



Steelworker Oral History Project

Transcripts and Lesson Plans



What is an Oral History Project?

Oral history is a recording of historical information, obtained through an interview that preserves a person's life history or eyewitness account of a past experience. Oral history projects are initiatives planned, designed, and executed by individuals or groups to create and preserve personal stories.

Oral history helps round out the story of the past by providing a fuller, more accurate picture of the past by augmenting the information provided by public records, statistical data, photographs, maps, letters, diaries, and other historical materials. Eyewitnesses to events contribute various viewpoints and perspectives that fill in the gaps in documented history and stories that have been untold or forgotten

What is in this lesson plan?

The Rivers of Steel Archives have served as a repository for thousands of donated and sourced items that tell the story of the Pittsburgh Industrial District's domination of the steel industry throughout the better part of the 20th century.

The following oral histories were collected as part of a 2003 grant from the Pennsylvania Historical and Museum Commission and the Pennsylvania Heritage Parks Program. The goal of the project was to capture the stories of former steelworkers in the Rivers of Steel Heritage Area, which serves seven counties: Allegheny, Armstrong, Beaver, Fayette, Greene, Washington, and Westmoreland.

This lesson features three oral history transcripts detailing first hand accounts of individuals who worked at J & L Steel in Aliquippa. The oral histories were conducted by Rivers of Steel staff and the individuals who agreed to be interviewed discuss their work history and life in the mill spanning from WWII, during the Vietnam War, and on through the decline of the steel industry.

There are reflection questions at the end of each individual transcript as well as summary questions at the end of the readings to guide the reader in comparing and contrasting each persons' experiences. There is also a glossary of terms and steelworker jargon at the end of the lesson.

Some tracks in the original transcripts were omitted from this lesson plan for lack of relevancy for this lesson. It is recommended that teachers read through the transcripts for grade-level appropriateness prior to assigning this reading to students.

Steelworker Profile #1: Emma Rocco



Steelworker Profile Summary: Emma Rocco

Emma Rocco worked at J&L Aliquippa during World War II as a **laborer**. She learned her work on the job. "You got some instruction, but then you kept your eyes open and your ears open," she says. One of her jobs had her lifting **slag**, putting it in the proper receptacles, and getting it out of the mill. "It taught me that I didn't want to do that for the rest of my life," she says and laughs. But she does not begrudge it. "You really felt like you were contributing [to the war effort]," she says. She was also in charge of checking machines and cleaning the oil residue to keep them running. It was hard, dirty work, but Emma was glad for it.

Since Emma was going to Duquesne University to get a degree in music, she would work at the mill every day during the summer, and then on the weekends during the school year. She worked the 3 PM-11 PM or the 11 PM-7 AM shifts. There was a lot of responsibility in the summer, because she still had to practice piano for four hours a day and complete all of her household chores. During the winter, she had to arrange her schedule around recitals and classes.

Working in the mill also redefined boundaries for women and what they considered "normal" life. Everyday attire for Emma included slacks, heavy shoes, and form-fitting clothing and a scarf wrapped around the head so that her clothes and hair did not get caught in the machines. She received \$.68 an hour, which was considered good pay.

Emma speaks candidly about women who were forced to re-adopt their former roles when men began returning from the war. "That's when the difficulty came in. The women had learned that they could really do these jobs. And they were bringing in [money] and supporting the family. It was hard for them to give up and go back home into the kitchen, so to speak...But as the soldiers and sailors came back, they had first priority, so they got the jobs back...Women have the strength to carry on under the most difficult circumstances. They could release their men to go to war and face hazards over there and keep the families going."

Emma, who received her PhD in Ethnomusicology from the University of Pittsburgh, remembers her job at J&L fondly. None of her three children, though, went into the mill. "They didn't have to," she says. "Then, you know, the mills went down, so that was the end of that."

Interviewer: Julie Throckmorton-Meunier, Rivers of Steel

2003:03-JT52-MD

Interviewee: Dr. Emma S. Rocco, J&L, Aliquippa Wartime Production

Emma Rocco Tracks 1 and 2 Introduction and work

Emma says that she thinks the rich history of the mills is in her forbearers and not necessarily herself because she only worked at the mill a short time. She worked in General Electric one summer in Ambridge. She needed to pay for her tuition to Duquesne University. Her father, who at the time was 67 years old, was a big help, but Emma needed more. She had to be 5-foot-3 to work one of the machines, and she was not, but the boss let her use a step stool. The machine was turning out valves for the ships during the war. The person running the machine had to be eye level with it; that is why Emma was using the stool. The next summer and the summer after that, she worked at J&L in Aliquippa. Her boss, named Henderson, approached her at the end of a summer and asked her if she wanted to work during the year also. She said that she did not think she could because of her heavy school schedule. He let her, though, come in on weekends whenever she wanted. She did this her entire junior year. She could not do this her Senior Year because she had to do her Senior Piano Recital (She was a music major) and also student teaching. "But those two places enabled me to get where I was going," she says. She says that the mill was very organized in those days.

Emma Rocco Track 3 J&L Aliquippa

Emma says that by the time she got to J&L, the jobs were labor-related, which she did not mind at all. She was in charge of checking machines and cleaning the oil residue, keeping them running. It was hard, dirty work, but Emma was happy for it.

Emma Rocco Track 4 Learning the job

Emma learned on the job. "You got some instruction, but then you kept your eyes open and your ears open." One of her jobs had her lifting slag, putting it in the proper receptacles, and getting it out of the mill. "It taught me that I didn't want to do that for the rest of my life," she says and laughs. But she does not begrudge it. "You really felt like you were contributing." She thinks she was there in 1944 and 45.

Emma Rocco Track 5

Other women in the mill

At that time, because of wartime production, there were a lot of other women in the mill. Some of the women were **grinders**, inspectors, or laborers. She says that it was unlikely to get into the mill, as a woman, before the war or after it, and she says that she probably would not have wanted to do it anyway. The patriotism is what drew her into the mill, besides the need to make money. Her bosses were older men. She cannot remember women having positions of authority when she was there.

Emma Rocco Track 6

How she was treated

Emma was treated fine, and she had no problem with her male coworkers. Most of them were paternal towards her. "There was no bias, no discrimination; only thing I had to worry about was—pardon the expression—getting too friendly and assuming I was interested in that kind of thing," she says. This only happened in three or four cases.

Emma Rocco Track 7

Shifts

Emma worked the 3-11 shift or the 11-7 **shift**. She did not like the 3-11 because it cut her day so short at home. "But after I got there, I was perfectly satisfied with it. But I had to get myself there." It was so difficult for her because she still had to practice piano four hours a day, and she had to do housework. She would get home from the mill around 12AM, would read the paper until 1AM, go to bed, and then get up at 7AM, which did not leave her a lot of time to get her four hours in, do her chores, and get ready for work. She did not mind the 11-7 as much because she had most of her day taken care of, and she could get her work done. She did not have trouble staying awake.

Emma Rocco Track 8

Getting to the mill

Emma took the bus to the mill. There were a couple of times the mills went on **strike**, and she would not know about it until she got there, and then she would be stranded because the buses did not run after midnight. Usually someone would drive her home. She says that she did not know what she would have done if someone would not have offered her a ride home, because it was a long walk and not safe because it was so late at night. This happened to her about three or four times. Nobody in Emma's family had a car. I was surprised that people would want to strike during the War. Emma says that she does not know if they called them strikes, or what the conditions were. "Happily, it didn't last a long time," she says. All of her coworkers who

were driving were men, and Emma says that today she would think twice about riding home with a man she did not know. She did not think about the strikes in terms of financial loss, so she was not disappointed in missing out on a few hours. When she took the bus, it was a local one, not provided by J&L.

Emma Rocco Track 9 Checking into the mill

There was a gate that Emma went into, and she showed her identification badge. She had to punch in with a time card. She was not aware of them being strict on plant protection because of the War. Emma says that she was American-born of Italian parents, but that they were all on the American side during World War II. She does not remember any segregation or problems. "Everybody was trying to do a job for the country," she says.

Emma Rocco Track 10 What was worn

Emma wore slacks. "Jeans didn't exist for us in those days," she says. The people who wore jeans, she says, were the ones that worked on farms, and jeans were not popular with everyone yet. She also wore clothing that fit tightly on top so that it did not get caught in the machines. Her hair was wrapped in a turban so it also did not get caught.

Emma Rocco Track 11 Safety seminars/giving up jobs

Everyone had to get instruction on safety. She says that there were a lot of signs everywhere. "You just learned to be alert, that's all." She also says that it was difficult for many women to give up their jobs when the men came back, because they felt they had a claim. Emma feels that this is when women first started to see that they could be so much more. She says that my generation is a testimonial to the fact that this independence grows and grows. "And that's what I wanted...I got out from under debt as fast as I could." Emma came very late in her parents' lives, and she felt embarrassed to tell them that she wanted to go on to college because she knew that they could not afford it. She asked them to help her through the first year, and then she paid her own way after that. Even though tuition was cheaper in those days, her first job was \$.58/hr. The second was \$.68/hr. At that time, they thought it was a good salary.

Emma remembers coming home from school one day to find her father crying, which was unusual because he would never let her see him cry. "It's the first time I'm making any money in the mill, and I call it blood money because my neighbors are losing their sons," he says. He had just heard that a family on the next street had lost their only son (in the war).

Emma Rocco Track 12 Millworkers at wartime

There were workers who finally started making some decent money when the war started. “He was just a sensitive man,” Emma says, referring to her father. “He never wanted anything out of life that he didn’t pay for himself.” Emma told him that he was paying for it by working so hard. She says that the older generation did suffer some discrimination in the mill.

Emma Rocco Track 13 Pensions

Emma does not think that a lot of steelworkers got **pensions** in earlier years; pensions came later. Her father lived on Social Security and what he managed to save. She cannot remember for sure when her father retired, but thinks it was around 1954 or 55, when he was in his 70s. She says that even though **unions** are not very popular nowadays, they are what saved the early workers.

Emma Rocco Track 14 Union/father’s job

As a part-time worker, Emma was not a part of the union. She is almost sure that union meetings continued to be held during the war. Her father, she thinks, was a grinder in the mill. “He did that for years, and I think it contributed to his loss of hearing.” He never thought he was hard of hearing, but he would talk so loud sometimes that Emma had to tell him to talk softer.

Emma Rocco Track 15 Safety equipment

Emma had to wear heavy shoes, gloves, and the scarf on the head. They also could not wear loose clothing. All this had to be bought by Emma herself.

Emma Rocco Track 16 Lunch/Henderson again

Emma would brown bag her lunch. She could get sodas from the machine, and tea in her thermos. She got a half-hour for lunch, when she would sit and “watch the city go by.” She also says it was “restful.”

Emma remembers another kindness of her boss, Henderson. He told her once that he knew she was a student and if she wanted to study when they were not busy, she could. "I was treated well," she says.

Emma Rocco Track 17 **Boyfriend**

During the time that Emma worked in the mill, she had a boyfriend. "We went out for maybe a snack or something. Life was easy then," Emma says. They also went out dancing. Her boyfriend was Croatian, so she got to go to a lot of the festivals and events that the Croatians had. Her boyfriend understood why she could not see him often. They are still friends. "And he was busy trying to make a living," she says.

"It was a tough period to grow up in," she says. She talks about rationing and that it was almost impossible to get silk stockings, so they would darn the ones they had. "Everybody was in exactly the same boat, trying to raise families, trying to keep food on the table." The only people who had more than Emma's family did were the "professionals": bankers, insurance brokers, etc.

Emma Rocco Track 18 **Trains**

Trains were abundant, and Emma would take one into Pittsburgh. When there were programs at Duquesne at night, she would take the train home around 2:30 PM, shower and eat, and then her parents would come back with her on the evening train to Pittsburgh. They would take the last train out of the city at 11:40 PM. The train that she took was the Pittsburgh and Lake Erie (P&LE), and she would catch it on 14th Street in Monaca. She also took the train to her graduate classes at Pitt; the station is only a few blocks from her current house in Beaver. Why did trains fall out of favor? "Because we have changed our lifestyles...there are so many people who insist they have to drive themselves...we all got dependent on cars." She would walk down Smithfield Street, and maybe grab something to eat. Emma talks further about current road and driving problems.

Emma Rocco Track 19 **Lunch again/make-up**

Emma's parents home cooked everything. She would slice meat for a sandwich, take vegetables and fruit, sometimes a snack bar of some kind for a break. She would also take something to drink.

She does not remember wearing make-up to work, which, she says, is just as well. She also does not remember there being any weight requirement. "I'm trying to think back all through my family...as far as I can remember, I don't remember anyone being overweight." Emma says that

she had to coax her family in later years to not use as much fat in their cooking. They cooked with that much fat to keep up their strength because her father had a very physical job when he was younger. Emma and her friends had to walk a lot, and that was a way to keep the weight off.

Emma Rocco Track 20

Meeting different people

When taking the train into the city, Emma had the opportunity to meet many different people. This was not the first time she had experiences with different people, because her family would often allow her to travel to festivals with her Croatian boyfriend's family and she would meet a lot of new people.

Emma Rocco Track 21 **Death due to War**

Emma does not remember anyone receiving news of the death of a family member while at work. "Probably happened," she said, but she was not aware of it. There was apprehension, "just as it must be today," she says. "When Pearl Harbor took place...that was on Sunday. So what happened on Sunday? You went to church, you had a big dinner, you got to go with your friends and you walked some place...that was it. And we heard the news that night about this bombing. I had a hard time [visualizing it]...it never occurred to me how central it was to our safety." Among the people killed was a young man from Monaca. "And then it hit me...this is something that's not going to go away." Her husband was in the service for six weeks when they shipped him to Europe (Emma and her husband were not married at this time).

Emma Rocco Track 22

Emma's husband

Emma's husband came to Duquesne after the War, and that is how she met him. He grew up in Elwood City. She was dating a couple of other people, and did not want to be tied down. They got married about six or seven years after school. Did her parents have a problem with this? "That's where I got the advice from [to not settle down too soon], my father...in those days it was not thought that you could keep on working after you were married, but I did." She dropped out of the workforce when her mother became ill, and then she and her husband decided that it was time to start a family. She continued to work part-time. When the third child was old enough, then she went back to work. Her father had told her that he did not want her to come back from college her first year and say that she was getting married; he wanted her to graduate. "I was really an anomaly among the ethnics...I do remember one day I was upstairs doing something and some of my father's friends came in, they used to play a few cards or something like that. And they spoke in Italian. Of course, I could understand, and I heard one of them say to my father, 'Why are you letting her go to school? She's only gonna end up being married.' You know, the old saying. 'That's precisely why I want her to go to school. So that if she has to

support a family someday, she'll be able to do it' [her father said]. So he was far-thinking for his time."

Emma Rocco Track 23

Husband/children in the mill

Her husband also worked in the mill, and he very quickly realized that he did not want to work in the mill for the rest of his life. There were ten children in his family, and nobody had gone on for higher education. Her husband, though, was able to go to college on the GI Bill, and says that he never would have been able to otherwise. He is the only one of all of those children who went to college.

None of her children went into the mill. "They didn't have to," she says. She often thought they would not be able to survive it, and she laughs about this. She has three boys and they also raised their nephew because his father died young. "Then, you know, the mills went down, so that was the end of that."

Emma Rocco Track 24

Downfall of the mill

"I still don't know why the bottom dropped out the way it did. People still use steel. But I think it's because of the import/export kind of thing. I kind of think our country led us down the primrose path there and then we got in over our heads with the exporting and importing." Emma says that she is not an expert on this topic, and she never foresaw the downfall.

Emma Rocco Track 25

When the war ended

Emma was gone from the mill by the time the War was over. She says, though, about the end of the war, "That's when the difficulty came in. The women had learned that they really could do these jobs. And they were bringing in [money] and supporting the family. It was hard for them to give up and go back home into the kitchen, so to speak. So, I think there was a little bit of difficulty. But as the soldiers and sailors came back, they had first priority, so they got the jobs back...but most of them never went back to just being housewives anymore. And I can't speak for everybody...women have the strength to carry on under the most difficult circumstances. They could release their men to go to war and face hazards over there and keep the families going." Some women started businesses on their own, some went into the nursing field, and others got into professional work.

Emma Rocco Track 26**Other places of work/getting paid**

Emma remembers women working at Phoenix Glass, which is now Anchor Hocking, and staying there to work after the war. Emma was paid every two weeks by check from J&L. She thinks that she had to pick it up at a window.

Emma Rocco Track 27**Locker**

She did have a locker at J&L, but most of the time she did not need it. She did not shower there. “No, I wouldn’t dare,” she says and laughs. She made sure she did everything at home. People understood if someone rode the bus when dirty from the mill. Emma says that there was a place in Monaca called “The Greasy Pig,” and she had a brother-in-law who worked there. His clothes were so filthy when he came home.

Emma Rocco Track 28**Physical Labor**

Emma would occasionally have problems lifting something, so she learned to take smaller amounts, or a man would come over and help her. “But I didn’t make a practice of it and I tried to avoid it as much as possible. I didn’t want to be a burden on anybody.” She does not recall being unhappy on the job. People were careful not to joke around too much for fear that someone would be hurt.

Emma Rocco Track 29**Accidents**

There were some accidents. Emma said these normally happened on shifts on which she was not. “When my mother would go out to the graveyard to take flowers, she’d take me because she couldn’t always read the names. And she mentioned this one man who apparently boarded in our house...and something, and I don’t know what mill it was in—the steam blew the machinery apart and he got caught in it and he was actually cooked alive, you might say. And he lingered for a few days but he eventually died.” There were no compensations for accidents in those days.

Reflections on Emma Rocco's Transcript:

1. Social norms in the 1940's dictated that women quit working once they got married. Anna spoke about her father being ahead of his time in encouraging her to finish college to learn the skills to support a family before getting married. Do you think that social norms or traditions help a society or hold it back?
2. How do you think women in the steel industry during WWII changed the future of roles for women in the workplace?
3. Were the people of the past exactly like us?

Steelworker Profile #2: Charles Townsend



Steelworker Profile Summary: Charles Townsend

Charles Townsend worked at Crucible Steel in Midland and J&L in Aliquippa during his summers off from college. Generally, a person had to have somebody who was already in the mill “sponsor” them to help them get hired; for Charles, this was his father, who worked in low-level administration at Crucible. “You were kind of out of luck if you tried to do it on your own,” Charles says. “We were called 60-day wonders, which was a good term.” Basically, the college students were hired for 59 days, and then they were fired so they could not join the union nor collect benefits. Then, they were called down the next day and re-hired for the rest of the summer. Charles jokes that the 60-day wonder term had an alternate meaning. “They wondered if you were even going to last for 60 days,” he says.

At Crucible, Charles worked at the **cold strip** and the pipe department. At J&L, he was a laborer in the **tube mill**, and also worked on the electrical line gang and on the **electric furnaces**. The older men who had worked at the mill, in most cases, were accepting of the college boys. They laughed and joked with them, pulling tricks. Charles remembers his first “test.” Some of the men had a funnel, and one man would put the funnel down his pants. The man would then put a nickel on his head, and would try to toss the nickel into the funnel. Different men were trying it, and then they would turn to a new person and say, “here kid, see if you can try it.” As soon as that person would try, another man poured a quart of water into the funnel and down the new person’s pants. “And the test is there; how are you going to react?” Charles says. Luckily, he laughed, and he became likeable to the men with which he worked.

Charles’ first day in the mill was totally intimidating, and his father, who felt that Charles was rather sheltered because he was raised on a farm, warned him about what to expect. Everything in the mill was working at once. “There were so many sights, smells, and noises,” he says. Soon, though, he became accustomed to the atmosphere and found it exciting. Sometimes the work could be too stimulating. When Charles was working his second day on the line gang, he was putting **conduit** on the top of a building where an **overhead crane** ran. Charles was to hold the supports while another man **welded**. Charles began to lose his balance, and he grabbed a 440 line. “And boom! It knocked me...down into this high stand that we were on.” White and dazed, he was taken to the hospital, and luckily was okay. “Once you were thrown into the mill...it would take you a month to get ‘mill sense.’”

Charles attended both Geneva College and Covenant Theological Seminary, graduating with his Master of Divinity Degree. He taught at Geneva College and then at the Beaver Area School District for 25 years. His personal passion is local history; he is on the Board of the Beaver County History and Landmarks Foundation and writes for Beaver County History Online.

Steel Industry Heritage Corporation

Julie Throckmorton, Ron Baraff

2003:03-JT22/23-MD

Charles Townsend, LTV/J&L, Aliquippa, and Crucible Steel, Midland

Disc 1

Charles Townsend Track 2 **Where he worked**

Charles worked at Crucible Steel in Midland and J&L in Aliquippa. He also worked at Armstrong Cork in Beaver Falls. He worked 3 summers at Crucible, one summer at J&L, and one at Armstrong Cork. It was a summer thing, very popular in the valley, to work in the mill while you were going to college. Charles said that you generally had to have someone who already worked in the mill who would sponsor you. "You were kind of out of luck if you tried to do it on your own...we were called 60-day wonders, which was a good term." Basically, the college students were hired for 59 days, and then they were fired so they could not join the union or collect **benefits**. Then, they would call the college kids down the next day and re-hire them for the rest of the summer. "They wondered if you were even going to last for 60 days."

Charles Townsend Track 3 **Getting into the mill**

Charles' father worked at Crucible as low-level administration. He also had relatives in J&L in administration. He says that he apparently had very bad relatives at Babcock and Wilcox. Charles wanted to work at the three biggest steel mills in the region, and when he would contact B&W, they would tell him that he had a good chance, but he ultimately never got into that mill. He put in a regular application, then made sure his relatives were aware of it. The relative would then "shepherd" it through the system. The best jobs were given to the sons of the upper management. The idea was that the young people would work long enough at the mill to hate it and be more motivated to finish their college degree. With some people, it had the opposite effect. For Charles' first summer, he worked at the cold strip in Crucible Steel, and his last day was a sad experience because he had grown to like it a lot. It was short-lived, though, because two days back in college, he knew that he had made the right decision to go back to college. In the pipe department, a man begged him to stay, saying he would work him through the system. "You know, you're the type of person that we want," this man would say to Charles. He was also afraid of Vietnam calling, so staying in school was a good solution. "It sure beat going to Canada," he says and laughs.

Charles Townsend Track 4 School

Charles went to seminary. He went to Geneva College for undergraduate, and Covenant Theological Seminary in St. Louis, Missouri (Presbyterian Church of America). He has his Master of Divinity Degree. He still does some preaching, but he never made a full-time career out of it. "But I definitely wasn't going to go to Vietnam, because I didn't believe in the war."

Charles Townsend Track 5 Vietnam and the mill

Charles says that he cannot think of one contact he ever maintained out of the mill of the summer help, so he does not know who went to Vietnam and who did not. "But there were certainly people scheming and dreaming of staying out of Vietnam." From what Charles could see, the majority of the young men did not want to go to Vietnam, but the older, World War II generation was gung-ho about it.

Charles Townsend Track 6 Older workers and the college boys

Charles says that the older men, in most cases, were accepting of the college boys. They laughed and joked with them, and pulled tricks on them. Most of them were good, some maybe thought they were a threat. Charles remembers one summer when he was working on the furnace, and an "ethnic" man, maybe Serbian, did not want to have anything to do with the college boys. He was very suspicious and felt that they were going to take his secrets and his job. Charles said it was a good experience if you were a type of person with which they could take a joke. Charles remembers his first "test." Some of the men would come out with a funnel, and one man would put the funnel down his pants. The man would then put a nickel on his head, and would try to toss the nickel into the funnel. Different men were trying it, and then they turn to a new person, and say, "Here kid, see if you can try it." As soon as you try to do it, another man pours a quart of water into the funnel and down your pants. "And the test is there; how are you going to react?" Charles says that reacted in a good way, which was the accepted thing. Another kid that came in got very angry with the men, and the rest of the summer for him was difficult, because they kept on him; he did not pass the test. Charles did not have anything like that happen to him at J&L, because it was a more serious atmosphere.

Charles TownsendTrack 7 J&L and Crucible

Charles was a laborer in the tube mill at J&L. He also worked at the cold strip, the electrical line gang, and on the electric furnaces. He noticed a more playful atmosphere at Crucible.

Charles Townsend Track 8 Jokes at Crucible

There were always continuous jokes. When Charles was a laborer in the cold strip, if he was not moving metal, he swept the floor with a big push broom. During the second term, that was done until about 5:30 when all of the bosses were gone and you could relax. And especially at night turn, when none of the big bosses were there, it was reasonably relaxed. On the first turn, there were a lot of “**white hats**” around. So, hiding and stealing that push broom was a lot of fun among laborers. As a laborer, you always had to hide your broom so nobody would mess with it. There were also a lot of jokes involving the lunch boxes. There was a lot of salt dumped in coffee when people were not looking. If you left your gloves somewhere unattended, they would disappear. The other good thing to do was to nail them down if there was time. Charles said that he generally did not see anybody get in trouble over these antics.

Charles Townsend Track 10 J&L again

In the cold strip, bonuses were big, and the rolls of steel were running through the big rollers, and the men who joked around were not the ones running the machines. They were dead serious, running as much through the machines as they could to get the bonuses. They would curse and throw their hats across the floor when the machines went down because it meant that they would lose money. “The worst thing that happened there, these things were drawn so tight, as they went through the different rollers. Once in a while, they would just, like, shatter. And that was the most dangerous time in the cold strip because there would be shards of steel flying around. And we had these big steel desks that were cemented into the floor. So when that bang, you heard that bang and crash, you just, like, dove for one of those things.” Charles says that he only saw this happen once. His father, who had worked in this department, had seen that happen more.

Charles Townsend Track 11 Where Charles lived/parked

Charles lived in South Beaver Township on a farm that was on his mother’s side of the family, and he would drive down to Crucible each day, which was about seven miles from where he lived. J&L was a little bit further away. He parked outside of the fence; only bosses could pull into the mill. He had to show his badge when he went into the mill, and when he walked out, you had to show the stuff you brought in, like your lunch box. Evidently, some men would fill up their lunch boxes with tools and whatever they could fit, although Charles never heard of someone getting caught. Charles says that the exciting time was when everyone would leave at once. There would be dust flying and some bumper-to-bumper accidents.

Charles Townsend Track 12 Shift work

Charles worked all shifts at Crucible, but only daylight at J&L. He loved working different shifts. He is a night person, and does his best work in the nighttime. "Things were usually a lot more relaxed."

Charles Townsend Track 14 Work on the electrical line gang

On Charles' second day on the line gang, he was putting conduit way up on the top of a building where an overhead crane ran. Charles was to hold the supports while another man welded them in. Charles began to lose his balance, and he grabbed a 440 line. "And boom! It knocked me...down into this high stand that we were on." He was white and dazed, and was taken to the hospital. Ultimately, he was okay. At Crucible, there was not much safety training for new guys coming in, and you had to learn from others on the job. He bought special steel-toed shoes, and that was taken out of his paycheck. "But once you were thrown into the mill," he says that it was so noisy and confusing. It would take you a month to get "mill sense." There were warnings, but no formal training.

Charles Townsend Track 15 Number one blast furnace

Charles got to work on the re-electrification of the number one **blast furnace**. One of his main jobs was to re-electrify this whole furnace. It was scary as you got higher and higher when you were working. There was an elevator that would take you up so far, and then there was an open gangway with latticework. Charles was with two older men, which was really great because he was able to wear a yellow hat instead of an orange one with a white band. They walked across the gangwalk, and they see another young kid who was frozen in the doorway of the elevator, terrified, and could not move. The other men tried to encourage him to come across, but he could not move, so he spent the rest of his time on the ground.

Charles Townsend Track 16 Urban legends

There were always legends of death. "One of the things we had to do in the cold strip was bale scrap, paper and stuff that came off there. And there was a hydraulic-operated baler, so it had a great big section you'd throw all this scrap in. Then it had a foot level and you would hit that and this big hydraulic arm would drop very quickly down, crush all that stuff, then you'd hit it and you could put more in it." Several people at the mill told Charles about a young man who had reached over it trying to get something moved and the arm came down and cut him in half. Charles says that he does not know if this is true, or if it just made a good "be careful" story.

Also, he heard the stories about if someone would fall in a heat of molten steel, that the steel would be taken out and buried somewhere out in the yard. He never heard a ghost story while he was there.

Charles Townsend Track 17 **Hardhats**

I ask Charles how the other men knew he was a 6-day wonder. “That was the hat,” he says. “The hat gave it away.” This was a good safety feature, but it was also a badge of disgrace. “That was why it was psychologically important to get a yellow hat that didn’t have any stripe on it at all.” The bosses wore white hats, the electricians wore yellow hats, the millwrights probably wore blue hats, and the laborers wore orange hats without the bands.

Charles Townsend Track 18 **First day in the mill**

Charles’ first day was totally intimidating, and his father warned him about what to expect. He felt that he was rather sheltered with being raised on the farm and in college. Everything in the mill was working at once, and there were so many sights, smells, and noises. On the first day in the cold strip, Charles, who says that he “must have been accident-prone,” almost got run over by a vehicle carrying a big coil. The mill forced him to learn quickly. After a while, you could hear a sound that was “out of kilter—there wasn’t something quite right.” Charles thinks it would have been helpful if they had gotten a better orientation.

Charles Townsend Track 19 **Downfall of the mills**

It never crossed Charles’ mind that someday the mills would not be there. When he was there, money was still flowing and everything was good. He did hear about the lack of maintenance in the mills, and the millwrights were always complaining that the bosses were not fixing things properly. Charles says that this was all countered by the mill bringing new equipment in regularly. Also, the last summer that he was there, a **continuous caster** was put in, and he and his friends snuck in to watch it working.

Charles Townsend Track 20 **Being a good worker**

Charles came from a Scotch-Irish, Presbyterian work ethic at home, and he took this same work ethic with him to the mill. “And quickly found out that wasn’t what the other guys wanted.” The other men were constantly telling him that he was making all the rest of them look bad. Also, they were warning him not to clean something up until the boss told him to. “And of course this was just a microcosm of the fatal flaw that permeated the industry,” Charles says. A couple of

men got very angry with Charles, because they felt he needed to pace himself. "That attitude I saw everywhere at Crucible; I do not remember seeing that at J&L."

Charles Townsend Track 21 Adjustment

Ron asks if it was hard to get used to slowing down when working, and Charles says that he simply did not slow down. "Sorry, it was ingrained in me. It was my attitude." He continued to work hard.

Charles Townsend Track 22 Career

First year out of seminary, Charles taught one year at Geneva College (English). Then, he taught at Beaver Area School District for 25 years and became the technology coordinator for his last five years. He went on and got two more masters after that. He went to Edinboro University and got an Educational Psychology degree, and then got from Carlow an educational specialist degree.

Charles Townsend Track 23 Father's work in the mill

Charles' father worked in the mill, but not his whole career. In the Depression, he had a furniture business in Beaver Falls, and lost it. Charles' grandfather was a gentleman farmer who had a farm in South Beaver, and both Charles' father and uncle went there and farmed through the Depression. After things improved, his father went to Crucible. He was not really mill material, and he was not happy to be there, and was sort-of bitter. He worked in accounting, keeping track of rolls, "basically a pencil-pusher." "Our background was a steel mill family--Townsend Steel Company. It was a steel company that is now...in Fallston, Townsend Nail Company, Rivet and Nail Company. And we were related to the Mayers [of Mayer China in Beaver Falls]...and Mayer had promised him he'd put him through college for China-type stuff, I don't know what it was. And then he died and his widow wouldn't honor that. But my father went on to school, the Depression came along. He had to stop and take care of his family and it just didn't work out for him too well." Charles says that they were on the poor side of the town. "Milo Townsend was my great-grandfather and he was big in the abolitionist movement, big in the women's suffrage movement...he was a big mover and shaker in that...we were on the idealistic side of the Townsends; why weren't we on the side with all the money?"

Charles Townsend Track 26 **Other men in the mill**

Charles went to high school at Northwestern in Darlington, which is now Blackhawk. His father was the first of the family to work in steel, as far as he knows. "His father before him had a print shop." That business burned, so his father could not take that job.

Charles Townsend Track 27 **Minorities in the mill**

Charles never saw a woman in the mill, and he also saw very few African-Americans. The only African-American he can remember was a janitor in the cold strip. This was at Crucible. One of Charles' family's friends was Serbian, and they lived in a boxcar when they first came here. They had to give so much money to the "Mafia" of the mill so they could work. People who did not pay ended up dead. Charles feels that he was sheltered from the Civil Rights movement.

Charles Townsend Track 28 **Various jobs**

In the cold strip, Charles worked as a laborer. At the electric furnace, he worked as a laborer also. He loved this job. "These electric furnaces, they were on cars. And most of it was bar stock...You maybe have only like three heats a night. So you had all this time in-between, especially on second or third turn. "I did other things [too]. But what was great sometimes, I mean, these things would come out and there was a **thrower** and a **hooker** because our job as laborers there was to hook up the crane or un-hook the crane; they'd load it and then hook it up. So you'd have one guy on one side, these things were bright red a lot of times, depending on how high they had to heat them. It used to be bright red stuff and what was kind of exciting about it was when it was real hot coming out, you'd have to put on an **asbestos suit** and you had a big face protector that came down, a big plastic face protector. And of course, that was dangerous too because if you got too close you had to stay in there too long, and that face protector would start melting onto your nose. That was not a good thing. And if it was really hot, you did that, put all those things on, big long gloves (I still have those gloves at home somewhere), asbestos gloves, and then they would train streams of water on you. So you were going to load and unload these things, and steam was coming off you and everything else. And so one guy would stand on one side of the car, and you'd have the hook chain for the crane with the big round thing on it; you'd throw it under and you'd have to be pretty accurate to get it underneath. There was another guy with a big long hook and he would hook that chain and pull it through. Then he would bring the crane down, he would hook that side, the other guy would hook this side with the chain, you know, so he would do that on two places, and he would pull that up. So you would work in there, get in there as fast as you could, and hope that you were accurate in the throws." This was when they were taking it out of the furnace. "Sometimes it was not that hot, you know depending on the heats...that was pretty enjoyable. Fought with a little bit of danger...has a romantic side to it...they would quench you so you were cool enough to continue working in there." He never had to do any skimming. "Another missed

opportunity in life," he says and laughs. He says that he loved the cool strip. He never wanted to go to the **pickling lines**, but he did not have to.

Charles Townsend Track 29 Mental Walk-through

"It was just basically--and I don't remember how many of the machines they had--it was maybe like four or five in tandem. And then you would start with one end and you would, you know, the crane would drop the roll. They would feed it very carefully into the big rollers, the roller mill and then each time they would like to feed it to the next one and feed it to the next one. Then it was put on a take-up spool in some way and then they would just, like, put the power to that. And of course, that was like reducing the size depending on what it is. It was really something because it would just be real slow...and then as soon as it got on the...whatever it was collecting on this end, they just revving it up until it just...flying through there and a screaming sound...the noise was very memorable [although it was daunting at first]." He remembers the one time when the roll broke and scrap went everywhere. The worst thing was when the roller went bad and they had to close the whole mill. This meant that, as a laborer, you had to go down into the **grease pits** in the bottom of the mills. "This was the ugly side of the beauty of all the rest." The laborers went down into the sludge with buckets and shovels and carried it up the steps and dumped it. The laborers went down in when the furnaces went down for maintenance.

Charles Townsend Track 30 What happened to the waste?

Ron asks what happened to the waste after it was taken out of the bottom of the furnaces. "It went into some container that was hauled away...you never saw it again."

Charles Townsend Track 31 Crucible

Crucible, in its heyday, employed five or six thousand. There were three blast furnaces, and Charles got to work on the first one. He got paid by check every two weeks. "The boss gave it to you on the floor." Charles says that if you bought anything at the company store, then it was deducted. The only thing he remembers buying were the shoes, which were deducted over two payments. Some people would buy their work clothes there. "It was basically just mill-oriented stuff," he says. I ask if anyone was standing outside of the gate after payday, wanting your money. He says that there was nothing like that, but "there was a stream of people heading for the bars, that's what I remember." In the older days, the collector was at the gate to collect the percentage to keep you working there.

Charles Townsend Track 32 Armstrong Cork

Charles also worked a summer at Armstrong Cork. He knew the boss (he had gone to school with the boss's son), and he was not getting hired at the mill, so he got the job at Armstrong Cork. "That was my worst working experience so far." Armstrong Cork made acoustical tile. "We went from a mushy stuff that was on the roof that came down—I worked on furnaces, made great big long wafers of the materials off these real hot furnaces. And there was no relief. And that was a particularly hot summer...it was like 120 or more inside. You know, they had big fans blowing on you trying to keep you cool, where at Crucible, you had to go in and deal with heat, but you had some respite from it." It was also the only time that he ever worked in an assembly line. A machine would cut the big wafers into long strips. "That was the most frustrating machinery I ever worked with." He explains how the wafers had to be turned and placed in another machine that put grooves on the edges. "You could never let that machine run out of those things because then they would have to reset the machine." The tiles would come through, often arbitrarily, depending on the man who was working on the other side.

You are waiting for the tiles to come through; they are not coming through, and then two come through and they break. He would be panicked because the ones that broke were the ones that needed to go into the other machine that would break down if it didn't get enough material. "You know, given enough time and experience, you would be able to experience that with some decorum." If you missed it, you were screamed at, which was extremely frustrating. Charles also found out that he was allergic to the dust in there. He was broken out all summer, and had to take pills and put sav all over himself.

Charles Townsend Track 33 Safety equipment in Crucible

"Gloves and a hard hat, that's it." He says that there were no respirators.

Charles Townsend Track 35 Summer at J&L

Charles had one year of seminary before he worked the summer at J&L. He was getting married, so that summer at J&L was his last in this area. He was hired as some kind of helper, laborer helper, maybe. J&L was a very clean environment because he worked at the finished end of the pipe. He spent much of the summer working on the inspection tables. The only bad side of this job was working the straightener. The pipes would be run through a machine that would grab them and take them through and straighten them. If there was a very small pipe, they would get tangled, and it would be hard to get them into the straightener. Too many would get in there at one time, and it would jam the straightener. He was discouraged from walking around at J&L, so he did not get to see much of it. He says that J&L was different because it was relatively serious work; people did not joke around like they did at Crucible. He worked there during the summer of 1967.

Charles Townsend Track 36 Strikes

There were no strikes when Charles was there. There were threatened strikes and walk-offs, but nothing happened. He did not get into Crucible one summer because there were strikes, and that was when he went to Armstrong Cork.

Disc 2

Charles Townsend Track 2 Staying in contact

Charles says that he did not stay in contact with anyone he worked with at Crucible, except his neighbors. "It was just a summer thing...it was just too short a time, and I never followed up. Nobody ever followed up."

Charles Townsend Track 3 What changed?

Charles' community is very rural, way out in the country. It is primarily farm and farmland. "I really haven't seen a big impact where I live," he says, referring to a change in the community after the mills closed. In Midland, though, he says that he sees the "Devastation Row." The town deteriorated very much. He says the superintendent of schools is trying to figure out a way to revitalize the town. Also, Charles says that he also loved to go to Aliquippa, which he now calls "pathetic and destroyed." In Charles' community, there hasn't been that much change.

Charles Townsend Track 4 Father and the mill/Mother

His father worked 25 years at Crucible, and got a decent retirement. "It was just sad, though. He really wasn't a mill person." He was born for sales, and Charles thinks he should have gone back to this. "The Depression changed a lot of people's lives...and his was certainly one of them." He was a smoker who had emphysema, and he worked a lot of his time in Crucible in the **coke ovens**, which did not help. He died in 1979. Ron asks about his mother. "She was basically a country woman," Charles says. Her maiden name was Moore, she was living out in South Beaver Township, and the family had been there since 1834. It was more of a summer place for Charles' grandfather, who ran the county home. His grandparents lived there after retirement with Charles' mother, and this is where his father met his mother. "She was the homemaker, that's what she did, and she did it very well." Charles says that she was satisfied and very happy. There were two children, Charles and his sister, and both of them live on the farm. His sister has written a couple of books on historical research, and she still writes.

Charles Townsend Track 5 Oral history workshop

Charles came to a workshop that Doris Dyen and I held at the Community College of Beaver County, and this is where I met him. I asked him what organization he was representing at that workshop. He says the Little Beaver Historical Society and the Beaver County History and Landmarks Foundation, where he is on the Board of Directors. He also belongs to the Steel Heritage Museum, and is on the Board of this too. He says that really, though, he came as his own representative for Beaver County History Online. He says that he has been so busy for the past nine months that he has not been able to update it. He also writes for the P&LE newsletter.

Reflections on Charles Townsend's Transcript:

1. How would you describe the attitudes of year-round employees towards summer college student employees ?
2. What types of summer jobs do college students have now?
3. How do you think The Great Depression impacted the demographics of the people who worked in the steel industry?

Steelworker Profile #3: Ed Murphy & Wife, Cindy Murphy



Steelworker Profile Summary: Ed Murphy

Ed Murphy would love to sit down and talk to you about his years in Aliquippa and his work at J&L. He started in the mill in 1973 as a management trainee. He spent time in every area of the steel mill, and after a year had passed, he was assigned to the very lowest management position. Ed spent several years where he was initially assigned, then was placed in the **by-product coke plant** for two and a half years. He was then asked to go back to the original department, where he stayed for nine years. At that point, shut-down had begun, and Ed's department was "spared the ax" because they could function on their own. Three men bought the department that Ed worked in, and operated it as a privately-owned company from 1987-2002 when it was closed. Ed started with J&L, which then became J&L/LTV, and then became J&L Structural, a privately owned company. "Thirty years is an awfully long time to spend in the same place," he says. Ed had many management jobs in his thirty-year mill career, including assistant turn foreman and **manager of human resources**.

"I never really considered a whole lot of other things rather than working in the steel industry," Ed says, because J&L had a management development program. "I mean, they paid hundreds of college graduates every year. They paid you a year's wages to do nothing but learn...You were paid by all standards well for college graduates at that time." Also, at the time that Ed went in, the industry was not yet threatened by foreign and domestic competition.

Ed loved the companionship and friendship he shared with others in the mill, especially when they were all playing practical jokes on each other. Cindy, Ed's wife, says that she could not wait for Ed to come home and tell her the latest story from what happened in the mill that day. "The job was as enjoyable as you wanted it to be," says Ed.

Ed and Cindy are also very proud of their community. Cindy says that so many people who were born and raised in Aliquippa still have a very close connection to the town. After they move away, many people still come back and give money to support it. "They still have a great connection to Aliquippa." Ed says that they do not remember the dirt or the smell, just their friendships. "I firmly believe that Aliquippa is the only community in the United States [that was] founded like it was founded and operated like it was operated," Cindy says.

Steel Industry Heritage Corporation

Julie Throckmorton

2003:03-JT20/21-MD

Ed and Cindy Murphy, J&L Aliquippa

Disc 1

Ed and Cindy MurphyTrack 1 Introduction/Job in the mill

Ed started at J&L in 1973 as a management trainee, which was something most of the steel mills had at that time. The program was designed for people coming out of college. The trainees spent time in every area of the steel mill, and after the year, the trainee was assigned, and started at the very lowest management position, maybe assistant supervisor. Ed spent several years where he was initially assigned, then was taken out and placed in the by-product coke plant for two and a half years. He was then asked to go back to the original department, where he stayed for nine years. At that point, shut-down had begun, and Ed's department was "spared the ax of the shutdown" because they could function on their own. They kept these businesses running until July of 1987, when it was shut down. Three men ended up buying the department that Ed worked in, and operated it as a privately owned company from 1987-2002 when it was closed, probably for good. With the first closedown, there were about 15,000 people working at the mill. With the last shutdown, there were about 115 left. Ed had many management jobs in his thirty-year mill career, including assistant turn foreman and manager of human resources at J&L Structural. He started with J&L, which became J&L/LTV, and then became J&L Structural, a privately owned company. "Thirty years is an awfully long time to spend in the same place." He says that he did not possess any special skill; he was just in the right plant at the right time. "But anyway, the last fifteen years with the independent company was a wonderful experience." He enjoyed all thirty years in the mill, not so much because of the atmosphere, but because of the people. They are still friends with a lot of the people that Ed worked with in the mill. Ed and Cindy have both lived in Aliquippa their entire lives.

Ed and Cindy MurphyTrack 2 Work wasn't easy

"It's not as ivory-coated as many people would like to think; that you went to work with the newspaper in your pocket and you didn't do anything all day," Ed says. Although, Ed says, there were some of those people that would not work no matter where they were put. Most men took a lot of pride in being a steelworker. Ed thinks it might also be Aliquippa because so much of the labor movement took place there. He says that he thinks that people later on started

“looking down their noses at steelworkers. “The goal nowadays is to “become much more.” Cindy says that the reality is, though, that most people would come out of high school and go straight into the mill. Ed says that it has been twenty years since the ability has been there to work in the mill your whole life, retire, and get a pension, and that people never had to be concerned about what they were going to do for a living. If they did not go to J&L, they went into another local mill. “So began your thirty-year career in a good industry with good wages and good benefits. That’s been gone since the late 70s, I guess.”

Ed and Cindy Murphy Track 3

Other options

“I never really considered a whole lot of other things rather than working in the steel industry.” He says it was because J&L had the management development program. “I mean, they paid hundreds of college graduates every year. They paid you a year’s wages to do nothing but learn...You were paid by all standards well for college graduates at that time.” At the time that Ed went in, the industry was not threatened by foreign and domestic competition. He says that many non-union, small plants were started in the South, which provided some serious competition for the plants up here. The Germans and Spanish started competing seriously in the foreign markets. Then, “the EPA was commencing to cut its teeth. They were passing one law after another—I don’t want to say to cripple the industry, but it did.” The plants did not buy new equipment, but rather met with the EPA’s demands and spent their money changing things to satisfy the EPA. “They spent the biggest part of their profits on smoke-stack cleaners and...all sorts of pollution devices that were necessary.” The efficiency in the mill was not being paid attention to, while the up-start companies in other countries were putting their money into new, more efficient equipment. “I don’t know of any company today, other than Wal-Mart, has a twelve-month-long management development program.”

Ed and Cindy Murphy Track 4

Choosing jobs

Ed says that he really did not have a whole lot of say on where he was placed in the mill. They asked him when he was finished with his training to pick two or three departments to which he would like to be assigned, and they would try their best to assign him to one of those based on need. Ed got his second choice when he was assigned. Once someone was assigned, that person was placed in the hierarchy based on need. It was then up to the person to do well and then be transferred up the ladder or to move to a different department by request.

Ed and Cindy Murphy Track 5**Byproduct**

Ed says that five of them were taken at one time to a start-up facility that was looking for young people who were eager. All of them were young, and all had four-year degrees. After two years, one by one, each person was taken out of there and sent somewhere else. "But all in all, you got into a department, and you pretty much worked your career in that department. Because they were all complex. They weren't all just easy things to learn." It was easier to move up the higher you were.

Ed and Cindy Murphy Track 6**Pressure at work**

Ed says that he never felt a lot of pressure, and that he deals well under it. He worked well with people. "When you have a crew of 150 guys working for you in an area that is a quarter of a mile long, you certainly can't be everywhere watching each of these individuals perform. So, somehow or another, you have to win them over and let them know that you're not a threat." This takes time, but once he accomplished it, the people did their work. In those days, the communication was "tin can and wire" because there were no cell phones, so he had to trust people. Cindy says he always had everyone's respect. "Everybody brings something to the table." The trick for a manager is to find out what that is for each person. "If I had problem people who didn't want to work, we quickly erased that problem with 3, 4, or 5-day suspensions or terminations. I didn't tolerate people who weren't interested in performing."

Ed and Cindy Murphy Track 7**Funny story**

Ed says that he knew a man who was an excellent worker who really enjoyed taking naps. In the 1970s, most steel mills were overloaded with people, maybe 25% too many. The men knew how quickly they could work and get their jobs done. "There were all kinds of places where you could sneak off and hide." Ed knew his people, and where they would go. One man went into the shanty to take his nap, and Ed locked him in there with a padlock. When this man woke up and he could not get out, nobody could hear him because it was so noisy in the mill. When it did get quiet, he was able to get somebody's attention to let him out. "So we played games for twenty years." Cindy says that she could not wait for Ed to come home and tell her the latest story. "The job was as enjoyable as you wanted it to be," says Ed.

Ed and Cindy Murphy Track 8**Discipline program**

Because it was a union shop, there were rules to follow. If there was a man who was a habitual problem, there was first given a verbal warning, and then a written warning, and then a day off, then two, then five, then the person was fired. "That took years to do that." The solution was right at the beginning, to talk to the person and let them know that if they kept messing up, they

were out of there fast. Because, Ed says, the reality was that if a person was a bad employee, you did not have to wait a long time to have him mess up again. There were some people for which alcohol was a big problem.

Ed and Cindy Murphy Track 9

Shift Work

Ed never worked as an hourly-paid employee after he was done with college, but he did for four years when he worked summer jobs while in college. He did not work with J&L, but rather a sub-contractor for them. He worked shifts then, often filling the holes that were left by people going on vacation. "Work was never a big issue because Aliquippa was alive 24 hours, 7 days a week." Ed says he gets mad when he hears people on television talk about "24/7" because that's the way it always was with the mill. It was simply expected that you might have to work holidays. Cindy says that shifts did not matter as far as affecting home life, because normally the mother was always home. "This entire valley, that's all it was, shift work." Cindy says that traffic would back up a mile or two during shift changes. "When you worked in the mill, your weekend might be Wednesday...in the old days, you did what you have to do on your day off." What turn you worked was often a big topic of conversation.

Ed and Cindy Murphy Track 10

Any shift that you hated?

Ed was not particularly fond of midnight shift because he could not sleep well. "I just did not like trying to sleep during the day, because it is backwards." Cindy says that it is scientifically proven that people should not work midnight. Ed says that he would get cranky the day before midnight, and then after he worked his midnight shifts, he could not go to sleep at night.

Ed and Cindy Murphy Track 11

Full moons

"The strangest stuff would happen when there'd be a full moon," Cindy says. "People acting really peculiar." Ed agrees with this, and says that he knew that there were two or three people that were going to be strange. "And depending on circumstances, if you had two or three or four things happen at the same time, you knew you were in trouble." Ed says that there were a couple of men who would just "leer at each other." Strange behavior patterns were common during full moons, and people would be extremely edgy and ready to fight.

Ed and Cindy Murphy Track 12

Accidents on midnight shift

I ask if more accidents happened on midnight shift than other shifts, but Ed says that, strangely enough, they did not. Ed says that most everyone was crabby because they did not get enough sleep. People still brought a lunch. "You'd be eating chicken wings at four o'clock in the morning." Cindy says it was not unusual to be packing a lunch at 10PM. "It was funny for me

because I didn't grow up like that. My father didn't work in the steel mill," she says. Ed says that the more steel mills that began to shut down, the more people had an appreciation for their jobs.

Ed and Cindy Murphy Track 13

Leaving the area

Ed says that not many of his friends left the area after the mills closed, and that a lot of his friends rebelled and decided not to go into the mill in the first place.

Ed and Cindy Murphy Track 14

Lay-offs and shut-downs

The initial lay-offs started in 1981. The first department was actually shut down in 1964 when the nail mill was terminated, but there were no more departmental shut-downs until 1981, when they closed the rod mill. They offered retirement and transfer packages. "They made it as transparent and as painless as possible." The initial shut-down of the rod mill, because of all of this, was pretty much painless. In 1982, the wire mill was shut down. Ed says they were going to try and run the wire mill without the rod mill, getting the rod from somewhere else, but the two go hand-in-hand, so it did not work. There was a little bit more impact with this one. By the time they decided to close the doors in 1984 on the by-products and steel mill, it was drastic. The tin mill ran until 1987 as independent businesses operated by LTV, and they bought their raw materials elsewhere. "And the rest of the place sat," he says. Many people thought that it would just be a couple of days before they started up again. They became a new company in 1987, and Ed thinks that they did not dismantle any of the mill until 1991. This was when people started to understand that it would not be coming back, especially when the blast furnaces were torn down. "Aliquippa works was the sacrificial lamb for the rest of the LTV plants because they had a very good working relationship with the union and management." Ed says that he thinks things might have started going down in the 1970s when he worked there because the company was doing strange things with money and engineering practices. He says he could see it coming.

Ed and Cindy Murphy Track 15

Blooming Mill

Ed says that they needed a way to keep their strip mill competitive with tin. Their strip mill was only 44 inches wide, and the industry was going to make strips 6 feet wide. The engineering department disabled the antiquated **blooming mill** in Pittsburgh and brought it to Aliquippa to use it to make slabs. This cost over 40 million and took two years to do. That mill only ran for three months, and Ed does not know if it ever had a successful 24 hour period. Ed says that J&L had a **billet casting** machine that was revolutionary. It was six or seven years old. When the strand casting machine was built, the building was built big enough so there could be two of them. The popular theory was to put in a slab caster that was state-of-the-art. Instead, they put the old blooming mill in and paid twice as much for something that they could not use. "Once that occurred, you've got to make a commitment to do something else because somehow you've got to make these big slabs." At that point, they put in electric furnaces in Pittsburgh and

used a blooming mill up there. This also was not successful. "They were inside the city limits. The pollution, noise was an issue and they had an electric contract with Duquesne Light that was just an absolutely insurmountable thing. Because Duquesne Light ran new cables under the river. They spent millions and millions of dollars to provide electricity to this place and of course they didn't do that for nothing. J&L was ultimately going to pay the bill." Ed said that when they were J&L, he felt powerless to do anything because all of the higher-ups were making decisions.

Ed and Cindy Murphy Track 16

Problems

Ed feels that the best organizations are a mix of people and disciplines. "You should never have your top people be engineers or salesmen or PhDs...you need one or two of each of those so that people can off-set each other." Ed says that this never was the case in the mill. Guys who were works manager had worked their way up through the ranks. "Once you got above works manager, it didn't matter. I mean, you could have an engineer as your CEO or whatever it was. It doesn't matter. That's because you always had a huge mix of disciplines below that would correct each other." Ed feels in the 1970s that the first huge fiasco was when everyone decided that operators were not good in top positions. They took out works managers that had any operating experience and put in engineers. "And the guys that they put in didn't [understand the plant from the bottom up]." Instead, these men understood theory. They then took those engineers out because they were butting heads, with each person thinking he was right. They replaced them with salesmen, but then that was bad in an entirely different aspect, because "salespeople are all left-wing; they're not interested in fighting with anybody, they're not interested in disciplining anybody, they're not interested in production numbers, they're not interested in repairs; all they're interested in is sales." After four years, they took them out.

Ed and Cindy Murphy Track 17

Changes in the mill

Ed tells a story of a man named Ehrhardt who was assistant works manager when he was a trainee. This man was a Yale graduate, very bright, who started at the bottom and worked his way up the ladder. He was a dynamic man and a leader. He was an operator who got tangled up in the scenario just described previously. Everyone was placed in different areas, and suddenly Ed did not see this man anymore. He was sent to be superintendent to the rod and wire mill, which demoted him. Shortly after this was done, the salesmen decided it was illogical to have the finishing mill attached to the blooming mill, so they moved the finishing mill, and Ehrhardt was in charge of them again. Ed says that this man never held any bitterness about being demoted.

Ed and Cindy Murphy Track 18

Need to learn about steel

When Cindy was in college in New Hampshire, her geography teacher said that the steel mills in western Pennsylvania were going to be defunct and they would all move South. “And I argued with him. I thought he was nuts. And he was very, very true.” Ed says it would have been a work of art for someone to put together a way to keep the steel mills here. Cindy says that it is so sad that the children do not understand about the steel mills. She works at the library, and on one day, she was trying to ask these children what Aliquippa was famous for, wanting them to say ‘steel,’ but instead they said, ‘football.’ She does not want kids to grow up not knowing about the industry. Cindy and Ed say that even he and Cindy did not really learn about the **Wagner Act** or the importance of the unions until they got older. Cindy feels that the schools should have a course now to teach local history.

Ed and Cindy Murphy Track 19

Aliquippa

Ed says that Aliquippa used to be busy. There was a bus system that was built by the company. There were twelve plans, and each was set up with a different ethnic group, so that these people, when they came from other countries, could be with people they knew who spoke the same language. Also, they could have their own stores. “They went to the mill that way. I mean, it’s no secret that the Italians were all bricklayers.” They could go to work and all talk to each other and understand each other. I ask if he thought the company also put them like that so they could not organize (a union). Cindy says that was part of it, Ed thinks that might not have been part of it. Cindy thinks that the company may not of forced people to live in a certain place, but simply that people went where they felt comfortable and knew other people. Plan Six was where all of the superintendents and foremen lived. It was the nicest place in Aliquippa, and it overlooked the mill. The plans still exist, but there is no longer segregation as there was. Cindy says that the school district was one of the best in the country until the 1970s. Ed’s family lived in Hopewell Township, in the house he is in now, but Cindy’s family lived in Plan 12 and Plan 6. “Downtown was always busy. They had a lot of nice shops.” Ed says that the bus system was key, and often families did not have automobiles. There were four automobile shops on Franklin Avenue, grocery stores, Pittsburgh Mercantile (the company building, 6 stories of things to buy). People wouldn’t have to leave a two mile radius because they could get everything done right in town.

Ed and Cindy Murphy Track 20

Strike

In 1959, there was a 116-day strike. Out of that strike came a lot of benefits for the union, including wage and benefit increases. “The beginning of suburbia, frankly, for Aliquippa; people took their now-found wealth, and they bought a second automobile.” The bus line stayed in business until the early 1960s, when they went defunct because they were not needed. Then, everyone else who did not have a car had to get one. A huge parking problem was created because everyone was driving. Ed remembers being able to get on the bus with his grandma

and do everything within a two or three mile radius. “The town didn’t wait for the mill to close before it started to go downhill.” He said that businesses started to close in the 1960s. When the shopping centers opened, and they had free and ample parking, people started going to them instead of to the local stores, which were forced to close.

Disc 2

Ed and Cindy Murphy Track 2

The mill and community

Ed says that when US Steel built communities, they quickly became shanty-towns. J&L did not want that reputation. “They went about creating a community in 1909. The community was called Woodlawn...on the Ohio. And it was built in conjunction with the mill.” They knew that people would be coming in droves, and they wanted the town to be nice. At the time, there were a lot of rumors about the disease breakouts in some of the mill towns, such as Homestead. They also felt that if they were nice to the people, there would be less chance of union organization. The people did not care that the company was everything, but because the company took care of them. If they needed anything, they asked J&L. “The needs never became issues. They were taken care of before they ever became an issue,” Ed said. At the same time, if you were against the company, it was awful for you, said Cindy. People started wondering if the company was really that great when it would not provide for a family if the father was killed or if someone was maimed and the company fired him. Cindy says that the company constantly did things to promote itself, such as having picnics or parades. Sometimes the company would bring in the circus. Ed said that the company always wanted to make sure it was first and foremost in people’s minds, and that the people did not have to worry about organizing (a union) because “the company’s gonna take care of you.” Ed says that it was easier for J&L in Aliquippa to do this rather than some of the other companies because it had the people on its side from the very beginning. Cindy says it got ugly when the unions became strong.

Ed and Cindy Murphy Track 4

Rivalry

I ask about the Ambridge/Aliquippa rivalry, and Cindy says that it was always there. Ed feels that it was pretty much a sports thing, and not a company or community rivalry. Cindy says that the football rivalry was huge. Ed calls it “good, clean fun.”

Ed and Cindy Murphy Track 5**Entrance**

Ed took the main entrance into the mill. He says that there were only three entrances for people going to work. There was the main one, and then, when the BOF was built, a West Aliquippa gate opened. There was also an overhead bridge along Route 51 which provided entrance into all of the South Mills Departments from the buses. This declined in popularity when the buses were gone. As a salary or management person, you could drive right into the mill. Management people could go in any gate. Ed says that it was a circus trying to get out at shift change time. The company employed 11 or 12,000 people when Ed first started. On daylight, there would be about 2500 people changing shifts. There was a policeman in the tunnel directing traffic because it was so crazy. "Talk about road rage, that's where it started...The place was built around a public transportation system, as were most towns."

Ed and Cindy Murphy Track 6**Light and Sound**

Cindy says that at any time of the day, a person could sit outside and hear the mill working. She remembers that when Ed was working in the 14 inch mill, she could hear the whistles blow, and Ed would know who was being called because there were different whistles for helpers, etc., and he would know what was going on in the mill. Cindy says that she misses this. Ed says that the bessemer converter was an "interesting steelmaking process that just illuminated the sky orange." Cindy says that there was always light. I ask why Ed did not see this anymore later. "Well, that was a filthy way of making steel. The bessemer process made good steel, but it was antiquated and very dirty. And when they opened the BOF shop in 1957, they closed the Bessemer Converters. And the BOF shop didn't generate intense light like that."

Ed and Cindy Murphy Track 7**Dirty**

Cindy says that Aliquippa was a dirty town. "Yeah, you can refer to Aliquippa as the armpit of the world, because it was," Ed says. Ed says that he had trouble keeping the house and his clothes clean, but Cindy says that she does not remember that. Ed says that often the winds blew the dust from Aliquippa to Ambridge. Cindy says that she remembers the street cleaner guy cleaning the streets all the time. Ed says that a lot of houses were filthy because they were heated with coal furnaces.

Ed and Cindy Murphy Track 8**More about Aliquippa**

Cindy says that so many people who were born and raised in Aliquippa still have a very close connection to the town. After they move away, many people still come back and give money to

support the town. "They still have a great connection to Aliquippa." Ed says that they do not remember the dirt or the smell, just their friendships.

Ed and Cindy Track 9

Future

I ask what they think the future of Aliquippa is. Ed asks me what part of Aliquippa I mean, downtown, Sheffield, Hopewell, Center Township, etc. I say that I am referring to downtown. Cindy thinks that the downtown and Plan 11 are hard to think about when referring to revitalization. Ed says that people have been talking about revitalizing downtown for thirty years. Ed feels like it is beyond repair. Cindy says that one of the things that really hurts the downtown is the reputation that it has "whether earned or otherwise." She says that some people do not even want to go to the library because it is on Franklin Avenue, which is deemed "not safe." Ed says that their son has a landscaping business right on Franklin Avenue, two doors down from the library. It is doing very well, but the key for him is that he does not depend on any walk-in business. "You're not gonna put Sheetz on Franklin Avenue. Sheetz is not gonna make it. Not because they're gonna get robbed, not because of the black people...It's because people won't support it." The fallacy is the racial situation. "Aliquippa died a long, long time ago." Cindy says that it is a shame that people limit themselves. Both Ed and Cindy say that the Weed and Seed program is working really hard, as are other people. Ed says that there are two factions who want to revitalize. One wants to bulldoze the whole downtown and start over, the other wants to put new businesses in the old storefronts. "And each one has its merit." Ed thinks that maybe a combination of the two would be best. Cindy and Ed both agree that one of the major problems is that whenever something bad happens in Aliquippa, it is splashed across the front page of the paper. There is a trial going on about a black man who shot and killed a white policeman, which gives the town a bad name. Cindy says that when good things happen in Aliquippa, they barely get a blurb in the paper. She does not deny that there are some pockets which are dangerous. She asks where I came through to get to their house, and when I tell her, she says that the place looks like a slum, and very poor people live there, but the place is not dangerous. "You can't make blanket judgements," she says. Ed thinks it is a shame that people pass along their prejudices to their children. "The department I went in in the mill, when I first started...not only were you segregated by Croatian, German, English, black--there were only two departments in the mill where black people were: byproduct and the 14 inch mill." I ask why, and Ed says that in his place were published criteria for the size of a man to work in the 14 inch mill because it was one of the most physical jobs. A man had to be over six feet tall and weigh over 200 pounds. There were a lot of large black men who worked there. There was a segregated locker room in the 14 inch mill as late as 1971. Ed says that they tore the wall down in 1973.

Ed and Cindy Murphy Track 10**Racial situations**

Cindy says that when she first started at the library, she was astonished to see African-Americans hold themselves back before they came to talk to her. She thought this was so sad. I ask if the African-Americans were put in the byproducts plant because, traditionally, that was a nasty, smelly job. Ed says that, no, when the beehive ovens were up, the company brought in African-Americans from Georgia to staff the ovens. These men lived inside of the mill. When the beehive oven went away in favor of a byproduct coke battery, all of these employees just naturally transferred. Cindy says that you used to be able to see the coke ovens. She says that there also was a swimming pool right inside the tunnel, and Ed agrees and says this was the first community pool in the town. "J&L built everything. They wanted their people to be close to where they worked." Ed says, "The black folks that I worked with in the 14 inch mill were just phenomenal people." As things became more mechanized, size was not such an issue anymore in the 14 inch mill.

Ed and Cindy Murphy Track 11**Friends**

Cindy and Ed do not care what color their friends are. They say that all of the people that worked in the mill were all a big family, and they still act like that when they see each other. "What age do you have to be before you step out into the world and say, 'wait! This world's not lilly white!' And it ain't perfect." Cindy says people have to be careful about immediately associating low income with bad people.

Ed and Cindy Murphy Track 12**Continued**

Cindy talks more about racial situations. "I firmly believe that Aliquippa is the only community in the United States [that was] founded like it was founded and operated like it was operated."

Reflections on Ed and Cindy Murphy's Transcript:

1. Ed and Cindy discussed the transition from people shopping for everything that they needed within a 2-mile radius of their house, to the closures of these small main street businesses when shopping malls were built. Do you see a similar shift today in how people do the majority of their shopping?
2. Why do people associate crime with lower-income neighborhoods? Why is that wrong? How do we change people's minds?

3. What is your hometown famous for? Why was your town built and is your town still thriving on what made it famous?

Reflections on all Three Transcripts:

1. How did people's work ethic seem to evolve from WWII to the 1980's?

2. How did the perception of steel working as a profession change over time?
3. How have working conditions changed over time?
4. What were some of the common themes in each person's accounting of work in the mills?
5. How can one individual's experiences reflect the struggles of the entire nation?
6. How has the American Dream or the length of time that an employee stays at the same workplace changed since the closure of Big Steel?
7. What can be learned about a region's economy by studying the history of industry in that region?
8. What are your thoughts on unions after reading these transcripts?
9. Did a Boom and Bust economy happen everywhere in Southwestern PA after the decline in the steel industry or were some towns affected more than others?
10. Why are primary sources, such as oral histories, so valuable as tools for understanding the past?
11. The oral histories discussed the various ethnic groups, social groups, and community structuring that were part of the steel industry. Do you see remnants of influence from these groups today in Southwestern Pennsylvania's neighborhoods, foods or cultural traditions?
12. Social change agents are often thought of as a positive movement, but the closure of many of the steel mills in the region also sparked social changes and population shifts. Describe the ripple effect and impact of the decline of the steel industry and how it sparked social change.

Steel Industry Glossary or Terms/Jargon

Asbestos Suit: a suit designed to protect from extremely high temperatures. They were first designed and used in the 1930s. Originally made of asbestos fabric, current models use

vacuum-deposited aluminized materials. Asbestos is no longer used because it was found to cause cancer.

Beehive Coke Oven: oven with domed top used for heating coal to make coke; controlled amounts of air are admitted into the chamber that burns off impurities; often built into a hillside

Benefits: a payment or gift, as one made to help someone or given by an employer, an insurance company, or a public agency

Bessemer Process: method of quickly making steel; a blast of air is forced through the molten pig iron to rapidly burn out carbon and other impurities

Billets: a semi-finished steel form that is used for long products, such as bars

Blast Furnace: a furnace used to smelt iron ore

Bloom: semi-finished steel form with an 8-inch rectangular cross section

Blooming Mill: In metallurgical plants the blooming mill is an intermediate link between the steel-casting shops and the rolling shops, which turn out the finished product. In modern plants, blooming mills work together with continuous billet mills, which turn out billets for the shape mills.

By-product Coke Oven: process of making coke by excluding air from the chamber and generating heat by burning the recovered coke gas

By-product coke plant: The coke oven by-product plant is an integral part of the by-product cokemaking process. In the process of converting coal into coke using the by-product coke oven, the volatile matter in the coal is vaporized and driven off. This volatile matter leaves the coke oven chambers as hot, raw coke oven gas. After leaving the coke oven chambers, the raw coke oven gas is cooled which results in a liquid condensate stream and a gas stream. The functions of the by-product plant are to take these two streams from the coke ovens, to process them to recover by-product coal chemicals and to condition the gas so that it can be used as a fuel gas.

Capacity: normal ability to produce steel in a given period of time

Carbon: an element found in all living things; a common nonmetallic element

Carbon Steel: steel with properties made up mostly of carbon; most of the steel produced in the world is carbon steel

Cast Iron: hard, brittle form of iron that contains a large amount of carbon and is shaped by casting

Charcoal: soft black substance made by the partial burning of wood or other plant or animal matter

Charge/Charging: loading the furnace with the materials needed to make steel

Coal: black, solid, combustible rock consisting of mainly carbonized plant matter and used as fuel

Coils: sheet steel that has been wound into a coiled shape; the most efficient way to store and transport sheet metal

Coke: a processed form of coal with the impurities baked out at high temperature; the basic fuel used in blast furnaces for smelting iron; Coal + caKE = coke; 95% carbon and made by removing the tar and gases from the coal

Coke Ovens: used to convert the coal mined in the local area into industrial coke, a relatively clean-burning fuel used in the smelting of iron ore

Coke Oven Battery: a set of ovens that process coal into coke

Cold Strip: mill line that does the final forming of steel sheet while steel is cold

Conduit: a pipe, tube, or the like, for conveying water or other fluid

Continuous Caster: machine that allows molten steel to be shaped. Rather than poured, into ingots, the reheated and shaped later for increased efficiency

Continuous Casting: method of pouring steel in its molten form from a furnace into a billet, bloom, or slag

Electric furnace: any furnace in which the heat is provided by an electric current

Finishing Mill: part of the mill where steel is finished, or prepared for use

Flat-rolled Steel: category of steel including sheet, strip, and tin plate

Foreman: A workman who supervises a group of workers, especially in a manufacturing environment

Galvanized Steel: steel coated with a thin layer of zinc

Gauge: the thickness of sheet steel

Grease Pit: greases and heavy oils that collect in a steel-mill scale pit as a by-product of making steel

Hardening: process that increases the hardness of steel

Heat: quantity or amount of steel manufactured at one time

Hooker: hooks and directs crane and bundles steel as required

Hot Metal: molten iron produced in a blast furnace

Ingots: form of semi-finished steel

Integrated Mill: a mill where all aspects of the production are located with that same facility or site

Iron: malleable, silvery-white magnetic metal found mainly in hematite and extracted by smelting in a blast furnace

Iron Carbide: natural gas is used to reduce iron ore to iron carbide for use in electric furnace steelmaking

Iron Ore: mineral containing iron; at Carrie most was imported from the Mesabi Range in MN and Canada. When the Great Lakes froze, iron ore was brought in from Venezuela and Brazil

Laborer: a person engaged in work that requires bodily strength rather than skill or training

Ladle: large tub used to transport molten iron or steel

Limestone: rock consisting chiefly of calcium carbonate; used as flux; limestone attracts gangue

Malleable: term meaning metals that can be shaped by hammering

Manager of Human Resources: Plans and carries out policies relating to all phases of personnel activity: Recruits, interviews, and selects employees to fill vacant positions. Plans and conducts new employee orientation to foster positive attitude toward company goals. Keeps record of insurance coverage, pension plan, and personnel transactions, such as hires, promotions, transfers, and terminations. Investigates accidents and prepares reports for insurance carrier.

Molten Steel: steel in liquid form

Open-hearth Furnace: broad, shallow hearth used to refine pig iron and scrap into steel

Ore Yard: yard close to a blast furnace where iron ore is stored

Overhead Crane: Overhead cranes are nothing like the construction cranes used to build skyscrapers or bridges. Instead, they are often used in steel or other metal manufacturing, along with maintenance applications within a huge industrial facility.

Pension: a fixed amount, other than wages, paid at regular intervals to a person or to the person's surviving dependents in consideration of past services, age, merit, poverty, injury or loss sustained, etc.:(retirement pension)

Pickling Lines: Pickling is a metal surface treatment used to remove impurities, such as stains, inorganic contaminants, rust or scale from ferrous metals, copper, precious metals and aluminum alloys. A solution called pickle liquor, which contains strong acids, is used to remove the surface impurities.

Pig Iron: melted iron containing a large quantity of carbon produced in a blast furnace; 92-94% iron and 3-5% carbon

Plate: sheet steel with a width over 8 inches and a thickness of ¼ inch to over 1 foot

Plate Mill: rolling mill that rolls steel slab to the required thickness or plate

Raw Materials: materials changed little from their original form

Scrap (ferrous): iron-containing material that is remelted and recast into new steel

Seamless Tube: steel tube that is made by drawing molten metal through a roll with a bit in the center, which produces a hollow tube

Slag: stony waste byproduct of steel that is high in limestone content (locally dumped at Nine Mile Run, Century III, and Somerset at Frick)

Sheet Steel: thin, flat-rolled steel

Shift: one set of workers, or the usual number of consecutive hours from which one set of workers will work

Skimming: a technique of metal refining through concentrating metal ore. It is the removal of any material or particles that are floating on the surface. Skimming stations are the locations inside a basic oxygen process furnace shop where slag is removed from the top of the molten metal bath.

Slabs: the most common type of finished steel; it is 10 inches thick, 30-85 inches wide, and averages 20 feet long

Slab Mill: part of the mill production where steel pieces of various sizes are produced; the pieces are sent to finishing mills to be made into pipe or plate

Slag: Impurities in iron ore, left over as waste after smelting

Slag Cars: rail cars that are lined with refractory brick to transport slag

Slag Heap/Slag Dump: area where slag has been dumped

Specialty Steel: category of steel that includes electrical, alloy, stainless, and tool steels

Specialty Tube: wide variety of high-quality custom-made tubular products

Stainless Steel: steel with more than 10% chromium, with or without other alloy elements; resists corrosion, maintains strength at high temperatures, and is easily maintained

Steel: alloy of iron and carbon that is one of the most important metals in industry; main ingredients are coke, limestone, and iron ore

Strip Mill: part of the mill where slabs are processed and rolled into coils

Strike: a concerted stopping of work or withdrawal of workers' services, as to compel an employer to accede to workers' demands or in protest against terms or conditions imposed by an employer

Sulfur: is usually an undesirable impurity in steel rather than an alloying element

Taconite: pulverized iron ore with the iron being removed by magnets, mixed with clay and pelletized

Teeming: pouring molten steel into ingot molds

Thrower: stands on the floor next to the lifting table, using a small hand scoop, scatters salt on slab as it emerges from and re-enters the backside of the mill in order to remove scale

Tin/Chrome Plating: plating process that plates tin or chrome to a steel plate

Ton: unit of measure for steel scrap and iron ore

Gross Ton: 2,240 lbs.

Long Ton: 2,240 lbs.

Short Ton: 2,000 lbs.

Metric Ton: 1,000 kg = 2,204.6 lbs. = 1.102 short tons

Torpedo Cars: rail cars that are lined with refractory brick to transport molten iron to the steel-making part of the mill (an open hearth)

Tube mill: where pipe is made, including electrical conduit, seam pipe, and seamless pipe

Union (Labor): an organization of wage earners or salaried employees for mutual aid and protection and for dealing collectively with employers; trade union.

Wagner Act: The National Labor Relations Act of 1935 (also known as the Wagner Act) is a foundational statute of United States labor law which guarantees the right of private sector

employees to organize into trade unions, engage in collective bargaining, and take collective action such as strikes.

Weld: Join together (metal pieces or parts) by heating the surfaces to the point of melting using a blowtorch, electric arc, or other means, and uniting them by pressing, hammering, etc.

White Hats: Nicknames given to bosses/supervisors because they wore white hard hats in the workplace

Wrought Iron: extremely pure form of iron that is tough, easily worked and welded, and resistant to corrosion

Yield: ratio of the quality of finished shipments to the total raw steel produced