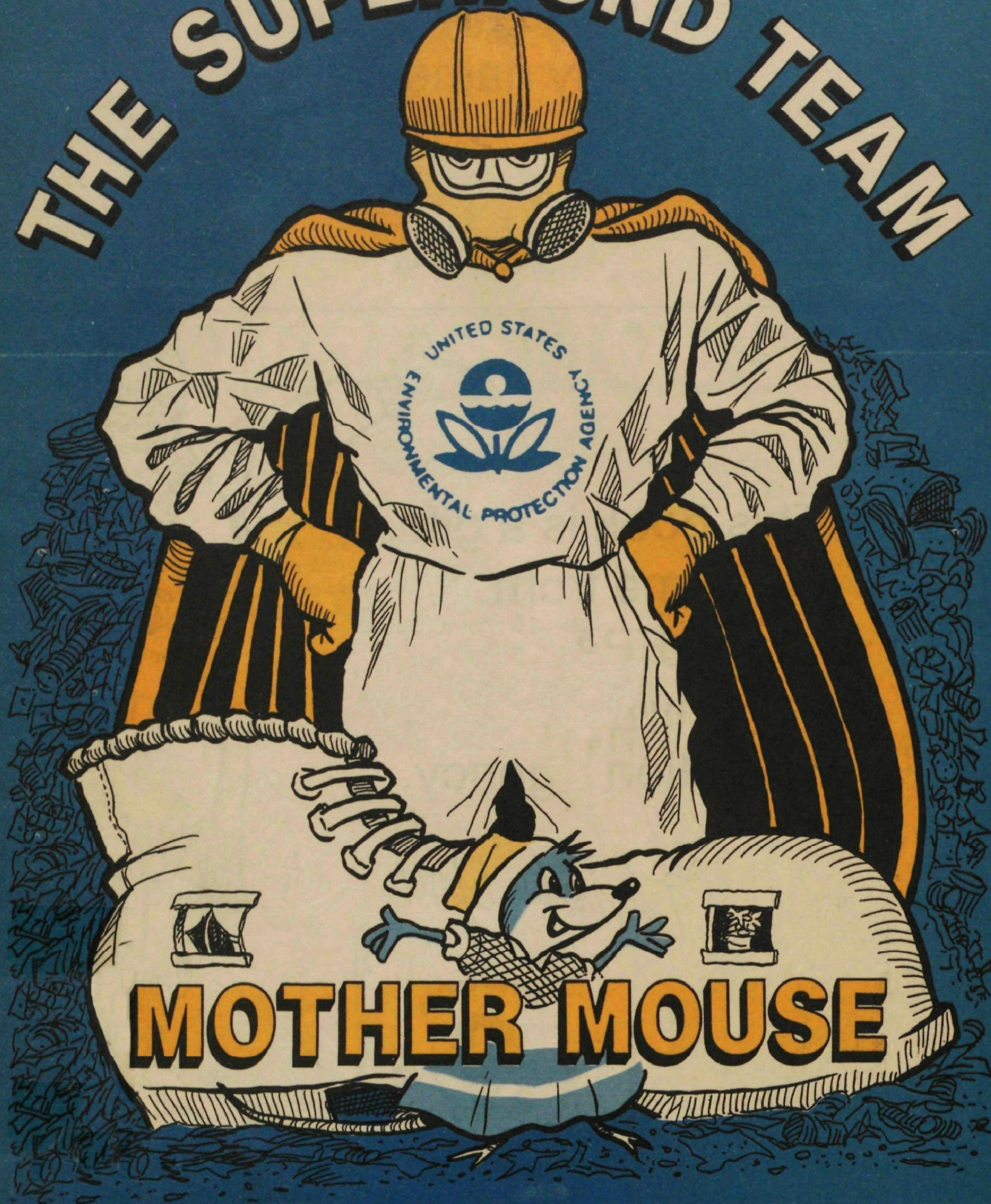


# THE SUPERFUND TEAM



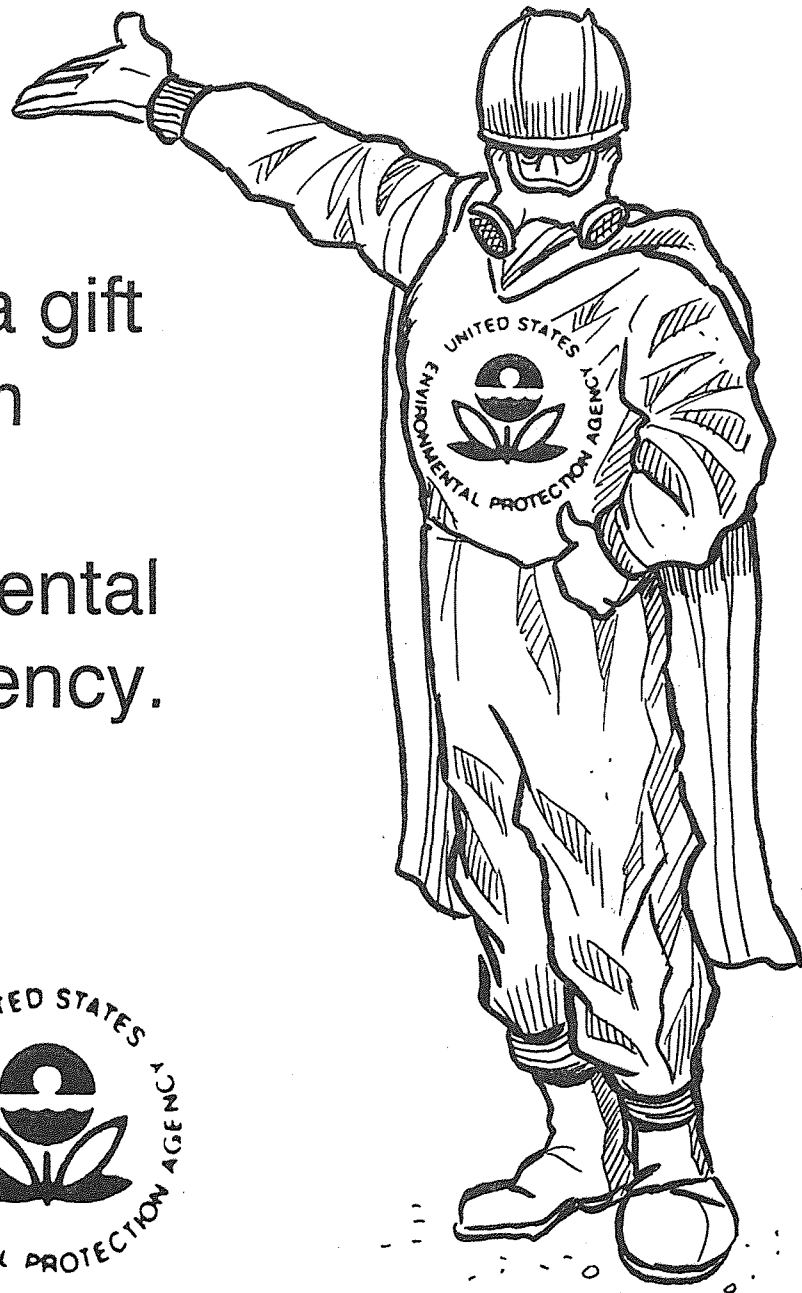
**MOTHER MOUSE**



This is my book  
My name is

---

This book is a gift  
to me from  
EPA  
The Environmental  
Protection Agency.



# THE SUPERFUND MAN AND MOTHER MOUSE

by Julia M. Ledee for EPA

U.S. EPA Headquarters Library

Mail code 3201

1200 Pennsylvania Avenue NW

Washington DC 20460

Produced by

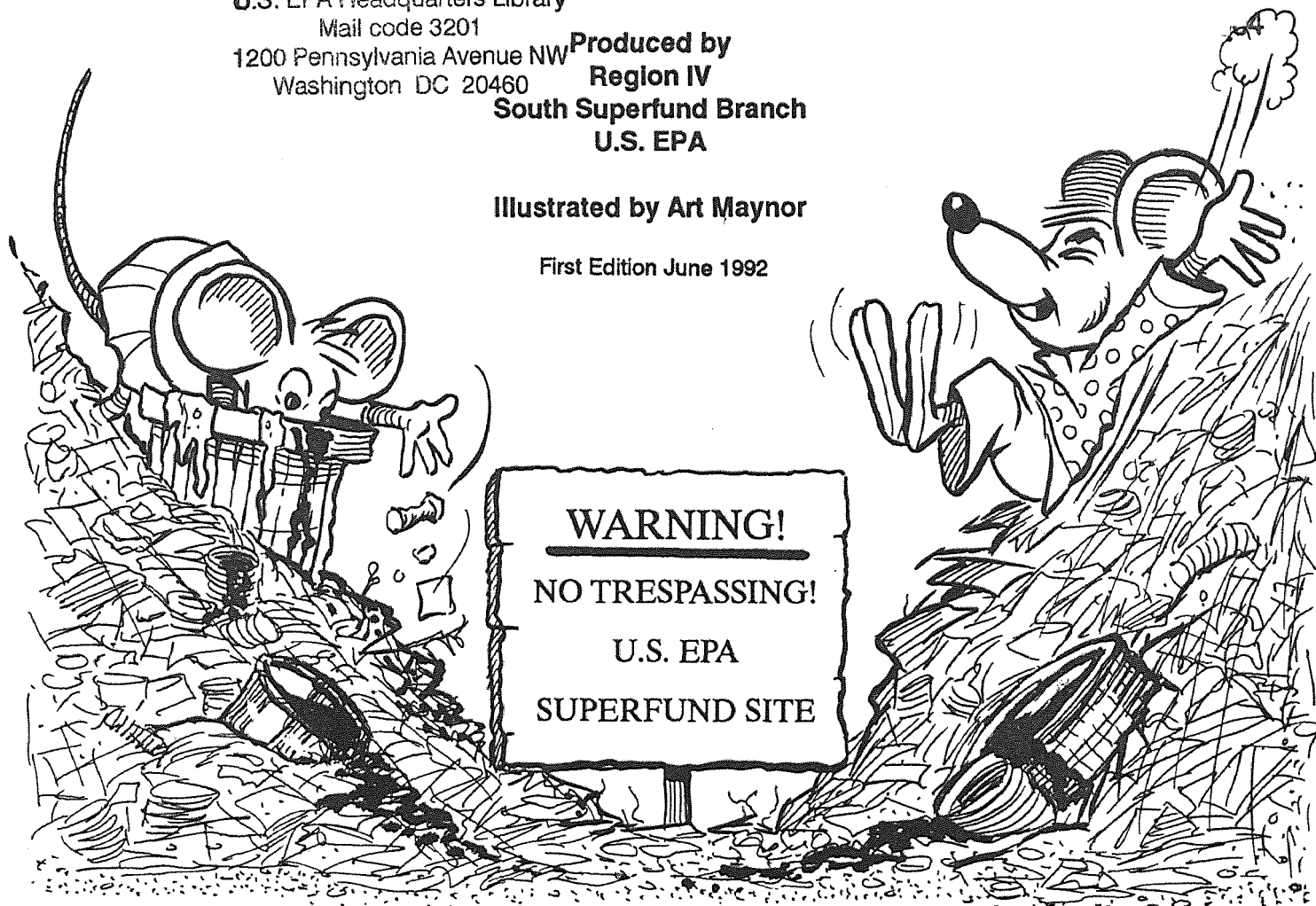
Region IV

South Superfund Branch

U.S. EPA

Illustrated by Art Maynor

First Edition June 1992



## MOM and DAD'S PAGE

We are pleased to present this coloring book to your child. It is our hope that he or she will enjoy reading the story and be challenged by the scenes to color and the activities. Our aim, of course, is that through this children will not only learn about EPA and the work it is doing to keep America clean, but that they will also realize that "taking care of our environment" is everyone's responsibility.

The "Superfund Team" represents the Superfund Program and all the people working in the program. The Superfund Program was enacted by Congress in December, 1980. The law established this program to investigate hazardous chemicals and other substances at sites throughout the United States. In 1986, Congress reauthorized Superfund for five years, and increased the size of the fund from \$1.6 billion to 8.5 billion. In 1990, Congress increased the funding by 5.1 billion and extended authorization to 1994. EPA administers the Superfund Program in cooperation with individual states.

There are six phases in the Superfund process, which begins when a site is identified and concludes with a final remedy. EPA monitors the site throughout the process. If, at any time, contamination becomes an immediate threat to public health or the environment, EPA will conduct an emergency removal action. EPA attempts to identify parties who may be legally responsible for site contamination. Once identified, these parties are asked to participate in the cleanup process. If they do not agree to participate, EPA forces their participation or recovers Federal money spent on cleanups through legal means.

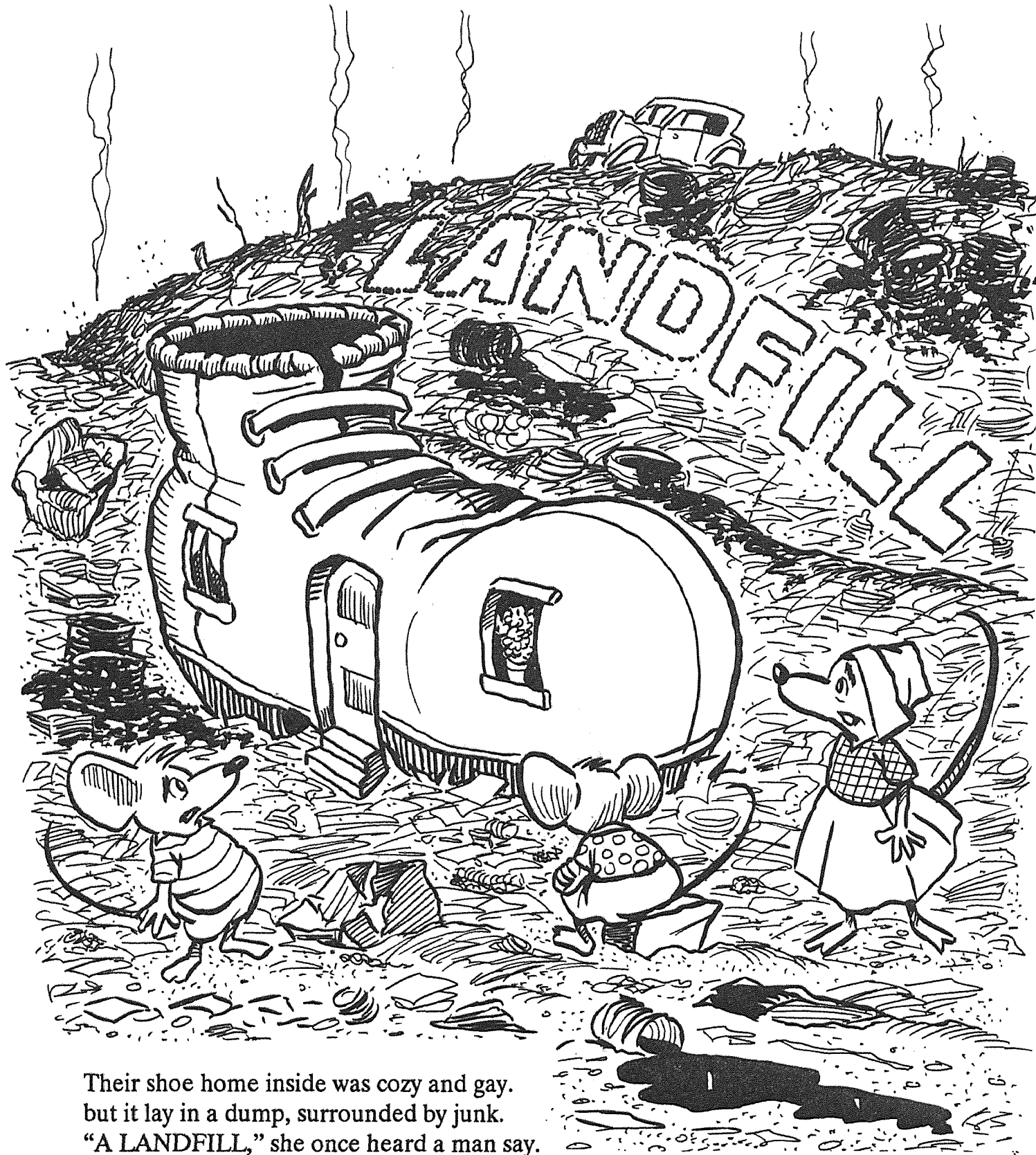
The case of an uncontrolled or abandoned landfill, as presented in this story, use to be common throughout the United States. However, landfills are regulated today by the Federal, State or local government. Sanitary Landfills—land disposal sites for non-hazardous waste, (where the waste is spread in layers, compacted and covered at the end of each day) do not usually come under the jurisdiction of the Superfund Law. Secure chemical landfill disposal sites for hazardous waste are now carefully regulated and must be selected and designed to minimize the chance of release of hazardous substances into the environment. These sites are governed by a different Federal law—the Resource Conservation and Recovery Act (RCRA).



Once there was a mother mouse  
who lived in a big brown shoe.  
She had nine little mice  
All furry, cute and cuddly, too.

Five were boys and four were girls.  
There were Alan, Bob, Petey, Tommy, and Harry.  
The girls' names were Patty, Dolly,  
Sally, and Mary.

Mother Mouse always watched as they played.  
"Close to the house," she always said.  
"Don't go far. It is not safe."



Their shoe home inside was cozy and gay.  
but it lay in a dump, surrounded by junk.  
“A LANDFILL,” she once heard a man say.

Filled to the brim  
with papers and boxes,  
bottles and tins.  
An old couch with springs that sagged.  
Even an old car that people had dragged.

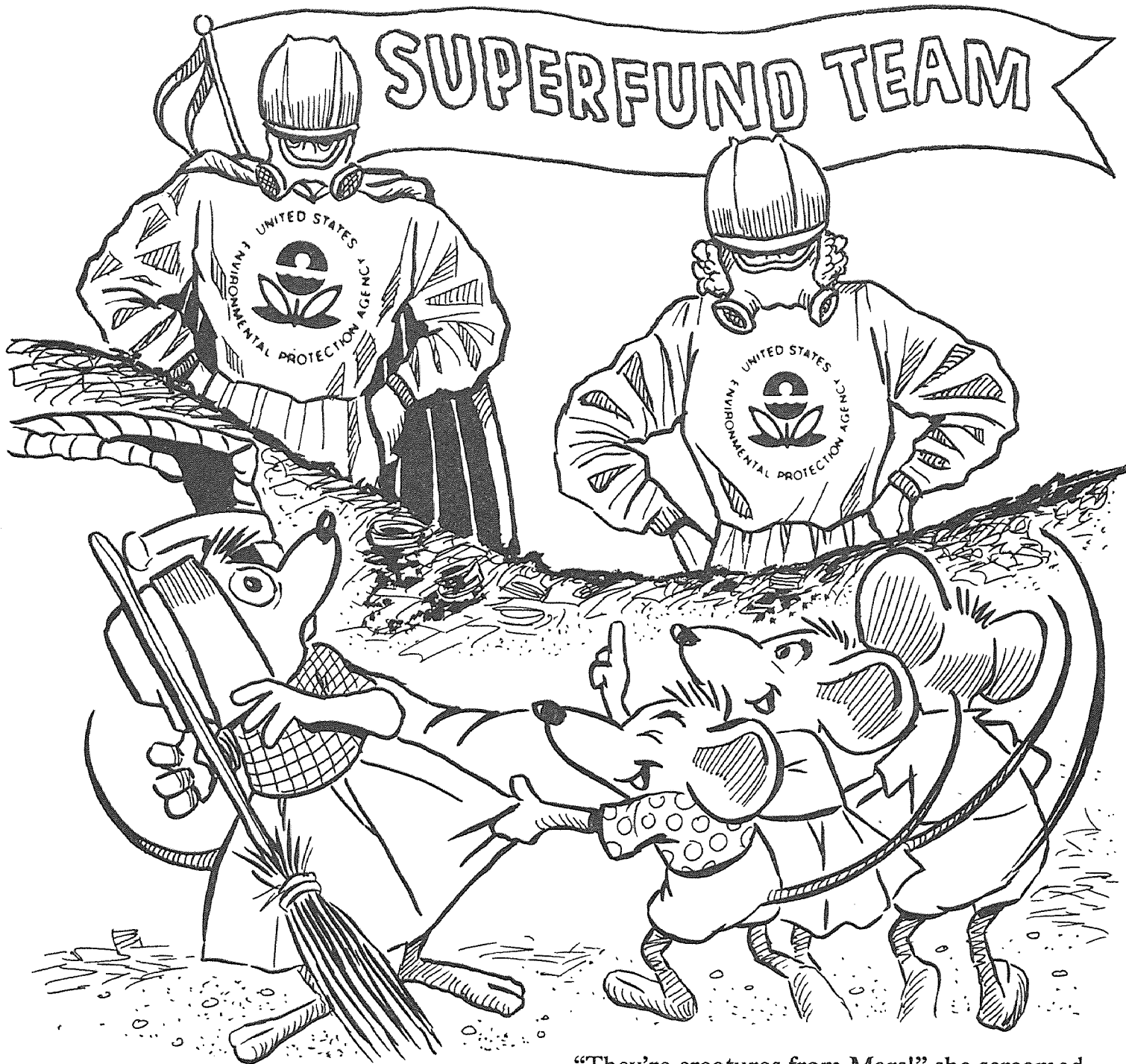
Toxic waste spreading around—  
Metal drums leaking chemicals  
Pools of oily water on the ground.

“Such a danger,”  
sighed Mother Mouse.

"Not good for my children," she said.  
"Oh how I wish we could move  
to a place filled with trees and pretty flowers.  
To smell the fresh air, instead of this junk.  
Oh, to enjoy happy hours."

"There my nine little mice  
could play on the grass,  
But, we cannot. We are too poor, alas!"





She was smiling and humming,  
when all of a sudden  
she heard someone coming.

She saw a strange sight.  
“Oh my. What a fright!”

Two people wore white suits  
with hoods on their heads.  
and gloves on their hands.

“They’re creatures from Mars!” she screamed.  
“Quick. Get in the house.  
Pull tight the laces.  
Don’t make a sound.  
Stay in your places.”

“But, we know them . . . They’re keen!”  
the children cried out.

“They’re the Superfund Team! . . .  
The SUPERFUND Team!”  
The kids said with a shout.





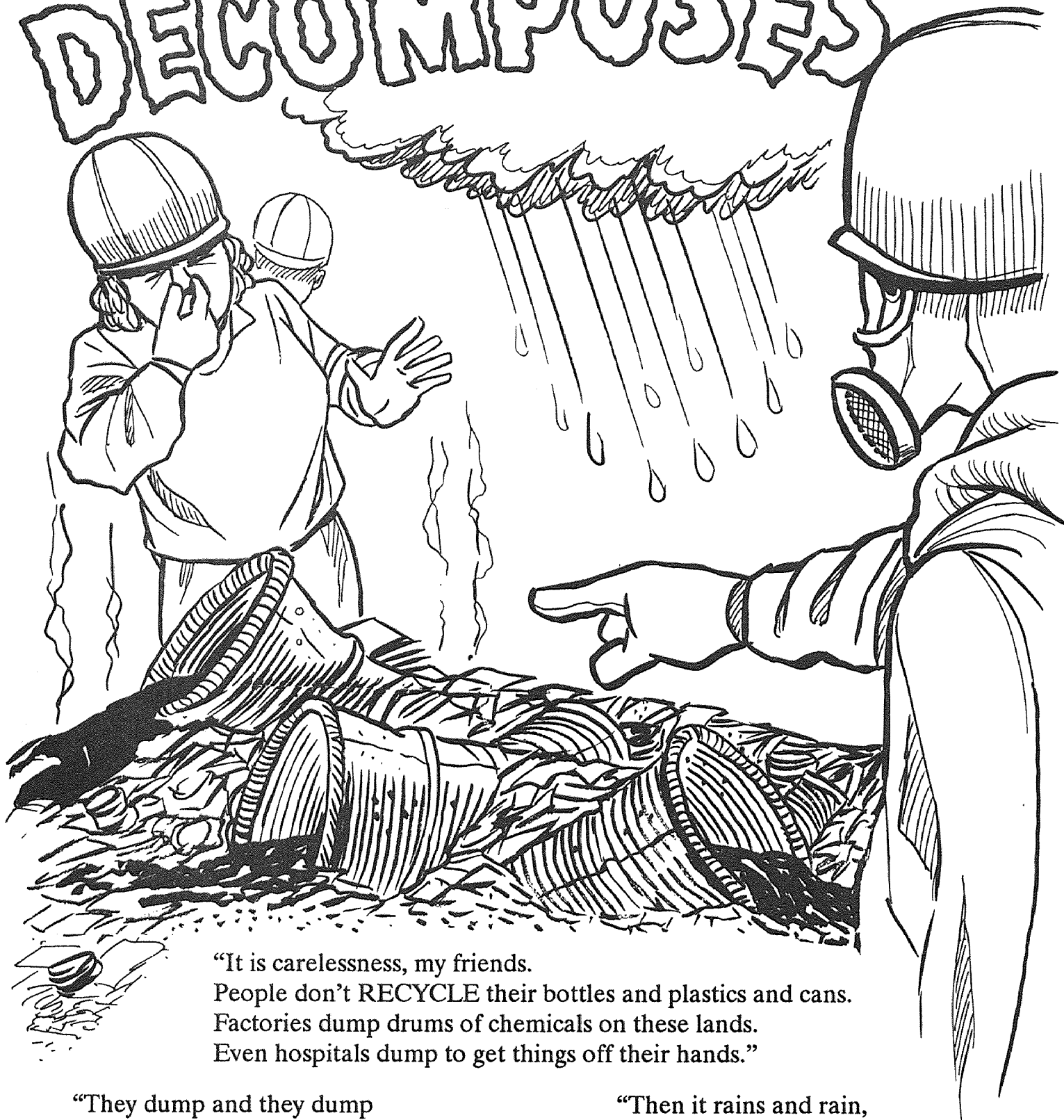
"Be quiet . . . be quiet.  
Let me hear what they say."  
She saw more people coming their way.

Mother Mouse put her ear  
to a hole in the shoe  
and listened intently to everything,  
So scared she didn't know what to do.

"O.K., E.P.A. people,  
let's get to work.  
We have a long way to go  
to clean this up."

"Yes, Sir . . . Mr. Superfund Man.  
We will do all we can.  
But first, tell us how this awful mess began."

# DECOMPOSES



"It is carelessness, my friends.  
People don't RECYCLE their bottles and plastics and cans.  
Factories dump drums of chemicals on these lands.  
Even hospitals dump to get things off their hands."

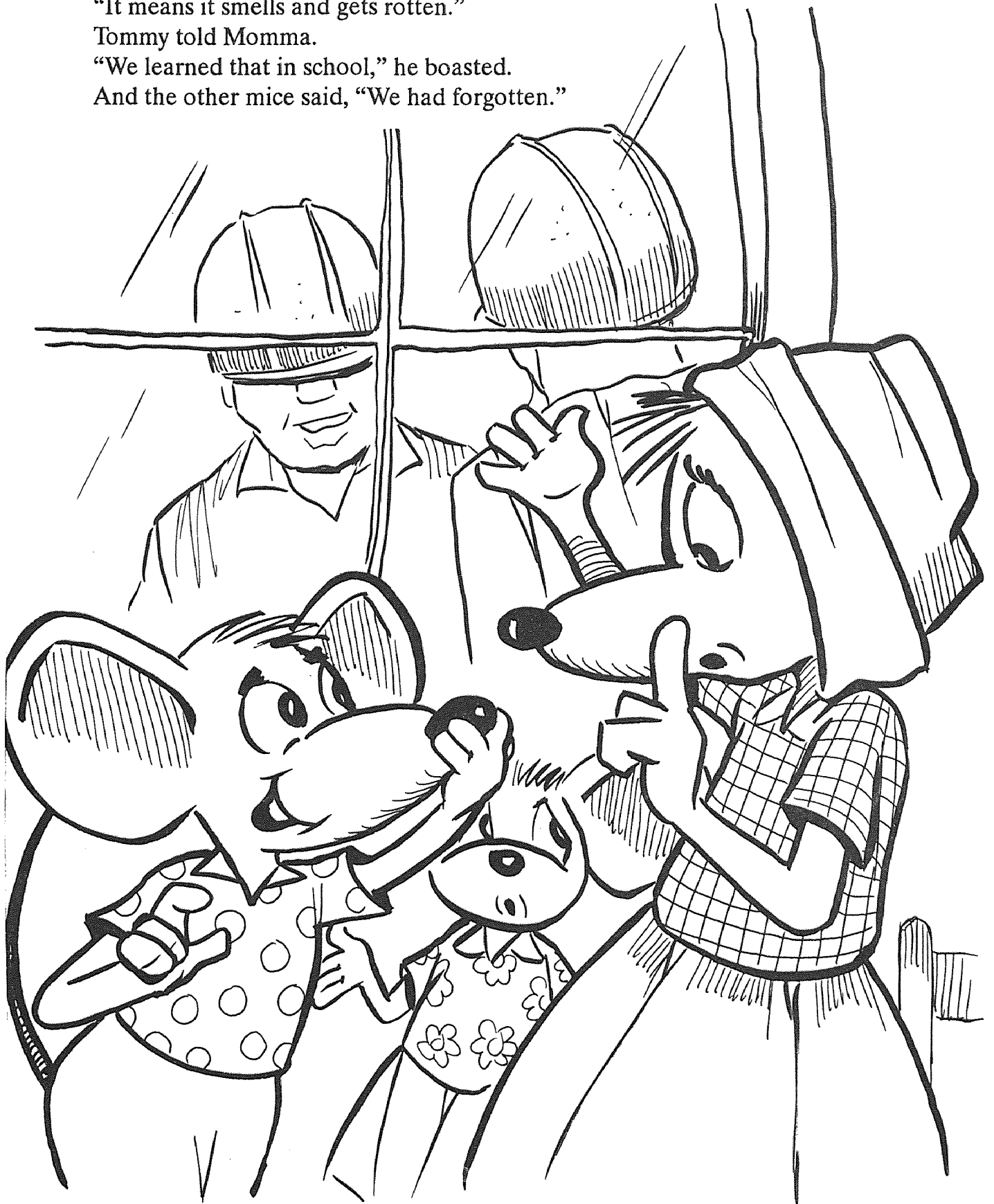
"They dump and they dump  
'til they fill up the place.  
Some people don't care  
that the land is made waste."

"Then it rains and rain,  
the garbage breaks up.  
It gets soft and it rots.  
It DECOMPOSES.  
Whew! It doesn't smell like roses."

That Mother Mouse heard.  
"My, my! That's a big word."

"Sh . . . sh." Mother Mouse said.  
"Listen and learn."

"It means it smells and gets rotten."  
Tommy told Momma.  
"We learned that in school," he boasted.  
And the other mice said, "We had forgotten."

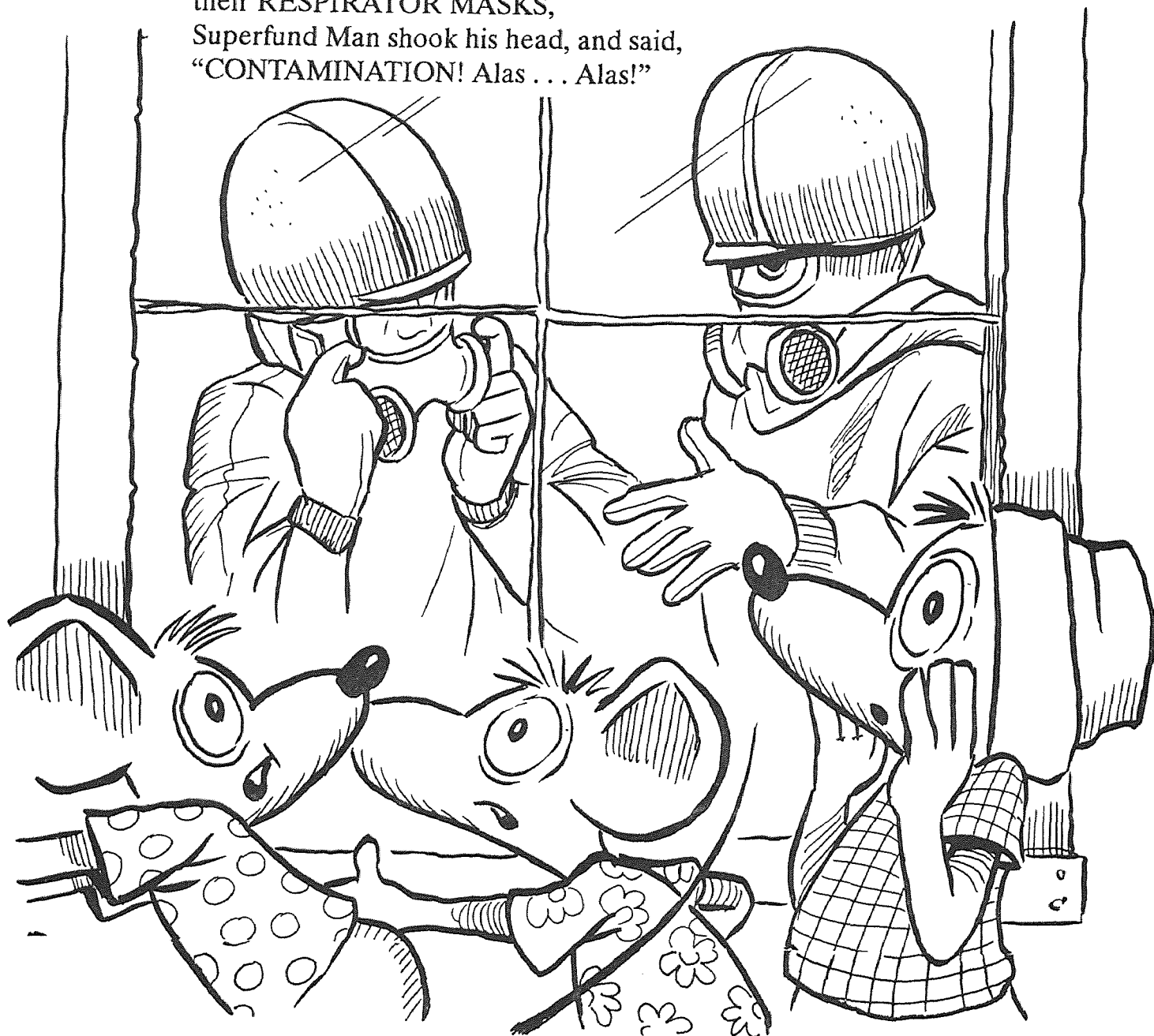




“When the garbage decomposes,  
it makes METHANE . . .  
a dangerous gas!”

“Methane Gas!!”  
The children screamed.  
“Let’s get out of here, Momma.  
Let’s get out fast!”

The men and women hurried to tighten  
their RESPIRATOR MASKS,  
Superfund Man shook his head, and said,  
“CONTAMINATION! Alas . . . Alas!”



# CONTAMINATION

“To work, everyone.”

“The drums are the worst.”

“We will TEST what’s inside,  
before we decide—

Do we take them away  
or treat them right here?”

“Where would we take them?”

asked one of the workers.

“To a safe disposal site.

Burn them or treat them,

Whichever, we’ll clean this place right!”

## Hazardous Waste Disposal Facility



"Hickory . . . Dickory . . . Dock,"  
The children sang  
to calm their fears.  
All of a sudden, Momma said again,  
"Shush, children, I want to hear."

"Make no mistake,"  
One worker was saying.  
"That waste will PERCOLATE  
through soil and water—everywhere!"

"Oh, Momma, what is that word?"  
"Oh, pooh, child, wait."  
"When I make coffee,  
and you hear it boil,  
That's what it does,  
it percolates!"

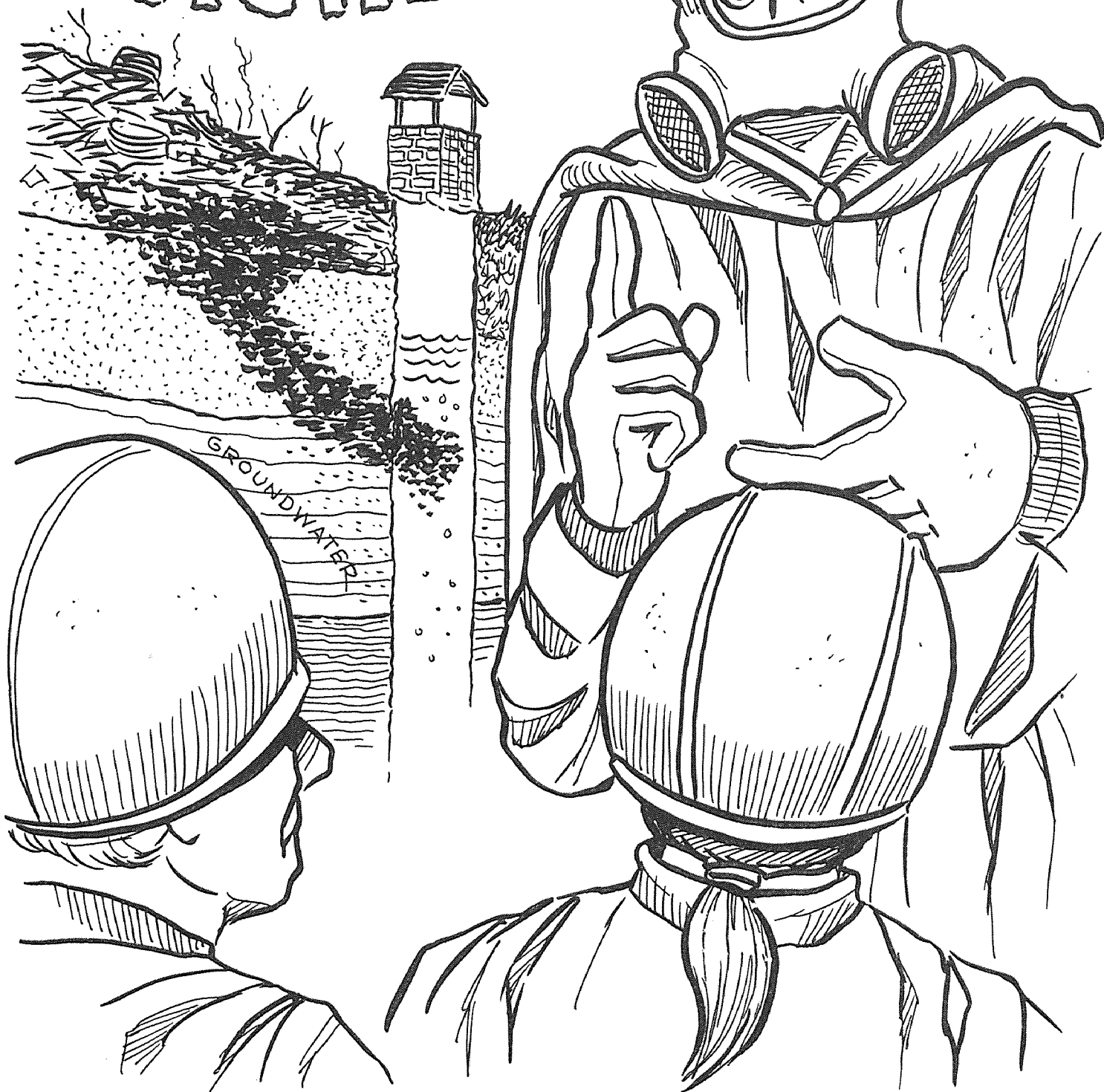


# PERCOLATE



The Superfund Team was now feeling down.  
“Yes, and as it percolates it LEACHES  
right into the earth, and into the wells  
making the water bad.”

# LEACHES





"Momma, our water," Sally cried out.  
"What can we do?" they all said with a shout.

"Leaches means it leaks," yelled Tommy.  
"like our roof when it rains."  
"Tommy, you are so smart!" said Harry.

"Now I know why Freddy and Johnny have gone!"  
"Their houses got sick, so they have flown!" said Sally.

"We'll take samples of soil," said one.

"It will take a while, but we will find what's here, and how far contamination has gone."

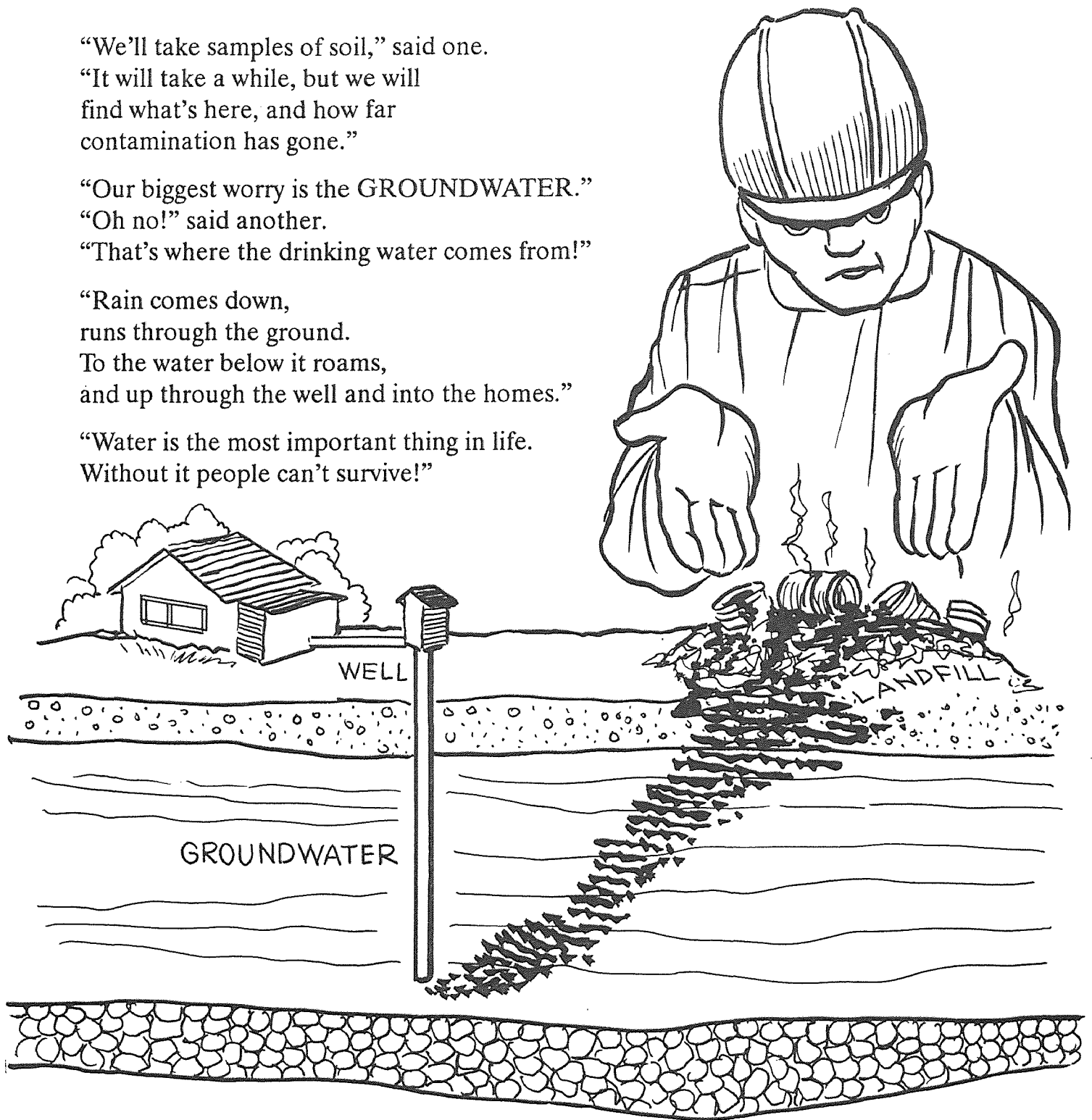
"Our biggest worry is the GROUNDWATER."

"Oh no!" said another.

"That's where the drinking water comes from!"

"Rain comes down,  
runs through the ground.  
To the water below it roams,  
and up through the well and into the homes."

"Water is the most important thing in life.  
Without it people can't survive!"



# GROUNDWATER





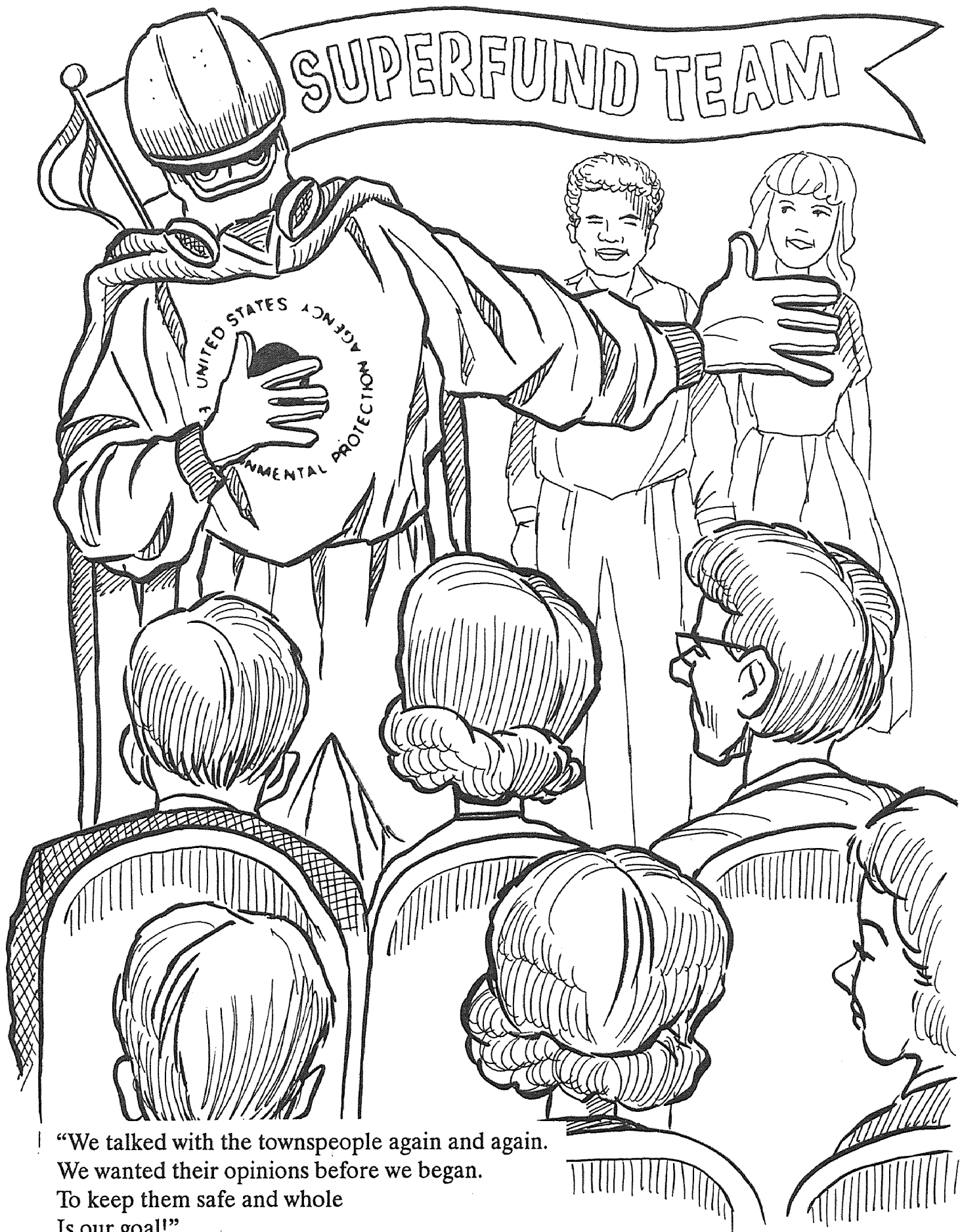
# HAZARDOUS WASTE

“Let me tell you the rest,” Superfund Man said.  
“It’s lucky we found this HAZARDOUS WASTE  
before people and animals were harmed.”

“The danger has been found.  
The drums will be removed.  
We will now test the ground.”

“We will check the water, too.  
The waste has made people sad.  
Some have said they don’t know what to do!  
but others were very mad.”

# SUPERFUND TEAM



"We talked with the townspeople again and again.  
We wanted their opinions before we began.  
To keep them safe and whole  
Is our goal!"

“Decisions were made.  
We outlined our plan.  
The Plan took a long time,  
and was carefully weighed.”

“With it in hand,  
the cleanup began.  
And that, my friends,  
Is why we are here today.  
No more delays!”



# WORK PLAN



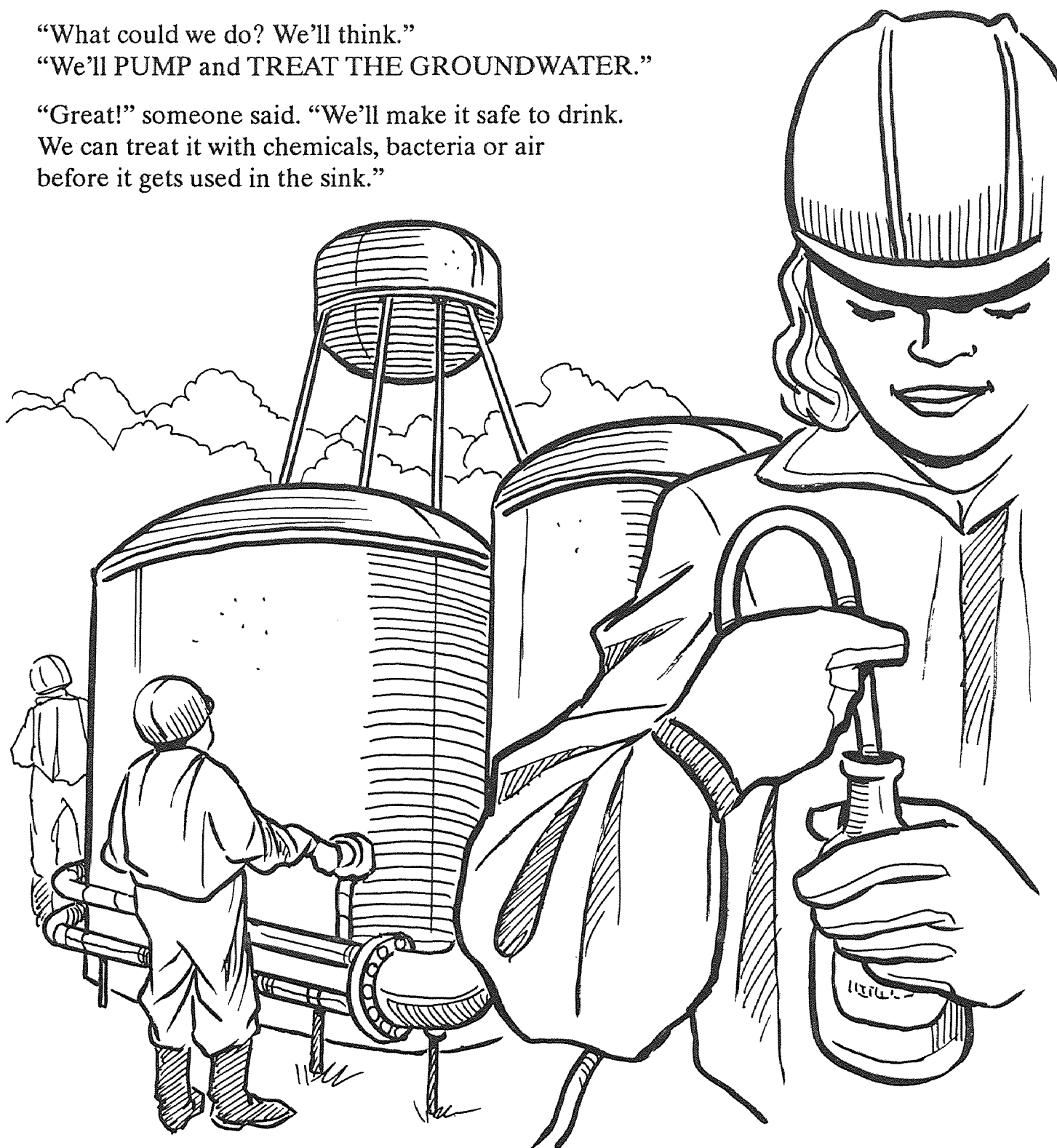
“What could we do? We’ll think.”

“We’ll PUMP and TREAT THE GROUNDWATER.”

“Great!” someone said. “We’ll make it safe to drink.

We can treat it with chemicals, bacteria or air

before it gets used in the sink.”

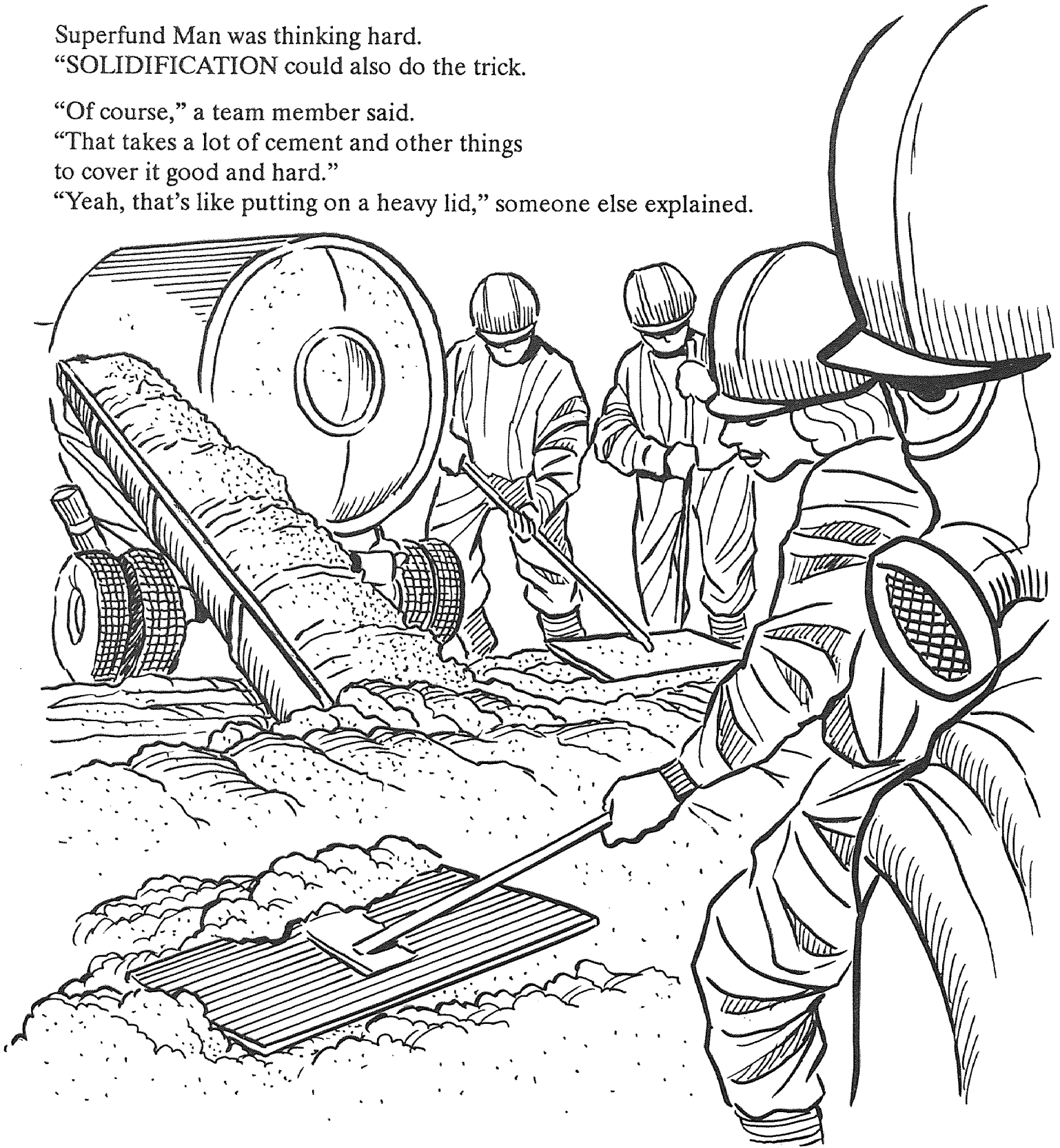


# PUMP AND TREAT

Superfund Man was thinking hard.  
“SOLIDIFICATION could also do the trick.

“Of course,” a team member said.  
“That takes a lot of cement and other things  
to cover it good and hard.”

“Yeah, that’s like putting on a heavy lid,” someone else explained.

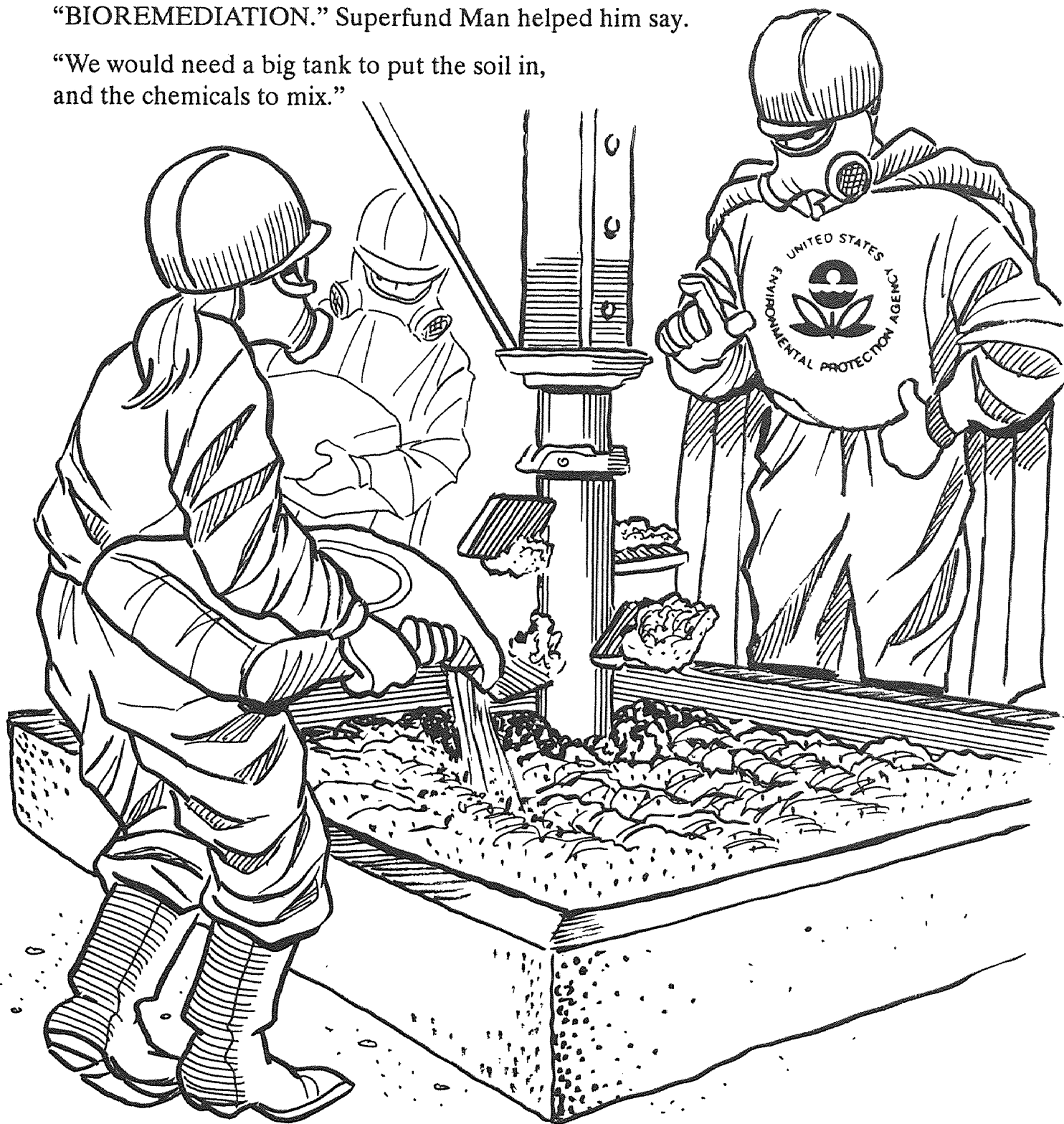


# SOLIDIFICATION

“And then, there is bio . . . bio . . . bio—

“BIOREMEDIATION.” Superfund Man helped him say.

“We would need a big tank to put the soil in,  
and the chemicals to mix.”



# BIOREMEDIATION

"Hooray!" the mice cheered.  
"We are safe!  
We can stay!"



"Now, let's get going.  
We have a lot of testing to do,  
before the decision is made  
on what will do the most good."

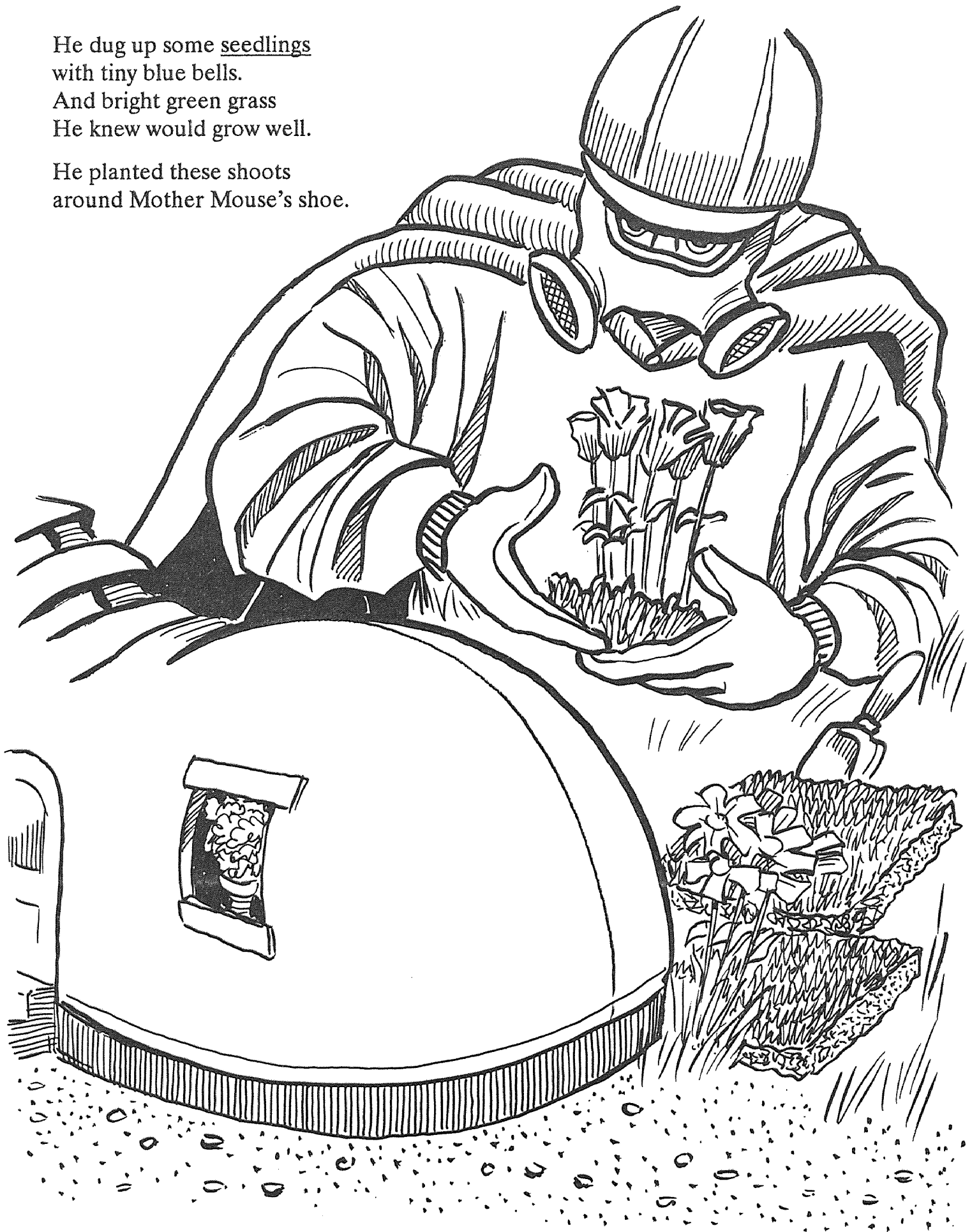
"To the work, everyone.  
I have something special to do."





He dug up some seedlings  
with tiny blue bells.  
And bright green grass  
He knew would grow well.

He planted these shoots  
around Mother Mouse's shoe.



"Come out, Mother Mouse."

"Look at the flowers and grass  
that will grow around your house."

"It will now be safe for your children to play."

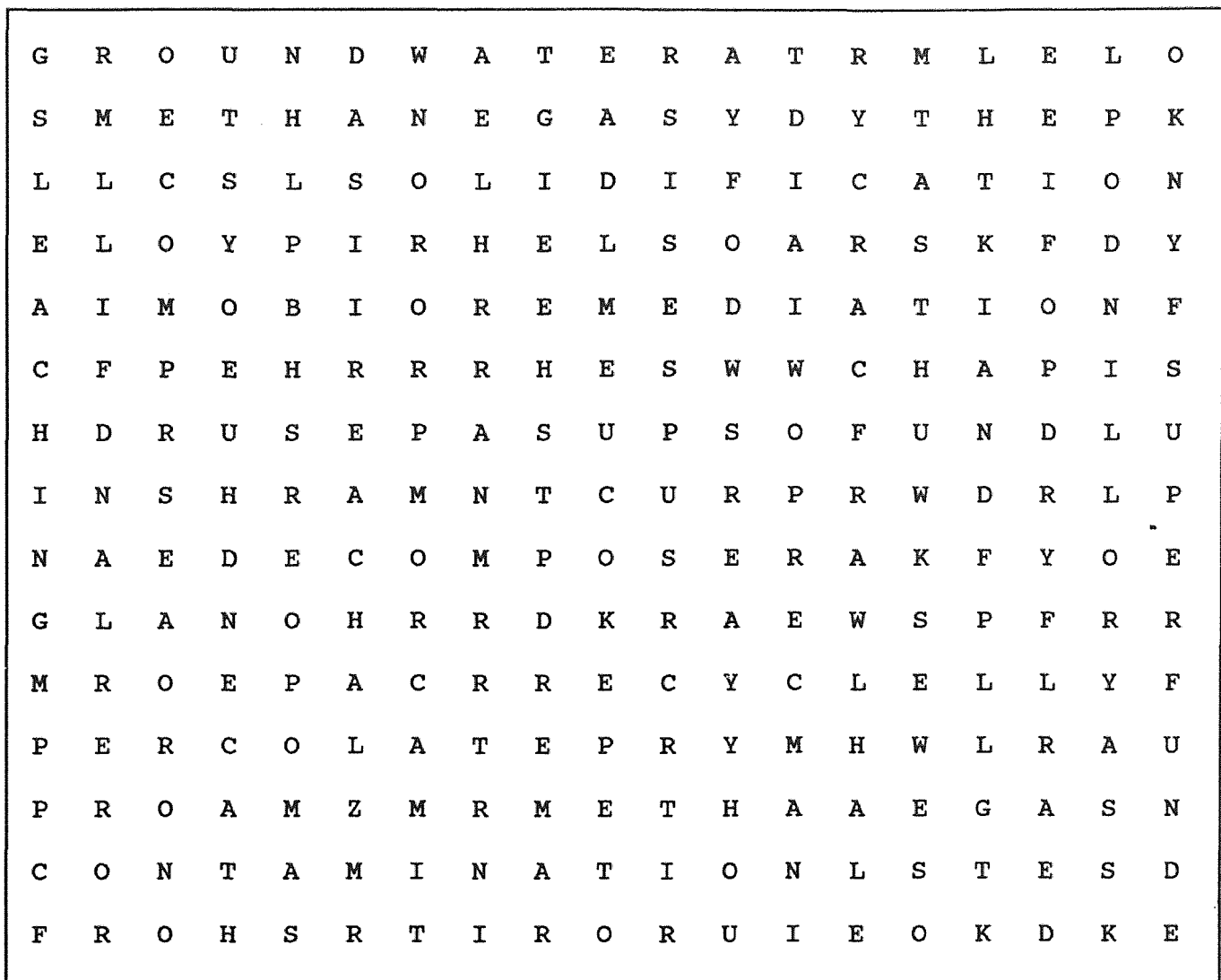
"Enjoy it, little mother."

"For your house is like no other."





Now Mother Mouse and her nine little mice  
can run through the grass without alarm.  
And soon, the Superfund Site will be spic and span  
and do no more harm.



**Find and circle as many of the words below as you can. Good luck!**

SUPERFUND

CONTAMINATION

BIOREMEDIATION

LANDFILL

GROUNDWATER

SOLIDIFICATION

U.S.E.P.A.

RECYCLE

DECOMPOSE

METHANE GAS

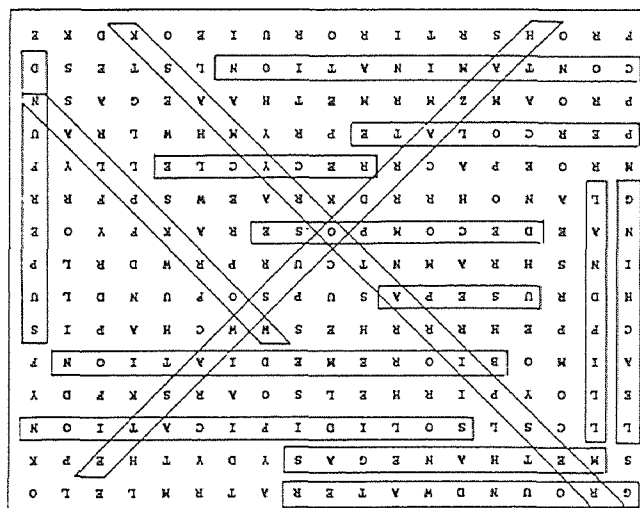
RESPIRATORY MASK

PERCOLATE

LEACHING

HAZARDOUS WASTE

WORK PLAN



# GLOSSARY

This is a Glossary. A Glossary is a brief and simple explanation of difficult or unusual words which appear in this story. Understanding these words will help you to understand the story, and to better understand what the United States Environmental Protection Agency is and how it works to protect our health, our well-being and our surroundings. The words in this glossary are listed in the same order in which they appear in the story.

**LANDFILL:** An area of open land where trash and garbage is thrown. There are many landfills all over the United States.

**SUPERFUND:** A law passed by United States Congress in 1980 authorizing the United States Environmental Protection Agency (EPA) to investigate and clean up abandoned and uncontrolled hazardous waste sites or to force private parties who may have operated the site, carried waste to the site, or generated the waste to study and clean up these sites.

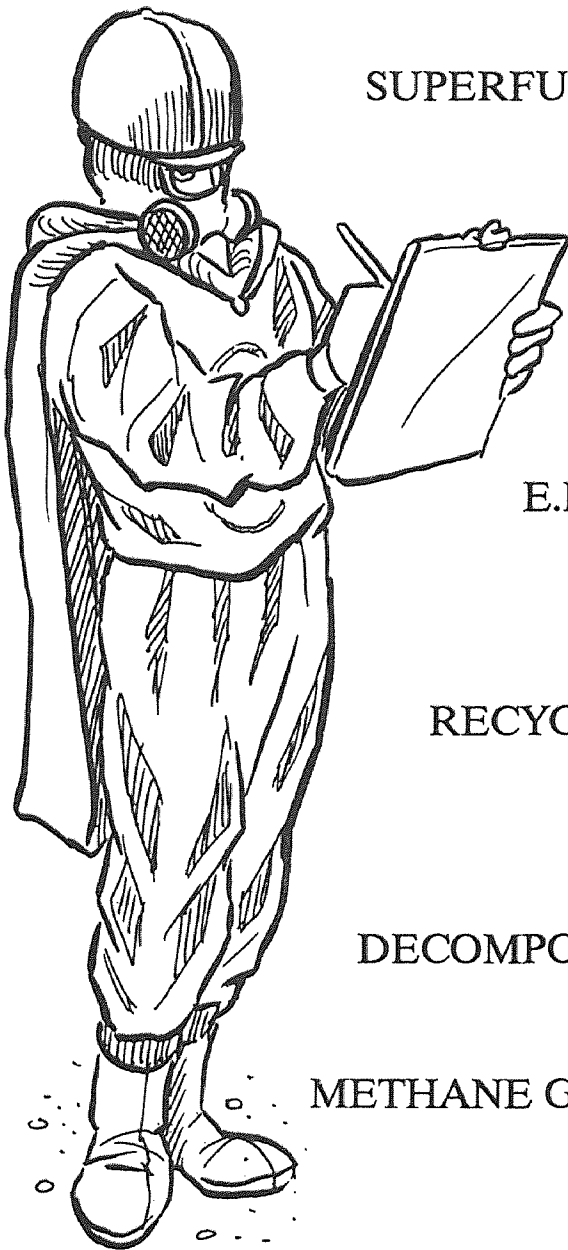
*See the "Superfund Process" page for additional information on how Superfund works.*

**E.P.A.:** The United States Environmental Protection Agency. This agency was formed in 1970 to help fight pollution. It works with other federal agencies, state and local governments and citizens on environmental problems. EPA acts under laws of the U.S. Congress.

**RECYCLE:** To break down and make again into another material which can be used. Recycling is important today. We recycle newspapers, magazines, cartons, etc. to save our trees and forests. We recycle plastics, glass bottles and cans to make other useful things.

**DECOMPOSE:** To fall apart and rot. The garbage from your kitchen softens and starts to rot (decompose) very fast, especially if it is covered.

**METHANE GAS:** A substance or material that has no color, does not smell and cannot be seen. It is dangerous because it can catch on fire. It is made by the decomposing materials which rot in the landfill.





**RESPIRATORY MASK:**

A mask worn by people over the mouth and nose to protect them from breathing in a dangerous gas.

**PERCOLATES:**

The movement of water downward through a sieve or strainer to collect the liquid that strains through. When a coffee percolator starts to boil the heat pushes the water up from the bottom, up through the coffee grounds to the strainer, then back down. The coffee you drink collects in the bottom of the pot.



**GROUNDWATER:**

The supply of fresh water found under the Earth's surface which is often used for supplying wells and springs. Because ground water is the major source of drinking water, it must be protected from pollutants leaching into it.



**LEACHATE:**

A harmful liquid that results from water collecting bacteria as it percolates through waste. It then goes through the ground into the wells that store drinking water.

**HAZARDOUS WASTE:**

Any dangerous materials left over from an industrial process. They can be harmful to people or the environment in many different ways.

**PUMP AND TREAT:**

A system of extraction wells to draw out contaminated water for treatment by chemicals, bacteria, carbon filters or other means to remove contamination. Treated water can then be returned to groundwater or discharged to a stream.



**SOLIDIFICATION:**

A process in which hazardous substances and soil are bound together with cement and other substances to make it so hard that nothing can leak out through it.

**BIOREMEDIATION:**

A process in which bacteria and fungi change harmful compounds into harmless substances. Contaminated soil can be treated with oxygen and bacteria. After treatment, the soil can be put back into the ground.

**WORK PLAN:**

A plan is a list of things to do or that have to be done, and when they will be done.

**CONTAMINATE:**

To pollute something, or to make it dirty.

**ENVIRONMENT:**

Everything, including living things, that surround a person, animal, or plant.

**POLLUTE:**

To make the land, water or air dirty and unhealthy.

**WASTE MATERIALS:**

Unwanted materials left over from a manufacturing process.



# SUPERFUND PROCESS

Years ago when people did not understand how some certain wastes might be bad for people's health and the environment, wastes were dumped on the ground, in rivers or left open to the air. Now these sites are brought to EPA's attention by private citizens, and by local and state agencies.

The first investigation of the site is done by EPA or a state agency. A study is made to see if any hazardous chemicals and other substances are there that could harm people's health or the environment.

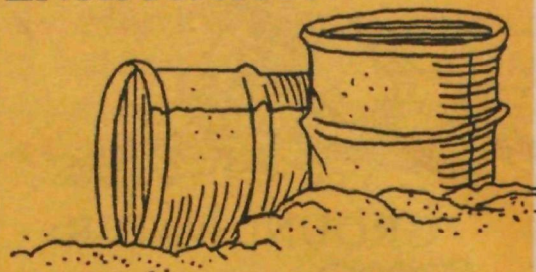
If EPA finds that a site is bad, or that it could be dangerous to the people, it will place the site on the National Priorities List. There are over 1,200 sites nationwide on that list. Some sites can be remedied by a short term removal action.

EPA does a two-part investigation of all NPL sites. The first part is called a remedial investigation. This identifies the contamination and what the threats to the environment and the people can be.

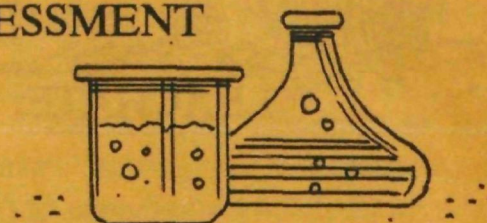
In the feasibility study, EPA identifies possible remedies. From these options, EPA presents its preferred remedy to the public, state and local officials and asks what they think of it.

EPA then designs and applies the chosen remedy. EPA talks to the people responsible for the contamination to see if they will pay for the plans and the work that has to be done to clean up the site. If they do not agree, or do not want to pay, EPA does the work, anyway. Later on EPA will take them to court to try to get back the money it spent on the cleanup.

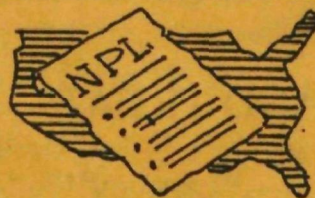
## IDENTIFICATION



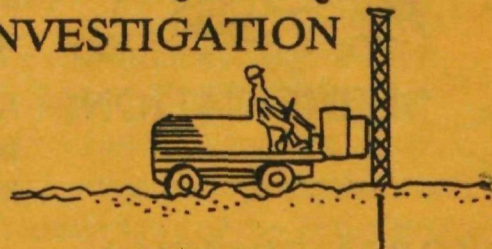
## ASSESSMENT



## NPL PLACEMENT



## INVESTIGATION



## PREFERRED REMEDY



## FINAL REMEDY

