

# PASSWORD



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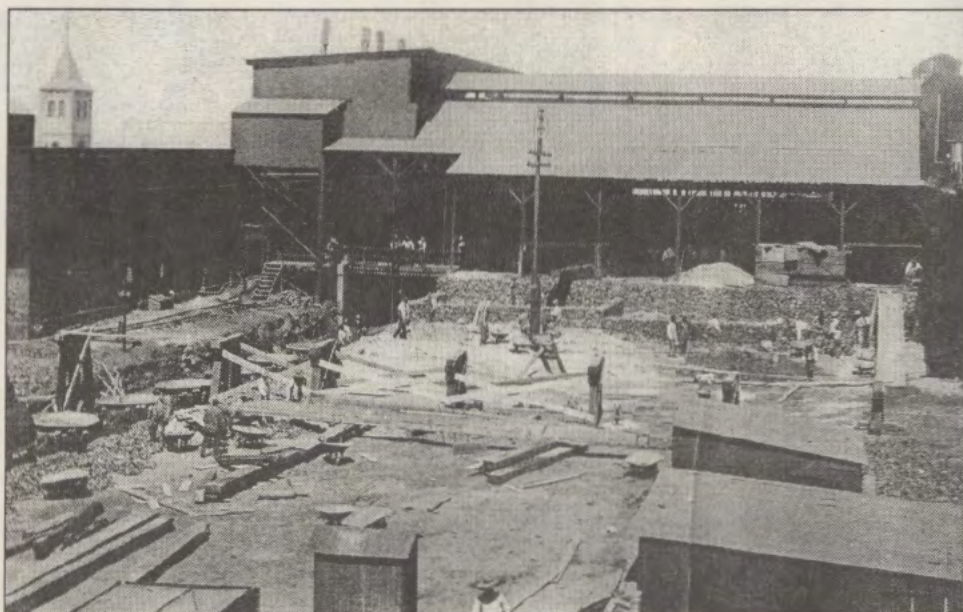
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*The ASARCO Smelter, 1913.*

*See page 159 for more photos of the ASARCO Smelter from two collections acquired by the El Paso County Historical Society.*

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# The Towne Smelter A Family Memoir

By Mardee Belding de Wetter



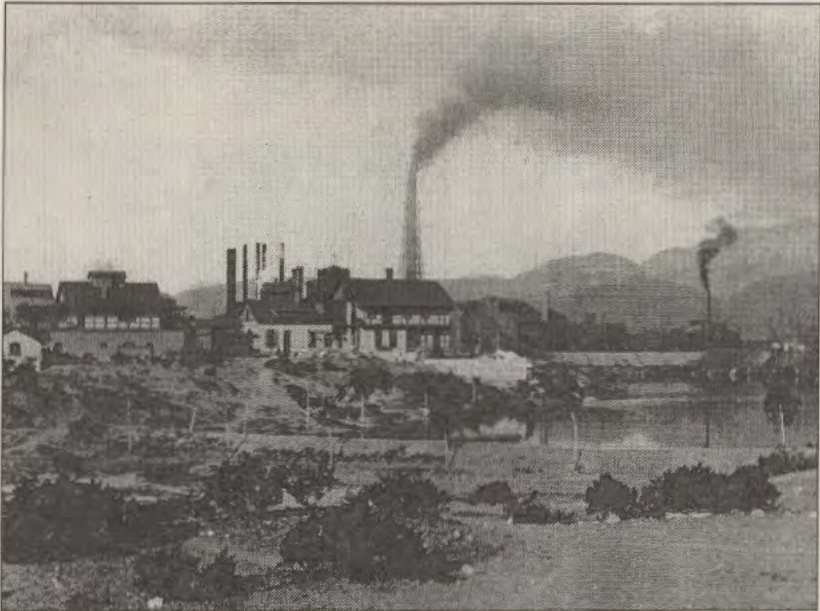
he story of what became known as the AS&R Smelter in El Paso had its beginning in the eighteen hundreds in Mexico, where a man from Ohio, Robert Safford Towne, sought his fortune. He was the only child of Harriet Nye and Henry Towne, a prominent jurist. Robert was born on September 17, 1858. He received a degree as a mining engineer from Ohio State University in 1879, after having attended Marietta College. His father is supposed to have called him into his chambers at graduation and handed him a check for \$3,000, saying:

"I have given you a good education. Now here is some money... go out and see what you can do."

Lodged in the pages of a long-valued, black-bound family genealogy entitled *The Ohio Valley Saffords*, lies the root of the story of the smelter in El Paso. The book, by Sidney Methiot Culbertson, was published in 1932 by the Kistler Press in Denver, Colorado. It contains fascinating stories as well as genealogical research about the Saffords and their various attendant families, among whom was one Robert Safford Towne.

The Safford story begins with General Rufus Putnam of Revolutionary War fame. Fort Putnam at West Point was named for him. He achieved prominence as the Chief Engineer of the Revolutionary Army, and later enhanced his reputation when he became known as the founder of Ohio, then called the Northwest Territory.

It was General Putnam's granddaughter, Jane Putnam, who married Dr. Robert Safford of Putnam, Ohio. The young couple, Dr. Robert and his wife Jane, produced three sons before Jane's death at age twenty-five. Dr. Safford, then a widower, was left with those three sons to raise. He prospered in his profession and was



*The Towne Smelter*

known for his medical ability as well as a devotion to his craft. He gained fame for riding on horseback a hundred miles in the deep snow of an early spring to attend a mortally sick patient.

Dr. Robert Safford built as his home what was considered to be a mansion, furnished handsomely in the style of that period. The town of Putnam soon changed its name to Zanesville, Ohio. Here Dr. Safford met a widow, Sarah Eliza Vinton Towne, who had borne one son to her husband, the now-deceased Reverend Abner Towne. Sarah Vinton Towne, a graduate of Mt. Holyoke Seminary, remained a student even in her old age. She shared her remarkable intellect with her brother Samuel Finley Vinton of the United States Congress. It was she who married the widower, Dr. Robert Safford, thus becoming mother to his three sons as well as her own son, Henry Towne. When Henry Towne grew up, he married and produced just one son, whom he named for his valued step-father, Robert Safford Towne.

It was this young man who received the three thousand dollars from his father. His stimulated ambition carried him to Colorado to visit several of the budding mining camps, but he did not tarry long before going to Mexico where he invested in various mines. He bought properties in Santa Eulalia, Fresnillo, and Sierra Mojada, among others, but he needed a smelter to extract the copper and



silver from the ore. In consequence, in 1881, he decided to build a facility in which to grade the ore. Finally, in 1887 he designed and constructed a smelter in El Paso, Texas on the border with Mexico. An entrepreneur in the style of a number of his contemporaries, Robert Towne was responsible for building railroads in Mexico as well as opening a number of mines.

He never married. When his life is reviewed, it is hard to find any time for marriage; yet he liked the good things in life—fine cigars, excellent food, and wines. He owned a large house in Santa Barbara, Mexico. He was a small man physically and dapper, but of great intellectual strength. His obituary in both the *New York Times* and the *Members Book* of his fraternity, Phi Gamma Delta, tells that he died on August 3, 1916 in his apartments at the engineers Club in New York City, but in many ways his life sounds bleak.

With no descendents, he considered the Ohio Safford family to be his own. He employed two of the younger nephews for his enterprises. One of them, Vinton Putnam Safford, lived for some years in Escalon, Mexico as Chief Engineer of the Mexican Northern Railway. Upon completion of the road, he was appointed Manager until he retired in 1931.

The other "nephew," Dr. Henry Towne Safford, named for Robert Towne's father, graduated from Starling Medical College,



*The Old Hospital*



*The New Hospital*

the University of Ohio, in 1896. Robert S. Towne asked him to serve as physician at his smelter in El Paso in 1897. Towne had built a small hospital at the smelter and already had employed Dr. Michael Philip Schuster to care for the workers. Dr. Schuster had come from Austria-Hungary to the United States, and thence to the small border town of El Paso. The young Dr. Henry Towne Safford joined the older Dr. Schuster at the Smelter Hospital.

When Robert Towne built his smelter, the dirt streets of El Paso afforded little elegance. Juárez likewise was only a village. The smelter, remote from the two municipalities, didn't seem a threat to the families who lived in the valley. Around it a small cluster of houses called Towne Smelter grew up.

When young, Dr. Safford married the southern belle, Margaret Niles; they lived at the smelter. Their first child, Betty Safford (Mrs. Charles Belding) was born there in 1902. Later, they moved to a house that had once been part of old Fort Bliss along the Rio Grande, but lingered there only until 1910 when they witnessed the massing of the Revolutionists across the narrow river.

Dr. Schuster continued his medical career by building Providence Hospital in 1902 in Sunset Heights. Dr. Safford served the community of El Paso as a beloved physician all his life.

Eventually, as El Paso grew, the Towne Smelter became part of ASARCO. For some time a series of distinguished men headed the local enterprise and lived in the gracious housing at the



smelter, where a lake and trees made it an attractive setting. The years brought substantial change until its present demise. Many El Pasoans grew up breathing the sulfur dioxide emitted from the smelter smokestack, which made it a burdensome and visible part of the scene.

Surely, in the era during which Robert Towne was opening the mining industry in Mexico, he never anticipated his small smelter on the Rio Grande one day affecting the lives of people in a negative way. It was industry. It provided jobs. It gave needed healthcare to its workers, and it was small, contained, and remote.

As the decades passed, the rise of formidable industry also passed. The steel mills, copper mines, foundries and smelters threatened the environment. Though they provided work for the people, their place in society changed. Like the smoke from their stacks, they drifted slowly away.



*Dr. Henry Towne Safford and Dr. Michael Schuster*



*This picture is from the 1900 Quien Sabe of El Paso High School.  
The hospital is behind the doctor standing on the hillside.  
There was a major fire at the smelter in 1901. It was rebuilt by 1902.*

**MARGARET (MARDEE) BELDING DE WETTER**, a founding member of the El Paso County Historical Society, has written three books of poetry, *The Sand Glass*, *The Sand Writer*, *The Sand Castle*, as well as the award-winning biography of *Judge Sinclair David Gervais*, and *Incognito, An Affair of Honor*, the biography of "John Rose" of Revolutionary War fame. Her thesis, *The Mexican Revolution 1910-1917*, previously was published in *Password*. She is a member of the Texas Philosophical Society, the Huntington Library Live Poets Society who publishes annual collections of members' poetry, and an enthusiastic supporter of The University of Texas at El Paso, the El Paso Museum of Art, and the El Paso Community Foundation.







# Remembering Smelertown: Reflections on Family Stories and Border History

By Monica Perales, Ph.D.



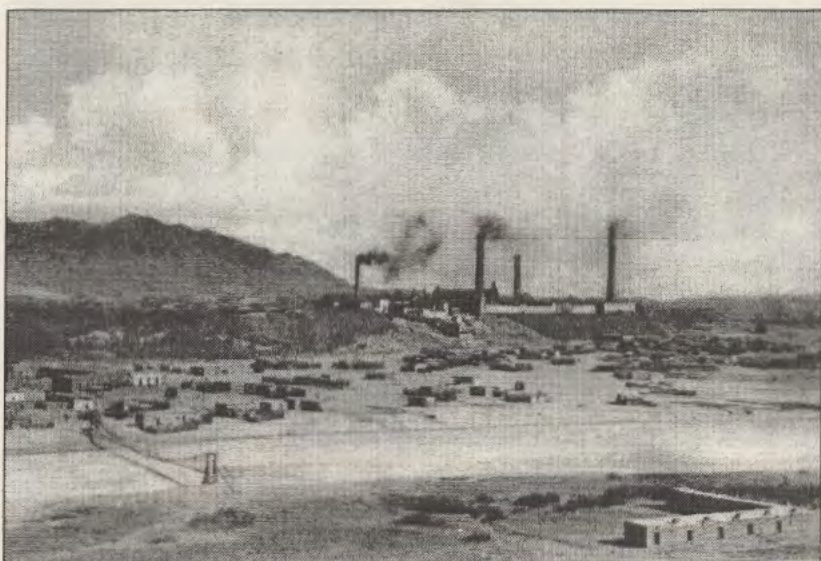
Driving along Paisano Drive (U.S. Highway 85), it is hard to imagine that Smelertown ever existed. The giant copper smelter, once an integral part of the American Smelting and Refining Company's vast transnational metals empire, sits silently on a bluff overlooking the

trickle of muddy water that is the Rio Grande. In February 2009, ASARCO officials gave up their fight to reopen the smelter that had been mothballed for more than a decade, closing the plant permanently. The defunct smelter rests atop a hill made of nearly a century's worth of hardened slag—the by-product of the copper smelting process poured out from the plant like lava. United States Border Patrol agents in their conspicuously marked trucks can sometimes be seen perched at the base of the smelter, poised facing the river and the newly constructed border wall that separate two nations. Freight trains still pass regularly on the two railroad trestles that cross overhead, but they no longer stop to deposit ore in ASARCO's unloading yard. Nearby, the Southwestern Portland Cement factory has been boarded up for years. Formerly known as El Paso Brick, the American Eagle Brick Plant is still open, accessible from Paisano Drive via a narrow bridge traversing the river. The dwellings that served as homes to generations of Smelertown residents were destroyed years ago, eventually giving way to the International Boundary and Water Commission's offices, soil pollution monitoring devices, and several ASARCO storage sheds.

A closer inspection, however, yields evidence of the vibrant Mexican *barrio*. *La Calavera*, or Skull Canyon, a small, secluded neighborhood tucked in an arroyo near the base of ASARCO, was once a part of greater Smelertown and remains virtually untouched. A narrow road from *La Calavera* winds up a hill to the gates of a small hidden cemetery; the sign above the wrought iron gates reads: "Smelertown Cemetery, 1882-1970."<sup>1</sup> A fine layer of black soot, expelled from smokestacks a short distance from the entrance, covers the plots located just inside the gate. The cemetery has no trimmed green lawns or uniform gravestones arranged in neat rows. Instead, brightly painted cement markers, wooden crosses warped by time and the elements, and a few expensive marble and mosaic tile headstones are scattered haphazardly about. Some graves have no markers at all; others, though still standing, are illegible. Others bear inscriptions dating from the late nineteenth century. Amidst the quiet rustling of the dry mesquite branches and the distant sound of the traffic along Interstate 10, the Smelertown Cemetery is one of the few remaining relics of the once thriving community and the residents who lived in the shadow of the smokestacks.

Though long absent from the landscape, residents of this border city have at least a passing knowledge of Smelertown. Many know the Smelertown of the 1970s, wracked by the problems of pollution and poverty that prompted city-wide concern over public health and urban policy. For others, Smelertown represents a deeper connection to the past. Generations of El Pasoans remember Smelertown—or *La Esmelda* as they called it—as home. It was their point of origin, a place where their families set down roots in the United States in the early decades of the twentieth century. In the physical absence of their historic home, former *Esmeltianos* recreate Smelertown in a variety of ways. They gather for annual Smelertown reunions each summer, and at least one former resident has created an online community of former *Esmeltianos* and their descendants in an effort to archive stories and photographs, making a virtual Smelertown across time and space.<sup>2</sup> More importantly, former residents and their descendants bring Smelertown to life in the stories they tell of the lives and relationships they built in *La Esmelda*. Exchanged at reunions, or across the family dinner table, these stories become a powerful tool by which a marginalized community writes its history. Yet despite being a part of El Paso's collective con-





*An early view of the smelter and Smelertown. Note the footbridge across the Rio Grande. It still existed at the time of the Mexican Revolution.*

sciousness, Smelertown remains largely absent from local and regional history.<sup>3</sup> Thus, Smelertown is a study in contradiction—an extinct community of which little remains physically, yet a place that everyone seems to know and connect with on some level. In its absence and silence, Smelertown speaks volumes about a community's multiple meanings and purposes, and tells us much about a people's and city's relationship to the past, their sense of self in the present, and their hopes for the future.

This essay reflects on my journey to write the first academic history of Smelertown. In particular, it explores how the stories that people have exchanged and continue to share about the Smelertown of memory helped to guide my search for the Smelertown of history. Balancing these two ideas—memory and history—was a challenging task. As many scholars have noted, memory and history are two separate things, even as they intersect and collide in the present. History requires facts, evidence, and analysis. Memories are personal, sacred, and often incomplete.<sup>4</sup> Although the two often seem incompatible, I contend that a critical examination of the stories about Smelertown offer important insight into larger social, political and economic changes taking place on the U.S. Mexico border. In this way, Smelertown is a window into the past, and its history is central to our understanding of the El Paso/Juárez border region.



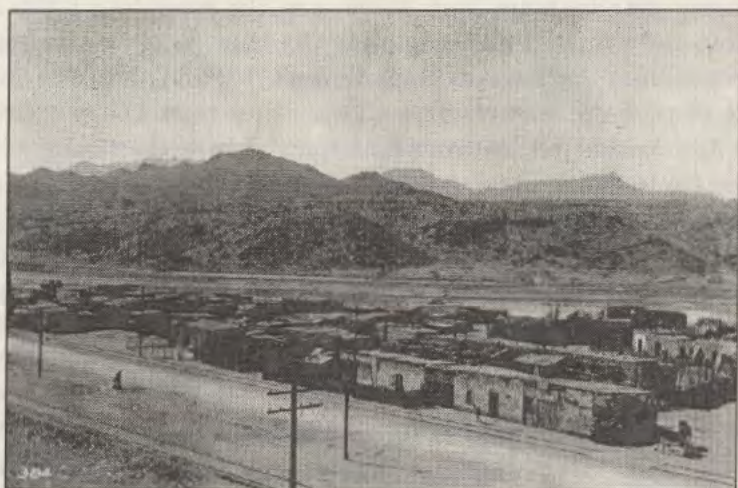
*Smelertown, a later view*

My forthcoming book, *Smelertown: Making and Remembering a Border Community* (University of North Carolina Press, Fall 2010) traces the formation, evolution, demise and collective memory of Smelertown. Formed at the base of the Kansas City Consolidated Smelting and Refining Company (acquired and incorporated as American Smelting and Refining in 1889), Smelertown served as home to thousands of ethnic Mexican employees and their families who made their way north as part of the first great wave of Mexican immigration in the early twentieth century. As El Paso grew, Smelertown's boundaries also expanded to include a number of smaller *barrios*, and by the 1920s and 1930s, this nearly self-contained community boasted several industries, a significant commercial district, and a population of close to 3,000, more than 96 percent of which was Mexican.<sup>5</sup> In a region shaped by industrial capitalism, transborder commerce and international migration, *Esmeltianos* forged a sense of community through a variety of daily practices, social interactions and familial and kinship relationships, creating a social and cultural geography rooted in their lived experience. The workplace, the Catholic parish, the public schools and the company and county-sponsored public vocational schools, as well as the Mexican-owned businesses and shops, became spaces where residents articulated a sense of community and identity over the course of nearly a century. Following the discovery of widespread lead contamination in the early 1970s, city and company officials dismantled Smelertown, relocating its remaining inhabitants to low-income housing projects around the city. Exploring both the development and decline of



an urban Mexican American community, my book critically examines the loss of community, its impact on residents, and how former residents, their descendants, and the city maintain an investment in the memory of Smelertown. In the end, it makes a compelling case for the ways in which ASARCO and *La Esmelda* have both left an indelible mark on the history of the city and region.

My own search for Smelertown has its genesis in family stories. For as long as I can remember, Smelertown was a part of my life, even though it was a place that I never saw with my own eyes (residents were evicted six months after I was born). Both sides of my family trace their roots to Smelertown and ASARCO. I have vivid childhood memories of the routine trips from our home in Phoenix, Arizona, to El Paso to visit family. I played with cousins on my maternal grandparents' front porch in Buena Vista—a short distance from where Smelertown had once been—waiting to see my grandfather come up the hill following his shift at the smelter, where he worked as a machinist. At my paternal grandparents' house, I used to sit on the green vinyl couch pouring through my grandmother's old sepia toned photographs. Taken in the 1920s and 1930s, they provided a rare glimpse into the lives of Smelertown's Mexican families. Sometimes we attended the *hermeses* (bazaars) at the local church held in conjunction with the annual Smelertown reunion. More than just a way to pass a lazy summer afternoon, these *hermeses* provided a place where former *Esmeltianos* shared memories of growing up in



*Another view of Smelertown by Otis Aultman.  
Courtesy of the El Paso Public Library, Border Heritage Collection.*



*The Smelter Hospital for Contagious Diseases*

Smelertown amidst the bingo and fresh-made tacos and snow cones. Over the years, it was not uncommon to hear the sad news of the death of a friend or family member from the old barrio. "You remember," someone would say. "*Era de la Esmelda*" (He/she was from Smelertown). The smokestacks themselves loomed large in my childhood memory too. As late as the 1990s, the fiery slag poured from the smelter glowed against the night sky, clearly visible from my grandparents' back stoop, and the twinkling lights on the red and white striped smokestack had always been a welcome sight on those long drives from Phoenix. When they appeared on the horizon, it was a sure a sign that we were finally "home."

As I became an academic historian, I honed the critical tools of my trade, but I never forgot those stories. At the same time that I scoured census data, employee records, newspaper articles and church newsletters for historical evidence, these familiar tales remained an essential part of my research. At times they were all I had in order to piece together the history of Smelertown, and interviews became an essential element of my work. Many came from the archives at the University of Texas at El Paso's Institute of Oral History. Others I conducted myself, mining the intricate network of family and kinship that still binds former *Esmeltianos* together. Interviews sometimes began at family gatherings, or with people suggesting I talk with their friends or



family members. For example, while working at a local law firm, I met a friend whose grandmother had been born in Smelertown in the early twentieth century. As it turned out, my friend had also grown up hearing stories about Smelertown. Her grandmother, Sabina Alva, was engaging and spry—and in her nineties—when I interviewed her at her dining room table. She mapped her surroundings in intricate detail, including the humble adobe home in which she grew up. They had no running water, electricity or gas, though some families used small kerosene lamps for lighting. Alva remembered how her mother used the smoldering mesquite roots that powered the potbelly stove to heat the rest of the house on cold winter nights, placing them in a bucket in the middle of the room. In the summer, they opened the shutter windows to let in fresh air, and covered the windows with *tarlacán*—a thin material that came in a variety of colors—to keep the mosquitoes out.<sup>6</sup> Sitting on the couch in his son's living room, Melchor Santana, Sr. recalled the importance of the Smelertown YMCA, and how he and his childhood buddies went to the "Y" every Saturday to play checkers, dominoes, read magazines or watch a movie for five cents.<sup>7</sup> When I interviewed Ramon Salas in the offices of his sons' law practice, he fondly remembered the neighborhood dances at the "Y" that were major events that the young people anticipated and planned to attend well in advance. He recalled that:

At the time we were teenagers, and somehow we had to come up with the 35 cents for the dances. We had to find the money and have some to spare for a soda and for the *compañera* [date]. I remember we enjoyed that . . . when we heard there was going to be a dance we started saving so we could make it.<sup>8</sup>

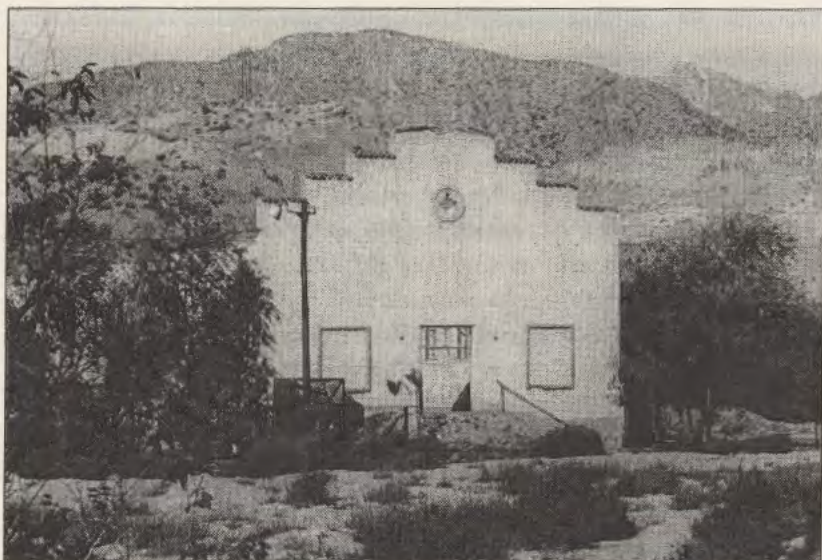
As this small sampling suggests, stories about childhood experiences outlined the contours of the physical and social world *Esmeltianos* created. Census data, employee records, newspapers and photographs corroborated the information contained in their narratives, but the stories that Alva, Santana and Salas shared were slices of everyday life that helped me understand the world that they knew.

Several of the people I interviewed also shared their first-hand accounts of the Mexican Revolution. These were not the ubiquitous tales of a real or imagined connections to Pancho Villa, Pascual Orozco, or any other number of famous historical figures

that so often figure into border lore. They were instead stories that revealed the changing political landscape of the borderlands, and of the impact that war had on people's everyday lives. For some, revolution spurred migration. Manuela Domínguez told me about how her grandfather, struggling to provide for his family as *hacendados* consolidated land and power, finally decided to embark on the trip *al norte*. The conditions that made the Mexican countryside ripe for revolution inspired him to put his family on a train leaving San Luis Potosí headed for El Paso.<sup>9</sup> José Luján and Angel Luján, two of my own great uncles, explained separately how the violence of the revolution, and the possibility of a job at the ASARCO smelter, motivated their father, José, to bring his family to El Paso.<sup>10</sup> Sabina Alva and Angel Luján told stories about the Revolutionary troops then camped in the desert foothills just across the river from Smelertown, and the increased number of U.S. police agents that also made their way to Smelertown. Other former *Esmeltianos* regaled me with stories about Smelertown's Prohibition-era bootleggers. Enriqueta Beard's childhood memory of the men sneaking illegal liquor across the river at night painted a clear image of the illicit exchange: the sound of the river lapping against the banks, the clanking of metal milk jugs used to transport the contraband, the dim light of single lit matches guiding the way.<sup>11</sup>

At the same time that these stories add to the intrigue and excitement of Mexican Revolution-era El Paso, they must be understood on a deeper level. The people of Smelertown, and El Paso as a whole, certainly had a "ringside seat to a Revolution."<sup>12</sup> Smelertown's historical significance in this place and time, however, has little to do with whether or not Pancho Villa was on the ASARCO payroll. These family stories tell us a great deal about the changes taking place on the border in these years and how those changes affected individuals in real ways. The violence and displacement of war set into motion one of the largest human migrations in the early twentieth century. Some chose to come to Smelertown, and their stories give us insight into everyday people's motivations and desires. Such stories also show us how the international boundary hardened as the demand to contain illicit smuggling activity merged with the state desire to control the movement of Mexican bodies across the international boundary. Perhaps these tales also tell us something about the opportunities available to a working class community. Faced with eco-





*The Smelter Church. Urbici Soler lived in Smelertown while he constructed the statue on Mt. Cristo Rey.*

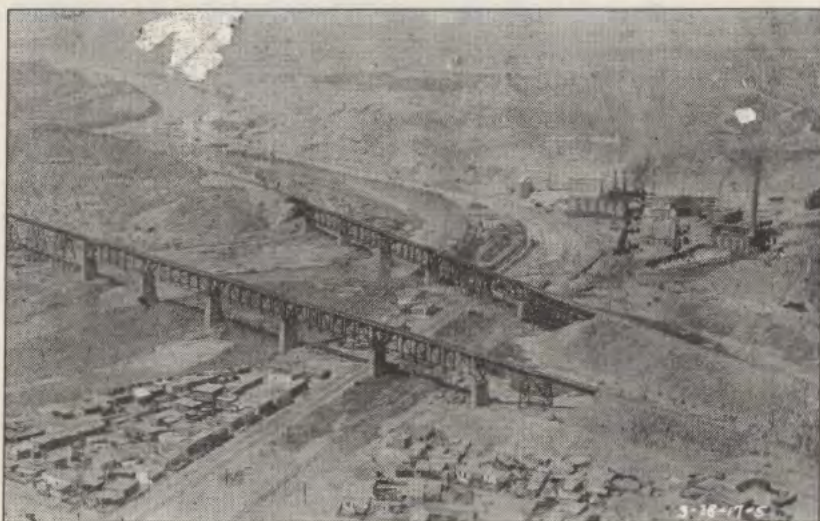
nomic opportunities limited by discriminatory labor practices prevalent across the Southwest, this type of underground activity contributed to an informal economy in which men (and women) found alternate means to support their families.

Stories about the lives of working individuals also allow us to understand something about the rapidly changing economic landscape of the border in the first half of the twentieth century. Stories about my grandfather, Manuel Gonzales, and his family illuminate how Mexican workers became integral components of an industrial transborder labor system emerging in the Southwest. Manuel was born in Smelertown in 1924, on "M" Street, just down the hill from the main entrance to the smelter. Growing up, we had always heard how my grandfather's father, Marciano González, had worked for many years at the smelter and retired on pension—a fact supported by years of stories as well as by an old black and white family photo that showed the two men in work shirts and hardhats.<sup>13</sup> As I began my research in ASARCO retired employee records dating to the early 1900s, history and memories collided. There in the dusty employee records for daily workers (as opposed to salaried employees), I came across the card for Macario González, my great great-grandfather. Already in his fifties when he was hired as a laborer in the sample mill in 1918, Macario worked at ASARCO for at least ten years before he re-

tired. Three generations of González men—Macario, Marciano, and Manuel, as well as several of Manuel's brothers—worked for ASARCO.

Their story was not unique. Several men I interviewed shared similar stories of multigenerational service to the smelter. José Lerma, his father, and several brothers, for example, all worked at ASARCO, and by his calculations, they had clocked more than 300 years of service between them.<sup>14</sup> Rogelio Carlos, Jr.'s grandfather, Gonzalo, had worked for ASARCO in Mexico at the turn of the twentieth century and his father Rogelio Sr. also worked at the smelter for many years. Over time Rogelio followed his father and grandfather's footsteps, and when the smelter was placed on temporary shutdown in 1999, his son Bob worked there too.<sup>15</sup> These men described work that was grueling and dangerous, but that paid a better wage than most other options in town. They described inequities, discrimination and conflicts with racist foremen, but they also shared stories of resistance, endurance and of union struggles for equality. They took pride in their service and their long history at the smelter.

It wasn't just the men who worked. I had often heard family tales of my great-grandmother, Julia González, and the informal restaurant she ran out of her kitchen there on M Street. As my great aunt Maria Palacio explained, in addition to the rigorous duties of cleaning and childrearing, Julia prepared elaborate



*Smelertown extended to the base of the railroad bridges. Southwest Portland Cement is to the north of the bridges.*



hot meals for her family everyday. She gladly shared an extra plate—for a small price—to a few workers who also stopped by the González house. Sometimes she also prepared boxed meals that her husband Marciano took to the guards at the plant and that her children took to the teachers at their school. This practice afforded Doña Julia the opportunity to make a little extra money on the side to supplement the family income and to purchase Christmas gifts for the kids. This was not the first time that Julia had been a part of the working world. It was from Palacio that I also learned that in the 1910s, Julia was among the growing number of young Mexican women employed by the city's professional laundries. She used to tell her children stories when she marched in "parades" wearing her white uniform.<sup>16</sup>

Stories about "Doña Julia" the restaurateur and laundress likewise reveal the varied ways in which the Mexican women of Smelertown engaged in the economy of their families and of the U.S. border region. Smelertown's industrial and commercial economy created opportunities for women to contribute to the family income in less formal, though no less significant ways through the extension of their household duties. Women have historically participated in an informal economy that was equally vital to the survival of the family. Historical records like the census and stories combine to flesh out the experience of working women. Through these resources, I discovered that women worked as domestics or maids for private families and as laundresses for families, professional laundries, and the Smelter hospital. According to the census, women also worked as street vendors and peddlers, or clerks and proprietors of small general stores, and among the ranks were also seamstresses and a teacher, and a few women worked in the smelter clinic and offices. Interviews revealed that Smelertown's women also sold items like wood, milk and cheese from carts throughout the neighborhood, while several worked as *parteras* (midwives) or rented rooms to boarders to make ends meet. These women, like so many others, became active participants in the economic life of the Smelertown community and of the border city as a whole.

I do not mean to suggest that my family stories are somehow extraordinary. In actuality, what is so remarkable about them is the fact that except for a few key distinguishing details, they are quite common. In this way, these stories are more than just entertaining tales. These stories are both personal and political, as

they serve to assert a community's place in the history of a city and region. More than simple nostalgia for a time gone by, the stories people tell of Smelertown represent one way of writing a working-class history in the absence of a historical place of their own. As I discovered, family stories and oral narratives illuminate the ways in which larger themes and historical processes shaped the development of Smelertown, the city of El Paso, and the border region as a whole. The myriad stories about Smelertown teach us vital lessons about the vast changes that took place in the borderlands at the turn of the twentieth century. With the arrival of the railroad, mining and smelting industries in the 1880s, the entire U.S. Southwest and northern Mexico region became a corporate frontier, fundamentally linked by corporate interests and a shared economic destiny. Its story forces us to reconsider El Paso's past and put it into a wider context. El Paso was not just some dusty "Wild West" outpost; it was the nexus of vast transnational and transborder capitalist industries, a critical railroad, mining and smelting hub through which capital in the form of ore, money, and labor poured into the United States. ASARCO played a critical role in El Paso's development. Its major copper smelter in El Paso established the city's place of importance in a larger industrial zone that spanned the continent. Smelertown was both a product of these changes and a lens for us to understand the impact of those processes on our lives today. In short, the story of Smelertown IS the history of El Paso.

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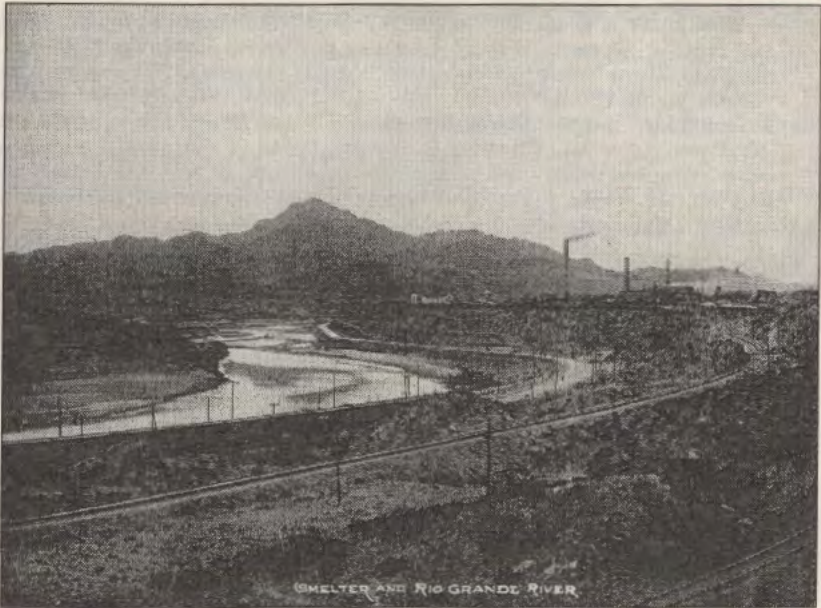
#### ENDNOTES

1. *El Paso Herald Post*, 21 July 1979, B1. According to the article, the Smelertown Cemetery, which was once operated by Smelertown's San José de Cristo Rey Catholic Church until 1973, is no longer formally open for burial. However, former residents have been buried there as recently as 1999.
2. See the *La Familia Cortez* website, managed by former Smelertown resident Mike Cortez at [www.familiacortez.com](http://www.familiacortez.com).
3. A detailed history or analysis of Smelertown is absent from several important works of El Paso history. C.L. Sonnichson's *Pass of the North: Four Centuries on the Rio Grande* (El Paso: Texas Western Press, 1968) makes



no mention of it at all, nor even of the Anglo community at Smelter Hill and Smelter Terrace. Wilbert Timmon's *El Paso: A Borderlands History* (El Paso: Texas Western Press, 1990) briefly references Smelertown at various points throughout his sweeping narrative. Smelertown is also absent from Cleofas Calleros' history of El Paso, *El Paso Then and Now* (El Paso: American Printing Company, 1954), a surprising omission considering his great contributions to the writing of Mexican history in El Paso. In recent years, local historian Fred Morales self published a history of Smelertown.

4. Richard White, *Remembering Ahanagan: A History of Stories* (Seattle, WA: University of Washington Press, 2003), 4; David W. Blight, "Historians and Memory," *Common-Place*, vol. 2, no. 3 (April 2002), <<http://www.common-place.org/vol-02/no-03/author/>> accessed 16 July 2008.
5. In addition to ASARCO, the El Paso Brick Plant and Portland Cement Company employed many Smelertown residents. Based on manuscript census data, the population of Smelertown appears to have peaked in the 1920 U.S. Census at 3,119, 95.35% of which was Mexican origin. At no time between 1900 and 1930 was Smelertown's population under 2,700. U.S. Bureau of the Census, 12th, 13th, 14th and 15th Decennial Census.
6. Sabina Alva, interview by the author (Spanish), 11 March 1995, tape recording, El Paso, Texas. In the possession of the author.
7. Melchor Santana Sr., interview by the author, 25 March 1995, tape recording, El Paso, Texas. In the possession of the author.
8. Ramón Salas, interview by the author, 18 August 1995, tape recording, El Paso, Texas. In the possession of the author.
9. Manuela Domínguez, interview by the author (Spanish), 29 May 2002, tape recording, El Paso, Texas. In the possession of the author.
10. José "Corona" Luján, interview by the author (Spanish), 8 March 1995, tape recording, El Paso, Texas; Angel Luján, interview by the author, 5 May 1995, tape recording, El Paso, Texas. Both in the possession of the author.
11. Alberto and Enriqueta Beard, interview by the author (Spanish), 26 July 2000, tape recording, El Paso, Texas. In the possession of the author.
12. For an engaging study of El Paso and Juarez in the Mexican Revolution, see David Dorado Romo, *Ringside Seat to a Revolution: An Underground Cultural History of El Paso and Juárez, 1893-1923* (El Paso, TX: Cinco Puntos Press, 2005).
13. For reasons no one has ever really been able to determine, my grandfather was the only member of his family to spell his name with an "s" rather than a "z".
14. José María Lerma, interview by the author, 27 March 1998, El Paso, Texas. In the possession of the author.
15. Rogelio Carlos Jr., interview by author, 15 August 2000, tape recording, El Paso, Texas. In the possession of the author.
16. María Palacio, interview by the author, 12 April 2002, tape recording, El Paso, Texas. In the possession of the author. Though there is no direct evidence, it is possible that these "parades" may have actually been marches associated 1919 El Paso Laundry Strike. See "The Chicana in American History: The Mexican Women of El Paso, 1880-1092—A Case Study," *Pacific Historical Review*, vol. 49, no. 2 (May 1980), 315-337.



*This photograph was taken around 1900 and is from a beautiful souvenir booklet about El Paso. The rail lines encircling the smelter are clearly visible.*



*There were many postcards and other photographs noting that the El Paso Smelter was the largest custom smelter in the world. This meant that it had specialized smelting operations.*





# My Memories of ASARCO

*There is No Heavier Burden  
Than a Great Potential*

By Hamilton Underwood



SARCO operated for many years before I went to work at the El Paso plant. The El Paso smelter opened officially on August 29, 1887 on the present site about two and one-half miles northwest of downtown El Paso. The land was purchased by Robert Safford Towne and later transferred to the Kansas City Consolidated Smelting and Refining Company that had refineries at Argentine, Kansas.

Prior to the founding of the smelter, city officials of the very young but typically energetic southwestern town of El Paso were aware of the need for a smelter, particularly due to its strategic location near the ore in Mexico, New Mexico and Arizona. Consequently, they had the establishment of a smelter under discussion in private and public meetings, but funds and leadership had not been readily available. Mayor Joseph Magoffin and W. J. Fewel's suggestion in 1883 to mortgage the street railway for \$30,000 in order to erect a smelter apparently never materialized because no one wanted to invest that much money in an unsure project. R. S. Towne bought the property that ASARCO occupies from Juan Hart, April 23, 1887. He then transferred the land on March 22, 1888 to the Kansas City Consolidated Smelting and Refining Company.

In the meantime, the city passed an ordinance exempting all property used for smelting and refining from city taxation for five years. The incentive for this ordinance may have been the founding of a smelter in Socorro, New Mexico that caused thinly disguised jealousy and acute disappointment to El Pasoans. The money was eventually acquired and the construction of the smelter began. The site was a barren mesa near the Santa Fe Railroad. In less than five months, the plant was completed and ready for operation.

El Paso, Fort Bliss and Smelter	
<b>STAGE - LINE.</b>	
J. J. WATTS, Manager.	
LEAVES LITTLE PLAZA DAILY	
At 9:30 a. m.	Returning at 11 a. m.
" 2 p. m.	" 3:30 p. m.
" 5 " " "	" 7 " "
<i>Fare Round Trip to Smelter</i> . . . . .	50c.
" " " " <i>Fort Bliss</i> . . . . .	25c.
LIGHT PACKAGES CARRIED	

*The Smelter was located 3 miles from downtown El Paso.*

*At its beginning the stage line went to its location 3 times a day.*

After twelve years as a unit of Kansas City Consolidated the smelter became a unit of the American Smelting and Refining Company on April 4, 1899. The company retained the Kansas City Consolidated name for a number of years thereafter in advertisements and articles in the newspapers. It has been designated by various appellations including the Towne Smelter and the Big Smelter but is known to the mining world as the El Paso Smelter. Yet, at no time have local funds, except as individual shareholders of ASARCO, been invested in the operation of the smelter.

For 111 years of operation the smelter was never sold or leased. It produced through bad times and good with the exception of a few shutdowns caused by labor trouble, market conditions, and fire. Some of the labor strikes were brutal. Several lives were lost in the process of trying to get better wages and health care. Despite the fact that reductions of forces have occurred at other periods, complete cessations of operation have been avoided because of able and foresighted management.

El Paso benefited by the large payroll of management and labor. Men from far corners of the earth, of diverse arts and skills, were drawn to El Paso to design, build, and work at the smelter. Persons who were connected with the smelter came from distant areas and included among many: R. S. Towne, K. T. Safford, and M. D. Chillicothe of Ohio; Michael Philip Schuster and K. D. Gyor of Hungary; Percival Henderson of England; Malcolm Hayt of Australia; Alfred Kluts and Ewald Kipp of Germany; J. J. Ormsbee of Tennessee; J. R. Eniot and Edwin M. Bray of Illinois; H. C. Cariby and Jim Phipps of Pennsylvania; E. B. Jones of Mississippi;



Charlie Pelham of Texas; T. C. McCarthy of Kansas; and A. Courchesne of both Canada and Colorado.

A unique feature of the plant was the one-hundred-foot wooden chimney lined with thin sheet iron that served as an outlet for blast furnace gases. This stack seems inadequate and illogical; yet in spite of its combustible nature, it served the purpose with small initial cost.

Robert S. Towne built a hospital on smelter property and employed Dr. M. T. Schuster as its first physician. Dr. H. T. Safford joined Dr. Schuster in 1897. The two worked together until Dr. Schuster left to form Providence Hospital on land that was donated by ASARCO.

In 1919 ASARCO donated the land upon which the College of Mines was built and supported students pursuing degrees in mining or metallurgical engineering fields. ASARCO gave them scholarships and provided jobs in the summer at the smelter. When these young men and women graduated, they would be hired by ASARCO. Some stayed their entire working lives at this smelter.

E. B. Jones Elementary School was where most students went to school after the 1930s. Studies were all in Spanish. Ninety percent of all employees were Hispanic. All non-Spanish speaking children were taken to other schools. In the early years there was a bowling alley, general store and several trade schools on plant



*Several ponds were on the ASARCO property. All but one were used for drainage for the various processes. Note in the center the drainage pipe coming from the building into the pond.*



*The Smelter in 1892.*

property. The trade schools were run by the plant and taught skills that would be useful in getting employment in the plant when the child attained the age of 16 years old. The skills of pipe fitter, carpenter, upholster, welder and metal worker were taught in the trade school, and the girls were taught sewing, food preparation and other skills. Between 1900 and 1950 this was the general routine at the smelter. Then, things changed. Because the children were in constant proximity of the lead smelter, it caused a concern by the parents and plant management for their health. Consequently, the houses that the plant employees lived in were torn down, and the employees had to move to housing in town. Since automobiles were being used, it was fairly easy to come to work and go home. There was a small community named Smelter-town that was located across from the smelter roaster. In 1972 the city closed it down due to the high lead readings. There is no way to calculate the number of children and adults that have been harmed because of the dangerous air that they breathed, day in and day out.

In those early days of the operation of the plant, a person could not have had a more dangerous job. Men had to push the ladles full of hot lead. The rail tracks were not level and consequently hot lead would spill at times and cover the men. This resulted in



third degree burns which most of the time resulted in an agonizing death. Donkeys would soon be used because so many men were getting hurt. Another danger was that the men wore no respirators. They would wrap a cloth around their noses believing it would keep out the deadly dust. Many of them perished due to silicosis and arsenic poisoning and carried the contaminated dust home to their families. This caused cancer and all sorts of lung ailments. Lead poisoning was a factor in a lot of sickness and death when Dr. Schuster started to work for the smelter. He initiated programs of health and hygiene that were new, but it did not stop exposure to the families of employees who lived close to the smelter. Many babies were born on plant property and were raised and educated at the plant's expense.

ASARCO had its own cemetery and church. The carpentry shop had coffins already made up, the boxes being sectioned into six pieces. When an employee lost a loved one, he took the coffin home, screwed it together and put the lining in it. The services were held in the church and then the procession walked to the cemetery for graveside funeral services. The grave was closed, a marker produced and placed on the grave. Employees did this work on their own time. It was a very tight group of people held together by the bond of employment. The company would hire whole families, including grandfather, father, sons and other relatives. The reason was that if a strike was held whole families



*A scene at the smelter in 1903.*

were out of work and they would settle faster and get back to supporting their families.

I started to work at ASARCO in 1972 and most of what has been presented in the preceding paragraphs was long gone by then. I came to work at the invitation of a person for whom I worked at Phelps Dodge. After rigorous testing, I was hired as an operating engineer at the power house. Although I was familiar with power house operations, it was a shock to me. It was like going to work in a museum; the equipment was all turn of the century—vintage blowing engines made by Norinburge dated 1887; huge generators that produced 1500 amp DC electricity to run the cranes. I noticed that they did not get rid of the equipment but would simply add to it. The old machines would be out of service but still maintained. We generated 10,000 kilowatts of our own power and would buy the rest from the El Paso Electric Company. Our power bill per month would exceed a million dollars; our natural gas bill was in the same ballpark.

The ASARCO operations were several individual plants in one. There were the unloading and storage plant, the sample mill, and fine and course crushers. Also, there were copper, lead, zinc, uranium (called Geranium), cadmium, anemone, and sulfur departments. There were acid plants one and two in addition to the lead and copper roasters.

ASARCO was a huge place and each of the plants had a department superintendent. Down the line in order were the day pay



*The largest Customs Smelter in the Southwest,  
El Paso, Texas.*

*A similar but different picture of the world's largest custom smelter was featured in another postcard of the early 20th century although this one only covers the Southwest.*





*The smelter today, a mixture of old and new.*

foremen, skilled workers, and laborers. Each of the departments had job codes and pay scales that corresponded to the job codes. The hardest job for me was learning the structure of the management and chain of command of the plant. It was more difficult than the armed forces. In the days before computers everything had to be done by hand. Each man would bring a pay card with him after he punched a time clock. The foremen would fill out a sheet and sign the pay card with the job code and the hours worked. The foreman then turned in the card with the shift comments at the end. The pay card had to correspond with the punch card thus preventing workers from sneaking out before the shift ended. Repair had to be scheduled, parts ordered, the work overseen and signed off on after completion of work.

The company supplied uniforms, shoes, socks, eyeglasses, gloves, and hard hats at no cost to the employee. It also supplied a clean respirator to him daily. The employee showered after each shift. For every shift the employee had a clean uniform to wear. The EPA mandated which items the company had to supply for each employee to wear while on shift. The company also supplied classes on health, firefighting, computer use, etc.

In 1966 the company added two new boilers, a new converter bag system, electric precipitators and a new acid plant. It also erected the 825-foot stack that is a stack within a stack which

meant two stacks. The draft from the one stack allowed two departments to operate their furnaces. In 1983 the operation of the zinc department suspended operation due to low lead ore availability. About 1986 the lead plant suspended operation after a 15 million dollar rebuild. The EPA wanted the bag house to be rebuilt also at a cost of several million dollars. The management of the company deemed it would be a further waste of money as lead prices were way down.

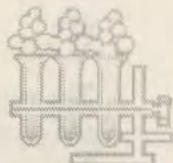
In 1992 the zinc plant was removed completely, and a new process called the cyclone furnace was built. It did away with the copper reverberatory furnace and an oxygen plant was built. I was sent to school to learn how to operate it. It went into production in 1993. At the time of lead and copper production in 1920, the plant had 3000 employees. When I went to work at the smelter in 1972, the workforce was about 1200. In 1993 the workforce had dwindled to about 350, but with the new process we were smelting more copper than at any time in the plant's history. It was unbelievable. Then, the bottom fell out of the copper market and the price went down to \$1.72. It was costing us \$1.80 to produce; so every pound of copper the plant produced cost ASARCO 8 cents. No company can continue to operate with the loss of several hundred thousand of dollars a day. It was decided that it was best to mothball the plant. In February 1999 Grupo de Mexico bought the plant and all properties. Before I left in April 1999 Grupo de Mexico started to remove everything of value and take it to Mexico.

ASARCO of El Paso spent about 15 million dollars in El Paso every month and paid millions of dollars in taxes to the city of El Paso every year. All employees made a good wage and spent their money in El Paso. ASARCO fought hundreds of law suits; paid out billions of dollars in fines and lawsuit awards; and after all that, so many people of El Paso never understood what the smelter did for our city and the impact it had on El Paso for over a hundred years. Its very existence meant prosperity to some and concern for others. This community, either pro or con, benefited from the very existence of the big El Paso smelter. ASARCO is an example that there is no heavier burden than a great potential.

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**HAMILTON UNDERWOOD** has a B.S. Degree in Mechanical Engineering (Mechanical applications), and an Associate Degrees in Electrical Engineering and Refrigeration Engineering. He has since retired and shares his time with his wife Dr. Martha Deen Underwood.





# Health and Environmental Consequences of Heavy Metals and Sulfur Dioxide Pollution from the ASARCO Smelter

By Richard D. Worthington, Ph.D.



For more than fifty years El Pasoans have had a growing concern about pollution in the area. This is to a large extent due to the visible accumulations of dense smog in the Rio Grande valley because of temperature inversions that occur as frequently as 91% of the time during the winter months.<sup>1</sup> Also many have become aware through the media that dangerous levels of some toxic pollutants have at times exceeded government established threshold levels that above which are considered unhealthy. El Paso area pollution is a complex international problem that presently and in the recent past included numerous pollution sources such as smelters, automobiles, refineries, acid plants, power plants, cement plants, unpaved roads and kerosene burning.<sup>2</sup>

A conspicuous point source for emissions of toxic heavy metals and sulfur dioxide is the American Smelting and Refining Company (ASARCO). Robert S. Towne, who built the railroad from the city of Chihuahua north to El Paso and Juárez, established a small lead smelter in 1887 at the present ASARCO location processing 150 tons of ore per day.<sup>3</sup> Prior to this ore from the boom in lead mining in Mexico was being sent as far north as Colorado for processing. This small El Paso smelter was soon taken over by the Consolidated Kansas City Smelting and Refining Company with which Towne was associated. He became the first general manager.<sup>4</sup>

The company was absorbed into ASARCO in 1899. The processing of sulfide concentrates for copper began in 1912 with production reaching 8,800 tons of copper per month in the 1960's in addition to considerable tonnage of lead and zinc.<sup>5</sup> Most of the ore was being shipped to ASARCO from mines in Arizona and New Mexico. Originally the smelter was located two miles north from

*At the time the first smelter was established in El Paso almost nothing was known about the adverse health and environmental effects of heavy metal pollutants and sulfur dioxide.*

*It was surely not anticipated that the El Paso-Juarez community would grow in excess of two million people and surround the smelter.*

the center of what was then the small community of El Paso. The cities of El Paso and Juarez grew to surround the ASARCO property. In 1955 the plant was annexed into the city of El Paso.<sup>6</sup>

Other smelters and metal refining operations were established in El Paso and have to be considered as adding to the pollution problem. The International Smelter was established near Sixth Street and Cotton Avenue (near the old Bowie High School site) and operated sporadically from 1888 to 1894.<sup>7</sup> The Federal Smelter was established in what is now Memorial Park off Gold Street where it smelted

copper from 1901 to 1904 eventually succumbing to financial difficulties and being dismantled in 1907.<sup>8</sup> Memorial Park was created over the site in 1921.<sup>9</sup> Nichols Copper Company which remains today and had a conspicuous stack was established in the 1920's.<sup>10</sup> The facility presently owned by Phelps Dodge is a plant that uses electrolytic processes to purify anodes of copper emitting few atmospheric contaminants. A survey of soils throughout the El Paso area shows that only the ASARCO plant is a point source for heavy metals contamination.<sup>11</sup>

At the time the first smelter was established in El Paso almost nothing was known about the adverse health and environmental effects of heavy metal pollutants and sulfur dioxide. It was surely not anticipated that the El Paso-Juarez community would grow in excess of two million people and surround the smelter. Evidence indicated that ASARCO was beginning to realize that it had health and environmental problems on its hands in the early 1960s.<sup>12</sup> Company officials pointed out correctly that it was not



alone in contributing to El Paso-Juarez pollution problems. The rising environmental lead levels were one example coming from automobile exhausts, lead paint and several other sources. Furthermore, new environmental legislation further regulated the emissions of toxic materials into the environment by companies and ASARCO found it could not comply with the new standards.<sup>13</sup> Suits had been filed against ASARCO in 1967 by the City of El Paso and State of Texas for violating the 1967 Air Safety Code.<sup>14</sup> More suits followed. For a period of time the company sought and was granted exemptions from its violations of federal standards. It invested \$112.7 million dollars in new pollution abatement equipment between 1970 and 1982. All this and changes in the market for copper factored into the mothballing of the company in 1999.<sup>15</sup>

Evidence that ASARCO was the principal source for heavy metals and sulfur dioxide pollution was accumulating from a variety of sources. One of the most important lines of evidence were studies of heavy metals in the soil on the west side of El Paso.<sup>16</sup> The ASARCO facility is located at the point of highest contamination within the sampling area. A study of the emissions from the ASARCO plant when processing ore compared to when the plant was not operational due to workers being on strike provided insight into the pollutants added to the atmosphere.<sup>17</sup> Another study that looked at the morphology of particles emitted into the air using the electron microscope and ion probe identified where certain kinds of particles were produced at the smelter in certain processing steps.<sup>18</sup> Studies of the bromine/lead ratio were undertaken to determine how much of the lead was from automotive sources as opposed to non-automotive sources. The results suggested that lead in the El Paso environment is mostly from non-automotive sources.<sup>19</sup> Copper and other heavy metals have been determined to be in highest concentrations in plant tissues from near the smelter compared to samples collected from far away.<sup>20</sup> Arsenic contamination along the Texas-Mexico border has also been documented with the same result.<sup>21</sup> Ambient air levels of lead and other heavy metals were studied and reported to be in highest concentrations near the ASARCO smelter, falling to near background levels at a distance of 4-5 km.<sup>22</sup> Household dust samples were obtained once a month from July 1972 through June 1973 at 51 locations in the city with the highest concentrations being found in Smelertown adjacent to the smelter.<sup>23</sup>



On-site monitoring at and about the plant documented emissions that exceeded state and federal standards. Water, paint, food and pottery lead levels have also been evaluated to determine their role in contributing to the problem.<sup>24</sup> One indication of the quantities of heavy metal emissions were the findings of the El Paso City-County Health Department to the effect that between 1969 and 1971, 1,012 metric tons of lead, 508 metric tons of zinc, 11 metric tons of cadmium and 1 metric ton of arsenic were emitted from the smelter.<sup>25</sup> ASARCO has contested its role as being a primary source for the elevated levels of arsenic and lead in El Paso area soils as declared by the Environmental Protection Agency in July 2004.<sup>26</sup>

After the city filed suit against ASARCO in August, 1970, for violations of the 1967 Air Safety Code, studies of environmental effects of pollutants accelerated. A surprise finding was that 53 percent of children aged one to nine living within 1.6 km of the smelter and 18 per cent of those living from 1.6 to 6.6 km distance had blood lead levels of 40 mcg per 100 ml or higher and thus had to be considered as having undue lead absorption.<sup>27</sup> The investigators determined that lead in dust was the primary contributor to the absorption problem in children. Since lead is known to affect the nervous system studies were undertaken to determine if the children exhibited any neuropsychological dysfunction.<sup>28</sup> Blind evaluations of 46 symptom-free children aged 3-15 years with blood-lead concentrations of 40-68 mcg per 100 ml were compared with a control group of 48 ethnically and socioeconomically similar groups of the same age range with less than 40 mcg lead per 100 ml of blood. All of the children lived within 6.6 km of the smelter. The findings were that age-adjusted performance I.Q. and finger wrist-tapping tests were significantly decreased in the group with higher lead levels but that full-scale I. Q., verbal I. Q., behavior and hyperactivity ratings did not differ.<sup>29</sup> A follow-up study was conducted in 1977 after engineering improvements had reduced emissions of lead from the smelter in air, dust and soil.<sup>30</sup> They studied 140 children aged 1 to 18 years living within 1.6 km of the smelter and found that blood levels had decreased to well below the 40 mcg threshold level for undue lead absorption and reported significant decreases in dust and soil lead levels.<sup>31</sup>

A considerable amount of information has accumulated on the effects of heavy metals and sulfur dioxide on plants. Sulfur dioxide is the most toxic of the pollutants emitted from the smelter to





*This aerial view shows the entire industrial complex at the Pass of the North. On the north side of the Rio Grande are the smelter, Smelertown and Southwest Portland Cement. The Southern Pacific RR (now Union Pacific) bridges cross the river. On the south side is the El Paso Brick Plant. In the background are the mountains of Mexico. The environmental area seen in this photograph and its surrounding area were the study location for this paper.*

vascular plants, mosses and lichens. It is known to cause enzyme deactivations and enzyme stimulations, to interact with reactive biomolecules, to form free radicals that affect electron transport reducing photosynthesis, to cause changes in chloroplast and mitochondrial structure, to destroy cell organelles of other types, to degrade pigment, and to cause necrotic and chlorotic patterns in the foliage.<sup>32</sup> The fungal component of lichens has its nitrogen-fixation rates decreased and spore germinations rates reduced.<sup>33</sup> Heavy metals such as copper, mercury, zinc, cadmium and cobalt decrease carbon fixation in photosynthesis with other metals showing minor effects.<sup>34</sup> In a study of the effects heavy metals on the germination and initial growth of sideoats grama, a common Chihuahuan Desert perennial grass in the area, it was determined that strong negative effects were caused by arsenic, cadmium, lead and mercury on seed germination and growth of seedlings com-



pared with controls.<sup>35</sup> Pollution from sulfur dioxide and heavy metals can be so severe near some point sources to produce "deserts" or dead zones for vascular plants, mosses and lichens.

A survey for effects of pollution on lichens, mosses and winter annual vascular plants on andesite rock substrates at and away from the ASARCO smelter was undertaken in 1983.<sup>36</sup> The andesite rock that outcrops at ASARCO on Cerro de Cristo Rey and on what is locally referred to as the Campus Andesite is within 2 km of the smelting operation and is of the same composition and at about the same elevation as plutons of andesite rock outcropping in the Three Sisters Hills 9 km north of the smelter and the Coronado Andesite at about 7 km north of the smelter. The preceding winter rainfall had brought on an exceptional proliferation of winter annuals throughout the area. The survey revealed that lichens, mosses and winter annuals were absent from the andesite substrates within 2 km of the smelter. On the control substrates 7-9 km north of the smelter in an area free from the pollution effects 10 lichens, 4 mosses and 26 winter annual species were located. Winter annuals reached a density on north slopes of 44 plants per sq. meter. The andesite rock environment around the smelter is a desert for these three classes of organisms.

One might ask if some factors other than the heavy metals and sulfur dioxide pollution from the smelter account for the absence of these species in that area? In this case we know from a historical account of the flora that the area had winter annuals.<sup>37</sup> A botanist, Charles Wright, was based at T. Frank Wright's rancho called Frontera in 1849, 1851 and 1852. Wright was a member of a US-Mexican boundary survey team. His plant collections from the region bear locality labels that say "stony hills above El Paso" and "hills near Frontiera, New Mexico." The plant data has been reviewed and it was concluded that it supports the contention that the flora on the andesite outcrops near where the smelter exists now was similar to that which still exists on the outcrops to the north.<sup>38</sup>

Perennial vegetation survives on the Campus Andesite and east slopes of Cerro de Cristo Rey near the smelter site today. That component of the flora has not been surveyed to see if any elements of that flora are absent. Conspicuously absent are members of the family Cactaceae. Several tolerant perennial species have been studied for their heavy metal content. Creosotebush was sampled for levels of arsenic, cadmium, copper and lead at sites about the



smelter and at distant sites.<sup>39</sup> Samples had the highest concentrations of the elements near the smelter and a seasonal change in the concentrations was reported as well. Concentrations were also lower in the 1994-1995 sampling period than in the 1980-1981 period. A similar survey for the same elements in fluff grass resulted in the detection of high levels of cadmium, lead and copper at sites near to the smelter. Arsenic was not detected in the samples. They pointed out that lead levels exceeded the EPA TCLP (Toxicity Characteristics leaching procedures) regulatory limit at a number of the sites and cadmium levels were close to the limit.<sup>40</sup>

Some pollutants within ecosystems are known to move through the food chain and become more concentrated in the higher consumer levels. Only one study has been done that looked at heavy metal accumulations in animals in different trophic levels.<sup>41</sup> Three arthropod species were selected for the study. They were a detritivore beetle, a herbivorous ant and a predatory scorpion. The concentrations of arsenic, cadmium and lead were higher in the arthropods collected at sites nearest the smelter but no evidence of bioaccumulation was found.<sup>42</sup>

ASARCO was mothballed in 1999 but since 2002 has attempted to secure permits and reopen. In 2005 the company filed for bankruptcy.<sup>43</sup> In 2004 the EPA had determined that ASARCO was the point source for lead and arsenic contamination of soils in yards of homes near the plant and spent \$6 million dollars from its regional superfund budget to start the cleanup. In a second phase ASARCO spent \$23.6 million to continue the cleanup. About 3800 homes were tested for contamination and 1100 were cleaned.<sup>44</sup> The ASARCO bankruptcy case was settled for \$1.67 billion for past and future costs incurred by federal and state agencies at more than 80 sites contaminated by mining operations in 19 states.<sup>45</sup> A \$52 million dollar trust fund for the cleanup of the 100 acre smelter facility was created and recently awarded to Project Navigator Ltd. out of Los Angeles.<sup>46</sup> Some argue that this will not be enough and that superfund money will have to be sought. The fate of the ASARCO property after cleanup is still unresolved.

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## In Memoriam



**COLBERT N.  
COLDWELL**

*1921-2010*

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County Historical Society  
President—1988-1989

County Judge

Attorney

Active in Numerous  
Civic Organizations



**GEORGE  
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*1926-2010*

Hall of Honor—2009

Attorney

Vigorous Supporter  
of Human Rights





## Lecturas:

*Articles and Dissertations on El Paso and the Southwest recently published in other journals.*

With this special edition featuring ASARCO, the following list is a limited bibliography of books and articles regarding the subject.

***Compañía Metalúrgica Mexicana and Related Enterprises: An Inventory of Financial Records at the Benson Latin American Collection.*** <http://www/lib.utexas.edu/taro/utlac/00012/00012-P.html>

James M. Day. ***El Paso: Mining Hub for Northern Mexico, 1880-1920.*** *Password*. XXIV, No. 1, Spring 1979, 17-32.

Charles Safford de Wetter. ***The Smelting Works As Remembered by Noel Longuemare.*** *Password*. VIII, No. 4, Winter 1963.

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Mary Antoine Lee. ***A Historical Survey of the American Smelting and Refining Company in El Paso, 1887-1950.*** University of Texas at El Paso, Master's Thesis, no. 66, 1950. Available online at ProQuest Dissertations and Theses@UTEP <http://0-proquest.umi.com.lib.utep.edu/pqdweb?did=813823151&sid=40&Fmt=1clientId=2515&RQT=309&Vname=PQD>

Isaac Frederick Marcossou. ***Metal Magic; The Story of the American Smelting & Refining Company.*** New York: Farrar, Straus, 1949.

R. F. Manahan, R. J. Mellen and L. A. Fruit. ***Mining and Milling Operations of American Smelting and Refining Company in Mexico, 1899-1948.*** University of Texas at El Paso, Special Collections. Typescript, December 1948. Library Use Only.

Monica Perales. ***Smelertown: Making and Remembering a Southwest Border Community.*** Chapel Hill: The University of North Carolina Press, September 2010.

Julie V. Puentes. ***Villa, The Mining Industry, and the American Smelting Company.*** University of Texas at El Paso, Seminar Report for course The Role of the North in the Mexican Revolution. Special Collections, Library Use Only.

T. J. Woodside and B. Roberts. ***The El Paso Smelter.*** *Journal of Metals*. 9 No. 9, 1957, 1118-1121.

## Editor's Message

Papers for publication in *Password* are solicited from anyone writing about El Paso and its surrounding area. Articles of local interest that have been published elsewhere may be listed in their citation format in the "Lecturas" section. Please submit these items to:

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## Photographs from the Archives of the El Paso County Historical Society



During the past two years the Historical Society acquired two collections of photographs from the early 1900s. One was from Charlotte Barbara Ormsbee, the daughter of J. J. Ormsbee, Superintendent of ASARCO. The second appears to be from a member of the Huthsteiner family. Both contain numerous pictures of the smelter at a time when pictures could be taken. These groups date from about 1910 to just past 1920. The Ormsbee collection is also particularly rich in photographs of El Paso during the teens, including military camps during the Mexican Revolution and events in the city.

*The original Towne smelter burned in 1901. It was rebuilt by 1902 and continued to expand over the ensuing years. J. J. Ormsbee was superintendent during those early years of growth.*



*"The Castle," as it was known, was the home of ASARCO's superintendent. It was razed when Interstate 10 was built.*



*What is known today as Paisano Drive provided a road route to the El Paso smelter in 1917.*

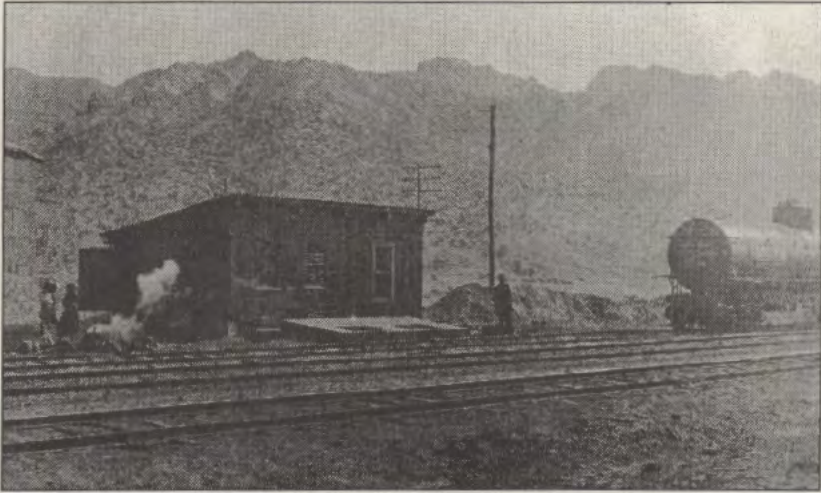
*The smelter offices were next to one of the ponds.*



*Water from the Rio Grande helped the smelter operate.*







*There was also an oil pump house.*

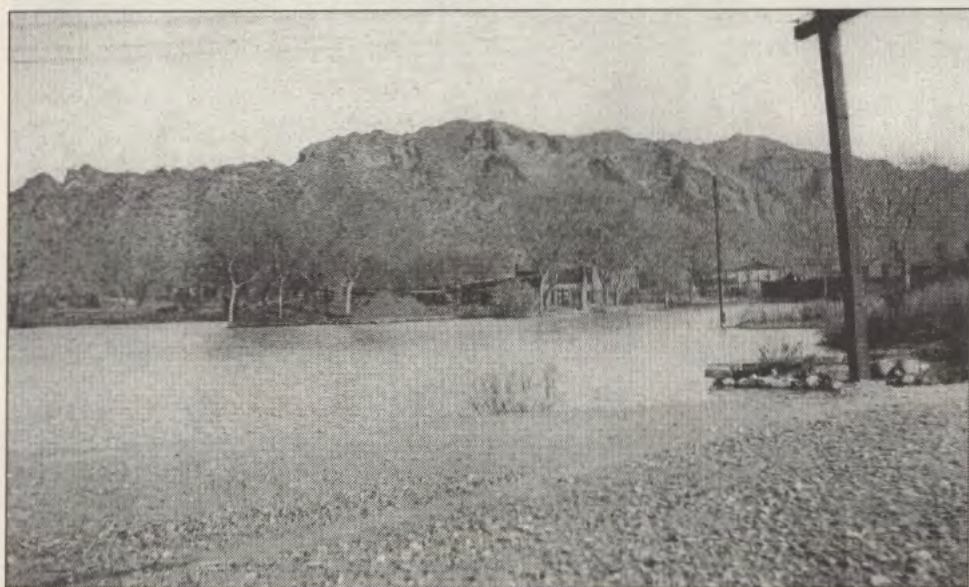
*This overview shows the size of the plant in 1917.*



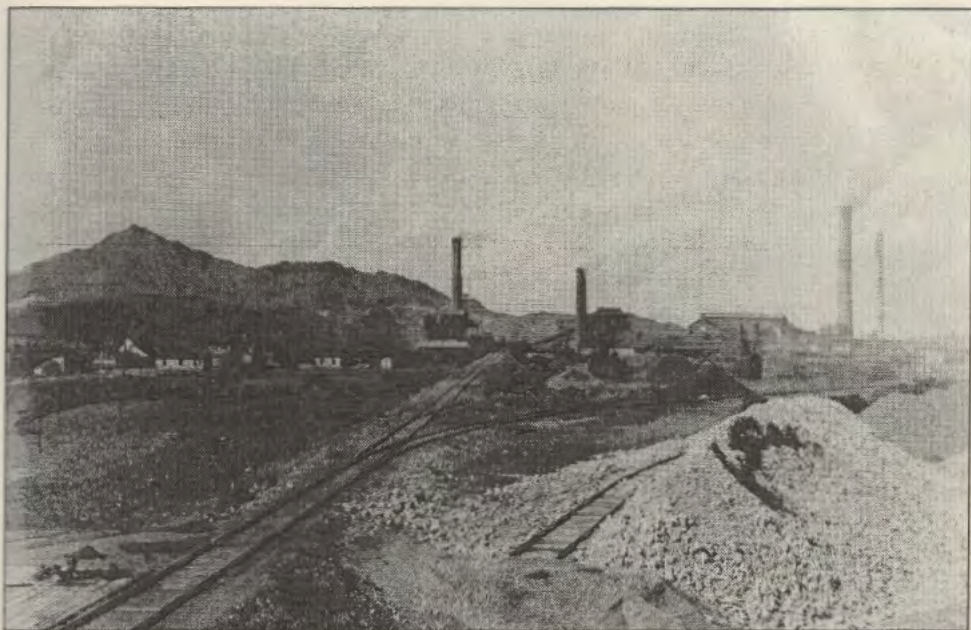


*Houses were very near a slag heap.*

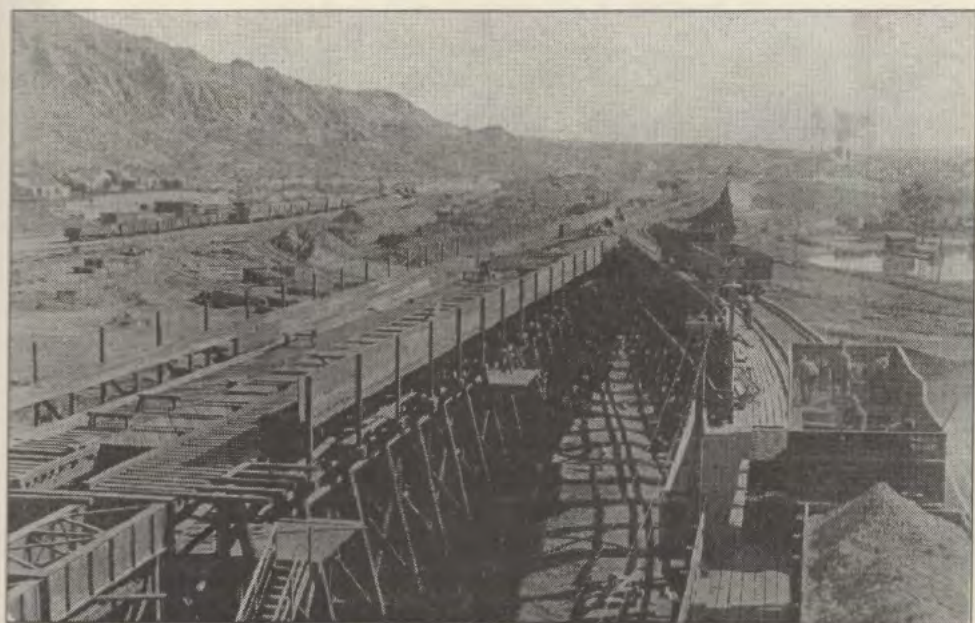
*There was a fresh water pond on the property that was used for swimming by those who lived there.*





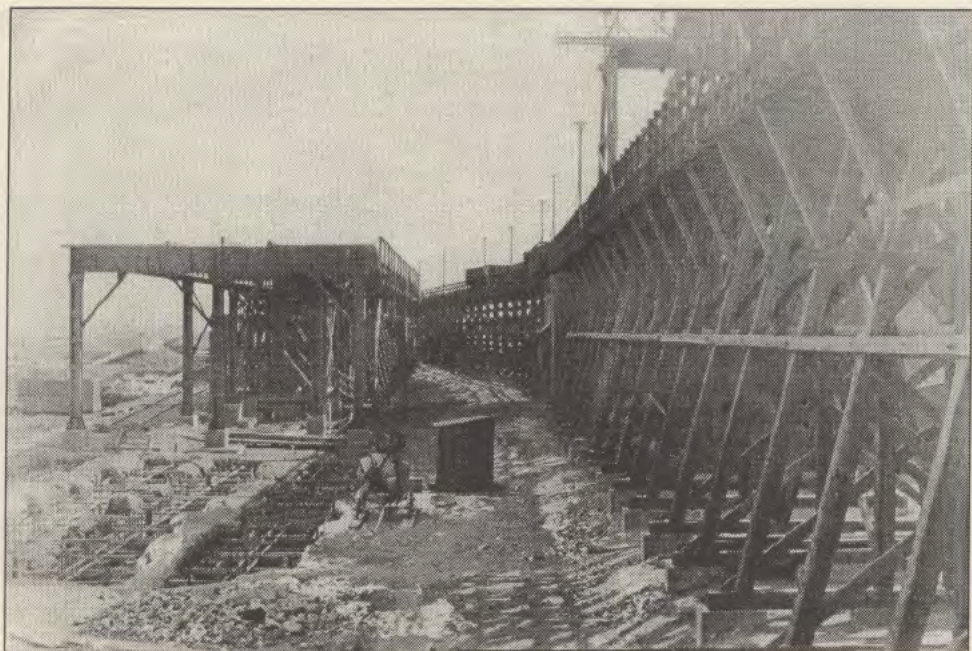


*The Smelter Train approached the plant from lines coming into El Paso from Mexico, Arizona, and New Mexico.*



*Ore was taken to the trestle and dumped into the appropriate place. Notice the ore train on the upper track.*



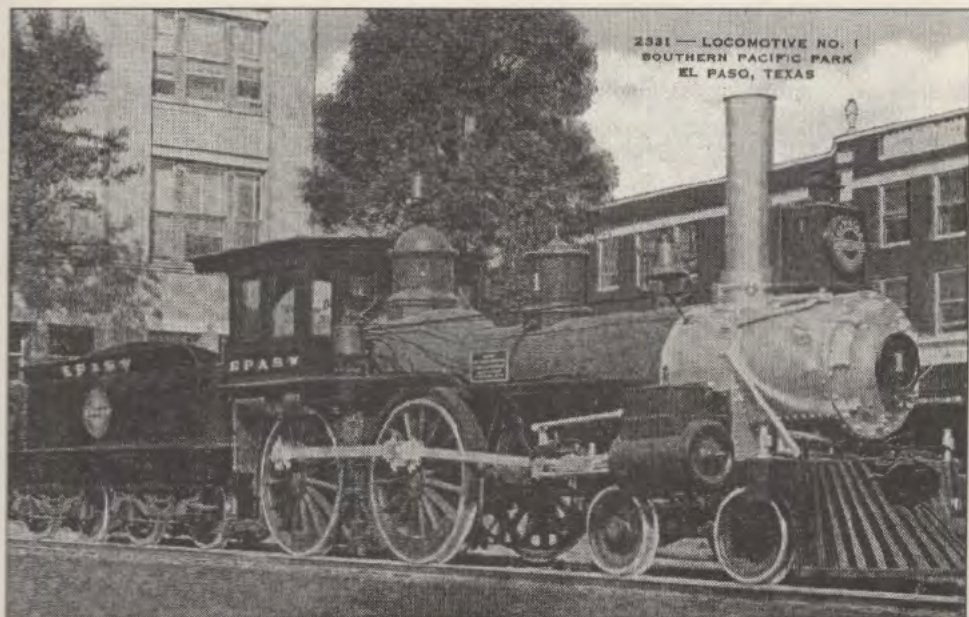


*Ore was poured from the trestle into concrete bins.*

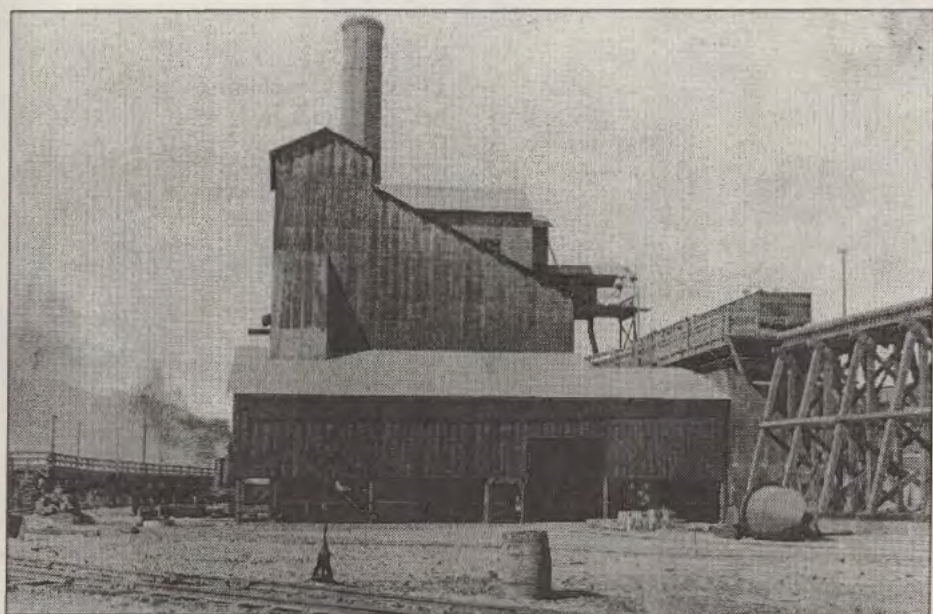


*A further picture of the unloading process.*

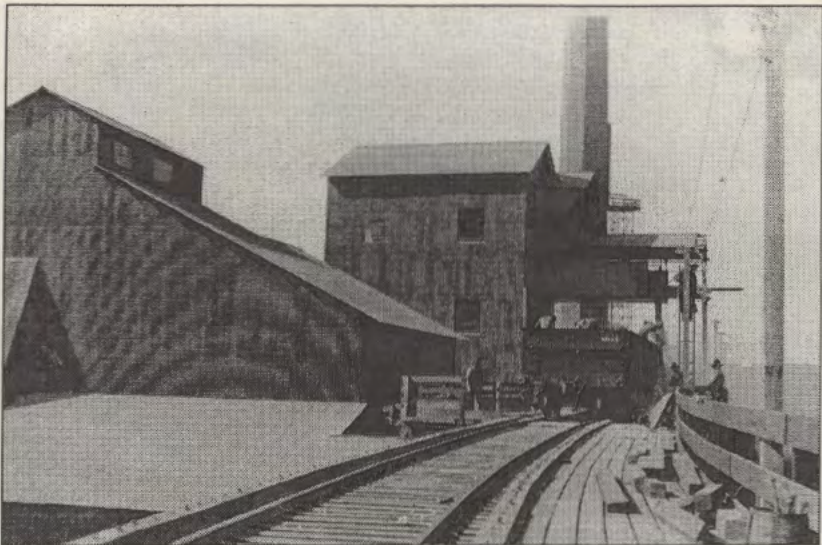




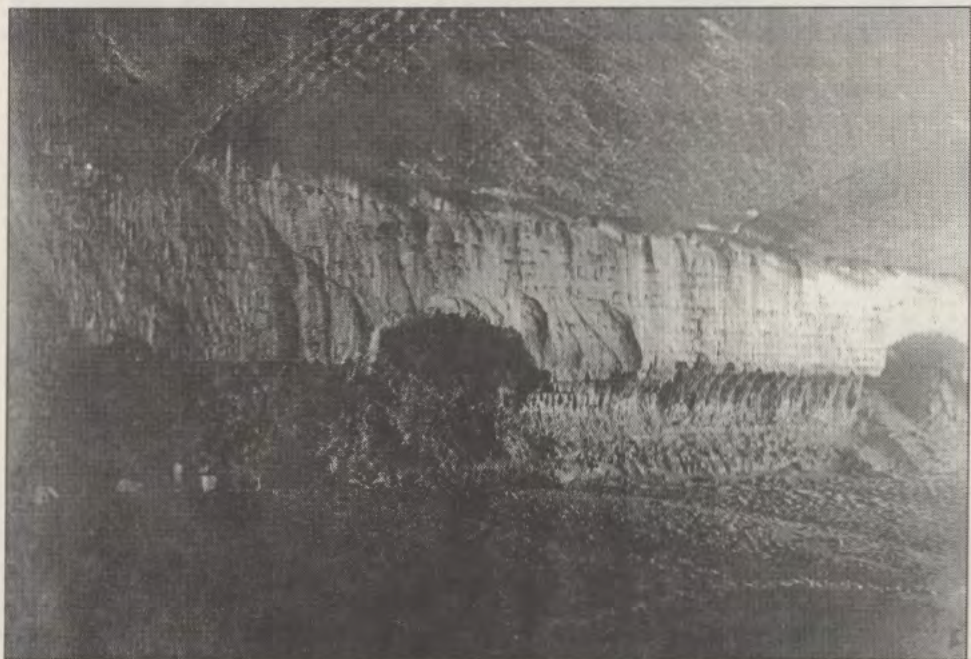
*The El Paso and Southwestern Railroad was created to bring ore from southern Arizona to the smelter in El Paso. Engine #1 was its first engine. Today it is in El Paso's Railroad Museum. The EPSW line was eventually incorporated into Southern Pacific Railroad.*



*One of several processing plants at the smelter. This is the coarse crushing facility in November 1918.*

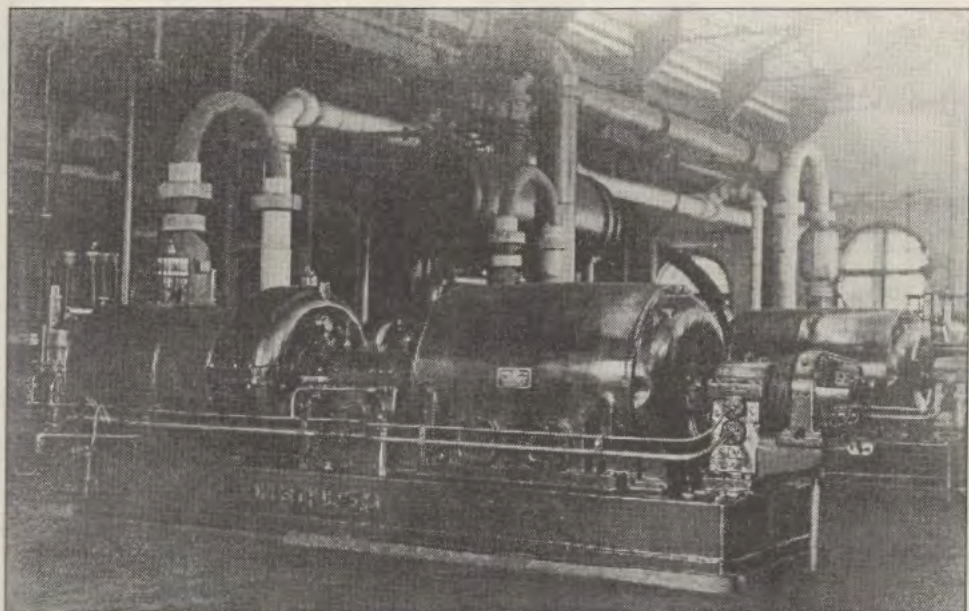


*Another ore crushing plant, this one for fine crushing.*



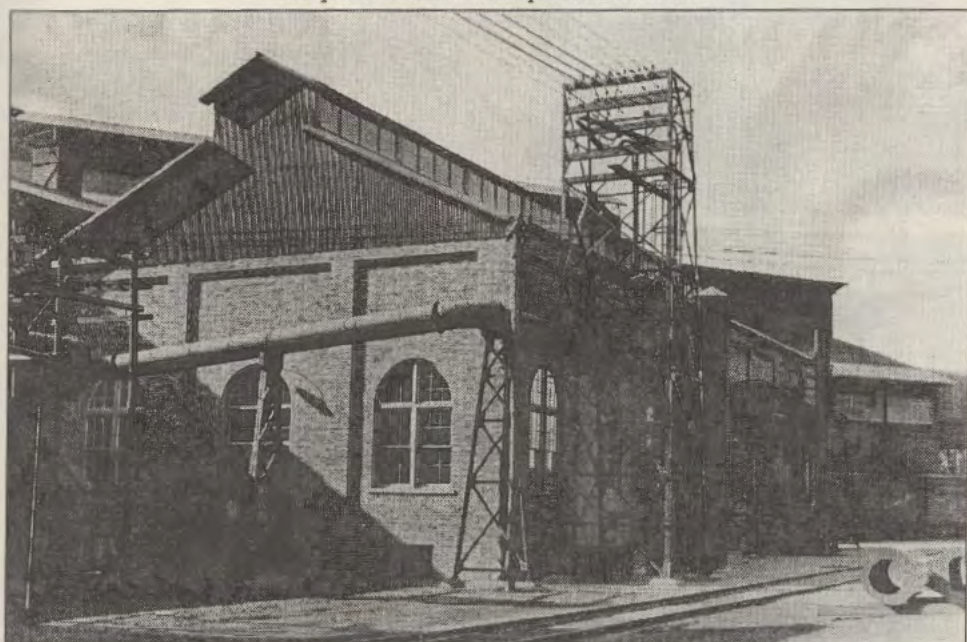
*The reverberatory furnace isolates the material being processed from contact with the fuel but not from combustion gases.*



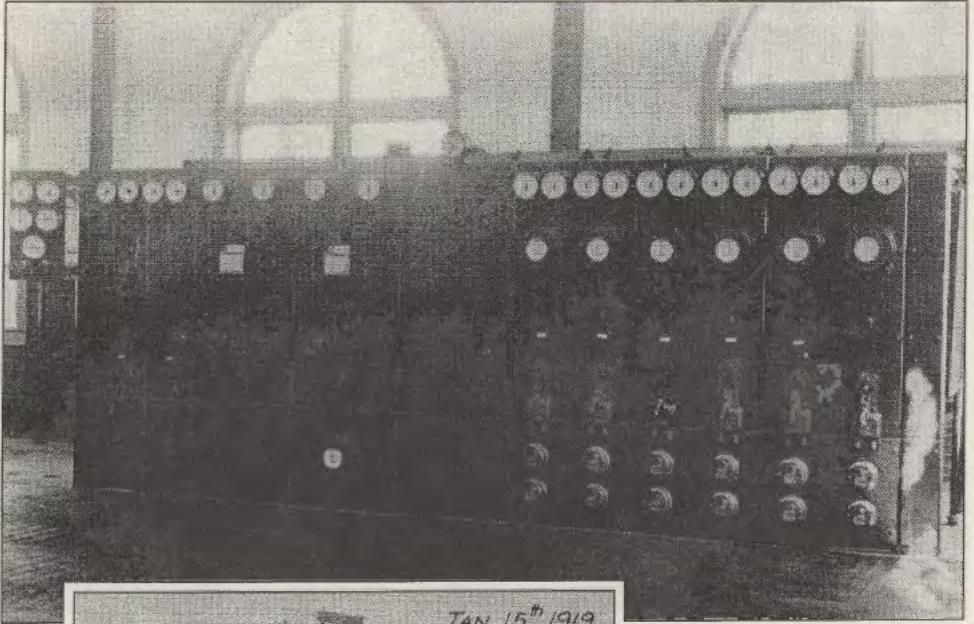


*Much power was needed to run the smelter.  
These are 500 K.W. Turbines in 1918.*

*The power house was expanded in 1917.*







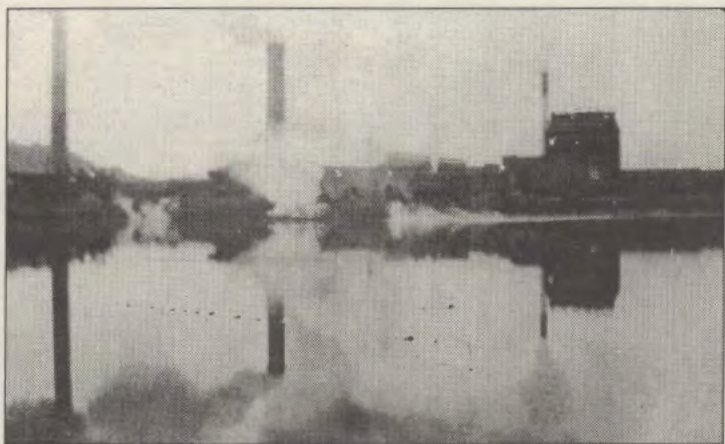
JAN. 15<sup>th</sup>, 1919

*The switchboard at the smelter was massive.*



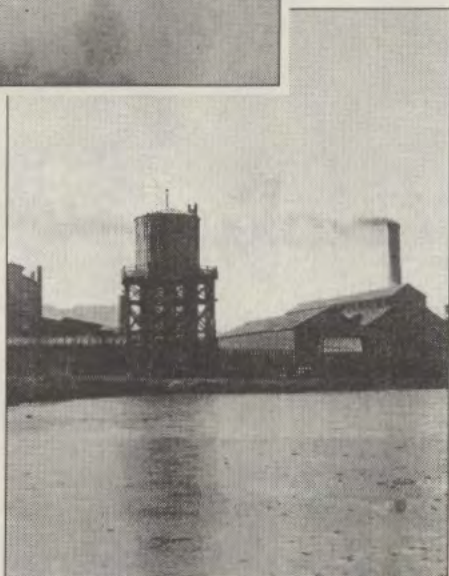
*ASARCO kept track of the weather, more so as the years passed.*





*This photo features another smelter pond into which slag was poured.*

*This is a peaceful view of the smelter in 1912, but the pond is visibly polluted.*



*The 8th Massachusetts Co. was stationed at the smelter during the Mexican Revolution.*



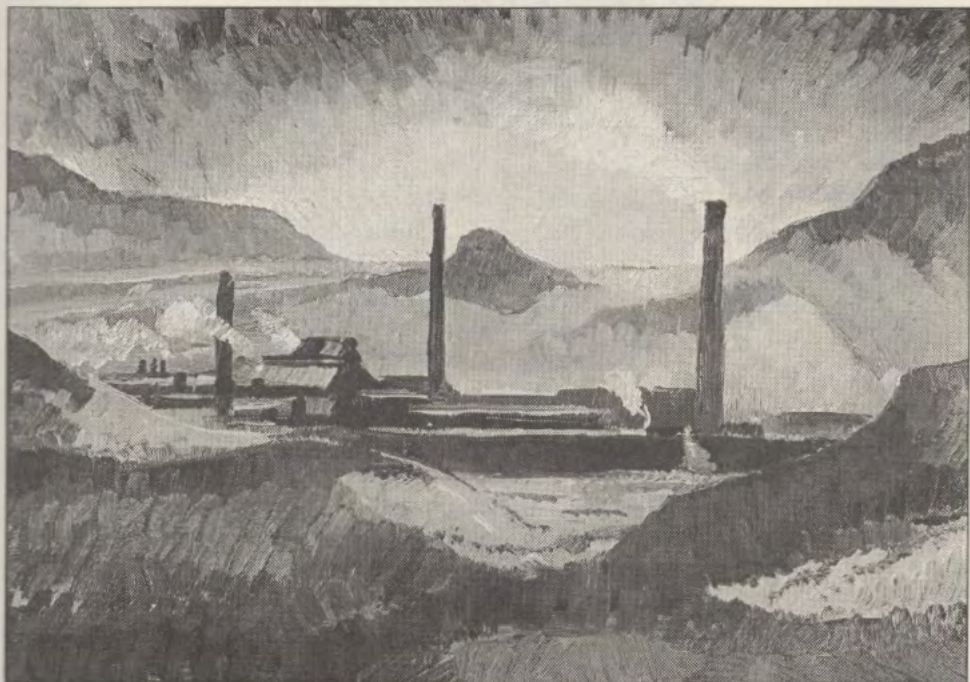


*Camp Courchesne was located just north of the railroad bridges during the Mexican Revolution. Patrols covered the bridges.*



*Smelter men marched in the Preparedness Parade, 1916, prior to World War I.*





*ASARCO will no longer be in El Paso. However, its memory will always be with the city through this 1936 painting by Tom Lea. "The Smelter, From Mesa Road" is an oil on prepared heavy paper 9" x 13". It is in the collection of Dee and Adair Margo.*



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