PB93-963702

United States
Environmental Protection
Agency

Office of
Emergency and
Remedial Response

EPA/ROD/R01-92/064
June 1992

EPA

Superfund
Record of Decision:

Darling Hill Dump, VT

NOTICE

The appendices listed in the index that are not found in this document have been removed at the request of the issuing agency. They contain material which supplement, but adds no further applicable information to the content of the document. All supplemental material is, however, contained in the administrative record for this site.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. EPA/ROD/R01-92/064	2.	3. Recipient's Accession No.
4. Title and Subtitle SUPERFUND RECORD OF DECISION Darling Hill Dump, VT First Remedial Action - Final			5. Report Date 06/30/92
			6.
7. Author(s)			8. Performing Organization Rept. No.
9. Performing Orgainization Name and Address			10. Project/Task/Work Unit No.
			11. Contract(C) or Grant(G) No. (C) (G)
12. Sponsoring Organization Name and Address U.S. Environmental Protection Agency 401 M Street, S.W. Washington, D.C. 20460			13. Type of Report & Period Covered 800/000
			14.

15. Supplementary Notes

PB93-963702

16. Abstract (Limit: 200 words)

The 3.5-acre Darling Hill Dump site is an inactive solid waste disposal facility in the town of Lyndon, Caledonia County, Vermont. Land use in the area is characterized by open woodland, agricultural, and residential land. Steep slopes and the presence of wetlands makes it unlikely that the land in the immediate vicinity of the Dump will be further developed for residential uses. In addition, the site lies within the floodplain of the Passumpsic River. Approximately 3,200 residents within the area are served by the Lyndonville Municipal Well Field, located within 0.5 mile to the southwest. From 1952 to 1972, the site was operated by the Village of Lyndonville as a disposal area accepting municipal and industrial waste. During this time, the Darling Hill Dump was never formally regulated or permitted. From 1972 to 1989, Ray O. Parker and Sons operated the Darling Hill Dump and accepted primarily construction debris and white goods. Approximately 100,000 cubic yards of material are contained within the dump. As a result of detecting low levels of VOCs in the ground water at the Lyndonville Municipal Wellfield, a number of investigations were performed by EPA and the state, which revealed VOCs and metals in the ground water and soil at the site. Subsequent investigations have revealed that the pumping of the

(See Attached Page)

17. Document Analysis a. Descriptors

Record of Decision - Darling Hill Dump, VT
First Remedial Action - Final
Contaminated Media: None
Key Contaminants: None

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report) None	21. No. of Pages 32
	20. Security Class (This Page) None	22. Price

(See ANSI-Z39.18) *See Instructions on Reverse* OPTIONAL FORM 272 (4-77) (Formerly NTIS-35) Department of Commerce

Abstract (Continued)

municipal wells inhibits flow of contaminants past the wellfield and that the site is neither contaminating area surface waters nor posing a significant physical hazard to area residences. This ROD addresses continued monitoring of ground water, surface water, and sediments at the Darling Hill Dump Site. The results of the RI show that the levels of organic compounds and metals do not appear to pose an unacceptable risk to human health or the environment. Therefore, there are no contaminants of concern affecting this site.

The selected remedial action for this site includes no further action because significant levels of contaminants are not present at the site. EPA, however, will continue to monitor the ground water, surface water, and sediments for a 5-year period to ensure the protectiveness of the no action remedy. The estimated net present worth of the 5-year monitoring program is $292,000, which includes an annual monitoring cost of approximately $77,000.

<u>PERFORMANCE STANDARDS OR GOALS</u>: Not applicable.

DECLARATION FOR THE
RECORD OF DECISION

SITE NAME AND LOCATION

Darling Hill Dump
Lyndon, Vermont

STATEMENT OF PURPOSE

This decision document presents the selected No Action decision for the Darling Hill Dump Site (the "Site"), located in Lyndon, Vermont. This document was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable, the National Contingency Plan (NCP); 40 CFR Part 300 et seq. (1990). The Regional Administrator for Region I of the United States Environmental Protection Agency (EPA) has been delegated the authority to approve this Record of Decision.

The State of Vermont has not concurred with the No Action decision.

STATEMENT OF BASIS

This decision is based on the administrative record compiled for the Site which was developed in accordance with Section 113(k) of CERCLA. The administrative record is available for public review at the Cobleigh Public Library in Lyndonville, Vermont and at the EPA Region I Waste Management Division Record Center in Boston, Massachusetts. The administrative record index (attached as Appendix D to the ROD) identifies each of the items which comprise the administrative record upon which the selection of the remedial action is based.

DESCRIPTION OF THE SELECTED REMEDY

EPA has determined that No Action is necessary to address the contamination at the Site. EPA will perform five years of additional monitoring of the groundwater, surface water, and sediments.

DECLARATION

EPA has determined that no further remedial action is necessary at this Site. Therefore, the site now qualifies for inclusion in the "sites awaiting deletion" subcatagory of the Construction Completion category of the National Priorities List.

As this is a decision for No Action, the statutory requirements of CERCLA Section 121 for remedial actions are not applicable and no five year review will be undertaken.

June 30 1992
Date

Julie Belaga
Julie Belaga
Regional Administrator

REGION I

RECORD OF DECISION SUMMARY

DARLING HILL DUMP

JUNE 30, 1992

DARLING HILL DUMP

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DARLING HILL DUMP SITE
ROD DECISION SUMMARY

I. SITE NAME, LOCATION AND DESCRIPTION

The Darling Hill Dump is a solid waste disposal facility located near the Village of Lyndonville, Vermont, within the Town of Lyndon, in Caledonia County, in the northeast part of Vermont (see Figure 1 attached). The Town of Lyndon has a population of 5,100 people, of which 1,400 live in the Village of Lyndonville. The Lyndonville Municipal Well Field, located approximately 0.5 miles southwest of the Dump, provides water for approximately 3,200 people.

The Darling Hill Dump is comprised of approximately 3.5 acres of land sitting on the top of the north-facing slope of Darling Hill, which is a narrow ridge between the East and West Branches of the Passumpsic River. The narrow ridge is comprised of glacial deposits and can be characterized as a kame terrace. There is an area containing wetlands and a floodplain about 300 feet below the Dump along the west Branch of the Passumpsic River. The Darling Hill Dump is bounded to the east and south by Darling Hill Road. Darling Hill Road intersects state route 114 one-half mile south of the Darling Hill Dump. The land east of Darling Hill Road slopes steeply downward to the east branch of the Passumpsic River. West of the Darling Hill Dump is a woodland area which slopes steeply down to the west branch of the Passumpsic River.

A more complete description of the Site can be found in the Remedial Investigation Report on pages 4 and 5.

II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

A. Land Use and Response History

The Darling Hill Dump was open woodland prior to the development of the Dump. Steep slopes and the presence of wetlands make it unlikely that the land in the immediate vicinity of the Dump could be used for residential development. In addition, the small surface area of the Darling Hill Dump and the marginal stability of the slopes of the Darling Hill Dump would make the Site a poor location for future development. The area surrounding the Darling Hill Dump is predominantly open agricultural and residential land.

The Darling Hill Dump began operation in 1952 as a disposal area for municipal and industrial wastes. The Darling Hill Dump was never formally regulated or permitted. The material disposed of at the Darling Hill Dump included white goods, lumber, stumps, furniture, cardboard, drums, cans and other containers, tires, automobiles, household refuse, construction debris, and industrial wastes including solvents. The majority of the material disposed after 1972 was construction debris and white goods. Approximately 100,000 cubic yards of material is contained within the

Darling Hill Dump.

The Darling Hill Dump was operated by the Village of Lyndonville from 1952 until 1972. In 1972, operation of the facility was transferred to Ray O. Parker and Sons, Inc. The facility was operated by Ray O. Parker and Sons, Inc. until 1989 when the Darling Hill Dump ceased operation. The Darling Hill Dump was originally owned by Alfred E. Smith until it was purchased by Egypt Land Farm, Inc. in 1983.

In 1982, routine testing by the State of Vermont revealed the presence of low levels of volatile organic compounds (VOC) in the groundwater of the Village of Lyndonville Municipal Wellfield. Further testing by the State of Vermont was performed to confirm the contamination. In 1985, the State of Vermont completed a preliminary assessment and site inspection of the Darling Hill Dump as a potential source of the contamination. Based upon these studies, EPA performed an Expanded Site Inspection of the Darling Hill Dump from 1986 to 1989 to more accurately identify the source of the Municipal Wellfield contamination. Based upon these investigations, EPA proposed the Darling Hill Dump for inclusion on the National Priorities List (NPL) on June 24, 1988. The Darling Hill Dump was finalized on the NPL on October 4, 1989.

A more detailed description of the Site history can be found in the Remedial Investigation Report on pages 5 and 6.

B. Enforcement History

On May 2, 1989 EPA notified approximately eight parties who either owned or operated the facility, generated wastes that were shipped to the facility, arranged for the disposal of wastes at the facility, or transported wastes to the facility of their potential liability with respect to the Site. On June 23, 1989, negotiations commenced with these potentially responsible parties (PRPs) regarding the settlement of the PRP's liability at the Site. EPA added a ninth party to the list of PRPs during July 1989.

The PRPs formed a steering committee and negotiations took place which have resulted in the development of three Administrative Orders. The first was an Administrative Order by Consent, EPA Docket No. I-89-1088, under which four PRPs agreed to perform the remedial investigation and feasibility study (RI/FS) under EPA oversight. The second order was an Administrative Consent Order, EPA Docket I-89-1090, under which three PRPs agreed to install a carbon treatment system at the Lyndonville Municipal Wellfield. The third order was an Administrative Agreement by Consent, EPA Docket No. I-89-1089, under which EPA recovered its past costs.

The PRPs have been active in the remedy selection process for this Site. The PRPs performed the RI/FS and Risk Assessment for the Site. The PRPs also presented technical comments on the Proposed Plan that were summarized in the Responsiveness Summary and were included in the Administrative Record.

III. COMMUNITY PARTICIPATION

Throughout the Site's history, community concern and involvement has been moderate to low. EPA has kept the community and other interested parties apprised of the Site activities through informational meetings, fact sheets, press releases and public meetings.

EPA conducted interviews with local officials and residents during January of 1990 to assess community concerns. A public availability session to provide information regarding upcoming activities and to receive additional community input was held on January 31, 1990. During June 1990, EPA released a community relations plan which outlined a program to address community concerns and keep citizens informed about and involved in remedial activities. In September 1991, EPA issued a fact sheet updating the community regarding the on-going investigations at the Site. In January 1992, EPA issued a fact sheet summarizing the results of the Remedial Investigation (RI) and the Baseline Risk Assessment (BRA). On February 4, 1992, EPA held an informational meeting regarding the RI and BRA in Lyndonville, Vermont.

On April 9, 1992, EPA made the Administrative Record available for public review at EPA's offices in Boston and at the Cobleigh Public Library in Lyndonville, Vermont. EPA has also established a repository for Site information at the Municipal Offices of the Village of Lyndonville. EPA published a notice and brief analysis of the Proposed Plan in the Caledonia Record on March 26, 1992 and made the plan available to the public at the Cobleigh Public Library and the Municipal Offices of Lyndonville, Vermont.

On April 9, 1992 EPA held an informational meeting to discuss the results of the Remedial Investigation and to present the Agency's Proposed Plan. Also during this meeting, the Agency answered questions from the public. From April 10, 1992 to May 9, 1992, the Agency held a 30 day public comment period to accept public comment on the alternatives presented in the Feasibility Study and the Proposed Plan and on any other documents previously released to the public. On May 5, 1992, the Agency held a public meeting to discuss the Proposed Plan and to accept any oral comments. A transcript of this meeting and the comments and the Agency's response to comments are included in the attached responsiveness summary.

IV. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

EPA has determined that no further CERCLA action is required at the Darling Hill Dump Site. The levels of organic compounds and metals that were detected in the soil and groundwater at the Site do not appear to pose an unacceptable risk to human health or the environment.

No five year review will be undertaken, but EPA will continue to monitor the groundwater, surface water, and sediments for a period of five years.

The decision by EPA not to pursue further action at the Site is not a determination that no action is warranted under other regulations and statutes. EPA has decided that the CERCLA cleanup authority is not the appropriate mechanism to handle the closure of the Dump. However, the State of Vermont has hazardous waste and solid waste regulations that apply to the Darling Hill Dump. The State's authority under their laws is in no way limited by EPA's No Action decision.

EPA has the authority to revisit the No Action decision even if the Site is removed from the NPL. This could occur if future conditions indicate that an unacceptable risk to human health or the environment would result from the exposure to contaminants at the Site.

V. SUMMARY OF SITE CHARACTERISTICS

Chapter 1 of the Feasibility Study contains an overview of the Remedial Investigation. The significant findings of the Remedial Investigation are summarized below.

A. <u>Soils</u>: The surface soils on the Dump, the soils within the debris mass of the Dump, the subsurface soils below the debris mass of the Dump, and the subsurface soils adjacent to the debris mass of the Dump were tested for the presence of contamination. See Figure 2 for a profile of the soil contamination.

No organic contamination was detected in the soil samples taken from the areas adjacent to or below the debris mass of the Dump. Metal concentrations above background levels were detected in the soil samples taken adjacent to and below the debris mass of the Dump. This indicates that the metals concentrations in these samples exceeded the level of metals detected in samples that were taken from a location which is considered uncontaminated. The elevated levels of metals in the subsurface soils adjacent to and below the debris mass would only represent a problem if the metals were to migrate into the ground water at levels that would exceed drinking water standards. Since metals are naturally occurring, it is common to find some level of various metals in both the soils and ground water. See Sections 4.2, 6.1, and 7.3 of the RI Report for more information.

A wide range of organic and metal contamination was detected in the surface soils of the Dump and the soils within the debris mass of the Dump. A wide range of polycyclic aromatic hydrocarbons (PAHs) at concentrations up to 3 parts per million (ppm) were detected in surficial samples. Volatile organic compounds, PAHs, PCBs and a few pesticides were also detected at low concentrations. Metals concentrations significantly above background were detected in the surface soils. These metals could present a problem if significant quantities were to migrate into the Passumpsic River.

Higher concentrations of VOCs and metals were detected in the subsurface soils within the debris mass of the Dump. The concentrations of PCBs and PAHs in the debris mass were lower than those detected in the surface soils. Metals were also detected above background concentrations in subsurface soils.

The surface soil data is used to evaluate the potential threat from contact with the surface soils of the Dump. The contamination in the subsurface soil within the debris mass is used to assess the amount of source material that is still contributing contamination to the ground water. For more information see Sections 2.4.4, 4.1.3, 4.2, 6.1, and 7.3 of the RI Report.

B. <u>**Groundwater**</u>: Groundwater in the vicinity of the Darling Hill Dump Site flows primarily within a single overburden aquifer (ranging from 40 to 100 feet in thickness). Some groundwater from the overburden aquifer can also be found in the fractures of the bedrock found below the overburden. The RI data indicate that it is unlikely that a consistent pattern of fractures exists which would result in the bedrock aquifer being a major source of contaminated groundwater.

Several VOCs including trichloroethene (TCE), 1,2-dichloroethene (1,2-DCE), and tetrachloroethene (PCE) were detected above drinking water standards in the groundwater at the Site. Low levels of TCE and 1,2-DCE (1 part per billion (ppb) each) were found in the bedrock groundwater monitoring well located approximately 750 feet southwest of the Dump. Much higher concentrations of TCE, 1,2-DCE, and PCE (up to 160, 240, and 10 ppb, respectively) were found in the shallow groundwater adjacent to the southern boundary of the Darling Hill Dump. The EPA drinking water standards for these compounds are 5 ppb for TCE, 70 ppb for 1,2-DCE, and 5 ppb for PCE. Vermont has the same standards for TCE and 1,2-DCE, but the Vermont standard for PCE is 0.7 ppb. Only TCE (up to 15 ppb) was detected in the groundwater between the Dump and the Municipal Well Field at concentrations exceeding EPA and Vermont drinking water standards.

Two metals (chromium and lead) were also detected at concentrations above drinking water standards in the groundwater samples taken in the immediate vicinity of the Darling Hill Dump. No metals above drinking water standards were detected in the monitoring wells away from the Darling Hill Dump.

See Figures 3 and 4, which are attached, for a map of the contaminant plume (and the locations where drinking water standards were exceeded) and Sections 2.3, 4.3, 6.2, and 7.1 of the RI Report for more information regarding groundwater contamination.

C. <u>**Groundwater Flow**</u>: RI data indicate that groundwater flows from the Darling Hill Dump towards the Lyndonville Municipal Well Field. This can be seen by looking at the distribution of contamination as shown in Figures 3 and 4, which are attached. The contamination originates as leachate which forms from the contact of infiltrating water with waste within the Darling Hill Dump. The leachate then percolates through the unsaturated soils down to the ground water aquifer. The contamination first contacts the shallow portion of the aquifer beneath and immediately adjacent to the Darling Hill Dump. The contamination then follows the natural flow of the groundwater and sinks to the lower one third of the aquifer within a very short distance from the Darling Hill Dump. The natural flow of the groundwater causes the contamination to flow along the base of the aquifer, forming a plume which extends to the Lyndonville Municipal Well Field. The pumping of the municipal wells, which pulls ground water toward the wells from all directions, inhibits the flow of contaminants past the well field. The Lyndonville Municipal Well Field therefore serves as a containment system for the contamination.

See Figure 4 for a cross-sectional view of the groundwater contamination and groundwater flow directions and Sections 2.3.5, 3.3, and 5.3 of the RI for more information regarding groundwater flow.

D. **Surface Water and Sediment:** The surface water and sediments of the east and west branches of the Passumpsic River were tested to evaluate whether contaminants from the Site are entering the river. The tests showed that the Site is not contaminating the surface water in either branch of the river. The sediments of the river also do not contain any site-related contamination. At this time, the Darling Hill Dump Site is not adversely affecting either branch of the Passumpsic River. Further information regarding the surface water and sediment studies can be found in Sections 2.5, 3.4, 4.4, 6.4, and 7.2 of the RI Report.

E. **Air:** To evaluate the potential threat from air emissions from the Dump, several studies were performed. First, the air was tested using field screening instruments to detect the presence of any gross contamination. Then, the air was sampled using more sophisticated air sampling devices to confirm that only low levels of contamination were present. In addition, the surface soils and subsurface soils of the Dump were tested to determine if they could represent a source of unacceptable air emissions. The results of these studies at the Site reveal that the air emissions from the Dump are not a threat to human health or the environment. Further information regarding the air studies can be found in Sections 2.4, 4.1, 6.3, and 7.3 of the RI Report.

F. **Stability of the Dump:** To evaluate the stability of the Dump several studies were performed. Monuments were installed on the Dump surface to measure surface movements of the Dump. Inclinometers were installed within the Dump and adjacent to the Dump to measure the potential for large scale slope failure. The results indicate that the Dump is only marginally stable. The data did not allow for a prediction of when the slopes may fail. The Dump was fenced during the RI/FS to restrict exposure to the debris mass. The Dump does represent a significant physical hazard to anyone in the area immediately below the Dump. See sections 3.2.3 and 7.4 of the RI and section 2 of the FS for more information on slope stability.

A complete discussion of site characteristics can be found in the Remedial Investigation Report on Pages 57-181.

VI. SUMMARY OF SITE RISKS

A Risk Assessment (RA) was performed to estimate the probability and magnitude of potential adverse human health and environmental effects from exposure to contaminants associated with the Site. The public health risk assessment followed a four step process: 1) contaminant identification, which identified those hazardous substances which, given the specifics of the Site were of significant concern; 2) exposure assessment, which identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure; 3) toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to hazardous substances, and 4) risk characterization, which integrated the three earlier steps to summarize the potential and actual risks posed by hazardous substances at the Site, including carcinogenic and non-carcinogenic risks. The results of the public health risk assessment for the Darling Hill Dump Site are discussed below, followed by the conclusions of the environmental risk assessment.

Twenty-nine contaminants of concern, listed in Tables 1 and 2 of this Record of Decision were selected for evaluation in the Risk Assessment. These contaminants constitute a representative subset of the more than fifty contaminants identified at the Site during the Remedial Investigation. Due to the low levels of contamination detected at the Site and the relatively low number of contaminants detected, almost all were included as contaminants of concern. The twenty-nine contaminants of concern were selected to represent potential site related hazards based on toxicity, concentration, frequency of detection, and mobility and persistence in the environment. A summary of the health effects of each of the contaminants of concern can be found in Section 3.1.1, pages 43-44, and Appendix B of the Risk Assessment.

TABLE 1: SUMMARY OF CONTAMINANTS OF CONCERN IN (GROUND WATER)

Contaminants of Concern	Average Concentration (ug/l)	Maximum Concentration (ug/l)	Frequency of Detection
Benzene	1.9	2.0	5/91
Carbon Disulfide	1.8	150	6/82
Chromium	8.5	95	5/24
1,2-Dichloroethene	3.7	240	27/82
Diethylpthalate	5.5	49	1/24
Tetrachloroethene	2.0	10	8/91
Toluene	2.5	36	33/91
Trichloroethene	2.5	160	26/91

TABLE 2: SUMMARY OF CONTAMINANTS OF CONCERN IN (SOILS)

Contaminants of Concern	Average Concentration (ug/l)	Maximum Concentration (ug/l)	Frequency of Detection
Anthracene	419	290	1/8
Arsenic	4,300	49,700	7/8
Benzo (a) anthracene	495	1,100	1/8
Benzo (a) pyrene	484	920	1/8
Benzo (b) flouranthene	505	1,300	1/8
Benzo (g,h,i) perylene	471	740	1/8
Benzo (k) flouranthene	440	430	1/8
bis(2-ethylhexyl)pthalate	889	19,000	2/8
cadmium	2,000	10,600	6/8
chromium	23,800	69,500	8/8
chrysene	495	1,100	1/8
DDD	22	31	1/8
DDE	22	28	1/8
DDT	31	130	2/8
Di-n-butylpthalate	559	2,200	1/8
Flouranthene	517	3,000	2/8
Indeno (1,2,3-cd) pyrene	463	640	1/8
Mercury	100	240	1/8
Nickel	14,200	40,800	6/8
PCB	280	1,900	3/8
Phenanthrene	515	1,500	1/8
Pyrene	491	1,900	2/8

Potential human health effects associated with exposure to the contaminants of concern were estimated quantitatively or qualitatively through the development of several hypothetical exposure pathways. These pathways were developed to reflect the potential for exposure to hazardous substances based on the present uses, potential future uses, and location of the Site. The Darling Hill Dump is not considered a location that is suitable for residential development, therefore only a trespasser scenario was developed for direct contact and incidental ingestion of soil. This is due to the small surface area of the Dump and the fact that the material deposited within the Dump results in a surface that is not stable. The area surrounding the Dump is currently agricultural and rural residential. The following is a brief summary of the exposure pathways evaluated. A more thorough description can be found in Section 4.3 of the Risk Assessment. For contaminated groundwater, exposure to a child (1-6 years) and an adult were estimated. As part of the child exposure scenario, consumption of 1 liter of groundwater per day was presumed. As part of the adult scenario, thirty years of consuming 2 liters of groundwater per day was presumed. A present use scenario, using these exposure assumptions, was developed based upon the data collected from residential wells. A future use scenario, using the above assumptions, was developed using the data collected from residential wells and on-Site monitoring wells. For contaminated soil, exposure to an adolescent (6-12 years) was estimated. For the present use scenario, dermal contact and incidental ingestion of soils was evaluated assumimg 26 days of trespass per year for 6 years. For the future use scenario, dermal contact and incidental ingestion of soils was assuming 72 days of tresspass per year for 6 years. For each pathway evaluated, an average and a reasonable maximum exposure (RME) estimate was generated corresponding to exposure to the average and the maximum concentration detected in that particular medium.

Excess lifetime cancer risks were determined for each exposure pathway by multiplying the exposure level with the chemical specific cancer potency factor. Cancer potency factors have been developed by EPA from epidemiological or animal studies to reflect a conservative "upper bound" of the risk posed by potentially carcinogenic compounds. That is, the true risk is very unlikely to be greater than the risk predicted. The resulting risk estimates are expressed in scientific notation as a probability (e.g. 1×10^{-6} for 1/1,000,000) and indicate (using this example), that an individual is not likely to have greater than a one in a million chance of developing cancer over 70 years as a result of site-related exposure as defined to the compound at the stated concentration. Current EPA practice considers carcinogenic risks to be additive when assessing exposure to a mixture of hazardous substances.

The hazard index was also calculated for each pathway as EPA's measure of the potential for non-carcinogenic health effects. The hazard quotient is calculated by dividing the exposure level by the reference dose (RfD) or other suitable benchmark for non-carcinogenic health effects for an individual compound. Reference doses have been developed by EPA to protect sensitive individuals over the course of a lifetime and they reflect a daily exposure level that is likely to be without an appreciable risk of an adverse health effect. RfDs are derived from epidemiological or animal studies and incorporate uncertainty factors to help ensure that adverse health effects will not occur. The hazard quotient is often expressed as a single value (e.g. 0.3) indicating the ratio of the stated exposure as defined to the reference dose value (in this example, the exposure as characterized is approximately one third of an acceptable exposure level for the given compound). The hazard quotient is only considered additive for compounds that have the same or similar toxic endpoints and the sum is referred to as the Hazard Index (HI) (for example: the hazard quotient for a compound known to produce liver damage should not be added to a second whose toxic endpoint is kidney damage).

Table 3 depicts the carcinogenic risk summary for the contaminants of concern in groundwater evaluated to reflect present ingestion of groundwater corresponding to the average and the reasonable maximum exposure scenarios.

TABLE 3
CARCINOGENIC RISKS FOR THE PRESENT INGESTION OF GROUNDWATER

Contaminant of Concern (Class)	Concentration (ug/l) avg	max	Exposure Factor (l/kg/day)	Cancer of Potency (mg/kg/day)	Risk Estimate avg	RME
Tetra-Chloroethene (B2)	0.4	1.9	1.2×10^{-2}	5.1×10^{-2}	3×10^{-7}	1×10^{-6}

Table 4 depicts the non-carcinogenic risk summary for the contaminants of concern in groundwater evaluated to reflect potential present ingestion of groundwater by an adult. The table includes both the average and the reasonable maximum exposure scenarios.

TABLE 4
NON-CARCINOGENIC RISKS FOR THE PRESENT INGESTION OF GROUNDWATER (Adult)

Contaminant of concern	Concentration (ug/l) avg	Concentration (ug/l) max	Exposure Factor (1/kg/day)	Reference Dose (mg/kg/day)	Target Endpoint of Toxicity	Hazard Index avg	Hazard Index RME
Tetra-Chloroethene	0.4	1.9	$2.7x10^{-2}$	$1x10^{-2}$	liver	$1x10^{-3}$	$5x10^{-3}$
Toluene	0.4	4	$2.7x10^{-2}$	$2x10^{-1}$	liver,kidney	$6x10^{-5}$	$6x10^{-4}$
Diethyl-pthalate	7.9	49	$2.7x10^{-2}$	$8x10^{-1}$	growth rate	$3x10^{-4}$	$2x10^{-3}$
			Sum	HI liver effects		$1x10^{-3}$	$6x10^{-2}$
				HI growth effects		$3x10^{-4}$	$2x10^{-3}$

Table 5 depicts the non-carcinogenic risk summary for the contaminants of concern in groundwater evaluated to reflect present ingestion of groundwater by a child. The table includes both the average and the reasonable maximum exposure scenarios.

TABLE 5
NON-CARCINOGENIC RISKS FOR THE PRESENT INGESTION OF GROUNDWATER (Child)

Contaminant of concern	Concentration (ug/l) avg	Concentration (ug/l) max	Exposure Factor (1/kg/day)	Reference Dose (mg/kg/day)	Target Endpoint of Toxicity	Hazard Index avg	Hazard Index RME
Tetra-Chloroethene	0.4	1.9	$9.6x10^{-2}$	$1x10^{-2}$	liver	$4x10^{-3}$	$2x10^{-2}$
Toluene	0.4	4	$9.6x10^{-2}$	$2x10^{-1}$	liver,kidney	$2x10^{-4}$	$2x10^{-3}$
Diethyl-pthalate	7.9	49	$9.6x10^{-2}$	$8x10^{-1}$	growth rate	$1x10^{-3}$	$6x10^{-3}$
			Sum	HI liver effects		$4x10^{-3}$	$2x10^{-2}$
				HI growth effects		$1x10^{-4}$	$6x10^{-3}$

Table 6 depicts the carcinogenic risk summary for the contaminants of concern in groundwater evaluated to reflect potential future ingestion of groundwater corresponding to the average and the reasonable maximum exposure scenarios.

TABLE 6
CARCINOGENIC RISKS FOR THE POSSIBLE FUTURE INGESTION OF GROUNDWATER

Contaminant of Concern (Class)	Concentration (ug/l) avg	Concentration (ug/l) max	Exposure Factor (l/kg/day)	Cancer of Potency (mg/kg/day)	Risk Estimate avg	Risk Estimate RME
Benzene (A)	1.9	2	$1.2x10^{-2}$	$2.9x10^{-2}$	$7x10^{-7}$	$7x10^{-7}$
Tetra-Chloroethene (B2)	2	10	$1.2x10^{-2}$	$5.1x10^{-2}$	$1x10^{-6}$	$6x10^{-6}$
Trichloro-ethene (B2)	2.5	160	$1.2x10^{-2}$	$1.1x10^{-2}$	$3x10^{-7}$	$2x10^{-5}$
				SUM	$2x10^{-6}$	$3x10^{-5}$

Table 7 depicts the non-carcinogenic risk summary for the contaminants of concern in groundwater evaluated to reflect potential future ingestion of groundwater corresponding to the average and the reasonable maximum exposure scenarios.

TABLE 7
NON-CARCINOGENIC RISKS FOR THE POSSIBLE FUTURE INGESTION OF GROUNDWATER (Adult)

Contaminant of concern	Concentration (ug/l) avg	Concentration (ug/l) max	Exposure Factor (l/kg/day)	Reference Dose (mg/kg/day)	Target Endpoint of Toxicity	Hazard Index avg	Hazard Index RME
ChromiumVI	8.5	95	$2.7x10^{-2}$	$5x10^{-3}$	none	$5x10^{-2}$	$5x10^{-1}$
ChromiumIII	8.5	95	$2.7x10^{-2}$	1	liver	$2x10^{-4}$	$3x10^{-3}$
Carbon Disulfide	2.9	150	$2.7x10^{-2}$	$1x10^{-1}$	Feto-Toxicity	$8x10^{-4}$	$4x10^{-2}$
c,1,2-Di-Chloroethene	3.7	240	$2.7x10^{-2}$	$1x10^{-2}$	Hemoglobin, liver	$1x10^{-2}$	$7x10^{-1}$
t,1,2-Di-Chloroethene	3.7	240	$2.7x10^{-2}$	$1x10^{-2}$	liver	$5x10^{-3}$	$3x10^{-1}$
Tetra-Chloroethene	2.0	10	$2.7x10^{-2}$	$1x10^{-2}$	liver	$6x10^{-3}$	$3x10^{-2}$
Toluene	2.5	36	$2.7x10^{-2}$	$2x10^{-1}$	liver,kidney	$3x10^{-4}$	$5x10^{-3}$
Diethyl-pthalate	5.5	49	$2.7x10^{-2}$	$8x10^{-1}$	growth rate	$2x10^{-4}$	$2x10^{-3}$
			SUM*	liver		$1x10^{-2}$	$7x10^{-1}$

Table 8 depicts the non-carcinogenic risk summary for the contaminants of concern in groundwater evaluated to reflect potential future ingestion of groundwater corresponding to the average and the reasonable maximum exposure scenarios for a child.

TABLE 8
NON-CARCINOGENIC RISKS FOR THE POSSIBLE FUTURE INGESTION OF GROUNDWATER (Child)

Contaminant of concern	Concentration (ug/l) avg	max	Exposure Factor (1/kg/day)	Reference Dose (mg/kg/day)	Target Endpoint of Toxicity	Hazard Index avg	RME
Chromium VI	8.5	95	$9.6x10^{-2}$	$5x10^{-3}$	none	$2x10^{-1}$	1.8
Chromium III	8.5	95	$9.6x10^{-2}$	1	liver	$8x10^{-4}$	$9x10^{-3}$
Carbon Disulfide	2.9	150	$9.6x10^{-2}$	$1x10^{-1}$	Feto-Toxicity	$3x10^{-3}$	$1x10^{-1}$
c,1,2-Di-Chloroethene	3.7	240	$9.6x10^{-2}$	$1x10^{-2}$	Hemoglobin	$4x10^{-2}$	2.3
t,1,2-Di-Chloroethene	3.7	240	$9.6x10^{-2}$	$1x10^{-2}$	liver	$2x10^{-2}$	1.2
Tetra-Chloroethene	2.0	10	$9.6x10^{-2}$	$1x10^{-2}$	liver	$2x10^{-2}$	$1x10^{-1}$
Toluene	2.5	36	$9.6x10^{-2}$	$2x10^{-1}$	liver,kidney	$8x10^{-4}$	$1x10^{-2}$
Diethyl-pthalate	5.5	49	$9.6x10^{-2}$	$8x10^{-1}$	growth rate	$7x10^{-4}$	$6x10^{-3}$

*Sum If t-1,2-Dichloroethene and Chromium +3 are present then the liver HI would equal	$4x10^{-2}$	1.3
If c-1,2-Dichloroethene is present then the hematocrit hemoglobin HI would equal	$4x10^{-2}$	2.3
If Chromium +6 is present then the HI would be	$2x10^{-1}$	1.8

* note: speciation of chromium and 1,2-dichloroethene was not performed during the RI/FS analytical evaluations, therefore the risk assessment evaluated the possibility any combination of chromium and 1,2-dichloroethene.

Table 9 depicts the carcinogenic risk summary for the contaminants of concern in soil evaluated to reflect potential present incidental ingestion and dermal contact of soil corresponding to the average and the reasonable maximum exposure scenarios for a trespasser.

TABLE 9
CARCINOGENIC RISKS FOR THE POSSIBLE PRESENT INCIDENTAL INGESTION AND DERMAL CONTACT WITH SOIL(TRESPASSER)

Contaminant of Concern(Class)	Concentration (mg/kg)		Exposure Factor (mg/kg/day)	Cancer of Potency (mg/kg/day)	Risk Estimate	
	avg	max			avg	RME
Arsenic(A)	4.3	49.7	$2.1x10^{-8}$	1.75	$2x10^{-7}$	$2x10^{-6}$
Benzo (a)-anthracene(B2)	.5	1.1	$2.5x10^{-8}$	11.5	$1x10^{-7}$	$3x10^{-7}$
Benzo (a)-pyrene(B2)	.48	.92	$2.5x10^{-8}$	11.5	$1x10^{-7}$	$3x10^{-7}$
Benzo (b)-flouranthene(B2)	.52	1.3	$2.5x10^{-8}$	11.5	$2x10^{-7}$	$4x10^{-7}$
Benzo (k)-flouranthene(B2)	.44	.43	$2.5x10^{-8}$	11.5	$1x10^{-7}$	$1x10^{-7}$
Chrysene(B2)	.50	1.1	$2.5x10^{-8}$	11.5	$1x10^{-7}$	$3x10^{-7}$
Indeno(1,2,3)-pyrene(B2)	.46	.64	$2.5x10^{-8}$	11.5	$1x10^{-7}$	$2x10^{-7}$
PCB(B2)	.47	1.99	$1.1x10^{-8}$	7.7	$4x10^{-8}$	$2x10^{-7}$
bis(2-ethyl-hexyl)pthalate(B2)	.89	19.0	$2.5x10^{-8}$	$1.4x10^{-2}$	$3x10^{-10}$	$7x10^{-9}$
DDD (B2)	.02	.03	$1.2x10^{-8}$	$2.4x10^{-1}$	$6x10^{-11}$	$8x10^{-11}$
DDE (B2)	.02	.03	$1.0x10^{-8}$	$3.4x10^{-1}$	$8x10^{-11}$	$1x10^{-10}$
DDT (B2)	.03	.13	$1.1x10^{-8}$	$3.4x10^{-1}$	$1x10^{-10}$	$5x10^{-10}$
			SUM		$1x10^{-6}$	$3.6x10^{-5}$

Table 10 depicts the non-carcinogenic risk summary for the contaminants of concern in soil evaluated to reflect potential present incidental ingestion and dermal contact of soil corresponding to the average and the reasonable maximum exposure scenarios for a trespasser.

TABLE 10
NON-CARCINOGENIC RISKS FOR THE POSSIBLE PRESENT INCIDENTAL INGESTION AND DERMAL CONTACT WITH SOIL (TRESPASSER)

Contaminant of concern	Concentration (mg/kg) avg	Concentration (mg/kg) max	Exposure Factor (mg/kg/day)	Reference Dose (mg/kg/day)	Target Endpoint of Toxicity	Hazard Index avg	Hazard Index RME
Arsenic	4.3	49.7	$7.1x10^{-7}$	$1.4x10^{-3}$	keratosis	$7x10^{-4}$	$8x10^{-3}$
Cadmium	2.0	10.6	$7.1x10^{-7}$	$5x10^{-4}$	kidney	$1x10^{-4}$	$5x10^{-3}$
Chromium	23.8	69.5	$7.1x10^{-7}$	$5x10^{-3}$	no effect	$1x10^{-3}$	$3x10^{-3}$
Mercury	.1	.24	$7.1x10^{-7}$	$3x10^{-4}$	CNS effects	$8x10^{-5}$	$2x10^{-4}$
Nickel	14.2	40.8	$7.1x10^{-7}$	$2x10^{-2}$	reduced weight	$2x10^{-4}$	$5x10^{-4}$
Anthracene	.42	.29	$8.9x10^{-7}$	$4x10^{-3}$	no effect	$4x10^{-7}$	$3x10^{-7}$
Benzo(g,h,i)-perylene	.47	.74	$8.9x10^{-7}$	$4x10^{-3}$		$4x10^{-5}$	$6x10^{-5}$
Flouranthene	.52	3.0	$8.9x10^{-7}$	$4x10^{-2}$	nephropathy	$4x10^{-6}$	$2x10^{-5}$
Phenanthrene	.52	1.5	$8.9x10^{-7}$	$4x10^{-3}$		$4x10^{-5}$	$1x10^{-4}$
Pyrene	.49	1.9	$8.9x10^{-7}$	$3x10^{-2}$	nephropathy	$5x10^{-6}$	$2x10^{-5}$
bis(2-ethyl-hexyl)pthalate	.89	19.0	$8.9x10^{-7}$	$2x10^{-2}$	increased liver weight	$1x10^{-5}$	$3x10^{-4}$
Di-n-butyl pthalate	.56	2.2	$8.9x10^{-7}$	$1x10^{-1}$	increased mortality	$2x10^{-6}$	$6x10^{-6}$
DDT	.03	.13	$3.9x10^{-7}$	$5x10^{-4}$		$8x10^{-6}$	$3x10^{-5}$
			SUM*			$3x10^{-3}$	$2x10^{-2}$

Table 11 depicts the carcinogenic risk summary for the contaminants of concern in soil evaluated to reflect potential future incidental ingestion and dermal contact of soil corresponding to the average and the reasonable maximum exposure scenarios for a trespasser.

TABLE 11
CARCINOGENIC RISKS FOR THE POSSIBLE FUTURE INCIDENTAL INGESTION AND DERMAL CONTACT WITH SOIL(TRESPASSER)

Contaminant of Concern(Class)	Concentration (mg/kg)		Exposure Factor (mg/kg/day)	Cancer of Potency (mg/kg/day)	Risk Estimate	
	avg	max			avg	RME
Arsenic(A)	4.3	49.7	$6.1x10^{-8}$	1.75	$5x10^{-7}$	$5x10^{-6}$
Benzo (a)-anthracene(B2)	.5	1.1	$7.6x10^{-8}$	11.5	$4x10^{-7}$	$1x10^{-6}$
Benzo (a)-pyrene(B2)	.48	.92	$7.6x10^{-8}$	11.5	$4x10^{-7}$	$8x10^{-7}$
Benzo (b)-flouranthene(B2)	.52	1.3	$7.6x10^{-8}$	11.5	$4x10^{-7}$	$1x10^{-6}$
Benzo (k)-flouranthene(B2)	.44	.43	$7.6x10^{-8}$	11.5	$4x10^{-7}$	$4x10^{-7}$
Chrysene(B2)	.50	1.1	$7.6x10^{-8}$	11.5	$4x10^{-7}$	$1x10^{-6}$
Indeno(1,2,3)-pyrene(B2)	.46	.64	$7.6x10^{-8}$	11.5	$4x10^{-7}$	$6x10^{-7}$
PCB(B2)	.47	1.99	$3.3x10^{-8}$	7.7	$1x10^{-7}$	$5x10^{-7}$
bis(2-ethyl-hexyl)pthalate(B2)	.89	19.0	$7.6x10^{-8}$	$1.4x10^{-2}$	$1x10^{-9}$	$2x10^{-8}$
DDD(B2)	.02	.03	$3.6x10^{-8}$	$2.4x10^{-1}$	$2x10^{-10}$	$3x10^{-10}$
DDE(B2)	.02	.03	$3.1x10^{-8}$	$3.4x10^{-1}$	$2x10^{-10}$	$3x10^{-10}$
DDT(B2)	.03	.13	$3.3x10^{-8}$	$3.4x10^{-1}$	$4x10^{-10}$	$2x10^{-9}$
				SUM	$3x10^{-6}$	$1x10^{-5}$

Table 12 depicts the non-carcinogenic risk summary for the contaminants of concern in soil evaluated to reflect potential future incidental ingestion and dermal contact of soil corresponding to the average and the reasonable maximum exposure scenarios for a trespasser.

TABLE 12
NON-CARCINOGENIC RISKS FOR THE POSSIBLE INCIDENTAL INGESTION AND DERMAL CONTACT WITH SOIL (TRESPASSER)

Contaminant of concern	Concentration (mg/kg) avg	Concentration (mg/kg) max	Exposure Factor (mg/kg/day)	Reference Dose (mg/kg/day)	Target Endpoint of Toxicity	Hazard Index avg	Hazard Index RME
Arsenic	4.3	49.7	$7.1x10^{-7}$	$1.4x10^{-3}$	keratosis	$2x10^{-3}$	$3x10^{-2}$
Cadmium	2.0	10.6	$7.1x10^{-7}$	$5x10^{-4}$	kidney	$3x10^{-3}$	$2x10^{-2}$
Chromium	23.8	69.5	$7.1x10^{-7}$	$5x10^{-3}$	no effect	$3x10^{-3}$	$1x10^{-2}$
Mercury	.1	.24	$7.1x10^{-7}$	$3x10^{-4}$	CNS effects	$2x10^{-4}$	$6x10^{-4}$
Nickel	14.2	40.8	$7.1x10^{-7}$	$2x10^{-2}$	reduced weight	$5x10^{-4}$	$2x10^{-3}$
Anthracene	.42	.29	$8.9x10^{-7}$	$4x10^{-3}$	no effect	$9x10^{-5}$	$7x10^{-5}$
Benzo(g,h,i)-perylene	.47	.74	$8.9x10^{-7}$	$4x10^{-3}$		$1x10^{-4}$	$2x10^{-4}$
Flouranthene	.52	3.0	$8.9x10^{-7}$	$4x10^{-2}$	nephropathy	$1x10^{-5}$	$7x10^{-5}$
Phenanthrene	.52	1.5	$8.9x10^{-7}$	$4x10^{-3}$		$1x10^{-4}$	$4x10^{-4}$
Pyrene	.49	1.9	$8.9x10^{-7}$	$3x10^{-2}$	nephropathy	$2x10^{-5}$	$5x10^{-5}$
bis(2ethyl hexyl)pthalate	.89	19.0	$8.9x10^{-7}$	$2x10^{-2}$	increased liver weight	$4x10^{-5}$	$8x10^{-4}$
Di-n-butyl pthalate	.56	2.2	$8.9x10^{-7}$	$1x10^{-1}$	increased mortality	$5x10^{-6}$	$2x10^{-5}$
DDT	.03	.13	$3.9x10^{-7}$	$5x10^{-4}$		$2x10^{-5}$	$1x10^{-4}$
			SUM*			$1x10^{-4}$	$5x10^{-2}$

The maximum future cancer risk from exposure to groundwater is estimated as $3x10^{-5}$ and the maximum future hazard index is 2.3 for a child. The maximum future cancer risk from exposure to contaminated Site soils was estimated as $1x10^{-5}$ and the maximum hazard index is $5x10^{-2}$. The maximum carcinogenic risks resulting from exposure to Site related contamination are well with the range of carcinogenic risk considered acceptable by EPA. The hazard index is below the concern level of one for soil and slightly exceeds one for the child exposure to groundwater.

EPA has a CERCLA mandate to manage risk resulting from actual or potential exposure to hazardous substances. Exposures resulting in a cancer risk within the range of 10^{-4} to 10^{-6} are considered acceptable cancer risks by EPA. Non-carcinogenic risks with a hazard index below one are also considered acceptable. The slight exceedence of the hazard index for the child exposure does not indicate a need for action at the Site. EPA's decision as to whether action is warranted when the cancer risk range is not exceeded is based upon site specific conditions.

The Site specific conditions at the Darling Hill Dump Site support the decision to not take action. There are very low levels of contaminants in the majority of the groundwater throughout the Site. One sample point in an area, that is not very accessible, is responsible for the majority of the groundwater risk. The estimated cancer risk from exposure to contamination outside that one point is $3x10^{-6}$. Figures 5 and 6 show the distribution of carcinogenic risk for ingestion of groundwater. Figure 7 is a profile of the location where the maximum concentrations were detected. As shown in figures 5-7, the cancer risks estimated from exposure to the most contaminated groundwater can be considered very conservative. The fact that the cancer risk that would result from exposure to the most contaminated groundwater would be well within the acceptable risk range strongly supports the decision to select No Action.

An environmental assessment was performed at the Site. At this time the Site is not impacting the West branch of the Passumpsic River or the adjacent wetlands or floodplain. If there was a major failure of the debris mass, then there is the potential for increased levels of contamination to reach the West branch of the Passumpsic.

VII. Description of No Action Alternative

There are no construction activities associated with the No Action decision. However, monitoring will be performed to provide more information regarding the seasonal variability of ground water contamination.

At a minimum, five years of monitoring will be performed to confirm that no unacceptable exposures will occur in the future. The ground water monitoring will provide a better understanding of contaminant distribution and rate of ground water flow. See Figure 8 for existing ground water monitoring well locations. A subset of these monitoring wells will be selected as ground water monitoring points. Surface water and sediment samples will be taken from the west branch of the Passumpsic River and the drainage swales of the Dump to confirm that future surface runoff does not represent an unacceptable threat to the environment. Surface soil samples will be taken from any new area of surface soil which may be exposed as a result of movement of the debris mass of the Dump. Due to the low concentration of contaminants at the Site, the analytical methods that will be used for ground water and surface water must be capable of achieving very low detection limits (approximately 1 ppb). The estimated net present worth of the five-year monitoring program would be $292,000, assuming a ten percent discount rate. Annual monitoring costs are expected to be approximately $77,000.

IX. DOCUMENTATION OF NO SIGNIFICANT CHANGES

EPA presented a Proposed Plan (preferred alternative) for remediation of the Site on April 10, 1992. The Proposed Plan described EPA's decision to pursue no further action at the Darling Hill Dump Site. No significant changes have been made to the No Action decision described in the Proposed Plan.

X. STATE ROLE

The Vermont Department of Environmental Conservation has reviewed the various alternatives and has decided not to concur with the EPA No Action decision.

APPENDIX A - Figures

Darling Hill Dump Site Map

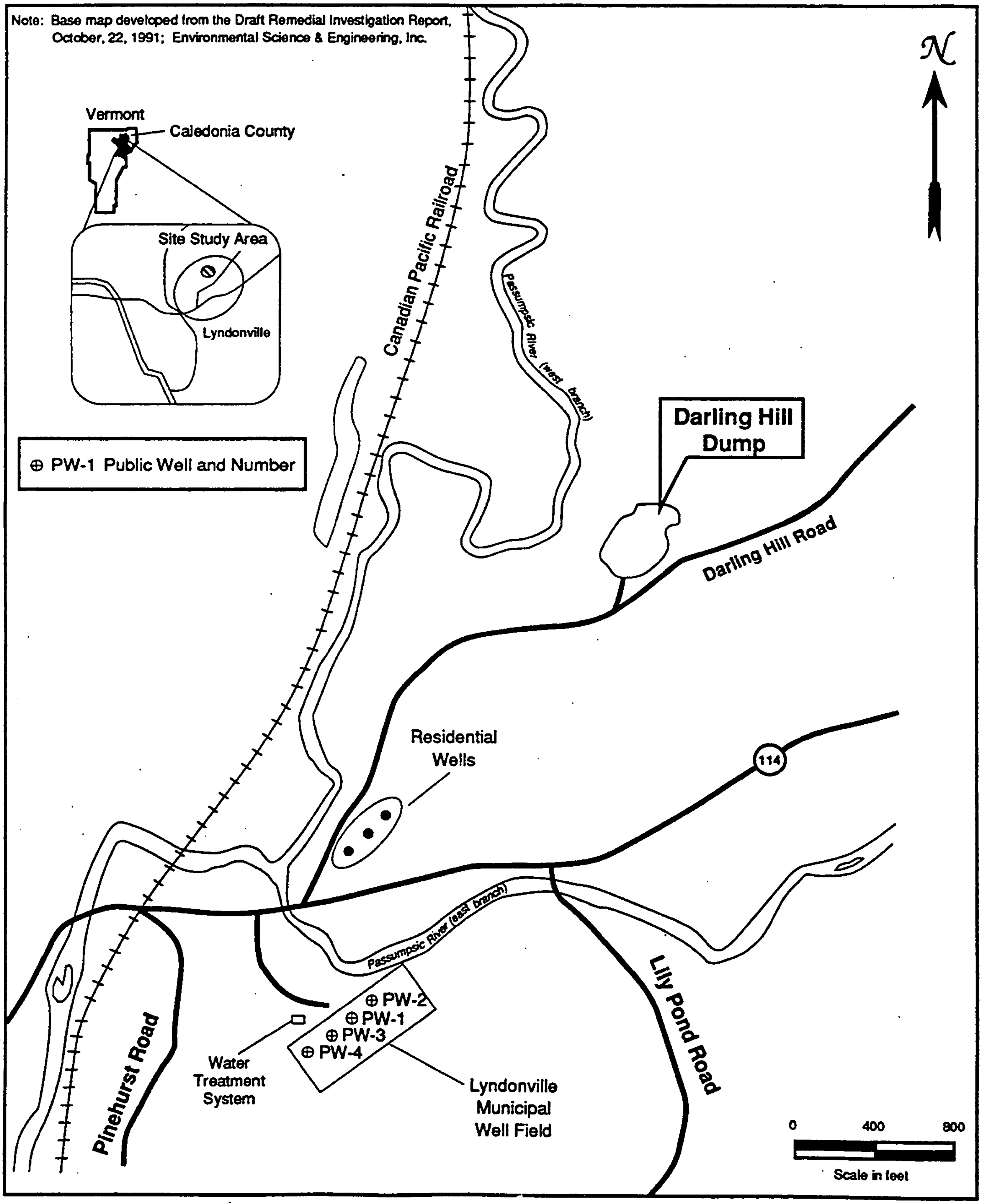


FIGURE 1

Darling Hill Dump
Schematic Cross-section Showing Detection of Contaminants in Soil

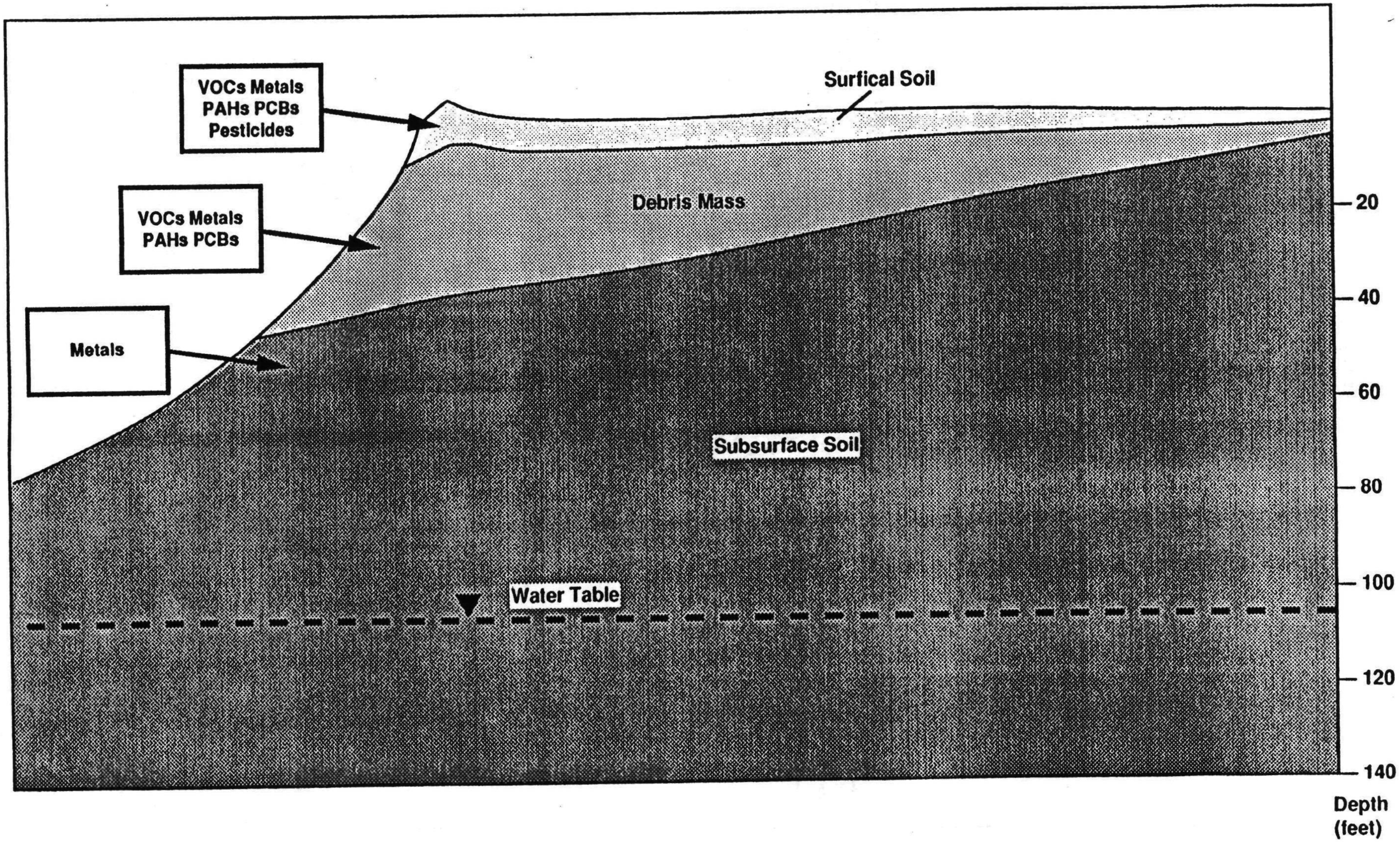


FIGURE 2

A92-135/C

Migration of
Organic Contaminants

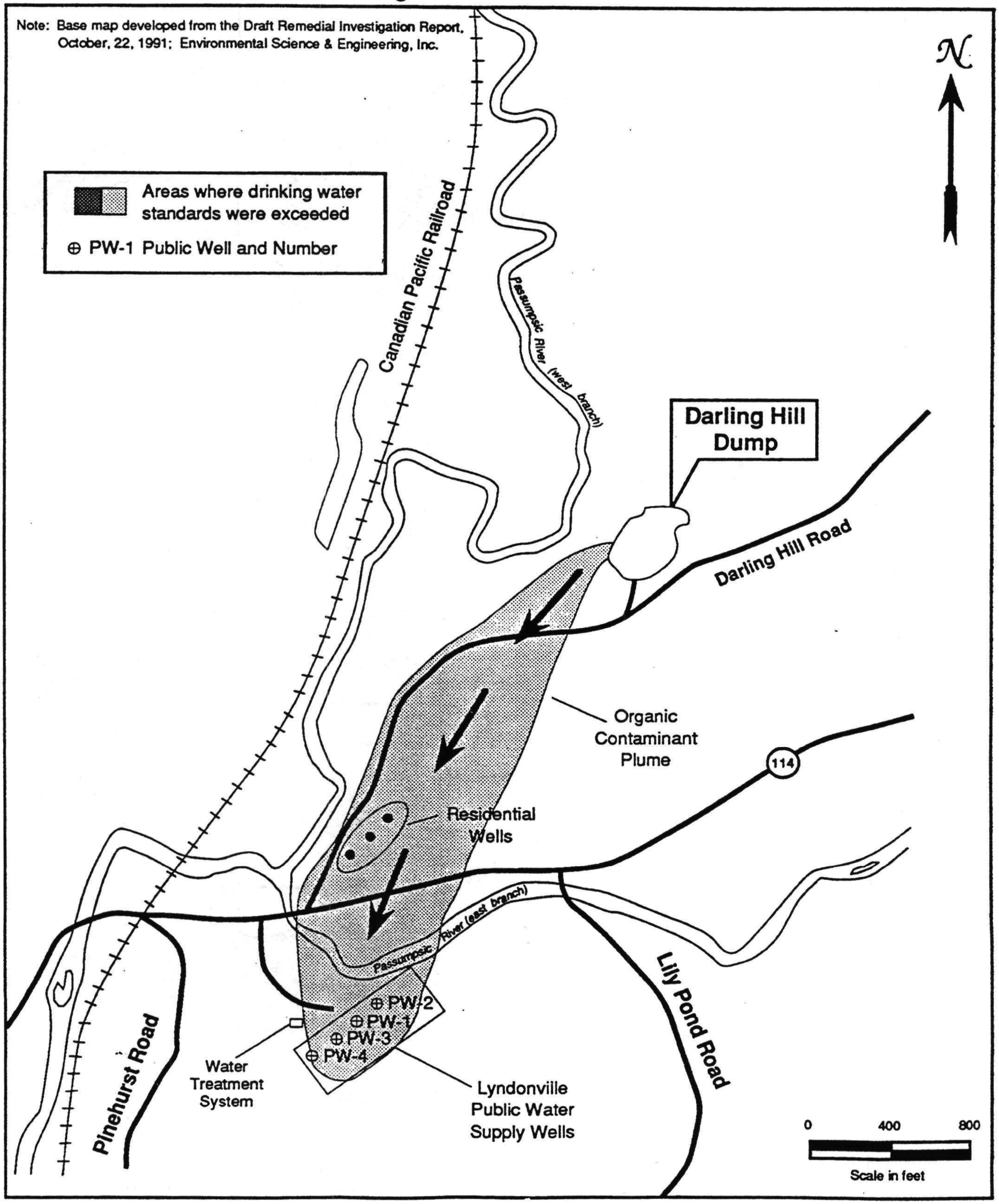
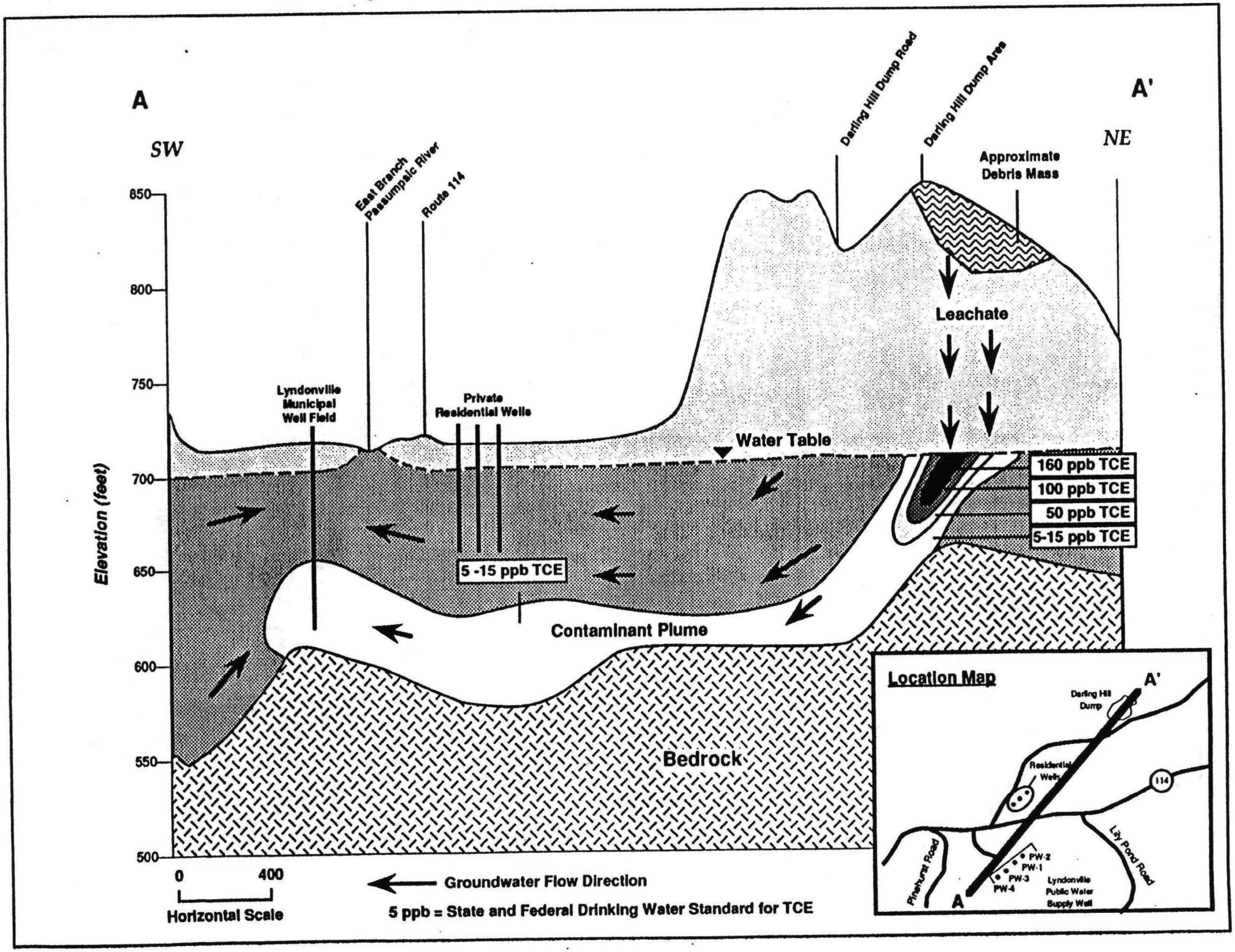


FIGURE 3

FIGURE 4

Cross-section Showing Relationship Between Contaminant Plume and Drinking Water Wells and Approximate TCE Concentrations



Estimated Excess Cancer Risk Levels Associated with Organic Contaminant Plume

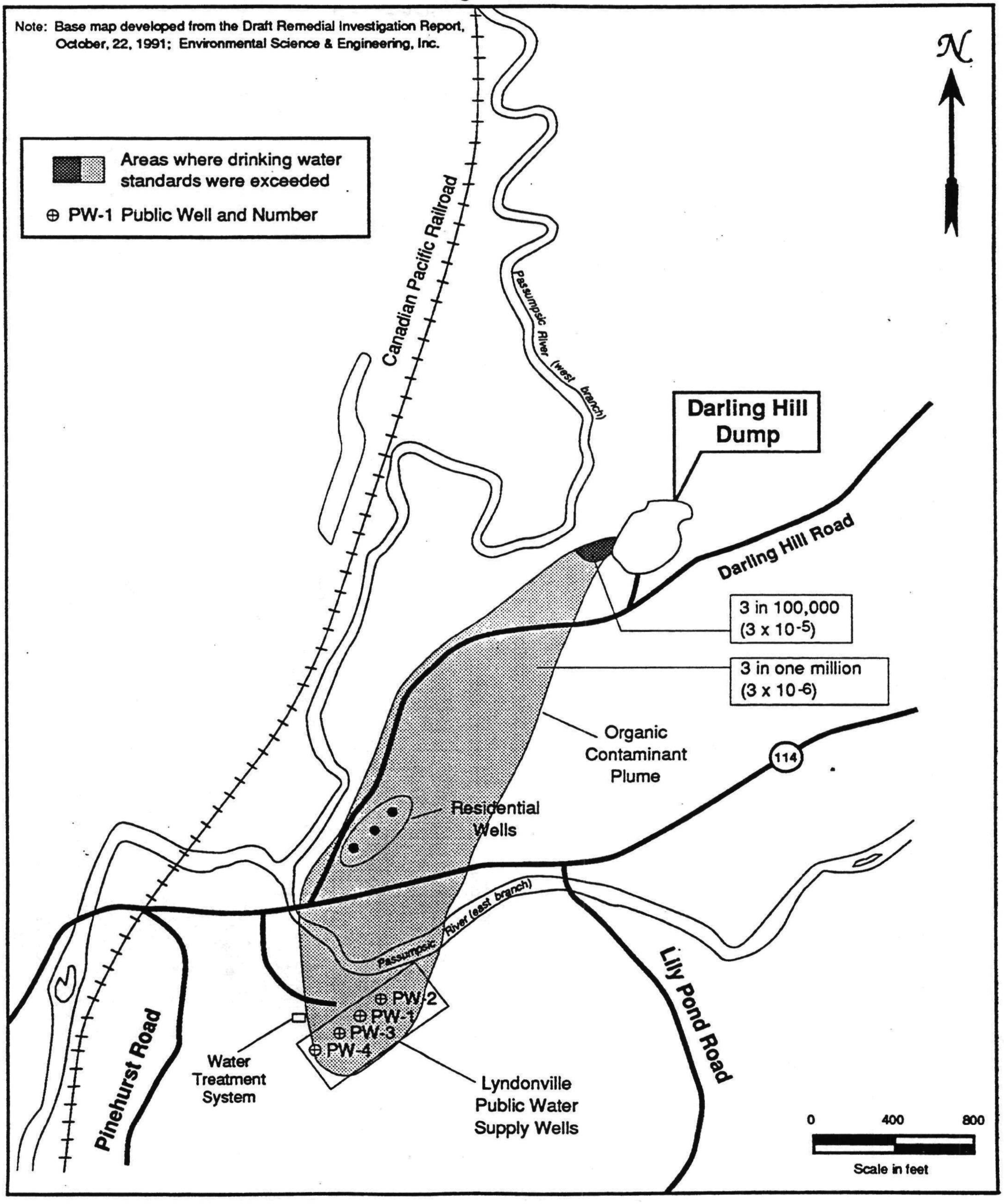
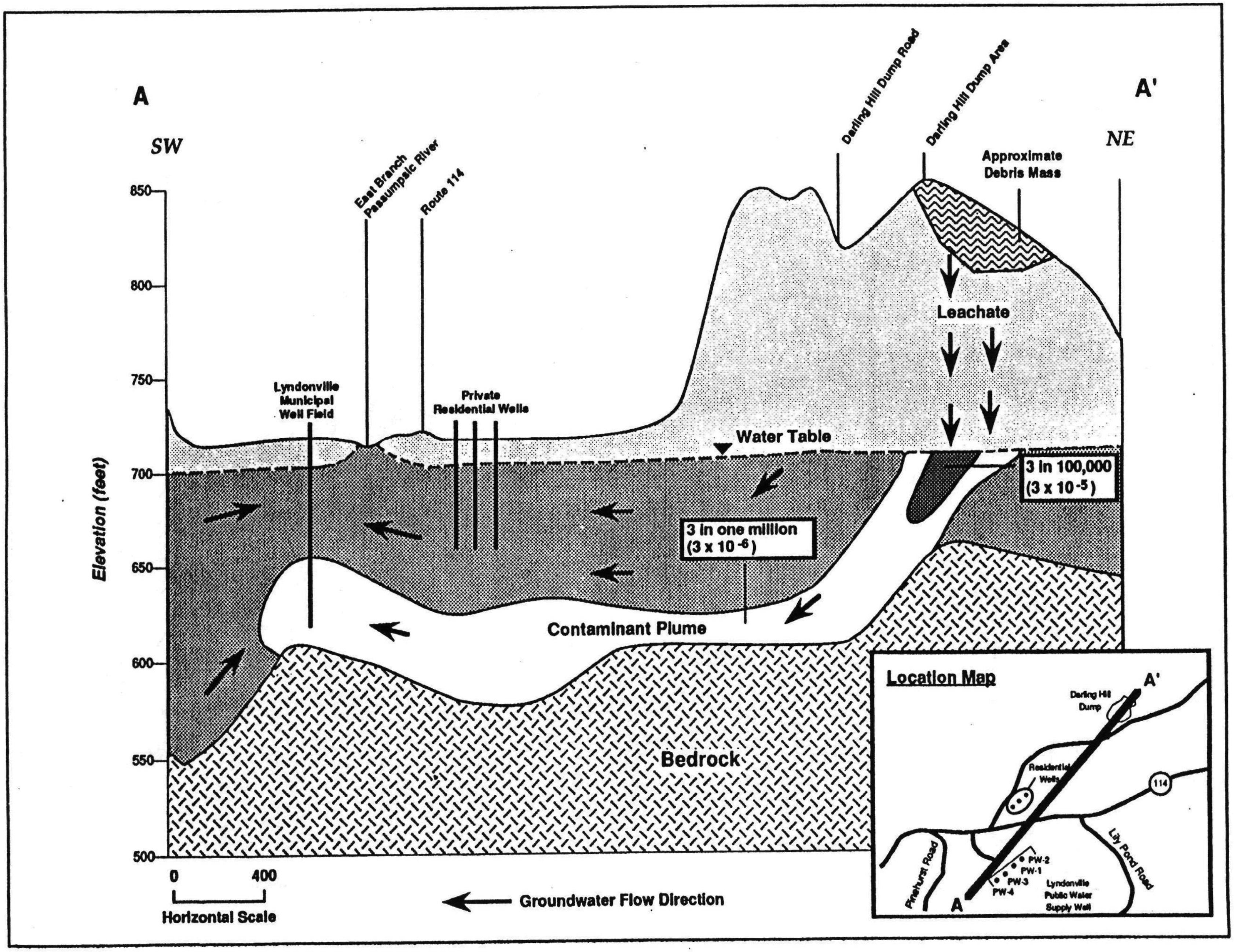


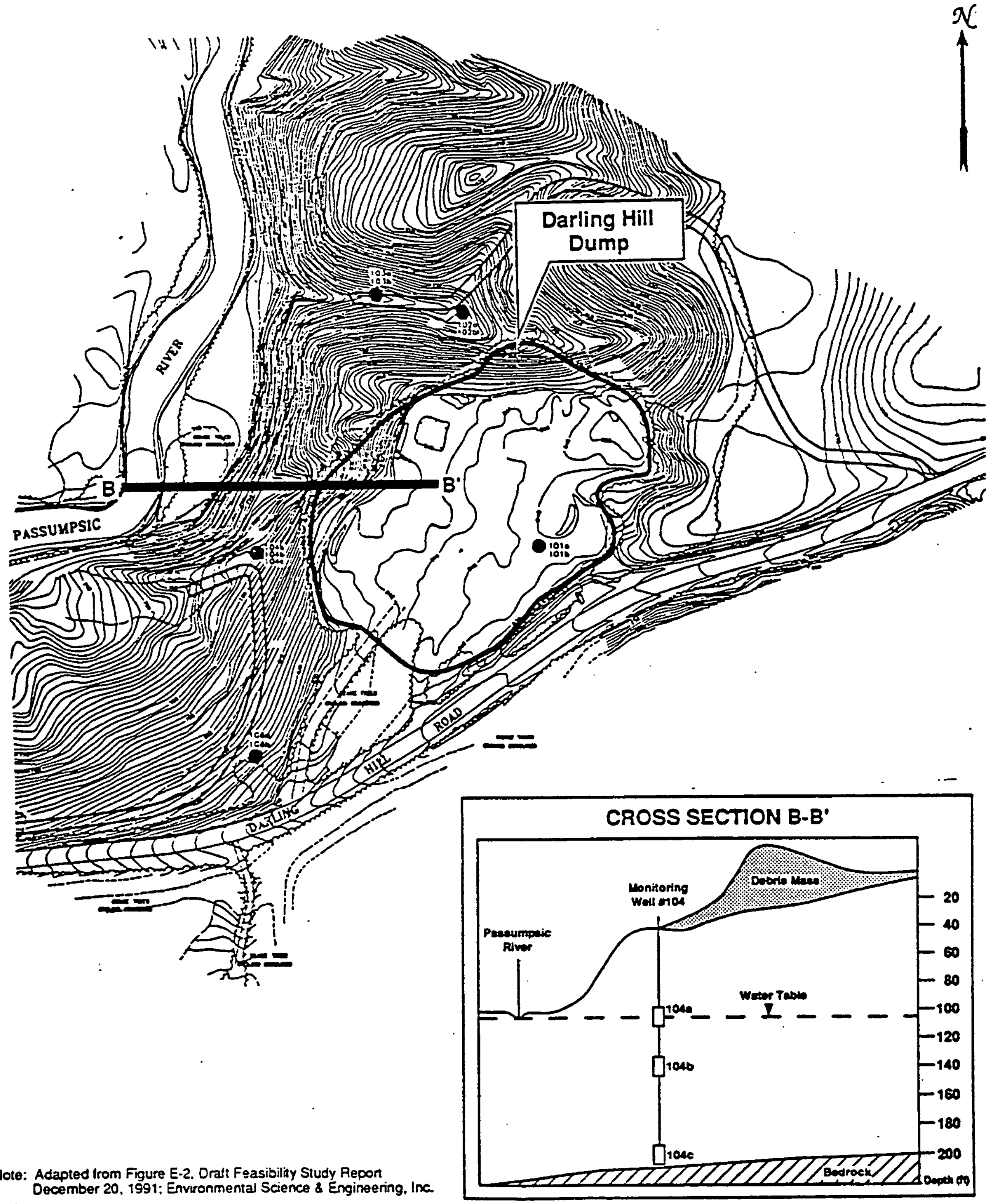
FIGURE 5

FIGURE 6

Cross-section Showing Relationship Between Contaminant Plume, Drinking Water Wells, and Associated Cancer Risk Estimates



Darling Hill Dump Contour Map



Note: Adapted from Figure E-2, Draft Feasibility Study Report December 20, 1991; Environmental Science & Engineering, Inc.

FIGURE 7

Monitoring Well Locations

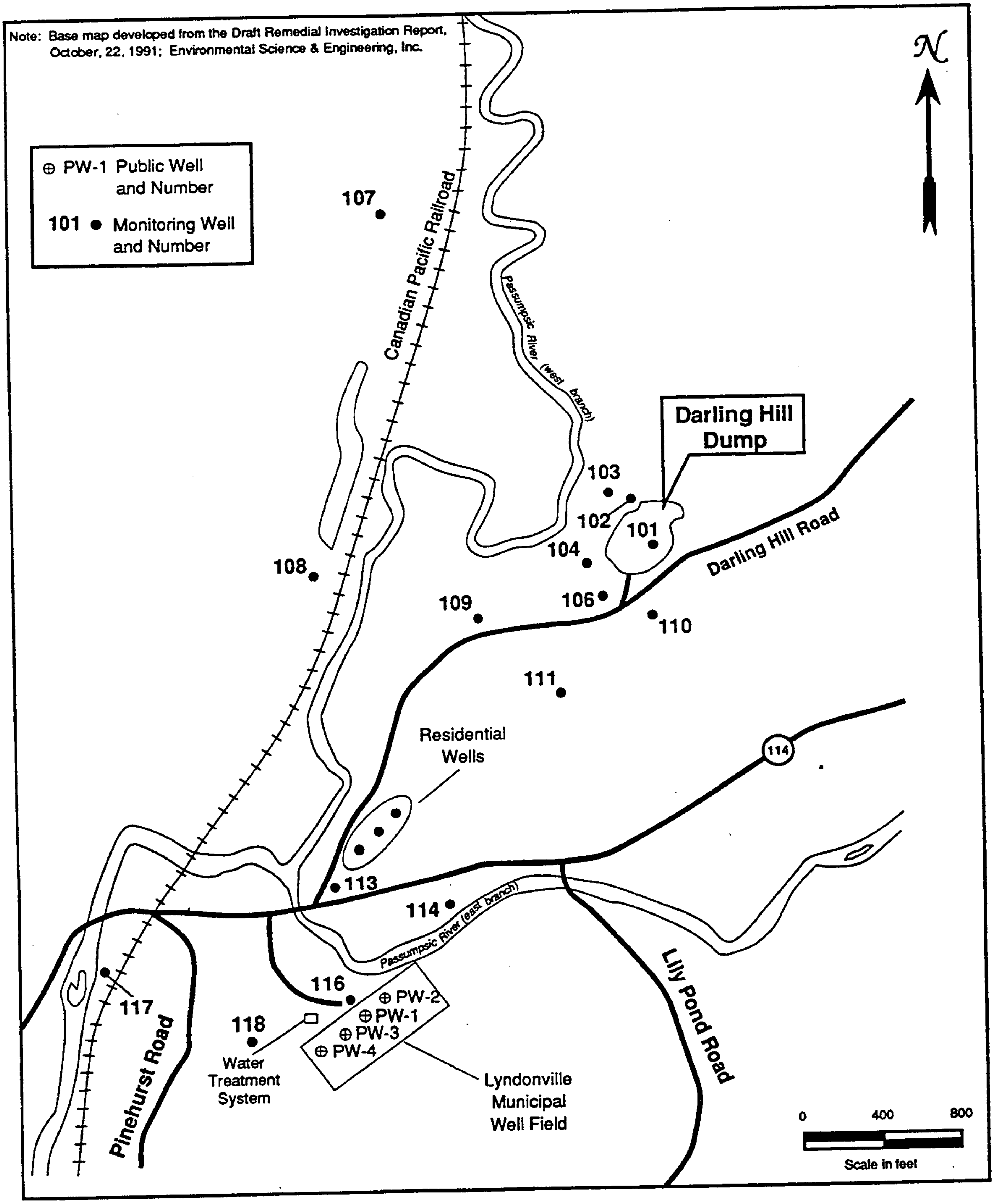


FIGURE 8

APPENDIX B - Letter of Non-Concurrence

State of Vermont

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
Natural Resources Conservation Council

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
Hazardous Materials Management Div.
103 South Main Street/West Building
Waterbury, VT 05671-0404
(802) 244-8702

June 23, 1992

Mr. Merrill Hohman, Director
U.S. EPA
Waste Management Div. (HAA-CAN2)
JFK Federal Bldg.
Boston, MA 02203

RE: Record of Decision - Darling Hill Dump, Lyndon, Vermont

Dear Mr. Hohman:

We have worked very closely with EPA throughout the entire Superfund process on the Darling Hill Dump site, and we appreciate EPA's considerable efforts to provide us with opportunities for involvement in the process.

Based on our close involvement, we understand the basis for EPA's No Action Record of Decision. Based on EPA's interpretation of CERCLA and the National Contingency Plan, as well as EPA policy regarding use of the flexible maximum risk level as a basis for remedial actions, EPA has concluded that there is no basis for action under CERCLA. EPA has not concluded however, that there are no remaining environmental, health, or safety concerns associated with this site.

We have several concerns which will not be addressed by EPA's Record of Decision. These concerns include site closure, long-term monitoring, institutional controls, and periodic reviews. Because these concerns will not be addressed, and in order to protect the State of Vermont's enforcement authority, we regret to inform you that we cannot concur with EPA's No Action Record of Decision for the Darling Hill Dump.

Again, we appreciate all of EPA's efforts at this site.

Sincerely,

Elizabeth McLain

Elizabeth McLain, Commissioner

EM/TM/tm DARLHILL/dhd025