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Interviewee (print) Interviewer (print)

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810 McCellan Rd. Alexandria, AL 36250

on the date(s) of March 11, 1995
for the oral history collection being compiled by Dr. Marshall.

B.L. Brooks
Interviewee's signature

Address 810 McCellan Rd.
Alexander, AL 36250
Phone 820-2096

Date March 11, 1995

Marie McMichael
Interviewer's signature

Address 631 Elm St.
Anniston, AL 36201
Phone 835-1102

Date March 11, 1995

INTERVIEWEE BACKGROUND INFORMATION

Name: B.L. Brooks M/F M
Address: 810 McCallen Rd. Alexander, AL 36250
Phone number(s): 820-2096
Approximate age or date of birth: Aug. 6, 1930
Mother's Name: Dolly Brooks
Father's Name: B.L. Brooks Jr.
Places lived and when: Birmingham moved Anniston
12 yrs. old.
Education: High School 2 yrs. Jacksonville State
Religion: Baptist
Business, political and social memberships (past and present) 40+ yrs.
U.S. Pipe and Foundry Castings
Present occupation: retired
Former occupations: Union Foundry + Anniston
Special Skills: Foundry Superintendent.
Major Accomplishments: _____

National Events in which interviewee has participated: _____

Local Events in which interviewee has participated: Active member
of church and farm

National born U.S. citizen? Yes No

Naturalized Citizen: Yes/No Date: _____

Country from which he/she emigrated: _____

Documents, photographs, and artifacts which are in the possession of the interviewee: _____

Individuals recommended by the interviewee who might be candidates for an oral history interview: Curtis Franklin (engineer department)

Additional information: this address of Bill Campbell

810 Wana Ave
Weaver, AL 29
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Oral History Project

Marie McMichael

April 18, 1995

"U. S. Casting's Anti-Pollution System"

"U. S. Casting's Anti-Pollution System"

What does the phrase, "what goes up must come down" mean? To most people it means that a ball thrown into the air will come back down, but the phrase also refers to chemicals, smoke, and any other harmful particles that have been placed in the atmosphere. The pollution ^{emitted} admitted in the air will eventually come back to haunt the inhabitants of the earth.

"The earth and the atmosphere around it forms an almost closed system."¹ One of the most important parts of this closed system is the ozone layer. The ozone layer protects the earth from ultraviolet radiation. This layer of gases is twenty miles thick. This extremely thick layer of gases is becoming thinner, and it may ultimately be completely destroyed.

The effects of nitrogen oxide, unstable nitrogen, has caused serious problems with the ozone. Nitrogen is generally a stable element, and it will not react to oxygen. Extreme temperatures can cause this destructive reaction to take place. "The excessive temperatures reached in boilers of fossil-fueled power plants, internal combustion, industrial processes, and large incinerators can force nitrogen to become unstable and combine with oxygen."² Once this has taken place a very small amount of the ozone layer is

¹Virginia Brodine, Air Pollution (New York: Harcourt Brace Jovanovich, Inc., 1972), 31.

²Virginia Brodine, Air Pollution (New York: Harcourt Brace Jovanovich, Inc., 1972), 75.

broken up. Over several years the small amounts of depletion may become an extremely serious problem.

Global warming has become one result of air pollution. "Mathematical models of the atmospheric processes can offer only a tentative estimate that in a little more than one hundred years temperatures might rise as much as twenty seven degree near the poles and fifteen degrees in the equator."³ This will leave only a few glaciers in possibly Greenland. Many of the very fragile plants in the tropical zones will be demolished by the rise in temperatures. Every element of earth is interconnected. If one element is destroyed many more will follow. Therefore, loosing the glaciers and the plants will not be the only loss in the rise of temperatures.

"Higher temperatures, whether caused by waste heat or carbon dioxide or both, could reduce the solubility of carbon dioxide in ocean water."⁴ This will cause the ocean to release more carbon dioxide into the air. Increased temperatures will also create a higher rate of evaporation. All of these results lead to further increase in temperatures.

A very large portion of our air pollution comes from fossil-fuel burning in industries. There are many techniques for removing a vast majority of pollutant particles from factory smoke. Many of

³Virginia Brodine, Air Pollution (New York: Harcourt Brace Jovanovich, Inc., 1972), 62.

⁴Virginia Brodine, Air Pollution (New York: Harcourt Brace Jovanovich, Inc., 1972), 64.

the smaller particles escape. The smaller particles usually cause the worst health problems.⁵

Air pollution is found to be associated with increased incidents of respiratory diseases and cancer. Diseases like tuberculosis and pneumonia are invading the people who live near factories and people who work in the factories. Smoking is a form of personal air pollution. Lung cancer is one of the most serious problems associated with personal air pollution. All types of air pollution must be controlled.

The lower class has the highest risk of health problems from air pollution.⁶ Poor people have to live closer to the factories, because the houses are cheaper. They are usually the workers in the factories, so they suffer health consequences from working and living next door to them. The Environmental Protection Agency (EPA) reported that over one hundred and fifty million Americans live in areas with air unfit to breathe.⁷

Controlling air pollution is very costly. The United States spends millions of dollars a year to try to control the amount of pollution placed in the atmosphere. "This may seem like a large amount, but the health benefits of controlling the pollution

⁵Virginia Brodine, Air Pollution (New York: Harcourt Brace Jovanovich, Inc., 1972), 152.

⁶Carolyn Merchant, Major Problems in America's Environmental History. (Massachusetts: D.L. Heath and Company, 1993), 438.

⁷Hilary F. French, Cleaning the Air: A Global Agenda, (Washington, D.C.: World Watch Institute, 1990), 37.

balances out the scale."⁸ Because of the money used to control air pollution, Americans save billions of dollars in health care expenses every year.

My interview with Mr. B. L. Brooks focuses on the anti-pollution device used by the U. S. Casting Foundry. They use the bag house method of purifying the air that is released from melting iron. They also have alternative methods for purifying the air of different types of machinery used at the factory.

Mr. Brooks was born on August 6, 1930 in Birmingham, Alabama. He came to Anniston in 1942 with his family. He completed high school in 1948, and he attended Jacksonville State University for two years. He first started working at Alabama Water Pipe in 1952. Mr. Brooks started work at U. S. Casting soon after his job with Alabama Water Pipe that same year. In late 1960's, he became factory foreman. He recently retired in 1992 after laboring at the foundry for forty years.

The original founder of the factory was Tom King. The factory's name was King's Foundry. In 1949, U. S. Pipe Foundry bought King out of business. U. S. Pipe Foundry changed its name to U. S. Casting after it no longer produced pipe products. The factory's primary merchandise made was soil pipe and fittings for sanitation. They used cast iron to make these products.

⁸Robert Halvorsen and Michael G. Ruby, Benefits-Cost Analysis of Air Pollution Control (Lexington: D.C. Heath and Company, 1981), 15.

Today U. S. Casting's primarily manufactures high pressure fittings and soil pipe fittings. They use ductile and gray iron for the products they assemble at the present time. Ductile and gray iron are stronger and more durable than the cast iron previously used by the foundry.

The cupola is a large boiler for melting iron. "Iron is put in as a raw material and comes out as a molted metal."⁹ The cupola can melt twenty tons of metal in an hour. The cupola is were the bag house is located. The smoke released from the cupola must be filtered before it can be released into the atmosphere.

When the melted iron is taken out of the boiler, it is placed in an electric furnace. This does not cause any known air pollution. The furnace keeps the melted iron at a temperature of twenty-five hundred degrees. The factory has two forty ton furnaces and one sixty ton furnace.

They transport the iron with ladles. The ladles are lined with thick bricks that prevents any iron from escaping. Electric cranes are used to pick the melted iron up from the cupola. The ladles can hold up to ten thousand pounds. If the ladles are kept in good condition there is not a problem in transporting the iron.

The pollution filter was put in the factory in 1974. The EPA forced the factory to put the filter into operation. This

⁹B.L. Brooks, interview by Marie McMichael, March 11, 1995, Tape recording, 8109 McCellan Road, Alexandra, Alabama 36250.

is when the federal government was finally enforcing air pollution laws. Mr. Brooks was a foreman over melting at the time of installment.

To continue operation, the factory must have a permit for operating the cupola. The EPA keeps a very close check on the waste products released by the foundry. They come at least once a month to test smoke and other forms of pollution. If the waste is above regulations they will close down the factory.

Before the bag house was put into operation, black smoke with large particles were released in the atmosphere. They blow the waste into the air and let it fall back down to the ground. Mr. Brooks stated, "cinders would cover your body if you stood under the cupola."¹⁰ Cinders are the waste particles released in the atmosphere by the cupola. The cinders would fall on people and burn holes in their clothes. They had to have some type of platform to stand under to prevent getting burned by falling cinders.

Contractors were hired to put the bag house in the plant. The pollution device was built in three stages. The cupola was the first stage of the pollution filter, and the duck work for connecting the cupola to the bag house was the second stage. The third stage was the bag house. It took eighteen months to get the device to operate correctly.

¹⁰B.L. Brooks, interview by Marie McMichael, March 11, 1995, Tape recording, 810 McCellan Road, Alexandra, Alabama 36250.

is it
a permit
VIST.?

The bag house is used to pull smoke and cinder out of the air that comes off the cupola. It works like a vacuum cleaner. It has six sections. There is a total of nine hundred and sixty bags that lie under each section of the bag house. Each section contains one hundred and sixty bags. Each bag is twenty feet long and eight feet in diameter. The bags are used to catch the pollution that falls out of the pollution filter. The maintenance of the bag house is very expensive. The cost of each bag is fifteen dollars, so the total cost of just the bag is over fourteen thousand dollars. The bags must also, be changed periodically.

There is a three hundred horse power motor that utilizes the fan that sucks the smoke off the cupola. About twenty feet above the cupola are two after burners that burn~~s~~ all the gases off the boiler. This causes the gases to break down into chemicals that can be properly handled by the bag house. Large cinders fall out in a drop out pan before they reach the bag house.

Once the smoke enters the bag house it must be filtered through all six sections. Five sections operate to filter the smoke at a time. One section is set to go off and shake every fifteen minutes. This knocks the particles into the large bags that hangs off in many rows under each section of the bag house. Once this section is though the next section will cut on to shake. This is a continuous cycle that goes on as long as the cupola is in operation. The cupola is ran about eight hours a day. The

particles that fall out of the bags descends to a hopper that is emptied every day.

The shaking of each section keeps the bags from being over filled with ashes. The material that comes out of the bags is a fine dust. "It's about as fine as powder."¹¹ The ashes in the hoppers are emptied into a larger hopper. The fine dust sits there for about a week. Once a week cement and other elements are mixed with the ashes to meet the standards set by the EPA. It is then made into large concrete blocks that are piled up in a land field. Before they are taken to the land field, samples must be sent to Birmingham to be analyzed by the EPA. It takes four days for the response.

The bags must be kept clean so they can "breathe". The bags are made of a cloth material that can breathe. If a bag burst it is tied off and changed the next day before the cupola is put into operation. About once a month a vacuum cleaner is used to clean the bags, and the bags that are damaged are replaced. The up keep of the bag house is very expensive to the company, but the environmental fines would cost a great more.

The smoke released from the bag house into the atmosphere is monitored very carefully. A crew from Birmingham runs test on

¹¹B.L. Brooks, interview by Marie McMichael, March 11, 1995, Tape recording, 810 McCellan Road, Alexandra, Alabama 36250.

everything that is discharged by the bag house. If too much pollution is released the EPA will close the factory down.

The only dangers in running the bag house is if the burners in the cupola go out. This allows carbon monoxide gas to escape into the bag house. If this happens the machine will blow up. But, there is an automatic shut off device that prevents the carbon monoxide from getting to the bag house if the after burners go out. There is a chart that will show the operator the burners are out. When the burners are reignited the system will start back up.

All of U. S. Castings foundries use this type of pollution filter. The size of the filter is determined by the size of the cupola being used the factory. U. S. Casting has seven other plants in the United States. There locations are Tennessee, California, New Jersey, and Alabama. Mr. Brooks says that states like California and Tennessee are more strict with pollution laws than Alabama.¹²

There are smaller bag houses used to filter dust for things like cleaning machines and areas where grinders are used. When the castings are placed in the cleaning machine dust is released. The smaller bag houses filter the dust that comes off of these castings.

Another type of dust collector is used on cleaning machines is operated by water. The dust falls in the water and is left there

¹²B. L. Brooks, interview by Marie McMichael, March 11, 1995, Tape recording, 810 McCellan Road, Alexandra, Alabama 36250.

to settle at the bottom of the pan. A chain is used to pull the settled particles out of the pan into a hopper. This alternative way of filtering dust particles would not work for large amounts of waste produced by the cupola.

There is an electric melt method that is used in some factories to melt large amounts of metal. The electric melt system does not produce the smoke and waste material that is produced by big boilers like the cupola. They are ran, by electricity instead of natural gas.

Mr. Brooks seems to be very pleased with the out come of the pollution filter. He stated, "I have not seen any way that is as good as this bag house."¹³ He said the filter was a great advantage to the environment and to the workers in the factory. The only disadvantage is the amount of money it cost to keep the filter in operation.

In my opinion, all factories should be forced to use the electric melt system. This way the worries of pollution will be drastically reduced. I do not know all the information about the electric melt system, but I feel that is more beneficial to the environment than the bag house method. This would cost the companies a large sum of money to replace the old systems, but in the long run I think they will benefit from the electric melt.

¹³B. L. Brooks, interview by Marie McMichael, March 11, 1995, Tape recording, 810 McCellan Road, Alexandra, Alabama 36250.

Industry pollution is not the only form of air pollution. Automobiles are a major contributor to the pollution problem. It was not until the mid 1970's that laws were passed to make cars have anti-pollution devices on them. Air pollution is not the only way cars pollute the environment. The oil used in cars must be dug out of the ground, which, destroys that area of land. Most modern cars have air conditions that run off freon. When released in the atmosphere, freon contributes to the break down of the ozone layer.

If people can come together and work with nature the future can be much brighter. Instead of adapting nature to human we must adapted human to nature. We must realize that all forms of life are being ^aaffected by the pollution that humans are dumping on the earth. People's attitude must change to prevent to horrifying future that is right around the corner.

"Acid rain is killing forest, crops, and lakes"¹⁴ Ancient buildings have been eroded more in the last decade than in the last one thousand years. It was not until the late 1960's and early 1970's that people started demanding their right to have clean air. People must continue to stand-up for their right to have a peaceful environment to enjoy.

The destruction was started when humans first set foot on the earth. Will it take until humans are extinct before the

¹⁴Hilary French, Cleaning the Air: A Global Agenda (Washington D. C.: World Watch Institute, 1990), 91.

destruction will stop? Many new projects need to be started to help enforce air-pollution control laws. Grass roots organizations need to band together and take control over the factories. All people must fight together to prevent pollution and the ultimate destruction that lies ahead for the future. All living creatures deserve to have clean air and a clean environment to inhabit together.

A — on paper

A in course

Bibliography

1. Brodine Virginia. Air Pollution. New York: Harcourt Brace Jovanovich, Inc., 1971.
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4. Guldmann, Jean-Michael and Daniel Shefer. Industrial Location and Air Quality Control. New York: John Wiley and Sons, 1980.
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6. Merchant, Carolyn. Major Problems in America's Environmental History. Massachusetts: D. C. Heath and Company, 1993.

Marie McMichael
Jan. 26, 1995
Questions

Proposal of Questions
for Oral History Research

1. What was your date of birth and was you born?
2. What was your former occupation before working at U.S. Pipe?
3. When was the factory founded and what did it produce?
4. Who was the founder of the factory? King
5. What is the primary product that is produced by U.S. Pipe today and what is it used for?
6. What type of materials are used in making this products?
7. When was the pollution filter put in? 1970 ~~1974~~
8. Why was the air filter put in the factory?
9. What was your ^{wife} ~~role~~ in the company when the air filter was put in? ~~aman~~ Melting!
10. How many people were involved in the development of the pollution filter?
11. How long did it take to put the machine up? 18 months 3 stages
12. Before the pollution filter was put in what types of chemicals were being put in the air? ~~carbon~~ zinc, carbon monoxide, gas
13. What effect did this chemicals have on the environment?
14. How does the air filter work?
15. Do you feel it does an efficient job of cleaning the waste?
16. What do you think should be done to improve the pollution filter?
17. What are the advantages of the device?
18. What are the disadvantages of the device?
19. Did you approve of the device being put in?
20. How much does it cost to keep the pollution filter operating?
21. Is there any danger in the pollution filter?
22. What type of chemicals come out of the pollution filter? —

other anti-pollution work that has done?

23. gas pull up. It will explode

Good

Bag

House

6 sections 180 bags to a section

After burner (2)
20ft. above

senders

education?



Marie McMichael
April 3, 1995
Research Project

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Marie McMihael
Jan. 26, 1995
Proposal

Oral History Proposal

Marie McMichael
Environmental History Tuesday and Thursday from 9:15 to 10:45.

B.L. Brooks, McCellan Road, Alexandra, Alabama.

We have planned the interview for March 19, 1995, at his house.

I plan to interview Mr. Brooks about the U.S. Pipe Factory. I want to find out how the factory prevents air pollution. He was one of the major associates ^{who} ~~that~~ worked on the project of putting in the air filter. The topic is important to the future of our environment. We need to find better and more efficient ways of clean^{ing} the pollution that comes out of thousands of factories every day.

Excellent