OUR CONNECTION WITH THE PAST:
THE IMPORTANCE OF PRESERVING HISTORICAL RECORDS

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Society builds upon its past. In this time of rapid growth and expansion, land must be recycled and buildings pass through multiple uses in their economic lives. However, without proper records, land owners would not know if their site sits upon a subsiding, or burning, or abandoned coal mine; atop a capped oil and gas well; or at the base of a landslide that wiped out a village a century ago. Records are used as evidence for the movement and settlement of people, the establishment of "dirty" industries such as smelters and foundries, and the excavation of historic mines and quarries. Many forms of public records, such as mining activity; agricultural and industrial censuses; aerial photographs; county road information; tax records; and newspaper accounts can be used to prevent future problems. Historical records become vital for the present and future, and these records can be preserved through accessible and inexpensive technologies. If land developers do not investigate the history of their site, they will not be able to use the property to its maximum potential.

***FIGURE 1*. Historical photos are important records to maintain and preserve. This historic photograph records the discovery of a large fossil palm leaf in a sandstone block at the Coryell Coal mines (Garfield County, CO) in 1907. Photo by H.S. Gale, U.S. Geological Survey Photographic Library Photo No. 285.**

Researchers can visit their local historical society archives and archives of counties and cities to find historical records and historical photos (Fig. 1). City, county, state, and national archives yield business records. The U.S. Geological Survey archives include mining projects, while state and national industrial and agricultural records identify census data. All of these nuggets of information lend credence to researcher's theories or gaps in records. Researchers might access online newspaper archives to seek out official records, or examine the Bureau of Land Management's records to verify prior land use.

In addition to the use of public records and archives to determine the history of land use, these same records can reveal noteworthy land-use activities that reflect the history of science. For example, while researchers were studying the life of Professor Arthur Lakes, the Colorado School of Mines geology professor who discovered the first large dinosaur bones in the American West, they found an article in the *Colorado Springs Gazette* from 1902 about dinosaur tracks located on a ranch in El Paso County, Colorado. According to the article, Lakes discovered the first dinosaur tracks in Cretaceous-aged rocks. El Paso County Assessor's and Treasurer's records and historic maps—in conjunction with Colorado College's rock collection records—proved that a specimen of dinosaur tracks used as landscaping at the college was not "of unknown origin." Because of these records, this valuable historical specimen has now been documented scientifically.

Another important case surfaced in a series of articles Arthur Lakes wrote for the *Colliery Engineer and Metal Miner* during 1895-1896. Although many local Jefferson County residents knew that there was an old placer mining site along U.S. Route 6 eight miles west of Golden, Colorado, they did not know the immensity of the operation until Lakes' illustrated articles revealed the extent of engineering necessary to carry out what must have been a profitable enterprise. Today, Jefferson County Open Space interpreters and developers are working to upgrade the site with proper signage and perhaps will publish a booklet about the historic mining operation. To define boundaries and ownership, the open space property managers must delve into property records and title transfers of every claim at the highly visited site.

The presence of historic metal, gypsum, limestone, and coal mines are often ignored by eager property developers. County planners must investigate such geologic hazards before they ever permit development. County records and maps will usually show the presence of mines, often in some detail. The Colorado Geological Survey maintains a database of abandoned mines, particularly those related to subsidence. The Colorado State Archives maintain a list of all mining companies that were registered in the state. All one has to do is look (usually downstairs). The Colorado School of Mines also maintains a complete historical mine map archive along with accompanying literature.

Recently, during the development of what was thought to be "pristine" ranch land in Jefferson County, a bulldozer operator hit an oil gusher! He had uncapped one of the first oil wells drilled in 1902 in the Denver basin—long since abandoned and with no record on file in the state oil and gas division. However, the well had been documented both by Arthur Lakes in economic geology articles when it was drilled, as well as in newspapers of the time.

Historical aerial photos (Fig. 2), such as those taken by the USDA Forest Service and the USDA Soil Conservation Service (SCS) in the 1930s and 1940s, are invaluable for interpreting site development. The SCS is in the process of digitizing their county soil maps in one the largest digitization projects ever attempted. One landscape historian in Montana used a forgotten and unused set of highway department photographs taken between 1910 and 1965 in the state historical society's archives to document "before and now" changes across the state. Armed with the pictures, he demonstrated forest regrowth, population changes, and effects of grazing on the land during the 20th century.

***FIGURE 2*. This is a U.S. Forest Service aerial photograph of Boulder, Colorado taken in 1938. Aerial photographs reveal the changing landscape of Colorado. Changes in the vegetation and ground cover can be traced over time and the growth of towns and cities can be documented. Image BOW-19, University of Colorado Map Library, used with permission.**

County road record books, which often list the local landowners as the courses of roads were altered, are a great source of information about land development processes. In Eastern townships of the United States, these records, often hundreds of years old, reveal settlers who moved on to greener pastures despite little other evidence noting their presence.

Archival research crosses state and international boundaries. As Ancestry.com spends millions of dollars to post information online, some types of research are becoming easier. Nothing beats a trip to the local County Clerk and Recorder to find land plats, deeds, right-of-way plats, mining claims, and a variety of other filings. The County Treasurer maintains records of who paid how much in taxes, on which piece of property, and when. All one needs is a name to start a search into records on microfilm or in the original grantee/grantor books in the Clerk and Recorder's office. One researcher from California who was trying to determine the wealth of her research subject was amazed with the many pages of information she found about him and his business dealings in records housed in the Gilpin County, Colorado, courthouse vault.

Most counties have kept records for hundreds of years. One shudders to think of the incredible historic loss should the contents of the vaults like those in Colorado's mining centers—such as Gilpin or Clear Creek Counties—be inundated by flood or destroyed by fire. Although transferring the amassed material in a county vault to digital format seems to be a daunting mission, there are several effective approaches.

El Paso County has a large inventory of historical records. These valuable records are starting to deteriorate and need to be imaged in order to preserve them. The El Paso County Records Center approached this project through a solution one of the coauthors (Magginetti) used in high school. Due to budgetary constraints, the teacher had the students design and build a tabletop 35mm film-capture system for large aerial survey maps maintained by county government. This system worked and was much more cost-effective than a planetary camera, which is usually used for this type of large-format documents. A planetary camera is essentially an overhead camera that takes pictures of large pages. The prices of these cameras start at $20,000.

A planetary camera exceeded El Paso County's available budget, so the challenge was to build an imaging system for large historical record books and other documents. The County needed something that would take a picture of whatever was placed on the scanner bed and also compensate for any distortion introduced by the book's binding. These historical books ranged in size from standard paper size (8.5 inches x 11 inches) to old county ledger books (47 inches x 38 inches)—requiring the system to be versatile. After careful study it was determined that a digital camera, with a bit of work, could do basically the same thing as the old 35mm SLR had done in the high school project many years ago.

Today's digital cameras could easily fit the need using a flat-focus lens, (typically a macro lens) if mounted to a suitable stand. Images could be captured as fast as the user could turn the pages to be copied and activate the camera shutter. To that end, the El Paso County Records Center imaging team used a Pentax K200D camera body with a 35mm macro lens, an old Polaroid copystand unit complete with side lights, and basic software to view and capture the digital images.

Instead of creating an image in the camera's memory card, the digital image was captured from the screen and written to the hard drive on a laptop. The digital camera uses a 1600x1200 resolution at high compression which equals to 280 pages per 60 MB. The quality of image is on par with 600-800 dpi at two pages per image (Fig. 3). This system is simple, economical (under $2,000), and capable of capturing 300 pages an hour without taxing the operator.

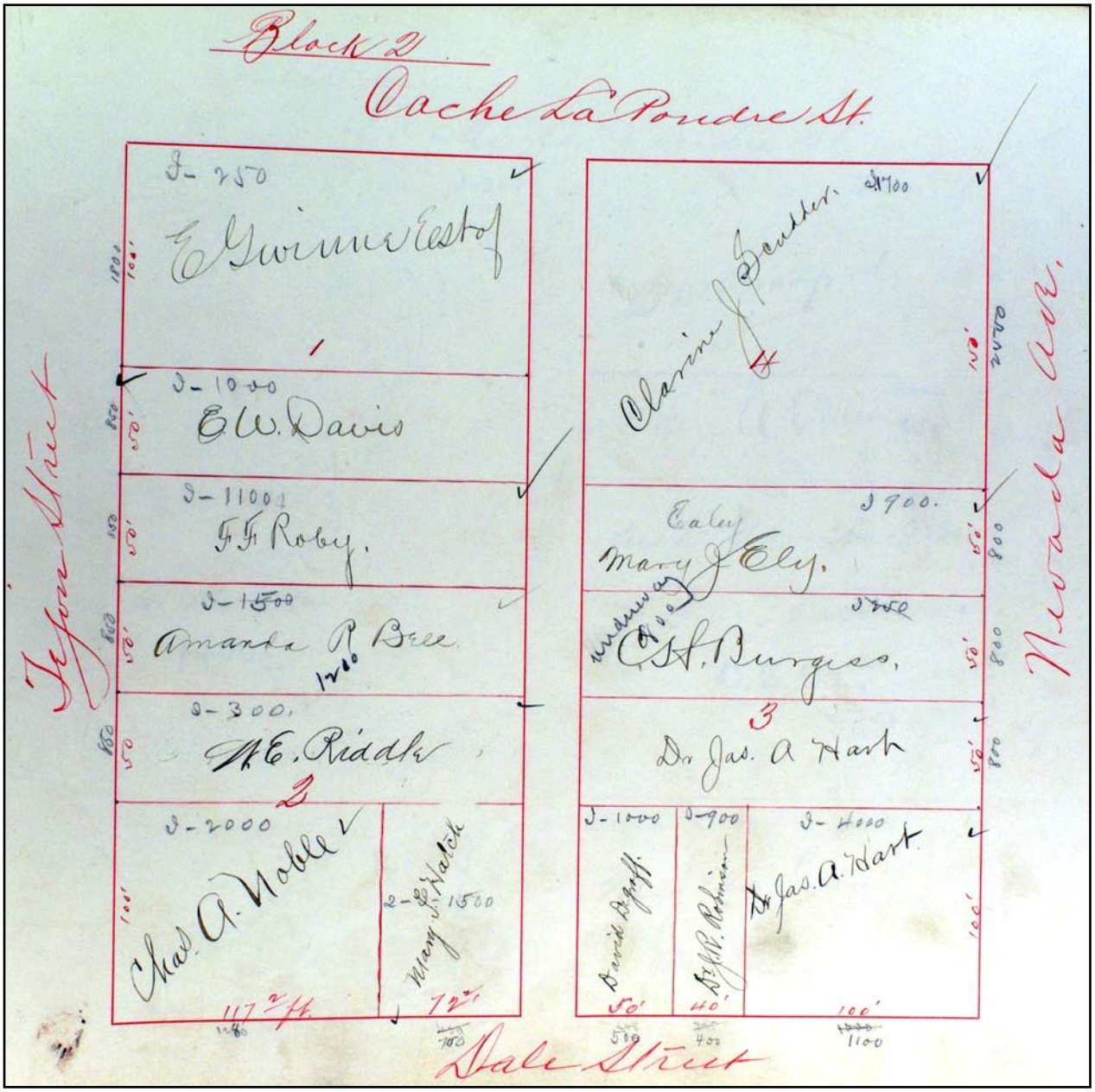

FIGURE 3. **This page is from a late 1890s land record book and shows ownership and property size information from that time period. Historical documents, such as land records from the El Paso County Assessor's Office, are being digitized to ensure their preservation for research. This digitization project will benefit historians, genealogists, family members, land use planners, and others. Photo by Allan Carlson, El Paso County Assessor's Office.**

Records are available through a wide variety of sources; many of them are freely available to the public. These records are necessary to prevent future serious problems in using real property to its greatest potential. Vital historical records can be preserved at low cost. Utilizing creative solutions, county leaders must begin to plan, schedule, and accomplish long-

range historical record preservation. Without accessible archives, society will not be able to study the past in order to build successfully for the future.

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