NOTE:
SUPPLEMENTAL
STANDARDS

WM-39

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

Radiological and Engineering Assessment

Vicinity Property No. CAN 501

Remedial Actions
Contractor
for the
Uranium Mill Tailings
Remedial Actions
Project

Vicinity Property No. CAN 501

MK-FERGUSON COMPANY
A MORRISON KNUDSEN COMPANY

URFO-8

87-472

ADDRESS: 27 Latimer Avenue
N. Strabane, PA 15363

OWNER'S NAME: N. Strabane Twnshp.
R.D. 1, Box 132, Rt. 519 South
Canonsburg, PA 15317

OWNER'S ADDRESS: (IF DIFFERENT)
Mike Mansfield, Manager

TENANTS NAME: N/A

TELEPHONE NUMBER (if available) _____

TELEPHONE NUMBER (if available) (412) 745-8880

PROPERTY DATA:

Structures and utilities are shown on Drawing CA-501-016.

Property Use: Single Residence _____; Commercial _____; School _____
Multiple Residence _____; Vacant Lot _____; Church _____; Open Land X

Age of structures: Less than 50 years old N/A ;
Greater than 50 years old _____ (attach form _____).

Adjacent included/spillover vicinity properties:

North - V.P. # CA-214
South - V.P. # N/A
East - V.P. # N/A
West - V.P. # N/A

SUMMARY

Property CA-501 is the road in front of 27 Latimer Avenue. Remedial action was performed under the sidewalk of Vicinity Property CA-214. A total of 4.2 cubic yards of contaminated material was left on the street right of way. We recommend annotating the field records for the property and leaving the contaminated materials in place under Supplemental Standards, as outlined in 40 CFR 192.21 (c). The costs for performing the remedial action if Supplemental Standards are not applied can be found in Table 4.1.

RADIOLOGICAL DATA

Gamma Exposure Rate Survey

Survey Method

Outdoor and indoor gamma surveys were conducted in accordance with the RAC Procedure 011. These surveys were conducted over the entire area.

Survey Results

Surface gamma readings on the property range from 16 to 18 micro R/hr (Table 3.1). This may be compared with the background for the Canonsburg site of 13 micro R/hr. The radiological survey data can be found in Appendix B.

Borehole Survey

Survey Method

A gasoline-powered hand auger was used to drill 4-inch diameter holes in and around the regions identified as contaminated during the gamma survey. The holes were surveyed in compliance with the RAC UMTRA Procedure 010.

Survey Results

Contamination was not found in any of the four outdoor holes augered on the south side of the pavement. The location and depth of the contamination is described in Table 3.1.

Radon/Radon Daughter Survey

No radon/radon daughter surveys were performed as there are no structures on the property.

Soil Samples

Soil samples taken from the north side of the pavement after excavation on CA-214 indicated concentrations as high as 49.5 pCi/g (see Table 3.2).

Estimated Extent of Contamination

The contamination exists under the paved surface of the road approximately to the center line. The estimated volume of contaminated material is 4.2 cubic yards, with about 10 cubic yards of clean material over it.

Recommended Remedial Action

Because the cost of cleanup would be unreasonably high when compared to the benefits, and because the radioactive materials pose no present or future health hazard, we recommend that Supplemental Standards be implemented, as provided in 40 CFR 192.21 (c) and that the contaminated materials be left in place.

JUSTIFICATION CHECKLIST FOR APPLICATION
OF SUPPLEMENTAL STANDARDS

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 Ra-226 exist

Brief Condition Description and Justification:

For the contamination below the paved surface of Latimer Avenue, we are recommending that Supplemental Standards be applied under Criterion c of the NRC Guidelines for justifying the use of Supplemental Standards in 40 CFR, Part 192.21.

The volume of contaminated material is about 4.2 cubic yards. The depth of tailings is approximately 18 inches, varying between 12 and 24 inches, with some 10 cubic yards of clean fill and paving on top. The concentration of tailings is as high as 49.5 pCi/g with an estimated average of 30 pCi/g.

The cost of $1,900 cannot be justified when compared to the low health benefits. Table 4.1 gives a breakdown of these costs. Radiation levels are very near background (average 17 micro R/hr in the area in question). No structures are present at this location nor is it likely that any will be constructed in the future. People will not be spending long periods of time in this area.

The owner, North Strabane Township, has been asked to comment on this recommendation. They wrote back in response to our request for their comments and asked for cost data and radioactivity readings. The North Strabane Township has no objection to Supplemental Standards being applied to the referenced property (see Appendix A).

JUSTIFICATION CHECKLIST FOR APPLICATION
OF SUPPLEMENTAL STANDARDS - Cont'd.

Additional cost without application of Supplemental Standards = $1,900 (further breakdown provided in Table 4.1 of this REA).

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 witnin 10 feet of a building?
	X	4. Anticipated change of land use within the next 5 years?
N/A		5. If yes to No. 4, then will land use produce health risk?
	X	6. Is contamination in a habitable area?
X		7. Have owners comments been solicited? (See Appendix A for a record of correspondence with the owner).

Estimated volume of contaminated material to remain = 4.2 (cy).

Contaminated area to remain = 200 (sy).

Range and average gamma for contaminated areas = 16 to 18 micro R/hr and 17 micro R/hr, respectively.

Range and average gamma concentration in soil in contaminated areas = 2.6 to 49.5 pCi/g and 30 pCi/g, respectively.

Table 3.1
OUTDOOR BOREHOLE AND GAMMA SURVEY
Property CA-501

BOREHOLE	LOCATION (x,y)	MICRO R/hr	CONTAMINATION DEPTH
A	(-17,-32)	16	--
B	(-17,23)	18	--
C	(-17,13)	17	--
D	(-17,4)	18	--

Table 4.1
SUPPLEMENTAL STANDARDS

Activity No.	Activity	Unit Price	Quantity	Estimated Cost
	Remove Existing Road Surface	3.90 SF	200 SF	780.00
	Excavation	10.20 CY	15 CY	153.00
	Backfill	23.15 CY	12 CY	278.00
	Aggregate Base Course	26.50 CY	3 CY	80.00
	SUBTOTAL			1,291.00
	5% Contingency (Subcontractor)			65.00
	20% Overhead and Profit			258.00
	SUBTOTAL			1,614.00
	15% Contingency			242.00
		TOTAL (Rounded)		1,900.00

Table 3.2
SOIL SAMPLES
Property CA 501

LOCATION	pCi/g
(x,y)	
(-15,-23)	2.6 ± 0.18
(-15,-10)	49.5 ± 3.41

APPENDIX A

RECORD OF CORRESPONDENCE WITH THE OWNER - CA-501

Record of Telephone Conversation

Date: July 30, 1986 - 11:50 a.m.

/X/ Telephone or / / Other

Between: Bob Kurz, CNSI and Mark Mansfield of North Strabane Township (Manager)

Subject: Supplemental Standards at CA-501 - 27 Latimer Avenue

For Information:

Discussion: Mark could not make a decision on whether or not North Strabane concurred with Supplemental Standards at CA-501. He asked if they didn't concur, would we take the material. I told him that the DOE agreed with the recommendation for Supplemental Standards and that it was a classic case for Supplemental Standards, but they (North Strabane) had an input if they could identify a hazard we had not seen.

Action: Letter to Board of Supervisors, North Strabane Township

Route to:

1358B

ENGINEERS
AND
CONSTRUCTORS

MK-FERGUSON COMPANY
A MORRISON KNUDSEN COMPANY

HEADQUARTERS OFFICE
ONE ERIEVIEW PLAZA
CLEVELAND, OHIO U.S.A. 44114
PHONE (216) 523-5600/TELEX 985542

REPLY TO: MK-FERGUSON COMPANY
REMEDIAL ACTIONS
CONTRACTOR UMTRA PROJECT
P.O. BOX 9136
ALBUQUERQUE, NEW MEXICO U.S.A. 87119

August 8, 1986

Board of Supervisors
Township of N. Strabane
Road 1, Box 132
Route 519 South
Canonsburg, PA 15317

SUBJECT: Use of Supplemental Standards - CA-438 and CA-501

Dear Sirs:

The Radiological and Engineering Assessments (REA's) performed on the properties at 27 Latimer Avenue and 412 1/2 Chartiers Street in N. Strabane have revealed that minor quantities of radioactive materials are under the pavement in front of both houses (see drawings). Because of the severe economic impact involved in cleaning up this material, coupled with the very low public health hazard, we are leaving these radioactive materials in place. This action is authorized under Title 40, Code of Federal Regulations, Section 192.21 (c). Basically, these sections of the EPA standards, which are established for cleanup of uranium mill tailings, allow residual radioactive materials to remain in place when certain conditions are met. The criteria defining when remedial action will not take place (called Supplemental Standards) is as follows:

> The estimated cost of remedial action action is unreasonably high relative to the long-term benefits, and the residual radioactive materials do not themselves pose a clear present or future hazard to the public. We feel that the cost of adequately removing the contaminants and resurfacing Latimer Avenue would be unreasonably high relative to the low health hazard of the materials being left in place.

In compliance with the EPA regulations found in the Code of Federal Regulations 40 192.21 (c), we are soliciting your comments concerning this action.

We are attaching a copy of the applicable sections of the Code of Federal Regulations for your convenience in responding to this action. We are also attaching copies of drawings showing the estimated extent of contamination for the properties. We request a response by September 8, 1986 and will interpret no response by that date as your concurrence.

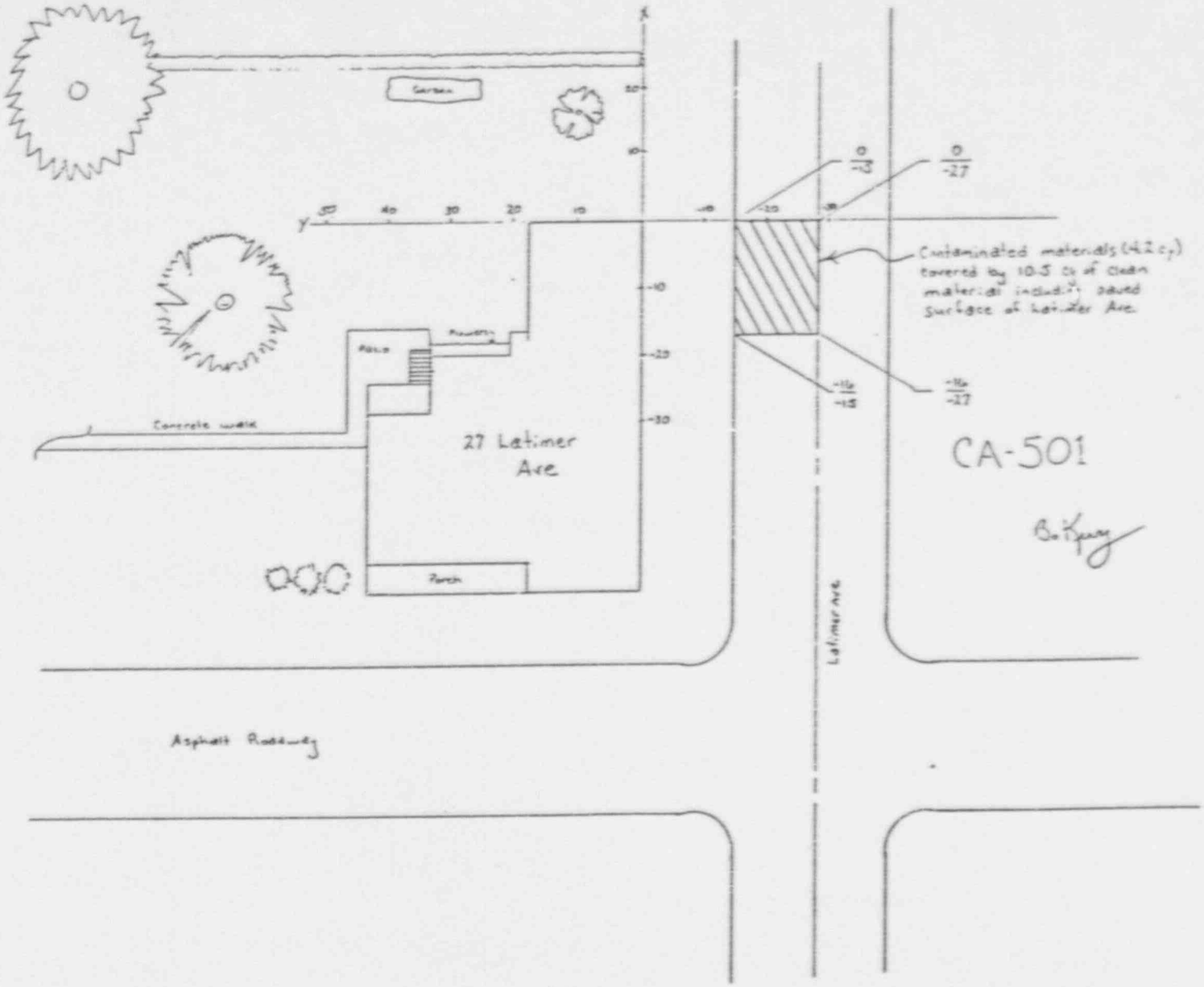
If you have any questions concerning this situation, please call Robert Kurz of my staff at (505) 766-8244.

Sincerely,

MK-FERGUSON COMPANY

J. G. Oldham
Project Director

JGO/BEK/sh
cc: w/ attachments:
K. Greenwell
J. Yusko
Document Control


Garage
Patio
Planters
Concrete walk
27 Latimer Ave
Porch
Asphalt Roadway
Latimer Ave
(Contaminated materials (4.2 c.y.) covered by 10.5 cy of clean material including paved surface of Latimer Ave.
CA-501

§ 192.21 Criteria for applying supplemental standards.

The implementing agencies may (and in the case of Subsection (f) shall) apply standards under § 192.22 in lieu of the standards of Subparts A

or B if they determine that any of the following circumstances exists:

(a) Remedial actions required to satisfy Subparts A or B would pose a clear and present risk of injury to workers or to members of the public, notwithstanding reasonable measures to avoid or reduce risk.

(b) Remedial actions to satisfy the cleanup standards for land, § 192.12(a), or the acquisition of minimum materials required for control to satisfy § 192.02(b), would, notwithstanding reasonable measures to limit damage, directly produce environmental harm that is clearly excessive compared to the health benefits to persons living on or near the site, now or in the future. A clear excess of environmental harm is harm that is long-term, manifest, and grossly disproportionate to health benefits that may reasonably be anticipated.

(c) The estimated cost of remedial action to satisfy § 192.12(a) at a "vicinity" site (described under Sec. 101(6)(B) of the Act) is unreasonably high relative to the long-term benefits and the residual radioactive materials do not pose a clear present or future hazard. The likelihood that buildings will be erected or that people will spend long periods of time at such a vicinity site should be considered in evaluating this hazard. Remedial action will generally not be necessary where residual radioactive materials have been placed semi-permanently in a location where site-specific factors limit their hazard and from which they are costly or difficult to remove, or where only minor quantities of residual radioactive materials are involved. Examples are residual radioactive materials under hard surface public roads and sidewalks, around public sewer lines, or in fence post foundations. Supplemental standards should not be applied at such sites, however, if individuals are likely to be exposed for long periods of time to radiation from such materials at levels above those that would prevail under § 192.12(a).

(d) The cost of a remedial action for cleanup of a building under § 192.12(b) is clearly unreasonably high relative to the benefits. Factors that should be included in this judgment are the anticipated period of occupancy, the incremental radiation level that would be affected by the remedial action, the residual useful lifetime of the building, the potential for future construction at the site, and the applicability of less costly remedial methods than removal of residual radioactive materials.

(e) There is no known remedial action.

(f) Radionuclides other than radium-226 and its decay products are present in sufficient quantity and concentration to constitute a significant radiation hazard from residual radioactive materials.

§ 192.22 Supplemental standards.

Federal agencies implementing Subparts A and B may in lieu thereof proceed pursuant to this section with respect to generic or individual situations meeting the eligibility requirements of § 192.21.

(a) When one or more of the criteria of § 192.21(a) through (e) applies, the implementing agencies shall select and perform remedial actions that come as close to meeting the otherwise applicable standard as is reasonable under the circumstances.

(b) When § 192.21(f) applies, remedial actions shall, in addition to satisfying the standards of Subparts A and B, reduce other residual radioactivity to levels that are as low as is reasonably achievable.

(c) The implementing agencies may make general determinations concerning remedial actions under this Section that will apply to all locations with specified characteristics, or they may make a determination for a specific location. When remedial actions are proposed under this Section for a specific location, the Department of Energy shall inform any private owners and occupants of the affected location and solicit their comments. The Department of Energy shall provide any such comments to the other implementing agencies. The Department of Energy shall also periodically inform the Environmental Protection Agency of both general and individual determinations under the provisions of this section.

§ 192.23 Effective date.

Subparts A, B, and C shall be effective March 7, 1983.

North Strabane Township

R.D. 1, Box 132, Route 519 South
Canonsburg, Pennsylvania 15317

August 28, 1986

J. G. Oldham
Project Director
MK-Ferguson Company
One Erieview Plaza
Cleveland, Ohio 44114

Dear Mr. Oldham:

At the direction of the North Strabane Township Board of Supervisors, I am requesting that MK-Furguson Company provide actual radioactive reading and clean-up cost estimates for the two areas in Strabane (27 Latimer and 412 1/2 Chartiers St) which you have identified as having acceptable levels of radioactive material under the EPA Supplemental Standards CA-438 and CA-501.

We would appreciate your providing this information in simplified form.

Very Truly Yours,

Mark S. Mansfield (tw)

Mark S. Mansfield
Manager

MSM/tw

cc Board of Supervisors
Zoning Hearing Board
Engineer
Solicitor
Planning and Zoning Commission
Code Enforcement Officer

ENGINEERS
AND
CONSTRUCTORS

MK-FERGUSON COMPANY
A MORRISON KNUDSEN COMPANY

HEADQUARTERS OFFICE
ONE ERIEVIEW PLAZA
CLEVELAND, OHIO U.S.A. 44114
PHONE (216) 523-5600/TELEX 985542

REPLY TO: MK-FERGUSON COMPANY
REMEDIAL ACTIONS
CONTRACTOR UMTRA PROJECT
P.O. BOX 9136
ALBUQUERQUE, NEW MEXICO U.S.A. 87119

September 23, 1986

Mark S. Mansfield, Manager
North Strabane Township
R.D. 1, Box 132, Route 519 South
Canonsburg, PA 15317

SUBJECT: CA-438 and CA-501 - Cleanup Cost Estimates and Radioactive Readings

Dear Mr. Mansfield:

This letter is in response to your letter of August 28 requesting cost estimates and radioactivity levels for Properties CA-438 and CA-501. The radioactivity estimates are 17 pCi/g and 30 pCi/g for CA-438 and CA-501, respectively. These should be compared to the limits of 15 pCi/g, as stated in 40 CFR 192. The cost estimates for CA-438 and CA-501 are $2,000 and $1,900, respectively.

Should you have any further questions, please contact Mr. John Pepin of my staff at (505) 766-3076.

Sincerely,

MK-FERGUSON COMPANY

J. G. Oldham
Project Director

JGO/BEK/sh
cc: w/ attachment:
R. Sena
Document Control

RADIOLOGICAL AND ENGINEERING ASSESSMENT (REA)
Review Form

DOE Location No. CA-438 Rev. No. ____

RAC

PRIORITY: ☒ ROUTINE ☐ URGENT DATE 12/4/86
REQUESTED RESPONSE BY 12/18/86
COMMENTS:
Need DOE approval prior to sending to NRC

[signature] 12/4/86
VP MANAGER DATE CONT. ON ATTACHED SHEET NO. ____

TAC

DATE RECEIVED ____
☐ RECOMMEND APPROVAL ☐ RECOMMEND APPROVAL AS NOTED BELOW ☐ DO NOT RECOMMEND APPROVAL AS NOTED BELOW

COMMENTS:

TAC ____ DATE ____ CONT. ON ATTACHED SHEET NO. ____

STATE

DATE TRANSMITTED ____
☐ APPROVED ☐ APPROVED AS NOTED ☐ NOT APPROVED AS NOTED

RESPONSE DATE ____ ATTACHED RESPONSE ON SHEET NO. ____

NRC

DATE TRANSMITTED ____
☐ APPROVED ☐ APPROVED AS NOTED ☐ NOT APPROVED AS NOTED

RESPONSE DATE ____ ATTACHED RESPONSE ON SHEET NO. ____

TRIBE

DATE TRANSMITTED ____
☐ APPROVED ☐ APPROVED AS NOTED ☐ NOT APPROVED AS NOTED

RESPONSE DATE ____ ATTACHED RESPONSE ON SHEET NO. ____

DOE-UMTRA

DATE RECEIVED 12-9-86
☐ APPROVED ☒ APPROVED AS NOTED ☐ NOT APPROVED AS NOTED

COMMENTS:
1) Prior to forwarding REA for application of supplemental standards to NRC, please contact Mark Mansfield per telephone and receive verbal concurrence. Add this record of teleconference to finalize appendix A
2) Have S.S.'s been approved for CAN501. The letter to the township requests S.S.'s for both 501 and 438
3) Plans have no property No. labels.

[signature] 1-21-87
DOE, VP MANAGER DATE SHEET NO. 1 OF 1

Record of Telephone Conversation

Date: January 22, 1987

/X/ Telephone or /__/ Other_____

Between: Rob Pommerening and Mark Mansfield of North Strabane Township (Manager)

Subject: Application of Supplemental Standards to CA-501, 27 Latimer Avenue

For Information:

Discussion: MK-Ferguson solicited comments from Mark Mansfield on the application of Supplemental Standards to the roadway right-of-way at 27 Latimer Avenue. Mr. Mansfield stated they (the directors) would like the contamination cleaned up; however, with the regulations allowing for the contamination to remain due to cost and low health risk, they have no objection to the Supplemental Standards being applied. Robert A Pommerening 1/23/87

Action:

Route to:

1358B

APPENDIX B

RADIOLOGICAL SURVEY DATA

MORRISON KNUDSEN

BOREHOLE LOG

LOGGING CREW: Tim Miller [illegible]

SHEET ______ OF ______ PAGE ______

DATE: 8-15-85

PROPERTY ID: ~~CA-214~~ 501 RK

INSTRUMENT ID NO. [illegible] 052

AREA: South side of Latimer Ave.

NOTES: 1. ALL HOLES ARE 4"DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

HOLE ID: A		HOLE ID: B		HOLE ID: C		HOLE ID: D	
TIME DRILLED: 1415		TIME DRILLED: 1425		TIME DRILLED: 1433		TIME DRILLED: 1437	
TIME LOGGED: 1420		TIME LOGGED: 1430		TIME LOGGED: 1435		TIME LOGGED: 1439	
SOIL TYPE: Red Dry		SOIL TYPE: Red dry		SOIL TYPE: Red dry		SOIL TYPE: Red dry	
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	1677	SURFACE	1974	SURFACE	1838	SURFACE	1989
0"	1789	0"	2003	0"	2034	0"	2079
6"	2129	6"	2376	6"	2367	6"	2251
12"	2383	12"	2592	12"	2685	12"	2426
16"	2369	18"	2587	18"	2426	18"	2326
24"	2286	24"	2372	24"	2241	24"	2271
30"	2152	30"		30"	2106	30"	2121
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"	16" [illegible]	90"	13" [illegible]	90"	11" [illegible]	90"	12" [illegible]
96"		96"		96"		96"	

REMARKS: Note: surface readings were done with open probe.
Note: these readings were done across the street from CA-214 for supplemental standards.

CA-214

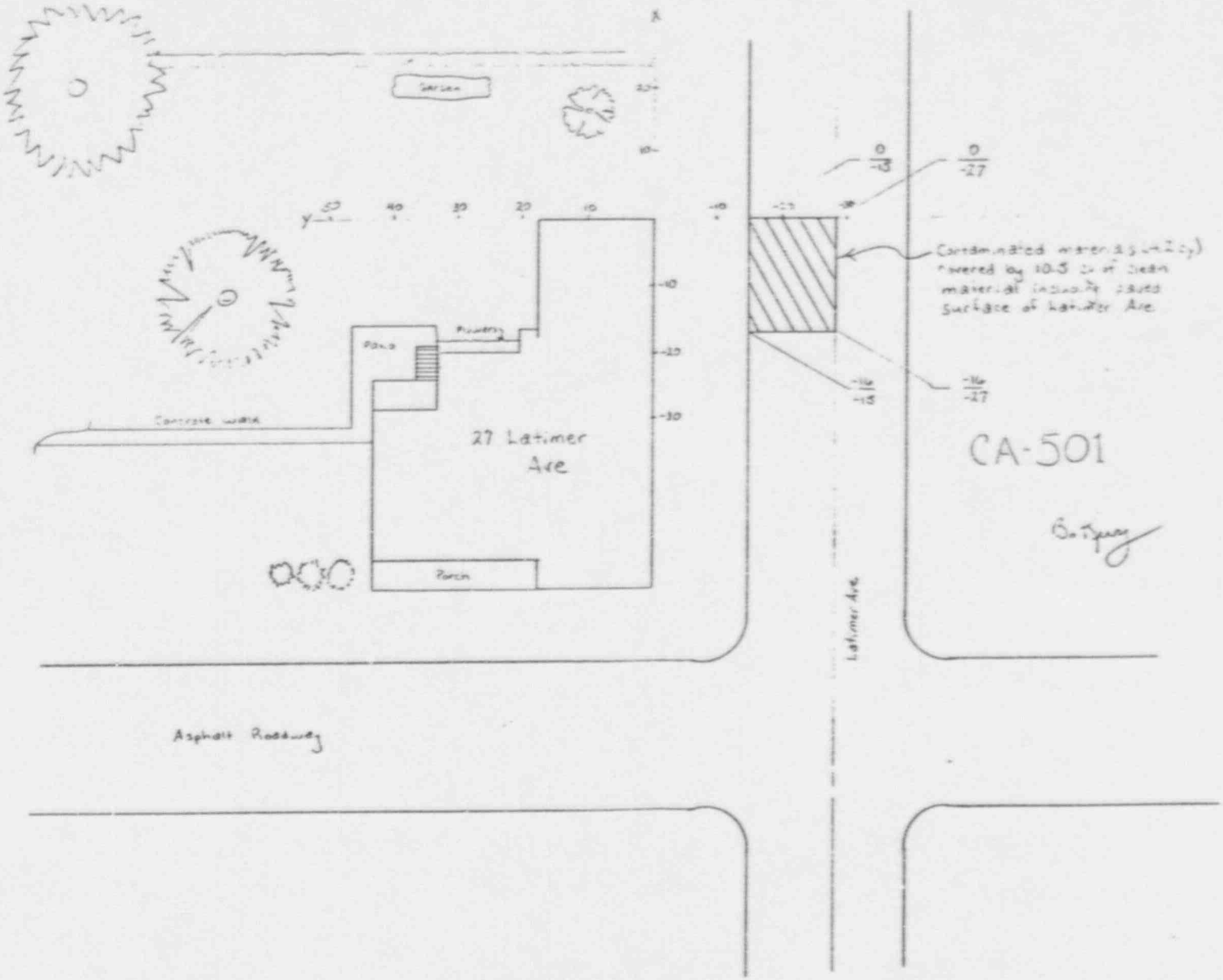
CRESCENT CREEK SYSTEM
SAMPLE RECORD

Ryan Diehl 8-14-85 PAGE 1

USE BOTH COLUMNS — CERAMICS ENTERED IN TIME BLOCK

Sample ID Location	Date Sealed	Wet Wt.	Rn Conc. pCi/g	Trans.
CA-214 A-1	8-12-85	551	1.4E3 / 2.6	DJB
CA-214 A-2	8-12-85	470	1.9E3 / 4.1	
CA-214 A-3		619	6.2E2 / 1.0	
CA-214 B-1		470	4.8E2 / 1.0	
CA-214 B-2		472	5.0E2 / 1.1	
CA-214 B-3		437	1.2E3 / 2.8	
CA-214 AREA-A #4		395	3.9E3 / 9.9	
CA-214 AREA-A #5	8-13-85	527	2.6E4 / 49.5	
CA-214 AREA-A #6		551	6.0E2 / 1.1	
CA-214 AREA-A #7		593	3.6E2 / .6	
CA-214 AREA-A #8		614	2.0E2 / .33	
CA-214 AREA-D #11		550	2.0E2 / .36	
CA-214 AREA-A #9		409	3.4E3 / 8.5	
CA-214 AREA-D #13		438	30E1 / .1	
CA-214 AREA-A #10		461	1.0E3 / 2.6	
CA-214 AREA-A #11		560	1.0E3 / 1.9	
CA-214 AREA-A #12		410	1.9E3 / 4.8	
CA-214 AREA-B #12		462	7.7E2 / 1.7	
CA-214 AREA-A #13		502	1.9E3 / 3.8	

Sample ID Location	Date Sealed	Wet Wt.	Rn Conc. pCi/g	Trans.
CA-214 AREA-A #14	8-13-85	507	5.0E2 / 1.0	SJB
CA-214 AREA-A #15		512	2.2E4 / 440	
CA-214 AREA-A #16		548	1.5E1 / .3	
CA-214 AREA-A #18	8-14-85	566	2.0E2 / .4	
CA-214 AREA-A #17		530	1.0E2 / .2	
CA-214 AFTER-A BACKFILL		674	1.0E3 / 1.5	



Garden
Concrete walk
Patio
Flowers
27 Latimer Ave
Porch
Asphalt Roadway
Latimer Ave
CA-501

MK-FERGUSON COMPANY
A MORRISON KNUDSEN COMPANY
UMTRA PROJECT OFFICE
P.O. BOX 9136
ALBUQUERQUE, NEW MEXICO 87119