

## MINING UTEP'S HISTORY

# A History of UTEP's Mining Program

UTEP's roots as a leading Hispanic-serving university are firmly embedded in the rich veins of its mining heritage.

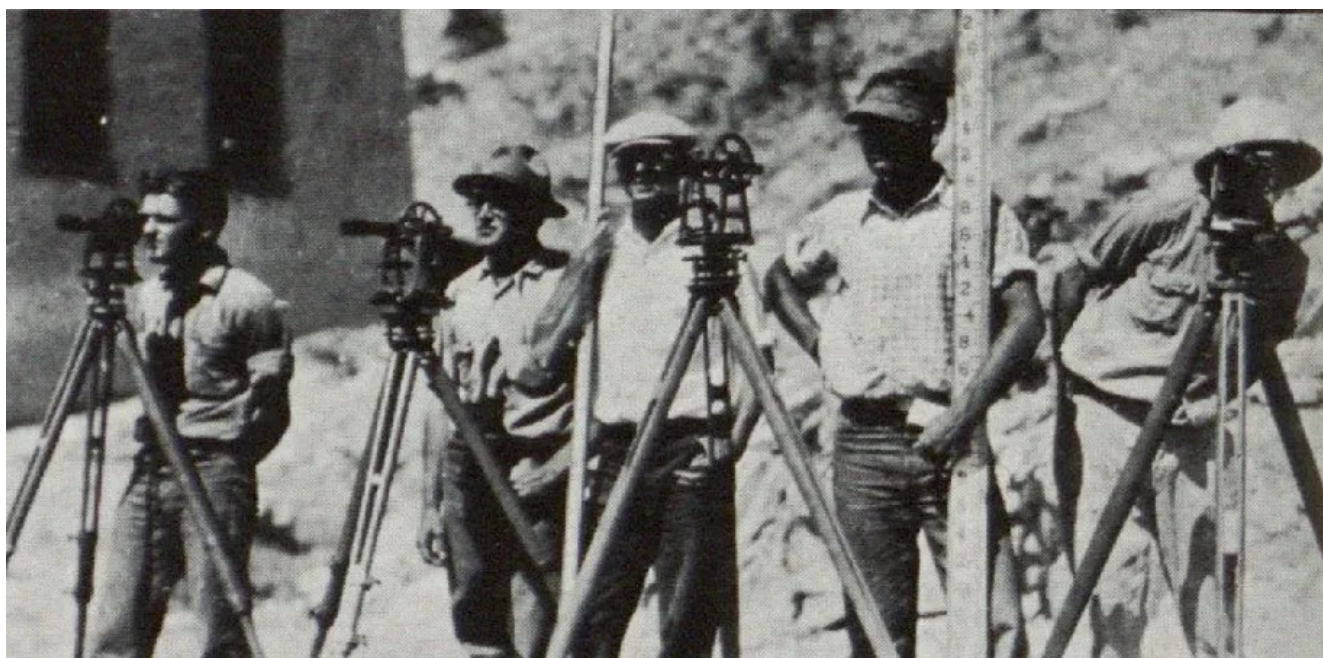
SEP 15, 2024



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On 9 September 2024, the University of Texas System announced a \$20 million investment in the University of Texas at El Paso (UT El Paso) to reestablish the university's mining engineering program. Though founded as a mining school, the university discontinued the program in 1963, fifty years after its founding.

This brief historical sketch of UT El Paso's mining program describes the school as the leading Hispanic-serving university in the United States during the early 20th century.



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## The Mining School Movement

UT El Paso's mining program traces its origins to the early 20th century, a time when mining schools were being established across the United States in response to the growing demand for mineral resources. This trend began in Europe in 1765 with the founding of the Freiberg School of Mines in Germany.

The mining school movement reached America when Columbia University established the first mining school in 1864, laying the foundation for a wave of similar institutions. Texas entered the fray with the Agricultural and Mechanical College of Texas (today's Texas A&M University) offering a short-lived mining program in 1876. However, the most significant development came with the founding of the State School of Mines and Metallurgy in El Paso in 1913, which later became the University of Texas at El Paso.



The mill at the old El Paso tin mine, c. 1913. The closed mine served as a practice mine for the Texas School of Mines.

## Founding of the State School of Mines and Metallurgy

El Paso's location near mineral-rich regions made it an ideal candidate for a mining school. Although the town initially attracted settlers with the promises of irrigation and mineral wealth, the development of an adjunct mining support industry took center stage, including what was then the second-largest smelter in the world.

By 1914, thirty mining schools and degree programs were already well established across the United States, with the El Paso school among the last to be created.

Advocates in the city, believing in the potential of West Texas as a mining hub, lobbied for a dedicated, state-funded institution.

The Texas legislature responded with Senate Bill 183, establishing the State School of Mines and Metallurgy, placing it under the control of the University of Texas System Board of Regents. This decision mirrored the national trend of creating specialized mining schools, with El Paso following in the footsteps of states like Colorado, Missouri, and South Dakota.

However, not all local stakeholders supported the new school. Prominent figures such as William Burges and Robert Holliday, both University of Texas at Austin (UT Austin) alumni, opposed the project. Burges went so far as to label the school a “mistake,” reflecting skepticism about the need for another mining institution in the United States, let alone public higher education in El Paso. (Both Burges and Holliday would later have buildings named after them on campus.)



Students building the practice mine on the Paso del Norte campus, c. 1921.

## Early Years and Development

The school's charter emphasized research, a pioneering move for public higher education in Texas. The University of Texas System Board of Regents initially sought to appoint William Battle Phillips, director of UT Austin's Bureau of Economic Geology, as the school's first dean. However, Phillips declined, recommending Steve Worrell, a UT Austin graduate with a background in chemistry who worked for Phillips. Worrell became the first dean and had only five months to establish the new institution, which opened its doors in September 1914.

Worrell crafted an ambitious curriculum modeled on Harvard University's graduate mining program but adapted to meet the unique conditions of the Southwest and Mexico. He also introduced a semester system, differentiating the school from the quarter system used at UT Austin.

From the outset, all mining engineering students were required to study Spanish, a notable characteristic that set it apart from other mining programs nationwide. This alone made graduates sought after by companies re-establishing mining projects in Mexico following its revolution. However, it also made the school highly attractive to Hispanic students from the U.S. and abroad.

Initially, the Texas School of Mines, as it became known, considered its Engineer of Mines degree comparable to the professional EM offered by Harvard's School of Mines. The key difference was in admissions. Harvard applicants were required to possess an undergraduate degree to enter its professional schools, including law and medical schools. However, the University of Texas System still allowed high school graduates to apply to their professional schools, even medical school. By 1920, the UT System had revised admission requirements to all professional schools. The president of the Texas School of Mines, Robert Vinson, replaced the EM with a BS in mining engineering. Mining students were now required to take humanities courses other than Spanish.

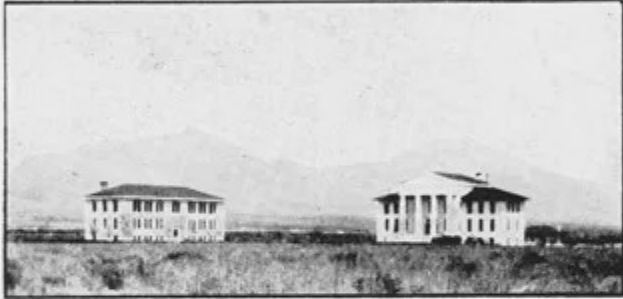
The EM remained in the catalog as a post-baccalaureate degree. When a student, Horace Deans Bevans, completed the necessary requirements, the Board of Regents rejected the faculty's recommendation to confer him an EM. The following year, the regents had no choice but to confer the degree, given that it was in the catalog under which Bevans had matriculated. The regents revised the catalog to eliminate the EM, but grandfathering students who entered the school before 1932. Six (6) students

received this post-baccalaureate EM from 1934 to 1954, including Eugene Thomas, who later served as dean of mining and engineering and interim president.

From 1916 to 1968, UT El Paso awarded 49 Engineers of Mines and 397 Bachelor of Science in mining engineering degrees.

**The Texas State School  
of Mines and  
Metallurgy**

Offers unlimited advantages to the young man who desires a technical knowledge of mining.



**THE LOCATION IS IDEAL**

El Paso is the center of one of the greatest mining districts in the world—West Texas, New Mexico, Arizona and undeveloped Mexico are at her door. Within one to ten miles of the School of Mines are found in great variety those geological formations that are usually associated with the mining industry.

**SPLENDID OPPORTUNITY FOR PRACTICAL EXPERIENCE**

Arrangements have been made at a number of mines easily accessible to the school where students may engage in practice work. The second largest smelter in the world is situated in El Paso. It is in reality the main metallurgical laboratory for the students where they study in minute detail the treatment of ores by smelting. The large variety of ores which come to this smelter forms a collection that can hardly be duplicated elsewhere.

The School is located four and one-half miles northeast of the city and can be reached by the Fort Bliss car.

**PROF. S. H. WORRELL, Dean** **Telephone 5854-W**

An ad for the Texas School of Mines, c. 1915.

## Mining Heritage

Throughout its history, UT El Paso's mining roots have been represented by three distinct archetypes: the scientific engineer, the hard rock miner, and the Western prospector. Each symbol reflects distinct aspects of mining and its associated values, emphasizing shifts in how the university and the region viewed the mining profession over time.

The scientific engineer represented the formal, academic, and technological side of mining, highlighting the institution's focus on education, research, and engineering expertise. Early images of the school frequently showed students working with transits

as they surveyed sites. Others portrayed them as working in labs or with data.

The hard rock miner emphasized the manual labor and grit involved in mining. The hard rock miner works underground, extracting valuable minerals through sheer physical effort. It reflects the hands-on, practical aspect of mining and the perseverance and toughness of those who worked in the industry. Toward the late 1920s, yearbook graphics featured hardline art deco images of mining as an industry, with muscular laborers working complex machinery in mines or factories.

The Western prospector symbolized the adventurous, entrepreneurial spirit associated with the early mining days of the American West. This figure is often seen as a risk-taker, exploring untapped lands in search of mineral wealth. The prospector embodies the independence and optimism that characterized the early settlers who came to places like El Paso in search of fortune. From the beginning, the school adopted the accouterments of the lone prospector, including a mule, which became the school's first official mascot, and the pick and shovel, which can be found carved into several historic campus buildings.

UT El Paso's identity and its relationship to mining have oscillated between these three symbols, reflecting different facets of the mining industry—technical expertise, physical labor, and entrepreneurial exploration. Each symbol shaped the university's mining heritage and how it has been represented to the public. Today's Paydirt Pete incorporates elements of all the identities: the resolute eyes of the scientific engineer, the hard rock miner's bulging muscles, and the prospector's clothing and pick. Only the Mississippi riverboat gambler hat appears out of place. But then, mining can be a risky business.







The scientific engineer at work, as portrayed in the school's yearbook, c. 1922.

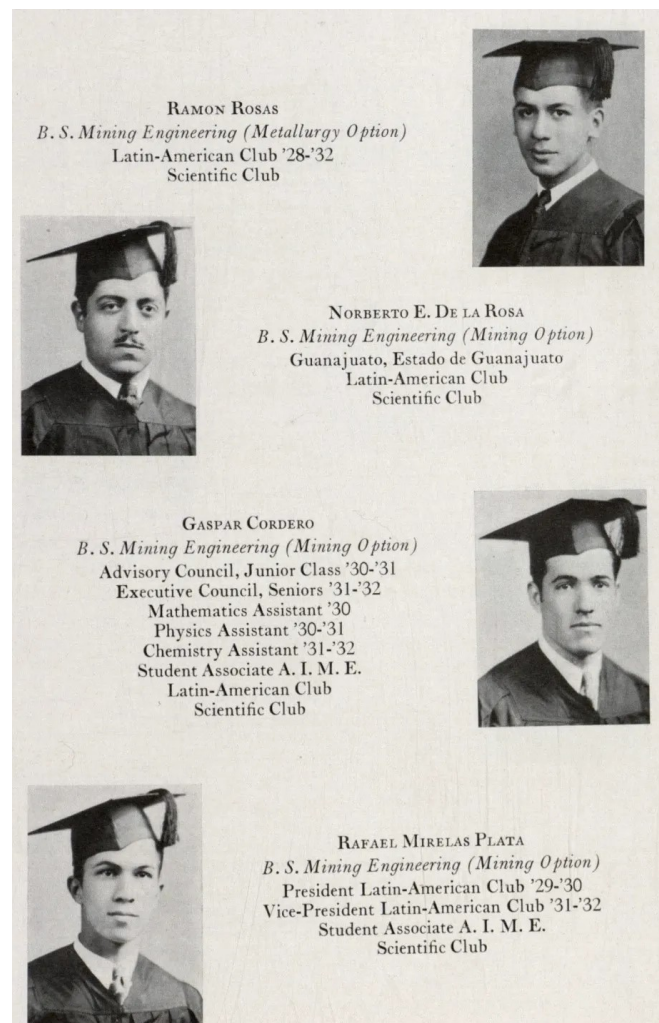
## A Hispanic-Serving Mining Institution

Raul Barberena, class of 1917, was one of the nation's first Hispanic mining school graduates. A member of the inaugural class that arrived at the school in 1914, the Mexican national was also the first Hispanic instructor hired by the University of Texas System.

One of the distinguishing features of UT El Paso was the presence of Hispanic students since it opened. From its inception, the institution served as a vital educational pipeline for Hispanic and Mexican national students interested in mining engineering.

As many as half of each graduating class included Hispanic students, many of whom went on to work for American mining companies such as Asarco. The school's influence extended beyond Texas, with graduates contributing to mining operations in Mexico, Central and South America, and even the Philippines. One mining alumnus reportedly joined Francisco “Pancho” Villa’s marauding band, which “appropriated” horses and supplies from many Mexican mine sites where fellow alumni worked.

Pollard Rodgers, a graduate of the class of 1941, later reflected on the school's role in educating a significant number of Mexican mining engineers, underscoring the institution's regional importance. This focus on serving Hispanic communities in the United States and abroad became one of the school’s enduring legacies.



Hispanic members of the graduating class of mining engineers, 1932.

## Decline and the End of the Mining Program

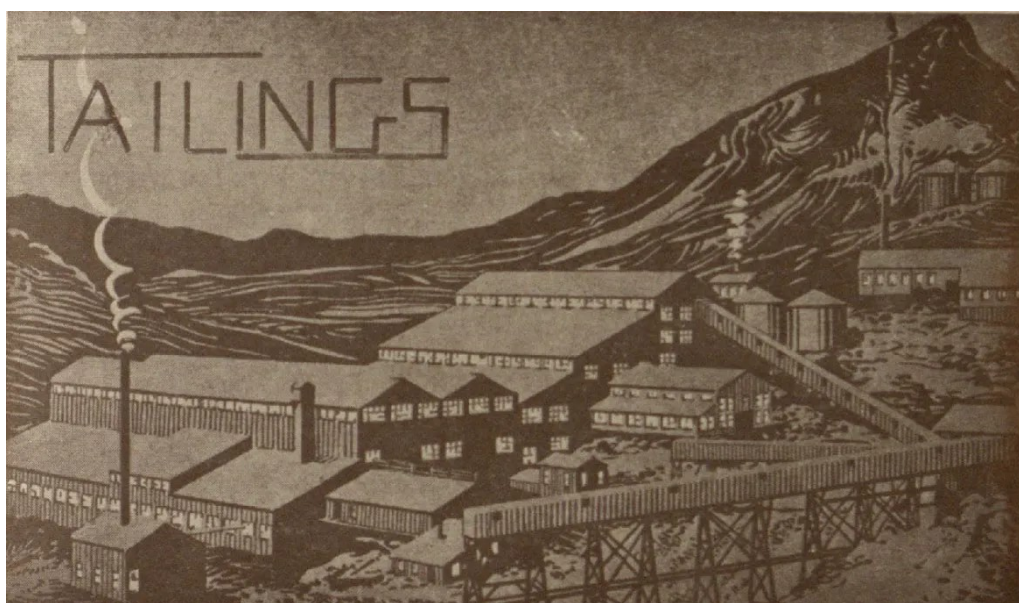
By the mid-20th century, the mining industry underwent significant changes, leading to a decline in interest in mining education. UT El Paso's mining program, which had once attracted a steady stream of students, saw enrollments plummet in the 1950s. By 1962, the number of students in the mining program had dwindled to just ten, making it financially unsustainable for the university to continue offering the program.

External factors also contributed to the program's decline. In 1961, the Mexican government nationalized much of the country's mining industry, restricting American companies from employing foreign-trained engineers. Robert Limón, class of 1943, was among the many Hispanic mining engineers recruited by American firms at graduation. In his career with Asarco, he managed several mining operations throughout Mexico. Limón lamented that the "Mexicanization" of the mining industry reduced job



prospects for UT El Paso's graduates in Mexico, further diminishing the program's appeal.

As UT El Paso approached its fiftieth anniversary in the 1960s, the university undertook a strategic review of its curriculum. The resulting plan, Mission '73, recommended transforming Texas Western College of the University of Texas, as it was then known, from a regional teaching institution and feeder school for UT Austin into a comprehensive university in its own right. As part of this transformation, the mining program was discontinued, and the School of Mining and Engineering was restructured as the School of Engineering. The final mining degree was conferred in 1968, marking the end of an era for UT El Paso's mining program.



Yearbook graphic, c. 1930.

## Legacy and Rebirth

Despite the closure of the mining program, UTEP's legacy as a mining school persisted. Between 1916 and 1968, the university conferred 49 Engineer of Mines degrees and 397 Bachelor of Science degrees in mining engineering. The institution's impact on the mining industry, particularly in the Hispanic world, was profound. Many graduates went on to occupy key positions in the industry, especially Mexico, where they played a significant role in shaping the country's mining operations.

In 2018, fifty years after the last mining degree was awarded, UTEP achieved a new

milestone. The university became the first former chartered mining school to attain R1 status under the Carnegie Classification of Institutions of Higher Education, designating it as a top-tier research university. This achievement underscored the institution's ability to reinvent itself and adapt to changing educational and economic landscapes.

Today, UTEP stands as the only chartered mining school from its era to have transformed into a comprehensive research university. Its history as a Hispanic-serving mining school remains an integral part of its identity, even as the university has broadened its focus to include a wide range of disciplines. As UTEP continues to evolve, it is well-positioned to play a leading role in the reinvention of mining engineering for the 21st century, building on a legacy that stretches back over a century.



UT El Paso's mining heritage lives in its campus architecture.

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