UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

January 20, 2005

[redacted]

REPLY TO THE ATTENTION OF:

DE-9J

**Re: Soil and sump pump sampling in November 2004**

Dear Mr. [redacted]:

Last November U.S. Environmental Protection Agency and the DuPont company took water samples from the sump pumps and yard soil samples of five residences in the Riley Park neighborhood of East Chicago, Ind. We sent these samples to our laboratory to find out whether they were contaminated with four metals: arsenic, cadmium, chromium and lead. We received permission from the homeowners whose sumps and lawns were sampled.

The DuPont site, just south of the Riley Park area, has ground water (underground supplies of fresh water) that is contaminated with the four metals. DuPont recently constructed a special underground barrier to prevent polluted ground water from leaving the site. We took the samples from the Riley Park homes due to concerns that some contaminated ground water may have escaped from the DuPont site before the new barrier was finished. The ground-water contamination will dissipate naturally over time, but we wanted to make sure residents are safe in the meantime. The laboratory results are described below:

**What did we find in the sump pump water?** The concentrations of all four metals (arsenic, lead, chromium and cadmium) were within the current drinking water standards published by Indiana Department of Environmental Management (IDEM). Arsenic concentrations in the sump pump water ranged from 4 to 37 parts per billion, well within the current safety standard of 50 parts per billion. However, a new federal drinking water limit for arsenic of 10 parts per billion will take effect January 2006. This should not be a cause of concern because the sump water is not used for drinking, and residents get their drinking water from Lake Michigan. We analyzed the risk from other potential exposures to sump water, such as occasional contact with the skin, and found those risks to be negligible.

**What did we find in the soil?** We took samples within the top 6 inches of soil after removing sod from the surface. Some samples were taken at the spot where the sump water discharges on the lawn and others (background samples) were taken at places away from the sump pump discharge. We took the background samples because we know that these metals occur naturally in local soils. We wanted to find out whether the sump pump discharge samples had higher concentrations of these four metals than the background samples.

The concentrations of cadmium, chromium and lead were all within the safe levels set by Indiana in both the sump discharge area samples and the background samples. For arsenic, we found that the levels in some of the samples from the sump pump discharge areas seemed a little higher than normal, but the levels in the background samples were about the same. The soil samples collected in the sump pump discharge areas contained from 9.3 to 77.8 parts per million. Background samples contained arsenic concentrations ranging from 9.5 to 84.9 parts per million. We also found about the same arsenic levels in a separate sampling project in East Chicago. In that project, we found that surface soil arsenic concentrations ranged from 9.4 to 82 parts per million. So, we don't think the discharge of the sump pump water on to the soil is connected with the arsenic levels that we found in the soil.

**Is the arsenic in the soil a health hazard?** You probably know that a high dose of arsenic can be poisonous. The arsenic levels in the Riley Park samples are not even close to the level that could cause health problems. But frequent exposures to low levels of arsenic can be a concern too.

IDEM has set a risk-based soil cleanup level of 3.9 parts per million, which we know would be safe even if a resident was in direct contact with contaminated soil for 350 days a year for 30 years. Since the arsenic levels in the Riley Park soil samples are slightly higher than that, we did some more calculations.

We've calculated that an arsenic level of 170 parts per million in the soil would be a safe soil level for exposure to an adult during normal gardening work. Since the Riley Park soil samples had arsenic concentrations well below this level, we believe that arsenic should not be a cause of concern to the residents.

However, some residents might want to reduce their exposure to arsenic as much as possible, so here are some ideas: You can continue to maintain your lawn or other groundcover in play areas so that children and pets do not come in contact with bare soil very often. You can also grow flowers instead of vegetables in your garden, and you can use gloves when digging into the soil. Because Riley Park is not a farming area, we did not calculate a safe soil arsenic level for a resident who might want to grow and eat all their own vegetables instead of buying them.

Sincerely yours,

Brian P. Freeman

Brian P. Freeman
Chemist, Corrective Action Project Manager,
US EPA Region 5
WPTD/Enforcement and Compliance Assurance Branch
Corrective Action Section

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

January 20, 2005

REPLY TO THE ATTENTION OF:

DE-9J

Resident
[redacted]

**Re: Soil and sump pump sampling in November 2004**

Dear Resident:

Last November U.S. Environmental Protection Agency and the DuPont company took water samples from the sump pumps and yard soil samples of five residences in the Riley Park neighborhood of East Chicago, Ind. We sent these samples to our laboratory to find out whether they were contaminated with four metals: arsenic, cadmium, chromium and lead. We received permission from the homeowners whose sumps and lawns were sampled.

The DuPont site, just south of the Riley Park area, has ground water (underground supplies of fresh water) that is contaminated with the four metals. DuPont recently constructed a special underground barrier to prevent polluted ground water from leaving the site. We took the samples from the Riley Park homes due to concerns that some contaminated ground water may have escaped from the DuPont site before the new barrier was finished. The ground-water contamination will dissipate naturally over time, but we wanted to make sure residents are safe in the meantime. The laboratory results are described below:

**What did we find in the sump pump water?** The concentrations of all four metals (arsenic, lead, chromium and cadmium) were within the current drinking water standards published by Indiana Department of Environmental Management (IDEM). Arsenic concentrations in the sump pump water ranged from 4 to 37 parts per billion, well within the current safety standard of 50 parts per billion. However, a new federal drinking water limit for arsenic of 10 parts per billion will take effect January 2006. This should not be a cause of concern because the sump water is not used for drinking, and residents get their drinking water from Lake Michigan. We analyzed the risk from other potential exposures to sump water, such as occasional contact with the skin, and found those risks to be negligible.

**What did we find in the soil?** We took samples within the top 6 inches of soil after removing sod from the surface. Some samples were taken at the spot where the sump water discharges on the lawn and others (background samples) were taken at places away from the sump pump discharge. We took the background samples because we know that these metals occur naturally in local soils. We wanted to find out whether the sump pump discharge samples had higher concentrations of these four metals than the background samples.

The concentrations of cadmium, chromium and lead were all within the safe levels set by Indiana in both the sump discharge area samples and the background samples. For arsenic, we found that the levels in some of the samples from the sump pump discharge areas seemed a little higher than normal, but the levels in the background samples were about the same. The soil samples collected in the sump pump discharge areas contained from 9.3 to 77.8 parts per million. Background samples contained arsenic concentrations ranging from 9.5 to 84.9 parts per million. We also found about the same arsenic levels in a separate sampling project in East Chicago. In that project, we found that surface soil arsenic concentrations ranged from 9.4 to 82 parts per million. So, we don't think the discharge of the sump pump water on to the soil is connected with the arsenic levels that we found in the soil.

**Is the arsenic in the soil a health hazard?** You probably know that a high dose of arsenic can be poisonous. The arsenic levels in the Riley Park samples are not even close to the level that could cause health problems. But frequent exposures to low levels of arsenic can be a concern too.

IDEM has set a risk-based soil cleanup level of 3.9 parts per million, which we know would be safe even if a resident was in direct contact with contaminated soil for 350 days a year for 30 years. Since the arsenic levels in the Riley Park soil samples are slightly higher than that, we did some more calculations.

We've calculated that an arsenic level of 170 parts per million in the soil would be a safe soil level for exposure to an adult during normal gardening work. Since the Riley Park soil samples had arsenic concentrations well below this level, we believe that arsenic should not be a cause of concern to the residents.

However, some residents might want to reduce their exposure to arsenic as much as possible, so here are some ideas: You can continue to maintain your lawn or other groundcover in play areas so that children and pets do not come in contact with bare soil very often. You can also grow flowers instead of vegetables in your garden, and you can use gloves when digging into the soil. Because Riley Park is not a farming area, we did not calculate a safe soil arsenic level for a resident who might want to grow and eat all their own vegetables instead of buying them.

Sincerely yours,

Brian P. Freeman

Brian P. Freeman
Chemist, Corrective Action Project Manager,
US EPA Region 5
WPTD/Enforcement and Compliance Assurance Branch
Corrective Action Section

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

January 20, 2005

[redacted]

REPLY TO THE ATTENTION OF:

DE-9J

**Re: Soil and sump pump sampling in November 2004**

Dear Mr. [redacted]:

Last November U.S. Environmental Protection Agency and the DuPont company took water samples from the sump pumps and yard soil samples of five residences in the Riley Park neighborhood of East Chicago, Ind. We sent these samples to our laboratory to find out whether they were contaminated with four metals: arsenic, cadmium, chromium and lead. We received permission from the homeowners whose sumps and lawns were sampled.

The DuPont site, just south of the Riley Park area, has ground water (underground supplies of fresh water) that is contaminated with the four metals. DuPont recently constructed a special underground barrier to prevent polluted ground water from leaving the site. We took the samples from the Riley Park homes due to concerns that some contaminated ground water may have escaped from the DuPont site before the new barrier was finished. The ground-water contamination will dissipate naturally over time, but we wanted to make sure residents are safe in the meantime. The laboratory results are described below:

**What did we find in the sump pump water?** The concentrations of all four metals (arsenic, lead, chromium and cadmium) were within the current drinking water standards published by Indiana Department of Environmental Management (IDEM). Arsenic concentrations in the sump pump water ranged from 4 to 37 parts per billion, well within the current safety standard of 50 parts per billion. However, a new federal drinking water limit for arsenic of 10 parts per billion will take effect January 2006. This should not be a cause of concern because the sump water is not used for drinking, and residents get their drinking water from Lake Michigan. We analyzed the risk from other potential exposures to sump water, such as occasional contact with the skin, and found those risks to be negligible.

**What did we find in the soil?** We took samples within the top 6 inches of soil after removing sod from the surface. Some samples were taken at the spot where the sump water discharges on the lawn and others (background samples) were taken at places away from the sump pump discharge. We took the background samples because we know that these metals occur naturally in local soils. We wanted to find out whether the sump pump discharge samples had higher concentrations of these four metals than the background samples.

The concentrations of cadmium, chromium and lead were all within the safe levels set by Indiana in both the sump discharge area samples and the background samples. For arsenic, we found that the levels in some of the samples from the sump pump discharge areas seemed a little higher than normal, but the levels in the background samples were about the same. The soil samples collected in the sump pump discharge areas contained from 9.3 to 77.8 parts per million. Background samples contained arsenic concentrations ranging from 9.5 to 84.9 parts per million. We also found about the same arsenic levels in a separate sampling project in East Chicago. In that project, we found that surface soil arsenic concentrations ranged from 9.4 to 82 parts per million. So, we don't think the discharge of the sump pump water on to the soil is connected with the arsenic levels that we found in the soil.

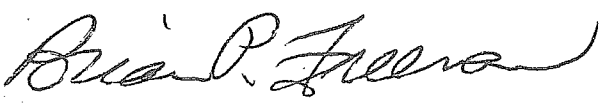
**Is the arsenic in the soil a health hazard?** You probably know that a high dose of arsenic can be poisonous. The arsenic levels in the Riley Park samples are not even close to the level that could cause health problems. But frequent exposures to low levels of arsenic can be a concern too.

IDEM has set a risk-based soil cleanup level of 3.9 parts per million, which we know would be safe even if a resident was in direct contact with contaminated soil for 350 days a year for 30 years. Since the arsenic levels in the Riley Park soil samples are slightly higher than that, we did some more calculations.

We've calculated that an arsenic level of 170 parts per million in the soil would be a safe soil level for exposure to an adult during normal gardening work. Since the Riley Park soil samples had arsenic concentrations well below this level, we believe that arsenic should not be a cause of concern to the residents.

However, some residents might want to reduce their exposure to arsenic as much as possible, so here are some ideas: You can continue to maintain your lawn or other groundcover in play areas so that children and pets do not come in contact with bare soil very often. You can also grow flowers instead of vegetables in your garden, and you can use gloves when digging into the soil. Because Riley Park is not a farming area, we did not calculate a safe soil arsenic level for a resident who might want to grow and eat all their own vegetables instead of buying them.

Sincerely yours,



Brian P. Freeman
Chemist, Corrective Action Project Manager,
US EPA Region 5
WPTD/Enforcement and Compliance Assurance Branch
Corrective Action Section

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

January 20, 2005

REPLY TO THE ATTENTION OF:

DE-9J

[redacted]

**Re: Soil and sump pump sampling in November 2004**

Dear Resident:

Last November U.S. Environmental Protection Agency and the DuPont company took water samples from the sump pumps and yard soil samples of five residences in the Riley Park neighborhood of East Chicago, Ind. We sent these samples to our laboratory to find out whether they were contaminated with four metals: arsenic, cadmium, chromium and lead. We received permission from the homeowners whose sumps and lawns were sampled.

The DuPont site, just south of the Riley Park area, has ground water (underground supplies of fresh water) that is contaminated with the four metals. DuPont recently constructed a special underground barrier to prevent polluted ground water from leaving the site. We took the samples from the Riley Park homes due to concerns that some contaminated ground water may have escaped from the DuPont site before the new barrier was finished. The ground-water contamination will dissipate naturally over time, but we wanted to make sure residents are safe in the meantime. The laboratory results are described below:

**What did we find in the sump pump water?** The concentrations of all four metals (arsenic, lead, chromium and cadmium) were within the current drinking water standards published by Indiana Department of Environmental Management (IDEM). Arsenic concentrations in the sump pump water ranged from 4 to 37 parts per billion, well within the current safety standard of 50 parts per billion. However, a new federal drinking water limit for arsenic of 10 parts per billion will take effect January 2006. This should not be a cause of concern because the sump water is not used for drinking, and residents get their drinking water from Lake Michigan. We analyzed the risk from other potential exposures to sump water, such as occasional contact with the skin, and found those risks to be negligible.

**What did we find in the soil?** We took samples within the top 6 inches of soil after removing sod from the surface. Some samples were taken at the spot where the sump water discharges on the lawn and others (background samples) were taken at places away from the sump pump discharge. We took the background samples because we know that these metals occur naturally in local soils. We wanted to find out whether the sump pump discharge samples had higher concentrations of these four metals than the background samples.

The concentrations of cadmium, chromium and lead were all within the safe levels set by Indiana in both the sump discharge area samples and the background samples. For arsenic, we found that the levels in some of the samples from the sump pump discharge areas seemed a little higher than normal, but the levels in the background samples were about the same. The soil samples collected in the sump pump discharge areas contained from 9.3 to 77.8 parts per million. Background samples contained arsenic concentrations ranging from 9.5 to 84.9 parts per million. We also found about the same arsenic levels in a separate sampling project in East Chicago. In that project, we found that surface soil arsenic concentrations ranged from 9.4 to 82 parts per million. So, we don't think the discharge of the sump pump water on to the soil is connected with the arsenic levels that we found in the soil.

**Is the arsenic in the soil a health hazard?** You probably know that a high dose of arsenic can be poisonous. The arsenic levels in the Riley Park samples are not even close to the level that could cause health problems. But frequent exposures to low levels of arsenic can be a concern too.

IDEM has set a risk-based soil cleanup level of 3.9 parts per million, which we know would be safe even if a resident was in direct contact with contaminated soil for 350 days a year for 30 years. Since the arsenic levels in the Riley Park soil samples are slightly higher than that, we did some more calculations.

We've calculated that an arsenic level of 170 parts per million in the soil would be a safe soil level for exposure to an adult during normal gardening work. Since the Riley Park soil samples had arsenic concentrations well below this level, we believe that arsenic should not be a cause of concern to the residents.

However, some residents might want to reduce their exposure to arsenic as much as possible, so here are some ideas: You can continue to maintain your lawn or other groundcover in play areas so that children and pets do not come in contact with bare soil very often. You can also grow flowers instead of vegetables in your garden, and you can use gloves when digging into the soil. Because Riley Park is not a farming area, we did not calculate a safe soil arsenic level for a resident who might want to grow and eat all their own vegetables instead of buying them.

Sincerely yours,

Brian P. Freeman

Brian P. Freeman
Chemist, Corrective Action Project Manager,
US EPA Region 5
WPTD/Enforcement and Compliance Assurance Branch
Corrective Action Section

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

January 20, 2005

REPLY TO THE ATTENTION OF:

DE-9J

Ms. [redacted]

**Re: Soil and sump pump sampling in November 2004**

Dear Ms. [redacted]:

Last November U.S. Environmental Protection Agency and the DuPont company took water samples from the sump pumps and yard soil samples of five residences in the Riley Park neighborhood of East Chicago, Ind. We sent these samples to our laboratory to find out whether they were contaminated with four metals: arsenic, cadmium, chromium and lead. We received permission from the homeowners whose sumps and lawns were sampled.

The DuPont site, just south of the Riley Park area, has ground water (underground supplies of fresh water) that is contaminated with the four metals. DuPont recently constructed a special underground barrier to prevent polluted ground water from leaving the site. We took the samples from the Riley Park homes due to concerns that some contaminated ground water may have escaped from the DuPont site before the new barrier was finished. The ground-water contamination will dissipate naturally over time, but we wanted to make sure residents are safe in the meantime. The laboratory results are described below:

**What did we find in the sump pump water?** The concentrations of all four metals (arsenic, lead, chromium and cadmium) were within the current drinking water standards published by Indiana Department of Environmental Management (IDEM). Arsenic concentrations in the sump pump water ranged from 4 to 37 parts per billion, well within the current safety standard of 50 parts per billion. However, a new federal drinking water limit for arsenic of 10 parts per billion will take effect January 2006. This should not be a cause of concern because the sump water is not used for drinking, and residents get their drinking water from Lake Michigan. We analyzed the risk from other potential exposures to sump water, such as occasional contact with the skin, and found those risks to be negligible.

**What did we find in the soil?** We took samples within the top 6 inches of soil after removing sod from the surface. Some samples were taken at the spot where the sump water discharges on the lawn and others (background samples) were taken at places away from the sump pump discharge. We took the background samples because we know that these metals occur naturally in local soils. We wanted to find out whether the sump pump discharge samples had higher concentrations of these four metals than the background samples.

The concentrations of cadmium, chromium and lead were all within the safe levels set by Indiana in both the sump discharge area samples and the background samples. For arsenic, we found that the levels in some of the samples from the sump pump discharge areas seemed a little higher than normal, but the levels in the background samples were about the same. The soil samples collected in the sump pump discharge areas contained from 9.3 to 77.8 parts per million. Background samples contained arsenic concentrations ranging from 9.5 to 84.9 parts per million. We also found about the same arsenic levels in a separate sampling project in East Chicago. In that project, we found that surface soil arsenic concentrations ranged from 9.4 to 82 parts per million. So, we don't think the discharge of the sump pump water on to the soil is connected with the arsenic levels that we found in the soil.

**Is the arsenic in the soil a health hazard?** You probably know that a high dose of arsenic can be poisonous. The arsenic levels in the Riley Park samples are not even close to the level that could cause health problems. But frequent exposures to low levels of arsenic can be a concern too.

IDEM has set a risk-based soil cleanup level of 3.9 parts per million, which we know would be safe even if a resident was in direct contact with contaminated soil for 350 days a year for 30 years. Since the arsenic levels in the Riley Park soil samples are slightly higher than that, we did some more calculations.

We've calculated that an arsenic level of 170 parts per million in the soil would be a safe soil level for exposure to an adult during normal gardening work. Since the Riley Park soil samples had arsenic concentrations well below this level, we believe that arsenic should not be a cause of concern to the residents.

However, some residents might want to reduce their exposure to arsenic as much as possible, so here are some ideas: You can continue to maintain your lawn or other groundcover in play areas so that children and pets do not come in contact with bare soil very often. You can also grow flowers instead of vegetables in your garden, and you can use gloves when digging into the soil. Because Riley Park is not a farming area, we did not calculate a safe soil arsenic level for a resident who might want to grow and eat all their own vegetables instead of buying them.

Sincerely yours,

Brian P. Freeman

Brian P. Freeman
Chemist, Corrective Action Project Manager,
US EPA Region 5
WPTD/Enforcement and Compliance Assurance Branch
Corrective Action Section