

Health Consultation

FORMER INTERROYAL CORPORATION FACILITY
(a/k/a INTERROYAL CORPORATION)

PLAINFIELD, WINDHAM COUNTY, CONNECTICUT

EPA FACILITY ID: CTD045110913

OCTOBER 22, 2002

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

You May Contact ATSDR TOLL FREE at
1-888-42ATSDR

or

Visit our Home Page at: <http://www.atsdr.cdc.gov>

HEALTH CONSULTATION

FORMER INTERROYAL CORPORATION FACILITY
(a/k/a INTERROYAL CORPORATION)

PLAINFIELD, WINDHAM COUNTY, CONNECTICUT

EPA FACILITY ID: CTD045110913

Prepared by:

Connecticut Department of Public Health
Under a Cooperative Agreement with the
Agency for the Toxic Substances and Disease Registry

The conclusions and recommendations in this Health Consultation are based on the data and information made available to the Connecticut Department of Public Health and the Agency for Toxic Substances and Disease Registry. The Connecticut Department of Public Health and the Agency for Toxic Substances and Disease Registry will review additional information when received. The review of additional data could change the conclusions and recommendations listed in this document.

BACKGROUND AND STATEMENT OF ISSUE

The Connecticut Department of Public Health (CT DPH) was asked by the Northeast District Department of Health to evaluate the public health implications of environmental contamination present at the site of the former InterRoyal Corporation facility in Plainfield, Connecticut. The site is an abandoned mill located on 16.5 acres at 20 Reservoir Street. It is located in a mixed residential/commercial area. A stream (Horse Brook) passes through the site, into three abandoned manmade reservoirs (Reservoirs #1, 2, & 3), and exits across the railroad tracks near the southwest portion of the site. The nearest homes are west of First Street, about 80 yards from the site boundary, on an embankment overlooking the site and the railroad tracks. A map of the area, with sample locations shown, is included as Attachment A.

This site is targeted for commercial redevelopment. The Environmental Protection Agency (EPA) has provided brownfield funds to do an assessment of the contamination at the site (EPA, 2002). The results of the assessment are discussed in this Health Consultation. In addition, EPA had previously provided funds for an emergency cleanup of stored waste. Site remediation activities are delayed, partially due to a criminal investigation by EPA⁽¹⁾, and a lack of funds. Presently, the areas of concern, as identified by EPA (EPA, 2001), are:

- Asbestos in the buildings
- Elevated levels of metals, semivolatile organic compounds, polychlorinated biphenyls (PCBs) in surface & subsurface soils.
- Elevated levels of volatile organic compounds in on-site groundwater.

The purpose of this Health Consultation is to evaluate the potential for nearby residents to be exposed to site contaminants, and to evaluate the public health significance of any ongoing or past exposures.

The mill buildings on this site were constructed in 1904-1906. From 1906 through the mid-1930s, the site was used by a manufacturer of cotton cloth. From 1937 until 1969, clothing,

¹The unauthorized demolition of a part of the mill complex may have exposed nearby residents to asbestos and violated federal law. The demolition is being investigated by the Criminal Investigative Division of the Environmental Protection Agency.

wood products, and metal furniture were manufactured at this site. The InterRoyal Corporation manufactured wood and metal institutional furniture on the site from 1970 to 1986. At different times between 1986 and 1995, InterRoyal leased portions of the facility to different businesses, including; a plastics recycling operation, a woodworking company, a wooden staircase manufacturer, and a plumbing fixture warehousing operation. The site was abandoned in 1995, and since that time the structures have deteriorated significantly. Partial demolition of the mill building (not approved by EPA) occurred in 2000.

Site visit & community concerns

Buildings on the site are partially demolished and there are many piles of debris and other physical hazards. The nearest residences are on the west side of First Street (First Street is about 70 yards west of the site). An embankment between First Street and the railroad tracks overlooks the west side of the site. The homes on First Street are built on a grade about 15 feet above the railroad tracks, and 15-20 feet above the site. Several paths were worn in the slope of the embankment, providing evidence of frequent trespassing activity down to the tracks, and probably to the site. Footprints were present in sandy soil at these points. A local resident stopped to inform us that “kids” had recently been trespassing on the site, and that he had called the police when they started breaking windows. Trespassing, he reported, occurs frequently.

The possibility of a major fire is a prominent concern in the minds of many citizens. A former Town Selectman was quoted in a local newspaper, as saying that “this is a high priority public safety issue”, while a local firefighter was quoted as saying “it [a fire] is my worst nightmare”.

The most accessible entrance gate (the one on the north side, facing Rt 14 A) is in poor repair. Though locked, it was so damaged that a large adult would have no trouble getting through the bent structural members. Warning signs were not frequent or prominent enough. The fence along the railroad tracks (west side) looked continuous, but it could not be inspected without crossing onto Providence & Worcester Railroad property. Two gates along the east side were functional and locked. The gate across the railroad siding on the south side of the site has a large (man-sized) hole in the chain link. Thus, trespassers have easy access to the site from the north and south sides (at least). Horse Brook, at the point where it exits near the southwest corner of the site, can be accessed by crossing railroad tracks along First Street, or by hiking from trails near the Gallup Wellfield (1200 ft south of the site).

DISCUSSION

Contaminated areas of concern

EPA’s Targeted Assessment (2002) provides a brief overview of each of the contaminated areas on-site. There are several contaminated areas on the site, some have been well characterized and

are not suspected to be a source of exposure to the public. CT DPH is interested in evaluating the “exposure pathways” (defined in the next section) which may have public health significance, i.e., those pathways that involve movement of contaminants off-site. CT DPH, therefore, has identified several locations as potential sources for off-site migration (listed below).

- **Horse Brook**

Sediments in the channel of Horse Brook, south of the mill building were found to contain petroleum hydrocarbons, chlorinated organic solvents, PCBs, and metals (chromium, lead, zinc, and nickel). Downstream from the mill (off-site) surface water contained detectable concentrations of PCE, trichlorethene (TCE), and trans-1,2 dichloroethene. The source of this surface water and sediment contamination is likely from Reservoirs #1, 2, & 3 (See map; Attachment A). Anyone contacting sediment or surface water from Horse Brook could, therefore, be exposed to contamination originating on-site.

- **Groundwater**

The degreaser storage tank, former drum storage area, and the transformer enclosure area are located at the southern end of the site (see Attachment A). Surveys have determined that groundwater in this area is contaminated with chlorinated organic solvents. These contaminants could be migrating off-site and impacting private wells, or the indoor air in homes with basements.

- **Surface soils on site**

The surface soils in several areas on-site are contaminated or potentially contaminated. Contaminated soil has been found in the area of the fuel oil storage tank, around the hexagonal concrete pads, the paint disposal area, the boiler blow-down area, the drum storage area, and the former transformer storage area. Contaminated soil has also been found inside the building in the rust proofing machine dragout trench, and in the basement of the 3 story section of the mill building. Surface soils are a concern if there is direct contact with them. Direct contact can occur only if an individual trespasses, or soil is carried off-site by dust or unapproved disposal. Exposure to surface soils on-site is not expected to occur on a regular and continuing basis.

- **Building debris**

Building debris is a concern if there is direct contact with them. Direct contact can occur only if an individual trespasses, or building debris is carried off-site by dust or unapproved disposal. Exposure to dust from the site is also not expected to occur on a regular and continuing basis. However, the fact that unauthorized demolition did occur suggests that the public may have been briefly exposed to dust from building debris.

Exposure Pathways and Comparison Values

An exposure pathway describes how the public might be exposed to site contaminants. Direct contact with contaminants can happen only if the contaminants travel off-site (or someone trespasses on the site). An exposure pathway is defined by the environmental media through which contamination is spread (soil, water, air), and the route which contaminants enter the body. Contact with the body can occur through the skin, the lungs, or the mouth. Examples of direct contact are touching soils, sediments or surface water, eating soils that may be adhered to fingers or food items, drinking contaminated private well water, breathing dust from soil or building debris, or breathing air contaminated by volatile chemicals.

Groundwater

In August 2000, an EPA contractor sampled groundwater in four monitoring wells located in the southern portion of the site. Groundwater was analyzed for volatile organic compounds, semivolatile organic compounds, petroleum hydrocarbons, and metals. Elevated concentrations of metals (lead, chromium, and zinc), petroleum hydrocarbons, or semivolatile organic compounds, were not present in any of these groundwater samples. Chlorinated organic solvents, cis-1,2 dichloroethylene (cis-1,2 DCE), perchloroethylene (PCE), trichloroethylene (TCE), and vinyl chloride (VC) were found. The results for these compounds are illustrated in Table 1.

Table 1: Groundwater data from four wells in the southern portion of site compared to concentrations relevant to indoor air and drinking water exposure pathways (sampled in August 2000)

Contaminant	Groundwater Maximum (ppb) ^A	Indoor Air Pathway (via soil gas)		Drinking Water Pathway (via private well)		
		Chronic Comparison Value (ppb) ^B	Samples Above Chronic Comparison Value (#/total)	Chronic Comparison Value (ppb) ^C	Samples Above Chronic Comparison Value (#/total)	Short Duration Comparison Value (ppb) ^D
cis-1,2 dichloroethylene	1100	3520	0/4	70	2/4	10000
tetrachloroethylene	390	1500	0/4	5	2/4	1750
trichloroethylene	300	219	2/4	5	3/4	7000
vinyl chloride	170	2	2/4	2	2/4	NA

^A Data are from EPA (2002), sample on 8/15/2000. Wells include; MW4S, SDDW-19, SDDW-20, and SDDW-21(N = 4). See Table 4.4 (EPA, 2002).

^B Comparison values for the indoor air exposure pathway are CT Department of Environmental Protection's Groundwater Volatilization Criteria.

^C Comparison values for the drinking water pathway are the federal drinking water standards (EPA's Maximum Contamination Limits).

^D Short-term exposure comparison values are based on ATSDR minimal risk levels (MRL's) for intermediate duration (cis-1,2 DCE), or acute (tetrachloroethylene & trichloroethylene) exposure. Acute or intermediate MLRs are not available for vinyl chloride.

Table 1 shows the maximum detected concentration. Maximum, rather than average, concentrations are often used in Health Consultations because they delineate the upper-end or “worst case” exposure scenario. The maximum value is evaluated against a health-based benchmark called the “comparison value”. Because nearby residents may be exposed to contamination in groundwater from either drinking the water (from a nearby well), or by inhaling the contaminants after they have volatilized to soil gas and diffused to basement air, two sets of comparison values are shown in Table 1 (i.e., “Indoor Air Pathway” and “Drinking Water Pathway”). The chronic comparison values for the indoor air pathway are taken from the Connecticut Department of Environmental Protection’s (CT DEP) Remediation Standards for residential exposure (RSR). The drinking water comparison values are EPA’s maximum contamination limits (MCL) for public drinking water, or derived from ATSDR’s minimal risk levels (MRL). These standards are benchmarks of a level of exposure considered safe for at least thirty years of nearly continuous exposure. If groundwater concentrations are below the comparison values, then there is little cause for concern. On the other hand, if concentrations exceed the comparison values, then further analysis is needed.

The data summarized in this Health Consultation suggests that concentrations of trichloroethene (TCE) and vinyl chloride (VC) are in excess of health-protective comparison values for the indoor air exposure pathway. However, CT DPH believes that the exposure pathway for these contaminants is not complete. Depth to groundwater is an important determinant of vapor intrusion potential (intrusion potential decreases with greater depth), and the comparison values shown are modeled based on the assumption that groundwater is one foot below the basement floor. Because the homes on First Street are about 15-20 feet above grade at the mill site, the extent of TCE infiltration in nearby basements should not be high enough to present a health concern, even if the groundwater below the homes is contaminated. However, this elevation difference may not be sufficient to prevent significant VC infiltration from contaminated groundwater. For VC, because the comparison value is so low, the distance from the source, and the hydraulic gradient of groundwater (i.e., direction and magnitude of groundwater flow), are the most important determinant of infiltration potential. On-site data indicate that contamination with volatile organic compounds is highest in the southwest corner of the site (SDDW-21). Data from slightly upgradient (SDDW-20) indicates that concentrations are markedly lower. More upgradient (MW-4S), volatile organic compounds were not detected in groundwater. Groundwater under homes on First Street is thus significantly upgradient from contaminated groundwater (Figure 1-3: EPA 2002), and vapor infiltration into basements on First Street is not likely.

The data summarized in Table 1 indicates that the groundwater on-site is contaminated with volatile organic compounds in excess of Federal drinking water standards. These health-based comparison values are relevant only if there are private drinking water wells near the site. The groundwater in this area is presumed not suitable for human consumption without treatment (groundwater class GB).

Surface water & sediment

Surface water of Horse Brook, downstream from the on-site reservoirs, is contaminated with volatile organic chemicals (EPA, 2002). Sediments in this portion of the streambed were found to contain semi-volatile organic compounds, PCB's, and metals (chromium, lead, zinc, and nickel). Anyone accessing the streambanks in this vicinity could be exposed to these contaminants through direct dermal contact with sediments or water, though the frequency and intensity of contact with contaminants through the dermal pathway is presumed to be low.

Because recent data from Horse Brook below the site was not available, on-site sediment data were used to estimate exposure for individuals who might use the brook for recreation. These data, though taken upstream of the culvert, are used in this Health Consultation because the levels of contamination (being closer to the source), are likely to be higher than levels downstream, and are therefore more conservative. EPA quantified the sediment contamination at the discharge points of Reservoirs #1 & 3 in August 2000. Sediment from Reservoir #1 contained benzo(a)pyrene at 110% of its comparison value, while sediment from Reservoir #3 contained bis(2-ethylhexyl)phthalate at 140% of its comparison values (comparison values are CT DEP industrial/commercial direct exposure criteria). These comparison values assume that a person is exposed to 50 mg of soil (½ of adult daily exposure), through incidental ingestion, per day, for 250 days each year (worker scenario). A more reasonable assumption for someone using the stream for recreation might include 200 mg⁽²⁾ of incidental ingestion, for 25 days each year (alternative scenario). This alternative exposure scenario was used to derive comparison values for exposure to Horse Brook sediments. These alternative comparison values are greater than levels of benzo(a)pyrene and bis(2-ethylhexyl)phthalate found in Reservoirs #1 & 3.

Exposure to asbestos from building materials

The EPA targeted assessment evaluated the asbestos content of building debris. CT DPH is concerned about potential inhalation exposure for building materials that contain friable (i.e., loosely aggregated), and non-friable asbestos. Friable asbestos has the potential to become airborne if disturbed by fire or demolition, while non-friable composites may release asbestos if burned. Interior components of the mill building that were determined to contain friable asbestos (content greater than 1%) include, but are not limited to, pipe insulation, boiler insulation, roping, wire insulation, packing, and firebrick. Building materials that contain non-friable asbestos include; sheetrock joint compound, baseboard mastic, floor tile, and roofing material. The community is not currently being exposed to this asbestos, but there may have been some, short term, exposure in the past caused by unauthorized demolition. The presence of asbestos means that there is the potential for future exposure to the community through unexpected release (e.g., through fire or building collapse).

² 200 mg soil ingestion per day is a relatively high level. This applies to individuals who may be in direct contact with soil/sediment (e.g., child etc.).

Surface soils on-site

The soils in several areas on-site are contaminated or potentially contaminated with total petroleum hydrocarbons (TPH), semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), metals, and polychlorinated biphenyls (PCBs). Contaminated sub-surface soil has been found in the area of the fuel oil storage tank (TPH, SVOCs, VOCs), around the hexagonal concrete pads (TPH), the paint disposal area (metals, VOCs), the boiler blow-down area (TPH, VOCs, PCBs), the drum storage area (VOCs). The nature and extent of contamination in these areas has been adequately characterized by sampling at depth (EPA, 2002). Surface soil data for these areas are not available.

Soil data from the southern portion of the site indicates that the levels of contamination found in subsurface soils are below comparison values for VOCs, SVOCs, pesticides, and metals (EPA, 2002). Soil data from the location of the 75,000 gallon fuel storage tank (sample B-31) indicates that soils at depth (0-2 feet) are contaminated with polycyclic aromatic hydrocarbons (PAHs), a pesticide (beta BHC) and TPH. These results indicate that the concentration of these contaminants may exceed comparison values at the surface; however, surface soil data are not available.

Contaminated soil has also been found inside the building in the rust proofing machine dragout trench, the transformer enclosure areas, and in the basement of the 3 story section of the mill building where soil is exposed. Surface soil data was collected at these areas during EPA's Targeted Brownfield Assessment (EPA, 2002). Low concentrations (i.e., below comparison values) of pesticides and a PCBs were found in surface soils at the transformer areas. Soil samples collected from the basement floor contained SVOCs at concentrations less than their comparison values. Surface soil samples from the dragout trench contained detectable levels of VOCs; again, at concentrations less than the comparison values. The comparison values used are CT DEP's Direct Exposure Criteria for industrial/commercial sites.

Public Health Implications of present and past exposures

Groundwater

Though on-site data indicate that groundwater is a potential source of exposure to site contaminants, the relatively high elevation of the nearest homes, the direction of groundwater flow, and the lack of private drinking water wells are factors that block or attenuate direct exposure. Therefore, it is not likely that nearby residents are being exposed to site contamination through groundwater. Off-site groundwater sampling and a survey for private wells could help confirm this.

Surface water/sediment

Sediment data from Reservoir outflows indicate that the contamination in Horse Brook, downstream from the culvert, is below levels of concern for people contacting the sediments

while using the stream for recreation. This is sufficient evidence to conclude that sediment contamination of Horse Brook does not adversely affect public health.

Asbestos

Asbestos is a hazard when inhaled. Asbestos exposure can have effects on lungs (e.g., asbestosis, lung cancer) or pleural and peritoneal membranes (malignant mesothelioma). The dose-response for these effects is uncertain. Incidence is highest in occupational settings, though there are studies that suggest the families of asbestos workers are at increased risk via exposure to asbestos brought home on the workers clothes. Most documented cases of asbestos-related disease occurred in workers exposed to relatively high levels for long periods of time.

As long as the mill buildings are not disturbed by fire or collapse, people in the surrounding community are not being exposed. Asbestos is therefore not a present-day concern; but, because there is the potential for collapse/fire, asbestos exposure will remain a future concern until it is remediated. This concern is made more prominent by evidence of trespassing/vandalism and, and a recent fire³. A fire in the mill buildings will release asbestos from non-friable composites, and in addition to exposing the surrounding community to asbestos, will make remediation more difficult.

Because part of the mill building was demolished without EPA approval, it is possible that people in the surrounding community were exposed to asbestos dust. Thus, while this event may have represented an exposure pathway for the community, there are no data available for CT DPH to estimate the magnitude of exposure, other than to say that the duration of exposure was relatively brief.

Because of background exposure, and the lack of monitoring data, it is not possible to determine the public health implications of the community's exposure to asbestos from the unauthorized demolition of mill buildings. However, it is likely that the exposure was short-term and to relatively low levels.

Surface soils on-site

The surface soil data collected for EPA's Targeted Brownfields Assessment indicates that direct exposure is not a health concern at the areas sampled (i.e., the dragout trench, basement floor, and former transformer storage areas). However, the extent of the area surveyed is small relative to areas that are potentially contaminated (See the above discussion of contaminated/potentially contaminated areas.). Because surface soil contamination on site is not well characterized, it is not possible to determine the public health implications of exposure to surface soil. However, CT DPH believes that on-site surface soil contamination is not likely to impact public health because, as noted previously, contact can occur only if an individual trespasses, or soil is carried

³In August 2000, firefighters were called to the site to extinguish a fire.

off-site by dust or unapproved disposal. This contact is not expected to occur on a regular or continuing basis.

CONCLUSIONS

ATSDR has a categorization scheme whereby the level of public health hazard at a site is assigned to one of five conclusion categories (Attachment B). CT DPH has concluded that the public health hazards represented by groundwater, surface soils on-site, or past exposure to asbestos are indeterminate. In the case of groundwater contamination, a survey of the areas for private wells would help to clarify this classification. CT DPH has also concluded that public health is not adversely affected by exposure to contaminated sediment in Horse Brook, downstream from the site.

Because of the poor condition of the fence, evidence of recent trespass, and the numerous on-site physical hazards, CT DPH is concerned that the public is not adequately protected from injury. Fire, through arson or other means, could lead to injury or loss of life, and disperse asbestos-containing debris over the nearby community. Two abandoned mills in nearby towns recently burned (fortunately without loss of life), causing asbestos-containing debris to be scattered over a nearby community⁽⁴⁾. CT DPH has therefore determined that the site clearly poses a hazard to public health.

RECOMMENDATIONS

CT DPH recommends that the following actions be taken regarding this site:

1. The barriers to site access should be repaired and warning signs should be made more prominent.
2. The nearby residential areas should be surveyed for private wells. If wells are found, they should be tested for contamination.

PUBLIC HEALTH ACTION PLAN

Actions Planned

1. US EPA will take action to improve the fence and limit site access.

⁴In October 2000, the Brunswick Mill (in nearby Moosup CT) was ruined by fire. In August 1999, the Baltic Mill (Sprague CT) also burned. Both structures were located within six miles of the InterRoyal site.

2. CT DPH will work with the Northeast District Department of Health in responding to public health concerns and questions.
3. CT DPH will provide guidance to the Northeast District Department of Health if contaminated private wells are found.

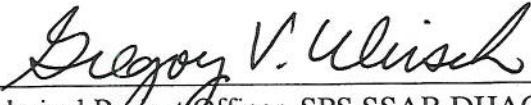
REFERENCES

ATSDR (1997). Asbestos Toxicity: Case Studies in Environmental Medicine #8. Agency for Toxic Substances and Disease Registry, Atlanta GA.

EPA (2002). Final Brownfields Targeted Site Assessment: InterRoyal Corporation Site Plainfield Connecticut. Tetra Tech NUS Inc project # N4128.

CERTIFICATION

The Health Consultation for the former InterRoyal facility, in Plainfield, Connecticut, was prepared by the Connecticut Department of Public Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the Health Consultation was initiated.



Technical Project Officer, SPS,SSAB,DHAC

The Division of Health Assessment and Consultation (DHAC), ATSDR, has reviewed this Health Consultation and concurs with its findings.



Chief, SPS, SSAB,DHAC,ATSDR

PREPARER OF HEALTH CONSULTATION

Stewart K. Chute, PhD
Toxicologist
Environmental Epidemiology and Occupational Health
Connecticut Department of Public Health

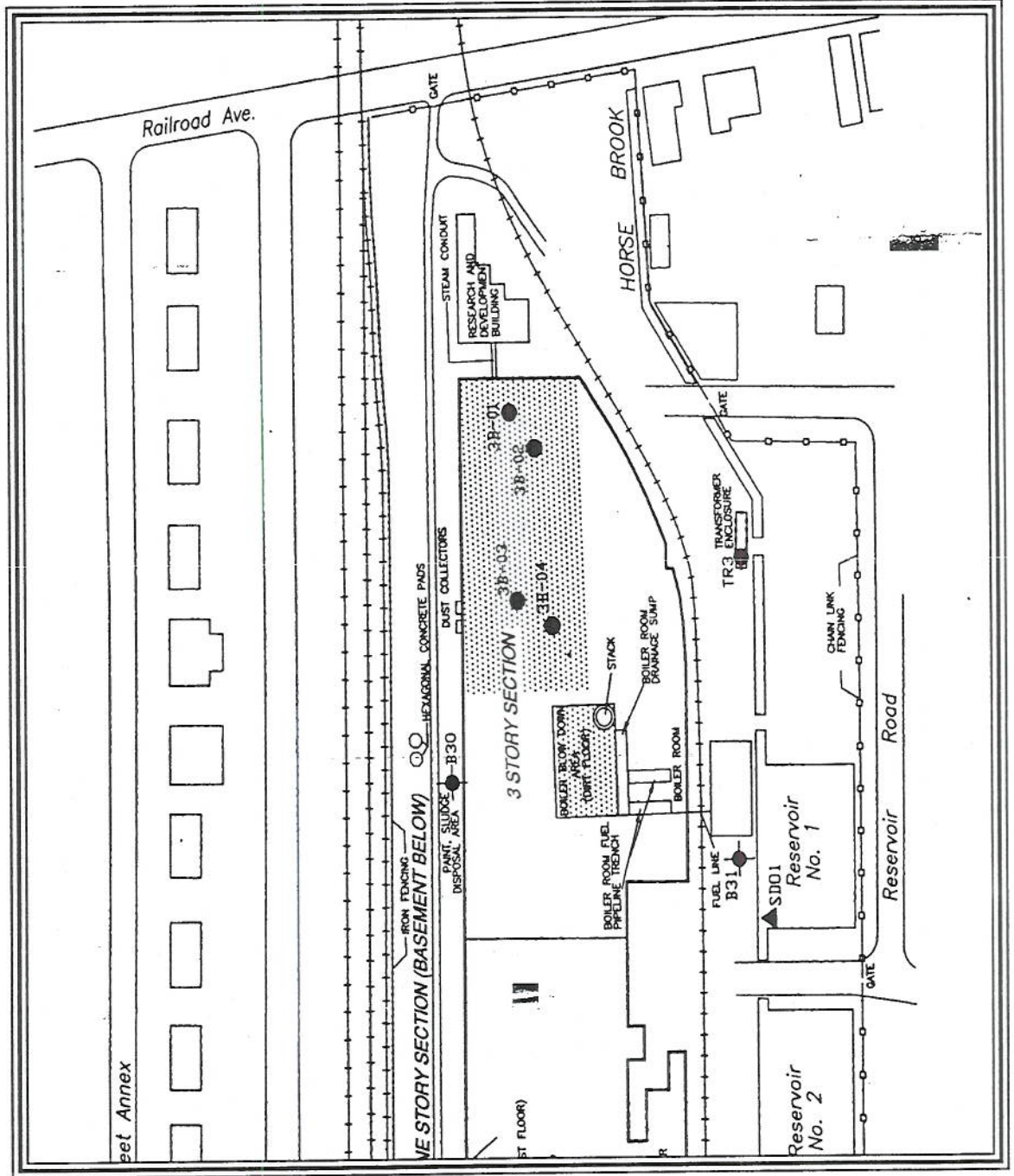
ATSDR Regional Representative:

William Sweet
EPA/New England

ATSDR Technical Project Officer:

Greg V. Ulirsch
Superfund Site Assessment Branch
Division of Health Assessment and Consultation
Agency for Toxic Substances and Disease Registry

Attachment A (continued): Diagram of the northern portion of the InterRoyal Facility with adjacent properties



Attachment B: ATSDR Public Health Hazard Categories

Category	Definition	Criteria
A. Urgent public health hazard	<p>This category is used for sites that pose an urgent public health hazard as the result of short-term exposures to hazardous substances.</p>	<p>evidence exists that exposures have occurred, are occurring, or are likely to occur in the future AND estimated exposures are to a substance(s) at concentrations in the environment that, upon short-term exposures, can cause adverse health effects to any segment of the receptor population AND/OR community-specific health outcome data indicate that the site has had an adverse impact on human health that requires rapid intervention AND/OR physical hazards at the site pose an imminent risk of physical injury</p>
B. Public health hazard	<p>This category is used for sites that pose a public health hazard as the result of long-term exposures to hazardous substances.</p>	<p>evidence exists that exposures have occurred, are occurring, or are likely to occur in the future AND estimated exposures are to a substance(s) at concentrations in the environment that, upon long-term exposures, can cause adverse health effects to any segment of the receptor population AND/OR community-specific health outcome data indicate that the site has had an adverse impact on human health that requires intervention</p>
C. Indeterminate public health hazard	<p>This category is used for sites with incomplete information.</p>	<p>limited available data do not indicate that humans are being or have been exposed to levels of contamination that would be expected to cause adverse health effects; data or information are not available for all environmental media to which humans may be exposed AND there are insufficient or no community-specific health outcome data to indicate that the site has had an adverse impact on human health</p>
D. No apparent public health hazard	<p>This category is used for sites where human exposure to contaminated media is occurring or has occurred in the past, but the exposure is below a level of health hazard.</p>	<p>exposures do not exceed an ATSDR chronic MRL or other comparable value AND data are available for all environmental media to which humans are being exposed AND there are no community-specific health outcome data to indicate that the site has had an adverse impact on human health</p>
E. No public health hazard	<p>This category is used for sites that do not pose a public health hazard.</p>	<p>no evidence of current or past human exposure to contaminated media AND future exposures to contaminated media are not likely to occur AND there are no community-specific health outcome data to indicate that the site has had an adverse impact on human health</p>