

EDITORIAL	3
ARTICLES	
Troubled Waters: Timbisha Shoshone, Miners, and Dispossession at Warm Spring Paul J. White	5
Industrial Archeology and Environmental Assessments Michael Bernstein	25
Sugar Mills, Technology, and Environmental Change: A Case Study of Colonial Agro-Industrial Development in the Caribbean Marco Meniketti	53
REVIEWS	
<i>The Man Who Found Thoreau: Roland W. Robbins and the Rise of Historical Archaeology in America</i> , by Donald W. Linebaugh Susan R. Martin	81
<i>The Line of Forts: Historical Archaeology on the Colonial Frontier of Massachusetts</i> , by Michael D. Coe David R. Starbuck	82
<i>Hudson Valley Ruins: Forgotten Landmarks of an American Landscape</i> , by Thomas E. Rinaldi and Robert J. Yasinsac Elizabeth Norris	83
<i>The Industrial Revolution in Shropshire</i> , by Barrie Trinder Steven A. Walton	84
<i>The Carriage Trade: Making Horse-Drawn Vehicles in America</i> , by Thomas A. Kinney Charles K. Hyde	86
<i>Wagon-Making in the United States during the Late-19th through Mid-20th Centuries: A Study of the Gruber Wagon Works at Mt. Pleasant, Pennsylvania</i> , by Paul A. Kube AND <i>The Gruber Wagon Works: The Place Where Time Stood Still</i> , by Carol J. Hunsberger Cameron C. Hartnell	87
<i>The People's Tycoon: Henry Ford and the American Century</i> , by Steven Watts Wesley Thompson	89
<i>White Pine Route: The History of the Washington, Idaho and Montana Railway Company</i> , by Thomas E. Burg John Austen	90
<i>A Century of Subways: Celebrating 100 Years of New York's Underground Railways</i> , by Brian J. Cudahy Mary Lee Baranger	91
<i>Box Boats: How Container Ships Changed the World</i> , by Brian J. Cudahy Martha W. Virts	92
<i>Water, Time, and European Cities: History Matters for the Futures</i> , edited by Petri S. Juuti and Tapio S. Katko Susan M. Ross	94
<i>Things That Talk: Object Lessons from Art and Science</i> , edited by Lorraine Daston James A. Rudkin	96
<i>Werner Hegemann and the Search for Universal Urbanism</i> , by Christiane Crasemann Collins Lake Douglas	97
CONTRIBUTORS	99

COVER: This French industrial encyclopedia depicts a classic vertical three-crusher animal mill. Cane is manually fed between the crushers to extract the juice. See "Sugar Mills, Technology, and Environmental Change: A Case Study of Colonial Agro-Industrial Development in the Caribbean," pp. 53–80.

Troubled Waters: Timbisha Shoshone, Miners, and Dispossession at Warm Spring

Paul J. White

For the majority of Death Valley's prospectors, the only entity proving as elusive and desirable as a profitable mineral deposit was a good water supply. Yet, contrary to perceptions of the valley as a vacant land, miners also found that most water locations had long seen use by indigenous Timbisha Shoshone families who showed little indication of leaving. This article tracks the history of ownership disputes over Warm Spring, a perennial water source located in the southern section of Death Valley, California, where conflicts between a Timbisha Shoshone family and miners began in the late 19th century and lasted into the mid-20th century. The analysis of historic documents and physical evidence permits detailed insights into Warm Spring's different land use and land claiming histories. In addition to identifying difficulties that Native people faced in securing land title, this study reveals how the mining landscape developed in response to Native claims, including how miners used and manipulated property developments to legitimate their control of a valued water source.

Introduction

To those visiting the southern reaches of Death Valley's rugged Panamint Mountains, Warm Spring comes as a welcome surprise. Here, a dense cluster of tall trees, abandoned cinder block buildings, and a swimming pool present an eye-catching sight that promises coveted relief from desert temperatures (see figure 1). Although many remnants are associated with historic talc mining operations, a closer inspection of the camp reveals several aberrant features. Behind the camp buildings, a copse of fig trees and a tangle of grapevines suggest greater permanence than usually associated with mining endeavors. A small 1930s-era gold mill located a short distance away on the valley floor also seems at odds with the talc outcrops worked in the immediate vicinity and visible for 2 miles down the length of the canyon. Most curious of all, however, are the corner stakes of an Indian allotment, dated 1936, located amid a plethora of mining cairns and boundary markers dotting the camp.

Remnants of past land conflicts should be an expected occurrence on mining landscapes. The history of Western mining is indeed replete with accounts of litigation and speculation over a wide range of mineral and nonmineral resources. Lenient resource policies like the General Mining Act (1866, 1872) are well recognized as providing prospectors, land speculators, and industrial capitalists with abundant opportunities to wrest enormous wealth from North America's public lands. Much historical attention centers on disputes among Euroamericans, but the westward expansion of industrial enterprise in the 19th and 20th centuries also went hand in hand with a sustained endeavor to divest Native Americans of their land base.¹

Although dispossession was not a straightforward process, mining companies often ranked as beneficiaries. During the mid-19th century, the federal government funded campaigns to clear newly discovered mineral regions of Native peoples. Legislators in later decades located Indian reservations away from known precious metal reserves and carved mineral lands from existing holdings.² The Dawes Act or General Allotment Act (1887), responsible for decreasing the Native land base by two-thirds within five decades, not only fragmented Indian reservations into units of private property but also transferred additional mineral lands into the public domain under the principle that Native Americans were to become farmers. As noncitizens, Native people were largely prevented from filing under public land laws until the passage of the Citizenship Act in 1924.³

Despite these firm and continuing connections, the examination of longer-term historic interactions between Native Americans and the mining industry has largely evaded scholarly attention. Mining histories and Native American histories share considerable overlap concerning the discovery rush period (1849–1865), when the combined effects of violence, disease, and starvation decreased Native populations

Industrial Archaeology and Environmental Assessments

Michael Bernstein

Phase I Environmental Assessment (EA) is an investigation whose objective is to identify potential environmental concerns, which may be characterized by sampling and analysis during a Phase II EA. Phase I EA investigates the current and historic presence and management of hazardous materials, hazardous waste, asbestos, polychlorinated biphenyls, wastewater, storage tanks, and other items of interest. Soil and groundwater contamination is the ultimate concern. In the practice of environmental due diligence associated with real property transactions, industrial archaeology becomes a for-profit endeavor conducted in an unsympathetic arena.

Introduction

Phase I Environmental Assessment (EA) is the initial evaluation of the environmental quality or integrity of a real property. It is triggered by a proposed transaction (e.g., purchase, foreclosure, or refinancing) and is a standard requirement of the lender, buyer, investor, or other party who has a financial interest in the pending transaction. Should the Phase I EA identify potential concerns, a Phase II EA may be performed in order to characterize those potential concerns by sampling and laboratory analysis. Actions may be taken to mitigate or remediate actual concerns that are confirmed by the results of the Phase II EA. This work is part of the risk-management process known as *due diligence*, where the data objectives and work product are prescribed by the needs of commercial enterprise and the regulatory domain in which it takes place.

The scope of work for Phase I EA consists of field observations and office research. Limited sampling of asbestos-containing materials (ACMs) is commonly included. Indoor air quality, noise, and similar issues related to workplace exposure lie within the realm of industrial hygiene and are not included in the Phase I EA nor are health-related issues of sanitation. Lead-based paint, lead in drinking water, radon, and mold are considerations in most Phase I EA scopes of work for multifamily residential properties but generally not for industrial or commercial properties.

Identifying potential soil and groundwater contamination is the ultimate objective of Phase I EA. The Phase

I report's conclusions and recommendations state whether and why soil, groundwater, surface water, or waste samples should be collected during a Phase II EA. The Phase II scope of work indicates where and how many samples of which substance will be collected, how the samples will be collected, and the chemical parameters for each sample analysis. The analytical results of the Phase II investigation are considered in the context of the applicable regulations and client requirements in order to evaluate whether further action should be recommended.

EAs are applied science and engineering that can dramatically complicate—or terminate—a proposed multimillion-dollar property transaction. For that reason, any of the parties involved may be hostile to the assessment work and to the assessor. Generally viewed by the borrower, lender, or broker as an impediment to business, the experienced environmental consultant knows that science and engineering are only half the battle. The business context in which this work occurs is a vital consideration that must be understood and addressed but, hopefully, without sacrificing the consultant's personal or professional integrity.

Although industrial archaeology is but one facet of this work, environmental consulting provides the opportunity for persons to earn livings in a profession that includes industrial archaeology. Another advantage of this field is that scientists and engineers of various disciplines can find employment in this capacity.

This article is a primer that presents and discusses the basic what, where, how, and why of Phase I EAs at industrial and commercial properties. The regulatory context in which the work is performed is mentioned only in passing.

Phase I Environmental Assessment Defined

In the author's definition, Phase I EA is a geographic inventory of historic and existing features and conditions of potential environmental concern. The elements of the definition are explained below.

Sugar Mills, Technology, and Environmental Change: A Case Study of Colonial Agro-Industrial Development in the Caribbean

Marco Meniketti

Sugar plantation development and environmental change in the Caribbean are examined together through case studies of sugar estates and settlement distribution on a former British colony. The downscaling of production and general abandonment of the island after the mid-19th century left intact an agro-industrial landscape. Relic industrial features provide insights to pivotal economic episodes since the first founding of the colony in the 17th century. Technology, factory architecture, and artifacts were used to assess change over time and for hypothesizing phases of development congruent with socio-economic history in the region.

Introduction

And in their voyage from ye Downes landed att ye Barbadoes which they did not like, nor of Antegoa nor Mount Serratt. They came downe to Nevis ye 22th of July 1628, which Island they thought fittest for their settlement being next to Christophers, from whence they might be better supplied.

—John Hilton, Storekeeper and
First Gunner of Nevis, 1675¹

Colonizing the Caribbean islands by non-Iberian European states during the first quarter of the 17th century was a bold move. Although the Caribbean was largely under Spanish dominion, Spain's preoccupation with developing mainland ore resources and, to a lesser degree, those of the Greater Antilles, left open a window of opportunity among the smaller islands for incursion by European rivals. Lacking mineral wealth, and once depopulated, these islands were easy for Spain to ignore. Newly arrived Dutch, French, and English colonizers in the first quarter of the 17th century concentrated on the production of luxury agricultural commodities. Entrepreneurial colonists also experimented with sugar—already a successful crop on plantations of Portuguese Brazil—but lacked the necessary technical expertise to ensure success. Unlike other commodities, sugar is labor intensive, may take

upwards of four years to mature, and requires considerable technological skill and expertise to produce. Such skills and expertise did not reach the Lesser Antilles until after 1650. The eventual widespread development of sugar among the French and English outposts, however, changed the course of history for the region and nurtured the rise of capitalism as a socioeconomic system against the backdrop of an expanding Atlantic economy. Sugar became so vital to national economies during the 18th century that empires bitterly fought for sugar islands and willingly ceded continental land to maintain their grip on Caribbean real estate.

The fate of individual sugar colonies had ramifications reaching far beyond their shores into the centers of manufacturing and shipping in Europe, and to the slaving ports in Africa. Indeed, many of the important industries of European states were at first driven by their close association with the sugar industry. On these factors there is general agreement among economic historians. Less studied are patterns of settlement and environmental transformation wrought by agro-industrial development on the scattered islands. Moreover, the design and evolution of estate factories corresponding to economic change or technological progress has not been systematically addressed. Development of colonies prior to the 19th century in the Caribbean has often been viewed as haphazard or idiosyncratic, with limited relevance to the study of industrial capitalism. However, similarities in historic trajectories among various islands of different nationalities suggest an underlying structure having broader implications for social history. Systematic study may provide insights into the influences of industrialism, environmental transformation, and regional patterns of settlement. Further, by examining industrial and technological innovation in the sugar colonies, new insights might emerge into the much-debated origins of capitalism and globalization at the dawn of the industrial age.