

Psychological and Social Impacts Associated with Contamination from the Woolfolk Chemical Works Plant in Fort Valley, Georgia

Prepared for
William A. Pannell P.C.
2695 Buford Highway
Suite 100
Atlanta, Georgia 30324

by
Paul Slovic, Theresa Satterfield, C. K. Mertz, and James Flynn
Decision Research
1201 Oak Street
Eugene, Oregon 97401

September 4, 1996

Table of Contents

1.0 Objectives of the Study	1
2.0 Content of the Survey	2
2.1 Open-ended Questions	3
2.2 Stress-related problems	4
2.3 Feelings and descriptions	4
2.4 Restricted activities	5
2.5 Health problems	6
2.6 Concerns	6
2.7 The property buy-out plan	7
2.8 Relocation	7
2.9 Communication	7
2.10 Testing	7
2.11 General questions about the plant	8
2.12 General questions about the neighborhood	8
2.13 General questions about personal opinions	8
2.14 Questions about life in general	8
2.15 Controlling for Bias	9
3.0 Implementation of the Survey	9
4.0 Results: The Psychometric Paradigm	11
4.1 Characterizing perceptions of risk from the plant	11
4.2 Trust in EPA's risk-management efforts	12
5.0 Results: Disruption of the Meaning and the Experience of Home and Neighborhood	16
5.1 The meaning of home	17
5.2 Word and image association ratings	18
5.3 Word/Image associations: soil	19
5.4 Activity restrictions	20
5.5 Explanations of current residence	22
6.0 Scaled, Affective Responses to Neighborhood Stimuli .	23
6.1 Scaled, affective responses: group differentiation	24
7.0 Stress-Related Problems	25
8.0 Health Problems	26
9.0 Retrospective Interpretations	27
10.0 Discussion and Conclusions	27
References	31

Table of Contents, continued

Tables

Figures

Appendixes:

A. Remediation Figures

B. Survey Instruments

C. Background Study

I.0 Objectives of the Study

In February of 1996 a study of current and prior residents of the neighborhood adjacent to the Woolfolk Chemical Works Plant (a.k.a. Canadyne, a.k.a. SureCo, a.k.a. the Dust House) in Fort Valley, Georgia was commissioned to assess psychological and social impacts stemming from the above-named chemical plant.¹

All aspects of the study were informed by the collective expertise of the study team and by extant peer-reviewed literature, on the subject of the perception of risk (especially toxicological risk) and the human experience of contamination (e.g., Edelstein, 1988; Kraus, Malmfors, & Slovic, 1992; Slovic, 1987). The study had the following, specific objectives:

1. To interview all adult plaintiffs in the Jacob's Alley case as well as all adult plaintiffs in at least one of six related cases whose property (or properties) had been tested for contaminants;
2. To examine specific expressions of perceived risk, particularly those which relate to fear, dread, control, uncertainty and trust;
3. To obtain individual respondents' perceptions and qualitative evaluations of home, neighborhood, community, and plant;
4. To examine affective and emotive responses to neighborhood and residential stimuli;
5. To record respondents' thinking and concerns about their past, current and future health, as well as general feelings regarding peace-of-mind;
6. To record self-reported signs of emotional and physical distress;
7. To obtain information about interviewees' experiences and opinions about testing for contaminants, damage remediation, and lay/expert communication.

¹The plant will hereafter be referred to simply as "the plant" or the "WCW plant" except when excerpting text directly from the survey instrument.

2.0 Content of the Survey

The survey was designed by Decision Research, a nonprofit research group located in Eugene, Oregon. Decision Research specializes in studies of how people respond to, perceive, judge, and make decisions about technological, environmental, and health risks.

The survey itself drew heavily on the study team's expertise, extant literature, and related measurement techniques, as well as an extensive background study. The core of the background study consisted of approximately 12 ethnographic interviews, conducted with residents of the plant neighborhood. All interviews were held in Fort Valley in February and March 1996 by a trained ethnographer-interviewer and member of the Decision Research study team.

Interviews lasted from one to three hours. All interviews were open-ended, providing ample opportunity for interviewees to express a comprehensive range of thoughts, feelings, and experiences pertinent to contamination events in the plant neighborhood. This technique is structured such that ideas and responses are elicited in the absence of heavy-handed or confining guidance on the part of the interviewer. The method has a long history in the social sciences, particularly cultural anthropology, and is often employed both as a method in its own right and as an important tool for survey design (Denzin & Lincoln, 1994).

There were two forms of the final structured survey-questionnaire. Form 1 was designed for people who currently own property in the plant neighborhood or live in the neighborhood. Form 2 was designed for all prior residents who do not currently own property or live in the neighborhood. Both forms of the survey were quite similar. The distinction between current ownership or residence vs. prior residency simply necessitated changes in the wording of some items. The following sections briefly describe the survey content in the order in which it appeared in the questionnaire.

2.1 Open-ended Questions

The survey began by eliciting the respondent's images or verbal associations to each of three stimuli: The interviewer began by saying "I'm going to mention certain things, I want you to tell me what comes to mind when that thing is mentioned (it could be a word or it could be an image) . . . The point is to tell me the first words/ideas that come to mind." The three stimulus phrases were:

1. "What words or ideas come to mind when you see the newly fenced-in vacant lots in the Woolfolk Plant neighborhood?"
2. ". . . the soil in the yard of your home or property in the Woolfolk Plant neighborhood?"
3. ". . . the dust inside your home (or attic) in the Woolfolk Plant neighborhood?"

Respondents gave up to three responses to each phrase. After all responses were provided, the interviewer reread each response and asked the respondent to rate the response on the following scale:

- very bad (-2)
- bad (-1)
- good (+1)
- very good (+2)
- or neutral (0)

Next, the interviewer read five sentences, asking the respondent to "finish the sentences in your own words." These sentences were:

1. "My house in the Woolfolk Plant neighborhood feels to me like:_____."
2. "In the last two-and-a-half years, the Woolfolk Plant neighborhood has begun to look to me like:_____."

3. "When I think about playing in the ditch near the Woolfolk Plant as a child, I think:_____."

4. "When I think about the Woolfolk Plant, I think:_____."

5. "When the wind blows the dirt and dust in the Woolfolk Plant neighborhood, I think about:_____."

A final set of open-ended responses asked residents only to "Please list up to three reasons that best explain why you currently live in the Woolfolk Plant neighborhood."

2.2 Stress-related problems

In the first structured segment of the survey interview, respondents were read a list of 30 "symptoms or problems" and asked to indicate those that "bother you a lot." These problems included headaches, chest pain, nausea, confusion, feeling afraid, feeling tense, and so on. After this task was completed, the interviewer asked, for each problem said to bother the respondent "a lot;" "Would you say that this problem is cause by the plant?"

2.3 Feelings and descriptions

The next series of items asked people to describe their emotional reaction to certain things or places in the plant neighborhood. Specifically, the stimulus items were

1. the ditch
2. the neighborhood drinking water
3. the dust inside your home
4. the newly fenced-in areas
5. the soil in the yard of your house(s) (or property).

For each item, respondents were asked: "When you think about [item], how does it make you feel?" Their answers were recorded on each of six scales. The first scale was safe vs. unsafe, as follows:

*Psychological and Social Impacts Associated with Contamination from the
Woolfolk Chemical Works Plant in Fort Valley, Georgia*

- very safe
- slightly safe
- slightly unsafe
- very unsafe
- a little of both
- don't know/no answer
- doesn't apply

The remaining five scales, following the same format, dealt with feeling:

- sad vs. happy
- calm vs. angry
- healthy vs. unhealthy
- clean vs. dirty, and
- peaceful vs. upset,

all in regard to the various stimulus items (e.g., "the ditch").

2.4 Restricted activities

Respondents who currently live in the plant neighborhood were asked whether there were some things that they find themselves unable to do around the home or in the neighborhood because they are worried about contamination from the Woolfolk Plant. Items included activities such as flower gardening, opening one's windows on a breezy day, sitting in one's yard on a nice day, and so on. For each item, the respondent was asked whether or not he or she does the activity less often because of the plant. Whenever the response was affirmative, the respondent was later asked how

much they missed the activity in their daily life (possible answers: "I don't miss it," "I miss it slightly," or "I miss it a great deal").²

Respondents who do not live in the plant neighborhood were given a slightly different version, asking them whether or not any of these activities should be avoided if one were to visit the neighborhood or rent property there. Affirmative responses were followed by a question asking how much it bothered them that the activity needed to be avoided.

2.5 Health problems

Respondents were asked to rate the likelihood that each of 22 different health problems (e.g., heart problems, ulcers, cancer, asthma, etc.) in the neighborhood are caused by contamination from the Woolfolk Plant. The response scale was "very likely," "somewhat likely," "not likely," and "don't know."

2.6 Concerns

Respondents were read four items dealing with health concerns (e.g., "effects of the Woolfolk Plant on my health"). After each item was read, they indicated whether they were "not at all worried," "slightly worried," or "worried a lot" about the item.

Four additional items were read and respondents were asked to indicate whether they were "not at all upset," "slightly upset," or "upset a lot" about the item (e.g., "the loss of old trees and gardens in the plant neighborhood").

² The second questions, when the initial response was "yes," were posed **after** the initial activity questions. See appendix B for the exact wording of this question.

2.7 The property buy-out plan

Respondents were asked whether or not they had heard about the effort made by the WCW plant to purchase contaminated property from people living near the plant. If they said “yes,” they were asked whether or not they agreed or disagreed with five statements such as: “The Woolfolk Plant offered fair prices for houses in the neighborhood.”

2.8 Relocation

Plaintiffs who moved voluntarily or were moved permanently as a result of contamination were asked whether they agreed with six statements such as “I was given enough time to prepare for the move” and “The problems created by having to relocate were so difficult that they caused me lasting distress.”

Similar questions were asked of persons who had to temporarily relocate during the clean-up procedures.

2.9 Communication

Respondents were asked whether or not they agreed with four statements pertaining to the efforts of the EPA to communicate with people about the contamination from the Woolfolk Plant. For example: “They told me the same thing they told everyone else” or “I could understand any written information given to me.”

2.10 Testing

Eight questions were asked to determine the respondent’s degree of agreement with statements regarding EPA-sponsored testing in the Woolfolk Plant neighborhood. For example: “The EPA did a good job of testing for contaminants in the neighborhood” or “I trust the opinions of EPA’s experts responsible for chemical testing in the neighborhood.”

2.11 General questions about the plant

Six items assessed the degree of agreement with statements pertaining to the plant: for example, "The economic benefits (e.g., jobs, commerce, etc.) the Woolfolk Plant brings to the plant neighborhood are more important than health risks caused by the plant." Another question asked about the respondent's level of knowledge about the plant's risks when he or she moved into the neighborhood.

2.12 General questions about the neighborhood

Six questions about the plant neighborhood included a rating of it as a place to live and questions designed to elicit whether exposure to arsenic from the plant was voluntary or involuntary and whether it was fatal for some residents. Voluntariness and fatality have been found to be important characteristics of the perception and acceptance of risk in psychometric studies (Slovic, 1987).

2.13 General questions about personal opinions

Sixteen questions (all with an agree/disagree format) elicited the respondent's personal opinions on a variety of issues. Some of them were additional psychometric characteristics such as **control** (e.g., "I don't feel as though I have any control over the risks to my health caused by the Woolfolk Plant), **uncertainty** (e.g., "The fear of not knowing what will happen to my health because of the Woolfolk Plant is a very big worry for me"), and **dread** (e.g., "thinking about the risks . . . gives me a creepy, frightened feeling"). Other statements in this section referred to regrets about having lived in the plant neighborhood or having raised children there, the effects of worry about the contaminants from the plant, and concerns about the loss of property value because of the plant.

2.14 Questions about life in general

The final five items in the survey asked for agreement or disagreement with items pertaining to worldviews such as fatalism ("I feel that life is like a lottery . . .") or political efficacy ("I don't worry about politics because I can't personally influence things

very much"). These items were included for experimental purposes and do not pertain to this report.

2.15 Controlling for Bias

The above description of the survey instrument refers, in part, to efforts taken to eliminate opportunities for response bias—a difficult task in an already controversial social context. These efforts are concisely summarized below.

All open-ended (word associations and sentence-completion tasks) items preceded the closed-ended items and thus provided opportunities for respondents to speak in their own words, unfettered by the phrasing and context of subsequent items.

Messick (1967) has argued that respondents are sometimes inclined to agree (or acquiesce) with the statement provided. A strong effort to account for this agreement bias was made during the instrument design phase by seeking a balance between the number of positively and negatively phrased questions without compromising the content areas already determined by the background study. There are 54 statements to which respondents might agree or disagree in survey sections G through O. (This number does not include 7 experimental items not used in this report.) The opportunity for agreement bias was potentially available in 24 of 54 questions. Alternately, respondents needed to actively disagree with the statement provided on 26 of 54 questions in order to respond in a manner indicative of the findings uncovered during the background study. Four of the 54 agree/disagree items were neutral in that either response might be expected.

3.0 Implementation of the Survey

A group of African-American educators residing in the Fort Valley, Georgia area were trained by the Decision Research study team to administer the survey instrument. Training was augmented by regular phone and mail contact with the interviewing team's designated crew leader. We selected this group of interviewers

based on our knowledge of their experience and capability. Most of the interviewers had recently been trained to conduct a series of complicated property-valuation interviews and thus had developed technical skills directly pertinent to our data-collection efforts. Also important was the fact that this group of interviewers was removed from any legal or activist dimensions of the case, yet culturally sensitive to the particulars of the mostly African-American neighborhood.

The target population for the study was current and past residents of the plant neighborhood, 18 years of age and older, who are plaintiffs in one of the seven cases. A total of 206 persons were interviewed, one at a time; 114 of these respondents lived in the neighborhood adjacent to the plant at the time of the interview; 29 had moved (voluntarily or involuntarily) due to contamination concerns, 65 were prior residents who moved before news of contamination, and 5 respondents owned property in the plant neighborhood but had never lived there. In the following results sections (4.0 – 9.0), all of the subgroups are combined for a total portrait except where otherwise noted.

Approximately 20 respondents were randomly assigned to each member of the interviewing team. Interviewers were then responsible for contacting, scheduling, and conducting each interview.³ All interviews were conducted in rooms made available at Usher's Temple C.M.E. Church, which is situated in the heart of the plant neighborhood. Interviews were conducted in respondents' homes only when necessary. All interviews were conducted in person with the exception of three of the interviews that were conducted over the telephone due to geographic distance or scheduling conflicts. These telephone interviews were completed by a member of the Decision Research study team. All data were collected during June and July 1996.

³Two members of the research team (Slovic and Satterfield) also conducted ten of these one-to-one interviews in Fort Valley, Georgia.

4.0 Results: The Psychometric Paradigm

4.1 Characterizing perceptions of risk from the plant

The study of human perceptions of risk has long been informed by the psychometric paradigm, one of the dominant approaches in the field of risk studies (Krimsky & Golding, 1992). Research within this paradigm has shown, consistently and with quantitative precision, that if a chemical, hazard, or technology is perceived by the public as possessing certain characteristics then that same hazard is likely to be fundamentally dreaded or feared. For instance, if a person thinks that they cannot control their exposure to a hazard or its effects, if they perceive exposure to the hazard as fatal, if they believe the risks the hazard poses are not easily reduced, if they believe that the benefits the activity (chemical, technology, etc.) provides do not outweigh its dangers, if they think that the impact of the risk is not certain or clearly knowable, or if the hazard evokes an emotional quality of dread (e.g., as cancer does), then the risk will be perceived as high and unacceptable (Slovic, 1987, 1992; Slovic, Fischhoff, & Lichtenstein, 1979, 1985). When these kinds of perceived characteristics are present, exposure to a particular hazard is likely to be profoundly feared and, consequently, to generate a high degree of anger and psychological distress, to produce deep concern about the impact of the hazard on one's health, to elicit a negative response on a basic affective level, and to stigmatize the locale (home, neighborhood, etc.) in which the contaminants are found or thought to reside (Gregory, Flynn, & Slovic, 1995; Slovic, Layman, & Flynn, 1991).

A set of questions in the survey explored these dimensions and provides the foundation on which related responses to contamination in Fort Valley, Georgia can be understood. Figures 1 – 6 represent plaintiffs' responses to those questions involving key psychometric dimensions of risk.

[Figures 1 – 6, "Psychometric Dimensions"]

Responses to these survey items indicate that 91.7% of past and present residents of the neighborhood adjacent to the WCW plant were unaware of the risks posed by the plant before moving into

the neighborhood. Between 93.2% and 97.1% reported being worried about or fearing the unknown consequences of contamination with regard to their own health or the health of loved ones (Figure 1).

Similarly, 78.1% of respondents failed to perceive that they had any control over the health risks posed by the plant, and 86.4% flatly denied accepting their exposure to arsenic contamination from the plant as voluntary. A clear majority of respondents (57.3%) reported a lack of control over the fate of the plant itself (“people like me don’t have any say;” Figure 2).

Respondents clearly do not believe that the plant’s economic benefits outweigh the health risks it poses. Rather, 92.2% of those surveyed disagreed (82.0 % of these strongly disagreed) that economic benefits exceeded health risks when considering the WCW plant (Figure 3).

Most respondents defined the neighborhood’s exposure to arsenic and other contaminants as potentially fatal in that 85.0% of the sample believed that contaminants from the plant had caused many deaths in the neighborhood (Figure 4). Moreover, respondents appeared convinced that extant contamination in the neighborhood cannot or will not be sufficiently reduced. Eighty-eight percent of all respondents disagreed (70.9 % strongly disagreed) with the contention that in the next 5 to 10 years the contaminants will “go away and the neighborhood will return to normal.” Sixty-seven percent of all respondents failed to believe that the neighborhood could be cleaned up enough to make it safe (Figure 5).

Finally, respondents’ loss of peace of mind and sense of fear and dread was evidenced by the fact that most respondents (90.3%) felt that, while in their homes, they often wondered if they were breathing in something poisonous. Similarly, an overwhelming number of respondents (94.2%) acknowledged that thoughts about the contaminants left them with a creepy, frightened feeling (Figure 6).

4.2 Trust in EPA’s risk-management efforts

Research within the psychometric paradigm has demonstrated that trust in the people who manage a hazard and the processes

they employ also has a strong influence on perceived risk (Flynn, Burns, Mertz & Slovic, 1992; Slovic, 1993). Trust in management procedures and processes was assessed in the two sections of the survey dealing with testing and communications.

Responses to the efforts of the EPA to communicate with residents about contamination from the plant are shown in Figure 7. Respondents were not sure whether others were given the same information they themselves received (28.6% gave "don't know" responses). They tended to agree that they were treated with respect (though 24.8% disagreed). Almost half (49.0%) disagreed with a statement asserting that "my point of view was heard and given the right amount of attention." Only 27.6% agreed with this statement. About 48% agreed and 34% disagreed that they could understand any written information given them by EPA. In sum, EPA's communication efforts drew mixed reactions.

[Figure 7, "Communication"]

Responses to the testing items convey a more negative picture, as shown in Figure 8. Distrust is clearly evident in the fact that only 17% of the respondents agreed that they trusted the EPA experts responsible for clinical testing in the neighborhood whereas about 65% disagreed. About 75% agreed that they were puzzled by the pattern of contamination reported by the EPA experts, where houses near to one another were said to have different levels of safety or contamination. Only 11.8% agreed that the EPA experts took into consideration all the important ways that chemicals from the plant may have traveled into the neighborhood (71.8% disagreed). Similarly only 8.3% agreed the EPA testers did a good job (68.5% disagreed) and only 7.3% believed that the EPA dealt with the problems in a quick and satisfactory manner. Resentment of the scattered nature of EPA testing patterns was indicated by 73.8% of respondents. Because trust and satisfaction with the EPA's testing actions is so low, we would expect to find that perception of risk is high, and it is. Only 0.8% agreed that "my home or property in the plant neighborhood is safe" (86.4% disagreed).

[Figure 8, "Testing"]

Correlational analyses further demonstrate the expected link between trust in EPA experts and risk-perception impacts. A trust index was created by averaging the responses to the following

seven statements (“strongly disagree” was scored as 1, “disagree” as 2, “agree” as 3 and “strongly agree” as 4; the scoring was reversed for items marked with an “R” after the item number).

- K1R. “I trust the opinion of EPA’s experts responsible for chemical testing in the neighborhood.”
- K2. “I don’t see how one house can be contaminated, when another house nearby is said to be safe.”
- K3R. “The EPA experts took into consideration all the important ways in which chemicals from the Woolfolk Plant may have traveled into the neighborhood.”
- K4R. “The EPA testers did a good job of testing for contaminants in the neighborhood.”
- K5. “I resent the fact that some houses (or properties/land) have been tested by the EPA while others have not.”
- K7R. “EPA has dealt with the contamination problems in a quick and satisfactory manner.”
- K8R. “I think the EPA-Superfund officials were fair about setting the clean-up level for residential properties at 30 PPM (Parts Per Million).”

Each respondent received a score. The higher the score, the greater that person’s expressed trust in EPA.

Persons scoring low in their trust of the EPA held much more ominous and disturbed feelings about their home and neighborhood environment, generally associating the ditch, the dust in their home, the soil in their yard, and the fenced-in vacant lots with the following negative perceptions and emotions:

- unsafe
- sick
- sad
- dirty, and
- angry
- upset.

*Psychological and Social Impacts Associated with Contamination from the
Woolfolk Chemical Works Plant in Fort Valley, Georgia*

Lack of trust also was associated with a tendency to see most of the various health problems in the neighborhood as caused by the plant (example: $r = .22$ with asthma; $r = .36$ with leukemia). Distrust also correlated with being worried and upset about the effects of the plant on health. Persons who lacked trust in EPA were also more likely to have had bad experiences with their temporary or permanent relocations.⁴ They were also less satisfied with the process and the content of EPA's efforts to communicate with them about contamination from the plant. Finally, distrust was strongly associated with a wide variety of negative attitudes and perceptions such as:

- denying that exposure to arsenic was voluntarily accepted
- denying that the problems created by the plant will go away in 5 – 10 years
- denying that the neighborhood could be cleaned up enough to make it safe
- greater fear, worry, and stress
- greater regret over having moved into the neighborhood and raised children there
- belief that the federal and local governments do not “care about me.”

In summary, these survey results demonstrate the extreme negative perceptions of neighborhood residents and owners on all of the qualities shown by psychometric studies to be indicative of

⁴ A limited sample of affected residents were questioned about moving temporarily or permanently due to remediation processes. Their responses are reported in Appendix A.

high perception of risk and dread. In addition, the results confirm the strong link between distrust in risk managers (EPA in this case) and negative attitudes, perceptions, and risk aspects (e.g., stress, fear, worry, perceived health problems, etc.).

5.0 Results: Disruption of the Meaning and the Experience of Home and Neighborhood

Studies of the perception of risk in conjunction with efforts to characterize key dimensions of social stigmatization have investigated the manner in which areas defined as contaminated are thereafter perceived as perilous, ugly, or repulsive (Edelstein, 1986; Gregory et al., 1995; Jones et al., 1984; Slovic, Layman, Kraus, et al., 1991). Related research has documented the tendency for contamination to drastically disrupt the normal experience and meaning of home and neighborhood, and to accelerate fears about safety and health (Edelstein, 1988; Erikson, 1994; Fitchen, 1989). Much of this work has relied on images produced by word-association tasks, thereby revealing the content and thought pattern of the respondent's mind without the complication or burden of discursive language (Szalay & Deese, 1978). Others have used sentence-completion tasks to reveal the ideas and feelings associated with particular stimuli (Edelstein, 1988; Erikson, 1994), or developed measures to explore the impact of a facility on the quality of life in the surrounding area (Gramling & Freudenburg, 1992). The Fort Valley research employed all of these techniques to explore the meaning of home. The open-ended items were placed at the beginning of the survey to avoid potential for being influenced by subsequent closed-ended items.

5.1 The meaning of home

Early in the survey, all respondents were asked to complete either the sentence that began: “My home feels to me like _____” (current residents or property owners), or the sentence that began: “When I think about the home(s) that I used to live in in the Woolfolk Plant neighborhood, I think about: _____.” Table 1 lists, quantifies, and thematically categorizes the responses generated by this neutral sentence stem.

[Table 1, “My home (or property) in the Woolfolk Plant neighborhood feels to me like:”]

Consistent with the responses to the psychometric dimensions outlined in section 4.1, property owners and residents (past and present) conveyed an overwhelmingly pejorative definition and experience of home. The most pervasive clustering of responses involved a sense of home as dangerous and hazardous (including fatally hazardous) to one’s health, followed by frequent mention of the experience of being trapped or imprisoned. The presence of immoderate responses like “I’m living in imminent danger—a time bomb slowly taking our lives away,” “Being sentenced to death by lethal injection,” and simply “imprisonment” or “death” speak to a profound breakdown in the expected relationship between self and home.

Fully 60.1% of responses about the way home feels to this group of individuals involved thoughts of danger, fears about health and morbidity, and expressions of entrapment. A lesser portion of responses (23.3%) include general worries, concerns about property value, specific expressions of a denigrated sense of home, as well as statements about victimization and injustice. More typically expected associations with home—feelings about family, friends, relaxation, or recreation were largely absent, encompassing only 7.3% of all responses.

5.2 Word and image association ratings

In this section, we extend the above general statements regarding definitions of home to include the home- and neighborhood-based stimuli most affiliated with contamination from the plant. This material draws from the word-association tasks defined in section 2.1. At the very beginning of the survey, respondents were asked to provide words or images that came to mind when they thought about (a) the fenced in lots, (b) the soil in the yards, and (c) the dust inside the homes or properties in the plant neighborhood. Once the images were collected we asked all respondents to rate their images or word-association responses using the five-point “very good—very bad” affective scale described in section 2.1.

Figure 9 displays the affective ratings for each of the three image questions. What emerges here is a negative portrait of key physical spaces reflecting contamination concerns and events in the plant neighborhood.

[Figure 9, “Image Ratings”]

A preponderance of respondents assigned a very negative rating to the images they had provided by affectively characterizing their images as either “bad” or “very bad.” Seventy-eight percent of respondents rated their associations with the fenced-in areas in the plant neighborhood as highly negative (“very bad” or “-2” on the affect scale), whereas 81.6% and 84.3% of respondents, respectively, rated images associated with “soil” and “dust” as highly negative. Across all three stimuli, no single item generated a combined very positive, positive, and neutral response in excess of 14.0%. The apparent absence of neutral responses, which usually include synonyms and visual or sensory descriptors (e.g., dimension, color, sound, etc.), is particularly revealing in that responses of this kind would be more common in circumstances perceived as benign or generally less threatening. There is also a logical coherence to these affective scores in that the stimuli

closest to home and thus closest to one's physical body (dust inside a house and soil immediately outside a house) are rated more negatively than more distant stimulus (such as fenced-in lots). The complete set of images provided by respondents for one stimulus ("soil") is depicted in Table 2.

[Table 2, "Images to Soil"]

5.3 Word/Image associations: soil

Responses provided by the questions: "What words or images come to mind when you think about the soil in the yard of your home or property in the Woolfolk Plant neighborhood?" (current residents and/or owners), and "What words or images come to mind when you think about the soil in the yard of the house you used to live in in the Woolfolk Plant neighborhood?" (former residents) fall into 2 major, 7 intermediate, and 14 minor content categories. These responses are included in Table 2.

Nearly one-half of the 463 images generated by this question fall into either the content category labeled "danger/contamination" ($n = 124$) or the category labeled "health/morbidity" ($n = 105$). The former set of responses speak starkly of "danger," "contamination," lack of safety, and notably, children's safety. The latter set of responses are more diverse, invoking images of cancer, death, ingestion of poison, and portraits of children playing in noxious conditions (judging by the negative ratings).

A somewhat smaller portion of the images (39%) fall into six discrete categories, each containing at least 16 and as many as 50 different images. This intermediate set of images invokes thoughts of toxicity ($n = 50$) with an emphasis on "poison," primarily though not exclusively negative aesthetic observations ($n = 32$), statements of restricted activity such as inability to garden ($n = 30$), expressions of worry and fear ($n = 27$), thoughts of the unknown

and the unknowable ($n = 26$), indications of negative affect ($n = 18$), and finally declarations of anger, upset, and sadness ($n = 16$).

The remaining images (10%) are distributed across nine content areas, each containing ten or fewer images. These incorporate statements of injustice, concerns about property value, a few distinctly positive associations, references to family, images of entrapment, and a few references to the loss of home.

The salient feature of these images and word associations, aside from their above-noted valencies and the general absence of benign synonyms or neutral descriptors, is that they resonate clearly with the psychometric dimensions outlined in section 4.1. For instance, fear, danger, thoughts of morbidity, and concerns about the unknown are dominant response categories, and thus articulate and reinforce the closed-ended questions that underlie the psychometric paradigm.

5.4 Activity restrictions

The following questions explored the extent to which residents experienced a restriction of activities, or past residents recommended an avoidance of activities, due to contamination concerns. Residents were asked the following: "Are there some things that you find yourself unable to do around the home or in the neighborhood because you're worried about contamination from the Woolfolk Plant?" The list of activities was generated during the early-phase, community study and reflects those activities interviewees spoke of missing and doing less often given news about contaminants from the plant. Figure 10 demonstrates activity avoidance attributed to the plant. Figure 11 demonstrates the degree to which the avoided activities are at all missed by individual respondents.

[Figures 10 and 11, "Activity Restrictions"]

The response frequencies reflect clear distinctions between restrictions. Residents are much more likely to avoid ordinary activities like opening a window on a breezy day (79.8%) or sitting in the yard on a nice day (74.6%) than less frequent or necessary activities such as going under the house to repair something (44.7%), going up into the attic (47.4%), or allowing children to play in the remaining exposed ditches (43.0%).

When asked which activities respondents “miss a lot,” a similar pattern emerges. Mundane activities generally associated with a pleasant sense of domestic environment are those most heartily missed (“missed a lot”). These include opening windows on a breezy day (84.6%), sitting in the yard on a nice day (74.6%), and allowing children to play in the yard (72.6%). Alternately, activities such as walking near an open ditch (29.0%), or allowing children to play in the ditch (34.7%) were “missed a lot” by a minority of respondents.

A corresponding set of questions were posed to nonresident property owners and prior residents of the plant neighborhood, although the emphasis was placed on activities that a resident or visitor might want to avoid. These respondents were read the following question: “I realize that you do not or no longer live in the Woolfolk Plant neighborhood. But if you were to visit the neighborhood or if you were thinking about those who might use or rent property in the neighborhood, should any of the following activities be avoided because of concern about contamination from the Woolfolk Plant?” The findings are displayed in Figures 12 and 13.

[Figures 12 and 13, “Recommended Activity Avoidance”]

Nonresidents differed from residents in that their resistance to many activities was even more emphatic than that recorded for residents, and the response variation across activities was less pronounced. Concern about avoiding activities that involved exposure risks to children tended to collect the higher avoidance

scores. Ninety-one percent of respondents thought that allowing children to put dirt or dust in their mouths should be avoided, 87.0% thought gardening should be avoided, and 83.7% thought children should avoid playing in the yard.

5.5 Explanations of current residence

Residents of the plant neighborhood ($n = 114$) were asked to explain their reasons for current residence (“Please list up to three reasons that best explain why you currently live in the Woolfolk Plant Neighborhood”). Together this group offered 227 discrete explanations across two major content clusters and five minor content categories. Table 3 lists the responses according to content area and number of responses.

[Table 3, “Reasons for Current Residence”]

The categories labeled *positive attributes* and *emotional attachments* comprise 57.7% of all responses and speak to the bonds that tie people and communities together. The neighborhood is defined herein as convenient, desirable (“good,” “quiet,” “I like it,” etc.) and socially beneficial (“fine neighbors”).

The categories labeled *financial* and *trapped* comprise the second-largest response category at 26.4%, a cluster of responses which incorporates thoughts of restrictive financial ties—the inability to sell property or afford housing elsewhere, as well as feelings of entrapment—the absence of alternative options (“No place to go” and “Only place I have to live now”). The residual 15% of responses vary but include circumstantial considerations (“relocating would be difficult at this time” or “live with my mother”), poor health, or a commitment to the neighborhood while concerns about contamination are being resolved.

Overall, these responses capture the ambiguity residents feel toward their established, yet compromised, environment.

6.0 Scaled, Affective Responses to Neighborhood Stimuli

Respondents were asked to report how the following neighborhood features:

- dust,
- soil,
- the ditch,
- neighborhood drinking water, and
- newly fenced-in areas

made them feel. A revised semantic-differential scale was used to gather respondents' ratings of these key neighborhood stimuli. This five-point scale ("very safe," "slightly safe," "slightly unsafe," "very unsafe," "a little of both") was used to examine feelings ranging from safe to unsafe, sad to happy, calm to angry, health to sick, clean to dirty, and peaceful to upset. Figure 14 displays the categories encompassing the highest response frequencies on all five stimuli.

[Figure 14, "Affective Responses"]

The overall portrait is powerfully negative with two clear patterns worthy of note. Feelings about safety, or in this case lack thereof, emerge as the prime pejorative response to four of the five stimuli. On the fifth stimulus (newly fenced-in areas) "upset" surpasses "unsafe" in strength by only one percentage point. Also relevant is the fact that dust inside the home (again, something associated with internal residential space and thus close to one's physical body) is described as ("feels") very unsafe by 88.3% of respondents whereas the most distant and technically secluded domain (newly

fenced-in areas) is described as “very unsafe” by 70.9% of respondents or a difference of 17.4 percentage points.

6.1 Scaled, affective responses: group differentiation

Because the soil and dust around and inside some properties has been cleaned, we compared residents with cleaned properties ($n = 30$) to residents with uncleaned properties ($n = 74$) on these affective items. Figure 15 captures the responses to the stimuli “soil” and “inside dust.”

[Figure 15, “Affective Responses (Group Variation)”]

Strong and consistent differences emerge across these two groups such that those with cleaned properties are universally and much less likely to feel very unsafe, upset, angry, dirty, sad or sick. Four of the 12 possible difference scores are 20.5 percentage points or greater, four are greater than 17 percentage points, and the remaining four all involve a difference of at least 10.3 percentage points. At the high end, a difference of 26.5 percent emerges concerning the perceived safety of soil. Moreover, residents with uncleaned property rated their soil (93.2%) and dust (91.9%) as “very unsafe,” scores that were not surpassed by any other response category.

7.0 Stress-Related Problems

Figure 16 presents the responses to the question “Do any of the following [symptoms or problems] bother you a lot?” “Feeling low in energy or slowed down” led the list, with 85.4% of the respondents saying that this problem bothered them a lot. Lower back pain, and headaches also troubled more than two-thirds of the respondents. At the low end, feeling critical of others and having a poor appetite were reported by one-fourth or less of the sample.

[Figure 16, "Stress-Related Symptoms"]

Those who indicated that a particular symptom or problem bothered them a lot were subsequently asked whether they would "say that this problem is caused by the plant." The response percentages are shown in the middle column of Figure 16 and in Figure 17.

[Figure 17, "Stress and the Attribution of Cause"]

Feeling trapped (77.2%), feeling hopeless about the future (74.3%), and having trouble getting one's breath (73.4%) were the problems most frequently attributed to the plant by those who were bothered a lot by the problem. Blaming oneself (40.3%), having easily hurt feelings (38.6%), and feeling that "others don't understand you" (35.6%) were the items least often attributed to the plant. Figure 17 also shows that relatively few individuals responded "no" to the plant attribution question but another steady 30 - 45% said that they did not know whether the plant was the cause.

The right-hand column of Figure 16 shows the percentage of the total sample who attributed the symptom or problem to the plant, taking into account both those who said the problem bothered them and the plant was the cause (calculated by multiplying the percentage in the first two columns). Across all respondents, 50.5% attributed bothersome low energy levels to the plant. Trouble breathing and headaches also were attributed to the plant by more than 40% of the sample. At the low end were temper outbursts (12.1%) and being critical of others (12.1%).

8.0 Health Problems

Two sets of items dealt directly with health problems. One series of four questions asked the degree to which the respondent worried about children in the neighborhood being born with birth defects

(88% worried a lot about this) and the degree to which the respondent worried about the impact of the plant on “friends and family still living near the Woolfolk plant,” on “my future health,” and on “my health” (now). Between 83% and 87% of the respondents claimed these various health aspects worried them a lot (see Figure 18).

[Figure 18, “Sources of Concern”]

Figure 19 presents the response distribution to the question: “How likely do you think it is that the following health problems in the neighborhood are caused by contamination from the Woolfolk Plant?”

[Figure 19, “Health Problems Attributed to the Plant”]

Six problems stand out as being judged “very likely” (caused by the plant) by more than three-fourths of the respondents. These were skin diseases, asthma, other breathing problems besides asthma, cancers, severe allergies, and birth defects. A dozen other health effects ranging from heart problems (59%) to severe flu (35%) were judged by more than one-third of the respondents as being caused by the plant. There is a clear break in the “very likely” scores between the top six health problems attributed to the plant, and the remaining 16 items. And almost no one, for instance, believed AIDS was caused by the plant and few believed that drug and alcohol problems were.

9.0 Retrospective Interpretations

The final set of responses reported herein begin to capture a less tangible impact, though an impact frequently revealed during the interviews that were integral to the background study. The questions below speak to the extent to which the prospect of contamination introduces a kind of reinterpretation of one’s life

and one's health such that those affected are characterized by an nagging sense of "if only . . ." or a wish to redo past events. Figure 20 looks at responses to questions distinctly *retrospective* in nature.

[Figure 20, "Retrospective Interpretations"]

At least 82.5% of respondents, on five of six questions, expressed some degree of upset or conviction that lives might have been easier, illnesses might have been avoided and children might have avoided harm had "they" (respondents) only *known* about the plant, had "they" only lived or raised children in a different environment. The lone exception ("I can't stop wishing that I hadn't raised my children . . .") collected only 66.5% agreement, largely because the question did not apply to 28.2% of respondents.

10.0 Discussion and Conclusions

Toxic emergencies and technological disasters have been called, among other things, "a new species of trouble" (Erikson, 1994). The phrase refers to the sharp differences in experiences reported by victims of contamination, as opposed to those suffering in response to "acts of god," a hurricane or a flood for instance. A productive two decades of research has revealed the extent to which toxicological or technological hazards inspire a deep-seated dread, disrupt communities, and severely impair peace of mind (Edelstein, 1986, Erikson, 1990, 1994; Kraus et al., 1992; Slovic et al., 1979, 1985). At least two features of toxics contribute to these human responses. One feature is the unknowability and uncertainty of most toxic risks (Slovic, 1987). Another is that contamination can begin long before those impacted are aware of their presence, yet the contaminants often linger indefinitely, remain invisible, and thus are intuited as ghostlike and haunting. As Erikson puts it, episodes of accidental contamination create so much alarm because they ". . . never end. Invisible contaminants

remain a part of the surroundings—absorbed into the grain of the landscape, the tissues of the body, and, worst of all, into the genetic material of the survivors. An ‘all clear’ is never sounded. The book of accounts is never closed” (Erikson, 1990, p. 121).

This survey has carefully and consistently quantified these kinds of experiences and responses with regard to past and present residents of the WCW plant neighborhood to contamination. Our results are briefly summarized below.

Section 4.1 opened with a reference to the psychometric paradigm in which we document the extent to which respondents reported a lack of control over the contaminants and their consequences, a perception that the contaminants are persistent over time and fatal, and a strong conviction that exposure to the contaminants was involuntary. Findings in results section 4.2 also substantiated the breadth of distrust voiced on the subject of testing and the conviction that contaminants would not dissipate in the long term. A considerable body of prior work has concluded that these sorts of beliefs and perceptions are likely to produce profound fear and dread (documented in section 4.1), considerable worry about health-related problems (documented in section 8.0), and signs of stress similar to those documented in section 7.0 (Edelstein, 1986; Erikson, 1990; Freudenburg & Jones, 1991; Slovic 1987, 1992, 1995; Slovic et al., 1979, 1985). Response patterns on these stress and health items are varied and demonstrate respondents’ willingness to make clear distinctions about impacts despite the opportunity to attribute impacts to the plant. Respondents also expressed many of these characteristics of perception in their own words when completing the survey’s opening sequence of image/word-association and sentence-completion tasks. They did so without the prompts inherent in closed-ended questions (these results are detailed in sections 5.2 and 5.3). Articulations of fear, images of fatality, and concerns about health were especially prevalent. The image responses are particularly relevant in that this technique has a long and well-documented history in the social and behavioral sciences. Szalay and Deese (1978) have

concluded that word/image associations are not erratic or whimsical, rather they are stable and clearly reflect individual thinking and experiences (see also Slovic, Layman, & Flynn, 1991).

Despite the neighborhood's positive attributes (mainly convenience and affordability) and respondents' expressed ties to community, a failure to feel safe in one's home and neighborhood permeates responses to the open-ended items (again, sections 5.2 and 5.3) as well as the closed-ended, affective responses detailed in section 6.0. This decayed sense of safety within and around one's home is well-documented here in the Fort Valley context as well as in numerous parallel contexts. Specifically, contamination has proved to drastically disrupt the normal experience and thus meaning of home and neighborhood (Edelstein, 1986, 1988; Erikson, 1994; Fitchen, 1989; Jones et al., 1984). We speak here of the destruction of implicit and explicit definitions of home as a place that promises safety for self and family, home as reflective of one's identity, home as an affective anchor in an otherwise chaotic world, home as a source of privacy, and home ownership as a symbol of economic and cultural sufficiency ("the American dream"). Ultimately, contamination can result in the stigmatization of neighborhoods or geographic regions such that negative associations with contaminated areas persist and thus cause concerns about risks to health and the environment to escalate (Edelstein, 1988; Gregory et al., 1995; Jones et al., 1984; Slovic, Layman, Kraus, et al., 1991).

Disruption of the expected relationship between resident, home, and neighborhood can also involve a change in the ways in which one moves through the world, and conducts the errands of life—what some have called the disruption of normal *lifeways* (Edelstein, 1988). This impact is well-documented in section 5.4. Respondents reported altering their domestic routines and movements within the neighborhood, yet were able to distinguish between activity restrictions that were extremely bothersome versus those that were less troublesome. Again, well before these closed-ended "activity restriction" questions were answered by

*Psychological and Social Impacts Associated with Contamination from the
Woolfolk Chemical Works Plant in Fort Valley, Georgia*

survey respondents, the inability to carry out certain domestic tasks (e.g., gardening, yard maintenance, and recreation, etc.) was voiced by a large number of respondents during the initial, open-ended portion of the survey. In the Fort Valley context, many respondents have come to experience their habitat (the neighborhood and life therein) as a habitus—an area associated with disease, fear, and danger. Immediate (plant-adjacent) neighborhoods or environs are thought of as haunted by contaminants not quite tangible, not quite visible, but vaguely associated with dust and water and air and nonetheless lurking.

In conclusion, the respondents indicated a deep and comprehensive experience of fear, dread, distress and the disruption of home and neighborhood. Most are clearly torn between a lifetime's knowledge of a rooted, convenient, and close-knit community, and the burden of feeling haunted, unsafe, and trapped by circumstances beyond their control. Importantly, respondents also made clear and sensible distinctions regarding impacts; theirs is not a blanket condemnation despite the overwhelming portrait of horror that resonates throughout the survey.

References

- Denzin, N. K., & Lincoln, Y. S. (Eds.). (1994). *Handbook of qualitative research*. Thousand Oaks, CA: Sage.
- Edelstein, M. (1986). *Stigmatizing effects of toxic pollution* [Unpublished manuscript], Ramapo, NJ: Ramapo College, Department of Psychology.
- Edelstein, M. (1988). *Contaminated communities: The social and psychological impacts of residential toxic exposure*. Boulder, CO: Westview.
- Erikson, K. (1990, January-February). Toxic reckoning: Business faces a new kind of fear. *Harvard Business Review*, pp. 118-126.
- Erikson, K. (1994). *A new species of trouble: The human experience of modern disasters*. New York: W. W. Norton & Company.
- Fitchen, J. M. (1989). When toxic chemicals pollute residential environments: The cultural meanings of home and homeownership. *Human Organization*, 48(4), 313-324.
- Flynn, J., Burns, W., Mertz, C. K., & Slovic, P. (1992). Trust as a determinant of opposition to a high-level radioactive waste repository: Analysis of a structural model. *Risk Analysis*, 12, 417-430.
- Freudenburg, W., & Jones, T. R. (1991, June). Attitudes and stress in the presence of technological risk: A test of the supreme court hypothesis. *Social Forces*, 69(4), 999-1024.

*Psychological and Social Impacts Associated with Contamination from the
Woolfolk Chemical Works Plant in Fort Valley, Georgia*

- Gramling, R., & Freudenburg, W. (1992). Opportunity-threat, development, and adaptation: Toward a comprehensive framework for social impact assessment. *Rural Sociology*, 54(2), 216-234.
- Gregory, R., Flynn, J., & Slovic, P. (1995). Technological stigma. *American Scientist*, 83, 220-223.
- Jones, E. E., Farina, A., Hastorf, A. H., Markus, H., Miller, D. T., Scott, R. A., & French, R. d., S. (1984). *Social stigma: The psychology of marked relationships*. New York: W. H. Freeman.
- Kraus, N., Malmfors, T., & Slovic, P. (1992). Intuitive toxicology: Expert and lay judgments of chemical risks. *Risk Analysis*, 12, 215-232.
- Krimsky, S., & Golding, D. (1992). *Social theories of risk*. Westport, CT: Praeger-Greenwood.
- Messick, S. (1967). The psychology of acquiescence: An interpretation of research evidence. In I. A. Berg (Ed.), *Response set in personality assessment* (pp. 115-145). Chicago: Aldine.
- Slovic, P. (1987). Perception of risk. *Science*, 236, 280-285.
- Slovic, P. (1993). Perceived risk, trust, and democracy: A systems perspective. *Risk Analysis*, 13, 675-682.
- Slovic, P. (1995). The construction of preference. *American Psychologist*, 50, 364-371.
- Slovic, P., Layman, M., & Flynn, J. (1991). Risk perception, trust, and nuclear waste: Lessons from Yucca Mountain. *Environment*, 33, 6-11, 28-30.

*Psychological and Social Impacts Associated with Contamination from the
Woolfolk Chemical Works Plant in Fort Valley, Georgia*

Slovic, P. (1992). Perception of risk: Reflections on the psychometric paradigm. In S. Krimsky & D. Golding (Eds.), *Social theories of risk* (pp. 117-152). New York: Praeger.

Slovic, P., Fischhoff, B., & Lichtenstein, S. (1979). Rating the risks. *Environment*, 21(3), 14-20, 36-39.

Slovic, P., Fischhoff, B., & Lichtenstein, S. (1985). Characterizing perceived risk. In R. W. Kates, C. Hohenemser & J. X. Kasperson (Eds.), *Perilous progress: Technology as hazard* (pp. 91-123). Boulder, CO: Westview.

Slovic, P., Layman, M., Kraus, N., Flynn, J., Chalmers, J., & Gesell, G. (1991). Perceived risk, stigma, and potential economic impacts of a high-level nuclear waste repository in Nevada. *Risk Analysis*, 11, 683-696.

Szalay, L., & Deese, J. (1978). *Subjective meaning and culture: An assessment through word associations*. Hillsdale, NJ: Erlbaum.

Tables

Table 1. My home (or property) in the Woolfolk Plant neighborhood feels to me like:"

Table 2. Images for Soil in Yard of Home or Property

Table 3. Reasons for Current Residence

Table 1

My home (or property) in the Woolfolk Plant neighborhood feels to me like: _____¹

or

When I think about the home I used to live in in the Woolfolk Plant neighborhood, I think about: _____²

(Total number of responses = 193)

Danger

(Group 1)

I am in an unsafe area.

I'm living in a time bomb.

I'm living in imminent danger a time bomb slowly taking our lives away.

Unsafe to live there and I'm uncomfortable.

Dangerous places.

A contaminated place. It isn't safe.

It's not safe to me.

An open time bomb.

It's contaminated.

I don't want to stay there. Somebody did one wrong to put poison in the soil.

Living in danger.

An unsafe place to live.

Suffocating in poison.

It's unsafe to live there.

Living in danger. Drinking contaminated water.

An unsafe area because of the dangerous chemicals in the area.

Unsafe - if I had the money I would move out of Fort Valley.

I'm living in danger.

I'm living in danger.

It's in danger.

People living here are living in danger healthwise.

It's unsafe and unclean to live in.

Something dangerous to my health.

I'm unsafe living in the house, affects my health.

Unsafe to live there.

The home is unsafe but I have been there a long time, raised my children and feel that it won't help me any to leave.

Unsafe place to live.

A disaster area.

It is unsafe and dust house.

Being sentenced to death by lethal injection.

I'm in a danger zone.

It's life threatening.

It's unsafe, I'm angry, and regretful.

¹ N= 132, respondents who currently reside and/or own property in the plant neighborhood.

² N= 74, respondents who used to, but no longer live in the plant neighborhood.

It's unsafe.
Not safe.
It's unsafe.
Feel dangerous.
Unsafe.
Unsafe to live in.
Unsafe place.
Unsafe place to be.
Living on borrowed time.
It's not liveable or safe with the contamination there.
Like it's very dangerous.
It might be unsafe.

(Group 2)

A silent killer. We did not know the danger was there.
It's a danger to me and my family's health.
I think about how dangerous it was for us to have lived there so long.
How dangerous it was to live there.
Living on land that was contaminated.
How dangerous it was living there, and not knowing about the danger.
Danger.
I think about the danger that was there and did not know it.
How dangerous the chemicals were in the community.
How we would play in the area around Woolfolk and had no idea about the danger underground.
Family - crowded - safety of the family - fear about what happened all those years.
The chemicals that were there and I didn't know it.
The exposure to deadly chemicals. We were not warned of their dangers.

N=56

Health/Morbidity

(Group 1)

It is making me feel sick.
In a hospital.
Home - but not a very happy home because of the contamination - and fences - depressing.
An unhealthy place.
Terrible. Dirty.
A place that has become a health hazard.
It's contaminated and needs to be cleaned up.
The soil contamination.
Poor place to live because of the chemicals found there.
Bad. Filthy.
I don't feel as comfortable as I used to before I found out that it was contaminated.
It's a diseased area.
How the water tastes and how it killed all our dogs - the water was turned off for a week.
It's fully contaminated.
Unhealthy - contaminated.
Death Valley.
Just living in death.
It's contaminated.

A nasty place; wondering if it's healthy.
My health.

(Group 2)

The things I went through with my eyes being watery and having a runny nose.
How I got sick. I worked in it and was born in it.
Diseases. Germs.
Health problems my family and myself being bothered with.
Death - everyone that lived in that house died of cancer.
Possibility of health problems.

I think the Woolfolk plant is a silent killer.
Contaminated land, life threatening diseases.
The contamination and the concerns that have caused death and illnesses in my family.
All the different side effects such as cancer, skin diseases that I probably may very well be affected by.
Condemned.
The exposure to arsenic.
How long can I live with contamination.
Death.
Are some of my health problems that I am experiencing now are related to my exposure to the chemicals at the Woolfolk plant.
I think about a reaction of another contamination. Never being safe.
All the good memories but had no idea it was contaminated.
The contamination there, causing us to die slowly. My mother eventually died from complications that I believe came from the plant.
Contamination from the plant.
Health might have been harmed.
Sickness, pain, death, anxiety.

N=37

Trapped/Desire to move

(Group 1)

That I'm trapped in.
I need to move.
Imprisonment.
In prison.
A prisoner in your own home.
Trapped.
Trapped and afraid.
A big "death trap".
I'm in prison.
Uncomfortable. I would relocate if able to.
Place to live until I can move.
Tap in a corner.
I am trapped.
I am trapped and no way out.
I wish I could just move it someplace else.
Being in a test tube. (small and enclosed.) Feel like an unwilling subject in an experiment.
A prison.
A burden.

(Group 2)

I think about "Death Trap". As an adult I think about my ignorance.
Leaving the area because of the deaths of four young men who grew up with him [me].
Wish we would have moved.
I wish I hadn't lived there.
I'm in jail.

N=23

\$ Value

(Group 1 only)

A worthless piece of property.
The value has changed with knowing what's there.
I made a mistake in purchasing the house.
My home doesn't have much value, it makes you wonder about whether to move fort or stay.
I feel like my home in the Woolfolk plant neighborhood has lost all of its value.
Something I have and will never be able to sell if I wanted to.
A bad investment.
I got a bad deal.
Home but I can't get the money out of it I paid for it.
I have been let down as a citizen in Fort Valley. My home was bought in 1974. I feel like what I have worked for all my life is in a state of disaster.
Also, my property value goes down.
Property that is highly depreciated in value.

Uncertainty about the future in terms of value.

(Group 2)

Loss of real estate value.
The value of the home was decreased.

N=15

Mistreatment, injustice

(Group 1)

The people have been taken advantage of.
Abandoned because my house is out here by myself.
I was mistreated.
I was mistreated.
It was "STOLEN" and I was "CHEATED".
Nobody cares about me.
No one cares anymore.
They are just hearing our concerns. Many years ago we raised our concerns and opposition to the ditch and the contents therein.
It needs to be further evaluated. EPA didn't check my yard the then came back and found high levels of arsenic.
We are a victim of circumstance where safety suspect.

(Group 2)

People did not have an interest in the welfare of the people living there.
People had no interest in the welfare of the tenants.

N=12

Loss of sense of home

(Group 1)

Doesn't feel like home.

An unfamiliar place.

It's no longer a home, I feel too unsafe.

The good times I used to have there and now they are gone because I'm further from my family.

My home and family has and still is disrupted by the effects of this contamination.

(Group 2)

How neighborhood deteriorated and basically disappeared over the years.

My friends and neighbors. Just miss the neighborhood in general.

Think about being homeless.

The space I had and more privacy and I miss living there.

It's gone.

Couldn't enjoy my house and land if I wanted to.

N=11

Other

(Group 1)

Feel like living in the jungle.

Insects are present. Wharf rats come around.

Business.

Woolfolk plant should be located to another area.

(Group 2)

I'm glad I left. I feel better where he's at.

The soil or dirt.

Was only 3 years old when she [I] lived on 204 Pine Street.

All the time we used to play in the ditch. Whenever a whistle would blow we would have to close the windows. Sometimes we would have to leave home.

Poor community moral.

N=9

Worry, concern, anxiety

(Group 1 only)

Every day I'm worried about the poison in our yard.

Each day I'm worried about the arsenic in my yard that wasn't cleared because it wasn't enough.

There was a problem with this area from the time of our arrival to that area.

I don't know what to expect from the dust - air etc.

The health and future of my children, ages 9,7,5,4,2 and 1 years of age. What will their lives be like as a result of the chemical plant.

Confusion.

Angry now. I hate it.

N=7

Family/Friends

(Group 1 only)

I miss my friends, but I'm glad I left.
My childhood and experiences are in that home.
Kids.
Growing up as a child with grandparents.
My friends.
The large family.
About my friends who live in the alley.

N=7

Fun/Relaxation

(Group 1)

What good times we used to have sitting on the porch.
When a little girl I played outside in the yard.
Sitting in my yard.
About how I played in the yard, ditch and didn't think about any harm, just fun.
Loved being there at that time.
Ditch by my house, and my father used to have a garden with green plants.

(Group 2)

Good times I had there and fun and the dinners I used to put on.

N=7

Invasion

(Group 1 only)

I've been invaded of the privacy of clean air and the ability to safely house my family.
Invasion.
It's surrounded by contamination and chemicals.

N=3

Clean-up

(Group 1 only)

It should be cleaned better than it is.
Never get solved or cleaned.

I have a better feeling about it since it's been cleaned up.

N=3

Aesthetic

(Group 1)

A dust house.
A dust house.
Full of dust, every morning it feels like I have put sulfur in my mouth.

(Group 2)
Odor.
Disgusting.

N=3

Table 2
Images for Soil in Yard of Home or Property:
 (Total Number of Images - 463)

Danger/Contamination

Cause of Danger, afraid of Children Playing in Dirt
 Children in Danger
 Children Playing in Danger
 Contaminated (21)
 Contaminated Area
 Contaminated Soil
 Contamination (25)
 Contamination of My Yard
 Danger (7)
 Danger Enclosed
 Danger I Put My Children-let Them Play out There
 Dangerous (16)
 Fumes (Dangerous)
 Harmful (3)
 Hazardous (3)
 Know That It's Contaminated
 Not Safe Sitting out in the Yard
 Not Secure
 Now Told about the Dangerous Chemicals
 Soil Contamination
 Soil Still Bad
 Soil Tainted
 Soiled-not Clean
 The Soil Is Contaminated
 The Soil Was Contaminated
 The Soil Was Not Good
 Unclean (7)
 Unclean
 Unsafe (16)
 Unsafe for Children
 Unsafe for Family
 Unsafe for the Children
 Unsafe to Plant
 What about My Kids Playing in it

N = 124

Health/Morbidity

Bad for Health
 Bad on My Pets
 Bodily Harm (2)
 Break You out with Rash
 Breathing Problems
 Cancer (3)
 Child Eating Lead Poison Soil
 Children Eating Dirt
 Children Playing in it
 Children Playing in the Yard
 Children Shouldn't Play Outside
 Dead Flowers
 Deadly
 Death (2)
 Disease (3)
 Diseases (2)

Health/Morbidity (cont.)

Do Not Grow Anything to Eat from There
 Don't Want My Children Playing in it
 Don't Want to Eat Vegetables from it
 Don't Want to Walk on it
 Drinking Water
 Dusty Vegetables in Garden
 Eating Dirt
 Eating Fish Caught with Worms
 Eating from Poison Fruit Trees
 Eating Poisoned Vegetables
 Eating Produce from the Gardens
 Eating Vegetables from Gardens
 Eating Vegetables Grown in Garden
 Fishing Worms Dug in Yard
 Food Poison
 Garden (Food Eaten)
 Gardening Unsafe
 Germs
 Hazardous to Health
 Health (6)
 Health Hazard (4)
 Health Problems (2)
 Health Risk
 Illness (2)
 Infected Soil
 Is Bad for Health
 Is Not Good to Grow Things
 Is Not Good to Walk on
 Kids Ate Dirt
 Kids Play in There
 Kids Played in Dirt
 Kids Playing in Yard
 My Child Once Played in it
 My Children Playing in it
 My Kids Playing in the Soil
 My Skin-result of it
 My Son's Condition
 Nasty (2)
 Nasty Poisoned Soil
 Not Good for Children
 Nothing Will Grow on it
 Orange Dirt
 Other Health Problems
 Planted Things That Didn't Grow
 Played in Dirt
 Pollution
 Poor for Health
 Problems in Family
 Safety (2)
 Safety Concerns
 Safety Questions-kids Getting into Contamination
 Sickness (2)
 Skin Problems
 Skin Rashes
 Someone Dying of Cancer

Health/Morbidity (cont.)

That My Mother's Cancer Came from the Soil
 That We Have Poison in Our System
 The Many Sores on Our Bodies
 The Plum & Vegetable I Ate
 Unhealthy (3)
 Unhealthy Living Condition
 Vegetable Garden Dying
 Very Bad for Everything(garden,flower) &Yard
 Plant
 Very Exposed
 Walking in My Yard
 Working in the Yard
 Working My Garden

N = 105

Toxicity

Chemical
 Chemicals (5)
 Chemicals in the Soil
 Pesticide
 Poison (24)
 Poison Dirt
 Poison Plants
 Poison Vegetables Growing in the Garden
 Poisoned (2)
 Poisoned Soil
 Poisonous (5)
 Poisonous Soil
 Poisonous, Not Safe
 Toxics
 Yellow
 Yellow Dust
 Yellow Dust Throughout House
 Yellowish Color

N = 50

Aesthetics

Bad Odor
 Dirty (9)
 Dirty & Unsafe
 Dirty, Not Safe
 Dust (2)
 Dust All over the Yard and Trees
 Dust in Yard, Fog in Air, Fires Sparked in Plant
 Dust Is Still Where They Said it Was
 Dying Trees
 Foul Odor
 Green Film
 Green Slime
 Muddy
 Nasty/smelled
 Never Grow Grass
 No More Grass
 Odor (2)
 Smell (2)
 Stinking
 The Odor of the Soils
 Very Dirty

N = 32

Restricted Activities

At One Time Had Gardens, Then it Stopped
 Avoid it
 Avoid-didn't Have to Be this Way
 Affects Growth of Plants
 Can't Eat Fruit off Trees
 Can't Eat the Dirt
 Can't Garden
 Can't Go Barefooted
 Can't Go out Without Shoes
 Can't Have a Garden
 Can't Plant a Garden (2)
 Can't Plant Anything
 Can't Play in the Dirt
 Can't Raise Anything
 Can't Sit on Ground
 Can't Sit on the Ground
 Can't Walk Without Shoes
 Can't Work in the Yard
 Children Can't Enjoy Yard
 Children Can't Play
 Garden (2)
 I Cannot Plant Things
 My Garden
 My Plants Are Not There Now
 No Gardens
 No More Gardens
 Planting Things
 Vacant Garden Plot

N = 30

Worry/Concern/Fear

Afraid
 Afraid to Cut Grass
 Afraid to Eat the Vegetables from the Garden
 Concern (2)
 Fear (3)
 Fear of Planting Garden
 Feel like I'm Looking at Poison
 Frightened (2)
 Frightened-have to Work with Weeds & Flowers
 Future Health
 Horrified
 I Played in Ditch
 I Used to Play In and Probably Ate it as a Child
 I Used to Play in the Yard & under the House
 Is it Still Safe for Children to Play There?
 It Could Have Hurt One of Us
 Scared
 Scary (2)
 Secretive
 Water-if Any Got into the Tank
 Will I Have Health Problems Later on in My Life?
 Will it (Chemicals) Get on Me?

N = 27

Unknown/Uncertainty

Curiosity (What If?)
 Curious
 Did Clean-up Affect My Property

Unknown/Uncertainty (cont.)

Don't Think it Could Ever Be Cleaned up Completely
 Future Implications
 Has All Been Told?
 How Dangerous
 How I Got Hurt in It?
 Is Something Still Wrong with the Soil?
 Is There an End Anywhere?
 Lack of Knowledge
 Ques If Determined Accurately All Deadly Poisons
 Question Deadly Poisons in Yards
 Questions
 Some People Have Had Soil Tested More than Once
 Something's Wrong with it
 The Plants & Garden-i Wonder Were They Poisonous
 Time of House Sale-whats under It,would it Worsen
 Unknown
 What Else Is in There?
 What Was Found in House
 What Was in Yard
 Why My Soil Is Safe & House next to Me Is Not Wonder If it Is Clean
 Wonder If It's Still Dangerous to My Family
 Wonder If Problems Have Been Rectified

N = 26

Negative Affect

Awful
 Bad (2)
 Don't like it
 Had the Truth Been Told I Wouldn't Have Moved Ther
 Had Truth Been Told I Would Not Have Moved There
 Land Wash
 Non-productive
 Playing
 Playing and Sitting
 Playing in the Neighborhood
 Playing in the Yard
 Pollen
 Real Bad
 Red Clay
 Sitting on the Ground
 Waste of Time
 Yard Kept up Nicely in One House,bad Situation

N = 18

Anger/Upset/Sad

Anger (2)
 Anger and Upset
 Angry
 Angry and Upset
 Ashamed it Has Lasted this Long-needs to Be Settld
 Depressed (2)

Anger/Upset/Sad (cont.)

Disgruntled (2)
 Disgusted (2)
 Sadness
 That Nasty Company
 Upset,son-hyper,no Skin Problems
 Upset-can't Have Garden

N = 16

Other

Bumps
 Hope It's Gone
 Hope the Danger Is Gone
 I Also Worked in the Yard
 Lead
 Pine Street
 Said the Yard Contained Poison
 Said They Cleaned
 Said They Contained the Poison
 Said They Have Cleaned it up

N = 10

Mistreated/Injustice

Cheated
 Deception
 Didn't Ask Me to Dig up the Grass
 I Don't Think the Test Was Done in the Best Way
 I Don't Think They Tested My Yard
 Negligence
 Should Have Been Gone Earlier

N = 7

Family/Friends/Pets

Animals
 Children
 Kids
 My Father's Garden
 My Great-grandmother
 Pets

N = 6

Positive

Fertilizer to Help Soil
 Make You Think
 Playing
 Playing in Dirt
 Swimming Holes
 Think the Soil Is Good

N = 6

Property Value

Breakdown of Property Value
 Can't Be Sold
 Decrease in Property Value
 Lowered Value of My Home
 Property Depreciation

Property Value (cont.)

Property Value

N = 6

Trapped

Child Imprisonment-no Play Area
Child Imprisonment/no Play Area
Poison Imprisonment for Children

N = 3

Loss of Sense of Home

I Can't Live There Anymore
I Don't Feel as at Home as I Used to
Past

N = 3

Soil

Bad Soil
My Yard (2)

N = 3

Table 3

Reasons for Current Residence:

(Total Number of Responses = 227)

(Total Number of Resident Respondents = 114)

Financial

I am unable to relocate because of financial difficulties.
I don't have the money to relocate
My family and I don't have enough money to relocate
Need more money.
I cannot afford to move.
Can't afford to move.
I don't have to pay any rent.
If I could do better I would move right now.
I can't afford to live any place else.
As soon as I can afford to move I'm gone.
I can't afford to move.
Can't afford to move.
Can't buy/rent another house.
Can't afford to move.
Who would buy it?
Am buying my house.
No offer to buy my home.
We bought property and built our home there and no one will give a fair price for the property.
To pick up and leave would cost a fortune.
Can't afford to relocate.
I cannot sell my property, no one wants to buy it.
Because of the location no one, if sold would give me a fair price for it.
Very difficult to sell.
If I sold it would be a substantial loss.
I can't afford to buy a home elsewhere.
Because I can't afford to move.
Difficult to sell property.
Land value.
I cannot afford to buy another house and was not part of the buy out plan.
Can't afford to move.
Wouldn't be able to sell it.
Can't afford to move.

The company did not buy me out.
No one will buy me out.
Because of financial reasons.
No offer to buy my place.
Wasn't offered enough to buy elsewhere.
Purchased my home.
Property owner.
Our home is paid for.
I have not been able to get the money to move to a safer place.
I don't have the financial means with which to relocate.
I have no money to relocate.
Cheaper to live there.
I don't have the necessary money to relocate.
I don't have to pay rent.

Have not been offered what I need to get another home.
 Can't find a house I can afford.
 What I can afford.
 Rent is reasonable.
 Possibly the only place parents could find to live.
 I cannot move and pay two house rates.
 I'm unable to get the price for the house to rebuild.
 Because I can't sell it and get the money as appraised to buy another home.
 Owns a funeral home in the neighborhood.
 Investment.
 Can't afford to move.
 Because they will not give me the right amount of money for my house.
 I can't afford to move right now.
 I don't think they will give me enough money to live like I am living.
 Can't find any place to move.
 Don't have to pay any rent.
 My home and don't have to pay rent.

Rent was reasonable.
 Rent is cheap.
 I don't have to pay rent.

N = 68

Positive attributes

Own my own home.
 Because I own my home in the area.
 I wanted a house with a yard, porch and more space.
 It is better than it was.
 It's close to town.
 I like the location.
 Location was good.
 I like where I live because the person next door is like a mother.
 I liked the house.
 I liked the street.
 Convenient location.
 Nice quiet neighborhood.
 The neighborhood when we moved there was considered good and is now as far as the people are concerned.
 We have acquired one of the newer and nicer homes in the neighborhood.
 I like the location.
 I like my house.
 When I purchased the house, I thought it was a nice place to raise my children.
 I love my neighbors.
 I liked the house I purchased.
 Quiet neighborhood.
 I grew up in this neighborhood.
 All the time of purchase, seemed to be an excellent place to live.
 Affordable, already established residential neighborhood.
 Fine neighbors.
 Convenient on Plum Street - close to town.
 When I bought the property I thought it was a quiet safe place to live.
 I own the house there.
 We do own the house.
 I like the location.

I am currently live in the Woolfolk Plant neighborhood because I love my home and the quietness.
 Location good.
 This is my house.
 I like where I'm living.
 Location is convenient.
 Convenient for children going to school.
 I like Fort Valley.
 It is a convenient location to the job.
 Quiet neighborhood.
 I'm buying a house.
 Good neighborhood.
 Close to my job.
 Easy for my boys to ride the bus.
 Convenient to shopping and doctor.
 Husband bought property in area.
 Close to husband's job working on railroad.
 Convenient for her to walk to her job.
 My first home that I ever owned.
 I like my home and the neighborhood.
 Location of home found in area.
 It was a nice place to live.
 I like my house.
 Own the house.
 And I like the neighborhood.
 My house is in it.
 I had bought the house when I was young and enjoyed the neighborhood.
 If I could sell the house I would build outside the neighborhood.
 No one would want to buy it being in the Woolfolk neighborhood.
 Close to job.

N = 63

Emotional attachments

A lot of memories good and bad are here.
 Memories, sentiment however I don't rate memories and sentiment above health.
 In spite of chemical plant, it is the place of my birth.
 I was born on Central Avenue and brought home to 505 Preston St. and I've been here most of my life.
 My parents bought this house back in the 40's. When my parents got sick I stayed to take care of them.
 My mother suffered from asthma many days and I do believe much of this was due to the pollution of the air. It is home I feel a tie to this house.
 Family home.
 Because it's the home house.
 When I die my kids will have something to live in.
 I've been there so long.
 I own the house and I'm too old to start over.
 I have spent a lot of money and time trying to set my house the way I want it to be.
 It is in the town where I was born and live all of my life.
 Our home house.
 Because this is where I have been living for over 30 years.
 Even though it is in a dangerous area it still holds fond family memories for me.
 The home site holds a sentimental value to my home of my birth.
 My parents live and died there.
 My girlfriend lived there.
 The church's original structure was always here - since 1963 and time constructed. The exact date of the original structure is not known at the time of this survey.

It's been my home most of my life.
 I've lived here a long time.
 Been my home for ten years.
 Paid for and have lived ther for 38 yrs.
 At my age I'd rather not tackle another home and environment.
 It's home.
 It is my home.
 Raised here.
 It's a family home.
 My people live in it.
 My family lives here.
 My friends live here.
 Family house.
 Grew up there.
 Grew up in the neighborhood kind of fond of it.
 I had a dream of constructing my own dwelling. This gave an oppportunity to fulfill my own dream.
 It's our family home.
 This is my family home and my family is close to the neighborhood.
 It's home.
 My home.
 My wife bought this house in 1959 and finds it hard to move any other place.
 It was my parents wish that the house would always stay in the family.
 It's home.
 That is where my home is.
 Lives close to mother.
 My family lives in the neighborhood.
 I have a lot of friends on this side, this is where I grew up.
 My grandmother owns land in the area.
 Parents close to live in the neighborhood.
 Close to my mother.
 Near my mother's home.
 My sister lived close-by.

N = 42

Trapped

Could not find a place to stay.
 Haven't been established enough to move out.
 Can't leave.
 I can't find another house.
 Can't leave.
 No place to go.
 I live there when it was conataminated and I had no options.
 I have nowhere else to go.
 We have nowhere else to go.
 I have no other place to relocate.
 Only place I have to live now.
 I don't have anywhere else to go.
 I had no options because my parents bought the property.
 I have no other place to go.
 Need of a home.
 Nowhere else to go right now.
 Nowhere else to go.I have no other place to go.

Nowhere else to live.

N = 18

Unaware at time

I didn't know the effects of the chemicals.
In spite of the chemical plant its the place of my birth.
Didn't think about the plant.
Didn't know there was contamination in the neighborhood when I bought (start buying).
Started buying house before we know about the contamination.
When I purchased the house, I thought it was a nice place to raise my children.
I didn't know it was dangerous to my health.
I bought a hous without knowledge of contamination.
When I first bought the property, I did not know about the poison chemical and it was in this section.
At the time of purchase, seemed to be an excellent place to live.
I didnt' know it was the Woolfolk neighborhood.
When I bought the property, I thought it was a quiet safe place to live.
I didn't know it was contaminated when I moved there (1994).
When we purchased the home, we were not aware of all these problems with the chemicals.
I chose to move there without knowing it was contaminated.
I built the house and it is my home, not knowing that the area was contaminated.
Too expensive to move - didn't know about the contamination.
Did not know about conatmination when the home was bought in 1984.
Didn't know it was dangerous.
Didn't know when we built that it was conatminated.

N = 20

Circumstances necessitate residence

My parents chose to live in the Woolfolk plant neighborhood.
I was too young to make that decision.
Locating would be difficult on me at this time.
My children's home and I can't decide on anything like that.
Need family members to help care for me and my children.
Live with my mother.
The space I needed.
Too young to make a decision about where to live.

N = 8

Other

Living in the area rest of my life.
Wasn't a fair deal.
My man bought the house - it burned down and we bought the house on Plum Street.
Looking for a place.
Uncle's property that I bought from his kids.

N = 5

Ambiguity

I'm presently living in this neighborhood because I feel the issues have not been resolved concerning our property.

N = 1

Health

Poor health.

N = 1

Figures

Figure 1. Psychometric Dimensions: Unknown

Figure 2. Psychometric Dimensions: Voluntary/Control—Loss of Control

Figure 3. Psychometric Dimensions: Risk/Benefit

Figure 4. Psychometric Dimensions: Fatality

Figure 5. Psychometric Dimensions: Reducibility of Risk

Figure 6. Psychometric Dimensions: Fear/Dread

Figure 7. Communication

Figure 8. Testing

Figure 9. Image Ratings

Figure 10. Activity Restrictions: Residents

Figure 11. Activity Restrictions: Residents

Figure 12. Activity Restrictions: Past Residents and Nonresident Property Owners

Figure 13. Activity Restrictions: Past Residents and Nonresident Property Owners

Figure 14. Affective Responses: *“When you think about [the item below], how does it make you feel?”*

Figure 15. Affective Responses: Group Variation

Figure 16. Stress-Related Symptoms

Figure 17. Stress and the Attribution of Cause

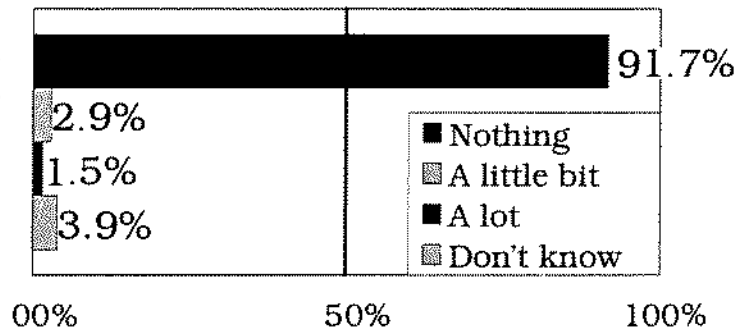
Figure 18. Sources of Concern

Figure 19. Health Problems Attributed to the Plant

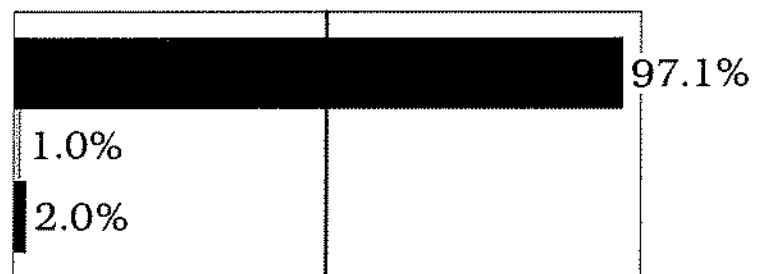
Figure 20. Retrospective Interpretations

Figure 1. Psychometric Dimensions: Unknown

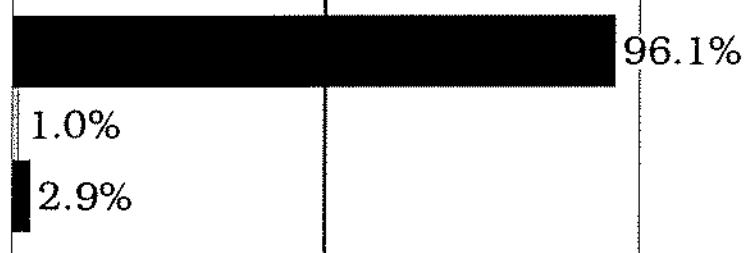
*“How much did you **know** about the risks from the Woolfolk Plant when you moved into the neighborhood?” (N = 206)*



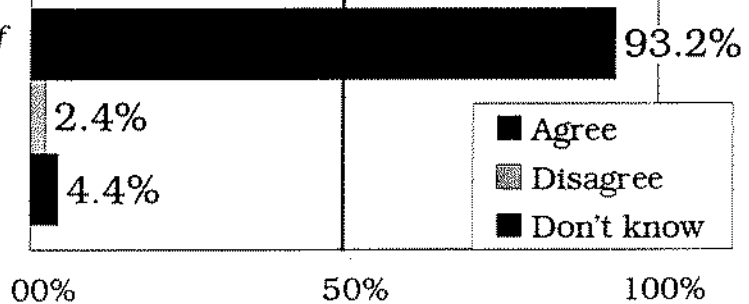
*“The fear of **not knowing** what will happen to my health because of the Woolfolk Plant is a very big worry for me.” (N = 206)*



*“The fear of **not knowing** what will happen to the health of my loved ones is a very big worry for me.” (N = 206)*



*“**Not knowing** about the kinds of health problems I can expect from the Woolfolk Plant is very stressful for me.” (N = 206)*



Note: “Agree” category is “strongly agree” and “agree” combined. “Disagree” category is “disagree” and “strongly disagree” combined.

Figure 2. Psychometric Dimensions: Voluntary/Control—Loss of Control

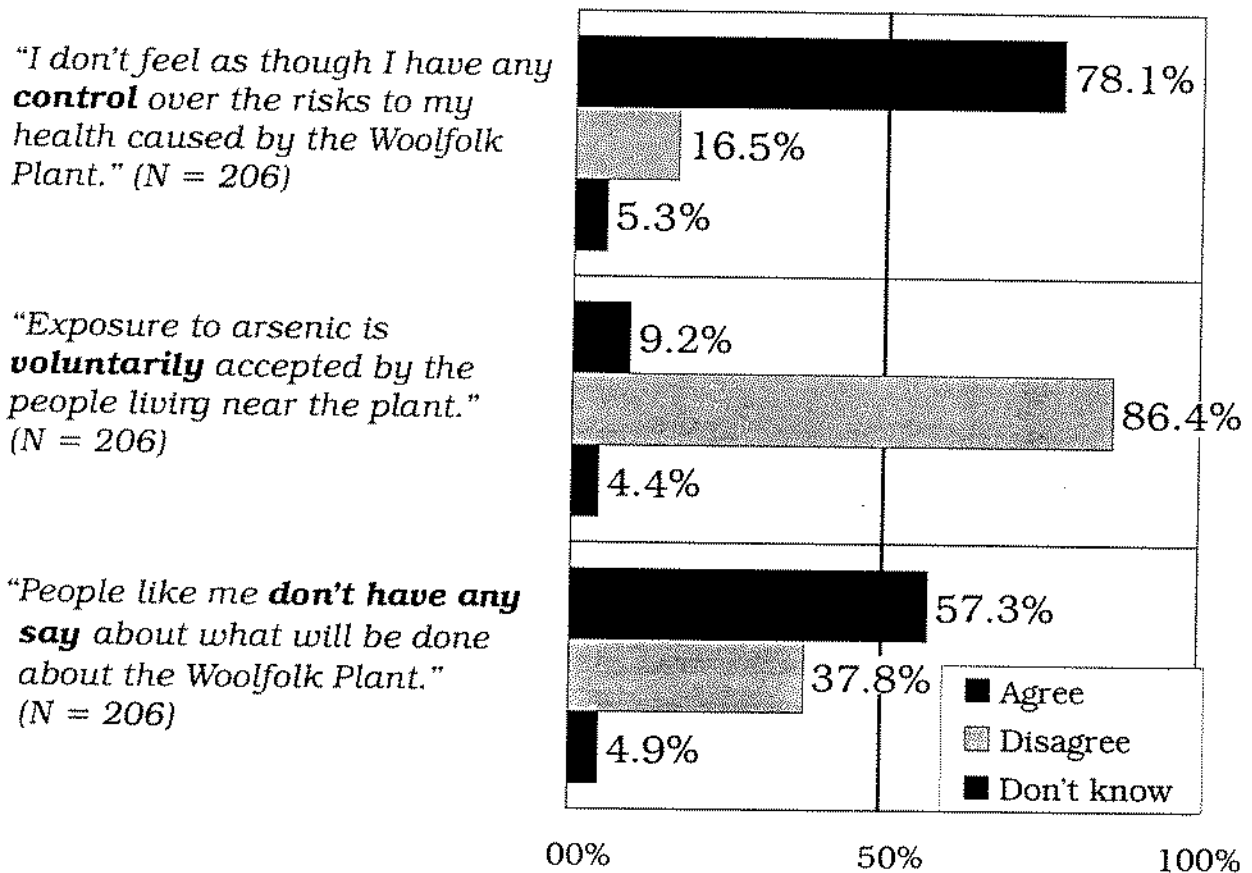
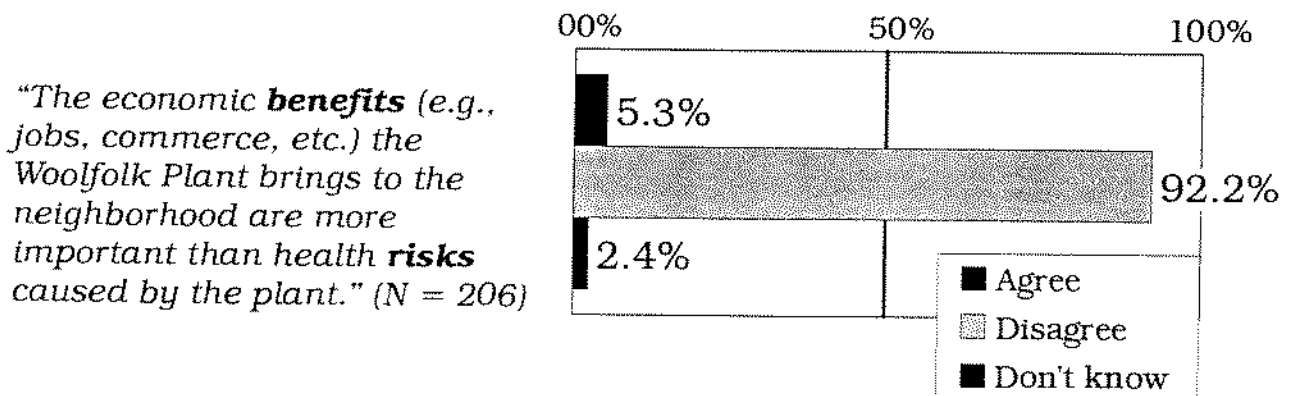


Figure 3. Psychometric Dimensions: Risk/Benefit



Note: "Agree" category is "strongly agree" and "agree" combined. "Disagree" category is "disagree" and "strongly disagree" combined.

Figure 4. Psychometric Dimensions: Fatality

*"Exposure to arsenic and other contaminants have **caused many deaths** in the neighborhood."* (N = 206)

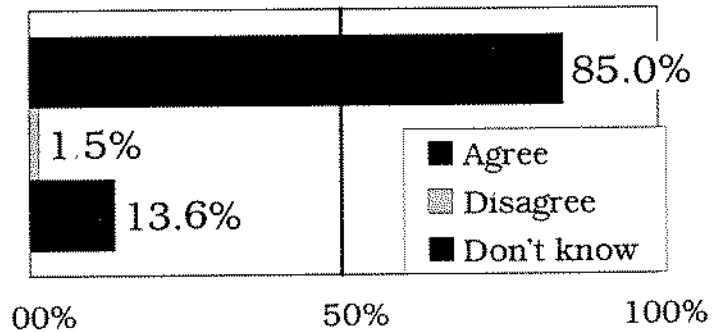
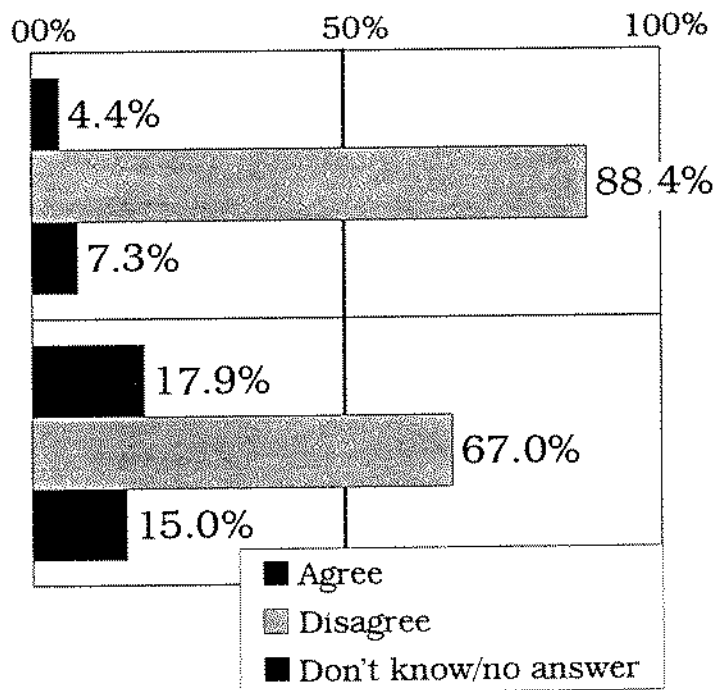


Figure 5. Psychometric Dimensions: Reducibility of Risk

"I think that within the next 5 – 10 years the problems created by the Woolfolk Plant will go away and the neighborhood will return to normal." (N = 206)

"I think the neighborhood could be cleaned up enough to make it safe." (N = 206)

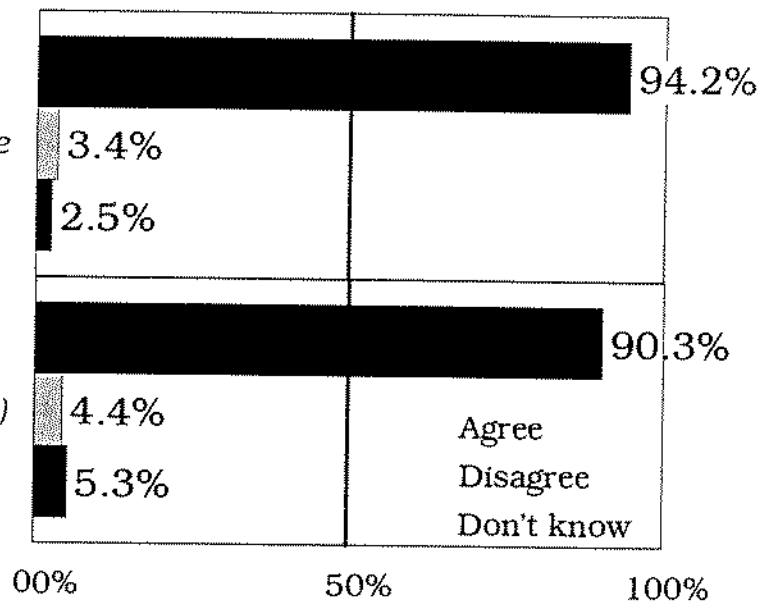


Note: "Agree" category is "strongly agree" and "agree" combined. "Disagree" category is "disagree" and "strongly disagree" combined.

Figure 6. Psychometric Dimensions: Fear/Dread

*"Thinking about the risks of arsenic or other contaminants from the Woolfolk Plant gives me a **creepy/frightened feeling.**"*
(N= 206)

*"When I'm in my house, I often wonder if I'm breathing in something **poisonous**"* (n = 114)

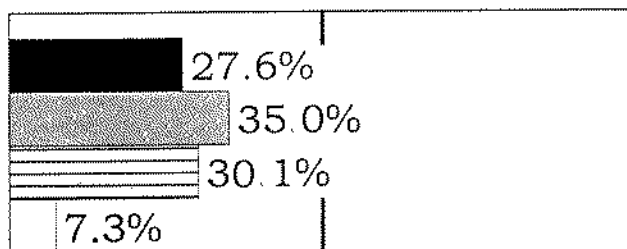


Note: "Agree" category is "strongly agree" and "agree" combined. "Disagree" category is "disagree" and "strongly disagree" combined.

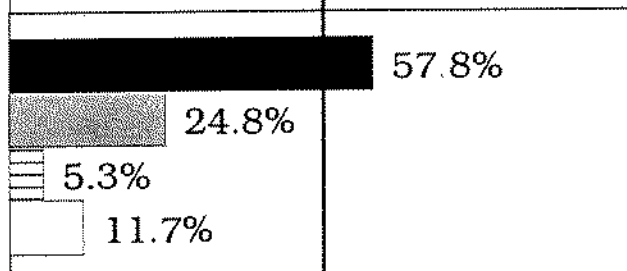
Figure 7. Communication

“The following questions ask you to tell us something about the efforts of the EPA to communicate with people about the Woolfolk Plant.”

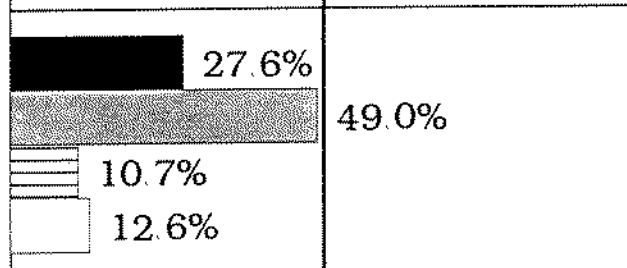
“People like me were given the same information that others were given.” (N = 206)



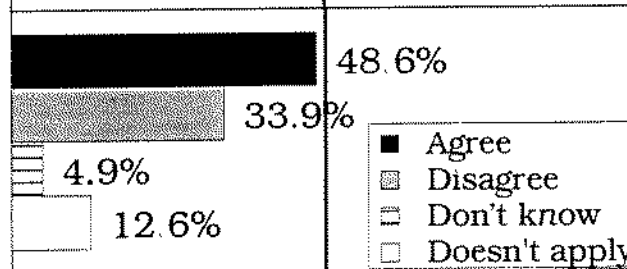
“I was treated with respect.” (N = 206)



“I felt as though my point of view was heard and given the right amount of attention under the circumstances.” (N = 206)



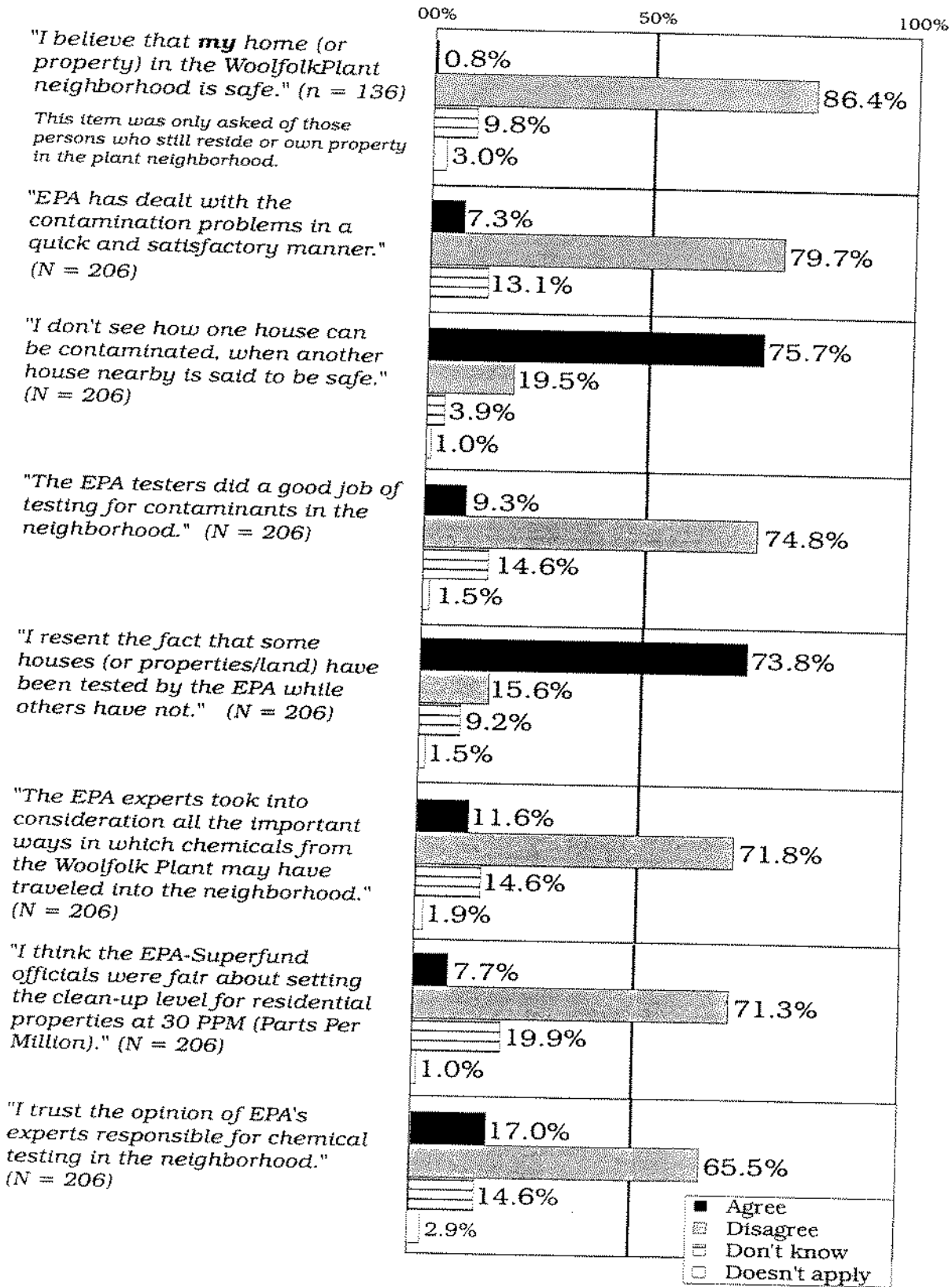
“I could understand any written information given to me.” (N = 206)



00% 50% 100%

Note: “Agree” category is “strongly agree” and “agree” combined. “Disagree” category is “disagree” and “strongly disagree” combined.

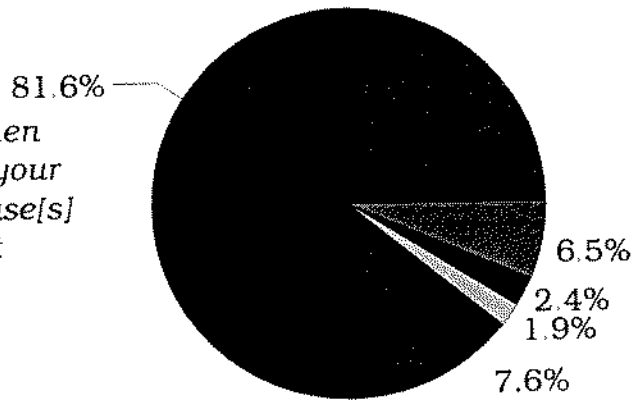
Figure 8. Testing



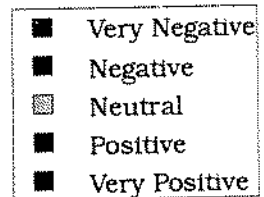
Note: "Agree" category is "strongly agree" and "agree" combined. "Disagree" category is "disagree" and "strongly disagree" combined.

Figure 9. Image Ratings

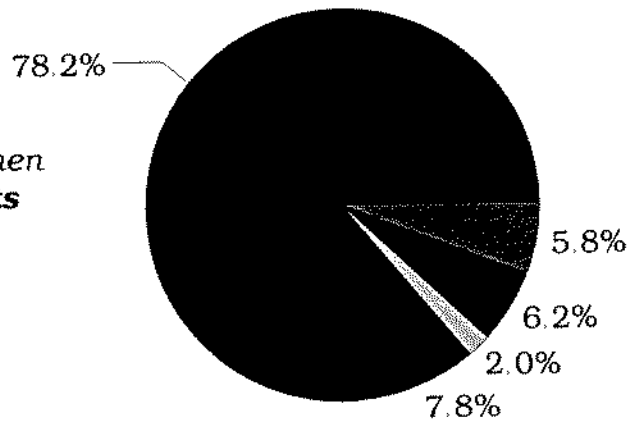
What words or images come to mind when you think about the **soil in the yard** of your home or property (or the yard of the house[s] you used to live-in) in the Woolfolk Plant neighborhood? (N = 206)



Note: Respondents could provide up to three images. Of 206 respondents, 201 offered one image, 168 offered two images, and 94 respondents offered three images, for a total of 463 images. All images were rated on a 5-point, Very Bad - Very Good affective scale.

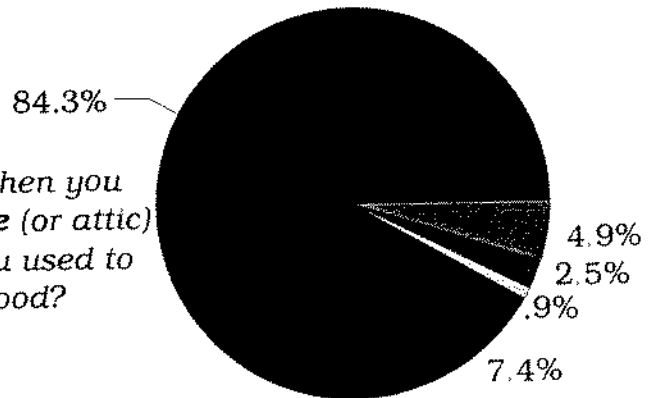


What words or images come to mind when you see the **newly fenced-in vacant lots** in the Woolfolk Plant neighborhood? (N = 206)



Note: Respondents could provide up to three images. Of 206 respondents, 202 offered one image, 177 offered two images, and 121 respondents offered three images, for a total of 500 images. All images were rated on a 5-point, Very Bad - Very Good affective scale.

What words or images come to mind when you think about the **dust inside your home** (or attic) (or the home or attic of the house[s] you used to live in) in the Woolfolk Plant neighborhood? (N = 206)



Note: Respondents could provide up to three images. Of 206 respondents, 202 offered one image, 158 offered two images, and 87 respondents offered three images, for a total of 447 images. All images were rated on a 5-point, Very Bad - Very Good affective scale.

Figure 10.

Activity Restrictions: Residents

Percentage who do an activity "less often because of the plant," who miss the activity "a great deal," and the percent of total respondents who agreed to both (n = 114)

	"I do it less often because of the plant"	"I miss it a great deal"	Percent of total sample ¹
Opening the windows in your house on a breezy day	79.8%	84.6%	67.5%
Sitting in your yard on a nice day	74.6%	84.7%	63.2%
Yard work	66.7%	64.5%	43.0%
Flower gardening	65.8%	70.7%	46.5%
Allowing children in your care to play in your yard	64.0%	72.6%	46.5%
Investing money or time to improve the quality of your house or fix something that is broken	63.2%	66.7%	42.1%
Allowing children in your care to play in a friend's or relative's yard that is near the plant	62.3%	71.8%	44.7%
Walking near the open ditch	54.4%	29.0%	15.8%
Visiting someone whose house or yard is said to have high arsenic levels	50.9%	51.7%	26.3%
Going up in the attic of your house	47.4%	53.7%	25.4%
Going under the house to fix something	44.7%	47.1%	21.1%
Allowing children in your care to play in uncovered ditches	43.0%	34.7%	14.9%

¹Percentage of total sample who do the activity less often because of the plant and reported that they "miss it a great deal."

Figure 11.

Activity Restrictions: Residents

"You said that you do [activity name] less often because of the Woolfolk Plant. How much do you miss [activity name] in your daily life?"

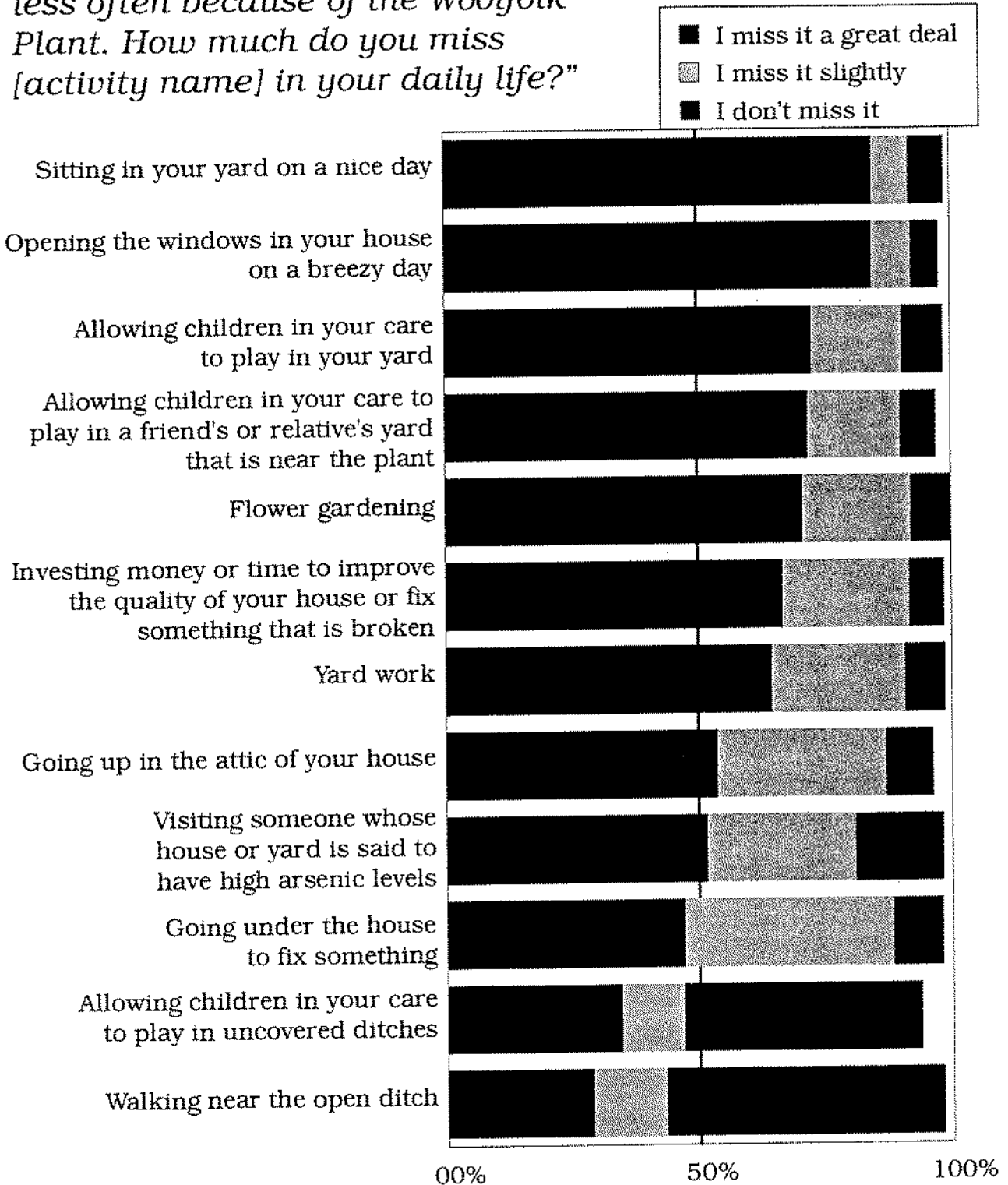


Figure 12. Activity Restrictions: Past Residents and Nonresident Property Owners

Percentage who answered that people “should avoid” the activity, that avoiding the activity bothers them “a great deal,” and the percent of total respondents who agreed to both (n = 92)

	“Should avoid”	Bothers them “a great deal”	Percent of total sample¹
Allowing children to put garden dirt or dust inside their mouths	91.3%	94.0%	85.9%
Gardening	87.0%	90.0%	78.3%
Allowing children to play in the yard	83.7%	93.5%	78.3%
Allowing children to play in the ditch	83.7%	88.3%	73.9%
Spending time near an open ditch	83.7%	85.5%	70.7%
Doing yard work	80.4%	85.1%	68.5%
Drinking the water	79.3%	94.5%	75.0%
Hanging out in the yard	79.3%	93.2%	73.9%
Sitting near an open window on a breezy day	79.3%	88.9%	69.6%
Going to the neighborhood in the first place	66.3%	85.2%	56.5%

¹Percentage of the total sample who believed people should avoid the activity and reported that this bothers them “a great deal.”

Figure 13. Activity Restrictions: Past Residents and Nonresident Property Owners

“How much does it bother you that [this activity] needs to be avoided?”
(n = 92)

“Would you say that it . . . ”
 ■ Bothers you a great deal
 ▒ Bothers you slightly
 □ Doesn't bother you at all

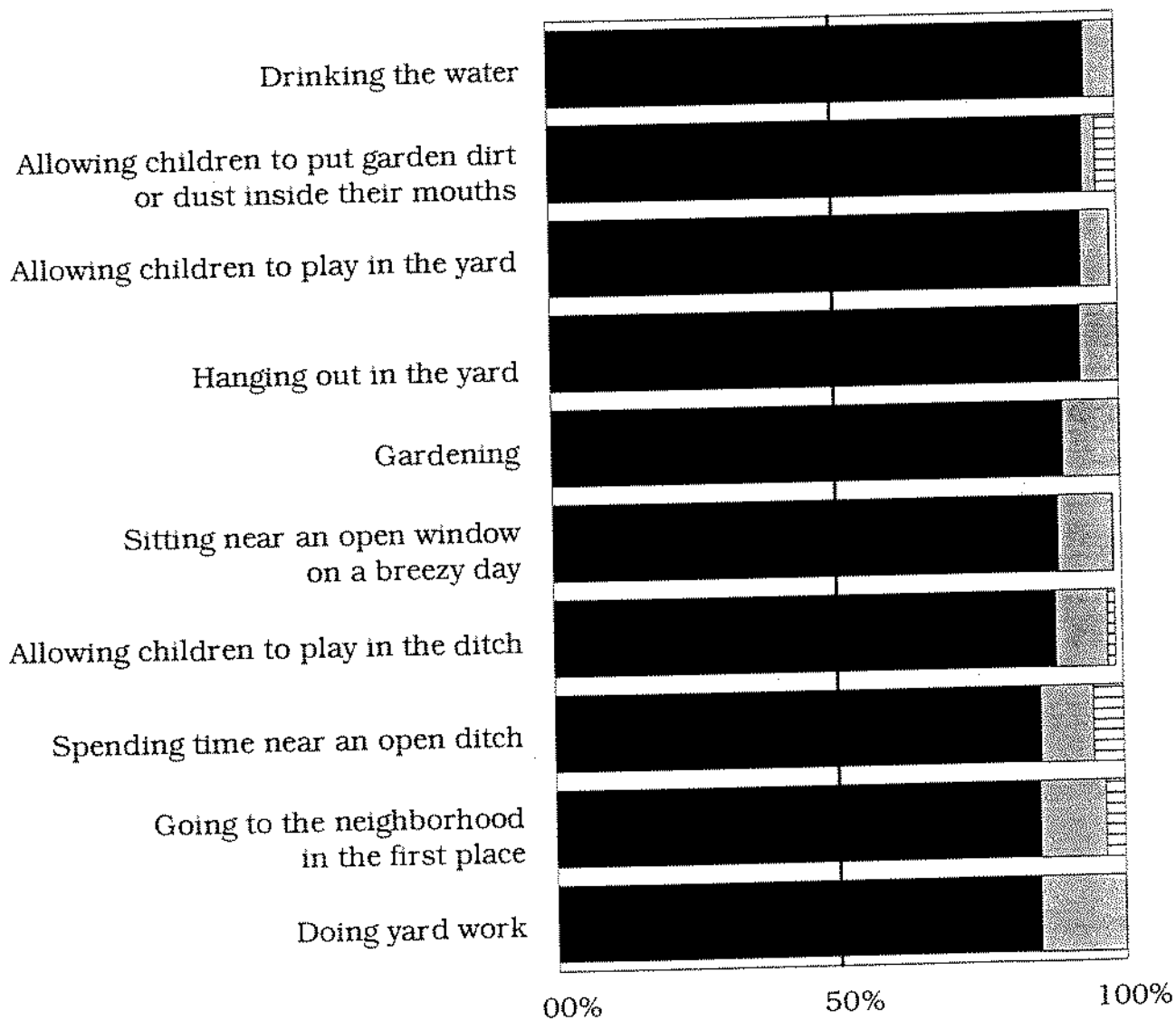


Figure 14. Affective Responses:

“When you think about [the item below], how does it make you feel?” (N = 206)

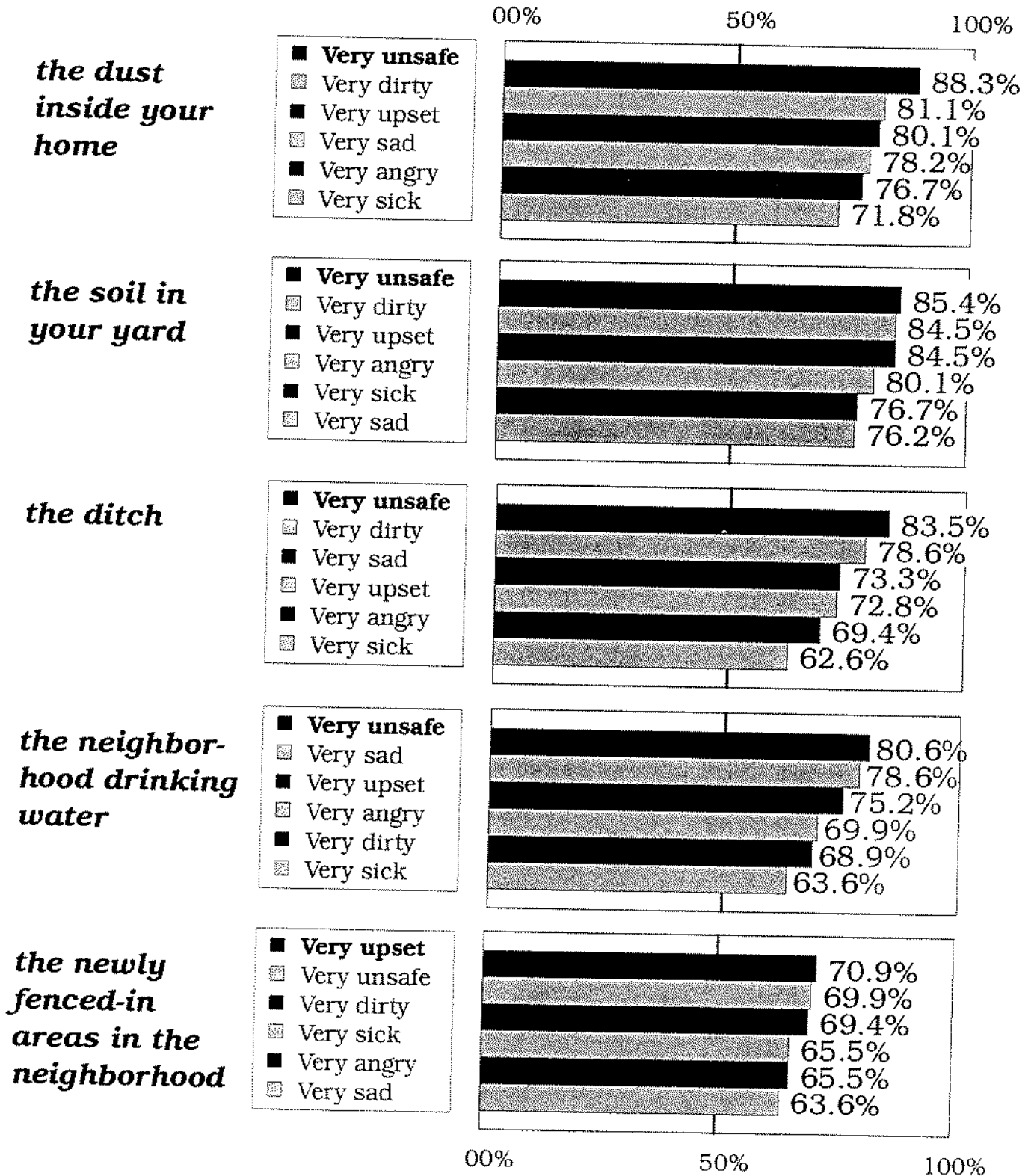
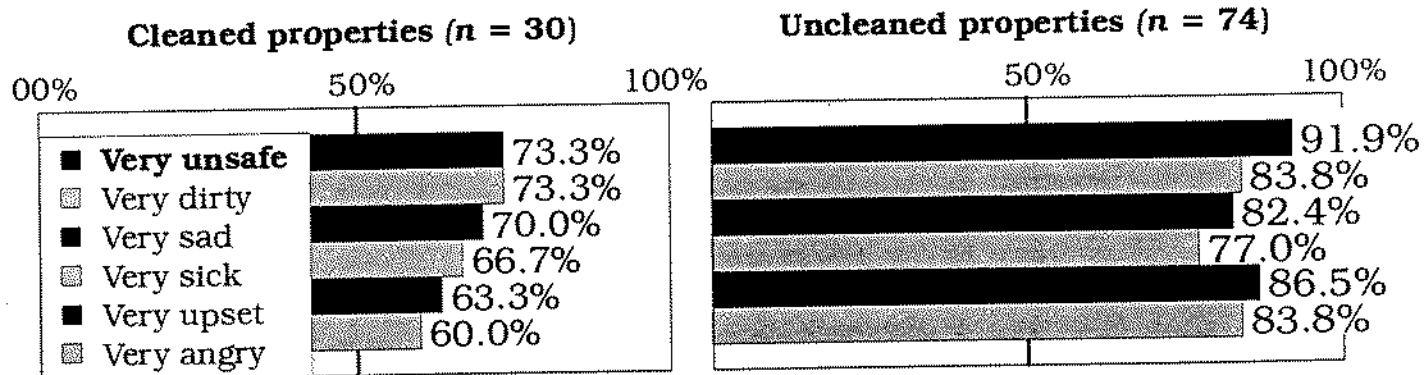
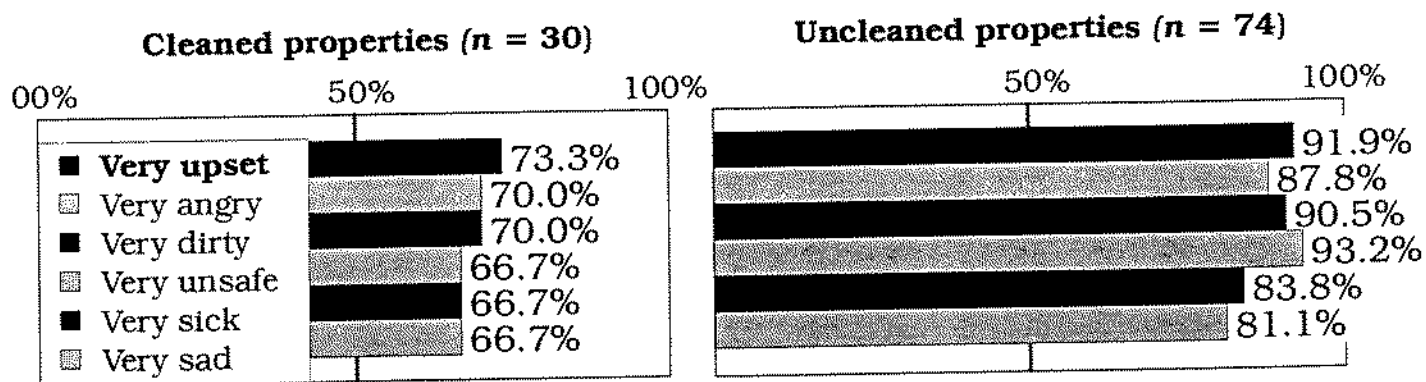


Figure 15. Affective Responses: Group Variation

*“When you think about **the dust inside your home**,
how does it make you feel?”*



*“When you think about **the soil in your yard**,
how does it make you feel?”*



Note: This figure incorporates all current neighborhood residents whose properties have been tested and/or cleaned externally (soil) or internally (dust).

Figure 16. Stress-Related Symptoms (*N* = 206)

	Symptom "bothers me a lot"¹	Believe plant is the cause²	Percent of total sample³
Low energy	85.4%	59.1%	50.5%
Lower back pain	68.4%	41.8%	28.6%
Headaches	68.4%	60.3%	41.3%
Body weakness	65.5%	65.2%	42.7%
Memory trouble	64.1%	50.0%	32.0%
Nervous/shaky feeling	63.6%	62.6%	39.8%
Sore muscles	61.7%	44.9%	27.7%
Trouble getting breath	60.2%	73.4%	44.2%
Tense/keyed up	59.7%	60.2%	35.0%
Heart/chest pains	59.7%	58.5%	35.9%
Heaviness in arms/legs	57.8%	54.6%	31.6%
Depression	53.4%	62.7%	33.5%
Easily annoyed/irritated	52.4%	52.8%	27.7%
Nausea/upset stomach	51.9%	70.1%	36.4%
Trouble concentrating	51.5%	49.1%	25.2%
Heart pounding/racing	51.5%	62.3%	32.0%
Hopelessness	51.0%	74.3%	37.9%
Feeling trapped	49.0%	77.2%	37.9%
Confusion	48.5%	51.0%	24.8%
Faintness/dizziness	48.5%	58.0%	28.2%
Fear	44.2%	64.8%	28.6%
Others do not understand you	43.7%	35.6%	15.5%
Easily hurt feelings	42.7%	38.6%	16.5%
Feeling lonely/alone	41.7%	44.2%	18.4%
Avoidance due to fear	40.8%	67.9%	27.7%
Blaming yourself	37.4%	40.3%	15.0%
Crying easily	33.5%	40.6%	13.6%
Temper outbursts	26.2%	46.3%	12.1%
Critical of others	25.7%	47.2%	12.1%
Poor appetite	22.8%	55.3%	12.6%

¹Percentage who answered "yes" to being bothered a lot by the symptom or problem.

²Of those who are bothered "a lot," percentage who believe the plant is the cause.

³Percent of total sample who are bothered "a lot" and believe the plant is the cause.

Figure 17.

Stress and the Attribution of Cause

"Would you say that [this symptom or problem] is caused by the plant?" (N = 206)

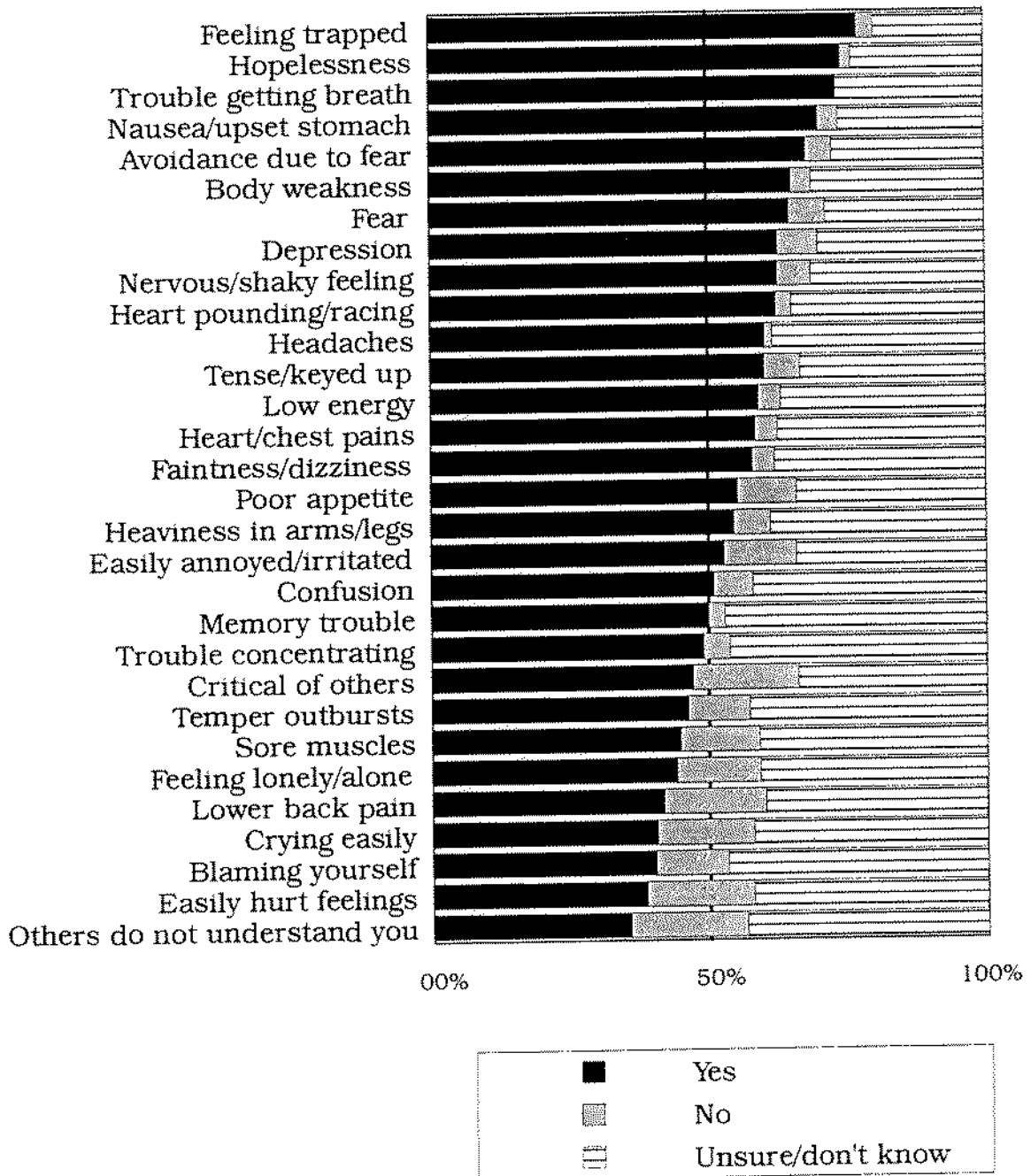


Figure 18. Sources of Concern

"Do you worry about the following things?" (N = 206)

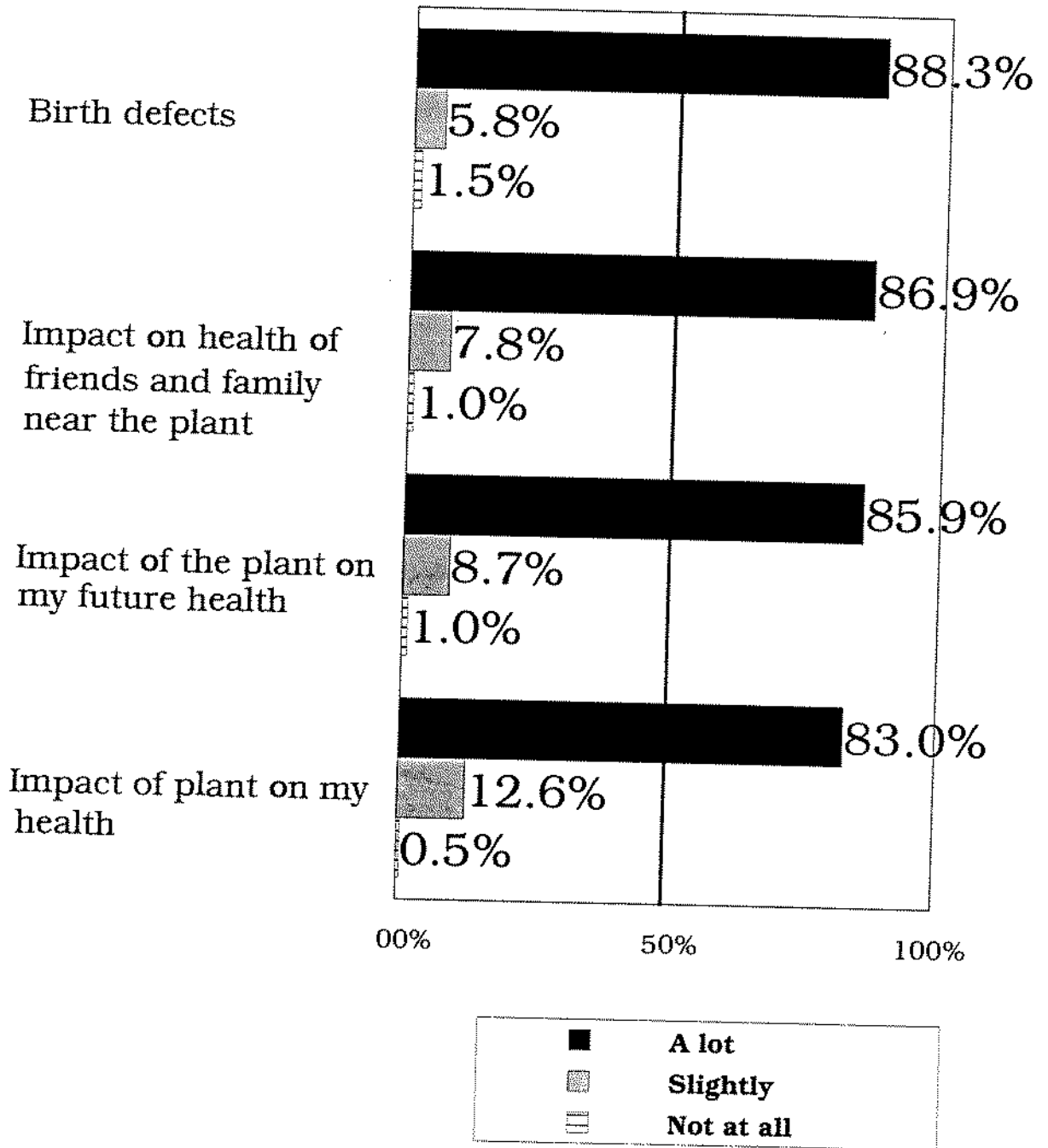


Figure 19. Health Problems Attributed to the Plant

“How likely do you think it is that the following health problems in the neighborhood are caused by contamination from the Woolfolk Plant?” (n = 206)

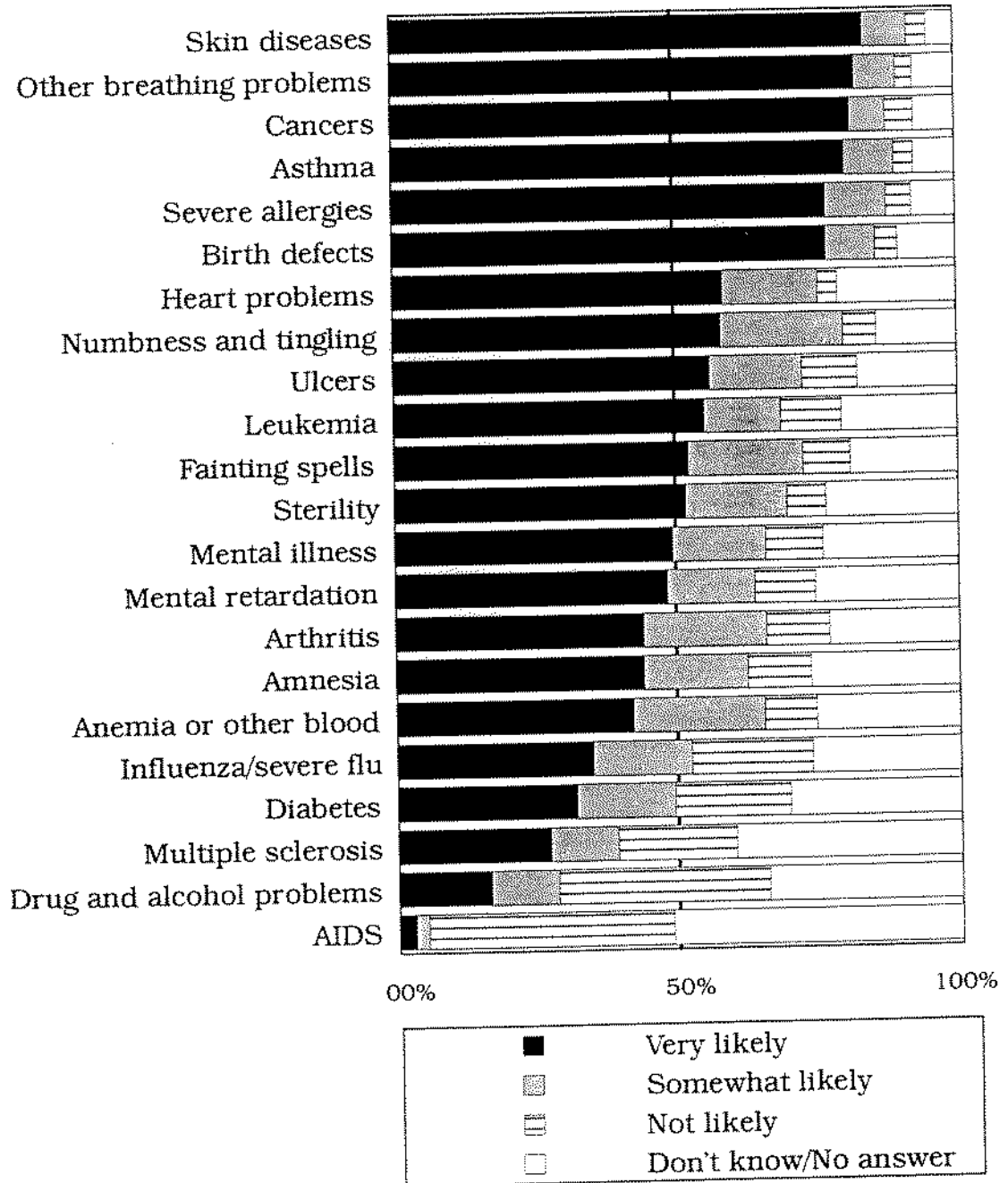


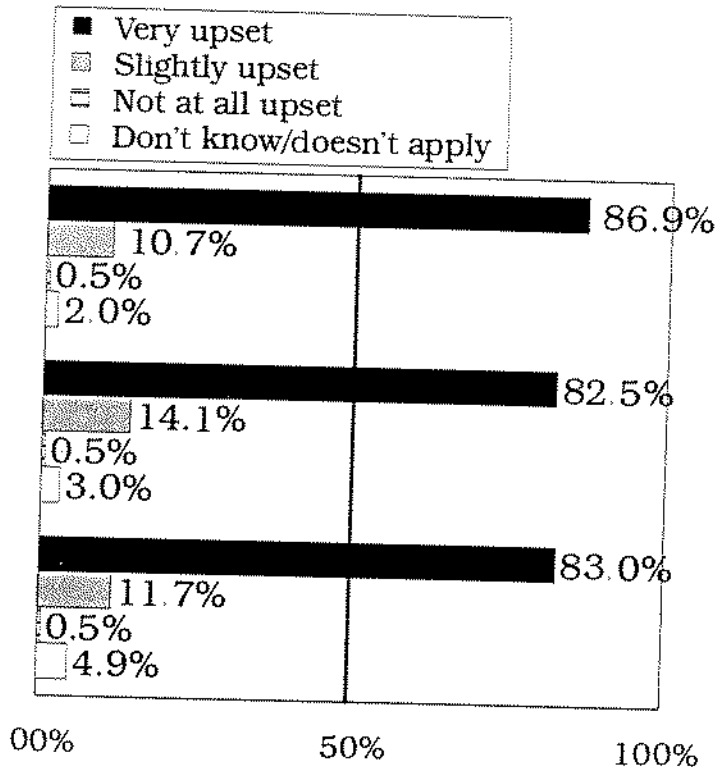
Figure 20. Retrospective Interpretations

“Do you find yourself upset about any of the following things?” (N = 206)

The possibility that illnesses in your family might have been avoided had you not lived near the plant

The feeling that you would have been much healthier had you not lived near the plant

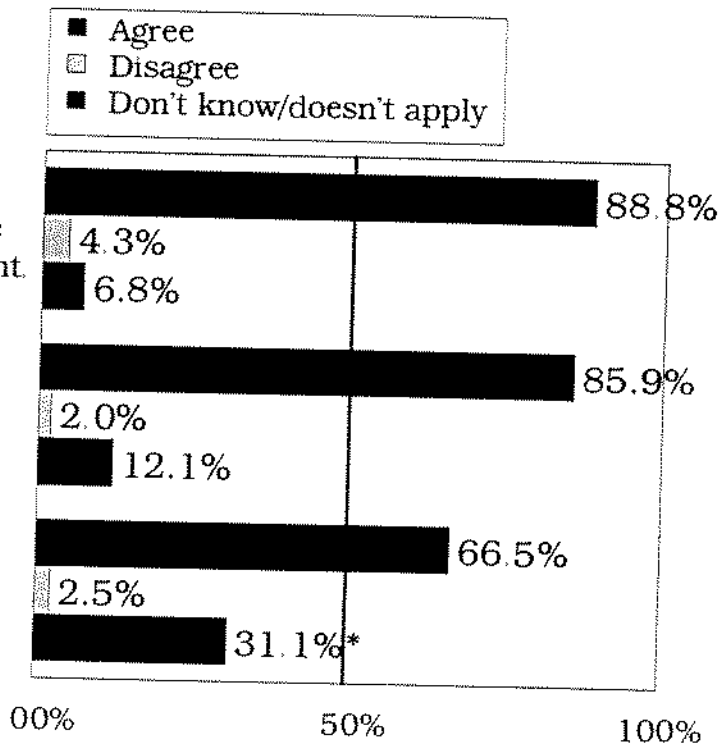
Upset by past illnesses you believe were caused by the plant



Overall, I would say that my life is harder now than it would have been had I not lived near the plant. (N = 206)

I keep wishing that I had never moved into the Woolfolk Plant neighborhood in the first place. (N = 206)

I can't stop wishing that I hadn't raised my children near the Woolfolk Plant, even though I couldn't have known about the contamination. (N = 206)



*28.2% of this group responded "does not apply."

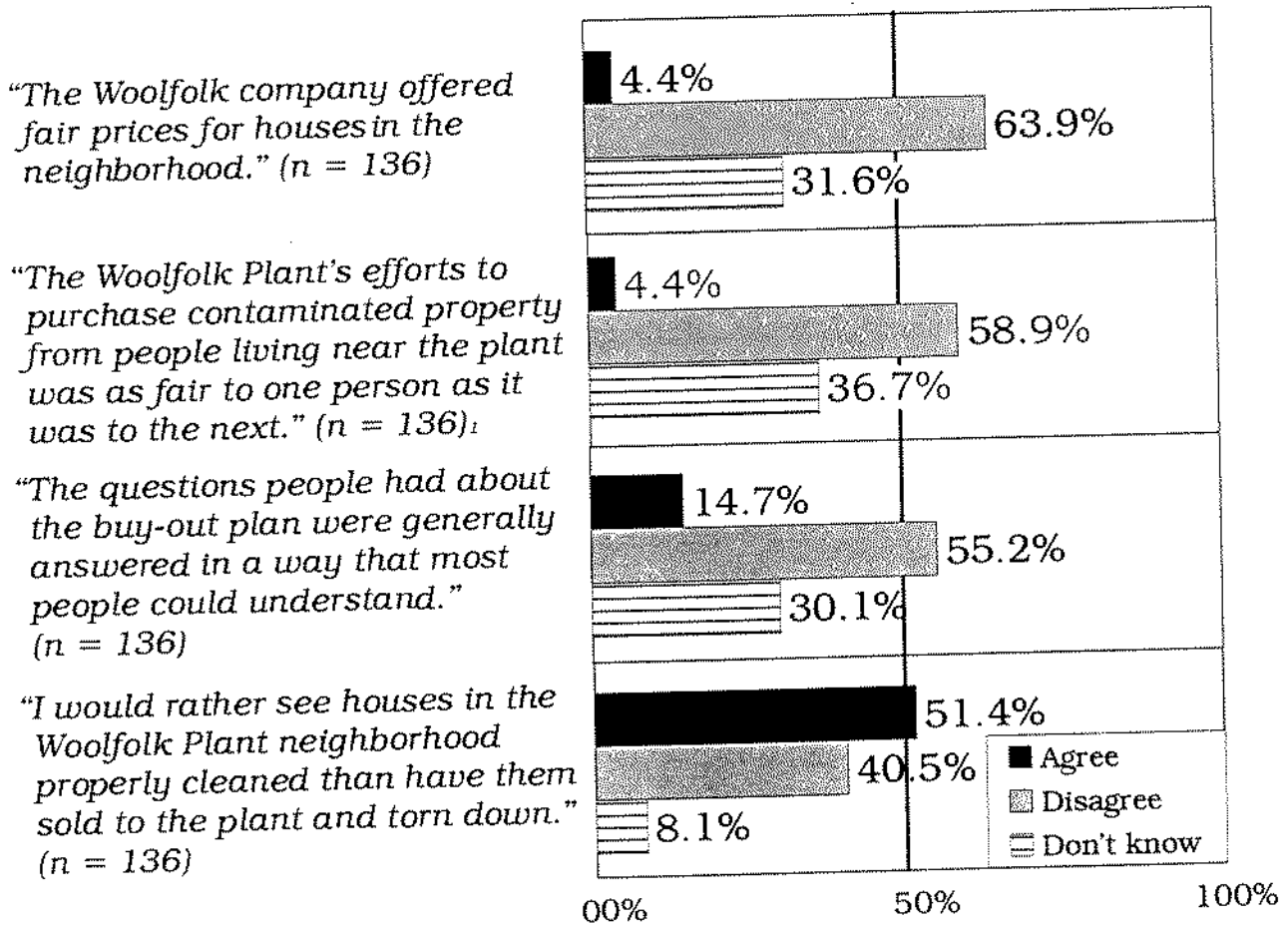
**APPENDIX A:
Remediation Figures**

“The Property Buy-Out Plan”

“Temporary Relocation”

“Permanent Relocation”

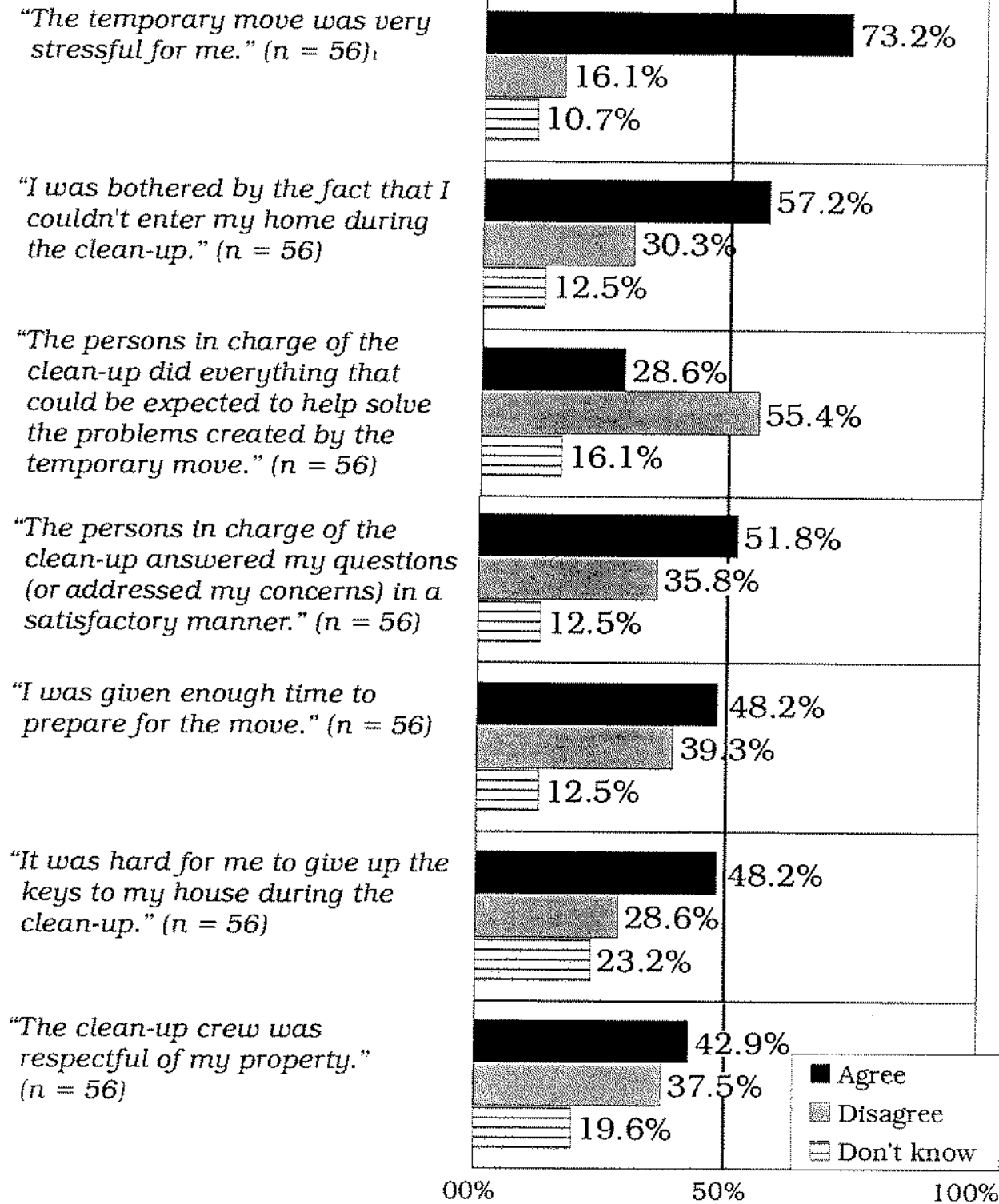
The Property Buy-Out Plan



Notes: "Agree" category is "strongly agree" and "agree" combined. "Disagree" category is "disagree" and "strongly disagree" combined.

¹ n = 136 only those respondents who stated an awareness of the plant's efforts to purchase contaminated property in the area.

Temporary Relocation

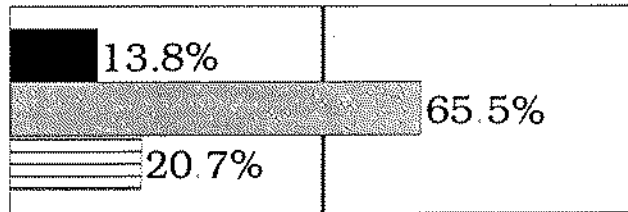


Note: "Agree" category is "strongly agree" and "agree" combined.
 "Disagree" category is "disagree" and "strongly disagree" combined.

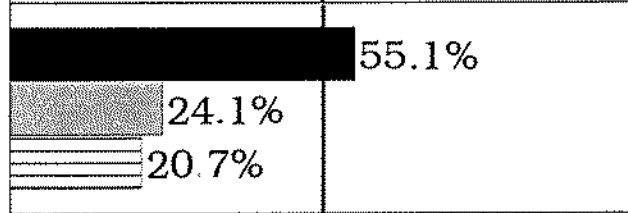
¹ These items were answered only by those persons recorded (in litigation records) as having moved temporarily during remediation processes.

Permanent Relocation

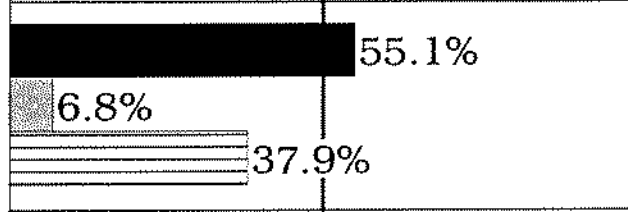
"I was given enough time to prepare for the move."
(n = 29)



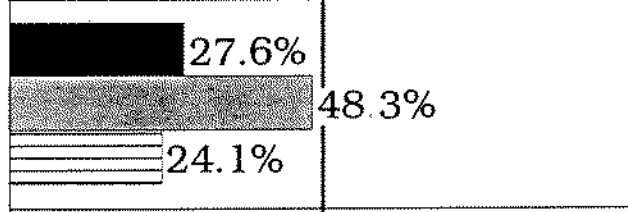
"The problems created by having to relocate were so difficult that they caused me lasting distress."
(n = 29)



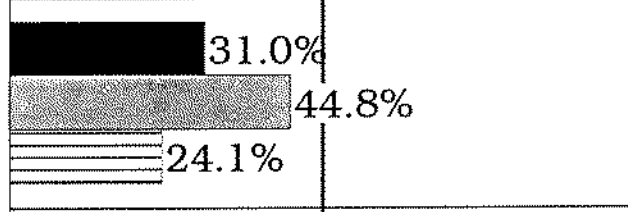
"Living in temporary housing while we looked for a new place bothered me a lot."
(n = 29)



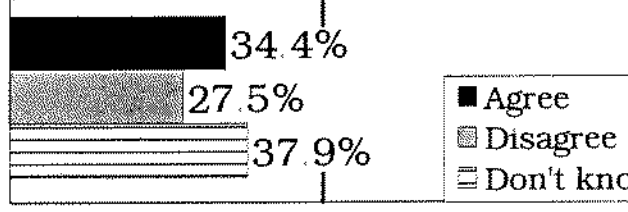
"Officials were as considerate and helpful with the problems created by the move as could be reasonably expected."
(n = 29)



"I'm now happily settled in a new place."
(n = 29)



"I'm still not in permanent housing and may have to move again."
(n = 29)



■ Agree
▒ Disagree
▨ Don't know

00% 50% 100%

Note: "Agree" category is "strongly agree" and "agree" combined.
"Disagree" category is "disagree" and "strongly disagree" combined.

¹ These items were answered only by those persons (n = 29) recorded (in litigation records) as having moved permanently due to contamination.

**APPENDIX B:
Survey Instruments**

“Fort Valley Impact Survey”

Group 1 and Group 2

Fort Valley Impact Survey: Follow-up

Name: _____

Sex: Male Female

Age: _____

Introduction

This survey is designed to describe the experiences, thoughts, and impressions of people who currently live or once lived in the Woolfolk Plant neighborhood (also known as the Dust House neighborhood). Please try and answer each question carefully. There are **no** right or wrong answers, nor are there any "trick" questions. If any of the questions are not clear or are too difficult to answer for any reason, please speak up. I will do my best to clarify things and answer your questions.

This version of the survey is for Group 1—all persons currently residing in or owning property in the Woolfolk Plant neighborhood.

Section A: Open-Ended Questions

Section A1: Images

I'm going to mention certain things. I want you to tell me what comes to mind when that thing is mentioned (it could be a word or it could be an image). For instance, if I said: "What comes to mind when I say: **music**," you might answer "**piano**

happy

Ray Charles, or

loud. Or, you might say something totally different.

The point is to tell me the first words/ideas that come to mind.

[**INTERVIEWER NOTE:** Ignore the ratings to the **right** of the bold line until you've asked all four image questions in this section. Once this section of image questions is completed, return to the ratings on the **right** side of the bold line.]

DIRECTIONS: I'm going to remind you of each of your answers. I want you to tell me which answers you think have a "very bad" (-2), "bad" (-1), good (+1), very good (+2) or neutral (0) feeling to them.

1. What words or images come to mind when you see the **newly fenced-in vacant lots in the Woolfolk Plant neighborhood?**

a. _____

b. _____

c. _____

Don't know/no answer

Ratings (-2, -1, 0, +1, +2)

DIRECTIONS: I'm going to remind you of each of your answers. I want you to tell me which answers you think have a "very bad" (-2), "bad" (-1), good (+1), very good (+2) or neutral (0) feeling to them.

2. What words or images come to mind when you think about **the soil in the yard of your home or property in the Woolfolk Plant neighborhood?**

Ratings (-2, -1, 0, +1, +2)

a. _____

b. _____

c. _____

Don't know/no answer

3. What words or images come to mind when you think about **the dust inside your home (or attic) in the Woolfolk Plant neighborhood?**

Ratings (-2, -1, 0, +1, +2)

a. _____

b. _____

c. _____

Don't know/no answer

Section A2: Sentence-Completion Tasks

I'm going to read you the beginning of several sentences. I would like you to finish the sentences in your own words.

[Interviewer Note: Most of us do not talk in neat, complete sentences. Just do your best, and copy the respondent's words as precisely as possible.]

1. My home(s) in the Woolfolk Plant neighborhood feels to me like:
(Check **here** if question does not apply.)

2. In the last two-and-a-half years, the Woolfolk Plant neighborhood has begun to look to me like:
(Check **here** if question does not apply.)

3. When I think about playing in the ditch near the Woolfolk Plant as a child, I think:
(Check **here** if question does not apply.)

4. When I think about the Woolfolk Plant, I think:
(Check **here** if question does not apply.)

5. When the wind blows the dirt and dust in the Woolfolk Plant neighborhood, I think about:
(Check **here** if question does not apply.)

Section A3: Reasons for Current Residence

Please list up to three reasons that best explain why you currently live in the Woolfolk Plant Neighborhood.

Check here if you no longer live in the Woolfolk Plant neighborhood, and skip to Section B.

1.

2.

3.

Section B: Stress-Related Problems

I'm going to read you a list of symptoms or problems. Please say "yes" for those that "bother you a lot." Say "no" for those symptoms or problems that do not bother you or only bother you slightly.

[INTERVIEWER NOTE: Ask all of the questions to the **left** of the bold line **first**. When these are completed, turn to the questions to the **right** of the bold line. Only ask about "cause" for the problems marked "yes."]

Presence of Symptom or Problem			Cause of Problems		
Do any of the following bother you a lot?			You said that [item name] bothered you a lot. Would you say that this problem is caused by the plant?		
			Yes	No	Don't know
1.	Headaches	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Feeling faint or dizzy	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Pains in the heart or chest	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Feeling low in energy or slowed down	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Pains in the lower part of your back	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Nausea or upset stomach	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Sore muscles	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Trouble getting your breath	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Weakness in parts of your body	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Heavy feelings in your arms or legs	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Trouble remembering things	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	Feeling confused	Yes No			

Presence of Symptom or Problem				Cause of Problems		
Do any of the following bother you a lot?				You said that [item name] bothered you a lot. Would you say that this problem is caused by the plant?		
				Yes	No	Don't know
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	Trouble concentrating	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Feeling nervous or shaky inside	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	Feeling afraid	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	Your heart pounding or racing	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	Having to avoid certain things, places, or activities because they frighten you	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	Feeling tense or keyed up	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	Feeling critical of others	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	Feeling easily annoyed or irritated	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	A feeling of being trapped	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	Temper outbursts you can't control	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	Your feelings being easily hurt	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	Feeling others do not understand you	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	Poor appetite	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	Crying easily	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	Blaming yourself for things	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Presence of Symptom or Problem				Cause of Problems		
Do any of the following bother you a lot?				You said that [item name] bothered you a lot. Would you say that this problem is caused by the plant?		
				Yes	No	Don't know
28.	Feeling lonely or alone	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	Feeling depressed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	Feeling hopeless about the future	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[INTERVIEWER NOTE: Do not proceed until you have finished with all the questions about "problem presence" (i.e., **left** side of the bold line) and "problem cause" (i.e., **right** side of the bold line).]

Section C: Feelings and Descriptions

These next questions ask you to describe certain things or places in the Woolfolk Plant neighborhood.

When you think about **the ditch**, how does it make you feel?

- | | | | | | | | |
|----|---|---|---|---|--|--|---|
| 1. | Very safe
<input type="checkbox"/> | Slightly safe
<input type="checkbox"/> | Slightly unsafe
<input type="checkbox"/> | Very unsafe
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 2. | Very sad
<input type="checkbox"/> | Slightly sad
<input type="checkbox"/> | Slightly happy
<input type="checkbox"/> | Very happy
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 3. | Very calm
<input type="checkbox"/> | Slightly calm
<input type="checkbox"/> | Slightly angry
<input type="checkbox"/> | Very angry
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 4. | Very healthy
<input type="checkbox"/> | Slightly healthy
<input type="checkbox"/> | Slightly sick
<input type="checkbox"/> | Very sick
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 5. | Very clean
<input type="checkbox"/> | Slightly clean
<input type="checkbox"/> | Slightly dirty
<input type="checkbox"/> | Very dirty
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 6. | Very peaceful
<input type="checkbox"/> | Slightly peaceful
<input type="checkbox"/> | Slightly upset
<input type="checkbox"/> | Very upset
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |

When you think about **the neighborhood drinking water**, how does it make you feel?

- | | | | | | | | |
|-----|---|---|---|---|--|--|---|
| 7. | Very safe
<input type="checkbox"/> | Slightly safe
<input type="checkbox"/> | Slightly unsafe
<input type="checkbox"/> | Very unsafe
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 8. | Very sad
<input type="checkbox"/> | Slightly sad
<input type="checkbox"/> | Slightly happy
<input type="checkbox"/> | Very happy
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 9. | Very calm
<input type="checkbox"/> | Slightly calm
<input type="checkbox"/> | Slightly angry
<input type="checkbox"/> | Very angry
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 10. | Very healthy
<input type="checkbox"/> | Slightly healthy
<input type="checkbox"/> | Slightly sick
<input type="checkbox"/> | Very sick
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 11. | Very clean
<input type="checkbox"/> | Slightly clean
<input type="checkbox"/> | Slightly dirty
<input type="checkbox"/> | Very dirty
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 12. | Very peaceful
<input type="checkbox"/> | Slightly peaceful
<input type="checkbox"/> | Slightly upset
<input type="checkbox"/> | Very upset
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |

When you think about **the dust inside your home (or attic) in the Woolfolk Plant neighborhood**, how does it make you feel?

- | | | | | | | | |
|-----|---|---|---|---|--|--|---|
| 13. | Very safe
<input type="checkbox"/> | Slightly safe
<input type="checkbox"/> | Slightly unsafe
<input type="checkbox"/> | Very unsafe
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 14. | Very sad
<input type="checkbox"/> | Slightly sad
<input type="checkbox"/> | Slightly happy
<input type="checkbox"/> | Very happy
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 15. | Very calm
<input type="checkbox"/> | Slightly calm
<input type="checkbox"/> | Slightly angry
<input type="checkbox"/> | Very angry
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 16. | Very healthy
<input type="checkbox"/> | Slightly healthy
<input type="checkbox"/> | Slightly sick
<input type="checkbox"/> | Very sick
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 17. | Very clean
<input type="checkbox"/> | Slightly clean
<input type="checkbox"/> | Slightly dirty
<input type="checkbox"/> | Very dirty
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 18. | Very peaceful
<input type="checkbox"/> | Slightly peaceful
<input type="checkbox"/> | Slightly upset
<input type="checkbox"/> | Very upset
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |

When you think about **the newly fenced-in areas in the Woolfolk Plant neighborhood**, how does it make you feel?

- | | | | | | | | |
|-----|---|---|---|---|--|--|---|
| 19. | Very safe
<input type="checkbox"/> | Slightly safe
<input type="checkbox"/> | Slightly unsafe
<input type="checkbox"/> | Very unsafe
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 20. | Very sad
<input type="checkbox"/> | Slightly sad
<input type="checkbox"/> | Slightly happy
<input type="checkbox"/> | Very happy
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 21. | Very calm
<input type="checkbox"/> | Slightly calm
<input type="checkbox"/> | Slightly angry
<input type="checkbox"/> | Very angry
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 22. | Very healthy
<input type="checkbox"/> | Slightly healthy
<input type="checkbox"/> | Slightly sick
<input type="checkbox"/> | Very sick
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 23. | Very clean
<input type="checkbox"/> | Slightly clean
<input type="checkbox"/> | Slightly dirty
<input type="checkbox"/> | Very dirty
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 24. | Very peaceful
<input type="checkbox"/> | Slightly peaceful
<input type="checkbox"/> | Slightly upset
<input type="checkbox"/> | Very upset
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |

When you think about **the soil in the yard of your house(s) (or property) in the Woolfolk Plant neighborhood**, how does it make you feel?

- | | | | | | | | |
|-----|---|---|---|---|--|--|---|
| 25. | Very safe
<input type="checkbox"/> | Slightly safe
<input type="checkbox"/> | Slightly unsafe
<input type="checkbox"/> | Very unsafe
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 26. | Very sad
<input type="checkbox"/> | Slightly sad
<input type="checkbox"/> | Slightly happy
<input type="checkbox"/> | Very happy
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 27. | Very calm
<input type="checkbox"/> | Slightly calm
<input type="checkbox"/> | Slightly angry
<input type="checkbox"/> | Very angry
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 28. | Very healthy
<input type="checkbox"/> | Slightly healthy
<input type="checkbox"/> | Slightly sick
<input type="checkbox"/> | Very sick
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 29. | Very clean
<input type="checkbox"/> | Slightly clean
<input type="checkbox"/> | Slightly dirty
<input type="checkbox"/> | Very dirty
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 30. | Very peaceful
<input type="checkbox"/> | Slightly peaceful
<input type="checkbox"/> | Slightly upset
<input type="checkbox"/> | Very upset
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |

Directions: You said that you do [activity name] less often because of the Woolfolk Plant. How much do you miss [activity name] in your daily life?

Activity	I do it less often because of the plant	Doesn't apply I never used to do that	I don't miss it	I miss it slightly	I miss it a great deal
6. Opening the windows in your house on a breezy day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Walking near the open ditch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Allowing children in your care to play in uncovered ditches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Investing money or time to improve the quality of your house or fix something that is broken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Sitting in your yard on a nice day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Going under the house to fix something	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Going up in the attic of your house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section D1: Activities

[INTERVIEWER NOTE: For respondents who **do not** live in the Woolfolk Plant neighborhood. Check here if you (respondent) used to live in, and/or currently own property in the Woolfolk Plant neighborhood.]

I realize that you **do not** or **no longer live in** the Woolfolk plant neighborhood. But if you were to visit the neighborhood or if you were thinking about those who might use or rent property in the neighborhood, should any of the following activities be avoided because of concern about contamination from the Woolfolk Plant?

[INTERVIEWER NOTE: Please ask all of the questions on the **left** side of the bold line first. When these are completed, turn to the questions to the **right** of the bold line. Only ask about the activities the respondent said should definitely be avoided, or should be avoided some of the time.]

	How much does it bother you that [name of activity] needs to be avoided some of/all of the time? Would you say that it			
	Bothers you a great deal	Bothers you slightly	Doesn't bother you at all	
13. Going to the neighborhood in the first place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Doing yard work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Gardening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Allowing children to play in the yard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Sitting near an open window on a breezy day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Spending time near an open ditch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Allowing children to play in the ditch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Drinking the water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How much does it bother you that [name of activity] needs to be avoided some of/all of the time? Would you say that it

Bothers you a
great deal

Bothers you
slightly

Doesn't bother
you at all

Don't know/
doesn't apply

Should avoid

- | | | | |
|--|--------------------------|--------------------------|--------------------------|
| 21. Hanging out in the yard | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. Allowing children to put garden dirt or dust inside their mouths | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Section E: Health Problems

How likely do you think it is that the following health problems in the neighborhood are caused by contamination from the Woolfolk Plant?

	Very likely	Somewhat likely	Not likely	Don't know/ no answer
1. Heart problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Ulcers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Fainting spells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Mental illness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Cancers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Amnesia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Birth defects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Sterility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Diabetes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Asthma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Other breathing problems besides asthma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. AIDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Arthritis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Skin diseases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Influenza/severe flu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Severe allergies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Drug and alcohol problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Mental retardation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. MS—Multiple Sclerosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Numbness and tingling in hands and feet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Anemia or other blood problems not including trait sickle cell anemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Leukemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section F: Concerns

Do you worry about the following things?

	Not at all worried	Slightly worried	Worried a lot	Don't know/ no answer	Doesn't apply
1. What the Woolfolk Plant has already done to my health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The Woolfolk Plant's affect on my future health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The health of friends and family still living near the Woolfolk Plant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Children in the Woolfolk Plant neighborhood being born with birth defects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you find yourself upset about any of the following things?

	Not at all upset	Slightly upset	Upset a lot	Don't know/ no answer	Doesn't apply
5. The loss of old trees and gardens in the Woolfolk Plant neighborhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The possibility that illnesses in your family might have been avoided had you not lived near the Woolfolk Plant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The feeling that you would have been much healthier had you not lived near the Woolfolk Plant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Upset by past illnesses that you believe were caused by the Woolfolk Plant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section G: The Property Buy-Out Plan

The Woolfolk Plant made an effort to purchase contaminated property from some people living near the plant. Here are some questions about this buy-out plan. Have you heard about **or** did you know about this plan when it was happening?

[INTERVIEWER NOTE: If not, check **and** skip the next five “buy-out plan” questions.]

1. The questions people had about the buy-out plan were generally answered in a way that most people could understand.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. I would rather see houses in the Woolfolk Plant neighborhood properly cleaned than have them sold to the plant and torn down.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. The Woolfolk company offered fair prices for houses in the neighborhood.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. The Woolfolk Plant's efforts to purchase contaminated property from people living near the plant was as **fair** to one person as it was to the next.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section H: Permanent Relocation

[INTERVIEWER NOTE: To be answered only by those plaintiffs who moved voluntarily or were moved permanently as a result of contamination. Check **here** if question doesn't apply; go to Section I.]

1. I was given enough time to prepare for the move.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Officials were as considerate and helpful with the problems created by the move as could be reasonably expected.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. The problems created by having to relocate were so difficult that they caused me lasting distress.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Living in temporary housing while we looked for a new place bothered me a lot.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. I'm now happily settled in a new place.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. I'm still not in permanent housing and may have to move again.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section I: Temporary Relocation

The following statements involve your experience with the temporary move during clean-up.

[**INTERVIEWER NOTE:** To be answered only by those who had to temporarily relocate during clean-up. Check and go to Section J if you were not asked to move temporarily during the clean-up efforts.]

1. I was given enough time to prepare for the move.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The clean-up crew was respectful of my property.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. The temporary move was very stressful for me.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. I was bothered by the fact that I couldn't enter my home during the clean-up.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. It was hard for me to give up the keys to my house during the clean-up.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. The persons in charge of the clean-up answered my questions (or addressed my concerns) in a satisfactory manner.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. The persons in charge of the clean-up did everything that could be expected to help solve the problems created by the temporary move.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section L: Plant — General

1. Were you bothered by the clean-up operations in the Woolfolk Plant neighborhood?

Not at all bothered	Somewhat bothered	Very bothered	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. How much did you know about the risks from the Woolfolk Plant when you moved into the neighborhood?

Nothing	A little bit	A lot	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. The economic benefits (e.g., jobs, commerce, etc.) the Woolfolk Plant brings to the plant neighborhood are more important than health risks caused by the plant.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. People like me don't have any say about what will be done about the Woolfolk Plant.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. I think that the Woolfolk Plant managers deliberately withheld information about contamination from the people living near the plant.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. The owners of the Woolfolk Plant really do care about what happens to people like me.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section M: Neighborhood — General

1. How would you rate the Woolfolk Plant neighborhood as a place to live?

Excellent	Good	Fair	Poor	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. In my experience, I feel as though the neighborhood's contamination problem has created a lot of tension between friends, family, and neighbors.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Exposure to arsenic is voluntarily accepted by the people living near the plant.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Exposure to arsenic and other contaminants from the Woolfolk Plant has caused many deaths in the neighborhood.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. The Woolfolk Plant neighborhood feels like it has been invaded with dangerous chemicals.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. The Woolfolk Plant neighborhood feels like a ghost town.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. I think that within the next 5-10 years the problems created by the Woolfolk Plant will go away and the neighborhood will return to normal.

Strongly
agree

Agree

Disagree

Strongly
disagree

Don't know/
no answer

8. I think the neighborhood could be cleaned up enough to make it safe.

Strongly
agree

Agree

Disagree

Strongly
disagree

Don't know/
no answer

13. When I'm in my house, I often wonder if I'm breathing in something poisonous.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Thinking about the risks of arsenic or other contaminants from the Woolfolk Plant gives me a creepy, frightened feeling.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Overall, I'd have to say that my whole experience with the news about contamination from the Woolfolk Plant has increased my faith in humanity.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Somehow it's harder to accept the health problems in the Woolfolk Plant neighborhood knowing that they're not just acts of God but that the plant is responsible.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Notes on responses to Question 16:

Fort Valley Impact Survey

Name: _____

Sex: Male Female

Age: _____

Introduction

This survey is designed to describe the experiences, thoughts, and impressions of people who currently live or once lived in the Woolfolk Plant neighborhood (also known as the Dust House neighborhood). Please try and answer each question carefully. There are **no** right or wrong answers, nor are there any “trick” questions. If any of the questions are not clear or are too difficult to answer for any reason, please speak up. I will do my best to clarify things and answer your questions.

This version of the survey is for Group 2—past residents of the Woolfolk Plant neighborhood who no longer own **or** never did own property in the neighborhood.

Section A: Open-Ended Questions

Section A1: Images

I'm going to mention certain things. I want you to tell me what comes to mind when that thing is mentioned (it could be a word or it could be an image). For instance, if I said: "What comes to mind when I say: **music**," you might answer "**piano**

happy

Ray Charles, or

loud. Or, you might say something totally different.

The point is to tell me the first words/ideas that come to mind.

[**INTERVIEWER NOTE:** Ignore the ratings to the **right** of the bold line until you've asked all four image questions in this section. Once this section of image questions is completed, return to the ratings on the **right** side of the bold line.]

DIRECTIONS: I'm going to remind you of each of your answers. I want you to tell me which answers you think have a "very bad" (-2), "bad" (-1), good (+1), very good (+2) or neutral (0) feeling to them.

1. What words or images come to mind when you see the **newly fenced-in vacant lots in the Woolfolk Plant neighborhood?**

a. _____

b. _____

c. _____

Don't know/no answer

Ratings (-2, -1, 0, +1, +2)

DIRECTIONS: I'm going to remind you of each of your answers. I want you to tell me which answers you think have a "very bad" (-2), "bad" (-1), good (+1), very good (+2) or neutral (0) feeling to them.

2. What words or images come to mind when you think about **the soil in the yard of the house(s) you used to live in in the Woolfolk Plant neighborhood?**

Ratings (-2, -1, 0, +1, +2)

a. _____

b. _____

c. _____

Don't know/no answer

3. What words or images come to mind when you think about **the dust inside the home or attic of the house(s) you used to live in in the Woolfolk Plant neighborhood?**

Ratings (-2, -1, 0, +1, +2)

a. _____

b. _____

c. _____

Don't know/no answer

Section A2: Sentence-Completion Tasks

I'm going to read you the beginning of several sentences. I would like you to finish the sentences in your own words.

[Interviewer Note: Most of us do not talk in neat, complete sentences. Just do your best, and copy the respondent's words as precisely as possible.]

1. When I think about the home(s) I used to live in in the Woolfolk Plant neighborhood, I think about:

(Check **here** if question does not apply.)

2. In the last two-and-a-half years, the Woolfolk Plant neighborhood has begun to look to me like:

(Check **here** if question does not apply.)

3. When I think about playing in the ditch near the Woolfolk Plant as a child, I think:

(Check **here** if question does not apply.)

4. When I think about the Woolfolk Plant, I think:

(Check **here** if question does not apply.)

5. When the wind blows the dirt and dust in the Woolfolk Plant neighborhood, I think about:

(Check **here** if question does not apply.)

Section B: Stress-Related Problems

I'm going to read you a list of symptoms or problems. Please say "yes" for those that "bother you a lot." Say "no" for those symptoms or problems that do not bother you or only bother you slightly.

[INTERVIEWER NOTE: Ask all of the questions to the **left** of the bold line **first**. When these are completed, turn to the questions to the **right** of the bold line. Only ask about "cause" for the problems marked "yes."]

Presence of Symptom or Problem			Cause of Symptom or Problem		
Do any of the following bother you a lot?			You said that [item name] bothered you a lot. Would you say that this is caused by the plant?		
			Yes	No	Unsure/ don't know
1.	Headaches	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Feeling faint or dizzy	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Pains in the heart or chest	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Feeling low in energy or slowed down	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Pains in the lower part of your back	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Nausea or upset stomach	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Sore muscles	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Trouble getting your breath	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Weakness in parts of your body	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Heavy feelings in your arms or legs	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Trouble remembering things	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Presence of Symptom or Problem

Cause of Symptom or Problem

You said that [item name] bothered you a lot. Would you say that this is caused by the plant?

Do any of the following bother you a lot?			Cause of Symptom or Problem		
			Yes	No	Unsure/ don't know
12.	Feeling confused	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	Trouble concentrating	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Feeling nervous or shaky inside	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	Feeling afraid	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	Your heart pounding or racing	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	Having to avoid certain things, places, or activities because they frighten you	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	Feeling tense or keyed up	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	Feeling critical of others	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	Feeling easily annoyed or irritated	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	A feeling of being trapped	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	Temper outbursts you can't control	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	Your feelings being easily hurt	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	Feeling others do not understand you	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	Poor appetite	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	Crying easily	Yes No <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Presence of Symptom or Problem

Cause of Symptom or Problem

You said that [item name] bothered you a lot. Would you say that this is caused by the plant?

Do any of the following bother you a lot?				Yes	No	Unsure/ don't know
27.	Blaming yourself for things	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	Feeling lonely or alone	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	Feeling depressed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	Feeling hopeless about the future	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[INTERVIEWER NOTE: Do not proceed until you have finished with all the questions about “problem presence” (i.e., **left** side of the bold line) and “problem cause” (i.e., **right** side of the bold line).]

Section C: Feelings and Descriptions

These next questions ask you to describe certain things or places in the Woolfolk Plant neighborhood.

When you think about **the ditch**, how does it make you feel?

- | | | | | | | | |
|----|---|---|---|---|--|--|---|
| 1. | Very safe
<input type="checkbox"/> | Slightly safe
<input type="checkbox"/> | Slightly unsafe
<input type="checkbox"/> | Very unsafe
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 2. | Very sad
<input type="checkbox"/> | Slightly sad
<input type="checkbox"/> | Slightly happy
<input type="checkbox"/> | Very happy
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 3. | Very calm
<input type="checkbox"/> | Slightly calm
<input type="checkbox"/> | Slightly angry
<input type="checkbox"/> | Very angry
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 4. | Very healthy
<input type="checkbox"/> | Slightly healthy
<input type="checkbox"/> | Slightly sick
<input type="checkbox"/> | Very sick
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 5. | Very clean
<input type="checkbox"/> | Slightly clean
<input type="checkbox"/> | Slightly dirty
<input type="checkbox"/> | Very dirty
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 6. | Very peaceful
<input type="checkbox"/> | Slightly peaceful
<input type="checkbox"/> | Slightly upset
<input type="checkbox"/> | Very upset
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |

When you think about **the neighborhood drinking water**, how does it make you feel?

- | | | | | | | | |
|-----|---|---|---|---|--|--|---|
| 7. | Very safe
<input type="checkbox"/> | Slightly safe
<input type="checkbox"/> | Slightly unsafe
<input type="checkbox"/> | Very unsafe
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 8. | Very sad
<input type="checkbox"/> | Slightly sad
<input type="checkbox"/> | Slightly happy
<input type="checkbox"/> | Very happy
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 9. | Very calm
<input type="checkbox"/> | Slightly calm
<input type="checkbox"/> | Slightly angry
<input type="checkbox"/> | Very angry
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 10. | Very healthy
<input type="checkbox"/> | Slightly healthy
<input type="checkbox"/> | Slightly sick
<input type="checkbox"/> | Very sick
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 11. | Very clean
<input type="checkbox"/> | Slightly clean
<input type="checkbox"/> | Slightly dirty
<input type="checkbox"/> | Very dirty
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 12. | Very peaceful
<input type="checkbox"/> | Slightly peaceful
<input type="checkbox"/> | Slightly upset
<input type="checkbox"/> | Very upset
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |

When you think about **the dust inside the house(s) you used to live in in the Woolfolk Plant neighborhood**, how does it make you feel?

- | | | | | | | | |
|-----|---|---|---|---|--|--|---|
| 13. | Very safe
<input type="checkbox"/> | Slightly safe
<input type="checkbox"/> | Slightly unsafe
<input type="checkbox"/> | Very unsafe
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 14. | Very sad
<input type="checkbox"/> | Slightly sad
<input type="checkbox"/> | Slightly happy
<input type="checkbox"/> | Very happy
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 15. | Very calm
<input type="checkbox"/> | Slightly calm
<input type="checkbox"/> | Slightly angry
<input type="checkbox"/> | Very angry
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 16. | Very healthy
<input type="checkbox"/> | Slightly healthy
<input type="checkbox"/> | Slightly sick
<input type="checkbox"/> | Very sick
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 17. | Very clean
<input type="checkbox"/> | Slightly clean
<input type="checkbox"/> | Slightly dirty
<input type="checkbox"/> | Very dirty
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 18. | Very peaceful
<input type="checkbox"/> | Slightly peaceful
<input type="checkbox"/> | Slightly upset
<input type="checkbox"/> | Very upset
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |

When you think about **the newly fenced-in areas in the Woolfolk Plant neighborhood**, how does it make you feel?

- | | | | | | | | |
|-----|---|---|---|---|--|--|---|
| 19. | Very safe
<input type="checkbox"/> | Slightly safe
<input type="checkbox"/> | Slightly unsafe
<input type="checkbox"/> | Very unsafe
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 20. | Very sad
<input type="checkbox"/> | Slightly sad
<input type="checkbox"/> | Slightly happy
<input type="checkbox"/> | Very happy
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 21. | Very calm
<input type="checkbox"/> | Slightly calm
<input type="checkbox"/> | Slightly angry
<input type="checkbox"/> | Very angry
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 22. | Very healthy
<input type="checkbox"/> | Slightly healthy
<input type="checkbox"/> | Slightly sick
<input type="checkbox"/> | Very sick
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 23. | Very clean
<input type="checkbox"/> | Slightly clean
<input type="checkbox"/> | Slightly dirty
<input type="checkbox"/> | Very dirty
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 24. | Very peaceful
<input type="checkbox"/> | Slightly peaceful
<input type="checkbox"/> | Slightly upset
<input type="checkbox"/> | Very upset
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |

When you think about **the soil in the yard of the house(s) you used to live in in the Woolfolk Plant neighborhood**, how does it make you feel?

- | | | | | | | | |
|-----|---|---|---|---|--|--|---|
| 25. | Very safe
<input type="checkbox"/> | Slightly safe
<input type="checkbox"/> | Slightly unsafe
<input type="checkbox"/> | Very unsafe
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 26. | Very sad
<input type="checkbox"/> | Slightly sad
<input type="checkbox"/> | Slightly happy
<input type="checkbox"/> | Very happy
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 27. | Very calm
<input type="checkbox"/> | Slightly calm
<input type="checkbox"/> | Slightly angry
<input type="checkbox"/> | Very angry
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 28. | Very healthy
<input type="checkbox"/> | Slightly healthy
<input type="checkbox"/> | Slightly sick
<input type="checkbox"/> | Very sick
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 29. | Very clean
<input type="checkbox"/> | Slightly clean
<input type="checkbox"/> | Slightly dirty
<input type="checkbox"/> | Very dirty
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |
| 30. | Very peaceful
<input type="checkbox"/> | Slightly peaceful
<input type="checkbox"/> | Slightly upset
<input type="checkbox"/> | Very upset
<input type="checkbox"/> | A little of both
<input type="checkbox"/> | Don't know/
no answer
<input type="checkbox"/> | Doesn't apply
<input type="checkbox"/> |

Section D: Activities

[INTERVIEWER NOTE: For respondents who **no longer** live in the Woolfolk Plant neighborhood.]

I realize that you no longer live in the Woolfolk plant neighborhood. But if you were to visit the neighborhood **or** if you were thinking about those who might use or rent property in the neighborhood, should any of the following activities be avoided because of concern about contamination from the Woolfolk Plant?

[INTERVIEWER NOTE: Please ask all of the questions on the **left** side of the bold line first. When these are completed, turn to the questions to the **right** of the bold line. Only ask about the activities the respondent said should definitely be avoided, or should be avoided some of the time.]

	How much does it bother you that [name of activity] needs to be avoided? Would you say that it:		
	Bothers you a great deal	Bothers you slightly	Doesn't bother you at all
13. Going to the neighborhood in the first place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Doing yard work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Gardening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Allowing children to play in the yard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Sitting near an open window on a breezy day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Spending time near an open ditch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Allowing children to play in the ditch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Drinking the water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Don't know/
 doesn't apply

Should avoid

How much does it bother you that [name of activity] needs to be avoided? Would you say that it:

	Bothers you a great deal	Bothers you slightly	Doesn't bother you at all
21. Hanging out in the yard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Allowing children to put garden dirt or dust inside their mouths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Don't know/
doesn't apply

Should avoid

Section E: Health Problems

How likely do you think it is that the following health problems in the neighborhood are caused by contamination from the Woolfolk Plant?

	Very likely	Somewhat likely	Not likely	Don't know/ no answer
1. Heart problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Ulcers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Fainting spells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Mental illness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Cancers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Amnesia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Birth defects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Sterility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Diabetes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Asthma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Other breathing problems besides asthma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. AIDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Arthritis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Skin diseases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Influenza/severe flu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Severe allergies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Drug and alcohol problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Mental retardation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. MS—Multiple Sclerosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Numbness and tingling in hands and feet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Anemia or other blood problems not including trait sickle cell anemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Leukemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section F: Concerns

Do you worry about the following things?

	Not at all worried	Slightly worried	Worried a lot	Don't know/ no answer	Doesn't apply
1. What the Woolfolk Plant has already done to your health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The Woolfolk Plant's affect on your future health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The health of friends and family still living near the Woolfolk Plant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Children in the Woolfolk Plant neighborhood being born with birth defects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you find yourself upset about any of the following things?

	Not at all upset	Slightly upset	Upset a lot	Don't know/ no answer	Doesn't apply
5. The loss of old trees and gardens in the Woolfolk Plant neighborhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The possibility that illnesses in your family might have been avoided had you not lived near the Woolfolk Plant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The feeling that you would have been much healthier had you not lived near the Woolfolk Plant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Upset by past illnesses you believe were caused by the Woolfolk Plant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section G: The Property Buy-Out Plan

The Woolfolk Plant made an effort to purchase contaminated property from some people living near the plant. Here are some questions about this buy-out plan. Have you heard about **or** did you know about this plan when it was happening?

[INTERVIEWER NOTE: If not, check **and** skip the next four "buy-out plan" questions.]

1. The questions people had about the buy-out plan were generally answered in a way that most people could understand.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. I would rather see houses in the Woolfolk Plant neighborhood properly cleaned than have them sold to the plant and torn down.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. The Woolfolk company offered fair prices for houses in the neighborhood.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. The Woolfolk Plant's efforts to purchase contaminated property from people living near the plant was as **fair** to one person as it was to the next.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section H: Permanent Relocation

[INTERVIEWER NOTE: To be answered only by those plaintiffs who moved voluntarily or were moved permanently as a result of the contamination. Check **here** if question doesn't apply; go to Section I.]

1. I was given enough time to prepare for the move.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Officials were as considerate and helpful with the problems created by the move as could be reasonably expected.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. The problems created by having to relocate were so difficult that they caused me lasting distress.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Living in temporary housing while we looked for a new place bothered me a lot.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. I'm now happily settled in a new place.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. I'm still not in permanent housing and may have to move again.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section I: Temporary Relocation

The following statements involve your experience with the temporary move during clean-up.

[INTERVIEWER NOTE: To be answered only by those who had to temporarily relocate during clean-up. Check and go to Section J if you were not asked to move temporarily during the clean-up efforts.]

1. I was given enough time to prepare for the move.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The clean-up crew was respectful of my property.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. The temporary move was very stressful for me.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. I was bothered by the fact that I couldn't enter my home during the clean-up.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. It was hard for me to give up the keys to my house during the clean-up.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. The persons in charge of the clean-up answered my questions (or addressed my concerns) in a satisfactory manner.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. The persons in charge of the clean-up did everything that could be expected to help solve the problems created by the temporary move.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section K: Testing

This next set of questions asks you what you think about the EPA-sponsored testing that has gone on in the Woolfolk Plant neighborhood. Please tell me if the question does not apply to you.

1. I trust the opinion of EPA experts responsible for chemical testing in the neighborhood.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. I don't see how one house can be contaminated, when another house nearby is said to be safe.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. The EPA experts took into consideration all the important ways in which chemicals from the Woolfolk Plant may have traveled into the neighborhood.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. The EPA testers did a good job of testing for contaminants in the neighborhood.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. I resent the fact that some houses (or properties/land) have been tested by the EPA while others have not.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. EPA has dealt with the contamination problems in a quick and satisfactory manner.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. I think the EPA-Superfund officials were fair about setting the clean-up level for residential properties at 30 PPM (Parts Per Million).

Strongly
agree

Agree

Disagree

Strongly
disagree

Don't know/
no answer

Doesn't apply

Section L: Plant — General

1. Were you bothered by the clean-up operations in the Woolfolk Plant neighborhood?

Not at all bothered	Somewhat bothered	Very bothered	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. How much did you know about the risks from the Woolfolk Plant when you moved into the neighborhood?

Nothing	A little bit	A lot	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. The economic benefits (e.g., jobs, commerce, etc.) the Woolfolk Plant brings to the plant neighborhood are more important than the health risks caused by the plant.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. People like me don't have any say about what will be done about the Woolfolk Plant.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. I think that the Woolfolk Plant managers deliberately withheld information about contamination from the people living near the plant.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. The owners of the Woolfolk Plant really do care about what happens to people like me.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section M: Neighborhood — General

1. How would you rate the Woolfolk Plant neighborhood as a place to live?

Excellent	Good	Fair	Poor	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. In my experience, I feel as though the neighborhood's contamination problem has created a lot of tension between friends, family, and neighbors.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Exposure to arsenic is voluntarily accepted by the people living near the plant.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Exposure to arsenic and other contaminants from the Woolfolk Plant has caused many deaths in the neighborhood.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. The Woolfolk Plant neighborhood feels like it has been invaded with dangerous chemicals.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. The Woolfolk Plant neighborhood feels like a ghost town.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. I think that within the next 5-10 years the problems created by the Woolfolk Plant will go away and the neighborhood will return to normal.

Strongly
agree

Agree

Disagree

Strongly
disagree

Don't know/
no answer

8. I think the neighborhood could be cleaned up enough to make it safe.

Strongly
agree

Agree

Disagree

Strongly
disagree

Don't know/
no answer

13. When in my home, I often wonder if I'm breathing in something poisonous.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Thinking about the risks of arsenic or other contaminants from the Woolfolk Plant gives me a creepy, frightened feeling.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Somehow it's harder to accept the health problems in the Woolfolk Plant neighborhood knowing that they're not just acts of God but that the plant is responsible.

Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ no answer	Doesn't apply
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Notes on responses to Question 15:

APPENDIX C:

Background Study

MEMO

April 11, 1996

To: William A. Pannell P.C.

From: Paul Slovic, Theresa (Terre) Satterfield, and James Flynn
Decision Research, 1201 Oak Street, Eugene OR 97401

Re: Research project regarding impact at the individual and
community level from contamination stemming from the Woolfolk
Plant in Fort Valley, Georgia

Enclosed is a summary statement of findings resulting from an initial community study conducted in Fort Valley in late February and early March, 1996. As requested, we have summarized our findings in terms of the primary concerns of current and prior residents from the neighborhoods adjacent to the Fort Valley plant, as well as material from one member of the Woolfolk Citizens Response Group and one plaintiff who does not and has not lived in the neighborhood, but owns rental property there.

We have organized residents thoughts, feelings and commentary about the "impact" of contamination and subsequent remediation in their lives in terms of analytic categories that have emerged from and are relevant to existing literature on *contaminated communities*, on the perception of toxicological risk (especially in terms of fear, dread, and loss of peace of mind), and on the impact on individuals and community experiences and definitions of home and neighborhood.

In sum, we are confident that the experience of Fort Valley residents is consistent with our collective professional knowledge about perceptions of environmental risk and that we can accurately document and represent those experiences.

SUMMARY REPORT

I. Disruption of the meaning and the experience of home and neighborhood:

Research examining the social and psychological impact of residential toxic exposure has documented the tendency for contamination to drastically disrupt the normal experience and thus meaning of home and neighborhood to those exposed (Jones et al., 1984; Edelstein, 1986, 1988; Fitchen, 1989; Erikson, 1994). We speak here of the destruction of implicit and explicit definitions of home as a place that promises safety for self and family, home as reflective of one's identity, home as an affective anchor in an otherwise chaotic world, home as a source of privacy, and homeownership as a symbol of economic and cultural ("the American dream") sufficiency. Disruption of the expected relationship between resident, home and neighborhood can also involve a change in the ways in which one moves through the world, conducts the errands of life or what some have called the disruption of normal *lifeways* (Edelstein, 1988).

In the Fort Valley context there is little doubt that serious disruption has occurred; residents voiced considerable distress with regard to their ability to remain in their homes and neighborhood. Others have physically moved under very stressful circumstances. A strong sense of entrapment permeated discussions about home—a kind of 'damned if I do [move], damned if I don't [move]' attitude. Some wished to move but felt trapped economically, while others felt that moving represented an enormously undesirable loss with regard to community rootedness as well as loss of 'sweat equity' or the long term emotional and physical investment in their homes. Many residents noted the loss of ability to garden or to enjoy those home-centered improvement projects that had been the focus of their nonwork lives.

- "I used to love gardening. I had to cut the plum trees and can't touch the pecan tree or grape vines."
- "We did a lot of work to make it [the house] liveable; that's a lot of work, a lot of hard, hard work you put into it--all gone."
- "I know I'm putting my dollars into something that's hurting me. Now I resent all repairs; I do the bare minimum"
- "I know everybody here; I'm not going to know anyone [in a new place]."
- "I'm always haunted by the need to get out of here and the frustration of not being able to help my family."

- “It feels like living in a trap—the structure is stable, the house is comfortable; all this is deceiving because of the health concerns.”
- “My home feels to me like a trap, I can’t get out, like there’s something hiding in the shadows waiting to jump.”

The response most salient among residents interviewed involved an encroaching sense of doom associated with living in a home and/or returning daily to a home thought of as dangerous, a threat to the health of oneself and one’s family. One woman noted that she stayed at work longer than necessary to avoid having to “go home to her **arsenic** house” and added “I can’t relax because I can’t breathe [safely].” Another believed that there was little she could do to protect herself while inside. She felt like she was “living in a place you’re afraid of—like it [the contamination] was coming in the cracks,” or “like I’m living in something that will slowly kill me.” Some residents have had the inside of their homes tested and have been told, for instance, to “stay out of their attics” because of toxicity levels exceeding 30PPM. Thus, there are frequent references to being afraid of the attic (“if the wind blew I wondered if it would come down from the attic into the house”), afraid of particles falling into the kitchen and food from the upper portion of the house, or, metaphorically, afraid of the “ghost in the attic.”

Some residents, forced to vacate rented property, remain in temporary housing and live with the expectation that they could be asked to move again with little or no notice. In one case, the plant ceased to pay the utility bills on two occasions and the already disrupted residents lost power. Other residents were temporarily relocated while their own houses or adjacent houses were being cleaned which for some instilled a kind of panic because limited notice of remediation was provided, keys to homes were appropriated, and the cleaning crews “rolled into towns with backhoes and said **everybody move now!**” The urgency, while disruptive, also struck many as ill-timed given the long wait between initial news of contamination and any specific remediation actions. All residents affected by remediation or relocation expressed considerable anguish with regard to the difficulty of living out of hotel rooms far from schools, neighborhoods, commercial services, etc., as well as the disruption of being unable to proceed with normal patterns of activity (sewing at home, gardening, socializing, etc.).

The immoderate images used to describe the neighborhood’s current flavor indicate some of the changes initiated by contamination and, in the words of one resident, “reckless” remediation. Several houses have been razed leaving dusty vacant lots between standing houses. These lots are surrounded by chain-link fences marked by signs announcing **danger** and **contamination**.

Much of the neighborhood's vegetation (trees, gardens, etcetera) was removed. The neighborhood itself is described by residents in the following catastrophic terms:

- “neighborhood feels like a ghost town”
- “it’s like an invasion”
- you used to come through and see all the houses, now you don’t see any and the neighbors are gone
- it’s a permanent hole, a scar that won’t heal
- looks like a concentration camp
- feels like the chemicals are just moving closer and closer¹

Residents bothered by the disruption of community relations experienced this in terms of the (obvious) loss of neighbors and dissolution of established relations. In this sense contamination can be said to have caused a “*collective trauma*” or a “blow ... [that] damages the bonds attaching people together and impairs the prevailing sense of community” (Erikson, 1994). The impact is particularly acute for the older residents who had expected to depend on the long-term stability of local friends and neighbors; they worried that the time and emotional effort necessary to establish new ties in new locations was simply not available. Moreover, the initial neighborhood response (described by one as cohesive) to the crisis seems to have eroded over time into a pronounced fatalism. (“Initially the response was vibrant, after awhile people seems to say: whatever.”)

Research investigating the stigmatization of neighborhoods or geographic regions has documented the tenacity of negative associations with contaminated areas as well as the impact of those associations on the increased perception of risks to health and the environment (Jones et al, 1984; Edelstein, 1988; Slovic, Layman, Kraus et al., 1991; Gregory, Flynn, & Slovic, 1995). Once news of contamination is known, areas become marked and discredited as extremely undesirable regardless of assurances of safety from toxicological experts (Edelstein, 1986). Fort Valley residents expressed stigmatization of their own neighborhoods in terms of grandchildren afraid to play in the yard (a fear generated by parents and passed on to children and grandchildren), friends no longer wanting to visit, and a loss of desire to remain in the community. One woman told me that just before the interview she and

¹ The statement refers to the sense that as the plant buys up and fences off property, the plant itself and all that it has come to represent is encroaching on and/or consuming the neighborhood proper.

her husband were arguing about whether or not to allow their son to play at her sister's house. (Her sister's house is two blocks closer, in fact adjacent to, the plant and thus perceived as more dangerous.) The woman felt that she was forced to choose between her child's health and the breakdown of a sibling relationship extremely important to her.

II. The Perception of Risk, Dread, Concern for Health, and the Experience of Psychological Distress

Studies of the perception of risk posed by chemicals, radioactive material, environmental degradation, etc., have consistently noted the relevance of several key dimensions which in turn negatively affect the perception of risk and thus the experience of exposure once known (Slovic, Fischhoff, & Lichtenstein, 1979, 1985; Slovic, 1987).² More specifically, hazards which individuals are not able to control, which are said to be fatal and/or carcinogenic, whose presence and/or risk is uncertain or not definitively knowable, as well as hazards that are involuntarily and inequitably distributed, are hazards most likely to be deeply dreaded or feared by the public. In 'exposure' situations, hazards with these qualities can be expected to cause a substantial degree of psychological distress.

Residents in the Fort Valley neighborhoods adjacent to the plant spoke of their exposure consistently and pervasively in terms of the qualities defined above. Frustration with the uncertainty, fear of the unknown and a resultant sense of the loss of control over one's life permeated residents' thoughts and reflective responses to contamination.

- it's a strange feeling--after all that's happened you still don't know what's going on
- it's "what you don't know" that bothers you
- Q. *What bothers you the most?* A. "Just not knowing; they're not telling you everything you need to know. There's something in there that ain't right."
- "I don't know what will happen--my mind wants to settle down somewhere and stop worrying about all this."

² For a comprehensive summary of this work see Slovic (1992).

- I had Hepatitis B once and the hopeless feeling of now knowing how I contacted it was similar to the experience of “not knowing” here
- “Are they doing to get it completely cleaned; can they get it all?”

Fear of the unknown also relates to certain health concerns both past, present and future. Regarding the past and/or present, every single resident interviewed spoke of specific acute and chronic health problems: birth defects (particularly heart related); cancers; severe respiratory problems; chronic asthma; severe allergies; lumps, discoloration and rashes on the skin; the swelling of arms and legs; autoimmune problems; etcetera. For some, these had been thought of as the product of the hand of fate or even God, but they subsequently concluded that many of the illnesses, deaths and attendant distresses might have been avoided. Concerns about future health problems generally followed a pattern Kai Erikson has called the feeling that “a time bomb is ticking” inside oneself (1994).

- “I just need to know for the sake of the children; I don’t want to stay in a place that’s going to shorten their lives.”
- I still feel like there is contamination and I worry about my health. “Am I going to come down with something in my throat and die?”
- “feel like I’m [pause] something that will just slowly kill me”
- “Whatever it is that’s in me; I’m already doomed.”
- I worry about cancer. If I feel something in my body (e.g. current stomach pains), I wonder if it’s cancer. (Residents says this is not something she ever worried about before news of contamination.)
- My worst fear is that it’s affecting the children’s health and yet I can’t act, I’m trapped by the house
- “Good Christians had believed that God had been taking the children only to find out it was the plant.”
- “You don’t worry about it if you don’t know, but once you know it makes you remember everything that happened before.” (Said she had thought that the burdens of life were just bad luck or god’s plan; now she wonders if it was the plant.) But now she looks at the list: e.g. allergies as child; son’s bronchitis; miscarriages; daughter born with deformities (club foot, hole-in-heart - she died @ 20 days old); son would be fine in hospital & then come home & within 12 hrs. she would have to call the ambulance; son had “allergy” so severe they put him in oxygen tank(doctor said - *there’s something wrong at your house*); the day before he died, he’d been doing well, had him in yard (for sunshine) & he was dead from asphyxiation

- “All these things I remember - like when (as a child and teenager in the 40's and 50's) the plant reps would knock on doors in the middle of the night and tell the plaintiff and family members to leave the house immediately.” She (plaintiff) reported being terrified of the plant reps who would come to the door with these giant gas masks, like creatures from outer-space. Mary had forgotten these memories until she was urgently asked to move because they were cleaning the house next door -- “it was like a flashback” i.e. triggered earlier trauma

As mentioned above, a pervasive sense of fear or dread typically can be expected to accompany knowledge of exposure to hazardous chemicals, particularly carcinogens. In the Fort Valley context this translated to mean that many residents in the plant neighborhood had come to experience their lives and their habitat as a habitus--an area associated with disease, fear and danger. Immediate (plant-adjacent) neighborhoods or environs are thought of as physically haunted by contaminants not quite tangible, not quite visible, but vaguely associated with dust and water and air and nonetheless lurking.

- before we moved, dust would swirl out of the vent; I would worry about inhaling
- since the news of contamination I stay inside so the dust won't get im my lungs
- the odor of the plant is a constant reminder of the presence of contamination
- whenever it's windy I think “it has to be blowing this way”³
- I feel like I'm constantly inhaling poison
- Just thinking about *it* brings on a kind of “numbing effect;” it's overwhelming, more than I can cope with
- “I wake up in a cold sweat--how long will I be here, when and where am I going”

Methods for coping with this kind of pervasive psychological distress vary though hyper-cleanliness, faith in divine wisdom, fatalism, and attempts to mentally control the levels of anxiety were most often cited.

³ The contaminants are typically referred to simply as “it” emphasizing the namelessness and lack of tangibility but pervasive to the degree that a simple pronoun will suffice. Everyone, it is assumed, knows what is meant by “it”.

- “beyond prayer, what else can we do”
- “there’s always the possibility that the lord didn’t let *it* go beyond Oak Street”
- “I’ve learned that God has a particular plan and that you have to trust that
- I wash the walls and dust more often
- I tore up most of the carpets and put vinyl tile down so that it can be washed and vacuumed

III. Inequity of Distribution

The impact of a risk is likely effected by the perception that a risk or hazard is inequitably distributed. Demographic studies have, as well, verified the prevalence of hazardous sites in poor and especially minority communities—what Bullard (1993; 1994) has called environmental racism. Thus, it is not surprising that residents living in the plant-adjacent neighborhood, the overwhelming majority of whom are African American, viewed the plant’s location in their neighborhood as a product of a racist society in which Blacks are viewed as a dispensable body. This includes the belief that the business community (primarily White) may have known of the contamination long before the Black community did and were thus more able to protect themselves from its consequences. In the mildly sardonic words of one respondent: “There are certain people who get the information first.” Further, many now believe that a period in the late seventies and early eighties marked by a White exodus from the neighborhood, i.e. a selling of homes to Blacks, was not the Black upward mobility it was thought to be. Rather, many now wonder and/or believe that members of the White community knew of the contamination (through word-of-mouth about state-generated investigations and inner-plant workings) and were fleeing the neighborhood, knowingly abandoning the Black community to a hazardous situation.

IV. Trust

A breakdown in trust of those individuals and institutions responsible for the production, control and regulation of hazards is also thought to be central to the perception of risk (Slovic, 1993). Thus, distress and fear of contamination is likely when the affected population does not trust that the government agents, scientists or industry representatives assigned to remediate the impact of toxic substances have behaved in an accountable and responsive manner. Pronounced frustration among residents in Fort Valley’s plant-adjacent neighborhood may explain some of the distress generally experienced due to

arsenic contamination in the neighborhood. In particular, residents complained about:

- the discomfort and/or humiliation of being asked for urine samples by plant representatives ostensibly looking for acute, not chronic, toxicity
- the loss of privacy and control initiated by the loss of access to one's house when cleaning was taking place, including the demand that house keys be turned over to remediation crew members
- an EPA representative who told residents that their fears were ungrounded but would not repeat that same claim when questioned publicly (at a town meeting) by a White physician from a nearby town
- the seemingly arbitrary pattern of dispersal of contaminants
- the suspicious circumstances of setting the clean-up level at 30PPM
- lack of opportunity for participation in remediation decisions
- the arrival of ATSDR (whose task was to develop health and safety guidelines) after the cleaning/remediation process had already begun

Trust has also been effected by a sense that residents were without effective political representation due to several sociopolitical circumstances. These are reported as:

- successive attempts by the White community and occasionally by more affluent Blacks to discredit and/or disempower the only Black city council member with whom most plaintiffs identify and who is himself a plaintiff
- an out-of-court settlement negotiated between Fort Valley's Black mayor (who grew up in the plant neighborhood and is gravely ill) and the plant's legal council-- the settlement occurred in private and during a period of time in which the mayor had some role in remediation decisions that effected residents in the contaminated areas
- a general belief that the White community characterized Black concerns as economically destructive and strategically motivated

V. Distrust of Remediation Processes

Distrust about remediation processes overlapped with residents observations about toxicity and explanation for the dispersal of toxins. In particular, residents resisted the idea that because the PPM at one house was determined safe, that all adjacent and more distant (from the plant) houses were therefore safe. Other beliefs about toxicity dispersal were as follows:

- A belief that soil testing was superficial (at 6 to 12 inches) as it failed to account for the disruption of or recent addition of topsoil in certain yards
- The belief that remediators failed to consider alternate sources of contamination, e.g. the continual traffic of trucks in the neighborhood en route to and from the plant loading dock, the proximity of plant-based waste sites to drainage and water sources
- the possibility that a recent flood might have moved toxins from particularly concentrated areas on plant property into the neighborhood
- the flooding of the ditch into neighborhood yards
- Frequent (and/or non linear) overflowing of the ditch into neighborhood yards before the ditch was paved
- the tendency to fence rather than clean property where houses had been razed

BIBLIOGRAPHY

- Bullard, R. (Ed.). (1993). *Confronting environmental racism*. Boston, MA: South End.
- Bullard, R. (1994). Overcoming racism in environmental decisionmaking. *Environment*, 36(4), 10.
- Edelstein, M. (1986). *Stigmatizing effects of toxic pollution* [Unpublished manuscript], Ramapo, NJ: Ramapo College, Department of Psychology.
- Edelstein, M. (1988). *Contaminated communities: The social and psychological impacts of residential toxic exposure*. Boulder, CO: Westview.
- Erikson, K. (1994). *A new species of trouble: The human experience of modern disasters*. New York: W. W. Norton & Company.
- Fitchen, J. M. (1989). When toxic chemicals pollute residential environments: The cultural meanings of home and homeownership. *Human Organization*, 48(4), 313-324.
- Gregory, R., Flynn, J., & Slovic, P. (1995). Technological stigma. *American Scientist*, 83, 220-223.
- Jones, E. E., Farina, A., Hastorf, A. H., Markus, H., Miller, D. T., Scott, R. A., & French, R. d., S. (1984). *Social stigma: The psychology of marked relationships*. New York: W. H. Freeman.
- Slovic, P. (1993). Perceived risk, trust, and democracy: A systems perspective. *Risk Analysis*, 13, 675-682.
- Slovic, P., Layman, M., Kraus, N., Flynn, J., Chalmers, J., & Gesell, G. (1991). Perceived risk, stigma, and potential economic impacts of a high-level nuclear waste repository in Nevada. *Risk Analysis*, 11, 683-696.
- Slovic, P. (1987). Perception of risk. *Science*, 236, 280-285.
- Slovic, P. (1992). Perception of risk: Reflections on the psychometric paradigm. In S. Krimsky & D. Golding (Eds.), *Social theories of risk* (pp. 117-152). New York: Praeger.
- Slovic, P., Fischhoff, B., & Lichtenstein, S. (1979). Rating the risks. *Environment*, 21(3), 14-20, 36-39.
- Slovic, P., Fischhoff, B., & Lichtenstein, S. (1985). Characterizing perceived risk. In R. W. Kates, C. Hohenemser & J. X. Kasperson (Eds.), *Perilous progress: Technology as hazard* (pp. 91-123). Boulder, CO: Westview.