

**EPA Superfund
Record of Decision:**

**AUSTIN AVENUE RADIATION SITE
EPA ID: PAD987341716
OU 02
DELAWARE COUNTY, PA
09/27/1996**

RECORD OF DECISION
AUSTIN AVENUE RADIATION SITE

DECLARATION

SITE NAME AND LOCATION

Austin Avenue Radiation Site
Delaware County, Pennsylvania

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) presents the selected remedy for Operable Unit No. 2, ground water, at the Austin Avenue Radiation Site, Delaware County, Pennsylvania (Site). The remedy was developed in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. §§ 9601 et. seq., and is consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. This remedy decision is based on an Administrative Record compiled for this Operable Unit (an index to this Administrative Record is attached). The Commonwealth of Pennsylvania concurs with this remedy. A copy of the Commonwealth's concurrence letter is attached.

DESCRIPTION OF THE SELECTED REMEDY

No Action.

DECLARATION STATEMENT

EPA has determined that no remedial action is necessary to ensure protection of human health and the environment. No five-year review pursuant to Section 121 (c) of CERCLA, 42 U.S.C. § 9621 (c), is required for this remedy since no hazardous substances or pollutants or contaminants remain at this Operable Unit above levels that allow for unlimited use and unrestricted exposure.

REMEDIAL ALTERNATIVE RECORD OF DECISION SUMMARY
AUSTIN AVENUE RADIATION SITE

1. SITE LOCATION AND DESCRIPTION

The Austin Avenue Radiation Site consists of approximately 40 properties in the municipalities of Lansdowne Borough, Aldan Borough, East Lansdowne Borough, Darby Borough, Yeadon Borough and Upper Darby Township, in Delaware County, Pennsylvania. All of the properties are within a two-mile radius of the intersection of South Union Avenue and Austin Avenue in Lansdowne Borough (see Figure 1). Situated at the northwest corner of that intersection is a lot which was the site of the former W.L.Cummings Chemical Company (Cummings) warehouse. From approximately 1915 to 1922, Cummings conducted a radium processing operation at the warehouse. The Cummings operation is the suspected source of radium and thorium- contaminated tailings which contaminated the other Austin Avenue Radiation Site properties. EPA also suspects that uranium-contaminated waste waters were discharged to the soil via cesspools near the former warehouse.

Included in EPA's evaluation of the Site was an area of ground water, suspected of having been contaminated with Site-related radionuclides, located at and near the site of the former Cummings processing facility.

2. SITE HISTORY

The history of the Austin Avenue Radiation Site is intertwined with that of a former Superfund site, the Lansdowne Radiation Site, which was a twin house located at 105-107 East Stratford Avenue in Lansdowne, Pennsylvania. A former University of Pennsylvania professor, Dr. Dicran Hadjy Kabakjian, owned the house at 105 East Stratford Avenue, and also worked for Cummings while the company conducted its radium refining operation at the warehouse.

While a professor at the University of Pennsylvania, Dr. Kabakjian developed a crystallization process for the refining of radium, and then sold the process to Cummings. He worked as a consultant to Cummings until 1924, when he set up his own radium processing business in the basement of his home at 105 East Stratford Avenue. The major product of his home business was radium-filled implant needles which were sold to medical professionals for the treatment of cancer.

The radium refining process developed by Dr. Kabakjian and practiced at Cummings' warehouse used a yellowish, shale-like material known as carnotite ore which was mined from deposits in Utah and Colorado. One ton of carnotite ore could produce approximately one-tenth of a grain of radium. During Cummings' years of operation at the Union Avenue warehouse, its radium output is estimated to have been three grams per year. The radium extraction process generated waste tailings. These tailings contained two residual radionuclides--radium 226 and thorium 230. The tailings, which were sand-like waste materials, were either given or sold to local building contractors and others. During the seven years that Cummings operated at the warehouse, those persons used the tailings in mortar, stucco, plaster, and concrete used to build or renovate houses in the area. The ore processing also produced waste liquids containing uranium 238. These liquids were apparently dumped into cesspool systems in the immediate vicinity of the Cummings facility.

In 1963, the Pennsylvania Department of Health inspected the house at 105 East Stratford Avenue and found extremely high levels of radiation. In 1964, the U.S. Public Health Service and the Pennsylvania Department of Health, aided by the U.S. Air Force, attempted to decontaminate the house. In 1984, sampling and monitoring of the structure by EPA and the Pennsylvania Department of Environmental Resources (PADER) showed high residual radiation contamination levels. An extensive evaluation of the house was conducted by the U.S. Department of Energy's Argonne National Laboratory. In 1986, EPA issued a Record of Decision (ROD) which called for the dismantlement and offsite disposal of the house and contaminated soils. It was at this time that the location of other tailings from the operation became an issue as the government suspected that the tailings would contain residual radiation contamination. No records relating to the ultimate disposition of those tailings were available.

In May 1991, PADER visited the South Union Avenue/Austin Avenue location to monitor for radon because radiation contamination had previously been discovered in the back yard of 133 Austin Avenue, the property adjacent the warehouse. During this visit, radiation survey instruments indicated the presence of significant levels of radioactive contamination within the house at that location. PADER obtained soil and wipe samples for further analysis.

On June 7, 1991, PADER notified EPA of its findings and requested assistance. A joint PADER-EPA site assessment confirmed the presence of radiological contamination at 133 Austin Avenue at levels that warranted immediate action. Based on the data provided by the PADER analyses and the results of the

joint survey, the U.S. Agency for Toxic Substances and Disease Registry (ATSDR) recommended the relocation of the residents of the house at 133 Austin Avenue and the dismantlement of the warehouse.

On June 19, 1991, a team of radiation specialists from the EPA National Air and Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama, arrived to conduct an assessment. The warehouse and the adjacent residential dwelling (133 Austin Avenue) were found to be heavily contaminated with radioactive materials. In November and December of 1991, EPA used a special radiation-detection van to conduct a 12.5 square mile search in Delaware County and a small portion of the adjacent City of Philadelphia. EPA also conducted radiological surveys of the properties which were suspected to be contaminated. The EPA testing showed that approximately 40 properties within a two-mile radius of the site of the former Cummings radium processing facility had become contaminated with radium 226 and thorium 230.

EPA conducted Removal Actions at a number of the contaminated properties. Removal Actions were selected for those properties that posed an immediate endangerment and/or which could be addressed using Removal Action authorities within the constraints of available funding. These Removal Actions included the temporary relocation of residents of several of the properties; complete dismantlement of the warehouse at South Union and Austin Avenues; dismantlement of 133 Austin Avenue; soil removals at a number of the properties; and removals of plaster, stucco and concrete at selected properties. The Removal Actions resulted in the complete cleanup of 19 of the identified properties. Relocated residents of those properties returned to their homes following the Removal Action cleanups.

On July 1, 1993, EPA issued a Proposed Remedial Action Plan describing five alternatives considered as possible remedial actions at the Site. That Plan also designated EPA's preferred alternative for each of the properties. In response to that Plan, EPA received numerous letters from citizens and public officials requesting that certain alternatives be considered or reconsidered. In addition, EPA gathered additional information useful in the evaluation of the remedial alternatives for the properties. As a result, a Revised Proposed Remedial Action Plan was developed and was offered for public comment on March 2, 1994. Subsequent to that second Plan, a Record of Decision (ROD) was issued on June 27, 1994. That ROD delineated the selected remedies for buildings and soil, but deferred any decision on Site ground water to later Record of Decision.

In April 1994, an abbreviated study of the ground water was conducted at the Site. During March and April of 1995, EPA conducted more extensive soil and ground water sampling in the vicinity of the former Cummings facility to characterize the extent, degree, and impact of the Site-related contamination and for the purpose of developing and evaluating effective remedial alternatives. A report on this study was finalized in July 1995.

3. COMMUNITY PARTICIPATION

The Proposed Remedial Action Plan for this Operable Unit, together with documents supporting that plan (the administrative record file), were placed by EPA in a public information repository located near the Site at the Lansdowne Borough Public Library, Lansdowne, Pennsylvania and have been available for public review since July 7, 1996. In addition, Site-related documents have been maintained at the Region III office. Notice of the availability of these documents and a brief description of EPA's Proposed Remedial Action Plan was published in the PHILADELPHIA INQUIRER and the DELAWARE COUNTY DAILY TIMES on July 7, 1996. In both the Proposed Remedial Action Plan and the newspaper notifications, the public was advised of the opportunity for a public meeting. A public comment period was held from July 7, 1996 to September 5, 1996. A public meeting was held on July 31, 1996 at the Lansdowne Borough Hall, Lansdowne, Delaware County, Pennsylvania. Approximately fifteen persons attended that meeting. EPA received three letters in response to the Proposed Remedial Action Plan.

The community participation procedures outlined above were conducted in compliance with sections 113 (k) and 117 of CERCLA, 42 U.S.C. §§ 9613 (k) and 9617. EPA has had extensive contact with community members from the commencement of response actions at the Site through the present, and has carefully considered all community concerns.

4. SCOPE AND ROLE OF THE RESPONSE ACTION

This Record of Decision addresses the remedial alternative selected for ground water near the former Cummings processing facility (Operable Unit No. 2). It was only in the immediate vicinity of the former processing facility that Site-related ground water contamination was considered to be possible. That area includes small portions of both Upper Darby Township and the Borough of Lansdowne in Delaware County, Pennsylvania.

5. SUMMARY OF SITE CHARACTERISTICS

Geologically, the Austin Avenue Radiation Site is located in the piedmont physiographic province. The

portion of the Site in the vicinity of the former Cummings processing facility is underlain by approximately 10 to 20 feet of soil and unconsolidated material overlying gneiss and schist rock. The topography is generally level, with no obvious drainage direction. Drainage has been altered by storm drains and property development. The area is essentially urban residential and commercial/industrial. A large percentage of the land surface in the area around the former Cummings facility is paved or is built upon.

6. SUMMARY OF SITE RISKS

EPA's investigation of the former Cummings facility, during the removal action, included soil borings and sample analysis of soils for Site-related radionuclides during February and June 1993. Ground water was not sampled as part of that effort. A study of the ground water was conducted in April 1994 under the auspices of the U.S. Army Corps of Engineers as part of the Remedial Design process. For the purposes of that study, four (4) borings were made into the soil near the former Cummings facility. This effort revealed contamination in excess of proposed and existing Maximum Contaminant Levels (MCLs) for uranium, radium and thorium in the immediate vicinity of the former Cummings facility. [MCLs are the maximum concentrations of drinking water contaminants permissible in public water supplies under Section 1412 of the federal Safe Drinking Water Act, 42 U.S.C. § 300g-1, and federal regulations at 40 C.F.R. Part 141, Subpart B.] Specifically, the field investigation report documented radium 226 concentrations ranging to 62 picocuries per liter (pCi/l); total uranium concentrations ranging to 3640 pCi/l; and a thorium 230 concentration of 18 pCi/l in the ground water. Further investigation was required, in part to determine if the ground water samples that had been collected were representative of the ground water conditions in that area.

In late March and early April of 1995, EPA conducted a field investigation in the vicinity of the former Cummings processing facility in part to address concerns raised by the results of the previous sampling efforts, and to determine the impact of Site-related radionuclides on the ground water. During that field work, 17 soil bore holes and temporary well points were installed (Figure 2). Ground water samples were obtained from 16 of these locations (sampling location SB-10 yielded no ground water). The samples were analyzed, both non-filtered and filtered, for Site-related radionuclides. Non-filtered samples showed slightly higher levels of radionuclides than the filtered samples. Filtered samples are believed to be the most representative of the ground water that moves in the aquifer. This is because filtering removes suspended matter, such as soil particles, leaving only dissolved materials in the water samples. These filtered samples were used for risk assessment purposes.

No filtered ground water sample obtained during the investigation exceeded the MCL for any of the Site-related radionuclides. The proposed MCL for uranium in drinking water is 30 picocuries per liter (pCi/l). The highest uranium concentration found in a filtered ground water sample during the investigation was 9.1 pCi/l in ground water obtained from sampling location SB-6 (Table 1). The MCL for combined radium 226 and radium 228 is 5 pCi/l. The highest radium 226 concentration detected in a filtered ground water sample was 1.3 pCi/l obtained from sampling location SB-14. (Radium 228 is much more rare than radium 226, and although not analyzed for specifically, would, in any event, contribute insignificantly to the total radium concentration.) There is no current standard for thorium in drinking water; however, the MCL for alpha emitters (of which thorium 230 is one), excluding radon and uranium, is 15 pCi/l. No filtered ground water sample exceeded this limit for thorium 230. The differences in radionuclide concentrations between the April 1994 samples and the April 1995 samples are very likely due to natural attenuation of these radioactive elements, and to the soil flushing which resulted when the former Cummings facility (the warehouse) and the house (formerly) at 133 Austin were dismantled, thereby leaving a substantial area of soil open to the penetration of precipitation.

There are no known users of the ground water aquifer in the area covered by this investigation. All drinking water in the area is furnished via waterline from municipal water sources which are located miles from the Site.

7. Description of The "No Action" Alternative

The No Action alternative, which EPA is required to consider under the NCP, involves no remedial action for the ground water. This alternative would not require the expenditure of additional funds for remedial action at the Site for ground water remediation. A "No Action" alternative generally requires no consideration of application or relevant and appropriate requirements (ARARs) unless EPA has selected a remedial action for a different portion (e.g., operable unit) of a site. As EPA has in fact previously selected a remedial action for the non-ground water portion of the Austin Avenue Site (the June 27, 1994 Record of Decision), the Agency identifies the following as ARARs:

- ! Maximum Contaminant Levels established under the Safe Drinking Water Act, 42 U.S.C. § 300-1, for radium 226, radium 228, and gross alpha particle radioactivity in community water systems (40 C.F.R. § 141.15). The ground

water at the Site does not exceed the MCLs for these contaminants.

! The Commonwealth of Pennsylvania, Department of Environmental Protection, has identified Pennsylvania's Land Recycling and Environmental Remediation Standards Act (Act 2 of 1995) as an ARAR. EPA has determined that Act 2 does not, under the circumstances at the Site, impose any requirements that are more stringent than the federal standards.

ARARs for the remainder of the Site were addressed in the June 27, 1994 ROD.

Because EPA's investigation of ground water revealed no risks to human health or welfare of the environment, other alternatives were not evaluated.

8. RESPONSIVENESS SUMMARY

In compliance with sections 113 (k) and 117 of CERCLA, 42 U.S.C. §§ 9613 (k) 9617, the proposed Remedial Action Plan for Operable Unit No. 2 (ground water) and the Administrative Record file were placed for public inspection at the Lansdowne Borough Public Library, Lansdowne, Delaware County, Pennsylvania. An announcement of the availability of these documents was placed in two locally-available newspapers on July 7, 1995, and a public comment period was held from July 7, 1996 through September 5, 1996. Additionally, a public meeting was held on July 31, 1996 at the Lansdowne Borough Hall, Lansdowne, Delaware County, Pennsylvania.

EPA received three letters responding to the Proposed Remedial Action Plan during the public comment period. The following is a summary of the significant comments to the Proposed Remedial Action Plan and EPA's responses to those comments:

Comment: Three commenters, one verbally during the public meeting and two by letter, requested that the public comment period for the Proposed Remedial Action Plan be extended.

Response: EPA extended the public comment period for the an additional 30 days.

Comment: A commenter suggested that a thorough understanding of the local hydrogeology is necessary in order to support the No Action alternative.

Response: EPA acknowledges that the understanding of hydrogeologic conditions at the Site is incomplete. However, EPA's No Action alternative is based upon the finding that maximum contaminant levels ("MCLs") for dissolved Site-related radionuclides in the ground water have not been exceeded. EPA has concluded that no unacceptable risk to potential ground-water users would result from ingestion of ground water containing the levels of the Site-related radionuclides found during the field investigation. Additional investigation of the Site hydrogeology would not produce information useful in evaluating risks associated with this Site.

Comment: A commenter suggested that the downward vertical component of ground water might be significant.

Response: The water table at the Site is at approximately 12 feet and is found in unconsolidated weathered material. The weathered material overlies the gneissic bedrock, which was generally encountered during drilling at about 16 to 24 feet. It is EPA's conclusion that ground-water movement is predominantly along this interface, with minimal vertical migration. It is likely that horizontal flow through the saprolite is the major component for ground-water movement. A vertical component would involve ground-water movement from the more permeable saprolite into the gneiss bedrock. Limited migration of contaminants is expected in a horizontal or vertical direction because of adherence to clay material present at the site.

Comment: A commenter suggested that an understanding of why the 1994 investigation appeared to indicate elevated levels of Site-related radionuclides, as compared to the 1995 field investigation, is necessary.

Response: Several suggestions have been considered by EPA to explain the difference in contamination levels between the studies. The explanation may involve a difference in sampling method and sample quality or a change because of hydrogeologic conditions. Sampling methods were not adequately recorded during the 1994 investigation; turbidity was not evaluated. It is likely that these initial samples contained high quantities of particulates. EPA believes it is also possible that the reduced levels of contaminants in the 1995 field investigation samples may have resulted because of soil flushing, dilution, and natural attenuation over the one-year period between the sampling events. These processes would be enhanced by the demolition of the former warehouse and creation of a local area for recharge.

Comment: A commenter expressed concern for worker exposure to ground water and to the discharge of ground water to sewers or surface waters.

Response: The ground water poses no unacceptable risks from Site-related radionuclides.

Comment: A commenter expressed concern that the unfiltered sample analytical results for radium from the 1995 field investigation might indicate that EPA's sampling effort found the trailing edge of a contaminant plume.

Response: EPA relies upon the results of filtered, rather than unfiltered, samples to indicate contaminant levels in ground water. Although two somewhat elevated concentrations of radium were found in unfiltered samples to the southeast, filtered samples did not support this pattern. Based on the data, EPA concludes that the occurrence of Site-related radionuclides exceeding MCLs beyond the area sampled during the 1995 field investigation is not likely.

Comment: A commenter expressed concern that the results of analyses for uranium in unfiltered samples show lower concentrations near the former Cummings warehouse site than further away.

Response: In comparing uranium concentrations for samples collected near the former Cummings warehouse for the purposes of the 1995 field investigation, it should be noted that uranium was not detected in either filtered or unfiltered ground water collected from the borehole nearest the former warehouse. In filtered and unfiltered samples, uranium concentrations ranged from non-detectable in several locations to the highest measurement of 9.1 pCi/L; no pattern is evident.

FIGURES

TABLE 1
 Radiological Analyses--Filtered Ground Water
 Austin Avenue Radiation Site
 July 1995

Sample Location	U-238 (pCi/L)	U-234 (pCi/L)	Th-230 (pCi/L)	Ra-226 (pCi/L)
SB-1F	n/a	n/a	0.12 ± 0.10	0.23 ± 0.09
SB-2F	0.27 ± 0.12	0.22 ± 0.11	<0.1	0.35 ± 0.1
SB-3F	0.41 ± 0.14	0.79 ± 0.20	<0.06	0.52 ± 0.10
SB-4F	3.0 ± 0.4	3.5 ± 0.5	<0.07	0.66 ± 0.1
SB-5F	n/a	n/a	<0.07	0.26 ± 0.09
SB-6F	4.1 ± 0.6	5.0 ± 0.6	<0.06	0.92 ± 0.09
SB-7F	0.25 ± 0.15	0.37 ± 0.17	<0.07	0.46 ± 0.09
SB-8F	0.11 ± 0.07	0.11 ± 0.07	<0.01	0.34 ± 0.1
SB-9F	0.13 ± 0.03	0.13 ± 0.10	<0.06	0.2
SB-10F			n/a	
SB-11F	2.2 ± 0.3	2.7 ± 0.4	0.087 ± 0.071	0.48 ± 0.08
SB-12F	0.19 ± 0.14	0.40 ± 0.19	<0.05	0.21 ± 0.08
SB-13F	0.14 ± 0.11	0.76 ± 0.24	0.083 ± 0.067	0.31 ± 0.12
SB-14F	2.0 ± 0.3	2.4 ± 0.4	<0.1	1.3 ± 0.1
SB-15F	0.67 ± 0.22	0.09 ± 0.25	<0.1	0.68 ± 0.09
SB-16F	0.12 ± 0.08	0.18 ± 0.10	0.09 ± 0.088	0.75 ± 0.12
SB-17F	0.14 ± 0.08	0.08 ± 0.10	<0.2	0.46 ± 0.08

(pCi/L): picocuries per liter

n/a: data not available

STATE CONCURRENCE LETTER

Re: Record of Decision,
Operable Unit No.2-Ground water
Austin Avenue NPL Site
Delaware County
Pennsylvania

Dear Mr. Voltaggio,

The Operable Unit No.2 (OU2-ground water) Record of Decision (ROD) for the Austin Avenue NPL Site, received by this office September 9, 1996, has been reviewed by the Pennsylvania Department of Environmental Protection (the "Department").

The US Environmental Protection Agency's ("EPA") selected remedy for ground water at the site is no action.

The Department hereby concurs with the US Environmental Protection Agency's ("EPA") proposed remedy with the following conditions:

- * The Department reserves its right and responsibility to take independent enforcement actions pursuant to state law.
- * This concurrence with the selected remedial action is not intended to provide any assurances pursuant to CERCLA Section 104 (c) (3), 42 U.S.C. Section 9604 (c) (3).

This letter documents the Department's position with regard to the EPA's chosen remedy for the ground water Operable Unit (OU2) at the Austin Avenue NPL Site and requests that it be made part of the Administrative Record. Should you have any questions regarding the matter of this letter, please feel free to contact me at this office.

Sincerely,

cc: Mr. Becker
Mr. Beitler
Mr. Danyliw
Mr. Sheehan
Mr. Ung
Mr. Hess
Mr. Hartzell
Ms. Tremont
Re 30 (KAL) 270.11

AUSTIN AVENUE RADIATION OU2
ADMINISTRATIVE RECORD FILE * **
INDEX OF DOCUMENTS

III. REMEDIAL RESPONSE PLANNING

1. U.S. EPA sampling plan for groundwater uranium contamination at the Austin Avenue site, 6/94. P. 300001-300003.
2. Preliminary Report of Analysis, prepared by Teledyne Brown Engineering, 6/3/94. P. 300004-300007.
3. Memorandum to Mr. Thomas C. Voltaggio, U.S. EPA, from Mr. Victor J. Janosik, U.S. EPA, re: Summary of ground water analysis at the Austin Avenue Radiation Site, 6/14/94. P. 300008-300009. A hand-drawn map of the site area is attached.
4. Letter to Mayor John J. Rankin, Borough of Lansdowne, from Mr. Victor J. Janosik, U.S. EPA, re: Request for Borough of Lansdowne's assistance in locating any ground water wells that exist in the vicinity of the site, 6/20/94. P.300010-300011.
5. Letter to Mayor Margaret Murdoch, Upper Darby Township, from Mr. Victor J. Janosik, U.S. EPA, re: Request for Upper Darby Township's assistance in locating any ground water wells that exist in the vicinity of the site, 6/20/94. P. 300012-300013.
6. Memorandum to the file from Mr. Victor J. Janosik, U.S. EPA, re: Summary a June 21, 1994, meeting held in the Borough of Lansdowne to discuss uranium contamination in the vicinity of the former Cummings processing facility, 6/21/94. P. 300014-300015. A sign-in sheet for the meeting is attached.
7. Memorandum to the file from Mr. Victor J. Janosik, U.S. EPA, re: Summary of a June 23, 1994, meeting held in Upper Darby Township to discuss uranium contamination in the vicinity of the former Cummings processing facility, 6/23/94. P. 300016-300016.

* Administrative Record File available 7/5/96, updated 10/3/96.

** This index hereby incorporates by reference the Administrative Record File for the Austin Avenue Radiation Site OU1.

8. Letter to Mr. Michael Pfarr, U.S. Army Corps of Engineers (USACE), from Mr. Gregory Daloisio, Roy F. Weston, Inc., re: Transmittal of the preliminary draft field investigation report, documenting the results of field investigation at the warehouse property, 6/23/94. P. 300017-300017.
9. Letter to Mr. Victor J. Janosik, U.S. EPA, from Mr. R.J. Robinson, Borough of Lansdowne, re: Response to request for ground water well locations in the Borough of Lansdowne, 6/23/94. P. 300018-300018.
10. Letter to Mr. Greg Powell, U.S. EPA, from Mr. Victor J. Janosik, U.S. EPA, re: Transmittal of U.S. EPA's Record of Decision (ROD) for the Austin Avenue Radiation Site and the preliminary draft field investigation report, 7/7/94. P. 300019-300020.
11. Report: Field Investigation Report for Environmental

and Geotechnical Sampling at Warehouse Property Austin Avenue Radiation Site, prepare by Roy F. Weston, Inc., 9/94. P. 300021-300102.

12. Memorandum to Mr. Bill Belanger, U.S. EPA, from Mr. John Griggs, U.S. EPA, re: Transmittal of radiochemical results for a water sample, 9/9/94. P. 300103-300106. The results are attached.
13. Report: Draft Quality Assurance Work Plan for the Austin Avenue Radiation Site, 1/6/95. P. 300107-300124. A transmittal letter and a January 10, 1995, EPA routing and transmittal slip are attached.
14. Letter to Mr. Victor J. Janosik, U.S. EPA, from Ms. Dawn A. Ioven, U.S. EPA, re: Transmittal of comments pertaining to the draft work plan, 1/22/95. P. 300125-300126.
15. Memorandum to Ms. Leanne Nurse, Mr. Anthony Dappalone, and Ms. Barbara Rudnick, U.S. EPA, from Mr. Victor J. Janosik, U.S. EPA, re: Notification of the February 2, 1995, start date for the ground water contamination investigation, 1/27/95. P. 300127-300128. A site map is attached.
16. Report: Quality Assurance Work Plan for the Austin Avenue Radiation Site, 2/9/95. P. 300129-300150. A February 9, 1995, transmittal letter is attached.
17. Memorandum to Mr. Victor J. Janosik, U.S. EPA, from Mr. George R. Prince, U.S. EPA, re: Transmittal of the preliminary report on Environmental Response Team (ERT) activities at the Austin Avenue Radiation Site 5/30/95. P. 300151-300152. A June 2, 1995, transmittal memorandum is attached.
18. Report: Austin Avenue Radiation Site Soil and Groundwater Sampling Results, 7/95. P. 300153-300554. An August 1, 1995, transmittal letter, an August 1, 1995, transmittal memorandum, and a September 12, 1995 memorandum to the file noting that PADEP does not have any comments on the report are attached.
19. Memorandum to Mr. Victor J. Janosik, U.S. EPA, from Ms. Barbara Rudnick, U.S. EPA, re: Transmittal of comments pertaining to the Austin Avenue Radiation Site preliminary ground water report, 7/6/95. P. 300555-300557. A July 11, 1995, facsimile transmittal page and a June 2, 1995, transmittal letter are attached.
20. Memorandum to Mr. Victor J. Janosik, U.S. EPA, from Mr. Bill Belanger, U.S. EPA, re: Review of the Austin Avenue Radiation Site final report, 9/11/95. P. 300558-300562. A September 5, 1995, memorandum, a September 1, 1995, memorandum, and a September 12, 1995, memorandum to the file are attached.
21. Memorandum to Mr. Victor J. Janosik, U.S. EPA, from Ms. Dawn A. Ioven, U.S. EPA, re: Recommendation that ground water remediation at the Austin Avenue Radiation Site is unnecessary, 10/12/95. P. 300563-300564.
22. Letter to Mayor Margaret M. Murdoch, Upper Darby Township, from Mr. Victor J. Janosik, U.S. EPA, re: Transmittal and summary of the final soil and groundwater sampling results report, 10/17/95.

P. 300565-300565.

23. Letter to Mayor John J. Rankin, Borough of Lansdowne, from Mr. Victor J. Janosik, U.S. EPA, re: Transmittal and summary of the final soil and ground water sampling results report, 10/17/95. P. 300566-300566.
24. Memorandum to U.S. EPA Region III Reviewers from Mr. Victor J. Janosik, U.S. EPA, re: Transmittal of a draft Proposed Remedial Action Plan (PRAP) for the ground water operable unit of the Austin Avenue Radiation Site and request for comments, 4/23/96. P. 300567-300580. The following are attached:
 - a) the draft PRAP;
 - b) a May 1, 1996, memorandum containing Ms. Dawn Ioven's comments on the PRAP;
 - c) a May 8, 1996, memorandum containing Mr. Bill Belanger's comments on the PRAP;
 - d) a May 10, 1996, memorandum containing Ms. Barbara Rudnick's comments on the draft PRAP;
 - e) a May 13, 1996, memorandum containing Mr. David Cooper's comments on the draft PRAP.
25. Letter to Mr. Donald Becker, PADEP, from Mr. Victor J. Janosik, U.S. EPA, re: Transmittal of the draft PRAP and request for comments, 4/12/96. P. 300581-300581.
26. Letter to Mr. Victor J. Janosik, U.S. EPA, from Mr. Kevin J. Hess, PADEP, re: Notification of PADEP's agreement with U.S. EPA's selection of the no action alternative for ground water, 5/22/96. P. 300582-300582.
27. Proposed Remedial Action Plan, Austin Avenue Radiation Site, 7/96. P. 300583-300591.
28. Minutes of a public meeting held on July 31, 1996, at the Lansdowne Borough Hall, 12 East Baltimore Avenue, Lansdowne, Pennsylvania, to discuss the PRAP for ground water at the site, 7/31/96. P. 300592-300659.
29. Letter to Mr. Michael Coll, from Mr. Victor J. Janosik, U.S. EPA, re: Transmittal of an excerpt from the Final Report, Austin Avenue Site, Soil and Ground Water Sampling Results, regarding background concentrations or radionuclide, 8/2/96. P. 300660-300662. The excerpt is attached.
30. Letter to Ms. Carrie Deitzel, U.S. EPA, from Mr. Mark DuFrayne, Lansdowne Borough Council, re: Request for an extension to the public comment period until October 7, 1996, 8/5/96. P. 300663-300663.
31. Letter to Mr. Mark DuFrayne, Lansdowne Borough Council, from Ms. Carrie Deitzel, U.S. EPA, re: Grant of an extension to the public comment period until midnight, September 5, 1996, 8/6/96. P. 300664-300664.
32. Letter to Ms. Carrie Deitzel, U.S. EPA, from Mr. J. Anthony Sauder and Mr. James Gallagher, Pennoni Associates, Inc., re: Comments on behalf of the Borough of Lansdowne regarding proposed remediation activities at the site, 8/6/96. P. 300665-300667.

33. Letter to Mr. Michael McCabe, U.S. EPA, from Mr. Michael Burns, Southeastern Pennsylvania Transportation Authority (SEPTA), re: Request for an extension to the public comment period until August 31, 1996, and request for a meeting between SEPTA and U.S. EPA, 8/7/96. P. 300668-300669.
34. Letter to Mr. Victor J. Janosik, U.S. EPA, from Mr. Kevin J. Hess, PADEP, re: Comments regarding the Draft ROD for ground water for Austin Avenue Operable Unit 2 (OU2), 8/8/96. P. 300670-300671.
35. Letter to Mr. Michael Burns, SEPTA, from Mr. Victor J. Janosik, U.S. EPA, re: Notification of the extension to the public comment period and agreement to schedule a meeting between Mr. David Turner, U.S. EPA, and Mr. John Rankin, SEPTA, 8/20/96. P. 300672-300673.
36. Letter to Mr. Kevin Hess, PADEP, from Mr. Victor J. Janosik, U.S. EPA, re: Transmittal of the Record of Decision (ROD) for the site, 9/6/96. P. 300674-300674.
37. Letter to Mr. Thomas Voltaggio, U.S. EPA, from Ms. Carol Collier, PADEP, re: Comments regarding the ROD, 9/26/96. P. 300675-300676.
38. Record of Decision, Austin Avenue Site OU2, 9/27/96. P. 300677-300702.
39. Letter to Mayor Daniel Devlin, Darby Borough, from Ms. Carrie Deitzel, U.S. EPA, re: Transmittal of the PRAP for the site and a copy of the text of a July 7, 1996, advertisement announcing the July 31, 1996, public meeting, (undated). P. 300703-300703.
40. Letter to Mr. Mark Dufrayne, Lansdowne Borough Council, from Ms. Carrie Deitzel, U.S. EPA, re: Transmittal of the PRAP for the site and a copy of the text of a July 7, 1996, advertisement announcing the July 31, 1996, public meeting, (undated). P. 300704-300704.
41. Letter to Mayor Margaret Murdoch, Upper Darby Township, from Ms. Carrie Deitzel, U.S. EPA, re: Transmittal of the PRAP for the site and a copy of the text of a July 7, 1996, advertisement announcing the July 31, 1996, public meeting, (undated). P. 300705-300705.
42. Letter to Mayor John J. Rankin, Borough of Lansdowne, from Ms. Carrie Deitzel, U.S. EPA, re: Transmittal of the PRAP for the site and a copy of the text of a July 7, 1996, advertisement announcing the July 31, 1996, public meeting, (undated). P. 300706-300706.
43. Letter to Mr. F. Raymond Shay, Upper Darby Township, from Ms. Carrie Deitzel, U.S. EPA, re: Transmittal of the PRAP for the site and a copy of the text of a July 7, 1996, advertisement announcing the July 31, 1996, public meeting, (undated). P. 300707-300707.

V. COMMUNITY INVOLVEMENT/CONGRESSIONAL CORRESPONDENCE/IMAGERY

1. Advertisement announcing the public comment period and a public meeting regarding the site, 7/7/96. P. 500001-500001.
2. Advertisement announcing an extension to the public comment period until September 5, 1996, The Philadelphia Inquirer and the Delaware County Daily Times, 8/9/96. P.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

Mr. Daniel Devlin, Mayor
Darby Borough
821 Summit Street
Darby, Pennsylvania 19023

Subject: Proposed Remedial Action Plan for Ground Water
& Ad Copy for Public Notice
Austin Avenue Superfund Site

Dear Mr. Devlin:

Enclosed is a copy of the Proposed Remedial Action Plan and a copy of the text for the public meeting ad which will run in the Sunday Daily Times and Inquirer (DelCo edition) on July 7, 1996. Information about the meeting is also included in the July update for the site which will be mailed on Friday, July 5.

The plans enclosed are printed in a single-sided format for your convenience should you desire to make additional copies. I trust that you will provide this information to any other officials who may want or need to see it prior to the July 31st meeting. Please note, however, that here is no indication that the plume of contaminated ground water extends into any portion of your community. It is limited to the areas of Upper Darby and Lansdowne in the immediate vicinity of the former warehouse at Austin and Union Avenues.

Please contact me at 215/566-5525 or 1-800/553-2509, if I can be of any further help to you or answer any questions you may have regarding the Austin Avenue Superfund Site.

Sincerely,

Celebrating 25 Years of Environmental Progress