“La Mojonera” and the Marking of California’s U.S.-Mexico Boundary Line, 1849-1851

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On a bluff overlooking the “Arroyo de Tia Juana” several hundred feet up from the shoreline of the Pacific Ocean, a boundary monument—La Mojonera—has marked the start of the 1,952 mile line separating Mexico and the United States for the last 156 years. Captain Edmund L. F. Hardcastle, of the U.S. Topographical Engineers, and Ricardo Ramírez, a zoologist and botanist attached to the Mexican Boundary Commission, dedicated it on July 14, 1851. Today it is one of 276 monuments marking the boundary line running between El Paso, Texas, and the Pacific coast.
**U.S.-Mexico Boundary Line**

**La Mojonera,** or Western Land Boundary Monument No. 258, is threatened by the U.S. government’s plans to build multiple border fences. In 2005 Homeland Security Secretary Michael Chertoff suspended environmental regulations protecting historic resources to allow work on the fences to proceed. In response, Save Our Heritage Organization placed the monument on its list of San Diego’s ten most endangered historic sites. Even though it was placed on the National Register of Historic Places in 1974, the monument’s future remains uncertain.

This article reviews the events associated with the running and marking of California’s U.S.-Mexico boundary line between June 1849 and July 1851. It fills a gap in the historiography by telling the story of the individuals who drew the line and by describing the activities of the boundary commission during the first two years of its operation. Finally, it reaffirms the historical significance, both regionally and bi-nationally, of Monument No. 258.

On February 2, 1848 the Treaty of Guadalupe Hidalgo ended the war between the United States and Mexico and created a boundary line separating the two countries. The treaty compelled Mexico to relinquish 1.2 million miles of its northern frontier, over half its territory, to the United States for fifteen million dollars. Today this territory comprises the states of California, Arizona, New Mexico and parts of Texas, Nevada, Colorado and Utah. The new boundary line extended three leagues into the Gulf of Mexico from the mouth of the Rio Grande River, known in Mexico as the Rio del Norte, or, River of the North. The boundary proceeded up the center of this river’s deepest channel to a point where it met the southern boundary of New Mexico north of the City of El Paso del Norte (today Ciudad Juárez). At this point, the line turned west and traveled overland to the western limits of New Mexico and then north until it intersected with the Gila River. Following the Gila to the center of its junction with the Colorado River, the boundary continued in a straight line along the division of Upper and Lower California to the Pacific Ocean.
line should terminate on the Pacific Coast. During the colonial period, Spanish officials had located Alta California’s southern boundary approximately fourteen miles south of the present line. In 1772, after the founding of settlements in San Diego and Monterey, officials decreed the separation of the two Californias. On August 19, 1773 Father Francisco Palóu erected, under authority granted by the Council of the Indies, a large cross to mark the boundary line separating the two territories, approximately five leagues north of the Rio Guadalupe and the site of Mission of San Miguel. This was the first inter-California boundary, and in the years that followed, although this line shifted several times prior to 1846, it remained in the same general locality.5

Treaty negotiators on the part of Mexico initially contended that the port of San Diego was not part of Alta California and sought a boundary line north of San Diego in order to retain both a port for the northern region of Baja California and a land bridge between the peninsula and mainland Mexico. They were concerned by the Americans’ belief in manifest destiny and their desire for expansion, particularly as some U.S. politicians were calling for the acquisition of all of Mexico.6

Both sides recognized that the port of San Diego had great value. A warm water port, offering secure anchorage and a mild year-round climate, San Diego became a center for the hide and tallow trade and whaling activities in the years before the war with Mexico.7 William H. Emory, a topographical engineer attached to the military forces seizing the town in 1846, solidified U.S. interests in the port when he offered this assessment in his official report: “At present San Diego is, all things considered, perhaps one of the best harbors on the coast from Callao to Puget’s Sound, with the single exception, that of San Francisco.”8

At one point during treaty negotiations, the U.S. representative discussed setting the boundary line one marine league north of the port of San Diego or, possibly, dividing the port in two with Mexico retaining the southern half and unrestricted access to the harbor entrance. Once it became clear that San Diego always belonged as part of Alta California, the U.S. representative

In 1848, General Pedro García Conde became head of the commission to survey the new boundary between Mexico and the United States. ©SDHS #9852:1.
sought a boundary that ceded the port to the United States, based on a clearly defined boundary that would prevent any future disputes.

Ultimately, directions provided by the treaty were less than consistent offering two different guidelines for establishing the California boundary. The treaty initially stated that the boundary should follow “the division line between Upper and Lower California to the Pacific.” In a subsequent paragraph, the treaty declared “in order to preclude all difficulty in tracing upon the ground the limit separating Upper and Lower California, it is agreed that the said limit shall consist of a straight line drawn from the middle of the Rio Gila, where it unites with the Colorado, to a point on the coast of the Pacific Ocean, distant one marine league due south of the southernmost point of the port of San Diego, according to the plan of said port made in the year 1782 by Don Juan Pantoja.”

The treaty further specified the appointment of a commission to demarcate “a boundary line with due precision, upon authoritative maps, and to establish upon the ground landmarks which shall show the limits of both republics.” The treaty required each country to appoint a commissioner and surveyor to supervise the marking of the line, and the decisions agreed upon by them were to become part of the treaty. One year from the final ratification by both countries, the treaty called for the commission to meet in San Diego to begin its survey work.

On July 4, 1848 President James K. Polk issued a proclamation announcing the signing of the treaty. Six months earlier, on January 24, in California James Marshall discovered gold on the American River near Sutter’s Fort. By the end of the year the news had spread to the east coast and around the world—setting off the gold rush of 1849. Thousands of people rushed to California to earn their fortunes. The flood of immigrants severely impacted the progress of the joint boundary commission as prices for livestock, supplies and other resources skyrocketed. With everyone rushing to the gold fields, labor shortages were widespread throughout the territory making it hard to hire and retain workers to complete the boundary survey.

After considering two other candidates, on January 14, 1849, President Polk
selected John B. Weller, a former Ohio Congressman, Mexican War veteran and unsuccessful candidate for governor, to serve as the U.S. commissioner. Andrew Gray, a surveyor who had worked on the boundary line between Texas and the United States, accepted the position of U.S. Surveyor. The president appointed Emory to serve as the chief astronomer, head of the Commission’s Topographical Scientific Corps, and commanding officer of the military escort.¹²
In March, the Mexican government appointed General Pedro García Conde, a well-respected army officer and engineer with political and diplomatic experience, to serve as its commissioner. José Salazar Ylarregui, a twenty-five year-old civilian engineer and graduate of El Colegio de Minería in Mexico City, agreed to serve as surveyor and astronomer for the Mexican commission.13

In addition to running and marking the boundary line, each commissioner received instructions regarding the gathering of geographical and other useful information about the territory on either side of the line. Mexican officials recognized the need for information about the geography and Indians tribes of the frontier as critical for the defense of their northern borders. Congressional leaders wanted scientific duties included as part of the commission's responsibilities, resulting in the selection of appointees with knowledge of zoology, botany and natural history. They viewed this type of information as beneficial to promoting the future settlement of the region.14

U.S. officials wanted their commissioners to identify any feasible routes for a transcontinental railroad, canal, or wagon road. A southern route was viewed by many as the most practical way to provide year round travel across the country. They viewed this route as crucial to binding the country together, strengthening the political union between the east and west coasts, and taking full advantage of economic opportunities presented by the gold deposits in California.15

Both commissioners experienced delays getting to San Diego by the time specified by the treaty. The overwhelming number of immigrants headed to the California gold fields caused the problem. Traveling from New Orleans via the Isthmus of Panama, the American commission was stranded along with several thousand immigrants for almost two months in Panama before securing passage north to San Diego. The overcrowded conditions forced Weller to divide his commission into several groups for the voyage north. Weller, Gray, and Emory, along with several other members, arrived in San Diego on June 1 while the rest of their group arrived in the weeks that followed.16

García Conde and his commission departed Mexico City on April 18, traveling overland to San Blas, Nayarit, for passage north. Upon reaching San Blas, Conde learned from the American Consul that a steamer was not expected to stop in port. García Conde decided to embark on the British frigate Caroline in hopes of reaching San Diego before the appointed deadline. The frigate, however, experienced delays due to “natural accidents seldom known in the navigation of the Pacific coasts” and did not arrive in San Diego until July 3, over a month past the deadline.17

After enjoying a festive July 4 celebration, the two commissions held their first meeting on July 6. Officials presented their credentials and adopted plans for starting the survey. The two commissioners agreed to have their engineers operate independently and meet periodically to compare their work and finalize the results. They endorsed Gray and Salazar Ylarregui’s plans to begin work by determining locations for the three geographical points needed to draw the line: the southernmost point of the port, the initial point on the Pacific coast and the eastern point at the junction of the Gila and Colorado rivers.18

Both commissions generally utilized the same methods for surveying and marking the line, establishing astronomical observations at different points along the line to determine the latitude and longitude of their positions. The emphasis of their surveying strategies was where their approaches varied. The Americans
focused on astronomical determinations while the Mexicans used triangulation, topographical mapping and only some astronomical observations. Emory believed that the location of the line depended upon astronomy. While triangulation was the most accurate, the time and expense required by this method made it impractical.19

Previous studies of the Mexico-U.S. boundary survey have portrayed the role of the Mexican commission members strictly as advisory or secondary to the American surveyors who performed all of the significant work. These conclusions are primarily based on statements made by Emory in his published report of the boundary commission work. As a result, the contributions of the Mexican engineers have been largely ignored by historians.20

In recent years the availability of Mexican documents and a more thorough review of U.S. materials have caused a re-examination of the issue. These newer studies give little credence to arguments regarding the secondary role of Mexican engineers in conducting the boundary surveys, showing them to have little merit. Scholars have concluded, “Mexican engineers executed operations clearly independent of the United States activity, and produced results that were as necessary to the completion of the boundary as the work of the Americans.”21

The joint boundary commission experienced problems that repeatedly impaired their progress, including the gold rush economy, partisan politics, insufficient funding, personal rivalries and the rugged environment. Issues involving the American members of the commission during the California phase of the boundary survey were the most difficult to resolve.

At the request of the Polk Administration, Congress passed legislation providing for the organization of the American commission and appropriated $50,000 to defray the expenses of running and marking the new boundary line with Mexico but failed to authorize salaries for the commissioner or surveyor. In the elections of 1848, the Whigs gained control of the House of Representatives and attempted to nullify Polk’s actions. By a strictly partisan vote, the House passed two amendments requiring the appointment of a commissioner from among the members of the Topographical Corps and prohibiting the payment of salaries for any officers of the commission whose appointment was made without the authority of law. The Democratic controlled Senate rejected these amendments stalemating additional funding for the American commission until the new Congress convened in 1850.22

Even before Weller and his staff arrived in San Diego, rumors were circulating regarding his impending dismissal as boundary commissioner. Polk had appointed him six weeks before his term of office expired. The Whig administration of Zachary Taylor considered him an eleventh-hour appointee and, under the rules of patronage, sought to replace him with one of their own. The appointment of Thomas Ewing, Weller’s archrival from Ohio, as the administration’s Secretary of the Interior served to intensify the fires of partisan politics. Ewing sought to discredit Weller and to frustrate any ambitions he may have entertained of returning to Ohio politics, where he still enjoyed popular support among voters.23

The incoming Taylor Administration, maneuvering to build political support for its programs, offered appointments to lucrative government positions to family members of several congressional leaders. In June Secretary of State John
Clayton notified John C. Fremont, the western explorer and son-in-law of Senator Thomas Hart Benton, of his appointment by President Taylor as the U.S. boundary commissioner. Clayton instructed Fremont to hold Weller’s letter of dismissal until he was ready to assume the position. He justified the dismissal on grounds of mismanagement of commission affairs and failure to file required expenditure reports. Emory, upon learning of the Fremont appointment, submitted his letter of resignation, considering the action as rebuke by the new administration of his conduct at Fremont’s recent court martial trial.24

Prior to his departure for California, Weller withdrew $33,325 from the Treasury Department to cover expenses for purchasing equipment, surveying instruments, supplies and travel to California. The runaway inflation caused by the gold rush quickly exhausted those funds. In August 1849 Weller left San Diego and traveled north in search of additional financing, but San Francisco merchants, aware of the rumors regarding his dismissal, would not honor his drafts.

In Monterey the news of his dismissal had already arrived before him, and General Bennett Riley, the military governor of California, declined to advance any funds to Weller for the commission. After receiving a similar request from Emory, Riley did authorize $3,000 to provide “subsistence” to the commission’s military personnel and employees. Riley told Emory that it afforded him “great pleasure to arrange any thing that will facilitate your operations.”

At this point Weller met with Fremont who acknowledged the news of the appointment but did not deliver to the commissioner his formal letter of dismissal. After receiving a full accounting of the commission’s affairs, Fremont prevailed upon Weller to return to San Diego and continue to discharge his duties until he was prepared to formally assume the position. Fremont agreed to negotiate in San Francisco Weller’s drafts for $10,000 to allow the commission to maintain its operations.25

While Weller was away up north, the work of the joint commission proceeded in San Diego. Emory and Salazar Ylarregui established their camps with observatories south of the port and started taking astronomical readings to determine the latitude and longitude of the initial point. The surveyors initiated work mapping the port of San Diego to determine its southernmost point.26

Prior to beginning the survey, there was some discussion about how the port of San Diego should be defined for purposes of drawing the boundary line. García Conde raised the issue unofficially, contending that the port consisted only of the ship landing area near Ballast Point and not the entire bay as shown on Pantoja map. Weller disagreed and indicated that if the Mexican commissioner pursued the issue, he would insist on locating the line further to the south at the former boundary between Upper and Lower California, as called for in the treaty. Neither commissioner raised this issue during the formal proceedings of the joint boundary commission.27

In the more than sixty years since Pantoja drew his map, the configuration of the shoreline for the port had changed significantly. Gray reasoned that part of the change in appearance was due to differences in the seasons of the year between Pantoja’s survey and theirs. After much debate and compromises by both sides, the surveyors agreed that they had to identify the southernmost point based on features presented in the map and not on the 1849 landscape. They were able to locate a physical feature on the western shore of the port “a range of bluffs,” that
they could identify as a point on Pantoja’s map. Using the scale shown on the map, they measured off the distance to the southernmost point, which they then transferred to the configuration of the shoreline in 1849. As a result of their work, both surveyors prepared maps of the harbor depicting the southernmost point as specified by the treaty.28

Next, they determined the distance of one marine league from the spot designated as the southernmost point of the port. The surveyors needed to agree on the distance encompassed by one marine league, which was a unit of measurement unfamiliar to Americans. In 1849 there were no international standards for units of measurements. García Conde had received specific instructions from his government regarding this measurement, which subsequently guided Salazar Ylarregui in his dealings with Gray. The surveyors decided to use the distance of 5,564.6 meters based on a publication printed in France in 1839 by Louis Benjamin Francoeur, a professor at the University of Paris.29

While the survey of the port was proceeding, Emory and Weller sent out two American survey teams to begin extending the line east. Lieutenant Amiel Whipple, one of two West Point graduates and topographical engineers assigned to assist Emory, traveled to the junction of the Gila and Colorado rivers to determine the latitude and longitude of the point where the line would terminate at its eastern end. Lieutenant Cave J. Couts, a native of Tennessee and a Mexican War veteran, led the military escort accompanying Whipple’s party. The sour relationship between Whipple and Couts—and the hardships they experienced assisting hundreds of destitute emigrants bound for the gold fields—has been well documented in published accounts of their work.30

Lieutenant Edmund L. F. Hardcastle, the other topographical engineer, commanded a second party with orders to make a reconnaissance in the direction of the Gila River to “select elevated points by which the extremities of the line could be connected in longitude by flashes of gun powder.” Emory instructed Hardcastle to use the opportunity to collect any information of the country that may be deemed useful to the government.31 The rugged, desolate environment
presented severe hardships, and at times “almost insurmountable obstacles,” to the joint commission as it conducted its work.32

During October, Emory sought to determine the relative longitude of the boundary by simultaneous observations of flashes of gunpowder and rockets from five elevated sites along the 141-mile line, recording time differences at each location. In addition to the observatories at both ends of the line, stations were set up at “Cerro Colorado, Los Piños and Mount Wiccanon.” Fog coming up from the Gulf of California obstructed the view across the southern part of the desert. The experiment was abandoned after failing to complete all observations on five successive nights, compelling the commission to revert to astronomical methods for determining the longitude.33

Weller returned to San Diego on the October steamer as the surveyors located the initial point on the Pacific Coast marking the beginning of the boundary line. On October 8 the joint commission met near the southernmost point of the port of San Diego to hear the reports and examine the work of the surveyors. The commission met again on October 10 and “after a careful examination of the ground, and the surveys made by the respective parties, the initial point in the boundary was finally fixed and determined.” During these deliberations, Salazar Ylarregui’s initial recommendation for the location of the initial point was rejected and a compromise site selected.
The joint commission ordered that a hermetically sealed bottle enclosing a sworn statement, in both Spanish and English, declaring “that the demarcation of boundary between the United States and Mexican Republic shall commence at this point, all in conformity with the 5th Article of the Treaty signed at the City of Guadalupe Hidalgo on the 2nd of February 1848” be buried. The initial point of the boundary as agreed upon is in north latitude 32° 31’ 59” .58 and the longitude of 7 hours 48 minutes 21.10 west of Greenwich. In the presence of witnesses, a temporary post was set in place to mark the spot until a permanent monument could be arranged.34

*The Illustrated London News* reporting on the occasion noted “during these ceremonies the countenances of the Mexican Commissioners exhibited a remarkable degree of gravity: they did not forget that they were affixing the last seal to the treaty for the dismemberment of their Republic.”35

With the initial point of the boundary identified, the Mexican surveyors joined their American counterparts in focusing their efforts on locating the eastern terminus of the line. The Mexican Commission, having fewer surveyors than the Americans, lagged behind in their surveying at times. It included five engineer/scientists while the American contingent consisted of twenty-six members between engineers and their assistants. The Americans were able to staff four field parties while the Mexicans could sustain no more than two at a time since they did not receive the support needed to match the efforts of the Americans.36

The issue nagging the American force was providing daily subsistence and materials for their personnel since funding from Washington D.C. was not forthcoming. The task of supplying the men in the field proved challenging. While on his reconnaissance in the mountains, Hardcastle sent a letter to Emory on a Wednesday hoping that it would reach him by Thursday. He needed additional supplies sent out by Friday in order to reach him by Sunday, the day on which the men’s rations would run out.37

In addition to a smaller staff, the Mexican Commission experienced setbacks from the beginning. Prior to departing for California, the commission ordered scientific instruments from Europe to run the boundary line. The instruments were inspected prior to shipping to confirm their quality, but when they arrived it was discovered that someone had exchanged them for instruments of inferior quality. The Mexican commission was forced to borrow instruments from the Colegio Militar and Colegio de Minería, some of which were of poorer quality than the ones received from Europe. As Salazar Ylarregui explained “the hand of fate, which touches whatever is Mexican, reached out to the instruments in Paris.” Emory’s criticism of the Mexican instruments used in the California survey was confirmed by Salazar Ylarregui, who did not hesitate to complain about his instruments. However, instruments for topographical surveying and mapping were never faulted; it was the instruments used for astronomical readings that were of poor quality.38

The Mexican Commission’s late arrival in San Diego left them at a disadvantage since the Americans had already been in the field for over a month. Losses occurring in the field resulted in additional delays. The Mexican Commission was forced to wait before sending a field team to the Gila and Colorado rivers when its military escort failed to arrive. Indian attacks, desertions, and stolen livestock delayed the arrival of their escort in San Diego.39
Following the dedication of the initial point, Weller directed Gray to take his survey party to the junction of the Gila and Colorado rivers to survey the eastern terminus of the line. Gray’s party traveled up the Tia Juana River Valley to Tecate and through several valleys crossing over the mountains to the main emigrant trail near Carrizo Creek. At the base of the mountains Gray encountered a group of emigrants led by James C. Collier, the newly appointed Collector of Customs for the Port of San Francisco by the Taylor Administration.

The Collier party had left Fort Leavenworth, Kansas, in May. After traveling overland via Santa Fe, their animals were near exhaustion and the party was reduced to half rations. Gray was uncertain the party could make it to San Diego on its own and decided to guide it back over the same trail he had just used. He directed his assistant, John Forester, to continue on to the Gila and Colorado to complete the survey.

Upon Gray’s return to San Diego, Weller was irate with him for abandoning his assignment. Gray, for his part, explained that he “would not send my assistant back to guide the party because I wished to be there myself, in case of any accident or obstacle occurred, it being the first time that I believed its ascent had ever been attempted with packs, . . .” Gray believed he had pioneered a new trail across the mountains, a trail that had been known to local residents for years. In a group with other commission members, Weller belittled the idea that Gray had discovered a new shorter trail, and in the altercation that followed, Weller suffered a gunshot wound to his thigh. Reports about the incident indicated that both men had been drinking when the jesting escalated.

Weller refused to allow Gray to undertake a second trip to the junction of the Gila and Colorado rivers to finalize the work. Instead, he directed Emory to have Whipple meet with Salazar Ylarregui to reach an agreement as to the point where the middle of the Rio Gila united with the Colorado. Weller, who was confined to his sick bed, also did not travel to the site. Salazar Ylarregui protested to García Conde, who was at the site expecting to meet Weller, about the substituting of Whipple. He believed that it was a violation of the treaty since neither the American commissioner nor surveyor would be present to verify the eastern point of the line.

García Conde overruled Ylarregui, ordering him to meet with Whipple to verify the work. Following the signing, Ylarregui, who was growing increasingly critical of García Conde’s handling of the commission’s affairs, remained at the Gila and Colorado for another month completing his own survey of the point where the two rivers merged. García Conde later complained to his government about Weller’s frequent absences from the commission.

By December 1849 with the two ends of the boundary line identified, all that remained was the drawing of the azimuth line to connect the two ends and the placement of monuments. Weller suspended the work of the American commission due to dwindling funds and made another trip to San Francisco to confer with Fremont. He learned upon his arrival that Fremont had announced his resignation from the boundary commission, a position he never occupied, to seek election as California’s first U.S. Senator. Weller’s personal property and funds were seized in legal actions by San Francisco bankers after the Treasury Department, upon instructions from Clayton, refused to honor boundary commission drafts.

In Washington responsibility for overseeing the boundary commission was
transferred to Ewing and the newly created Department of the Interior. The Secretary of War denied Emory’s letter of resignation fearing that it would set a bad precedent allowing an officer to quit his post in the field because of a personal dispute with a superior. Upon learning of Fremont’s resignation, Ewing sent another series of letters firing Weller a second time and appointing Emory to serve as the acting commissioner until a permanent one was appointed.45

During all of these events Weller had received only one communication from Clayton in March advising him that his salary could not be paid until Congress passed the necessary legislation. Despite all that had happened to him, Weller refused to abandon his post until formally discharged and returned to San Diego to finish the work on the California boundary.46

At the January 28 commission meeting, García Conde raised the issue of the boundary line at the mouth of the Gila River trying again to gain a foothold for Mexico in the port of San Diego. He stated that at the time the treaty was negotiated, the American representative offered to cede three leagues of land on the Pacific, commencing at the Ranchería de las Choyas, in exchange for a small portion of territory on the right side of the Colorado River. Treaty negotiators, relying on the maps that were available, assumed that the Colorado River ran directly south after the junction with the Gila River. They did not realize that the Colorado turned in a northwesterly direction before turning south, leaving both banks of the river on the American side of the line for several miles. Due to a chance of nature, the new boundary line complied with the terms of the treaty but did not conform to the intent of those who concluded them.

García Conde wanted the matter left for future negotiations between their respective governments. However, Weller could not accede to the request of the Mexican commissioner. The treaty extended to the commissioners the authority and responsibility for running the boundary line; and decisions agreed upon by them were incorporated as part of the treaty. He stated, “it is expected that we will execute this duty and settle the question forever.” Weller admitted that the maps available to treaty negotiators were probably incorrect. He contended that the lack of accurate knowledge of the region’s geography had hurt both countries, especially the U.S. since the survey was not placing the boundary in its original location as specified in the first paragraph in Article V of the treaty. García Conde commented afterwards that their decision met the legal intent of the treaty but not its spirit. He later came under severe criticism for his handling of the survey and conceding too much land in California.47

The following day the joint commission convened to discuss the placement of monuments to mark the boundary line between the Pacific and Gila River. Since the commission believed that a large portion of land bordering the boundary would never be “settled” or “cultivated,” members agreed that seven monuments were “considered amply sufficient” to mark the line. It directed the setting of “one monument at the initial point on the Pacific, one on the spot of land agreed upon near the mouth of the Gila River, one on the left bank of the Colorado where the line crosses that river, [and] one upon the desert, as near as practicable where the line crosses New River.”48

The remaining three monuments were to be placed “at such points on the intervening mountains as may be most visible and of greatest interest.” This action was later modified by the commission to require the placement of one of the three
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intermediate monuments on the road leading from San Diego to Lower California where it crossed the line. Since Emory had already begun to mark the azimuth of the line east from the Pacific for approximately thirty miles, he and Salazar Ylarregui were authorized to designate the precise point for the placement of this monument.49

At a subsequent meeting, the commission gave specific instructions as to the construction of the monuments. For the initial point on the Pacific, the joint commission specified a white marble monument having a 3-foot square base with a pyramid or obelisk set atop, 9 feet in height or thereabout, costing no more than $1,500. The commission also stipulated the text of the inscription to be included, requesting that the monument be placed on a mound above the surface of the earth resulting in an overall height of approximately 14 feet. Directions for the monument to be erected near the mouth of the Gila River included construction of white marble, smaller dimensions, similar inscription, and costs not to exceed $500. The specifications for the other five monuments called for cast iron construction, not to exceed 400 lbs. in weight, with inscriptions similar to the others.50

Additionally, the commission appointed two surveyors, one from each country, to oversee the construction of the monuments and supervise their placement on the line. These surveyors were to file minutes of their proceedings at the conclusion of their work. The commissioners appointed Captain Hardcastle and Francisco Jiménez, the First Engineer of the Mexican Commission, to supervise the work of placing the monuments on the line.51

At its February 15 meeting the commission agreed that it was not practical to mark the line from California east of the Gila River because of the gold rush and its inflationary economy. The commission agreed to adjourn and reconvene in El Paso on the first Monday of November 1850. Two days after this meeting, Emory received Secretary Ewing’s letter of December 19 appointing him acting commissioner. He delivered to Weller his official notification discharging him as boundary commissioner.52

By the end of January, with all funds exhausted, General Riley interceded again on behalf of the U.S. commission authorizing Emory an additional $5,000 to sustain the operations of his command. When funds promised by the Secretary of the Interior did not arrive by summer, Emory negotiated a loan from Port Collector Collier in San Francisco. Upon his return to Washington in October 1850, Emory listed debts and loans exceeding $15,000 for the commission. Congress had recently approved $185,000 in funding to continue the survey work and, through the new boundary commissioner, John Russell Bartlett, Emory resolved the financial distress of the California survey.53

Following adjournment of the boundary commission, Jiménez and Hardcastle conferred to plan a course of action for completing their assignment. They decided to have the monuments manufactured in the United States and signed orders for their construction. Hardcastle accepted responsibility for overseeing this process. They agreed to have the monuments shipped to San Diego by sea where they would transport them to their permanent locations. Lastly they agreed to meet in San Diego on January 1, 1851 to complete their work; if one of them could not return, their appointed representative was authorized to act on their country’s behalf. At some point following this meeting, Hardcastle and Emory had second
thoughts about the commission’s plans for placing a marble monument at the Gila River, given the problems of transporting it across the mountains and desert. Emory approved changing the plans to have the monument made of cast iron.\textsuperscript{54}

In April, Hardcastle submitted an order to E. & G. W. Blunt of New York for the manufacture of monuments including plans and specifications for their design. He advised the company that the instructions are “not intended to be strictly adhered to, as they merely indicate general dimensions leaving to the architect the more proper arrangement of the proportions.” He provided instructions for cast iron monuments and suggested that the plans for the monuments follow those made at the Boston foundry for the northeastern boundary as a guide. Finally, he wanted the monument for the Gila River manufactured one-third larger than the other five.\textsuperscript{55}

By May 1850 the joint boundary commission ceased its operations in San Diego. Only Hardcastle and five assistants remained to help with running the line. Emory wanted the boundary secured “beyond all cavil,” or trivial objections, and directed the construction of stone, or cairn, monuments along the line. These monuments were 12 feet at the base and 12 feet high and composed of stones and earth. After overseeing this work eastward from the Pacific Coast over settled areas of the line for over thirty miles, Emory turned the work over to Hardcastle. Salazar Ylarregui paid the initial cost of this work, and Emory, unwilling to leave the debt unpaid, borrowed the funds to pay the U.S. share prior to the departure of the Mexican commission. Hardcastle labored through the summer and fall surveying the topography and placing cairns along the line.\textsuperscript{56}

In January 1850 Jiménez failed to return as planned and it wasn’t until March 18 when Ricardo Ramírez arrived to serve in his place as Mexico’s representative for finishing the work that remained. The cast iron monuments were recently received and awaiting placement on the line. Hardcastle and Ramírez decided to travel to the Gila and Colorado to set the two most easterly monuments first before turning westward across the desert to place monuments in the vicinity of the Emigrant Trail and New River. After this they intended to return to San Diego to set the monuments at the initial point and on the road to Lower California before running the line eastward until completed. They agreed to place the final monument on the road between Rancho Otay and Rancho Jesús María where it crossed the line. They spent the next three months finishing the marking of the line and setting these monuments in place as they had planned.\textsuperscript{57}

At times this work proved toilsome as Hardcastle and Ramírez and the men working with them endured severe hardships completing their tasks. In a letter to Emory, Hardcastle described their efforts to place the monument at New River after being unable to take sightings at night from fires on Signal Mountain to determine a fixed point for prolonging the line:

The only method remaining that presented itself was to produce the line continuously, and this I determined to undertake despite the many and serious obstacles that opposed. Accordingly I fitted out and started with a party of 5 persons–myself, Ingraham and three men–with two pack mules. The first two days we progressed slowly, at the end of the second day we were not more than 13 miles distant from the Colorado; but we pressed onward, notwithstanding
the discouraging difficulties—the almost impassable hills of drifting sands and the intense heat—that presented themselves. Considering the distance, the heavy sand—sometimes disposed in hills, sometimes in hillocks—the entire absence of water and the scorching rays of the sun pouring down upon and reflected from the glittering sands—some idea may be formed of the trial to physical strength and endurance to which a party, compelled to move slowly and in a direct line over this desert, is subjected.58

By mid-June Hardcastle and Ramírez worked to extend the line from Mount Tecate to New River, connecting the line coming from the Pacific to the one heading west from the Gila and Colorado. They had to take a couple of extra days to realign the boundary since the line from the Pacific reached New River 1,864 feet south of the monument they had recently placed. They had anticipated this problem and agreed to move the monuments at New River and the Emigrant Trail to conform to the line coming from the Pacific. Hardcastle described the line from the east as an approximation since they had used an instrument of poor quality to complete that part of the survey. As he explained, this was the only instrument light enough to carry on the “waste of deep and plodding sand.”59

The marble monument for the initial point on the Pacific was the last to arrive. The Daily Alta California, on March 14, 1851, reported the arrival in San Francisco of the topsail schooner Helena carrying the monument for the U.S.-Mexico boundary line. The monument was shipped down to San Diego the next month aboard the schooner Annette. It consisted of four separate pieces and weighed over eight tons. Hardcastle believed that the design of the monument was a big mistake and complained frequently to Emory about it. On one occasion he wrote “what a great mistake it was to have a marble monument of such dimension—one piece alone weighs 5 tons and is so unwieldy that it will be difficult to get here and more difficult afterwards to put in position.”60

Upon the monument’s arrival in San Diego, military personnel transported the pieces down to south end of the port on a flat-bottom barge before transferring them to gun carriages for delivery to the bluff overlooking the Pacific Ocean. The monument was installed on a masonry foundation six feet square on top and extending three feet below the earth’s surface to prevent settling. Once this work was completed Hardcastle held a ceremony and picnic, on July 14, at the site to dedicate the monument and celebrate the completion of the California boundary line. News reports about the dedication called it a “splendid marble monument.”61

Except for a brief two-week period in 1894, this monument has stood on the line for 156 years identifying the beginning of the boundary shared by Mexico and the United States. Its history is closely associated with the Mexican American War and its aftermath. It is the starting point of the southwestern boundary of the United States, a boundary that in 1848 completed the country’s westward continental expansion. The Gadsden Treaty of 1853 resulted in a modification of the California boundary line at its eastern terminus and during those negotiations issues regarding the port of San Diego were never revisited. In an irony of history, the line marks the northern border of Mexico that resulted in the loss of over half its territory, while it added land to Baja California. La Mojonera is part of the rich historical heritage shared by the two countries and the San Diego/Tijuana
transborder region. Its historical importance to that heritage clearly justifies its value and continued preservation.62

One last note, on February 19, 1852, John Russell Bartlett, Weller’s successor as boundary commissioner, visited San Diego and took the opportunity to visit the boundary line and see the new monument. He noted that the “monument stands directly opposite the Coronado Islands, and is seen from a great distance on land as well as by vessels at sea. On the table-land around and south of it, grows a large number of the beautiful agave.” During his brief stay Bartlett made a pencil drawing of the landmark, which is the oldest known image of the monument that is available today.63

NOTES

1. On the Mexican side of the border, the monument is popularly known as “La Mojonera” or “The Landmark.” Luis Humberto Crosthwaite, “Border Field Park’s Disrepair is Sadly Symbolic,” San Diego Union-Tribune, June 28, 2003, page E-2. For the official name, see National Register of Historic Places Inventory–Nomination Form, September 6, 1974, State Office of Historic Preservation, Sacramento, CA. The official length of the boundary line, according to the International Boundary and Water Commission, is 1,952 miles, excluding maritime boundaries, running from the Pacific Ocean to the Gulf of Mexico. Paula Rebert, La Gran Línea, Mapping the United States—Mexico Boundary, 1849-1857 (Austin: University of Texas Press, 2001), 12. For the dedication of the monument, see “Minutes of the Meeting between Captain Edmund L. F. Hardcastle of the United States and Ricardo Ramírez of Mexico for the Purpose of Locating the Monuments Marking the Boundary between the Two Countries,” July 14, 1851, Henderson Collection, MSA SC 501, Folder 59, Maryland State Archives, Annapolis, Maryland (hereafter Hardcastle & Ramírez Minutes) and the San Diego Herald, July 24, 1851, 2. The number of monuments cited for marking the boundary line is based on email information received by the author from the IBWC, Realty Branch, January 30, 2007.


16. Congressional Globe, 31st Congress, 2nd Session, 81-82; Hiram H. Robinson to The Cincinnati Enquirer, April 12, May 26, and June 21, 1849. Robinson served as the Secretary to the Boundary Commission from February to November 1849. At the same time he was a correspondent and held an interest in The Cincinnati Enquirer. See Sidney Cohen, “Biographical Data on the Librarians of the Ohio


20. In his report, Emory stated “in this operation I looked for little or no aid from the Mexican commission, for although composed of well educated and scientific men, their instruments were radically defective. Our determinations, after being re-observed and re-computed by the Mexican commission, were received by them without correction.” HED 135, 5. Some of the standard studies citing the limited role of the Mexican engineers include Brown, Survey of the United States Mexico Boundary, 1849-1855; 6; Lesley, “The International Boundary Survey from San Diego to the Gila River, 1849-1850,” 9; Goetzmann, Army Exploration in the American West, 160-61; Faulk, Too Far North...Too Far South, 22, 30-31. Ed Scott, a San Diego historian, is frequently cited regarding the limited contribution made by the Mexican Boundary Commission. Ed Scott, San Diego County Soldier-Pioneers, 1846-1866 (National City, CA: Crest Printing Co.), 21.


25. Letter - S. Pleasonton to Ewing, 28 December 1849, SED 119, p. 2; Letter - E.R.S. Canby to Emory, 25 September 1849, Records of the 10th Military Department, 1846-1851, National Archives Microfilm Publication 210, Roll 1, Letters Sent, Volume 6, pp.177-78; Congressional Globe, 31st Congress, 2nd Session, 1850, pp. 78-84.

26. Rebert, La Gran Línea, 60. Emory’s Camp Riley was named after the senior military officer in California, General Bennett Riley. There were a number of other camps established by the members of the boundary commission over the two years it took to complete the California boundary. Weller set up his headquarters near the site Punto de los Muertos on the future site of New Town. Gray and Salazar established their camps near a fresh water creek south of Emory’s camp on the road to Lower California. Gray named his camp “Rough and Ready” and Salazar called his “el primero campo.” Captain Hayden and the infantry’s located their camp east of Gray’s. The Dragoons set up camp further south on the Arroyo de Tia Juana east of the road to Lower California. In September Gray relocated his camp closer to the initial point on the Arroyo de Tia Juana. See Gray’s plan of the port of San Diego, “Topographical Sketch Southernmost Point of the Port of San Diego,” SED34, 1:55; José Salazar Ylarregui, Datos de los trabajos astronómicos y topográficos, dispuestos en forma de diario, practicados durante el año de 1849 y principios de 1850 por la Comisión de Límites Mexicana en la línea que divide esta República de la de los Estados-Unidos (Mexico City: Imprenta de Juan R. Navarro, 1850), 15 and map; History of San Diego County, ed. Carl H. Heilbron (San Diego: The San Diego Press Club, 1936), 80.


29. Ibid.


34. Journal of the Joint Boundary Commission, October 8, October 10, 1849, SED 119, 58-59; Rebert, La Gran Línea, 64.


41. Although nothing appeared in official records about this incident, three different members of the boundary commission wrote about the shooting in their letters. See Hiram H. Robinson to The Cincinnati Enquirer, November 3, 1849; George Clinton Gardner, The U.S. Mexican Boundary Survey: Letters from the Field, 1849-1854, ed. Jane Lenz Elder and David J. Weber (forthcoming); “Robert Patterson Ehinger, Letters from San Diego, 1849,” ed. Carol Judith Schille (master’s thesis, San Diego State University, 1986), 118-14. Weller’s health evidently experienced more than one set back while serving as boundary commissioner in San Diego. According to a New York Daily Tribune article, March 11, 1850, he received another injury the previous July due to the accidental firing of a shot gun while on a reconnaissance in the mountains. None of the San Diego correspondents cited above reported this July incident.


43. Ibid.

44. Congressional Globe, 31st Congress, 2nd Session, 1850, 78-84.

45. Norris, William H. Emory: Soldier-Scientist, 95-96; Clayton to Emory, November 23, 1849, Ewing to Weller, December 19, 1849, Ewing to Emory, January 8, 1850, SED 34, 1:12-18.


Boundary Survey Team,” 190-91.
49. Ibid.
50. Ibid.
51. Ibid.
52. Ibid; Congressional Globe, 31st Congress, 2nd Session, 1850, 78-84.
53. Canby to Emory, January 28, 1850, Records of the 10th Military Department, Microcopy 210, Roll 1, Letters Sent, 6:298-99; Emory to Ewing, August 20, 1850, Emory to M. L. McKennan, October 2, 1850, U.S. National Archives, Records Group 76, Inventory Entry #425, Letters Received from the Fourth U.S. Commissioner, 1849-60; Alex H. H. Stuart to D. R. Atchison, January 18, 1853, U.S. Senate Executive Document No. 6, 33rd Congress, Special Session, (Serial 688), 29-30. In summary, after an initial funding of $33,325 in February 1849, the Pacific coast phase of the U.S. boundary commission work received no additional financial support from Washington until Emory returned to the capitol in October 1850.
54. Hardcastle to Jimenes [sic] and Jimenes [sic] to Hardcastle, February 23, 1850, SED 119, 72-73.
55. Hardcastle to Blunt, April 3, 1850, Henderson Collection, MSA SC 501, Maryland State Archives, Annapolis, Maryland.
56. Declaration of W. H. Emory and Jose Salazar Ylarrequi, February 26, 1850; Emory to Ewing, April 3, 1850, in SED 34, 2:8, 13-18.
58. Hardcastle to Emory, May 2, 1851, U.S. National Archives, Records Group 76, Inventory Entry #425, Letters Received from the Fourth U.S. Commissioner, 1849-60. In New York City George William Blunt managed the family business, “At the Sign of the Quadrant,” that specialized in the sale of nautical publications, charts and instruments used widely by mariners engaged in foreign commerce. In addition to assisting his brother with the store, Edmund Blunt served as a member of the United States Coast Survey and was a highly respected surveyor. Along with their father, Edmund March Blunt, they were considered the foremost authorities of American Hydrography in the years prior to the Civil War. Harold L. Burstyn, At the Sign of the Quadrant: An Account of the Contributions to American Hydrography made by Edmund March Blunt and his Sons (Mystic: Conn, Marine Historical Association, 1957), 11-21.
60. Ibid, 163; Daily Alta California, March 14, 1850, 2.
61. Hardcastle & Ramírez Minutes, June 16, 1851; Hall, Drawing the Borderline, 40.