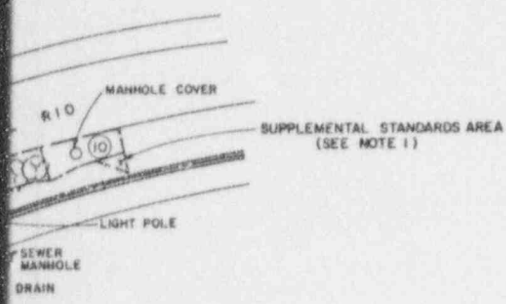
DU-003-020 R2


N
CAMINO
LIGHT POLE
STOP SIGN
SIGN
UTILITY POLES
FIRE HYDRANT
WATER VALVE
CONCRETE HEADWALL
CONCRETE CURB
D&SNG RAILROAD ROW
METAL FRAME CATCH BASIN
12th STREET
SCALE

LEGEND

——W——	WATER LINE
——G——	GAS LINE
——GM——	GAS MAIN
——S——	SEWER LINE
——SM——	SEWER MAIN
——STM——	STORM SEWER
——E——	ELECTRICAL LINE
——T——	TELEPHONE LINE
——TV——	CABLE TV
——— — — ———	PROPERTY LINE
——x——x——	FENCE LINE
(G) G&WorE	METER
(V) GorW	VALVE
○	PROPERTY PIN
●	POWER POLE

OVERHEAD SERVICE DENOTED BY SOLID LINE.
UNDERGROUND SERVICE DENOTED BY DASHED LINE.



VERIFICATION SOIL SAMPLES

LOCATION	SOIL SAMPLE NUMBERS
1	D-SV-3780
2	D-SV-3783
3	D-SV-3784
4	D-SV-3803
5	D-SV-3804
6	D-SV-3805
7	D-SV-3806
8	D-SV-3813
9	D-SV-3814
10	D-SV-3815

NOTES:

1. SUPPLEMENTAL STANDARDS IN ACCORDANCE WITH 40 CFR 192.22 SUBPART C SHALL APPLY TO THE PORTION OF PROPERTY DU-003 INDICATED ON THIS DRAWING. AN ESTIMATED VOLUME OF 6 CUBIC YARDS OF LOW LEVEL RADIOLOGICALLY CONTAMINATED MATERIAL REMAIN IN PLACE AT THE LOCATION INDICATED.

9707080308-03

NO.	DATE	REVISIONS	DRAWN BY	CHECKED BY	APPROVED (GE)	APPROVED (DOE)	PROJ ENG	APPROVED (DOE)
A	5-13-97	ISSUED FOR CERTIFICATION SURVEY	JG					

U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

DESIGNED: Mark morsak
CHECKED:
REVIEWED:
RECOMMENDED:

CERTIFICATION RADIOLOGICAL PLAN
DU-003
DURANGO, COLORADO
URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT

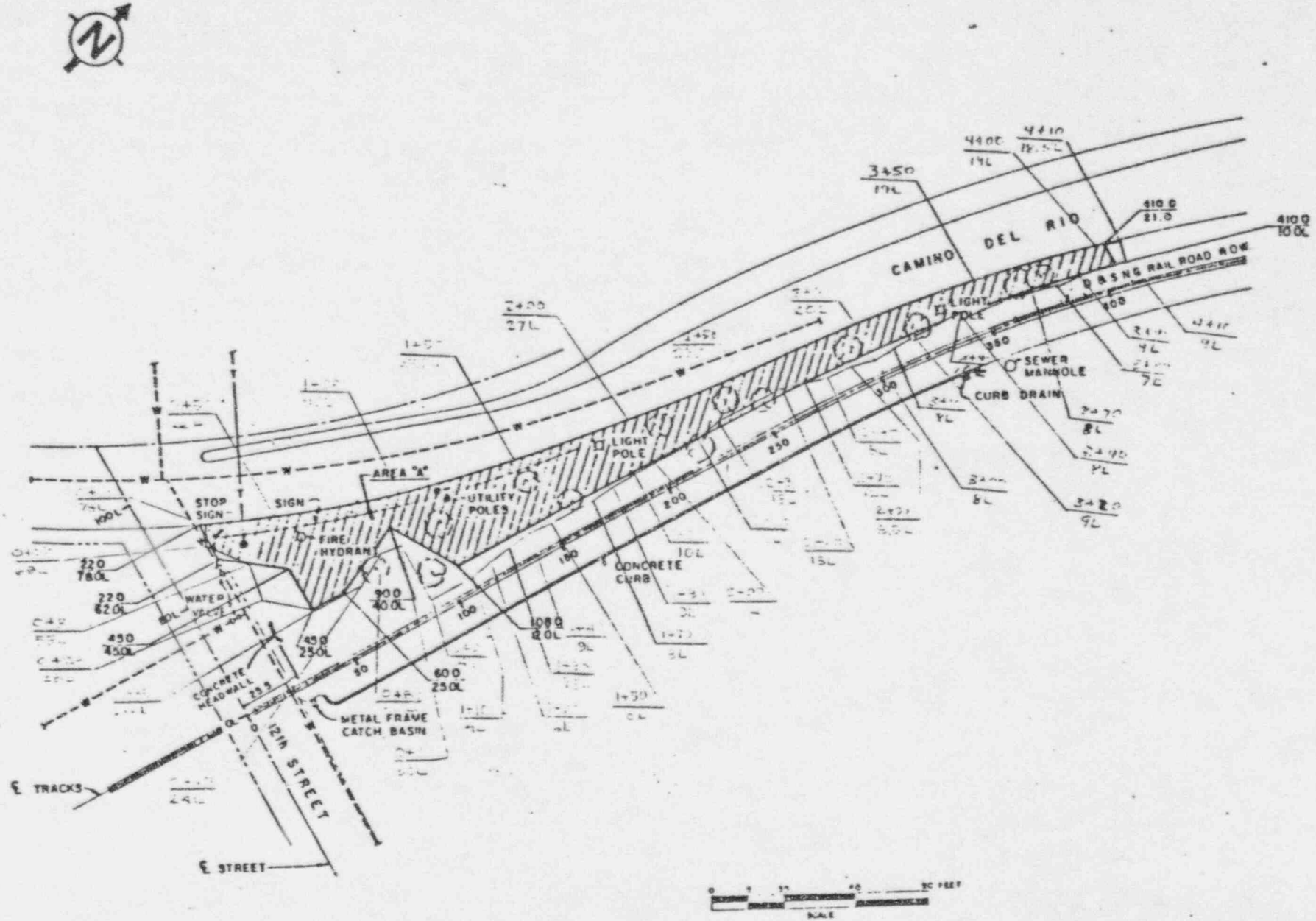
APPROVED	DATE	DOE PROJECT MANAGER	DATE	DOE PROJECT ENGINEER	DATE
NR		NR		NR	

MORRISON KNUDSEN

PROJECT NO. DE-AC04-83AL18796
DRAWING NO. DU-003-017 REV A

APPENDIX A

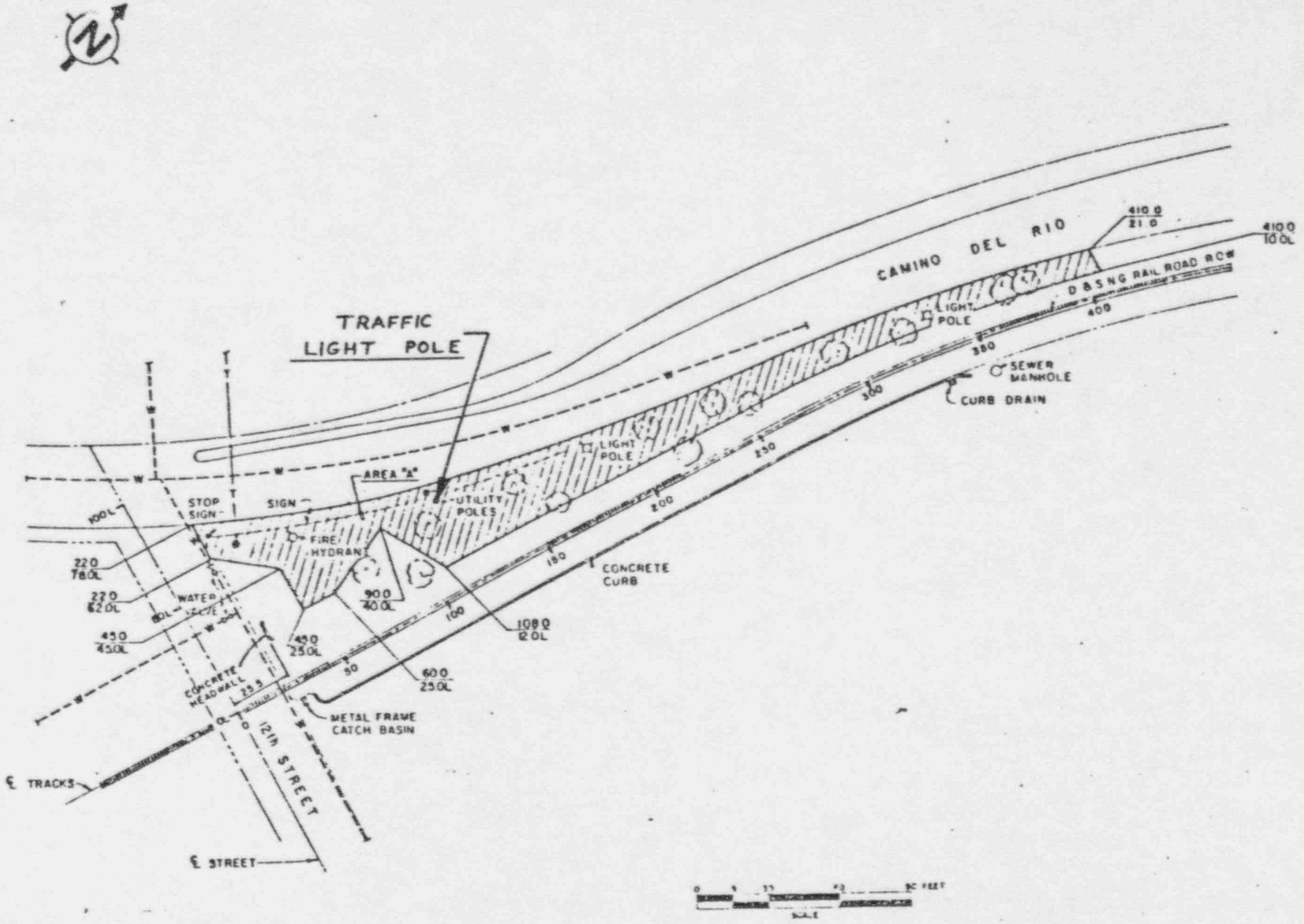
RADIOLOGICAL SURVEY DATA



DU-003

AS-BUILT DRAWING

DU-003-020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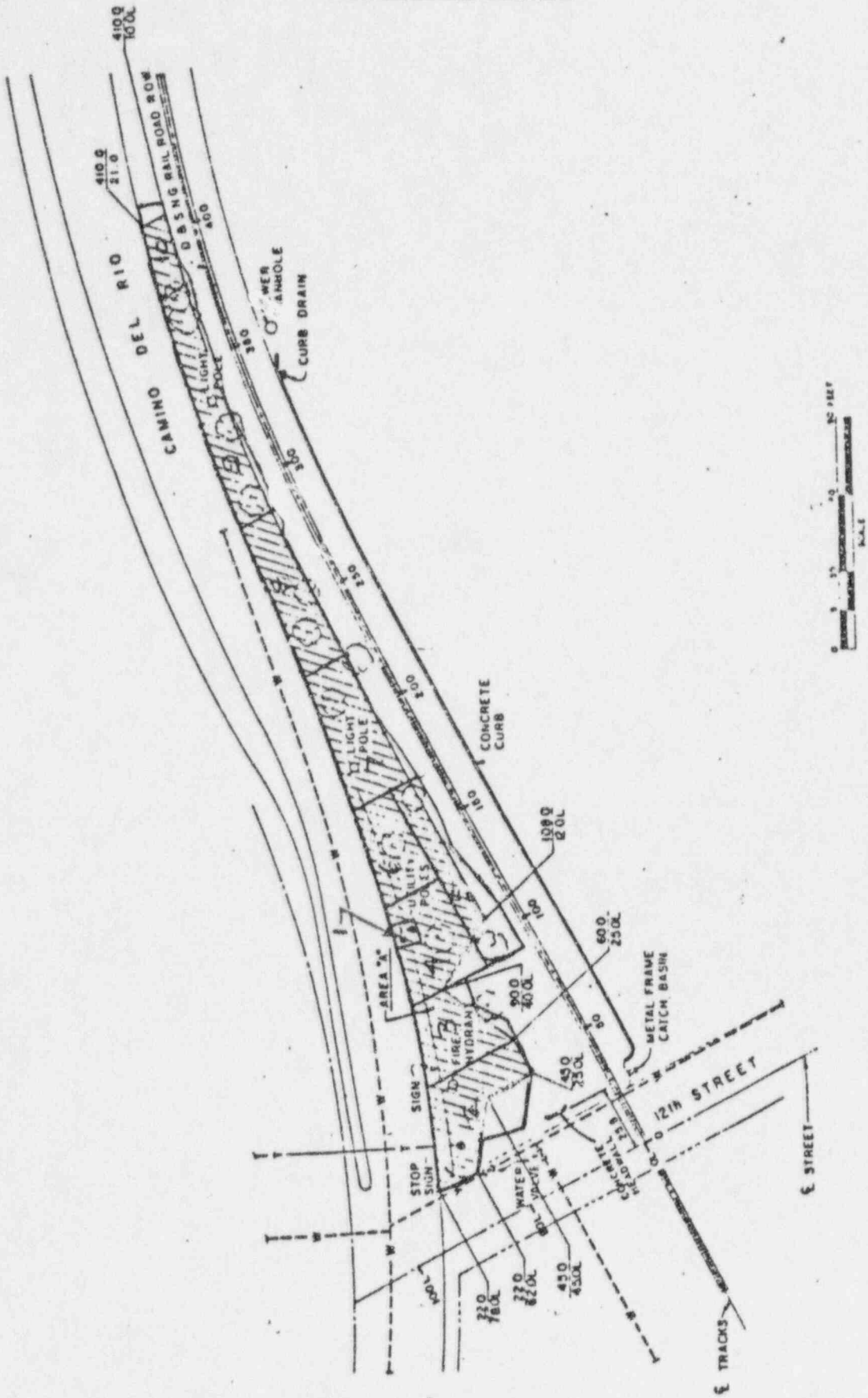
TRAFFIC
LIGHT POLE
CAMINO DEL RIO
4100
21.0
4100
100L
D & SNG RAIL ROAD ROW
LIGHT POLE
400
380
SEWER MANHOLE
300
CURB DRAIN
LIGHT POLE
AREA "A"
STOP SIGN
SIGN
UTILITY POLES
250
200
100L
FIRE HYDRANT
220
78.0L
220
62.0L
WATER
180
CONCRETE CURB
900
40.0L
100
1080
20L
450
45.0L
450
25.0L
CONCRETE HEADWALL
23.5
90
600
25.0L
METAL FRAME CATCH BASIN
℄ TRACKS
12th STREET
℄ STREET
0
5
10
20
30 FEET
SCALE

DU-003

DU-003

VERIFICATION LAYOUT



DU-003-020

SOIL VERIFICATION DATA

Grid ID	Coordinates	Sample #	Approx. Depth	Ra-226 (pCi/g) Concentration Initial	Ra-226 (pCi/g) Concentration Final	Comments
1	1+08,47L; 1+13,45.5L 1+13,42.5L; 1+08,44L	D-SV-3780	5'2"	1.2	1.1	
2	0+23,78L; 0+60,63L 0+60,24L; 0+46,24L 0+28,38L; 0+31,55L 0+22,62L; 0+20,69L	D-SV-3783	2'6"	3.2	4.1	
3	0+60,63L; 0+60,24L 0+67,24L; 0+80,32L 0+90,30L; 0+90,52L	D-SV-3784	3'3"	3.2	3.9	
4	0+90,52L; 0+90,19L 1+30,19L; 1+30,41.5L 1+13,45.5L; 1+13,42.5L 1+08,44L; 1+08,47L	D-SV-3803	4'7"	2.5	2.9	
5	0+90,19L; 0+90,4L 1+10,04L; 1+20,06L 1+30,7.5L; 1+40,09L 1+50,08L; 1+70,08L 1+70,19L	D-SV-3804	1'3"	1.7	2.4	
6	1+70,19L; 1+70,34L 1+30,41.5L; 1+30,19L	D-SV-3805	2'5"	1.8	3.3	
7	1+70,08L; 1+80,09L 1+90,10L; 2+00,11L 2+25,12L; 2+25,26.5L 2+00,27L; 1+70,34L	D-SV-3806	1'10"	1.6	2.2	
8	2+25,26.5L; 2+25,12L 2+30,13L; 2+60,13L 2+70,12L; 2+80,08L 2+87,8.5L; 2+87,20L 2+50,23.5L	D-SV-3813	1'4"	2.6	3.6	
9	2+87,8.5L; 2+90,8.5L 3+00,08L; 3+10,8L 3+20,09L; 3+40,10L 3+40,08L; 3+70,08L 3+80,07L; 3+80,19L 3+50,19L; 3+00,20L 2+87,20L	D-SV-3814	1'6"	2.4	4.0	
	3+80,19L; 3+80,07L 3+90,09L; 4+10,09L 4+10,18.5L; 4+00,19L	D-SV-3815	1'6"	1.9	3.4	

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PROPERTY SURVEY SKETCH

Sheet 1 of 1

SITE LOCATION DU-003 CDH STORM DRAIN

ADDRESS

PROPERTY TYPE COMMERCIAL LOT NO.

OWNER

SKETCH COMPLETED BY TRUJILLO IV DATE 11-21-86

XX GAMMA READINGS IN HUNDREDS OF COUNTS IN 0.1 MINUTE ROUNDED TO NEAREST HUNDRED L2220 + 44-10 # DOR-03 # 31990 # 24647

VP-03B

MORRISON KNUDSEN

PROPERTY SURVEY SKETCH

Sheet 1 of 1

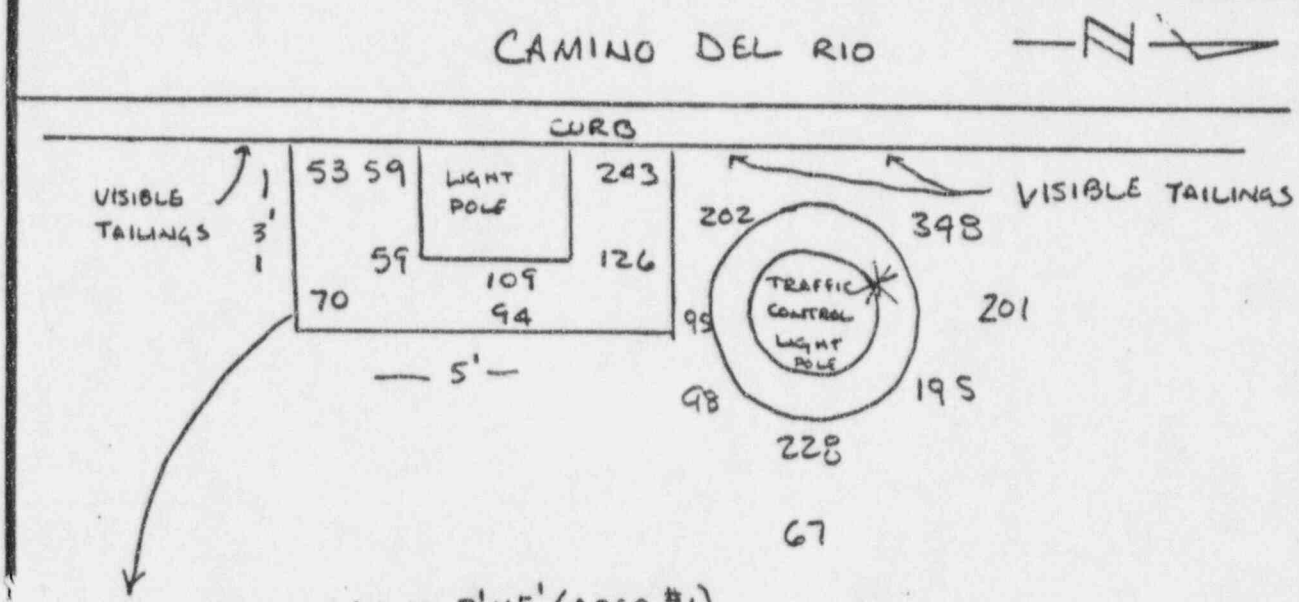
SITE LOCATION DU-003 - AREA 1

ADDRESS 12th & CAMINO DEL RIO

PROPERTY TYPE COMMERCIAL LOT NO.

OWNER

SKETCH COMPLETED BY TRUJILLO TR DATE 11-18-86



VERIFICATION GRID IS 3'X5' (AREA #1)
D-SV-3780 1.2 pCi/g Ra_{226} (INITIAL)
2.1 pCi/g Ra_{226} (PROJECTED FINAL)

* NOTE: TAILINGS ARE IMBEDDED AROUND TRAFFIC CONTROL LIGHT POLE THE AREA CONTAMINATED IS ESTIMATED AT 6"X 3' APPROXIMATELY AT TOTAL OF 5.3 CUBIC FEET OF TAILINGS MATERIAL. THE TOTAL ESTIMATED PICO CURIE CONTENT IS 736.7 OF Ra_{226}

XXX READINGS ARE IN HUNDREDS OF COUNTS IN 0.1 MINUTE ROUNDED TO NEAREST HUNDRED INST. LUDLUM 2220 + 4410 DUR-03
#31990 #24647

APPENDIX B

STATE AND NRC CONCURRENCE ON THE APPLICATION OF SUPPLEMENTAL STANDARDS

OWNERS COMMENTS

RT 034 DU007

DU055, SL-06

UNITED STATES

NUCLEAR REGULATORY COMMISSION

REGION IV

URANIUM RECOVERY FIELD OFFICE
BOX 25325
DENVER, COLORADO 80225

OCT 01 1986

MK-FERGUSON CO.
ALBUQUERQUE

OCT 06 1986

RECEIVED

URFO:RFB
Docket No. WM-041
Docket No. WM-060
Docket No. WM-048

John G. Themelis, Project Manager
Uranium Mill Tailings Project Office
U.S. Department of Energy
Albuquerque Operations Office
P.O. Box 5400
Albuquerque, New Mexico 87117

Dear Mr. Themelis:

We have completed our review of your request for the application of supplemental standards at vicinity properties identified as SL-061, RT-034, DU-003 and DU-055. Both the associated Radiological and Engineering Assessments as well as the justification provided by MK-Ferguson's letter dated August 14, 1986 were reviewed by my staff. Based on this review, we conclude that the potential for long-term impact has been minimized to the extent practicable at three of the properties. Therefore, we concur with the proposed remedial action for vicinity properties identified as SL-061, RT-034 and DU-003. We did not concur on the application of supplemental standards for vicinity property DU-055. Our discussions with DOE and MK-Ferguson staff indicate that the application of supplemental standards for property DU-055 is not necessary and the request for supplemental standards was unintentionally made. Enclosed is the memorandum prepared by my staff, which discusses the actions we have taken.

cc: B. Kurz
J. Powers
J. Innis
Document Control

REP	INFO	DIST	REP	INFO	DIST
	✓	JGO			DGS
		JDH			MWH
	✓	RFS		✓	JGP
	✓	JEW		✓	HRM
		MMM			TRW/MKE
		CDW			VCD/PD
		JBH			
ORIG. FILE	NRC				
WORK FILE	SL-061	DU003			

RT-034 DU055

Should you have any questions on this concurrence, please contact either Randy Brich on FTS 776-2811, Harry Pettengill or me on FTS 776-2805.

Sincerely,

R. Dale Smith, Director
Uranium Recovery Field Office
Region IV

Enclosure: As stated

cc: R. Sena, DOE/ALO
J. Garcia, DOE/ALO
J. Pepin, MK-F/AL

Cases Closed: 040WM041120E
040WM060100E
040WM048810E
040WM048820E

COLORADO DEPARTMENT OF HEALTH
Richard D. Lamm
Governor
Thomas M. Vernon, M.D.
Executive Director

February 13, 1986

Mr. James G. Hoyal, Jr.
Contracting Officer
U.S. Department of Energy
Albuquerque Operations Office
P. O. Box 5400
Albuquerque NM 87115

RE: Location Number 20393 (DU-003)
D&S NG Railroad Right-of-Way, between 12th and 13th St., Durango CO 81301

Dear Mr. Hoyal:

A review of the REA submitted by DOE for the above noted location has been completed. Based on the information provided, we concur that this location is in need of remedial action.

The basic design for remedial action as defined in the REA is acceptable.

Should you or Morrison-Knudsen require additional information regarding our review, please contact Chuck Thornberg in our Grand Junction office.

Sincerely,

Albert J. Hazle, Director
Radiation Control Division

AJH:sk

cc: John D'Antonio, DOE, Albuquerque
Don C. Barg, Chem-Nuclear Systems, Inc.
John G. Pepin, Morrison-Knudsen Company, Inc.
Location File

DU003

TELECON

DB

between Don Barg and George Connor, Durango & Silverton Railroad

subject: Comments on Supp. Stds, DU 003 May 27, 1986

I explained to Connor that the EPA regulations require comments from the owner when we propose Supplemental Standards. He said he agreed with "no action" near the railroad tracks and I said that a brief letter to that effect was all we needed. He said he would get the letter off today.

telephone: George Connor 303/259-0274

cc: J.Pepin ✓

J. Innis

Doc. Control ←

APPENDIX C

ADJACENT CONTAMINATION

During remedial action on vicinity property DU-003, contamination was found to extend beneath the adjacent paved street. Excavation and verification was performed up to the edge of the pavement. Contamination was also found at the base of a light pole immediately adjacent to the street.

The extent of the adjacent contamination is unknown. It is located under a busy paved road. Colorado Department of Health field inspection results are presented in this appendix.

COLORADO DEPARTMENT OF HEALTH
UMTRAP
FIELD INSPECTION

Based on the gamma radiation survey performed on 11-18-86 (date)

at 12th Street and Camino del Rio Street (address)

Durango number DU-003 Location number DU-003

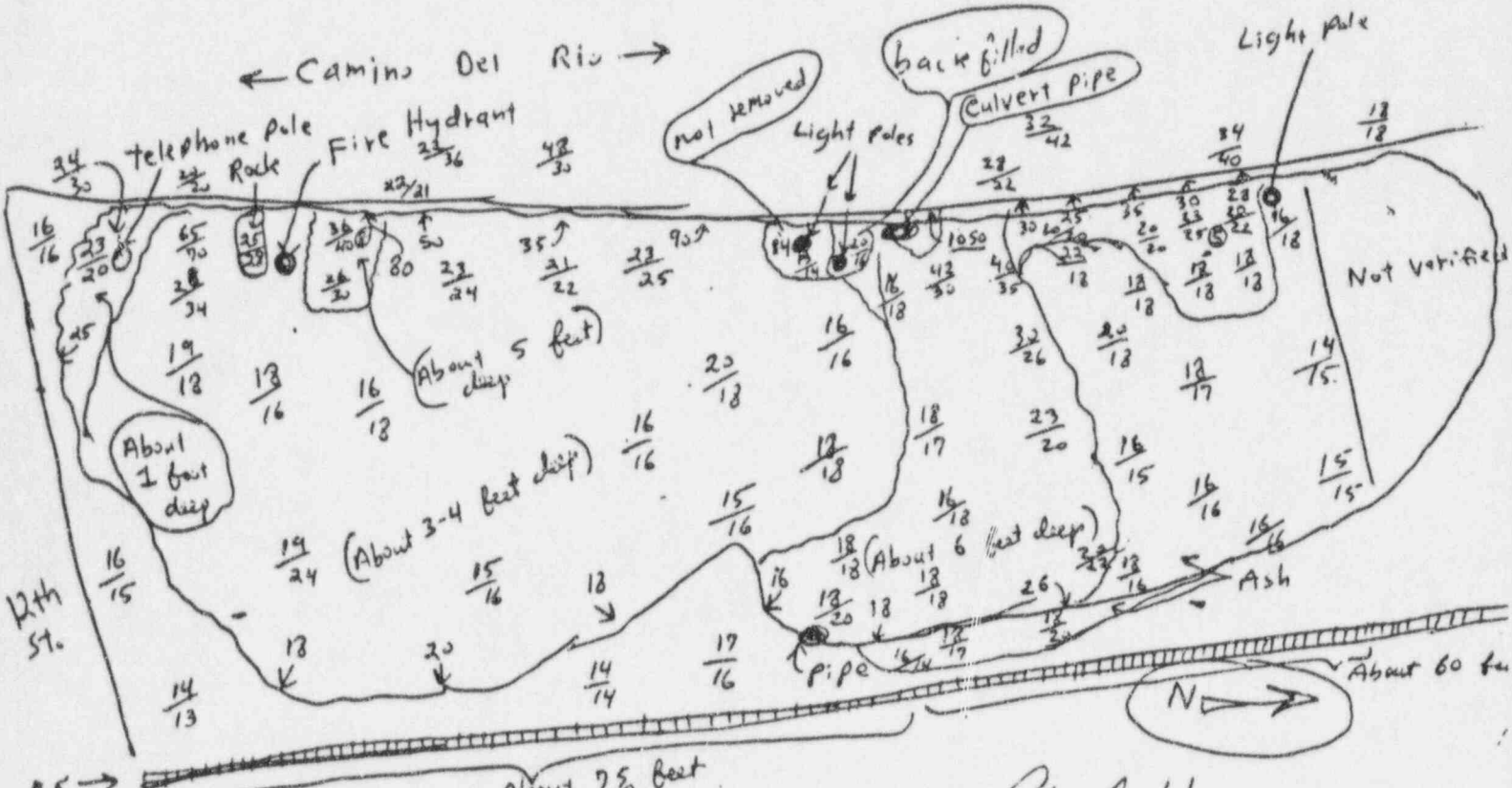
This property has had:

☑ 1. All detectable contamination removed.

☐ 2. Most of the detectable contamination removed with the exception of: (see sketch)

☑ 3. All contamination defined in the REA has been removed.

☐ 4. Most of the contamination defined in the REA has been removed with the following exceptions:



Copy Received by John Ingram by KW Signed Jim A. Hamm

Instrument # 15259

All readings are CDH meter readings unless otherwise noted

COLORADO DEPARTMENT OF HEALTH
UMTRAP
FIELD INSPECTION

Based on the gamma radiation survey performed on 11-21-86 (date)

at between 12th & 13th on Camino Del Rio (address)

Durango number DU003 Location number DU 20393

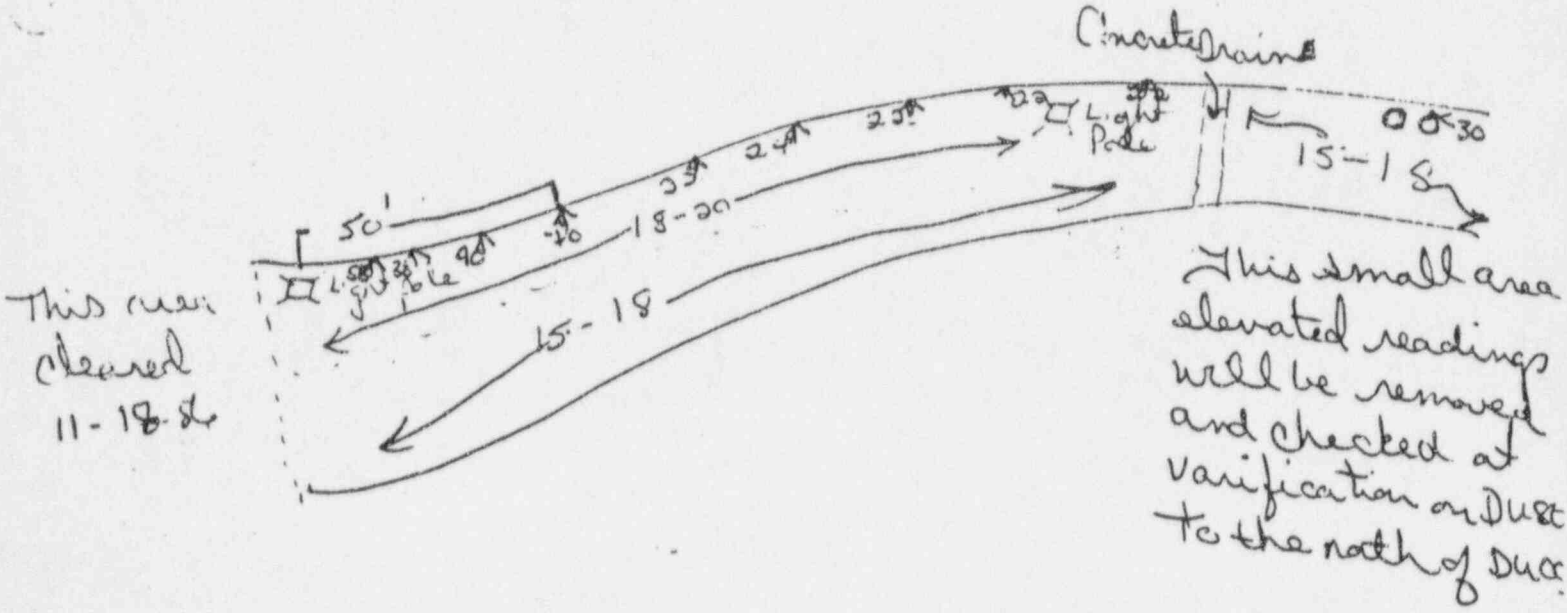
This property has had:

☒ 1. All detectable contamination removed.

☐ 2. Most of the detectable contamination removed with the exception of: (see sketch)

☒ 3. All contamination defined in the REA has been removed.

☐ 4. Most of the contamination defined in the REA has been removed with the following exceptions:



Copy Received by Bill Zebek Signed Donna Foster

Instrument # 15.277

All readings are CDH meter readings unless otherwise noted.

PROPERTY SURVEY SKETCH

Sheet 1 of 1

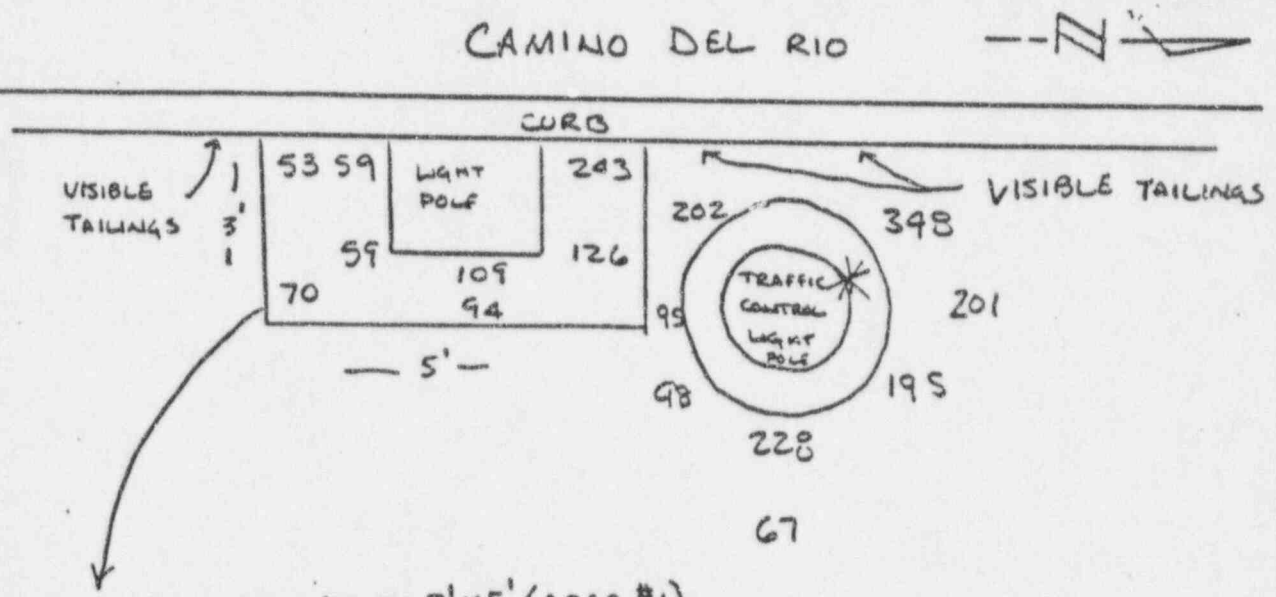
SITE LOCATION DU-003 - AREA 1

ADDRESS 12th + CAMINO DEL RIO

PROPERTY TYPE COMMERCIAL LOT NO.

OWNER

SKETCH COMPLETED BY TRUJILLO III DATE 11-18-86



VERIFICATION GRID IS 3'x5' (AREA #1)
D-SV-3780 1.2 pCi/g Ra_{226} (INITIAL)
2.1 pCi/g Ra_{226} (PROJECTED FINAL)

* NOTE: TAILINGS ARE IMBEDDED AROUND TRAFFIC CONTROL LIGHT POLE THE AREA CONTAMINATED IS ESTIMATED AT 6"x3' APPROXIMATELY AT TOTAL OF 5.3 CUBIC FEET OF TAILINGS MATERIAL. THE TOTAL ESTIMATED PICO CURIE CONTENT IS 736.7 of Ra_{226}

XXX READINGS ARE IN HUNDREDS OF COUNTS IN 0.1 MINUTE ROUNDED TO NEAREST HUNDRED INST. LUDUM 2220 + 4410 DUR-03
#31990 #24647

APPENDIX D

LEGAL DESCRIPTION

LEGAL DESCRIPTION

There is no legal description available for the property which is the subject of this Completion Report. The property is owned by the Durango & Silverton Narrow Gauge Railroad and lies between 12th and 13th Streets in Durango, Colorado.

VICINITY PROPERTY CERTIFICATION SUMMARY AND DECISION

Location No.: DU-0035 Date: 2/17/88

The data presented in the certification folder indicate:

	TAC Evaluation Yes	No	N/A	DOE Evaluation Yes	No	N/A
1. The Ra-226 concentration in the top 15 cm of soil averages <5 pCi/g above background over 100 m^2 in-situ [] lab [X].	[X]	[]	[]	[]	[]	[]
2. The Ra-226 concentration in any 15 cm layer of soil below the top 15 cm surface layer averages <15 pCi/g above background over 100 m^2 in-situ [] lab [X].	[X]	[]	[]	[]	[]	[]
3. The indoor gamma readings are <20 uR/hr above background in every habitable room.	[]	[]	[X]	[]	[]	[]
4. The radon daughter concentration in any habitable room is <0.02 working levels, or at most 0.03 WL.	[]	[]	[X]	[]	[]	[]
5. Supplemental standards were applied in accordance with EPA standards 192.21.	[X]	[]	[]	[]	[]	[]

TAC Recommendation: [X] Certification, [] Long-term RDC results (detectors previously installed) [] Additional Measurements, [] Close-Out.

Mark Avila 3/11/88
Radiological Services Manager/Date

[signature] 3/24/88
Vicinity Property Manager/Date

DOE Decision: [X] Certify, [] Long-term RDC results (detectors previously installed), [] Additional Measurements, [] Close-Out.

Comments:

Gaeton Falanga 06/22/88
DOE Evaluator Date

URFO-6

CERTIFICATION REVIEW SUMMARY

Property No.: DU-003 Reviewed by: T. Culp Date: 2/17/88

Address: 12TH ST. 13TH ST. Approved by: Mark Miller Date: 3/11/88

DURANGO CO

Mark Miller
Manager, Radiological Services
Jacobs-Weston Team

Property Category: OPEN LAND

The recommendation for certification is based on a review of the Completion Report and other available data describing remedial actions and resulting radiological conditions at this property. Measurement methods and data are compared to the requirements provided in the Vicinity Properties Management and Implementation Manual, and in 40 CFR 192. The following recommendations are made according to the intent of those requirements:

1.0 CERTIFICATION

✓ This property complies with the EPA standards and is recommended for Certification.

— This property is recommended for Certification only after the conditions listed in 3.0, below, are met.

— Remedial actions were refused by the property owner, and the property cannot be Certified.

2.0 SUPPLEMENTAL STANDARDS

— Supplemental Standards were not applied at this property.

✓ Supplemental Standards were applied as described in the Completion Report.

✓ The following agencies concurred in the application of Supplemental Standards at this property.

NRC CDH

3.0 CONDITIONS

— Annual average RDC results are required.

— The following additional measurements are required:

— The following additional actions must be completed:

VICINITY PROPERTY CERTIFICATION REVIEW
FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS

Property No. DU-003 Qty. of soil removed: 715 (yd^3) RA Contractor mK-F

Address: 12th Street – 13th Street Reviewer: Todd Culp Subcontractors Durango United

Durango CO Date: Construction.

CERTIFICATION REQUIREMENT	COMPLIANCE Yes	No	N/A	COMMENTS (Reference page in completion report)
I. SOIL EXCAVATION				
1. Were soil samples collected/analyzed? (List quantity of surface and sub-surface samples.)	✓			Soil samples from each of 10 verific. grids. PG-7 10 samples. range 1.3 to 4.0 pCi/g EKG 1.4 pCi/g
2. Did grid intervals equal 10 feet or less? (List grid size and quantity sampled.)	✓			in accordance w/ H.P. procedure 015. PG
3. Were adequate spatial averaging techniques clearly demonstrated?	✓			grids appear to be 100 m^2 or less as per DU-003-017 Drawing
4. Was an outdoor gamma survey conducted (List results.)		✓		
5. Were alternate measurements performed? (List types of measurements, range, and average of results.)	✓			soil verification ranged from 1.3 to 4.0 pCi/g PG-7
6. Were all contaminated areas sampled after excavation?	✓			Drawing DU-003-017

VICINITY PROPERTY CERTIFICATION REVIEW
FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS
(Continued)

CERTIFICATION REQUIREMENT	COMPLIANCE Yes	No	N/A	COMMENTS (Reference page in completion report)
I. SOIL EXCAVATION (Continued)				
7. Were soil concentrations of Ra-226, averaged over 100m^2, less than:				
o 5 pCi/g plus background (surface)? (List range of results).	✓			range <1.3pCi/g to 4.1pCi/g P97
o 15 pCi/g plus background (subsurface)?			✓	
8. If excavation was done around structures or utility conduits to structures, was contamination removed to background levels?	✓			assumed
II. INDOOR GAMMA SURVEY				
1. Were assessment measurements taken in the lowest habitable level of every habitable building?			✓	no structures
2. Were small rooms scanned and large rooms (2000 sq.ft.) gridded at intervals of 10 ft. or smaller?			✓	
3. Were verification measurements taken at locations of prior maximum readings?			✓	

VICINITY PROPERTY CERTIFICATION REVIEW
FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS
(Continued)

CERTIFICATION REQUIREMENT	COMPLIANCE Yes	No	N/A	COMMENTS (Reference page in completion report)
II. INDOOR GAMMA SURVEY (Continued)				
4. Were instrument readings converted to indicate microR/hr? (List range and average of readings.)			✓	no structure
5. After remedial action, was the average value for each room or 2000 sq.ft.-area less than 20 microR/hr above background?			✓	
6. If any reading exceeded 20 microR/hr above background, was it satisfactorily investigated to ensure no tailings involvement?			✓	
III. INDOOR RDC MEASUREMENTS				
1. If RDC measurements were performed before remedial action, and results were above standards, were they repeated after remedial action was completed?			✓	
2. If no RDC measurements were performed before remedial action, were they taken in every habitable structure after remedial action?			✓	

VICINITY PROPERTY CERTIFICATION REVIEW
FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS
(Continued)

CERTIFICATION REQUIREMENT	COMPLIANCE Yes	No	N/A	COMMENTS (Reference page in completion report)
III. INDOOR RDC MEASUREMENTS (Continued)				
3. If tailings were excavated near the structure, or around utility conduits into the structure, were RDC measurements performed after remedial action?			/	
4. If grab samples were used for verification, were acceptable procedures used?			/	no structure
5. Were grab sample results less than 0.01 WL? (List range and average of results.)			/	
6. If annual average measurements were used for verification, were acceptable procedures followed?			/	
7. Were annual average RDC results less than EPA WL standards? (List range and average of results.)			/	
8. If annual average RDC results were between 0.02 WL and 0.03 WL, was appropriate justification given?			/	

VICINITY PROPERTY CERTIFICATION REVIEW
FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS
(Continued)

CERTIFICATION REQUIREMENT	COMPLIANCE Yes	No	N/A	COMMENTS (Reference page in completion report)
IV. OTHER VERIFICATION MEASUREMENTS				
1. If adequate verification data is not presented, were additional measurements taken?			✓	adequate verification
2. Were acceptable procedures used?			—	
3. Were indoor Rn-222 results less than 2.0 pCi/l?			/	
4. Were surface alpha contamination levels less than:				
o 20 dpm/100 sq.cm. for removable alpha activity?			/	
o 100 dpm/100 sq.cm. for total alpha activity?			/	
5. Was Ra-226 the only radionuclide of concern at this property? If not, explain.			/	
6. Were additional measurements performed? (Type, results.)			/	

VICINITY PROPERTY CERTIFICATION REVIEW
FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS
(Continued)

CERTIFICATION REQUIREMENT	COMPLIANCE Yes	No	N/A	COMMENTS (Reference page in completion report)
V. SUPPLEMENTAL STANDARDS				~ 64 ^{3} of 13pCi/g Ra under Railroad tracks @ 14 μR/hr at surface.
1. If numerical standards were not met, is this due to presence of natural radioactivity? (What data shows this.)		✓		
2. If all residual radioactive material at the property was not cleaned up, were supplemental standards (40 CFR 192 Subpart C) applied?	✓			pg 4-5
3. Was the application of supplemental standards in accordance with the Plan for Implementing EPA Standards?	✓			
4. Did appropriate state and Federal agencies concur in this application of supplemental standards?	✓			NRC CDH
VI. SITE AUDIT RESULTS				
1. If a site audit was performed at this property, were the results satisfactory?			/	
2. If the contractor's effort's were evaluated at other properties, were the results satisfactory?	/			

VICINITY PROPERTY CERTIFICATION REVIEW
FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS
(Continued)

CERTIFICATION REQUIREMENT	COMPLIANCE Yes	No	N/A	COMMENTS (Reference page in completion report)
VII. ADDITIONAL CONSIDERATIONS				
1. Are there any additional comments or considerations?			✓	
VIII. CERTIFICATION				
1. Is this property recommended for certification as meeting the EPA standards for residual radioactive material? If not, why?	✓			