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Western Mining in the Twentieth Century Series

THE KNOXVILLE MINING DISTRICT, THE McLAUGHLIN GOLD MINE,
NORTHERN CALIFORNIA, 1978-1995

Volume III

David Crouch	HOMESTAKE CORPORATE MANAGER-ENVIRONMENTAL AFFAIRS
Elmer Enderlin	MINER IN FIFTY-EIGHT MINES
Claire Fuller	FULLER'S SUPERETTE MARKET, LOWER LAKE, 1982-1995
Dennis Goldstein	HOMESTAKE CORPORATE LAWYER
Rex Guinivere	HOMESTAKE VICE PRESIDENT-ENGINEERING

With an Introduction by
Duane A. Smith

Interviews conducted by
Eleanor Swent
in 1994 and 1995

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1993-1998

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INTRODUCTION TO KNOXVILLE by Duane A. Smith

Imagine, if you would, what it would be like to have a series of interviews from people of all walks of life from a nineteenth century mining town and district--for example, a Fiddletown, California; a Silver City, Idaho; or a Caribou, Colorado. Would it not be exciting to "hear" first hand the stories of miners, store owners, lawyers, teachers, and a variety of other folks that make up the mining West?

Such a series of interviews would be the perfect answer to the Roman statesman, orator, and philosopher, Marcus Tullius Cicero, who observed more than 2,000 years ago: "History is the witness that testifies to the passing of time; it illuminates reality, vitalizes memory, provides guidance in daily life, and brings us tidings of antiquity." Imagine, then, what the Knoxville/McLaughlin oral history project is going to mean to future generations.

The Knoxville, California, mining district has a long mining history. It started in the 1860s with mercury mining and continued into the 1990s with Homestake Mining Company's McLaughlin gold mine. Under the guidance of Eleanor Swent, and as part of the Regional Oral History Office's Western Mining in the Twentieth Century series, a comprehensive oral history project of this mining district was launched in 1993. These fascinating and significant volumes are the finished projects.

While obviously impossible to go back beyond the turn of the century, interviews were conducted with miners, ranchers, journalists, teachers, and merchants who were in the district before the arrival of Homestake. The words of these people provide an exciting look at a district in transition and decline. Then came Homestake and their world changed.

Some gold mines had been operated here in the nineteenth and twentieth centuries, but they were nothing like what occurred when a major mining company became interested. Homestake's geologists found enough gold to warrant development. The concept would be an open pit mine and mill that would impact Napa, Lake, and Yolo Counties in northern California for a generation and provide for the future.

Five and one-half years went into planning for the McLaughlin gold mine, including 327 approvals needed for the mine's development. Not only were some mining ideas new and ground breaking, but the operation was sitting in one of the most environmentally aware states in the country. Homestake spent over \$283 million in start-up costs, before mining commenced in March 1985. The first year's production of 83,836 ounces of gold showed that the planning and work had been worthwhile from a dollars-and-cents aspect. Homestake was proud of its operation.

"The McLaughlin mine is the site of the first successful commercial application of the autoclave processing technology for extracting gold from ores. The operation began production in 1985 and is a showcase for environmental responsibility."

Homestake would continue to mine the pit into 1996 when mining ceased, except for processing previously stockpiled lower-grade ore to be worked for approximately another eight years, "using a conventional direct cyanide leach process." Reclamation, which has been conducted simultaneously with mining, would also continue into the next century. As Homestake's annual report in 1995 stated, "Reclamation of mine waste dumps is scheduled for completion in the latter part of 1996 with the final placement of top soil and hydroseeding. The planting of oak trees and other indigenous vegetation will continue seasonally until the area is completely reclaimed."

All this makes the oral history project that much more exciting; it was conducted while the district still operated and memories were fresh and riveted on a host of topics and concerns. This multi-volume series covers almost every conceivable aspect and impact--it is a monument to a refreshing, innovative way of approaching mining history.

These volumes provide a case study of twentieth century mining, environmental issues, and regional concerns, the successes, failures, tensions, and developments that go to make up a 1980s and 1990s mining operation and the people involved from all walks of life. They are a gold mine of primary documentation and personal memories of an era that is passing into history. A perusal of the table of contents will give the reader an idea, but the interviews need to be "assayed" carefully to grasp the whole story of what went on at the McLaughlin mine and why its impact was so significant. This is a "high grade" effort all the way.

Cicero would be proud. These volumes do illuminate reality, vitalize memory, and provide guidance in daily life. Without question, they testify to the passing of time and will eventually bring "us the tidings of antiquity."

Duane A. Smith
Professor of History and
Southwest Studies

September 1997
Fort Lewis College
Durango, Colorado

PROJECT HISTORY--Knoxville District/McLaughlin Mine Oral History Project

The development of the McLaughlin gold mine in the Knoxville District of Napa, Lake, and Yolo Counties in California in the last quarter of the twentieth century was a historically significant event. The mines of the district had been major producers of mercury since 1861. In 1888 an official report by G. F. Becker on the quicksilver deposits mentioned the presence of free gold which could be obtained by panning. It took almost a century before this knowledge could be acted upon when Homestake Mining Company signed an agreement with James William Wilder, owner of the Manhattan Mine, in 1978.

Advisors to the oral history series on Western Mining in the Twentieth Century¹ who were also Homestake directors, Professor Douglas Fuerstenau, principal faculty advisor, Clifford Heimbucher, and John Kiely, all urged the Knoxville/McLaughlin oral history project, as did advisor Sylvia McLaughlin, widow of the Homestake chairman for whom the mine was named. It was decided it should be a community oral history, in contrast to the previous volumes in the series which documented individual careers.

The five historically important aspects are: the history of the Knoxville mercury mining district, with its periodic booms and busts; the effects of a large industrial development and influx of technically trained workers in an economically depressed rural area; the efforts to obtain permits to develop a mine near a center of environmental activism; the continuous pressure oxidation system which was pioneered at the McLaughlin processing plant; the reclamation of the mine site. The life of the McLaughlin mine was projected to be about twenty years, and most of the key players were available for interviews. It is a nearly unique opportunity to document the discovery, development, and closing down of a mine while it is happening.

The history of the Knoxville District begins in 1861 with the incorporation of the Redington quicksilver mine, also known as the XLCR or Knoxville mine, then employing as many as 300 men. The town of Knoxville had thirty or more buildings, including a store, hotel, postoffice, Wells Fargo office, school, and cemetery. In 1872 the state legislature transferred prosperous Knoxville Township from Lake County to Napa County, although it is separated from the Napa Valley by mountain escarpments. Lake County was compensated with a one-time payment of \$3500.

¹ Information on the Western Mining in the Twentieth Century oral history series appears in Appendix F, page 334.

In 1869 Knox and Osborne opened the Manhattan Mine on the same lode as the Redington. The Oat Hill or Napa Consolidated Mine was opened in 1872. A report on the metallurgy of quicksilver issued by the Department of the Interior in 1925 says, "In 1874, the Knox continuous shaft-furnace for the treatment of both fine and coarse ores was first used in California." [Bulletin 222, p. 5] The Knox-Osborne design was further augmented by a fine-ore natural-draft furnace developed by mine superintendent Charles Livermore. The district prospered until 1905, for a decade around World War I, and from 1927-1936. Demand for mercury rose during wartime because it was used as a detonator for explosives.

Knoxville was linked by road through Sulphur Canyon with the town of Monticello in fertile Berryessa Valley. Farmers descended from early Scots settlers grew pears, prunes, wheat, and barley and occasionally worked in the mercury mines. After World War II, when California's population was growing rapidly, a dam was built which by 1956 flooded the valley to create Lake Berryessa. It attracted vacationers, and for most of them it was the end of the line. The unpaved road from Lake Berryessa to Knoxville was impassable when rains filled the creek bed. In the other direction, from Knoxville to Clearlake, there was a similar little-used road through Morgan Valley.

Although it is only a few miles from the densely populated San Francisco Bay Area, in 1978 Knoxville township had few telephones, surfaced roads, or bridges. Populated by ranchers, miners, seasonal hunters, and outlaws, it was one of the most economically depressed regions in California, with high unemployment. In 1991, Napa historian Robert McKenzie called it "truly the last frontier of Napa County."

The chronology of the McLaughlin Mine is as follows: in 1961, following publication of a Professional Paper by USGS geologist Ralph J. Roberts, Newmont geologists John S. Livermore and J. Alan Coope found a major deposit of micron-sized gold on the Carlin trend in Nevada. It was economic to mine because of technological advances in explosives and earth-moving equipment, and development of new methods such as heap-leaching for recovery of gold from ore. This led other mining companies to search for similar deposits of "invisible" gold.

In 1969, the National Environmental Protection Act was passed, followed in 1970 by the California Environmental Quality Act.

In the 1970s, "Bill" Wilder, principal of the One Shot Mining Company, was reclaiming batteries for Mallory Company in the furnaces at the Manhattan mercury mine. Environmental concerns had made mercury mining unprofitable, so Wilder was crushing the beautiful colored rock on his property and selling it as decorative stone. An assay from several years before had showed gold was there, but at that time mercury at \$75 a flask was more valuable than gold at \$35 an ounce, the official

price from January 1934, when the United States went off the gold standard, until 15 March 1968.

In August 1971, President Richard Nixon terminated the convertibility of the dollar into gold, and the price climbed to \$800 an ounce in 1980. In 1977, Homestake Mining Company underwent a restructuring and embarked on a program to find a world-class gold mine. Their search revealed geology reports in their files from the 1920s which encouraged exploration at hot springs near the Knoxville mercury mining district of northern California. In 1978 Donald Gustafson, Homestake geologist, visited the Manhattan Mine at the place where Napa, Yolo, and Lake Counties meet. A drilling program revealed an epithermal gold deposit which at this juncture remains unique; no extension or replica has been found in the Great Valley geologic sequence or the Coast Range thrust which were exposed at McLaughlin.

Mining companies are familiar with developing mines in remote and rugged locations, with the attendant logistical problems. In this case, there was the further challenge of obtaining permits to develop a mine in the jurisdiction of three counties, regional and state water quality districts, three regional air quality districts, various state agencies, and the Bureau of Land Management. It took more than five years and cost millions of dollars to secure the 327 required permits which made a stack of paper more than eight feet high. In addition, the ore itself was finely disseminated, fairly low grade, and as it turned out, highly refractory. Traditional methods of beneficiation were ruled out by environmental concerns, so Homestake metallurgists developed a high pressure oxidation system, incorporating technology from South Africa, Germany, Canada, and Finland, which has now been widely copied.

The eventual design was for a mine pit with adjacent crushing plant and a five-mile pipeline to conduct slurry to a zero-discharge processing plant using a variety of technologies, including autoclaves. Reclamation in the mine and on dumps began almost immediately, and at the end of the mine's life, it will be a part of the Nature Reserve system of the University of California, for research by scholars at both the Berkeley and Davis campuses.

In 1991, the Regional Oral History Office began to explore possibilities for funding the Knoxville/McLaughlin oral history. A four-year project was outlined to include about thirty-five interviews averaging three hours each, for a total cost of \$100,000, resulting in a set of volumes covering the mercury mining, the gold mining, and the resulting changes in the surrounding community. The Hearst Foundation granted \$20,000 to document the gold mine, and the Mining and Metallurgical Society of America gave \$6,000 to document the earlier mercury mining. Homestake and Chemical Lime Company each donated \$2,000, which enabled interviewing to begin in March, 1993.

The best laid plans, however, can be changed by circumstances beyond control. One of the first names on the list of interviewees was John Ransone, Homestake's construction project director. He sent helpful background documents in preparation for a scheduled interview; however, before it could be held he died of lung cancer. The project manager for the construction company, Klaus Thiel, in the meantime had been assigned to work in Brisbane, Australia, so he could not be interviewed. Several of the other Homestake people had scattered: James Anderson to Denver, Jack Thompson and John Turney to British Columbia, David Crouch to Salt Lake City, Donald Gustafson to jobs in Namibia and Kazakhstan, Joseph Strapko to Maine. William Humphrey and Richard Stoehr both underwent major surgery. Nevertheless, interviews were conducted with these and others involved in the development and operation of the mine.

Although similar difficulties occurred on the list of community leaders, by 1996 interviews had been conducted with a county supervisor from each of the three counties involved, Napa County planners, the Lake County school superintendent, community historians and pioneers, merchants, and ranchers. Some of the most vocal opponents of the mine were also interviewed.

There is a perception that the former mercury miners are all dead, killed by mercury poisoning. In fact, Dean Enderlin, a geologist at the McLaughlin Mine and also a Napa County native and historian, helped to locate some who were remarkably healthy, and who were interviewed. Elmer Enderlin in his eighties spends summers working at his tungsten prospect in Idaho and winters in Lower Lake. Anthony Cerar, also in his eighties, at the time of interviewing still actively maintained several historic mercury mines, including La Joya and Corona. William Kritikos, operator of the Oat Hill Mine, was nearly seventy-three when he died following a stroke, but was in good health at the time of his interview. Ed McGinnis, who worked around the Reed Mine as a boy, is still active in his seventies. Bill Wilder, who owned the Manhattan Mine, is a relative youngster in his seventies and in good health in Upper Lake.

The project comprises forty-three interviews in all. Two of the interviews were completed as separate volumes in 1996: William A. Humphrey, Mining Operations and Engineering Executive for Anaconda, Newmont, Homestake, 1950-1995, and James William Wilder, Owner of One Shot Mining Company and Manhattan Mercury Mine, 1965-1981. They are bound individually. Subsequent oral histories in the project will be bound into volumes containing more than one interview, arranged in alphabetical order. Supplementary documents are included as appropriate; Volume I contains general information. It is expected that researchers will refer to the entire set for a comprehensive account of the McLaughlin Mine. The oral history of Langan Swent, Working for Safety and Health in Underground Mines: San Luis and Homestake Mining

Companies, 1946-1988, completed in 1995, not part of the project, also contains relevant information.

We are grateful to all of the interviewees for their participation. There are many others who have helped also. Homestake Mining Company has supported the project not only with funds, but also in lending the Regional Oral History Office a computer and printer, and making available for research the archival video tapes and files of newspaper clippings and news releases, as well as the environmental studies, the environmental impact report, and the environmental impact statement. Early on, a day tour of the property and box lunch were provided for a van load of ROHO staff, interested students, and faculty from the University of California at Berkeley. The conference room at the mine and the San Francisco offices at 650 California Street have been used for interviewing.

James Jensen made available his extensive files on mercury mining and processing and mercury poisoning. Anthony Cerar led a vigorous hike around the Knoxville mine site, identifying foundations of long-gone buildings and workings. John Livermore conducted a tour by jeep of the Knoxville district, and suggested the importance of the Morgan North papers at The Bancroft Library. Staff members gave help at the Napa Register, the Napa Museum, the Sharpsteen Museum in Calistoga, and the Lake County Museums in Lower Lake and Lakeport. Professor Duane Smith, mining historian at Ft. Lewis College, Durango, Colorado, wrote an introduction for the first volume of multiple interviews. Professor Greg Wheeler of Sacramento State University has given valuable advice, and staff members of the California Division of Mines and Geology Les Youngs, Ron Churchill, and Kathleen Twomey have provided photos and graphs.

The tapes of all the interviews are available for study at The Bancroft Library. The completed volumes will be available at The Bancroft Library and in the Special Collections at UCLA.

Eleanor Swent, Project Director
Knoxville District/McLaughlin Mine
Oral History Project

February 1998
Regional Oral History Office
The Bancroft Library
University of California, Berkeley

Knoxville District/McLaughlin Mine Oral History Project

William Humphrey, *Mining Operations and Engineering Executive for Anaconda, Newmont, Homestake, 1950 to 1995, 1996*

William Wilder, *Owner of One Shot Mining Company: Manhattan Mercury Mine, 1965-1981, 1996*

The Knoxville Mining District, The McLaughlin Gold Mine, Northern California, 1978-1995, Volume I, 1998

Anderson, James, "Homestake Vice President-Exploration"

Baker, Will, "Citizen Activist, Yolo County"

Birdsey, Norman, "Metallurgical Technician, McLaughlin Process Plant"

Bledsoe, Brice, "Director, Solano Irrigation District"

The Knoxville Mining District, The McLaughlin Gold Mine, Northern California, 1978-1995, Volume II, 1998

Cerar, Anthony, "Mercury Miner, 1935-1995"

Ceteras, John, "Organic Farmer, Yolo County"

Conger, Harry, "President, Chairman, and CEO, Homestake Mining Company, 1977 to 1994"

Corley, John Jay, "Chairman, Napa County Planning Commission, 1981 to 1985"

Cornelison, William, "Superintendent of Schools, Lake County" (Includes an interview with John A. Drummond, Lake County Schools Attorney)

The Knoxville Mining District, The McLaughlin Gold Mine, Northern California, 1978-1995, Volume III, 1998

Crouch, David, "Homestake Corporate Manager-Environmental Affairs"

Enderlin, Elmer, "Miner in Fifty-Eight Mines"

Fuller, Claire, "Fuller's Superette Market, Lower Lake"

Goldstein, Dennis, "Homestake Corporate Lawyer"

Guinivere, Rex, "Homestake Vice President-Engineering"

Knoxville/McLaughlin Interviews in Process:

Gustafson, Donald, "Homestake Exploration Geologist"

Hanchett, Bonnie, "Owner and Editor, Clearlake Observer"

Hickey, James, "Director, Napa County Planning Department"

Jago, Irene, "Lower Lake High School Teacher"

Jonas, James, "Bulk Fuel Plant Owner, Lower Lake"

Koontz, Dolora, "Environmental Engineer, McLaughlin Mine"

Krauss, Raymond, "Environmental Manager, McLaughlin Mine"

Kritikos, William, "Operator, Oat Hill Mine"

Landman, John, "Rancher, Morgan Valley"
Lyons, Roberta, "Journalist and Environmentalist"
Madsen, Roger, "Homestake Mechanical Engineer"
Magoon, Beverly, "Merchant and Craft Instructor, Lower Lake"
McGinnis, Edward, "Worker at the Reed Mine"
McKenzie, Robert, "Photographer and Local Historian, Napa County"
Moscowite, Harold, "County Supervisor, Napa County"
Onstad, Marion, "Morgan Valley Rancher, Homestake Secretary"
Parker, Ronald, "General Manager, McLaughlin Mine, 1988-1994"
Purtell, Patrick, "General Manager, McLaughlin Mine, 1994"
Stoehr, Richard, "Homestake Vice President and Director"
Strapko, Joseph, "Homestake Field Geologist"
Thompson, Jack, "General Manager, McLaughlin Mine, 1981-1988"
Thompson, Twyla, "County Supervisor, Yolo County"
Tindell, Avery, "Capay Valley Environmentalist"
Turney, John, "McLaughlin Metallurgist: Pioneering Autoclaving for Gold"
Underwood, Della, "Knoxville Rancher, McLaughlin Mine Surveyor"
Wilcox, Walter, "County Supervisor, Lake County"

Regional Oral History Office
The Bancroft Library

University of California
Berkeley, California

Western Mining in the Twentieth Century Series
Knoxville/McLaughlin Project

David Crouch

HOMESTAKE CORPORATE MANAGER-ENVIRONMENTAL AFFAIRS

Interviews Conducted by
Eleanor Swent
in 1994 and 1995

Since 1954 the Regional Oral History Office has been interviewing leading participants in or well-placed witnesses to major events in the development of Northern California, the West, and the Nation. Oral history is a method of collecting historical information through tape-recorded interviews between a narrator with firsthand knowledge of historically significant events and a well-informed interviewer, with the goal of preserving substantive additions to the historical record. The tape recording is transcribed, lightly edited for continuity and clarity, and reviewed by the interviewee. The corrected manuscript is indexed, bound with photographs and illustrative materials, and placed in The Bancroft Library at the University of California, Berkeley, and in other research collections for scholarly use. Because it is primary material, oral history is not intended to present the final, verified, or complete narrative of events. It is a spoken account, offered by the interviewee in response to questioning, and as such it is reflective, partisan, deeply involved, and irreplaceable.

All uses of this manuscript are covered by a legal agreement between The Regents of the University of California and David Crouch dated March 4, 1994. The manuscript is thereby made available for research purposes. All literary rights in the manuscript, including the right to publish, are reserved to The Bancroft Library of the University of California, Berkeley. No part of the manuscript may be quoted for publication without the written permission of the Director of The Bancroft Library of the University of California, Berkeley.

Requests for permission to quote for publication should be addressed to the Regional Oral History Office, 486 Library, University of California, Berkeley 94720, and should include identification of the specific passages to be quoted, anticipated use of the passages, and identification of the user. The legal agreement with David Crouch requires that he be notified of the request and allowed thirty days in which to respond.

It is recommended that this oral history be cited as follows:

David Crouch, "Homestake Corporate Manager-Environmental Affairs," an oral history conducted in 1994 and 1995 by Eleanor Swent in *The Knoxville Mining District, The McLaughlin Gold Mine, Northern California, 1978-1995, Volume III*, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 1998.

Copy no. _____



David Crouch, holding musk ox skull.

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INTERVIEW HISTORY--David Crouch

David Crouch was corporate manager of environmental affairs for Homestake when the McLaughlin project was begun, and so was directly responsible for obtaining the more than 300 permits needed for a mine. By the time I wanted to interview him, Dave had gone to work as director of environmental quality for Kennecott Corporation in Salt Lake City, and we arranged to meet when I visited my daughter there. The invitation letter was sent in September 1993. We conducted the first interview on 23 February 1994, following a planning session, and the second on 5 December 1995; both times in the Kennecott headquarters offices across the street from the Mormon Temple. He has now moved to Cleveland, OH, where he is director of environmental affairs for Cleveland-Cliffs, Inc.

David Crouch is a Southerner and a graduate of the U.S. Naval Academy; he fits the twin stereotypes of impeccable courtesy, good grooming, and perfect posture. He later received the Master's degree in Public Health at UC Berkeley, thus combining in his career the family traditions of engineering and medicine. His children attended a French bilingual school in Berkeley and family holidays are usually spent in France. He enjoys people and cares about their well-being.

In 1973 he went to work for Utah International in their San Francisco headquarters, reporting directly to the president. He recalls that at that time "environmental quality" was a new concept. He worked with a controversial coal project in Utah, forging an agreement with a federal agency and an association of local governments, which was the model he followed when he went to work for Homestake in 1980. He describes their environmental protection work then as "fragmented" and says there was "not a cooperative relationship with the regulating agencies." He recalls in detail the organization of the effort to obtain permits for the McLaughlin Mine. Trained in both engineering and public health, and having experience with more than one major mining company, Crouch has a broad perspective on environmental planning in the mining industry; this includes what he calls "the human dynamic." He points to the hiring of Raymond Krauss as one of his best decisions, and delineates the steps taken to change Homestake so that it came to be looked upon as "a very progressive, environmentally aware company."

The tapes of the interviews were transcribed in the Regional Oral History Office, and the lightly edited transcript was sent to Dave Crouch for review. He made several minor clarifications of diction and returned the transcript promptly. The manuscript was corrected and indexed at our office. The tapes are deposited in The Bancroft Library and are available for study.

The Crouch interview is one of more than forty interviews which were conducted by the Regional Oral History Office from 1993-1997 in order to document the development of the McLaughlin gold mine in the Knoxville District of Lake, Napa, and Yolo Counties, California, from 1978-1996, as part of the ongoing oral history series devoted to Western Mining in the Twentieth Century. The Regional Oral History Office was established in 1954 to record the lives of persons who have contributed significantly to the history of California and the West. The office is a division of The Bancroft Library and is under the direction of Willa K. Baum.

Eleanor Swent, Project Director, Research
Interviewer/Editor
Regional Oral History Office

The Bancroft Library
Berkeley, California
March 1998

Regional Oral History Office
 Room 486 The Bancroft Library

University of California
 Berkeley, California 94720

BIOGRAPHICAL INFORMATION

(Please write clearly. Use black ink.)

Your full name DAVID BOWDOIN CROUCH

Date of birth _____ Birthplace LITTLE ROCK, ARK.

Father's full name WILLIAM JUDSON CROUCH

Occupation GEOLOGIST/MINING ENGINEER Birthplace HAMMONSVILLE, KENT.

Mother's full name ESTHER BOWDOIN CROUCH

Occupation - Birthplace ADAIRSVILLE, GA.

Your spouse JACQUELINE M. SMITH

Occupation _____ Birthplace WINNEPEG, MANITOBA, CAN.

Your children NEAL B. CROUCH, CHRISTINA S. CROUCH,
ANDREW S. CROUCH

Where did you grow up? BENTON, ARK / ATLANTA, GA.

Present community SALT LAKE CITY, UTAH

Education B.S. ENGINEERING - U.S. NAVAL ACADEMY

MPH ENVIRONMENTAL HEALTH SCIENCE - UNIV OF CALIF. AT BERKELEY

Occupation(s) DIRECTOR ENVIRONMENTAL QUALITY - KENNELOTT CORP

Areas of expertise ENVIRONMENTAL ASSESSMENT / AUDITS / PERMITS /
LEGISLATION & REGULATION FOR MINING INDUSTRY

Other interests or activities _____

Organizations in which you are active ① NAT. MINING ASSOC. ② AIR & WASTE MANAGEMENT
 ASSOC ③ NAT. ASSOC. ENVIRONMENTAL PROFESSIONALS ④ ENVIRONMENTAL AUDITING
 ROUNDTABLE ⑤ SOC. MINING ENGINEERS (AIME)

INTERVIEW WITH DAVID CROUCH

I VARIED TRAINING IN ENGINEERING AND PUBLIC HEALTH

[Interview 1: February 23, 1994]##¹

Father a Mining Engineer/Geologist

Swent: Dave, I want to talk to you primarily about your work at the McLaughlin Mine, but before we do that, we need background on you and your training, and how you got to McLaughlin. Let's just start with some basic biographical data, where and when you were born and something about your family's background in mining.

Crouch: I was born in Little Rock, Arkansas, and my father was a mining engineer/geologist who operated a small underground bauxite mine. As a matter of fact, as a sidelight, I think he had the one and only underground bauxite mine in the state. You might say I was born into a mining family, but in my early years, I didn't really think about being a miner. I grew up with an ambition of getting into the navy and being an aviator, and I got part of that ambition fulfilled when I went to the [United States] Naval Academy and graduated with a degree in engineering. But unfortunately, my eyesight wasn't good enough on graduation to get into the flight program.

United States Naval Academy Class of 1955

Swent: When did you graduate from the academy?

Crouch: In 1955.

¹This symbol (##) indicates that a tape or a segment of a tape has begun or ended. A guide to the tapes follows the transcript.

Swent: And your birthdate?

Crouch: January 1, 1933.

Swent: You graduated from the Academy in 1955, but you couldn't fly. That must have been disappointing.

Crouch: Well, it was. As a matter of fact, it was to the point that I only served my obligated tour of duty with the service, four years.

I was a contracting officer for construction and non-personal services at an air base, and when I completed my obligated tour, I decided to leave the service and do something else. I wasn't too clear about what at that time. In fact, I'm a little embarrassed to admit that having failed my first ambition, I wasn't quite sure about the second.

Swent: That was 1960 then?

Crouch: Yes, about 1959-60, I think. Yes, four years, so it would have been 1959.

The Insurance Business: Successful but not Satisfying

Crouch: So I had a very good family friend who had been quite successful in the insurance business in Washington, D.C., and with some conversations that we had, I decided I would try the insurance business for a while. And I did do that, and I guess, in retrospect, rather successfully, but it wasn't really a satisfying career.

Swent: Were you selling insurance?

Crouch: Yes. I started out in sales and then went into a management program and eventually became the regional manager for a small life insurance company based in Washington, D.C. I managed the mid-Atlantic region for them, doing work primarily with government and military personnel. So, as I said, even though it was rather successful in terms of monetary rewards, it really wasn't what I wanted to do for the rest of my life, so I made the decision to give it up and to go back to school. I moved to California, where I was accepted into the graduate program in environmental health science.

Environmental Health Science: a New Course at the University of California

Swent: How did you happen to pick environmental health? I didn't even know that it existed at that time.

Crouch: It was a relatively new course at the university, and it was suggested to me by a lady in the--I'm trying to remember what the name of the office was, but on the university campus they had sort of a placement service type of thing which gave counseling on career choices, coursework, and that sort of thing. And I was introduced to her; her name was Virginia Martin, if I'm not mistaken, very nice lady.

After admitting that I really wasn't quite certain of my direction, we had a number of conversations. I took some of the tests and so forth, and then she suggested that based upon my engineering education, and the fact that I had an interest in health issues--which is another part of my family background that I haven't mentioned--that maybe I should go over and visit with this one professor at the School of Public Health who was starting up a new program. That's how I was able to meet Bob Spear, who at that time was an associate professor at the School of Public Health, teaching a course in environmental health science. And it was a cooperative approach between several of the schools, in a relatively new field.

Mother's Family of Health Professionals

Swent: We need to go back, then, and pick up why you were interested in that.

Crouch: Well, my mother's side of the family--. She came from a really large family, and all of the male members, and actually one of her sisters and a cousin, were all engaged in--they were either doctors, medical doctors, or in public health positions. So I'd had that influence and, like a lot of children, I guess my mother, probably when I was younger, hoped that one of us would grow up and be a doctor: "My son, the doctor." [laughs] Well, it didn't happen. My sister finally married one, but at any rate, there was that influence.

And as I said, I think it seemed that the environmental field offered an opportunity to combine some of those interests and do

it in a practical sort of fashion. So that's sort of how that got started.

Swent: And California? Had you been in California at all before?

Crouch: No, I had not been in California before.

Swent: This was just the end of the rainbow.

Crouch: Right. Well, I wanted to get away from what I'd done before and make a clean break of that, so that's what happened.

Swent: From one coast to the other. Did you have any family still in Little Rock, any reason to go back there?

Crouch: No, there really were no family connections to Arkansas. It was just an accident of time and place that my father was engaged in business there at that time. I spent my younger years there, and then I finished high school in Atlanta, Georgia, at a boarding school, before going off to the academy.

Swent: You went to a military academy in Georgia, didn't you?

Crouch: Right. Georgia Military Academy.

Swent: And then the Naval Academy.

Crouch: And then the Naval Academy, right. And then I guess the next sequence of events here would be when I finished the course.

Swent: Yes; this was how long a course at Berkeley?

Crouch: That was--I started that in '72, and finished in '73, about a year and a half altogether.

Master's Degree in Public Health, 1973

Swent: And do you have a master's degree?

Crouch: Master's in Public Health, MPH.

Swent: I'm trying to think what was going on in the world at that point.

Crouch: Well, to me, Berkeley was a very exciting place. I mean, it was quite a change from the Naval Academy and the structured and regimented type of thing, so I found it quite exciting. Probably,

if I'd had a little bit more money, I would have liked to have stayed on and pursued the course a little bit further. But there was the necessity of supporting myself--

Swent: And your family.

Crouch: And the family, right. So when it came time to think about what I was going to do after graduation, there were a number of possibilities that came up. One of them was a position with one of the county planning offices who were engaged in doing some solid waste programs. One of my papers had been on solid waste and they'd been impressed with that, so they had offered me a position.

Then there were a couple of insurance companies who were looking for people to work in the loss control section.

Swent: Loss control?

Crouch: Loss control operations, which is where an insurance company comes in and surveys their client company operations, and make recommendations on safety and health provisions.

A good deal of the program at Berkeley at that time incorporated industrial hygiene, occupational medicine type of subjects. On the campus, I learned that there were some other courses in some of the other schools on environmental design, and one of them, for example, was in the school of landscape architecture. It was a course in environmental assessment and impact.

I guess actually it was environmental impact assessments. It was one of the forerunners of what we call environmental impact statements today. And it was a co-team, co-taught--I'm trying to think of the right term that they used at that time--it was team teaching by Mike Heyman, who was an attorney and later became chancellor of the university, and Bob Twiss, who was a professor in the school of landscape architecture, who was quite active in the early environmental circles. It was an excellent course, and really quite enjoyable.

As it turned out, later on, it seemed like I followed more that line in terms of the work that I did after leaving the university than the industrial hygiene, occupational health aspects of the course.

The Environmental Movement Just Beginning: An Exciting Time

Swent: It's hard to go back and remember. This was twenty years ago. Environmental--the word, even, was kind of new at that time.

Crouch: It was very new. I'm like you; I've stopped thinking about the dates, but--

Swent: There was the ecology movement in the '60s.

Crouch: Just started. At the Washington level, I think 1969 was when they passed the national Environmental Protection Act, which established the foundation for doing environmental impact statements for so-called federal actions. And it was about 1970, I think, when the Clean Air Act was adopted. It was a time when there were a number of things happening, you might say of significance, in the environmental field.

Swent: An exciting time.

Crouch: An exciting time, which I think was fortuitous for me, because the mining industry was wakening up to the fact that being engaged in natural resource extraction and so forth, and the types of activities that affected all sorts of things in the environment, they were being asked to respond to these new sets of values. That created an opportunity for me in terms of employment, because it was through my graduate adviser, Bob Spear, at Berkeley that I learned that Utah International, which was a mining company headquartered in San Francisco, had made a decision to create an environmental quality department. He thought it would be a good fit for my background. And one of the Berkeley graduates from about two years ahead of me had been hired to head up that department.

II UTAH INTERNATIONAL'S NEW ENVIRONMENTAL QUALITY DEPARTMENT,
1973-1980

Reclamation of the Navajo Mine, New Mexico

Swent: What was his name?

Crouch: Leroy Balzer. And so I met Leroy and talked to him about it and became excited about the notion of starting something like this from the ground floor, and was hired. As I said, the interesting thing was that I had expectations of having to do industrial hygiene types of work for the company, but shortly after I came on board, the state of New Mexico passed a new surface mining reclamation act which required all of the coal mines in the state to create reclamation plans.

Utah International operated a very large surface mine on the Navajo reservation in the Four Corners area near Farmington, New Mexico. It was called the Navajo Mine, and it was the supplier of coal to the Four Corners Power Plant. They responded to this new act in a rather cursory fashion, I guess, and it was rejected.

Swent: "They" being Utah?

Crouch: They, being the state of New Mexico. I'm sorry, let me back up a bit. The state of New Mexico came out with this new law and informed all the coal operators that they had to have these new reclamation plans. The local management of Utah International at the Navajo Mine responded in a rather perfunctory fashion, I guess, and they were told, "No, that's not quite good enough." We were going to have to do a much more complete job. And so this news came back to the corporate headquarters in San Francisco, and a newly hired mining engineer and myself were detailed to go to Farmington, New Mexico, and help get a mining permit. To do that, we had to write up a reclamation plan for a large mine.

Swent: Although they were already mining there.

Crouch: They were already mining; had been for a number of years.

Swent: But they needed a new permit.

Crouch: Yes, because of the new regulation, they had to get a new permit. That was really quite a challenge for me because, as I said earlier, that didn't really fit with the main stream of the coursework that I'd had at Berkeley, but it did fall into the secondary area of the environmental assessment process, which was new at that time. So, as it turned out, we did some very exciting things, I thought, at the time.

The Challenge of New Soils Created by a Strip Mine

Crouch: We had a terrific challenge from a technical point of view, because that location is quite arid. It's a rather harsh environment to grow things. The natural level of vegetation there had for years been overgrazed, mainly by sheep. Then we were--in the mining process, we were creating new soils, which were high in sodium values, and, with the very low level of precipitation, it was just a real challenge to get anything to grow. And so we had to cast about and locate people who had done some experimental work in that area. We enlisted the technical services of the US Forest Service, who had an experimental station in New Mexico. We met with some of the people at Colorado State University, who were doing early work on mine reclamation.

Swent: You didn't really have--I guess baseline is the word. You didn't even know what had been there in the first place, did you?

Crouch: Not other than in sort of a hearsay fashion, because there hadn't really been any valid surveys other than, you know, casual observation. There had been a few things done in the Southwest, but not an awful lot. They'd just started that sort of thing.

Swent: So you went around New Mexico, and then Colorado state.

Crouch: Right. Ultimately, we started--we did some baseline work. We hired consultants--range scientists and soil scientists--to go out and do mapping and identification of the soil types, and there was lab work and greenhouse work associated with that. And then we did surveys to identify what was on the property. So we were trying to do--as you said, establish a baseline. That led to some greenhouse experiments that we had at Colorado State. One of the

more interesting things to me was the realization that because we were creating new soils, we had to look for plants that could be adapted to those new conditions. You couldn't just take a plant that was presently growing out on that desert land and replant it into our mine lands and expect it to grow, because there were different conditions.

Swent: You were digging up material from underneath. Is that why the new soil was being created?

Crouch: Well, yes. It was what people commonly called a strip mine. In other words, you--

Swent: You were exposing new--

Crouch: --large surface mine, and several coal seams, and you had to strip off the overlying layers of soil, and they would be cast over behind a large machine called the dragline, and so you created parallel rows of what we termed new soil. When you levelled them out, you had lower soils that in a sense had been turned upside down, and they hadn't been subjected to leaching by rainfall or an oxidation process and so forth, and so they had different soil values in them than what was originally on the surface.

The point that I started to get to that I found sort of a more interesting outgrowth of that process was that we became aware of the work of Howard Stutz, a professor at Brigham Young University in Utah, who had in a sense devoted his professional life to the study of plants that were particularly adapted to the Great Basin area, which are saline sodic soils, you know, with very low precipitation. And he had, in his greenhouse, had begun to do genetic selection of plants that were particularly adapted to these conditions. So at Utah, we entered into a joint program.

Genetics Research with Brigham Young University and Argonne National Laboratory

Swent: At Utah International.

Crouch: At Utah International, with Brigham Young, and we were able to enlist the participation of Argonne National Laboratory to provide some of the funding, and then we started to--using the new soil conditions that we had created at the mine and so forth--we started doing our own genetic program for plant production, to be used in the revegetation of the mine soil. So, as I said, it was really quite divergent from what I had originally envisioned being

the type of work that I would be engaged in, but it was fascinating. We had a chance, I think, to work with some excellent people in the early stages of mine land reclamation, which as you know over the years has evolved into much more of a better understood science. But at that time we were just at the beginning of the learning curve.

Swent: You went down to New Mexico with a companion.

Crouch: Right. That companion was Paul Schipke. Paul was a very interesting young man. He was double degreed in mining engineering and biology. South Dakota School of Mines was one of his schools. I forget what the other one was. He has remained with Utah International. Over the years, it's had some change in ownership, and it's now BHP-Utah. But he's had a very fine career with them, and has been stationed at a number of mines.

Environmental Impact Statements for Mines and Coal Gasification Plant

Swent: So you were really starting with a brand new specialty.

Crouch: Right. Now, coincidentally with the reclamation plan, the Four Corners Power Plant was required to file an environmental impact statement on the operation of the plant and the Navajo Mine was going to expand its operations into new areas of the lease. Since these were tribal lands, they were subject to federal oversight. This was again an action that required an environmental impact statement. And so that was one of my next assignments, was to work with the consultant team in conjunction with the power plant people, and prepare this environmental impact statement for the mine.

Swent: Were the consultants from within Utah?

Crouch: No, they were outside consultants that we hired. At that time, we used Westinghouse Environmental Services as our major consultant. And this was, as I said, a time of great activity and interest in the energy field. And the Four Corners area was set up for a lot of--

Swent: And 1973 was the big watershed year for energy awareness, wasn't it?

Crouch: Right, and we were opening up a new mine nearby, the San Juan generating plant. That also required an environmental impact statement.

Then Utah entered into a partnership with Southern California Gas and Texas Eastern Transmission Company to develop a coal gasification project from the southern part of our lease holdings at the Navajo Mine. That was a major undertaking. We were envisioning a four-unit plant, and each one would consume somewhere around seven to ten million tons of coal a year and would entail pipeline corridors going to the east and to the west, a very large plant, with all of the issues of water usage and air emissions and mining and land disturbance, employment on the Navajo reservation, those sorts of impacts. So this was another environmental impact statement that I was assigned to work on and coordinate the work for. I really spent my early years with Utah International overseeing the preparation of environmental impact statements, almost as a full-time function.

Swent: Did you actually spend a lot of time down there in Farmington, then?

Crouch: Spent a lot of time there on the site, spent a lot of time in Salt Lake City, because the Bureau of Reclamation had offices in Salt Lake. They were designated the oversight agency for the federal government, so we had a great deal of interaction with their team in the preparation of these plans. We had to spend some time in Albuquerque with Public Service New Mexico, for their interest in the area, and also in Phoenix, with Arizona Public Service, because they were two of the primary utility companies that had interests in these operations.

Swent: What ever happened to them?

Crouch: Well, unfortunately, they were never able to come up with a plant design that could produce gas at a price that would be competitive, and so as an alternative, the proponents went to Washington and tried to persuade the federal government that this was new technology that deserved to have some sort of federal subsidy, and that notion never sold, and so the project died a sort of natural death because of economics. There was a competitive project also proposed by another company in the area, and they suffered the same fate, so to speak.

Swent: There were a lot of opponents to the project on all sorts of grounds, as I recall.

Crouch: Well, there were a number of things that were controversial. I mean, having a large strip mine was a controversial thing. This

was a time when the federal government passed, I forget the exact date, but the Office of Surface Mining was created, and the Surface Mining and Reclamation Act was passed by the U.S. Congress. This applied to all of the mining on federal land, which--in the West the majority of the minerals are on federal lands, and so there was a great deal of activity taking place, with participation not only by industry in response to these pressures, but there were a number of citizen action groups and environmental proponents who became active in this and they were concerned about the growth of coal extraction in the West. The Powder River Basin was opening up and these were very large mining operations. I can recall that during that period of time we went from hearing to hearing, you know, in various places up and down the Rocky Mountain states debating this issue.

Swent: A lot of people didn't like the idea of mining on the Indian lands, too. Wasn't that an issue?

Crouch: I think that varied by the different tribal organizations. There were some tribes that welcomed the economic input that it would have. At the Navajo Mine that Utah International operated in New Mexico, if I'm not mistaken, we had--about 85 percent of our total employment was Navajo, and there was a very active program to promote a good relationship between the mining operation and the local tribal people. I think, on a whole, that was a good relationship.

Swent: I wasn't thinking so much of opposition from the Indians. As I recall there were a lot of white supporters of the Indians who were afraid they were being exploited.

Crouch: I think that's probably true.

Swent: There was a lot of heat generated around that issue of the Indian employment, not necessarily from the Indian side.

Crouch: I don't want to misstate this, but I think perhaps the Navajos were a little bit more advanced than some of the other tribal groups in terms of their interrelationships with industrial interests, and people outside the tribe, because they had a number of activities. During that era, they were promoting a major irrigation project in the area, and the tribe operated a timbering, lumber operation, and so--. They were more entrepreneurial and had more business experience perhaps than some of the other tribes. At least that was my view at the time.

Swent: Did you have any involvement in the industrial health issues with the Indians?

Crouch: That was what I was remarking on earlier. I had started out with sort of the expectation that that's where I would spend most of my time. But it didn't work out that way, with the many environmental impact statements and the baseline studies that had to be organized to support them, and the management of the consultant teams that were sent out to the field to collect the data and to write the reports, and meeting with the government officials, and trying to make sure that the company's interests were represented at hearings.

I didn't get back into industrial hygiene things so much at the time, although we did hire an industrial hygienist on our staff in the San Francisco office. As a matter of fact, the whole department evolved from just two or three of us who were there in the beginning into a rather large multi-disciplinary type of office. Perhaps too ambitious, in that respect, we had too many specialists there, so it wasn't economically cost-effective, perhaps, to have that many people on the staff of the company, engaged in their specialties. That was one of the things we experienced in those years.

Swent: You mentioned going to a lot of hearings up and down the Rocky Mountain area. What were these hearings?

Crouch: Most of them were on the adoption of state regulations affecting mining or proposed mining operations. We were there either because we might have held coal leases in the area and our interest was whether or not there would be any impediment to development of those reserves that would be contained in some new regulation or law at the state level. Also, the federal government held a number of hearings just on the whole subject of opening these coal leases up to development, because the federal government held vast reserves of coal in the Western states that were open for bids.

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Swent: --but it was all just coal at that time.

Crouch: At that time I spent almost all of my time in the coal area, but we did have within Utah at that time--

Swent: We have to keep saying "Utah International" because you don't mean Utah state. The Four Corners are Arizona, Utah, Colorado, and New Mexico. So you were dealing with New Mexico, Colorado--

Crouch: New Mexico primarily, but also Colorado. Utah International was at that time an independent company, and it was diversified in terms of its interests. It was primarily a producer of coal, and

major mining operations in the domestic US were what we termed mine-mouth power plant partnerships, where Utah International provided the water supply and the coal, and they entered into an agreement with long-term contracts with utility companies, who would then construct a power plant for electrical power.

The Yampa Project, Colorado; the Trapper Mine

Crouch: The Navajo Mine was already established, but during the '70s, another major project that Utah International had was the so-called Yampa project, which was in northwestern Colorado. That grew into what is now known as the Trapper Mine and--I'm trying to think of what they call that power plant--it's the Craig Station at Craig, Colorado. And again, my good friend Mr. Schipke was engaged in the early development of the Trapper Mine, and I had a role involved with the environmental impact statements and the early permitting for that mine.

Swent: That was a brand new mine opening up.

Crouch: And that was a brand new mine, right from scratch.

Then there was another associate of ours, Wayne Sowards, who's also another South Dakota graduate, a wildlife biologist actually, by training, who worked on that project. We also had a proposed coal mine in southern Utah called the Alton project, and this was in cooperation with Nevada Power Company, who were interested in building a new power plant to supply Las Vegas, primarily. As a concession to the state of Utah, they were going to install a small power plant at St. George. Utah International was to mine the coal and send it through a slurry pipeline to these two power plants.

And the project became quite controversial because it was within the vision range of Yovimpa Point in Bryce National Park. The controversy surrounding that project continued past my tenure with Utah International and eventually, the Department of the Interior declared some of that area to be unsuitable for mining because of its proximity, and the project never went to fruition.

A Joint Environmental Review Committee

Crouch: But it was a fun time, because that was when Mr. Robert Redford was active in the environmental movement in Utah, and his presence was seen down in the Kanab area, where we had monthly hearings and meetings with the local people. So I spent a fair amount of time--well, actually, on a monthly basis for a period of some time, meeting with a group of--I'm trying to think of the term they gave it. It was an association of governments, but it was several county representatives who were involved with this project who formed a joint committee to review the process and to discuss just what we needed to do in terms of baseline studies. We had good support from the local citizenry there; they were quite interested in the economic benefits that they saw coming from a project like that.

Swent: That's very interesting, because I thought that the cooperation of the counties for the McLaughlin project was something very new, but here you're talking about county cooperation in Utah.

Crouch: I don't want to jump ahead, Lee, but actually, we worked out a joint agreement between the Bureau of Land Management, which was the federal agency in the area, and this association of governments in southern Utah. And that became the model that we took when I went--later on, when I went to Homestake, and working on the McLaughlin project in the early days, we used that as an example to talk to the three counties and the Bureau of Land Management in northern California to set up a joint agreement on approaching the environmental studies that had to be carried out for the McLaughlin project.

Swent: So the joint committee worked. Of course the project didn't go through, but--

Crouch: It worked there, but the project never happened, but the process that was set up did work. It functioned quite well, actually. And it provided a good forum for everyone to bring their interests to the attention of the rest of the group, and we were able to talk through issues and identify what the sensitivities were on various parts of the project. In our case, on the Alton project, we made a number of concessions and adjustments to our project planning reflecting the ideas and the suggestions that came out of that group.

Swent: The Bureau of Reclamation was the federal agency.

Crouch: That was earlier in New Mexico. This one was the Bureau of Land Management.

Swent: Land Management, okay. So did the federal agencies have more authority, more power?

Crouch: As a practical matter, they probably did, because most of the land surface in both the state of Utah and the state of Nevada is federal land. The Bureau is for the federal government; they're the landowners.

Swent: They have control.

Crouch: Yes, so I guess it was a matter of fact, you know, they do have that sort of control. They administer grazing leases and other surface rights and for the Alton project, we had not only the mining lease area, where the mining would take place, but we had these utility corridors that had to be created for the pipelines to slurry the coal over. Then there were going to be the transmission corridors that would emanate from the different power plants, so it involved a fair amount of federal surface, and I think it would be fair to say that, as a practical matter, they certainly had control. But in the context of our meetings, you know, essentially everyone had an equal voice. It was--

Swent: Wasn't it a structured meeting with one chairman running it?

Crouch: No, I think if we had a chairman, it would have been the chairman of the Kane County Board of Supervisors.

Swent: These were supervisors from the counties.

Crouch: Right, from the different counties, and Kane County was the site of the mining operation. So they probably were the principal-- they acted as the spokespersons.

Swent: Where did the idea come from for the collaboration among the counties? Do you have any recollection of that?

Crouch: I'm a little bit fuzzy on that because I think there had been some other--it grew out of some of the BLM practices where they had set up advisory committees on different issues. That's my recollection, that it was an outgrowth of that experience that they'd had there.

Swent: So the operation was successful, but the patient died, is that it? [laughs]

Crouch: Well, I guess that's one way to put it.

Swent: It was a good exercise, right?

Crouch: I guess in thinking about some of the other things that happened at Utah, there were--. One of the things that we did in the environmental department was to draft up a statement of environmental policy for the company. We didn't have one when we started.

A Company Environmental Policy: a Totally New Notion

Swent: I would guess that nobody did at that time.

Crouch: I mean, environmental quality was a totally new notion. And we certainly had operating people in the field who were really not quite certain whether or not to welcome us on the property or not, when we made visits. So you might say they helped give some direction to that. We drafted up some policy statement, and then we instituted a system of routinely visiting our properties and doing what today we call environmental audits.

But at that time we really didn't have a label on it, other than it was a review of what the operations were at a particular property and identification of what we felt were environmentally sensitive aspects of those operations, whether it was an issue of water quality, or dust from the earth-moving operation, or something of that nature. And we did look at safety and health issues at the property, too. We did have--. Excuse me, I need to correct that. The safety issue was carried out by another department. We looked at the occupational health side. At that time, occupational health was an organization that was part of the environmental department.

Reporting Directly to President "Bud" Wilson

Swent: Who did you report to at Utah?

Crouch: The president of the company.

Swent: You were directly under--was it Ed Littlefield at that time?

Crouch: No, Edmund Littlefield was the chairman, and Bud Wilson was the president.¹

Swent: So you reported directly to him?

Crouch: Directly to Bud. And that was, I think--. Again, in retrospect, I think that was a good reporting relationship, because as this whole process of environmental quality, you might say, became established within the corporate structure, we cut across a lot of different traditional lines in that we were engaged in supporting exploration and development of new properties by the creation of baseline reports, helping facilitate the permitting process, and the writing of environmental impact statements. But for the operating properties, we were engaged in supporting them with assistance with their reclamation plans, permitting issues that might arise, monitoring programs, making suggestions as to things that they could change or adopt in their way of operation to minimize environmental effects. And then we started doing this sort of auditing function in which we would make suggestions about changes that we felt should be adopted. And so, having the reporting relationship that we had with the president, gave us, you might say--

Swent: Authority?

Crouch: Well, yes, authority, or at least the entrée to cut across traditional organizational lines and do these different things. I think it helped make the job, facilitated the job, made it a little bit easier.

Swent: Were there people at the sites that would just as soon not have you around?

Crouch: It's probably fair to say that in the beginning, we had some mine operators who may have viewed this as a little bit of interference in their prerogatives, but fortunately, that sort of thing wasn't really that common, and it didn't persist. There was a gradual-- you might say recognition--that things had to be done differently, and the operators recognized that responding to these sorts of interests and new demands was a part of doing business and it had to be integrated into their operation. So that was, I think, that was something that sort of evolved.

Swent: Had Utah been in mining for a long time?

¹Alexander M. Wilson, Regional Oral History Office, University of California, Berkeley, oral history in progress 1998.

Crouch: Utah International? They had some old mines. The coal mines were relatively new. In the state of Utah, they had an old open pit iron mine near Cedar City. As a matter of fact, we helped close that and reclaim it while I was there. They had uranium operations in the state of Wyoming, which had been there for a number of years.

Island Copper Mine, Canada: Classic Case in Marine Discharge

Crouch: One of their newer mines was the Island Copper Mine on the northern tip of Vancouver Island in Canada. And that was an interesting property to work with.

Swent: In Canada, did you have the same environmental regulations?

Crouch: No, we didn't at that time, but because of that mine's location, it became the subject of some very detailed environmental studies. It was sitting right on the sound, and because it was in such close proximity to the water, it was decided that the least effects would be felt by a marine discharge of the tailings from processing the ore, rather than impounding them somewhere on the land. That concept was at that time quite new.

There was a great deal of concern as to whether or not you could do that without having negative effects on the marine biota. And so there were very extensive studies that were undertaken in connection with BC [British Columbia] Research in Victoria. The company was able to demonstrate that there were no deleterious effects from that. The provincial government gave permission to proceed with it, and it's still operating today. It has become sort of a classic case.

And the environmental manager that we had at the time at the property later went on and made a, shall we say, a successful career out of how he did this particular operation and has assisted with doing it in projects around the world. He's currently in private consulting practice in Vancouver.

Swent: What is his name?

Crouch: Clem Pellichet.

Planning for the Norwich Park Mine, Queensland, Australia

Swent: Did you get involved at all in the Queensland operation in Australia?

Crouch: Only indirectly. It's interesting, you bringing it up, because--. I don't know the full history of Utah International's involvement in Australia, but they did develop significant interests in the Bowen Basin Coal Fields of Queensland. I think, as I recall, when I left, they had five large mines, a marine terminal for shipping.

At one time Utah International had its own fleet of ore-carrying ships, and the only connection that I personally had to that was for the development of one of their mines, the Norwich Park Mine. We had to do an environmental impact statement for establishing a mining community. It was in an isolated area where there weren't any community facilities and infrastructure, and it was at a time in which, politically, it wasn't deemed advisable for very many Americans to be employed or engaged in Australia. And so we did the environmental studies through a consultant firm out of Sydney, and I oversaw that from the San Francisco office. I didn't get to visit the property.

Swent: Jim Curry gave me a book that was written by an Australian about the political process of getting those coal mines going. It was fascinating. [Brian Galligan, Utah and Queensland Coal, A Study in the Micropolitical Economy of Modern Capitalism and the State, University of Queensland Press, St. Lucia, Queensland, Australia, 1989]

Crouch: It was quite a feat, actually. And it was a very significant part of Utah International's business. It was somewhere on the order of--80 percent of our gross revenues came out of Australia. Most of that was destined for the Japanese steel market.

Swent: A very big project.

A Task Force to Analyze Coalfields

Crouch: I guess maybe the next, shall we say, sort of significant step in terms of career development for myself with Utah International was a decision by the company to seek to secure a domestic market position in the eastern coalfields of the eastern United States. Up to that time, everything had been in the western states.

So a decision was made to establish an exploration office in the eastern United States, and that was in Knoxville, Tennessee. I was assigned to a management team to investigate the feasibility of becoming actively engaged in coal mining operations in the East. We had a team that was made up of someone from the marketing department, a geologist, a finance person, myself for the environmental side of it, and a mining engineer, I believe. We were tasked with visiting all of the coal regions in the eastern United States and the Midwest, and assessing just what would be entailed with getting the company established in the business locally.

So we each had our own interest to look at, but my part of it was to do an analysis of the regulations that would apply to a mining operation and, generally, what the political climate was: was it receptive to a new mining interest coming into the state? And also to make some evaluations of properties that were submitted to us for purchase, as to whether or not they had environmental liabilities attached to them and that sort of thing. So there was a period of time there which, again, I spent--quite a bit of my time was devoted to being on the road, visiting these different states, and so forth.

Swent: What states did you go to?

Crouch: Every one in the East and Midwest that had coal interests: Illinois, Indiana, Kentucky, West Virginia, Virginia, Tennessee, Alabama, even Mississippi. I was surprised that Mississippi had some coal, but they did.

Due Diligence on the Peabody Coal Company

Crouch: It was about this time that Utah International had the opportunity to make a bid for Peabody Coal Company, which is one of our largest coal companies, and they did that in a joint effort with Kaiser Engineering, and I was on the due diligence team assigned to assess the potential environmental liabilities or concerns that might be attached to Peabody's operations, and that was an interesting job, too.

Swent: A huge thing, wasn't it?

Crouch: Well, there were fifty-two mines at that time that Peabody operated around the country, and I think I got to twenty-some-odd of them in about a three-week period. It was quite a task.

Swent: Utah didn't get it eventually.

Crouch: No, they didn't. As a matter of fact, Peabody is now owned by someone else, but it has gone through some changes, too, over the years.

Swent: But you were involved in that.

Crouch: Yes. And the other things that happened to Utah International were that they were taken over by General Electric, in a friendly acquisition you might say, that was, I think, probably engineered by Ed Littlefield, who was the chairman, who sat on General Electric's board and was a very close friend to Reg Jones, who was chairman of General Electric. And then subsequent to my employment at Utah International, General Electric decided that they didn't want to be in the mining business and so Utah was then sold off to BHP, which is an Australian company, and that's how they're currently operating.

Swent: So when you first went to Utah, were they--

Crouch: It was an independent company.

Swent: And then it went with GE while you were working there.

Crouch: Went with GE while I was there, and then I left before the GE merger was spun off.

Swent: Did that change of ownership at that point affect you very much?

Crouch: No, not really. It created some changes in the executive circles because there was a different relationship now. We were a wholly-owned subsidiary of a very large corporation which had its own culture, and so I think the main pressure was felt, you know, by the senior executive group who had these new reporting requirements. I suppose there may have been some lessening of the entrepreneurial approach to projects, because now everything had to be--. You had this extra level of review and so forth, and people didn't feel that they had the latitude perhaps to make decisions on project development that they had when we were--

Swent: I wonder if the environmental concerns would be any different.

Crouch: We didn't really feel any difference there, and for their part, it was our perception that General Electric was one of the more forward-thinking companies in that regard, among the major corporations of the country. They have tremendous interests in a whole variety of different fields, and as a result they were certainly exposed to pressures about environmental compliance and

permitting and that sort of thing. They had developed their own in-house programs for that.

Swent: Did you have any contacts with them?

Crouch: Very limited, in my tenure.

Swent: So it was mostly coal.

Crouch: Mostly coal with, as I said, some oversight participation in the uranium operations. Because of that early experience of working on the reclamation plans, we had within our own department group, we had sort of an informal technical committee approach to examining problems and issues and things. I chaired our in-house group on reclamation issues. For each one of the operating properties, we had to have a reclamation plan, and I worked with that. But it was--yes, I guess I spent more time on the coal properties just because of the nature of the operations that Utah was engaged in.

Swent: The solid waste, your solid waste concentration. At that point you weren't doing much with that.

Crouch: It was just starting. In the late '70s--I think about 1976 was when the Resource Conservation and Recovery Act that we referred to as RCRA (the acronym) was enacted, and that was the federal government's first attempt to regulate solid waste issues. One of the early things that the mining industry had to face was whether or not mining waste would be regulated as a hazardous waste.

Swent: But you had done something with solid waste in your university studies.

Crouch: Yes, that's true. That was geared towards the problem of disposing. That was a solid waste project on municipal landfill operations.

Swent: Right, but then you kind of put that aside for a while and then got back to it.

Crouch: True, that sort of came around, but solid waste in the mining context was something quite different from, you know, municipal waste or landfill. That whole issue of how mining waste might be regulated under a federal system became a major focus for the mining industry in terms of their participation in the public process, lobbying and that sort of thing in Washington with the Environmental Protection Agency and the Congress. It was a process that began in the late '70s and continues to this day. I did start participation in that.

American Mining Congress Environmental Committee Work: Getting Most Mine Waste Classified by EPA as Non-Hazardous

Crouch: I had an early participation in the American Mining Congress environmental committees, which became active during the '70s. And one of the first things we had was we formed a reclamation technology committee, and that was quite active in the '70s, because reclamation was a real issue for most of the country, more focussed on the coal mining sector than the hard rock sector, because there was a federal law that was enacted that required reclamation, and they didn't do that for the hard rock sector. That was why I think in the reclamation field we had more involvement with coal mining operators than we did with the rest of the mining industry.

Swent: When did you first get involved with the Mining Congress? Was this when you were at Utah?

Crouch: Yes, yes, it would have been probably in the mid-'70s: '74, '75, something like that.

Swent: That's when it all began to bubble, didn't it?

Crouch: Right. We had a number of committees: there was a water committee, there was an air committee. In those days, I think the air committee was focussed more on power plant emissions and smelter emissions. The water committee was concerned with discharge limits under the new permitting system that had been enacted. Then we had this reclamation committee at work. Then, when RCRA was passed, the Mining Congress created a solid waste committee, and I became an active member of that committee, also.

Swent: You have a plaque on your wall thanking you for all you've done for representing and coordinating the industry response to mine waste regulation.

Crouch: Well, yes, that came on a little bit later. For seven years, I was chairman of that committee, from 1985 to 1992. And during that time, we were successful in getting a determination by EPA that most of the mining waste would not be regulated as hazardous, and that was a landmark decision that was upheld by the courts. We formed a dialogue committee with EPA to discuss the whole issue of mining waste, which involved the federal government, the environmental community, and the mining community. We just had a number of things that happened during that time. They've all been exciting times, but it's something that--as I said, it's still going on. It hasn't really come to a close yet.

Swent: No, it won't. So you started to work for Utah in, did we get the year?

Crouch: Let's see. That would have been 1973.

Swent: And you were there for--

Crouch: I was there through 1979, and then in 1980, I had the opportunity to talk to Homestake about a position as a corporate manager for environmental. And that was certainly an appealing prospect to me, because I felt like I made good progress with Utah International, and was interested in going further and having a little more control over directions that we took, and so forth. So when that opportunity came along, it was one of those I felt I couldn't pass up.

III HOMESTAKE MINING COMPANY, CORPORATE MANAGER FOR ENVIRONMENTAL AFFAIRS, 1980

[Interview 2: December 5, 1995]##

Homestake's Fragmented Environmental Activities

Swent: We stopped, as I recall, when you were just hiring on at Homestake. You were still working at Utah.

Crouch: Right. That would have been the fall of 1979. And I became aware that Homestake was interested in having a corporate manager for environmental, and so I contacted Langan Swent, who at that time was vice president of engineering, I think, and I forget the rest of it, but there were several departments that reported to Langan.¹ And made it known to him that I might be interested in being considered as a candidate for that position, and we had several meetings during the fall.

Swent: Where did you meet?

Crouch: The first meeting I had with him? Would have been in his office. That was the Hartford Building at that time, at 650 California Street.

Swent: You were just next door.

Crouch: Ironically, yes. I was working at Utah International then, which was at 550 California [Street], so it was a big move! [laughter]

Crouch: Unlike most career moves, this was one that didn't go too far.

¹Langan W. Swent, Working for Safety and Health in Underground Mines; San Luis and Homestake Mining Companies, 1946-1988 in two volumes, Regional Oral History Office, University of California, Berkeley, 1995.

Swent: Convenient for everybody.

Crouch: Right. But anyway, I met Langan in his office, and as I said, we had several meetings, and it culminated in an offer which I--

Swent: What sorts of things did he probe you about? Or did you bring to the job?

Crouch: Well, I don't recall specific questions that he asked me, but we did discuss the basic things about educational background and experience in the types of projects that I had worked on at Utah. And I tried to convey what I thought that I could offer to Homestake in terms of helping them set up the department.

Swent: What was that?

Crouch: Well, I had had the experience at Utah of being one of the first hires in the environmental department, and that would have been in 1973, I think, right out of Berkeley. And it was a time when the environmental movement was just getting started, and Utah had recognized that they needed to, you know, have an organized approach to responding to issues and permit requirements and that sort of thing which were beginning to happen. And so I had gone through the experience, you might say, of forming and helping build a department and working within that framework for another mining company, so that was the parallel. And as it turned out at Utah, I spent a great deal of my time working on the development of new projects. It was a growth period for the coal industry in the seventies, and Utah had a number of major projects that were coming on line at that time.

Swent: We have talked some about that.

Crouch: My job was to manage the environmental impact statement process for the company and the collection of baseline data, the hiring and managing of consultants, who actually did the field work and did the analysis. So that was the sort of experience that I had.

Swent: And we had talked quite a little about that in the previous interview, too. But what were your concerns about Homestake as a company?

Crouch: Well, one of the concerns that I had was that Homestake had a different commodity mix than what I--I had spent most of my time working with coal properties. And Homestake had underground mining, which was a new experience for me. It was primarily a metal miner, although in those days it was a company with a number of different commodities, so it wasn't--later on it became sort of a single-product company, as it had been historically, as a gold

producer. So I had not worked with gold properties, and that was the principal commodity.

Swent: Did they have any coal?

Crouch: No. But at that time they had uranium. In other words, there was, you might say, an energy group, uranium. And the acquisition of Felmont, which was an oil and gas company, came later on. That was not in the queue when I came on board. They had a precious metal group, a base metal group, the uranium or energy group, and then there was also--at that time, there was still a forest products division up in South Dakota. And I think just before I arrived there or just about that time, the company divested itself of a brick operation. I can't recall the name of it right now.

Swent: Port Costa?

Crouch: Yes, right. It was there in California.

Swent: And they had, earlier, had a coal mine in operation in Wyoming, but I believe that it had gotten--

Crouch: Oh, that was the Black Hills Coal Company. I remember--

Swent: But they had gotten rid of that, hadn't they?

Crouch: Right. They had sold that to the power company up there. Carry-over, I guess, from the earlier days of Homestake Mine, right.

Swent: Was it at this time that they had philosophically decided to concentrate on gold?

Crouch: That decision may have been made in some people's minds, but when I arrived they still had those different divisions, and there were executives for each division. As a matter of fact, that was one of the challenges that I recognized, was that Homestake had been involved with some environmental work, but they had done it in sort of a fragmented style in that each division had someone who was doing those duties. And I felt it would be more efficient and that we could be more consistent with our relationships with the various government agencies if it were centralized. And so that was one of the things that I proposed after I came on board, is that we pull together those people who had been involved, had done some environmental work, and--I can't recall; there weren't too many, but there were three or four, I think, scattered around different locations--and form a centralized department, centralized in the sense of control and direction, not necessarily geographically.

Swent: But authority.

Crouch: But authority, right, yes.

Swent: So hiring you was a step in that direction, I suppose.

Crouch: No, obviously the position was there. And whether it was in Langan Swent's mind as to how it should be done or whether it was others or whether it was a joint decision, that part of the history I'm not privy to. But clearly there was a recognition there that, at the corporate level, they needed someone to give direction to the programs. But that was, I think, a joint view because, as I said, I had had this singular experience at Utah.

Swent: Where it had been centralized.

Crouch: Right. And at Utah, having occurred a decade earlier, we didn't really have the field organization. We just had a few people who were doing things that you might say were environmentally oriented, but they were, for the most part, secondary duties that were assigned, such as doing reclamation work on the mine dumps or something of that nature.

Swent: When you say "environmental"--I think in Homestake at that time it was also combined with safety. Was this a natural combination?

Crouch: Mr. Swent had the safety function as part of his management duties.

Swent: Did you have any?

Crouch: Although I had had training at the university in industrial hygiene and a little bit of safety, I didn't consider myself a professional safety and health person at that time because most of my experience with Utah had gone in a different direction. But at about the same time that I was hired, Homestake also hired a manager for safety and health, who also reported to Langan Swent.

Swent: But it was pretty clearly divided?

Crouch: Oh, yes. There was a clear division between the two.

Swent: So the environmental responsibilities were the permitting and--?

Crouch: Permitting, response to agencies, coordination with trade associations, presenting the company's position with government regulatory agencies.

Swent: What were the trade associations?

Crouch: Well, in those days the major trade association was the American Mining Congress, which was the national trade association for the mining industry. But there were also state mining associations that Homestake was a member of, and all of those were engaged in various levels of--I guess the right word to use would be reaction--towards government efforts to increase the regulation of mining activities. And it was still fairly early, you might say, in the environmental movement, but there was a great deal of activity during the eighties regarding regulation of mining.

Swent: How long a process was this to be hired? Did it take a while for you to decide to accept the job and the offer?

Crouch: Yes, it did. I guess it was a period of probably some four or five months, maybe, from late summer, as I recall, or early fall, and then I made the decision and moved in, I believe, January of 1980.

Swent: It wasn't an easy one to come to.

Crouch: It wasn't, because I had had a very good experience at Utah. I enjoyed the work; I enjoyed the people that I was working with. So it wasn't so much the dissatisfaction with it, but at the same time, I hadn't arrived at the level where I was, you might say, directing a department or directing a particular effort. And Homestake offered that opportunity, so I was able, in my mind at least, to advance myself into a more satisfactory working environment than had I remained at Utah.

Swent: One nice thing was you didn't have to move your family, either.

Crouch: No, no. I think we both benefitted from that. I mean, it was an easy move for me and for Homestake. They didn't have to incur any relocation cost.

Swent: There was some rejoicing about that, I'm sure.

Crouch: Like I said, that was coincidental.

Swent: Right. So you started in, then, and what was your official title?

Crouch: It may have changed once or twice, but essentially it was Corporate Manager for Environmental Affairs.

Swent: Corporate manager, which put you over all those other little fragments.

Crouch: Right. And, as I said, this was one of the earlier challenges, was establishing a relationship with the existing functions that

were in place at Homestake at that time and in a sense making a fundamental change from a system in which people had sort of operated not exactly autonomously but at least pretty much on their own, under the direction of a local operating manager, as opposed to reporting or having direction from a central, corporate position.

The Flagship Mine at Lead, South Dakota: Wastewater Problems

Swent: Can you be a little more specific about one or two of those?

Crouch: Well, for example, at the flagship of Homestake, the Homestake Mine, there was an environmental director who was already on staff.

Swent: And that was in South Dakota.

Crouch: That was in Lead, South Dakota. And he had a small staff of his own, and he tended to the various environmental requirements that that operation was facing, the community relations. But principally, in those days, it was an issue of water quality and the discharges from the mine. The mine in South Dakota had historically discharged tailings from the mill into the local water stream, and with the passage of the Clean Water Act they had to secure a permit and then they were told they could no longer do that, and there was a great to-do about that, and the company resolved the issue by constructing a major tailings impoundment so that they no longer discharged tailings into the creek, which later on became a Superfund site, and that's another story in itself. But, as I said, there were people who were performing the environmental function that was required at that time at that property.

In New Mexico, Homestake had--

Uranium Mines: Highly Regulated Air, Water

Swent: What was your role in that, then? Did you do anything?

Crouch: My role there was first of all just to, frankly, learn what was going on there, what were the programs, what were the requirements, who were the people. And just establish a working relationship with them in such a way where I could make a

contribution and provide, hopefully, some helpful direction where needed.

And the same sort of thing, what I just started to say, in New Mexico. Homestake at that time was operating five underground uranium mines and a large uranium milling operation outside of Grants, New Mexico. And because of the Atomic Energy Act and other government regulations, that was a fairly highly regulated operation. A great deal of monitoring had to take place, both of air emissions and radiation levels and ground water. So there was an environmental director there also. He was also responsible for radiation safety and health, and he had several technicians who did the field work. So it was a similar situation in a different commodity, and, again, the challenge was to establish this relationship, become aware of the needs and requirements of that operation and try to provide assistance and backing and direction for their work.

Swent: So were you doing these things also immediately when you came on?

Crouch: There was an initial period of sort of orientation. I made visits to each one of the operating properties. I met personnel and the staff at each one of them, toured the physical facility so that I had an understanding of just what was going on at that property. I reviewed their environmental requirements, their permit conditions that they had to meet, if there were problems or difficulties in meeting those conditions, to become acquainted with those, and then to get involved in resolution of those issues.

Uncooperative Relationships with Agencies

Swent: Maybe it's too early to ask this question, and maybe you don't even want to answer it, but I was wondering if you'd care to comment on the philosophy as you sensed it at that time at Homestake. Was it just reactive? Were they dragging their heels to do the least they could? Or was there a genuine motivation?

Crouch: It's probably--I guess my impression, at least in a couple of instances, was that it was not a cooperative relationship with the regulating agencies. In a couple of instances, as I recall, as a matter of fact, it was sort of antagonistic, and people really weren't talking to each other in constructive or meaningful ways.

Swent: With the state agencies?

Crouch: With the state agencies, right. And there were some differences with the federal issues. I mean, for example, in South Dakota it was a major decision for the company to make the investment in the water issue there, and they had resisted that for some period of time, I think, in the sense of taking the position that this operation had been there for a hundred years and been doing this and why do we have to change, that kind of thing. And I don't want to be unfair about that because that was fairly typical, I think, in the early days of all industry having to accept the environmental responsibility and the presence of a government agency in a sense telling you what to do and how to run your business. That was not easy to accept.

But, yes, I do recall that in some instances those relationships could be improved on, and that's one of the things that we worked on. We had the attitude that you can work difficulties out better when you're speaking to each other and having a good, open exchange, rather than drawing lines in the sand and getting real antagonistic about it.

Swent: You saw this as part of your function?

Crouch: Yes, I did. I saw that as an important part of my function, to try to resolve those sorts of impasses where they existed and to try to get past that and arrive at a resolution that would be acceptable.

Swent: Was this enunciated to you by anybody else?

Crouch: Not really, no, no. It was just something that sort of evolved about the experience.

Swent: Did these other people have the training that you did, the academic background?

Crouch: It varied. We had one individual who had no environmental training per se. He was more of a public relations-government affairs person, but he was functioning as a, quote, "environmental manager." We had others who had been trained in biological sciences, and so I think in their cases they certainly had the technical background and had acquired the job experience to do the job.

Swent: That was such a new field at that time. It's hard to look back and realize how new it was.

Crouch: Well, that's true. Yes, it was.

Swent: People came to it from all different--

Crouch: And it's probably fair to say that most of us learned a great deal about the job in actual work experience, as opposed to a textbook approach.

Swent: Right. And how much of it involved personal, people relations.

Crouch: Right. I think that goes with any sort of management function. The people part of the equation is the important thing. That's how you get things done. And at Homestake it was never my objective to build a large interdisciplinary department such as the one that I had left at Utah. In retrospect, the Utah experience was a good learning experience in the beginning but I think somewhat misguided in the sense that they established a large, interdisciplinary department which really couldn't justify itself. It wasn't cost-effective. And as it turned out, the needs of the company were such that you could have a person who had a real expertise in a specialty, but it wasn't used on a daily basis. So, at least under the arrangement at that time, some of these people were underutilized, and they were unhappy with that. And, as I said, from the company's point of view, it wasn't cost-effective.

So after I left, I mean, over a period of some time, all of that changed, and they tightened it, but my notion was that you could approach the requirements at Homestake with a very small group of people who had enough experience and skills that they could do a lot of different jobs. And maybe they weren't specialists in a sense, but they were able to get the job done, and that was the approach that I took in setting up an organizational scheme there.

A New Staff Organization

Swent: At first, did you start building up a staff then, an organization?

Crouch: Well, I inherited--as I said, there were people in different positions, people there. And they began reporting to me, and in one or two cases that was not a satisfactory relationship, and in one case, one gentleman decided he did not want to report to someone else, so he made a decision to leave. And, as I said, my notion was to have a small, tight group of people. We hired one individual that I had known previously, who went to--

Swent: Don't be afraid to give names. That's all right.

Crouch: Okay. Let me back up just a minute. The exploration group at Homestake at that time was quite active, and there were a number of different offices and a lot of activities going on. And the environmental work, reclamation of sites and getting permits and so forth, was, I think, generally handled by the field geologists. That meant that these people who were real skilled at chipping at rocks and looking at core and directing drilling programs and making those kinds of decisions had to go down and sit in the local government office and take care of paperwork and try to keep the federal land managers happy or the state people happy.

And so I spoke to Jim Anderson, who was our senior vice president for exploration, and suggested to him that maybe we could work out an arrangement whereby the environmental group could assume those duties and free up his geologists to do geology work. Jim liked the idea and agreed to it, and so to implement that approach to things I felt I needed to place someone in the major field offices at Homestake for the exploration group. One of them was in Reno.

I had worked with a young man at Utah who had, during his years at Utah, transferred into an exploration office, working and supporting Utah's efforts in the eastern United States in establishing a domestic coal presence. That job was playing out in his instance, and he was faced with a decision of having to go back to an operating position at one of the eastern coal mines, wasn't too happy about it, and when we were talking with each other it occurred that maybe we had a mutual arrangement. He wanted to come back West (he was a Westerner), and I felt I needed someone with his type of experience to work with our exploration geologists, and so we hired Allen Cox to come in and be our regional manager for environment in Reno, Nevada.

His primary duty was to work with the field geologists, to secure the permits for them so they could do their drilling and exploration work, and to accomplish the reclamation that was necessary at sites where we had land disturbance, and generally to make sure that we were doing what we should be doing, and establish good working relationships with the different federal and state government agencies.

Swent: So reclamation, now, is not only what you do after the mining but even after just the exploration.

Crouch: Right. Where you have land disturbance, we were required to dress that up and to smooth out places, to backfill pits that you'd use for collecting drilling mud. There were certain guidelines which we needed to assist our field people in understanding about crossing streams and maintaining good housekeeping around the

sites, cleaning up after themselves, being careful about oil spills and that sort of thing.

Swent: I presume this is something that for many of them was totally new.

Crouch: Well, yes, but you know, in some respects what we're talking about is just good common sense, I think, too, you know? But sometimes people had to be reminded of it because these had not been requirements in past years, and so for some it was a new thing. But the fact that we set this up so that we assumed those responsibilities, I think, was appreciated by the field people because it worked out real well.

And we did the same thing with the field office that was located in Golden, Colorado. And in that case we were fortunate in that we already had as a Homestake employee a young man who had worked as environmental--I'm not sure if he had the title. I don't think his title at that time was manager, but he had worked in environmental work at the Pitch Project, which was an open-pit uranium operation near Gunnison, Colorado. And when the decision was made to close that operation and there were staff adjustments, we brought Jerry Danni into our group. And we placed Jerry as the regional manager in the Golden, Colorado, office, which supported sort of the Rocky Mountain states.

Swent: So the Pitch Project had already been closed down when you came on?

Crouch: No. The Pitch Project was actually engaged in permitting or some of the permitting during 1980, and it did operate for a period of time, and then the decision was made to close it.

Swent: Did you do any work on it?

Crouch: Just a bit of oversight, and worked with some of the permitting. But much of the permitting had actually taken place when I came on board. We became more involved with what we had to do after we closed the operation, and I had some direct involvement there.

The Importance of Good Community Relationships and Credibility

Swent: What were the lessons learned from it that you perceived? Or were there any lessons from there that applied to McLaughlin?

Crouch: I suppose one lesson that I observed, or called it a lesson--

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Crouch: Some of the public hearings for the permit process at Pitch were rather intense.

Swent: Did you attend any of those?

Crouch: I attended a few of those. As I've said, I came in sort of late in the process, more as an observer and not as a participant. But the Colorado system was a little bit different in that the public hearings, if you were a witness or you wanted to make a statement, it was under oath, which is a little bit more formal than it is in some other states, or at least at that time it was. And I think if there was a lesson to be learned in that process, it was that if you were utilizing experts or professionals to gather and interpret the environmental data and information and you were using that as a basis for making certain representations about how your operation was going to work, it was important that those people be, first of all, well qualified and also able to conduct themselves properly under those kinds of hearing conditions, where they were subject to cross-examination and so forth.

One of the things that I observed is that you could have a person who is very technically qualified but when placed in a position where he was being challenged or whatever didn't always respond in the best fashion. And so the lesson was that you need to help those people learn how to conduct themselves in those sorts of conditions. It sounds a little bit like schooling the witness. It isn't that so much, but it's just that you need to listen to the question and understand the question before you respond. Don't blurt out something which later on you have to change because things that are very standard fare for attorneys that conduct courtroom sorts of situations, but for us in the environmental field this was sort of a new thing. And so that was one thing that I observed about those proceedings.

Swent: My recollection is that those hearings were not very satisfactory for most people, were they? Didn't they have a lot of community problems there?

Crouch: There were. Uranium was a controversial commodity because of its obvious connection to the nuclear power industry, and there was concern, in some cases based upon a lack of understanding and knowledge about whether or not there was a real risk posed by the mining of uranium ore and just what did that mean to water supplies and what did it mean to wildlife. The Pitch Mine was located near the Continental Divide in the Colorado Rockies, a rather remote location, but there were communities in the area. It was principally wooded, but when you got down in the valleys

where the streams were there were ranches, cattle ranches primarily, and so these people were concerned as to just what real effects would come from that. And so I think [it was] extremely important that attention was paid to those concerns and that people on the company's side listened to what those in the community had to say. As a matter of fact, that's one of the things that I think occupied a fair amount of energy on the part of Homestake, was establishing a community relationship so that there was open understanding about the project.

But I think your recollection is good on that. It was a controversial project. It did get its permits. They never proceeded to construct a mill there, which was a major change in the original project, and then the uranium market--the price of uranium dropped, and then there was the expense. Without a mill in Colorado, there was the expense of shipping ore to New Mexico for processing in the mill there, and so as a result the Pitch Project just became economically infeasible.

Swent: This was happening during the beginning of your time.

Crouch: Yes, and I may be compressing some of these activities here a little bit. But as I said, the project was already on board and well along in the process when I came to work here.

Swent: But it was one you had to be familiar with?

Crouch: Right. And it was under the direction of an energy group, so there was a vice president for that division, and he had staff reporting to him, and his staff were functioning.

Swent: Who was he?

Crouch: The vice president was Ken Canfield. And as I said, at that time there were a number of people engaged in the development of that project. There were mining engineers, civil engineers. There were contract personnel, there were attorneys.

Swent: When these environmental people in these projects, then, as you tried to pull them together, they were reporting directly to you?

Crouch: At that time, they were still reporting to their divisions, and so it was--

Swent: But what you wanted to do was have them--

Crouch: Well, at least if not with a direct line reporting role, to establish what I would call a strong dotted-line relationship. In other words, recognizing the independence of the operating

divisions, but still also, at the same time, getting their recognition that we wanted to present a consistent position with various agencies, because you could have the energy group dealing with the same state agency as the precious metal group, and yet, if their stories weren't quite the same or they weren't approaching questions in the same way then it raised issues of conflict, and we felt that was one thing that we wanted to avoid. We wanted to have a uniform, consistent approach to the permitting process, to the responses, to questions from the government agencies or the public, for that matter. And you might say one of the benefits of doing this was to establish a reputation for Homestake as a responsible corporate citizen in the state.

Swent: This would only happen if you had different operations in the same state.

Crouch: Yes, but coincidentally, in Colorado we did have different operations.

Swent: Right. One under energy and one under precious metals?

Crouch: Under precious metals, right. There was the Creede Mine, which was an underground silver-lead operation.

Swent: And who was in charge of that division?

Crouch: Well, let me think now. I'll have to search for the name, but at that time--I remember his first name was Tom, but I have a mental blank on the last name.

Swent: Robertson?

Crouch: No, it wasn't Tom Robertson. Tom Robertson was the manager at Creede, but the vice president for precious metals at that time was another gentleman.

Swent: I guess I'm just trying to get a feel for--when you say you wanted a consistent response to a government agency, I have a little trouble understanding that. If the government agency comes and says, for instance, you've got to have your water to a certain standard, the discharge water, what possible responses are there that could be inconsistent?

Crouch: Maybe it's not so much in the substantive sorts of things, but it's, shall we say, an attitude, approach, or acceptance of the government's role and the relationship. I mean, in terms of trying to foster a good exchange between you as the operator and the government agency on the other hand so that it wasn't an antagonistic thing which--there was a little bit more leeway, at

least in my view, in those days, for agencies in terms of how they structured permit conditions. And they could be very bureaucratic and do things precisely in a very prescribed manner, or in some cases they could take into account recognition of site-specific conditions, and if you were able to demonstrate that a certain condition might work a hardship but that you could still meet the basic requirements of protecting the air, the water, or whatever it was, there might be a different way to do it. And so approaching things in a cooperative fashion.

The level of detail that you would have to develop in doing baseline studies or the scope of studies was sometimes open to negotiation, and it was just my experience that if you had a good working relationship, if you had established some credibility with the agency personnel, it was easier to arrive at a mutually satisfactory agreement on those issues than it would have been if you, in a sense, resisted everything. And, again, I'm generalizing here.

Swent: Well, maybe we'll get more specific later.

Crouch: It's sort of a carry-over. It was a time of transition for people. You had people who had been accustomed to, in a sense, being able to do as they wished, without government intervention or control, and so we needed to bridge that area.

Swent: I think when we get to McLaughlin we'll want to get really more specific about these things, but I'm getting a better sense now. Again, it's "people things," human relations, isn't it?

Crouch: It is. Yes, it is. It does come down to that. People are the ones who make decisions. And people are the ones that form opinions, and influence how things happen. So I guess I've always been a strong believer in the people side of the equation. I mean, you have to deal from a good, solid base of science in terms of understanding the physical aspects of whatever the proposal is, but you can't do that and ignore the people side.

IV THE MCLAUGHLIN MINE

Getting the Permits: a Complex Political Framework

Swent: I believe you said that one of your first tasks on the McLaughlin Project was the permitting.

Crouch: When I came on board, I think the geologists had established the fact that they had an exciting ore body. They didn't have the exact dimensions, I don't believe, of the reserves, but they certainly had some early reserve numbers. And the ore grades and the intercepts on the drilling program, I think, had convinced people that Homestake did have a very exciting gold property.

Swent: Was it being kept very secret at that time?

Crouch: Yes, it was very closely held. At least that was my impression. And in a sense the instructions that we had, that this was something that you couldn't discuss until we had reached a point of confidence about our results, and then there were obligations imposed by the SEC [Securities and Exchange Commission], in terms of making disclosure announcements. So the company wanted to be confident of the factual situation before doing that.

Part of the process in terms of making a decision about whether or not you have a project is to assess what would be necessary to acquire the various government permits and so forth, and so one of my first tasks that I took on was to look at the state requirements in California, because at that time we didn't really have a mining operation in California. And California had already gained a reputation for being in the forefront of environmental regulations, and it was a rather complex system for mining operations, reclamation, and that sort of thing. And in some cases for air permits, the counties were the lead agencies, which was a little bit different than it was--well, for example, in Colorado you dealt with state agencies. The county would have

had a land-use permit or something, but they didn't get involved in the things other than zoning or land use, whereas in California you had some of the counties who were the lead agency for air permits. There were regional water boards. You had the state level, and if you had federal lands then you had the federal presence.

So you had a very complex political framework in which you had to operate, and I think we all looked at the proximity of the property to a major metropolitan area, the San Francisco Bay Area, a major waterway, and you had next-door neighbors who were growing grapes that were considered to be world-class operations, and all of these sort of factors indicated that a proposal to undertake a major mining thing would be controversial, to say the least.

So one of the things that I tried to look at was, how do you bring all this together and--

Swent: Where did you begin?

Crouch: Well, first of all, I examined what the regulations were and the different types of permits we were trying to get, put together a list or an inventory of the various permits, and then I made contact with some of the people that I knew and tried to get some sort of an understanding or estimate about typically how long does it take to do this sort of work and what sort of environmental studies would be necessary to support a permit. California had its own environmental act, which was similar to the national environmental protection act, and it required environmental impact assessments.

So, in looking at that, I tried to come up with a crude sort of critical path analysis of what would have to be done first, roughly how much time it might take. I talked to some consultants, and I got some very rough estimates of maybe how much money would be required to fund these various studies so that we had some rough idea of what a budget might be, and put that together in--it was hand-lettered! It wasn't done with any fancy drafting, but put together sort of a chart that showed how these different time-lines might work and that things that we would have to work on, and gave some estimates as to what I thought the time would be required.

Swent: And who was this presented to?

Crouch: That was presented to the Homestake senior management. It was part of the process, you might say, of their coming to the decision point about proceeding with developing the property.

Swent: Had any permitting been done?

Crouch: The only permitting that had been done up to that time was the county permits that were necessary for doing the prospecting. In other words, the drilling operations.

Swent: They had to have that.

Crouch: Yes, they had to have those. There was one small study done of some rare plants that existed in the area.

Swent: Who had done that?

Crouch: A consultant had been used on that. Homestake had been sort of working in this general area for a couple of years doing exploration, and at a close or nearby property, when they first started working towards the McLaughlin property, they had in fact --it was in this sort of hot, geothermal environment, and they had in fact, I think, discovered a small amphibian--I think it was a toad or a frog--(this was before my time there) which was considered to be rare, and so they had to have some involvement with the state on whether or not this was a bona fide finding, and so had engaged, I think, an outside consultant or a professor to look at this. So there had been a little bit of sensitivity, you might say.

Swent: There must have been somebody there who--

Crouch: Who recognized this, and that sort of carried over into the early days of McLaughlin because the Native Plant Society of California had identified some plants in the area which they considered to be rare and of a category to be protected.

Swent: So what happened to your presentation, then?

Crouch: Well, the long and the short was that not necessarily totally based on my presentation, obviously, because there's just a lot of things that go into making those decisions, but I think I felt confident that you could permit the project if you approached it properly and if you covered all of your bases in terms of doing a complete environmental analysis of the existing conditions and if you built into the project planning a recognition of any sensitive areas and a recognition of what your requirements might be that you'd have to meet with permit conditions and that sort of thing.

Swent: Had you gone up and seen the site?

Crouch: Yes, yes, I had made a visit to the site.

Swent: Were you involved at all in decisions on tailings location and that sort of thing? At that stage?

Crouch: Not at this stage. No, this is earlier on. This is before the project--I'm thinking now that the time-line would have been something probably like April of 1980, and that was prior to the announcement on the property, and we really didn't do--

Swent: You just assumed that there would be a place that you could find.

Crouch: Well, the terrain at the property was diverse, but there was a lot of relief there. There were wooded areas; there were open areas. On the other hand, the target area was an old mining operation. This was an old mining, a mercury mining district, and it had been disturbed historically since the late 1800s, so there were already areas there disturbed. The road access was not the best, but there were roads into the property. And so, at that point in time, no, we had not really definitively identified things like that. That came a little bit later.

Swent: So you just had to assume that you would be able to find places.

Crouch: We looked at different areas. We saw different drainage courses where we thought you could construct a dam, to impound tailings from a mill operation. When we originally looked at the thing, everyone, I guess, sort of assumed it would be a typical mining facility, where the mill that processed the ore would be right next to the pit and it would all be rather compact. At least that was sort of, I think, everyone's original notion, and naturally so. As it turned out, it developed quite differently.

Swent: It seems to me it must be very hard to coordinate all these different people with different ideas. You were going up there at that time with geologists or engineers?

Crouch: Right. At that time, Don Gustafson from the Reno exploration office was the geologist in charge of the property and functioning as a project manager, you might say, in the exploration group.

Swent: I suppose he was mainly interested in the ore. I mean, finding the ore.

Crouch: Yes. And he was interested, you know, in being able to continue his drilling operations, and so he had had direct contact with the county planning commissions, so that he had the proper permits to conduct the drilling operations and that sort of thing.

But, I guess, the next thing that took place was when the decision was made that this was going to be a project and so

forth, was to organize the environmental effort. In that regard, again, maybe we all have a tendency to draw on our own personal experiences, but in working at Utah, I had had the opportunity to work on a number of major environmental impact assessments, in which the field work and everything had been performed by consultants who had been hired for that job. And in the course of that, I became aware that you could look at a very large firm, but if you didn't know who the individuals were that had been doing the job, you didn't really quite know what kind of a work product you'd get.

And so it was my feeling that you look behind the name on the door, and who were the actual professionals that are doing it. And I had identified some people over those few years there that I felt were particularly competent and did good work in various disciplines. And so, in approaching the McLaughlin Project, you might say one of the fundamental decisions that I made was to seek out and to retain individuals who I felt were highly competent in their field for the specialties that we would need in doing the environmental [work].

Choosing Specialists and Convening a Project Meeting

Swent: Who were they?

Crouch: Well, I can name some names for you, but I think maybe it's fair to say that my taking that direction was not a universal position. There were others in the organization who felt that, no, what you do and maybe because they felt that you would have better control, is that you hire a large firm that has all of these people working for them, and they do the job. And I guess we had a professional difference in that regard. But I did contact people that I had worked with and had confidence in and put together a team of these individuals to work in the various areas.

Swent: Could you be a little more specific? Did you have to really fight for this?

Crouch: Well, in a sense, I did, yes.

Swent: How do you go about winning a challenge like that?

Crouch: I'm not quite sure, but I guess it was one of these things in which I had been given the responsibility of the environmental program, and the other individual had a responsibility for another facet of it, and we had to come to an agreement that I'd take care

of my side of it, and you take care of yours, and we'll work together. But, as I said, just philosophically there was this difference, at least with some individuals. But at least I had the support of--

Swent: You don't need to be afraid to name names! But if you don't want to, you don't have to.

Crouch: I guess the bottom line is that I had the support of senior management in the course that I undertook.

Swent: Okay.

Crouch: Because I was allowed to do that. The other thing that I might mention is that in the very early stages--this would have probably been about the time that we made the announcement--it became quite obvious to me--again, drawing from my earlier experience, that you needed to have coordination. And if we couldn't, in the environmental section, if we couldn't do an assessment of work, if we didn't have an understanding of what work was going to be done, and that's sort of a simple way of saying that we needed to understand what the process people were looking at in the mill and what the miners were thinking about and how they were going to go about mining the mine.

You asked earlier what do you do with tailings. We needed to know what are the options and that sort of thing. And so I convened a meeting of all of the different professionals within Homestake who were working on the project, to just sort of talk about this, and I brought in the environmental people so that they could make a preliminary presentation of how they were going to go about their analysis and what kind of information they were going to need to do this. And it was really one of the first times that all of these people had gotten into one room together, and it was a very interesting dynamic because some of them had not talked to each other. They had been doing their job and hadn't really raised their focus to include the fact that, hey, this is going to have some effects over here, and we're going to need this much water, and where is it going to come from, and, oh, you're going to need water, too, and I'm just sort of reaching around for examples.

But as I recall, the initial reaction when I convened that meeting was, well, who is this guy and who does he think he is calling all of us into a meeting? It was the kind of function that a project manager should have filled, and when we did get a project manager on board, that's how it worked because from that point on, we did start having regular meetings with all of the different disciplines represented, and the contractor personnel

and so forth. But we had this initial encounter so that at the time when I was trying to scope out the environmental baselines things--I mean, how big is it going to be? Is it going to be one acre? Is it going to be a hundred acres? We needed to have--

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Swent: It sounds a chicken-and-egg thing. You need information to do something, but you can't do it till you get the--

Crouch: Well, that's right. There was a little bit of that. But I said that the thing that I sort of remember about it was that the dynamic, you might say, the human dynamic that came into play when this thing was set into place.

Swent: People were shocked?

Crouch: Well, they didn't quite understand. I mean, I was a relatively new face in the organization, and I guess people were curious as to why I felt I could call everyone in together, into one room, and start this process of trying to work. But as I said, this became an integral part of the McLaughlin project development. It was a complex project, and it just required close coordination among all the different people because we did affect each other in some ways.

Environmental Consultants for Air, Water, and Waste

Swent: There was a study made by D'Appolonia. Were you--

Crouch: Well, I hired D'Appolonia. You were asking earlier about the selection of people and who was it. I had retained the firm of D'Appolonia because they had hydrogeological sorts of expertise, geotechnical types of things. They had worked on a number of mining projects in the design of tailings and waste dumps, and they did have, in house, an interdisciplinary sort of a team of people. They had had experience in doing mine planning in a number of different types of mining environments, and they had an individual--Ed Sirota, who was in charge of their California office, was someone that I had worked with on a number of projects earlier, while I was at Utah. So we felt like he would be a valuable person and with his staff to look at things like where do we place things.

Another individual that I had worked with at Utah was Andy Robertson, who at that time was a principal with Steffen,

Robertson, Kirsten [SRK]. They had similar experience. And Andy had done a great deal of work with tailings and so forth.

Another individual we worked with was Kurt Wings. Kurt was an air quality individual with a lot of experience in working with analyzing dust and particulate effects from mining. He had in fact developed an air quality model which he was attempting to have the EPA [Environmental Protection Administration] certify as being a more accurate method of predicting what sort of dust levels you would have from mining operations. We had worked together on a number of projects, again dating back to my experience at Utah, because if you recall, at Utah I worked on a number of major impact statements for projects where we had to integrate all these different disciplines.

And, let's see, we had [pausing]--I named--

Swent: There was even archaeology involved. But I guess D'Appolonia took care of that.

Crouch: D'Appolonia, yes, retained someone to help with the archaeological assessment.

Swent: Because there were also Indians in the picture.

Crouch: Right. And I'm just trying to see if--oh, okay. There was another local individual from, I think, Sonoma County or Marin County that we utilized to do the vegetation surveys, to identify these plants which were believed to be either rare or endangered. So we had that sort of expertise.

D'Appolonia looked at the hydrology, so they brought that into the picture. I think I've covered the major disciplines now. At one time we had some discussions with a land planning, landscape architect firm. We didn't retain them, but they were helpful in terms of stimulating, you might say, some thoughts about innovative approaches to how we would manage the land long-term. So that was another part of the equation.

So this was the team that was assembled to do the baseline environmental studies and to prepare the environmental analysis that would be utilized to support the permit applications. And SRK--that firm--did a survey regionally, within a five- or six-mile radius, you might say, of the pit, to identify where the best location for the tailings impoundment would be. As I recall, we had something like thirty-some-odd different locations that were looked at and assessed for the hydrological aspects, how much surface water would have to be handled, the capacity of it, seismic risk. They put together a screening process to evaluate

these sites, and then we narrowed things down as to what the best location would be.

Locating the Tailings Disposal Site

Crouch: As it turned out, the site for the tailings was not adjacent to the mine pit, but it was several miles away, and that decision, you might say, led to other decisions which eventually changed the typical configuration of a mining operation, from everything being in a compact location to the fact that the mill was located next to the tailings. Some of the thought process behind that was that it eliminated a concern about spillage or pipeline breaks or whatever of tailings which contain residual amounts of cyanide and other metals, and there was a real sensitivity about that. One of the things that came out of the whole permitting process at McLaughlin was a heightened sensitivity to any sort of potential environmental threat such as a spill because the local populace and the government agencies had not had any prior experience, really, in working with a major mining effort, much less one which was a gold extraction process that was going to utilize cyanide to leach the gold out of the rock. Cyanide was recognized as being highly toxic, and that in itself created a sense of unease as to how that was going to be managed.

So when you weighed the different alternatives, it was felt that it was a safer thing to grind up the ore at the mine site and put it in a slurry form and pump it through a pipeline than it was to--which is just essentially ground-up rock and water, as opposed to having a similar pipeline five miles long that had the tailings with some residual cyanide values in it, because we were in the upper reaches of watercourses that eventually fed into Lake Berryessa, which is a major source of irrigation and drinking water for Fairfield County.

Swent: It's interesting. People hadn't, I guess, had not been much concerned about mercury?

Crouch: Oh, I'm sorry. Mercury was also--

Swent: It was natively there.

Crouch: It was native there, and that's a concern--

Swent: That's actually more toxic than cyanide, isn't it?

Crouch: Well, it's certainly more persistent in the environment. Mercury doesn't really go away. And in watercourses it can methylate and become a more toxic form. In its basic form, it's not really bio-available, but when it methylates, then it is subject to being taken up by organisms, so there was a concern about mercury also. But, as I said, cyanide was a new thing, whereas mercury had been there for a long, long time, and people knew about that. Cyanide was viewed, I think, more as a potential threat to humans, whereas in the mercury there was identification with fish because historically or in the recent past of the Bay Area there had been instances in which there had been food advisories on catching local fish out of the San Francisco Bay because of mercury content. So that was kind of a local thing, but it was viewed in that respect as being something a little bit more manageable. But cyanide was something that they used down at the prison, in gas chambers, so it just conjured up a much more emotional view of things.

Swent: So this decision was strictly made on environmental grounds, the decision, the location of the mill.

Crouch: It was a combination of things, but clearly that had a strong influence. But we also had to take into account the physical aspects of a location in which you could minimize the amount of surface water that you would have to manage. In other words, it's better to have something up at the upper reaches than the lower reaches so that you're not having to manage a lot of extra water when you build or construct an impoundment, whose purpose is to contain water. And this had to be a so-called zero discharge facility, and so we had to look at the site conditions. Were they conducive to this type of construction?

We were also concerned about a location in which you had a reasonable expectation that you wouldn't have seepage down into any kind of groundwater aquifer. So there were a lot of factors that went into it, but I guess the bottom line--I mean, the environmental factors were certainly very heavy in that vicinity. And the decision to, shall we say, ship ore as opposed to shipping tailings was environmentally preferable.

In terms of permitting, this complicated things a great deal because the ore body it turned out was sitting sort of between two counties.

Swent: Napa and Lake.

Crouch: Napa and Lake Counties. So, I mean, the county line sort of went right through the pit. And then the location was where three

counties came together. Then there was--Excuse me. You said Lake. It was Yolo County for the pit.

Swent: The ore body was--

Crouch: The ore body was in Napa and Yolo Counties. And Lake County is where the mill was sited, and that's where the tailings impoundment was constructed, right adjacent to the mill site. That was roughly some five miles away, I guess, as I recall. Slightly to the northwest of the mining field.

So the point I started to make is, though, because we now had the involvement of three counties, that just exponentially made the permitting process that much more complex. And then part of the land holdings there at the project area were federal lands under the management of the Bureau of Land Management, and so the Bureau had to be a party to this for their lands. Each of the counties had its own air quality district, and in the case of Napa County, Napa is a part of the Bay Area Air Quality District, which encompasses some nine counties in and around and including San Francisco, Oakland, and the others. So it was a metropolitan air district, whereas in Yolo County you had a very small air department that was centered on agricultural activities.

And in Lake County you had a similar sort of thing, with--One aberration in Lake County was that the air district there had a lot of experience and sometimes contentious experience with the Geysers geothermal generating plants. In that particular air district, they were, you might say, sensitized to air issues that can be associated with resource development. In Yolo County they were more concerned with dust and things because their experience was agricultural. And in Napa County, with the Bay Area Air District, you had, in my opinion, a sophisticated, well-qualified technical staff, but they had had no experience with mining, so mining operations, open-pit mining and so forth, were a new thing to them. But in terms of their technical competence and so forth, they were much a more sophisticated group to work with.

I guess--I may be getting things a little bit out of sequence here, Lee, but--

Swent: That's all right.

Crouch: Recognition that in California your counties were lead agencies, both in permitting and air and--I didn't mention water, but we only had one water district to deal with, which was a fortunate thing. The Central Valley Water Quality District covered the particular area where we were--

Swent: Solano Irrigation.

Crouch: Well, Solano Irrigation District was a different--that's a different thing. They were the operators of Lake Berryessa, and their concern was protecting their water supply for Lake Berryessa, which was a reservoir sort of thing. They're sort of a quasi-governmental agency. But the Central Valley Water Quality District is a division of state government that governed water discharges and that sort of thing. They were concerned with water quality, and you had to have permits from them to discharge water. So we only had one water district, really, to deal with directly in terms of permitting. We didn't have to get a permit from Solano.

But we had three air districts, and we had three counties for land-use permits, and then the federal Bureau of Land Management, so there were actually four land managers involved here. Three air districts, one water district. And then there were operations like the State Division of Dam Safety who had direct oversight on the construction of certain-size dams, which we fell into.

I guess the point I was getting to is that because California's system of environmental regulation was in a sense different than in most other states, with this county orientation, with the fact that they had a state Environmental Quality Act which specified how you did environmental assessments for major projects, I concluded that within our Homestake ranks we didn't have that sort of expertise. This was our first project in California, and we all understood mining. At least, just speaking for myself, I understood the assessment process and permitting and so forth. But I felt like that in this particular instance, with the project that was as exciting as the McLaughlin Project became --because when it was announced, I mean, literally within minutes, it seems like, we were just engulfed with all sorts of media and other companies' response to this announcement because it was the first major gold discovery in California, I guess, since the gold days. And we had helicopters flying in and landing and people calling from all over, wanting to visit the property, and this, that, and the other.

Swent: Helicopters up at the project.

Crouch: Yes, even at the project, yes. So I felt like what we really need to know how to work this local system, and I knew that I hadn't had that experience, and I knew that we were going to need someone who was there every day, coordinating these various consultants, dealing with all these different government agencies and so forth, and so we had to have someone who was going to be there full-time to manage the environmental aspects of the property. And so,

along with having a project manager and people like the engineering department working on the pit design and the construction people looking at the plant and seismic pressures and all that sort of thing, we had to have this environmental person on the staff.

Raymond Krauss, Fantastic Environmental Manager

Crouch: So in looking at candidates, there were a number of people who volunteered themselves, who were working in the mining industry, doing environmental work, and I had several good candidates who, you might say, volunteered themselves. It was a tough decision because they brought some real good qualifications to it.

But getting back to this other thought was that none of them brought to the table anything different than what I felt I could offer, and we all lacked experience working with the local government system and working with the California system. So, through Jim Anderson's contacts at the state geology board, he became aware of an individual who was working in Sonoma County at that time, who had been active in negotiating permits with sand and gravel operations, aggregate operations, in the county and had, in a sense, acquired a reputation for himself as being skilled in terms of bringing different factions together in working out some problems. And Jim suggested that maybe I should talk to this gentleman, whose name is Raymond Krauss, Ray Krauss. So I made contact with Ray, and we met, and we talked about things, and I guess I was immediately impressed with his personality and his philosophy and his view of things and the fact that he had indeed worked on these sorts of issues in his county.

And so I decided that it would be easier for me to help Ray learn the mining business than it would be for me to learn the California system. And so we brought Ray on board as our environmental manager for the project. As I said, he had not had previous mining experience whatsoever. That wasn't his background at all. But he brought a lot of enthusiasm, fresh thinking, creative thinking, and a real willingness to try to work with people and to make things happen in the right way. And I think, in retrospect, it was probably one of the best decisions that I ever made, at least insofar as the McLaughlin Project was concerned, because Ray just did a fantastic job of meeting the challenge. And there were many challenges in the permitting process and just getting this whole thing organized, keeping things going, meeting your deadlines, making sure that we covered all the bases, that our scope was adequate, answering questions,

holding meetings with various citizen groups, meeting with private parties, just a myriad of things that were necessary or became necessary, to keep things on track and to make sure that we came out at the right place on the other end. So I can't pay Ray any higher compliment, I don't think.

Swent: I'm just amazed that it could have been kept as much of a secret as it was. Had you met with any of these agency people before?

Crouch: Before Ray? Oh, well, yes, we had--

Swent: Before the announcement.

Crouch: We had. As I said, the contact in those earlier days was limited to the county planning commissions.

Swent: But how did you go about that? Did you go to Napa County, say, and talk to them?

Crouch: Yes. We had--

Swent: You?

Crouch: Well, in my case, my first meeting there was--I went along with Don Gustafson, who was project manager. Don had already, in a sense, established a relationship with the county planning commissioner, director, I should say, the county planning director. And some of the board of supervisors. We had--

Swent: Was this Jim Hickey?

Crouch: Yes. Yes, it was Jim at the time.

Swent: I have interviewed Jim.

Crouch: Yes, well, we met with Jim. And then also Don had retained a local counsel in Napa to give us some advice, to help us in our dealings with the planning commission and the board of supervisors.

Swent: There must have been plenty of awareness of something going on, then.

Crouch: Oh, well, yes. People, I guess--But there wasn't this awareness until the announcement was made. That's when all the excitement broke out, yes.

Swent: It's amazing that you could keep it that quiet that long. It's really surprising to me.

- Crouch: I don't know. I guess it wasn't a total secret because people knew that you were out there drilling, but then again, it was the most remote corner of the county, Napa County, and maybe they never--they knew it was an old mine district, and maybe they thought, well, it was just another, some prospectors, and no one has ever really found anything and probably dismissed it a little bit as just something that would never happen. Pie in the sky or whatever. But it really wasn't that long a period that the thing had to be maintained as a tightly-held secret, because we're talking about a matter of a few months there, really.
- Swent: It was announced in August of 1980.
- Crouch: Yes, that's it.
- Swent: And Ray was hired after that.
- Crouch: After that. And, you know, there's where I'm fuzzy because I don't remember how long a period it was after that.
- Swent: I have that information in my files, but not in my head right now. So the applications for the permit. You had to get started on that.
- Crouch: We had already sort of set things in--we had the consultants on board. They were doing their field work, and we had worked out a more elaborate what we call a permitting guide. We made an inventory of what we felt the different permits were. We had talked with the various agencies we had to deal with, and we had gotten copies of what kind of permit documents they were going to require. We had some discussions as to what level of information we were going to collect.
- Swent: Of course, now, looking back, we know you got the permits. But was there any sense at some point that the whole thing might really not get permitted?
- Crouch: I don't think I ever really felt that way. I mean, it was a period of time in which there was a lot of intense activity and just a lot of work for a lot of people. I mentioned earlier--I alluded to meeting with citizen groups. I think, I know that Don Gustafson started doing this, meeting with various groups after we made the thing public, talking about what this might mean, and what a mine is, and this sort of just basic things because we had people here who had never experienced this, and it was just a general education, you might say, in just what's involved with a gold mine and so forth. And that was picked up later on by Ray, who I said I thought just did a superb job in dealing with these

various groups. And Jack Thompson also. I mean, there was a team effort here.

Swent: Did you go those meetings as well?

Crouch: Yes. Some of them. But because they were on the scene on a daily basis dealing with it, and they were the project people, that was the identification. As I said, as Ray got on board there, I pulled back on some of the things. Instead of having the overall thing, we then sort of had a focus. Dennis Goldstein, who was in-house counsel. Dennis devoted, I guess, almost three years, I guess, as I did, in a sense, working towards the permits and so forth, negotiating with the different agencies. It was a good team effort. I don't think any of us ever felt that it wouldn't happen. I mean, we knew we had a lot of challenges and frustrations, and some of them were having to deal with people that we felt just didn't have any basis for their position, but they were in a sense just philosophically opposed to development of any sort, whether it was a mine or anything else. So we had those sorts of issues to deal with.

We did sort of break things up, in a sense. But one area that I maintained an active role in throughout the process was the securing of air permits. I felt like I'd had some experience with that, from earlier days, so I worked with Kurt Wings. And then we also--

Bay Area Air Quality District, a Tough Permit to Get

Crouch: One of our--well, they were all tough, but one of our tougher permits to get was with the Bay Area because, as I mentioned earlier, they had had no previous experience with mining. They were just highly skeptical that you could go out and dig a big hole in the ground and have trucks and crushers and things like that without creating an awful lot of dust and violating ambient air quality standards for particulates, as an example. They were concerned about emissions from the diesel equipment. And so we had a very detailed effort. I couldn't even begin to remember how many times we had meetings with the staff of the district, working on that.

To help us in that process, Dennis Goldstein had a good friend who was an environmental attorney, someone that he had worked with when he was with state government in California and who had--this was Clement Shute. Clem had set up a small firm engaged in environmental litigation, principally on the side of

citizen group proponents, as opposed to the industrial side. So it was a stretch for him, I think, to decide to work, you might say, and represent a company, the project proponent, as it were, instead of a local citizens group.

But in his firm there was another person, Mark Mihaly. Mark had had practice in presenting some cases before the Bay Area Air Quality District. He was acquainted with the staff there, and so he came on board to assist us and give us some advice as to how to deal with some of the quasi-legal aspects of getting that permit. And as it turned out, that permit was challenged by a small citizens group, and it was appealed, and so we had to go through the appeal process. Again in that regard, Mark was extremely helpful in helping us organize and present our case.

And then Kurt Winges, again, because of his technical expertise, gained the confidence of the Bay Area staff and gave us the credibility that we needed to overcome those challenges. And one of the things that I think was remarkable about that process was that the federal EPA Region IX in San Francisco, who did not have direct jurisdiction over us, because California ran its own air program. They didn't administer air permits. But they reviewed the project, and they recommended to the Bay Area that they reject our permit application, because they didn't believe-- well, this gets back to that issue of predicting ambient conditions. The EPA's model that they used to simulate or predict ambient conditions predicted that we would not be able to meet the national ambient air quality standards.

Swent: This is from the blasting in the pits?

Crouch: Well, all the activities that create dust, particularly the road travel, when you have the trucks hauling the ore and the waste rock out of the pit, and then they take it over and dump it, or they take it over to the mill and dump it. And all those different activities, when you lumped them all together, and you inventoried this, and you made calculations of what you thought the emissions would be, and then under certain wind conditions we had to protect the public, so anyplace where the public could be, we had to demonstrate that they wouldn't be exposed to air quality that was less than the national ambient standards. EPA's model for doing this predicted that we would exceed that. Kurt Winges, as I said, had developed his own model, which was based upon some mathematical algorithms developed by a staff member at the Lawrence Livermore Lab, which he believed was more accurate in predicting how dust particles behaved. He was able to convince the Bay Area that his model was more accurate than EPA. And to the credit of the Bay Area, they stood on their professional

ground and, in a sense, did not accept EPA's recommendation. If they had, we would have really had--

But as part of this process, they also came up with a permit which had very stringent operating conditions that we had to meet because, as I said, they just felt like those types of things were going to be necessary to maintain the air quality. So that was a very interesting process. The ultimate was that eventually Kurt's model was accepted by EPA, but this was years after. But at that time, it was a pioneering step. But he was very effective, again, as I've said, on a technical basis in working on this, and I think, again, it came back to that decision of selecting someone for the job who was individually qualified. He also had a lot of enthusiasm and energy that he brought to the thing. It was a real challenge to him, and he took it on.

Swent: Some of these things I presume you could meet by just spending more money, couldn't you? Am I wrong?

Crouch: Well, I mean, you're spending money or sometimes it wasn't so much money directly. There was a money effect based on the practice. For example, they wanted us to drive the trucks at a certain speed and not exceed a certain speed limit, the theory being the faster the truck goes, the more dust that it kicks up on the road. Well, when you specify the speed of the truck, then your mining engineer, who is trying to design a pit operation that delivers so many tons a day to the crusher, and he based that, well, this truck will carry so many tons and it can go so fast and it can turn around and get loaded in so many seconds, it's going to take him so long to get over here. That threw his calculations off, and so they weren't happy about that.

And then we had things like they wanted us to water the roads more. They wanted us to use chemical additives on the roads to help keep the dust down on road traffic, and that was more than what people were accustomed to doing. We had an experimental program with putting up wind screens in certain areas. These are screens which are used to deflect the wind currents so that they don't pick up and carry dust. So there were a number of things like that that were built into the operation that later on we were able to show that they weren't really necessary. And so, in the later years of operating, after we demonstrated that we were well below the standards, we were able to get a little bit of relief on that. But they limited the number and the size of our blasts, for example, because of the emissions and the dust created by blasting.

Swent: Was there any question of toxicity of the dust?

Crouch: There was a question about that. I mean, there were a number of things we had to address, and some of that was brought up by the technical staff at the air district. Some of it was generated in response to public inquiry. We had, because, you mentioned earlier, it had been an old mercury mine, well, one of the things that we had to deal with was, okay, you're going to be blasting. Are you going to be taking this rock over here? Is there going to be dust there? Will there be mercury in that dust? And if there is, how much? Will there be any other toxic things?

Swent: I think the Yolo people thought there were going to be clouds of asbestos.

Crouch: That was another thought. This area of California, those coastal ranges, have serpentine rock, which has asbestos-type fibers in it. And so that was a special study that we had to design and conduct, was on the asbestos, the so-called asbestos issue. We looked at metallic content in the dust, we looked at the asbestos thing, we looked at the mercury, and all of those issues were part of this.

So, as I said, it was a very intense time there.

Swent: Was there finally a day when you could take a deep breath and say, "It's over"?

Crouch: Yes, I think it was when Harry Conger dedicated the plant. But then, you know, that's when Ray and Jack and the others had to meet those operating conditions that were in the permits.

Swent: Jack Thompson came on then as project manager.

Crouch: Yes, there was a period of time there. Let me think. Don Gustafson was project manager in the beginning.

Swent: When it was a geological--

Crouch: Yes, when it was an exploration project. And then there was another person who had it for a short period of time, and then, I believe, Jack. And I can't--I'm embarrassed about that, but I can't remember the other man's name.

Swent: Rex Guinivere?

Crouch: No, it wasn't Rex Guinivere. He came in at about the same time, I guess, that the project was getting off. He came on board as vice president of engineering. And Rex's experience and expertise had been in managing major construction projects and so forth. So he

was involved, I guess, with the negotiations with the Davy McKee people, who became the project engineers and worked at that level.

Swent: You coordinated with him, too, I suppose.

Crouch: Yes.

Swent: There was John Ransone.

Crouch: John Ransone was the on-site construction manager reporting to Rex. There was an interim period there, before Jack came on board, that we had someone else in as project manager, and, frankly, I can't remember his name. And I think he subsequently went on and went to work for another company.

Reclamation as Part of the Initial Environmental Assessment

Swent: What about the reclamation? Concurrently with all of this, you were thinking ahead to reclamation.

Crouch: Well, it's part of the environmental assessment process.

Swent: Am I jumping up ahead too much?

Crouch: That's kind of backing up a little bit, but in other words, when we did that, we had to have reclamation permits and so forth.

Swent: You had to get those--

Crouch: But we had to, in the environmental assessment process, we had to identify what we thought were going to be the effects of the mining operation. In other words, we were proposing to mine so many tons of ore a day, and to get that ore we would have to move so many extra tons of rock and put it over here, and so you had land disturbance, and you had issues of controlling surface water run-off in this disturbed area. Would it be contaminated in sediment or toxic metals or something of that nature? So all of those things were identified in the environmental process. And to get the approval of the various permitting agencies, we had to show what it was that we were going to do to mitigate what were seen as negative effects.

We had to build in control measures, as an example. Roadways had to have ditches, and we had to have collection sumps, ponds, to collect water that would run off, so that the sediment could settle out before the water was discharged. We had one pond that

was specifically to collect water that came out of the pit, on the assumption that it might contain dissolved metal values, and so that pond would never discharge. We would use that water internally.

The tailings facility had to be designed so that it had the capacity to hold everything, and it had to be constructed in such a way and be sited such that we didn't have any releases that took place there. And so all of those sorts of things had to be worked out in advance, and then, when the plant and the mine were constructed, you had to include those things.

At the mill operation, for example, we had to look at each point where we had a potential for an air emission to take place, and then we had to show how we were going to control that.

Swent: Were you in at all in the decision to do the autoclaving?

Crouch: Yes. As a matter of fact, that's a detail I had forgotten about. Early on, when we were originally looking at the ore, there was recognition that the ore was not going to be amenable to direct leaching; it would have to be oxidized, and one of the alternatives that was looked at quite seriously, because at that time the common technology for treating ores like that was roasting, in which you heat the ore and you drive off the sulfur fumes and so forth. And, again, when we did the initial analysis of that, I was concerned that in California, with their very strict air quality requirements, we might not be able to meet the standard for the sulfur dioxide. But the alternatives are that you control those types of emissions with certain control devices. You can have scrubbers. You can have acid plants in which you convert the sulfur dioxide into sulfuric acid and that sort of thing.

So I remember making a trip back to Pittsburgh and meeting with a firm there that had specialized in installing these types of devices for controlling sulfur dioxide emissions, and we made some predictions, and it was very marginal as to whether or not we'd be able to meet the standards. But you'd have to put on very expensive control devices, and you wouldn't have 100 percent confidence that they would help you meet it. So when those sorts of facts were added into the equation, it was a strong indication that maybe we had to do something else.

Swent: You just might not be able to meet it that way?

Crouch: Right. With traditional methods. As to who was the person who came up with the autoclave thing, I'm not quite sure whether it was Doug Halbe, who was chief metallurgist, I think, at that time.

I think Doug was still with Homestake. There was Richard Kunter, who was a metallurgist who worked for him. I know that Richard was involved directly in the research work that went into the autoclave system, and that was done. And if I remember correctly, the actual work was performed by Sherritt Gordon, a Canadian firm who had had some experience in that.

So, in looking at things, the technical people became convinced that that would be a workable approach to it. And then when you weighed it against the alternative of having very restrictive air quality controls with the conventional method, the decision was made to go to the--

Swent: They used these scrubbers and so on in Arizona, other places.

Crouch: Yes, they have had problems with them. And remember the time frame again; things have improved since then. But back in the '70s, at least, there were a number of power plants around who were not scrubbing their stacks, and they had high sulfur emissions. As I said, it was a hard decision to make because it went against the conventional grain, but I think in retrospect it was the right decision. And, of course, today autoclaves have become much more common--because Homestake pioneered the way. There are a number of other gold producers who are now using autoclave operations.

Swent: Right. You really did pioneer that.

Crouch: Yes, and more and more sulfide occurrences are what's being processed, and you have to address that.

A Formal Challenge from a Citizens Group

Swent: Yes. So what were some of the other major turning points?

Crouch: Well, I've mentioned the air quality, the fact that we had the formal challenge to that permit, which was eventually successfully worked out.

Swent: So that was an actual court proceeding.

Crouch: It was a formal proceeding before the board, but it was not a court proceeding per se, but both sides were represented by counsel, so it was quasi-formal, I guess you'd say. Now, this was for the Bay Area Air District.

Swent: Standing against EPA.

Crouch: And they stood against the EPA, and as I said--But they did have this challenge that was brought to the permit by a group of outside citizens.

Swent: Who were they?

Crouch: Well, principally, this was a bit ironic, but some of the principal opponents were in Yolo County, and Yolo County--there were also challenges up there, but they were met without going through--as I remember, we didn't have, at least on the air permit, we didn't have a formal challenge. The process was easier to work out. But there was a pro bono environmental attorney who represented a group of citizens in Napa County. That was the county of jurisdiction to challenge the thing. I believe that's correct. And the Yolo people participated in that, too.

Let's see. What else was there?

Swent: Lake County generally did not oppose anything, I guess.

Crouch: No.

Swent: I think they welcomed the jobs.

Crouch: They clearly did. Bob Reynolds, who was the air quality officer for Lake County, was, shall we say, very thorough in his review of the permit application. Bob is a chem[ical] engineer, I think, as I recall, by education, and he really wanted to understand our process from one end to the other. He took what I referred to as the mass balance approach. You know, if you got "x" pounds going in the front end, you've got to have it coming out somewhere. And so he wanted to identify all of the points and where things went, and naturally, his being an air quality officer, he was looking at the air emissions, but he didn't think that it went out into the tailings, but then he thought it went into the air, and so we had a lot of detailed discussions with him about what the emissions were going to be from the plant, which was an interesting exercise in itself because here we were with the autoclave, which was fairly new technology, and there wasn't a lot of experience, so in that regard we had to work real closely with the design engineers and the technical people within the Davy operation [Davy McKee, now Davy International]. The one person that I remember that worked for this in Lake County on that was Andy Sass, who was--I think Andy is still with Davy.

Swent: Yes.

Crouch: It's kind of a coincidence in a sense that Davy--they're a large operation. In fact, they do work for Kennecott, too. Andy's name was mentioned here. He's working on a project right now for Kennecott. And Klaus Thiel, who was the lead person for Davy in those days, is now working for the Lihir Project, which was a Kennecott project out in Papua, New Guinea.¹

Swent: I know. I wanted to interview him, and he took off for Brisbane [Australia] and I couldn't.

Crouch: Bob Sinclair, who worked for them also, who was on-site construction manager. Bob has worked on a number of Kennecott projects. We live in a small world, the mining community.

Swent: I had two roadblocks because John Ransone died just as I was ready to interview him, and Klaus Thiel went off to Brisbane, so I haven't been able to get that little piece of it. But I'm hoping Klaus will be back some day, and we can pick that up.

Crouch: Well, the schedule is that they're into construction out there now, and maybe by the end of '96 they will probably move the operations office out to the island, whereas it's in Brisbane right now. You know, they travel back and forth. [tape interruption]

An Especially Complex System to Coordinate

Swent: We were just talking about how intense it was.

Crouch: Yes, for several people. I mean, when we were going through the permitting process and in the early stages of operations, it obviously, you know, was full-time for Ray Krauss and Jack and the people who were really at the property. And Dennis Goldstein, who was working legal issues and so forth, was really engaged there very heavily in issues, and there were some land things and some other agreements that had to be worked out. In my case, when Ray became really established, I was able to pull back some from the full-time involvement to something less than that. As I said, during the permitting period, I still stayed on over the air permits, but after getting through it all and everything started

¹G. Frank Joklik, Exploration Geologist, Developer of Mt. Newman Mine, President and CEO of Kennecott, 1949-1996; Chairman, 2002 Olympic Winter Games Committee, Regional Oral History Office, University of California, Berkeley, 1997.

working, then the relationship changed a little bit. We had to follow through to make sure that these commitments we had made we lived up to and that we incorporated whatever the work practices were, and that sort of thing, I mean, to meet our other requirements.

Swent: How did this compare with other mines, other places, other than the fact that it is more difficult in California, I guess? But would this be sort of a standard, average--?

Crouch: No, I don't think so. At least in my experience, maybe in the physical size--wasn't as large as some of the large coal strip mines that I had worked on, but clearly the complexity of the system and all the large number of permits that we had to secure, and then making sure that was all coordinated and everything. There was the follow-through and so forth. At least for me, it was a unique experience. There had been others that maybe would come close to it. I think back in the seventies, I guess it was Exxon that was proposing a property up in I think Wisconsin, the Crandon Project, and that was at the time viewed as some sort of high water mark in terms of environmental effort. Not anything that I was involved with, but I was aware of it. I remember being impressed with the huge pile of documents that they had to produce to try to get their permits.

Swent: Another one is the Amax Henderson Project.

Crouch: Right. So, yes, I'm sure there are other examples and so forth, but at least in my personal experience, this was, I think, more intense and demanding than some of the others, even though, when I think back on it, working in the Four Corners area, with a major power plant, a major strip mine--we had one project there that I was the environmental manager for, you might say, in terms of doing the assessment, the environmental impact statement, was the Westco Coal Gasification Project. And we were projecting four units, forty million tons of coal a year, and a mining operation that was going to utilize sixteen draglines. I mean, it had pipelines going to L.A. and going back East, on an Indian reservation, and you had a partnership of a gas company and a transmission company and a miner, and using a lot of water in an area that was essentially a desert. I mean, there were a lot of issues there, too, you know? But I don't think the intensity was there as there was here.

When I worked on the Alton coal project in southern Utah-- again, this was at Utah [International]--we had challenges there, and eventually that mine did not go forward because of the challenges, principally on visibility issues because of its proximity to a national park. Eventually the federal government

declared about half of the coal reserves to be unsuitable because they were going to infringe on the visual aspects of Bryce Canyon, so that project did not go forward.

Swent: You still hear about it. It was in the papers not long ago.

Crouch: Same general vicinity, but not the same property, yes.

Success with Two Superfund Sites

Swent: Let's just do a little retrospective, looking back at it. You started that a bit, but you have now moved on and are working here in Salt Lake with Kennecott. And the McLaughlin Project is talking about winding down.

Crouch: Yes. I'm thinking about the over-all Homestake experience.

Swent: Yes.

Crouch: Well, I was reminded of one other thing. Another major project at Homestake that I worked on there was the Superfund sites that the company had to deal with, one of which was Whitewood Creek, which was connected with the old Lead mine in South Dakota. Again, that was a project that involved my work for, what? maybe almost the whole time that I was at Homestake, to some degree. But just last week there was an announcement in the Federal Register that EPA is going to de-list the site. I've not seen it yet, but I was told that it was in the Federal Register last week.

And then earlier this year we got an unbelievable letter from EPA, congratulating some of us by name on the role we had in bringing that Superfund site to a conclusion.

Swent: Well, that must make you feel really good!

Crouch: Yes, I was amazed. I got a note from Harry Conger and so forth.

Swent: Well, you should. That's wonderful.

Crouch: And there were others, of course, involved in that, too, but it was nice to see it. I said that's something that EPA probably very rarely does. I've never heard of it happening to anyone else.

Swent: No, no. So you were able actually to get it de-listed.

Crouch: And that was one of the original Superfund sites. It was listed in 1981, I believe. So that represented, for me, anyway, that was on, at some level of intensity, over a twelve-year period.

Swent: That was one of the arguments that the Yolo County people used against letting Homestake mine--

Crouch: That's true. They brought up this issue about the fact, now, here, what are we doing, allowing a company like Homestake, who's got two of the major Superfund sites in the country--

Swent: The Whitewood and the Ambrosia Lake.

Crouch: Whitewood and then Ambrosia Lake, right, in Grants, New Mexico. So that's kind of an interesting chapter there in itself, I think. It's actually a story unto itself.

Swent: Yes, yes. So you did get involved up there. That was the development of the bacteria.

Crouch: Well, I was more of an observer when it came to the development of the bacterial--excuse me, how did we frame it? They developed a strain of a micro-organism that would, in a sense, reduce the cyanide levels in the mine water. Terry Mudder was the principal on that. And Terry is still working on those sorts of things. It was a bacterial treatment of the waste water. And Fred Fox, who was the environmental director at that time, was involved in support of that. Fred, coincidentally, is working with Kennecott here now. He and I are still compatriots, you might say, purely coincidentally. He came to work at Kennecott before I did.

Swent: So I guess they haven't de-listed Ambrosia Lake yet.

Crouch: No, but actually, if I may back up, when I was there we were able to get EPA to give us a "no further action" decision. It wasn't Ambrosia Lake. It was actually the mill at Grants. And the issue with radon--we did studies, and I hired a former professor from Georgia Tech, who had worked in the early days with--he had set up the EPA labs, done a lot of work on radiation health and is consultant to the NRC [Nuclear Regulatory Commission], and he was actually one of the outside consultants at Chernobyl. But he did a health risk analysis for us there and at any rate, we made a case. We did our study. Ed Kennedy was still working at Grants, and we went to EPA and eventually were able to get what they call a "record of decision" that said no further action was necessary. So you can't say that that issue is totally closed, but that's about as good as you get.

Swent: Satisfactory, anyway.

Crouch: Yes, and that was before I left. Reflecting on that experience, that's one thing that I felt like was a noteworthy achievement in that in the roughly twelve years that we were there, we had two major Superfund sites. Our outside budget for managing those two sites was on the order of about \$6 million or \$8 million, which was a real achievement in comparison to what the cost had been at other Superfund sites for mining companies.

Swent: That was low?

Crouch: Oh, absolutely. Yes, that's not the price of admission any more for some sites. Of course, it's all a matter of degree, but it reflected how that was managed, I think. The type of team that we brought to work on it. We internalized a lot of the work. We were fortunate in being able to persuade EPA to allow us to do some of the work, which today is a little bit harder to do, I think. But that happened.

Homestake's Changed Image: Progressive, Environmentally Aware

Swent: So Homestake's image changed?

Crouch: I think so. I think Homestake was looked upon as being a very progressive, environmentally aware company, and in a lot of areas. There were other people who worked, who contributed to that. Bob Reveles, who was our vice president for government affairs. And Joe Danni, who is Jerry's brother, who worked for Bob in that area. They did a lot of good work, you might say, in presenting a good image on issues, in dealing with the legislative side of things, the government affairs type of thing. I think the way that we handled and managed our environmental issues contributed to that. I think it's fair to say that. And, as I said, it was certainly interesting to get this letter from EPA, in which they pay Homestake the highest of compliments in terms of how that particular site had been managed.

And then during that era we were active at the national level. I served as chairman of the solid waste committee for the American Mining Congress for about eight years, and I was also appointed by EPA to a federal advisory committee on mine waste regulation and served on that for a number of years. This sort of exposure, I think, reflected on Homestake favorably, and we had a reputation of being a progressive, involved company. And I think we all benefitted from that. I benefitted personally, I think it's fair to say, and I think the company benefitted, probably, too. And appreciate the support that allowed that to happen.

Swent: I guess maybe that winds it up, does it?

Crouch: Yes, I think enough for today, at least.

Swent: You've been very generous with your time. I appreciate it.¹

Transcribers: Aric Chen, Mim Eisenberg
Final Typist: Shana Chen

¹For excerpts from the D'Appolonia Engineering report, see Appendix B, pages 323-333.

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Berkeley, California

Western Mining in the Twentieth Century Series
Knoxville/McLaughlin Project

Elmer Enderlin

MINER IN FIFTY-EIGHT MINES

Interview Conducted by
Eleanor Swent
in 1995

Since 1954 the Regional Oral History Office has been interviewing leading participants in or well-placed witnesses to major events in the development of Northern California, the West, and the Nation. Oral history is a method of collecting historical information through tape-recorded interviews between a narrator with firsthand knowledge of historically significant events and a well-informed interviewer, with the goal of preserving substantive additions to the historical record. The tape recording is transcribed, lightly edited for continuity and clarity, and reviewed by the interviewee. The corrected manuscript is indexed, bound with photographs and illustrative materials, and placed in The Bancroft Library at the University of California, Berkeley, and in other research collections for scholarly use. Because it is primary material, oral history is not intended to present the final, verified, or complete narrative of events. It is a spoken account, offered by the interviewee in response to questioning, and as such it is reflective, partisan, deeply involved, and irreplaceable.

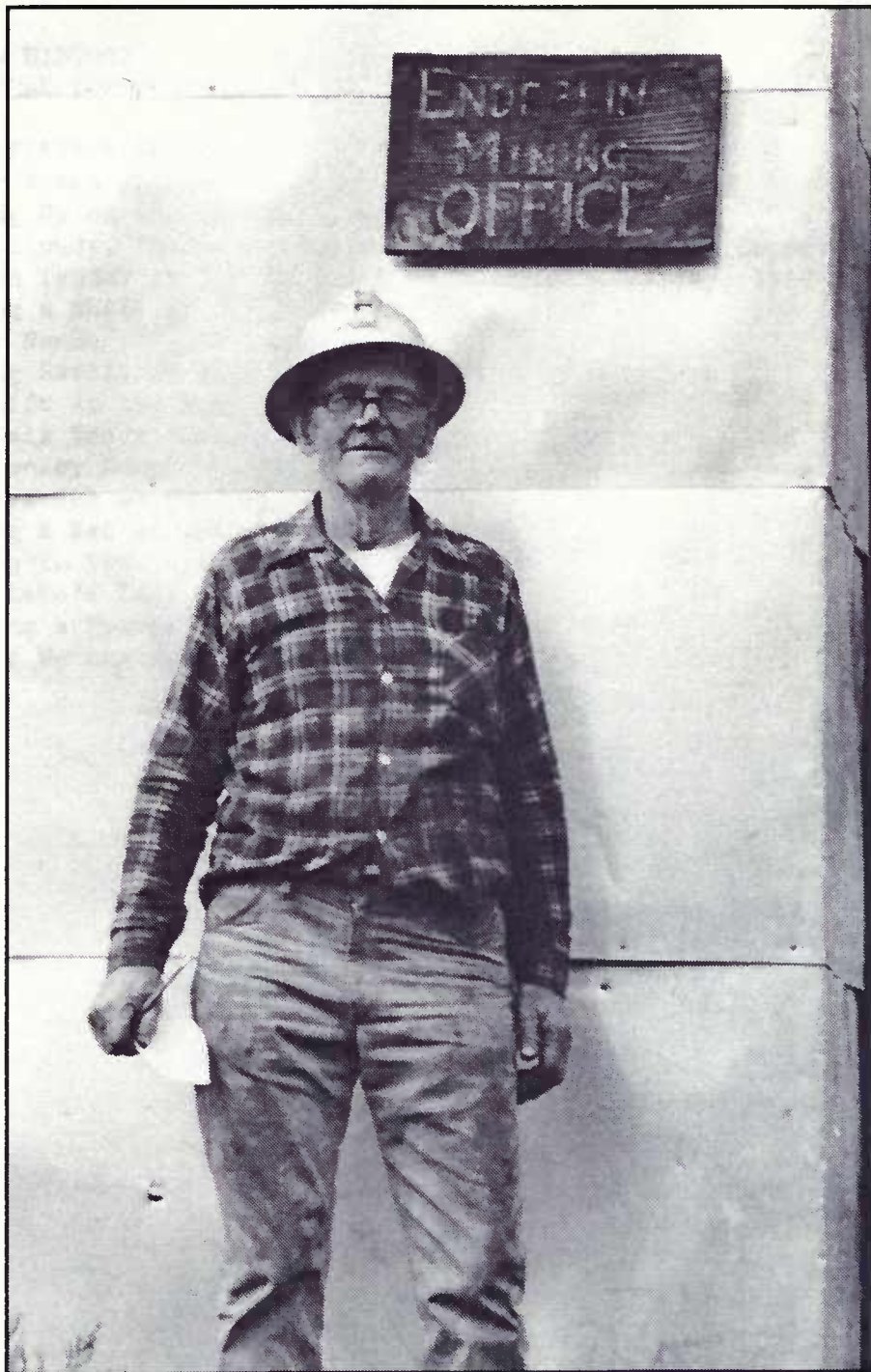
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It is recommended that this oral history be cited as follows:

Elmer Enderlin, "Miner in Fifty-Eight Mines," an oral history conducted in 1995 by Eleanor Swent in *The Knoxville Mining District, The McLaughlin Gold Mine, Northern California, 1978-1995, Volume III*, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 1998.

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Elmer Enderlin at his office in Stanley, Idaho, 1986.

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INTERVIEW HISTORY--Elmer Enderlin

Elmer Enderlin was recommended as an interviewee by his cousin Dean Enderlin, McLaughlin Mine geologist and local historian. Described by his cousin as "Tramp miner, first class," he worked in the astonishing total of fifty-eight mines over some sixty years. Dean's tabulation of the mines is appended to the interview.

Whereas I had been told that mercury miners died horrible premature deaths from mercury poisoning, Dean listed nearly a dozen healthy and active old men who had worked in the World War II mercury mining boom when fulminate of mercury was still used in rifle primers and detonators. There are other mercury mine workers, some of them now employed at the McLaughlin, from the more recent boom of the 1960s caused by the development of mercury batteries, which drove the price of mercury up to \$600 a flask. (Mercury has had the same unit of measurement since Biblical times.)

It took some time to arrange the Elmer Enderlin interview because in the summer he works his tungsten prospect in Idaho and in the fall he is busy hunting elk. He comes back to Lower Lake for the winter and the interview was conducted at his home there on 28 March 1995. He lives alone in a well-kept house adjacent to his sister's home and not far from the family property where he was born nearly ninety years before. His grandfather was killed in an accident involving a horse; there were dangers on Lake County roads even before the automobile. His mother died when he was a child, and his father, who lived to be 101, raised five children alone, baking five loaves of bread daily. I was struck by the fact that Elmer always referred to his parents as "our father" and "our mother". He never married, although he says he "came close a couple of times." A dog has been his loyal companion.

Elmer Enderlin neither smokes nor drinks now, although as a younger man he did both. He is hard of hearing and uses a cumbersome external hearing aid. He also wears a brace on one foot because he was injured at fourteen in a horseback riding accident, but it has evidently not been a handicap. He suffered crushed vertebrae in a truck accident, and once was injured in a fall sixty feet down a mine chute. He says, "One reason I've lived as old as I am: I would quit whenever it didn't look good to me; I would quit and go someplace else. I quit the Sunshine Mine the first shift. Several of them I quit the first shift." Although his schooling was scant, he has acquired a good deal of practical wisdom. He also writes verses, a sample of which is included in his interview. Not the least of pleasures gained in interviewing him was his generous parting gift of a fine specimen of locally-mined cinnabar.

The tapes of the interview were transcribed in the Regional Oral History Office, and the lightly edited transcript was sent to Enderlin for

review. He made several minor clarifications of diction and returned the transcript promptly. The manuscript was corrected and indexed at our office. The tapes are deposited in The Bancroft Library and are available for study.

The Elmer Enderlin interview is one of more than forty interviews which were conducted by the Regional Oral History Office from 1993-1997 in order to document the development of the McLaughlin gold mine in the Knoxville District of Lake, Napa, and Yolo Counties, California, from 1978-1996, as part of the ongoing oral history series devoted to Western Mining in the Twentieth Century. The Regional Oral History Office was established in 1954 to record the lives of persons who have contributed significantly to the history of California and the West. The office is a division of The Bancroft Library and is under the direction of Willa K. Baum.

Eleanor Swent, Project Director, Research
Interviewer/Editor
Regional Oral History Office

The Bancroft Library
Berkeley, California
March 1998

Regional Oral History Office
Room 486 The Bancroft Library

University of California
Berkeley, California 94720

BIOGRAPHICAL INFORMATION

(Please write clearly. Use black ink.)

Your full name Emerald Wood Enderlin

Date of birth April 23, 1912 Birthplace Lower Lake

Father's full name Henry Enderlin

Occupation miner Retired Birthplace Baden Baden G.

Mother's full name Mabel Anne Dean

Occupation Housewife Birthplace ?

Your spouse none

Occupation _____ Birthplace _____

Your children _____

Where did you grow up? Lower Lake, Ca.

Present community _____

Education 8th Grade

Occupation(s) _____

Areas of expertise Tramp Miner

Other interests or activities _____

Organizations in which you are active none

INTERVIEW WITH ELMER ENDERLIN

MINER IN FIFTY-EIGHT MINES

[Date of Interview: March 28, 1995]##¹

Family Roots in Lake County for Over a Century

Swent: You were telling me about your mother and father. Your parents lived here then?

Enderlin: In 1905 he was working there then--with her dad. She lived up where Homestake is, and he was working down in Knoxville.

Swent: Where was your mother born?

Enderlin: I don't know where she was born, but she went to school there at Rieff. That's right on the road out to Morgan Valley. It used to be a post office. Right on top of the hill, just before you go down into Morgan Valley. There used to be an old schoolhouse there, and she went to school there. There's an old lady out here in the rest home. She's 101 years old. And I'm sure she went there too at the same time. But she's too far gone now to ask her any questions. She might have some pictures of that class, or something on that order. She's out here; I've stopped and seen her a couple of times. I'm sure that she would be about the same age as our mother. Our mother would have been a hundred years old in '93, two years ago. Our dad lived to be 101 and seven months. That's his picture up there [points].

Swent: Was your father born around here?

Enderlin: No, he was born in Germany. He came over here when he was two or three years old. His dad got killed after they moved here.

¹This symbol (##) indicates that a tape or a segment of a tape has begun or ended. A guide to the tapes follows the transcript.

He got killed down here between here and Middletown. He was driving a horse and a mule, and they had run away with him and killed him. Hit a tree. Just four or five miles this side of Middletown. That was in 1914, about the start of World War I.

Swent: What was your grandfather's name?

Enderlin: Wilhelm Enderlin. [Father's name was Henry. Wilhelm was Elmer's grandfather...killed near Middletown in 1914.]

Swent: Do you know where in Germany they came from?

Enderlin: Baden-Baden, I think they called it.

Swent: Oh, yes. Had he worked in mines there?

Enderlin: I don't know. But they claim he stopped over there--they came over on the boat, and out in the middle of the ocean--they gave him a bunch of medals for service, and he threw them all in the ocean; he didn't want no more. [laughs] He threw them out there in the ocean.

Swent: He wanted to get away from that.

Enderlin: Yes.

Swent: When was that?

Enderlin: They came over here when he [Henry] was two years old--two or three. He was born in '82. So it was about '84 or '85 that they came over here.

Swent: So your grandfather had been in the army over there.

Enderlin: Yes, over there. He didn't want any more of it. He threw all his medals away.

Our mother, she was--I think they were more English. I know she was born in this country. They went to Lakeport with a horse and buggy and got married.

Swent: What was your mother's name?

Enderlin: Mabel Dean.

Swent: And you said she was only fourteen when they got married?

Enderlin: She was only fourteen. Just out of school.

Swent: How old was your father?

Enderlin: He was twenty-two, I think.

Swent: And he was working in the mine?

Enderlin: Yes. He was working there with her dad. They were working right along the road down there; he showed me where they were. Right along the road.

He told me that that mine was pretty well worked out at that time. In the heyday of that mine it was further back; then they built that road up through there. They found that mine there at Knoxville when they built the road.

Swent: The road from Monticello to Lower Lake?

Enderlin: Yes. That's when they first found that quicksilver, cinnabar. I've worked there for George Gamble. That was later. In fact, I was there when World War II broke out, when they bombed Pearl Harbor. I was working down there.

Growing up on the Steinhart Ranch

Swent: Where were you born?

Enderlin: Right here in Lower Lake. Out here at Noble Ranch, they called it. Steinhart Ranch--did you ever hear of the Steinhart Aquarium in San Francisco?

Swent: Yes, yes.

Enderlin: He owned that. They call it the Noble Ranch now; it's all subdivided. But he owned that for many years, and my dad leased it from him.

Swent: Was your father ranching then?

Enderlin: Yes. We had a bunch of Angora goats; about 400 head. That's how I got crippled up. I was herding them goats, and a horse ran into a tree with me, too, and run a stick in my leg and cut the nerve in two. I got a brace there. I've had that brace on there for twenty years, I guess. That was the first year out of school when I did that. I didn't wear the brace for many years, but I have to have it now or I don't walk.

There's a picture of our school right there [points]. That old school is out here; Dean took some pictures of it.

Swent: Dean Enderlin, the Homestake geologist, is your nephew?

Enderlin: Cousin. Four of us are still alive in that picture. My brother over here, he's next door.

Swent: Spruce Grove School. That was right here in Lower Lake?

Enderlin: That's as far as I went: eighth grade. That would be equal now to high school.

Swent: And four of you were in the school--

Enderlin: Well, more than that. Sometimes there were four, and sometimes there were less. There was one teacher.

Swent: But I mean four of your family.

Enderlin: There was more than that. I had three brothers and a sister. That would be five. I'll get a picture. [gets up and looks for picture] That's quite a while ago.

Swent: When were you born, Elmer?

Enderlin: In 1912. [shows picture] That's our schoolhouse now.

Swent: Oh, my. It's all fallen down, isn't it? What a shame. Completely in ruins.

Enderlin: I got a better picture of it here someplace. [shows picture] That's the old house they tore down.

Swent: This is the house you used to live in.

Enderlin: Yes. There it is up there, that big one up there. That was the whole house sitting over here, with one room left over there--I had them keep one room over the basement.

Swent: Why did you tear it down?

Enderlin: They were going to put a road through there. That's the reason I got this house. The state bought this house.

Swent: Well, it's a nice house, but I'll bet you miss your old one.

Enderlin: Yes, I do. I got a big old cook stove I had in there--Dad had it. Boy, he admired that cook stove.

Swent: Did you keep it?

Enderlin: Oh, yes. I was going to set it right here, but I don't think they would allow it. I don't know.

Dean took this picture of me. [presents photo]

Swent: Oh, there you are at the school.

Enderlin: I'm holding that school up. [laughter] That was just last year that he took that.

Swent: The old building is completely falling down. It looks as if you're holding it up [laughter]. That's nice.

Enderlin: I gave some of those pictures up. That was the restroom. [laughs] It's still there.

Swent: A little outhouse. So you went to school--

Enderlin: I don't have any pictures of working out at Knoxville or any of the mines here. I do of my mine up there in Idaho, but not here.

White Clouds, Idaho, Mining Zinc, Tungsten, Silver, Copper

Swent: What are you mining in Idaho?

Enderlin: I've got zinc and tungsten, silver and copper. My cousin was up there one time. He went to Berkeley. He was a pharmacist, and he went to Berkeley. He was up there one time, and I had just cut through a four- or five-foot vein of wollastonite. I don't know just how you pronounce it. We didn't know what it was. So he took and bundled some of it up and sent it down there to Berkeley. And that's what it was. And in it, there were some black spots that looked like garnet. They said it was not garnet--some lady there that gave the report. She said it was not garnet; it was idocrase. Did you ever see it?

Swent: No, I've never heard of that.

Enderlin: My sister-in-law's got a big hunk of it over here. I gave it to her.

There are two names for that idocrase: down in Italy, that big mountain that slid in on that town there--Mt. Vesuvius--they

named it vesuvianite--it seems like there was some of it down there, the first time they found it. I still have the report, and I have her name someplace if I could ever find it. I know it's in there, but it would take a while to find it.

That was quite a few years ago, about twelve years ago, when I hit that ore on this new tunnel. I just go up and work for a while in the summertime.

Swent: By yourself?

Enderlin: Well, mostly. Me and the dog [laughter].

They all want me to quit, but I like it up there.

Swent: You have a good time up there.

Enderlin: I get a free hunting license up there, too. And tags, too. I might keep it up as long as I can.

Swent: Sure. Why not?

Enderlin: I've got a cabin there. I should have a picture of it right in here. That's a bull elk I killed up there.

Swent: Oh, that's a big one.

Enderlin: I got a big picture of the cabin here. [gets up and moves across room] Here, you can see it here.

Swent: That's a nice picture. You and your friend?

Enderlin: That's the kitchen right there behind me. Then I got a big room back here. The cabin is about thirty-eight feet long.

Swent: That's a pretty big cabin. And here's your certificate as a prospector too.

Enderlin: One of my secretaries sent me that one time. This is my dad and his old stove. He got it in there in a wheelbarrow.

Swent: [reads] "Henry Enderlin, October 1973, ninety-one years old, at home, Lower Lake, California." That's a beautiful stove.

Enderlin: I want to paint it all up. That was on his hundred and one birthday.

Swent: He died at a hundred and one.

Enderlin: Over at Ukiah. He was in a rest home over there.

Swent: Let's see. "Moved to Lower Lake in 1896 when he was fourteen. Born in 1882 in Baden-Baden, Germany. Came from New York to San Francisco. When the family settled in town he was fourteen. Then they moved to Lower Lake, and Henry went to work in the quicksilver mines. Mined quicksilver at the Knoxville Mine. Met Mabel Dean. Traveled by horse and buggy to Lakeport; a 1905 wedding. Lived at the Steinhart Ranch in Spruce Grove and raised angora goats and cattle. Had five children. Mabel Enderlin injured herself in a fall and died in 1922."

So your father raised you all alone.

Enderlin: Yes. After our mother died in 1922, I was ten years old.

Swent: One of your brothers said he would work all day, come home and bake five loaves of bread. He did the baking.

Enderlin: It was tough going in them days. Dollars were awful scarce.

Swent: So you went to work right out of school. You were fourteen when you started to work at the mine?

Enderlin: No. I was twenty-one when I started working at the mine. I had a ranch out there.

Swent: You worked first on the ranch.

Enderlin: I stayed on the ranch. I was the last one to leave the ranch. I left there in 1932 in a Model T Ford. I went over to Grass Valley. I had a brother working over there, and he helped me get a job over there. It took a long time to get one, but I finally got a job there.

Station Tender at The North Star Mine, Grass Valley, 1932-1936

Swent: In the gold mine?

Enderlin: Yes.

Swent: Of course, gold was booming then.

Enderlin: Yes. I worked four years there.

Swent: Oh. Where did you work?

Enderlin: At the old North Star. Not the big North Star--the vertical shaft--the old North Star came down and it didn't hit that shaft, but it connected up with some old drifts over to the other shaft.

Swent: What kind of work did you do? Tell me about your work.

Enderlin: I was what they called a station tender there. I would take the ore there--they had old blacksmith steel. They would put them in a forge and heat them and temper them and everything. I would have to take them out every night up to the shop, and then take the sharp ones down, and then I would have to send the ore up to the--I would ring the bell for the hoist. I worked there for four years. Then I got itchy feet and took off [chuckles].

Swent: This was drill steel, was it? The steel for drilling?

Enderlin: Yes, for drilling. We had a lot of it.

Swent: Heavy.

Enderlin: Truckloads of it. I had to load that all up. The old shaft was pretty flat, and I had to load it onto a truck they had made for it. It was a man truck, the same truck that they used for the men. Sometimes it would go off the track, and I would have to get back on again.

Swent: You didn't do any mining there

Enderlin: I wasn't running a machine there at that time, no. I did out here at Knoxville. We sunk a shaft out there; that was way after that.

Swent: Tell me about the North Star. How much did they pay you at the North Star?

Enderlin: I don't know. Three or four dollars a day.

Swent: Where did you live?

Enderlin: When I first started in the mine, I think I was getting \$2.75 a day. That was at the Rawhide mine; it was over by Colfax and the American River. But then I got on at North Star. I got a little more money there--I think three or four dollars a day.

Swent: Where did you live?

Enderlin: I lived there in town. They had boarding houses; I stayed in a boarding house.

- Swent: How much did that cost? How much did you pay for your room?
- Enderlin: Oh, maybe three or four dollars a week, that's all. And sometimes we couldn't pay that.
- Swent: Where did you board?
- Enderlin: We boarded there too, sometimes. At some places, you just had the room, and then you would go to a boarding house and pay for the meal, so much a week. Now they've gone crazy, by golly! [laughs] When I was in Butte, I used to pay three or four dollars a week for a room.
- Swent: When was that?
- Enderlin: That was when I left Knoxville, during World War II.
- Swent: When you first started working at the North Star, you went up because your brother was there, you said. Did you work with him?
- Enderlin: No. I was in a different mine altogether. It was the same company, but it was a different part of the mine. He was in the big shaft, and I was over here in this old shaft. He worked there a lot longer than I did. I stayed four years, then I left and went to--the next job I had was the Shasta Dam, I think, I worked in the tunnel up there.
- Swent: What kind of clothes did you wear when you worked?
- Enderlin: Oh, just overalls. It depends on where we were working, of course. I never did work very long in any wet ones; I would always quit when it was too wet, if I didn't like it I would quit. Dean's got a list of the mines I've worked in.
- Swent: Oh, really? A lot of them?
- Enderlin: Fifty of them. Fifty-five or something like that, I don't know. Between fifty and fifty-five, all over the country.
- Swent: When did you go to the Knoxville then?
- Enderlin: I went to the Knoxville in '40, I believe.
- Swent: Had you already been to Butte?
- Enderlin: Before I went to Butte. But I went to Butte first. I did go to Butte first--just before that, but I couldn't get a job because they weren't issuing a card. You had to have a work card, and

they weren't issuing any. Then when the war broke out--I stayed up there, I knew a guy there that I worked with in Grass Valley. I stayed there and drank a lot of beer with him [laughs]. I was drawing unemployment. I couldn't go to work. There were no jobs in them days.

Then I went over into the Coeur d'Alenes, Idaho, Kellogg, Wallace. But I worked in Butte for about--oh, I don't know, from '41 to about '57. About fifteen years, I guess, off and on--not steady. I'd go over to the Coeur d'Alenes for a while and then I'd come back and forth.

We didn't get very much. When I first went to Butte, I think it was six or seven dollars a day.

Swent: As a miner?

Enderlin: Yes. You had to work, too. I toughed it out for--about '57 I left there, and that was the last job I had there. I spent a lot of time over around the Coeur d'Alenes. But I worked in three different mines here: Knoxville, Abbott--that was the last one I worked in--and then I worked in that Eagle Rock, they called it, over near Geysers. It's right along the road there on the other side of the canyon.

Swent: Eagle Rock?

Enderlin: Eagle Rock. They had a steam well right along side of it there.

Swent: And the Abbott, you said.

Enderlin: That's at Cloverdale there.

Swent: These were all mercury?

Enderlin: Yes, all mercury. And the Abbott mine was the last one I worked in.

Swent: Who owned these different mines?

Enderlin: Oh, I forget the name of the company. It's the same one that had the Abbott. The same company owned the Abbott and the Eagle Rock. They were leasing that, I think; I don't think they owned it--maybe they did. They had a mill there and a furnace, but it never did pay. Most of these mines--when I worked at the Abbott, it was all worked out. I couldn't see anything. The one thing I did see--I told Dean about it--we were running a drift there, and we hit some awful good quartz. I told the guy I was working with there who was helping me that it ought to

have some gold in it, but I never checked it. It was right alongside of an old stope, where they had taken the cinnabar out. It was right on the hanging wall. I'd like to get back in there and sample that, but I don't think you could do it now; I imagine it's all caved in. I told Dean about it. But I don't think they can get in there. I don't know whether they could get a hold of the property or not anyway. I suppose they could. But I never worked--

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- Swent: I'm sorry, I'm mixed up. When did you work at the Knoxville?
- Enderlin: Knoxville? When they bombed Pearl Harbor. That was in 1941.
- Swent: Okay. I thought you said you were in Butte then. You went to Butte later?
- Enderlin: Well, let's see. No, I had been at Butte.
- Swent: I'm confused.
- Enderlin: You're right. I went to Butte right after that, when I left Knoxville. I went with the shift boss. He got fired--we both got fired. We got to drinking, and we didn't get back for two or three days, and we forgot they had a job when we got there. [laughter] So we went to Butte. We both got jobs when we got to Butte.
- Swent: I see. So you had been working here--
- Enderlin: I rode with him. I had a car here, but the fellow that worked with me out here at Knoxville was going to drive it home for me. And me and the shift boss had a new pickup, and we were out chasing around in it, and when I got back to the mine, this other guy had wrecked my car out here on the way out to the mine--Morgan Valley Road. My dad had the insurance on it. He was selling insurance at that time. He got it fixed up. And during the war I was drinking too much, and I knew I didn't have any business with cars, so I left it here. It was sitting out here under a big oak tree during the war. I was up there messing around at Butte and Coeur d'Alene. Then I had him sell it after it got fixed up--it sat there for years. I got as much for it as I paid for it because during the war they couldn't buy them. It was a '35 Chevy, nice little car.

Sinking a Shaft at The Knoxville Mine, 1941

Swent: How did you get hired at the Knoxville? How did you get the job?

Enderlin: The foreman knew my older brother. He worked for him up there in Alleghany; he had a gold mine up there before they took Knoxville.

Swent: The Oriental Mine?

Enderlin: No. Well, maybe it was. Down on the creek, down at the bottom of the gulch.

Swent: Below the Oriental.

Enderlin: Below the Sixteen-to-One, right down on the gulch. It wasn't the Oriental, was it? Maybe. They moved a lot of that equipment down here. Gamble was working up there then.

Swent: George Gamble?

Enderlin: George Gamble, yes. He used to eat dinner with us right out there at the boarding house. They had an old boarding house down here, when I was there. They tore it down afterwards; the hippies got in there, and they got afraid they would get hurt or something and sue them, so they tore it out of there. A nice old building, too--a block building. But they had to tear it out. That was after Homestake took it. No, it wasn't, either. I think Gamble tore it out before. Yes, Gamble tore it out; that was before Homestake bought that from Gamble.

Swent: So you lived there at Knoxville?

Enderlin: They built us all new houses down there when I was there. We were just moving into them when they bombed Pearl Harbor. There were about fifteen or twenty people working there when I was there. The fellow I worked with, Tommy Smythe from Middletown, went to the service, and I went to Butte. It didn't run long after we left there either. I don't know just how long it did run.

Swent: What were you doing? Were you a miner at Knoxville?

Enderlin: Out here? Yes. We were sinking a shaft there. We sunk a shaft down about 350 feet. We ran a drift out over to the old shaft--they had a vertical shaft. We drove over to that, and about the

time we got there and hit the tunnel over there, why, they bombed Pearl Harbor.

Then Butte opened up, and they wanted to mine copper. Not gold, copper. See, they shut down all the gold mines at that time. Pushed them into the copper mines.

I stayed around Butte there for quite a while, and then I went over to Coeur d'Alene. I went back and forth.

Swent: I'd like to know more about the Knoxville. You sank an incline shaft?

Enderlin: Yes. On a fifty-five degree. It had to be fifty-five, too. We were way above on a hill. I never could figure that out why they did it. They went up on the hill and sunk down right under the surface, fifty-five degrees. Dode Coopman was the foreman; he was from Middletown. He died down there at the--he was the one that fired me for not getting back to work. He died down at the Veterans Hospital.

Swent: Where did you go to drink beer?

Enderlin: Oh, just right here in Middletown and down to Napa. By the time we got home the jobs were all gone [laughter]. We took off--he had that new pickup, and I was ready to go anyway. I wanted to go to Butte; I had been up there, but I couldn't go to work. But then they opened up and were giving cards, so I went up and got one.

Swent: What kind of card was it?

Enderlin: Oh, it's just a work card so that every time you go to--up there at Butte you could quit a job one day--it was all one company--Anaconda Company. You could quit a job if you didn't like it, quit at one mine, and go out that night over to another mine if you want, but you had to have a card.

Worker Number 86,131 for Anaconda

Swent: The card was a card from Anaconda, or was it from a union?

Enderlin: It was from the Anaconda Company. It was their card. I still know my number there: 86,131. That was how many people they had had before me, see?

Swent: That's a lot.

Enderlin: Of course, they're closed now. It got way up in the thousands before I left there.

Swent: Did you ever join a union?

Enderlin: Oh, yes. I got a union book right now.

Swent: Which one?

Enderlin: Mine, Mill, and Smelter Workers. We had it at Butte.

Swent: Did they ever have a union around here?

Enderlin: No, no. Not that I know of. They tried to get them in here. In fact, they tried to get them on Homestake, but they didn't make it.

Swent: Did they ever have any labor trouble?

Enderlin: No.

Swent: At Knoxville?

Enderlin: No, not when I was there. It was a good bunch to work with. Gamble was a good guy to work for, too. You could drive up to the gas pump there and fill up with gas in your car, write it down in the--he had a little book there to write down how much you took, and they would take it out of your check. He was very good. He would bring in a case of that Lava soap, set it there, and you would help yourself, but don't waste it; that's what he would tell you.

Swent: What about water?

Enderlin: I don't know. I think they had a spring or something. I don't remember.

Swent: You could drink it? Did you drink any water?

Enderlin: Not much. Mostly beer. [laughter]

Swent: What about safety?

Enderlin: It was pretty safe, I guess. We never had any problems. There was one time we were in the bottom of the shaft there, and my uncle was running the hoist up on top--Gid Smith. He pulled it up into the sheave block, I guess, and broke the cable. That

skip come right down toward us, but it hung up before it got there.

Swent: Ooh. No problem?

Enderlin: No, not really--kind of messed the shaft up a little bit. We jumped back under the timber, and we could see it up there. You didn't have much time, though.

And then there was a lot of gas in there, too. We had to climb out once; the power went off, and that shut the fan off. You had to have a fan. Our knees got pretty weak before we got out; we had to climb out. It was pretty gassy.

Swent: How deep was it?

Enderlin: I think it was 350 feet; somewhere around there.

Swent: That's a good climb.

Enderlin: Yes. We went down 300 feet, near as I remember, and cut a sump down below that, about fifty feet. Then we drifted off of the station over to the other mine. We found, right there by that shaft--close to the shaft--an old stope, where the old timers had been in there. They took out a lot of ore there. And there was a bunch of old hand steel piled up there that they had left there. A few old tools. They didn't leave much ore that I could see.

Swent: What kind of drilling equipment did you have?

Enderlin: Oh, we had pretty good equipment. Old crank Leyners, though.

Swent: Leyner drills?

Enderlin: Yes. Crank them by hand.

Swent: What kind of explosive did you use?

Enderlin: Dynamite. I got a story, a poem, on that someplace.

Swent: You wrote it?

Enderlin: No, no. Some old timer wrote it. It was a good one.

Swent: You said you used dynamite?

Enderlin: Sticks. Eight-inch sticks. Yes, I used dynamite. I got some up there at the mine now.

Swent: Just ordinary caps?

Enderlin: Caps and fuse.

Swent: Were there ever any accidents with the blasting?

Enderlin: I never had any. If you're careful with it.

Swent: Did they have mucking machines or was it all hand-mucking?

Enderlin: When I was out there, that's where the mucking machinery was first built--at about that time. We didn't have any out here. We had to hand-muck it. When I went to Butte, they had them.

Swent: What kind?

Enderlin: The old Finley. That was the first one that was made. I've got one up there, part of one. It really belongs to Dean if he'll go get it [laughter]. He would have to go get it. It belonged to a cousin of mine up there in Alturas and she told him he could have it if he would go get it. We've got to move it out of there. It's up in the forest. I don't know whether he's going to go get it or not, but he wants it.

Working Safely in Mines

Swent: What about working with the mercury? Did that ever make you sick? Was there any problem from working with the mercury? Poisoning?

Enderlin: No, no. It won't bother you in the mine--not so much, unless it's the pure quick. It's the retort where you get that. Salivation. If you go to burning that and breathe the fumes, then you'll get it.

Swent: But it's not dangerous in the mine?

Enderlin: No. In some places, they have this--a couple places over here, where you go over to the Geysers, they got pure quick running right out of the mine. Then you've got to watch out. I can't think of the name, but one of them was pretty bad. They salivated a lot of people there.

Swent: Sulfur Bank?

Enderlin: No, Socrates. The old Socrates. That's what the road is named after. That road that goes up over the hill to the Geysers. I never was in it--or ride to it, even. I did go up there with that fellow that--they had those portable toilets to take up to the Geysers--I used to ride around with him up there when he would go up there and service them. I got out of the pickup up there one day, though, and pretty quick the guy tapped me on the head, "Where's your hard hat?" He told me to get back in the truck. I didn't have no hard hat. They had a sign there: Hard hat area. They were very strict. I guess they are out at Homestake, too.

Swent: Yes, they have to be now.

Enderlin: I got a hard hat in my pickup out there. I use it up at the mine.

Swent: You wear one in your mine up in Idaho, I'm sure.

Enderlin: Yes.

Swent: Did you ever work around the retort?

Enderlin: Oh, no, I never did. One fellow down here in Middletown--just before I went to Knoxville--he hired me to do some assessment work for him up there. He had a little shaft down in there, and he wanted me to--he had this little compressor, a jackhammer, and wanted me to drill some holes for him. He didn't have no water. I drilled one hole, and I quit. Too dusty.

Swent: That can be dangerous. That's not good for you.

Enderlin: That's one reason I've lived as old as I am. I would quit whenever it didn't look good to me; I would quit and go someplace else. I quit the Sunshine Mine the first shift. Several of them I quit the first shift.

One Shift at the Sunshine Mine

Swent: Because you didn't think it was safe?

Enderlin: Terrible. Dirty and dangerous, awful dangerous.

Swent: That's where they had that terrible fire.

Enderlin: Yes, they had that big fire, too. They had a big fire that just killed a bunch just before that. I could see why.

Swent: You mean you were there after the fire?

Enderlin: After the fire.

Swent: And it was still bad?

Enderlin: Yes, still bad. They didn't fix it up. I worked one shift--I went up to the office the next morning; the timekeeper that hired me asked me, "Where are you going for?" "I'm going after my diggers." He said, "You just started last night." "Well, I just quit last night, too." I finished the shift, though. He said, "What's the matter?" I told him, and he says, "Well, you've got to be tough to work around here." I says, "I guess so." He's dead, and I'm still here. He was working in the office [laughter]. Yes, he died.

Swent: You're in very good health.

Enderlin: I did fall down a chute one time, sixty feet, right straight down. It threw my nose off--that's the reason my nose is crooked. Broke this shoulder.

Swent: When did you hurt your leg?

Enderlin: Oh, that was here when I first got out of school. I was fourteen years old.

Swent: So then you went on and did all this work after that.

Enderlin: Oh, yes.

Swent: It didn't interfere with your work.

Enderlin: I couldn't get a job now with that brace on there.

Swent: And I suppose it kept you out of the army, too.

Enderlin: No, it didn't. I didn't have the brace, but my foot--I can't lift the toe. It killed that nerve. I was in Butte--I was deferred, see--and I got in a car wreck. I tipped a pickup over on the job. I was in the hospital for seven weeks, and had a cast on clear from here; it bent backwards. I mashed three vertebrae.

After I talked him into putting a cast on me, I went over to Oregon and got a job as a whistle punk.

Swent: What's that?

Enderlin: Well, that's pretty much the same as they had in Grass Valley, only instead of it being a hoist over here, it was--a whistle punk--you give the signal to the donkey engine to drop the cable or take it away. You have an electric whistle. You could send a signal. I couldn't do it now because I don't have no hearing; you have to have good hearing on that.

Swent: I suppose you do.

Enderlin: I did fine. But anyway, while we're on the service, they called me in there because I left Butte--I was deferred to Butte. I was working over there driving--I was on this whistle punk job. They called me in for examination for the service in 1945. They loaded a bunch of us into a bus and took us into Portland. And you know, when I got into Portland, it was V-J Day; they dropped their age limit out from under [laughter]. They cut me loose.

Swent: Weren't you lucky?

Enderlin: I never got to the doctor. I already had the bum leg, and then I had a broken back, and I had that cast straight from my hip up to my neck.

Swent: And they still called you up.

Enderlin: Yes. They drug me in anyway. Well, I didn't get to the doctor.

Swent: You never married?

Enderlin: No. I come pretty close to it two or three times.

Swent: So what kind of working arrangement did they have up at Knoxville? How much did they pay you at Knoxville?

Enderlin: I don't remember for sure. I think three or four dollars a day.

Swent: If you were hurt, did they pay for the doctor?

Enderlin: Oh, yes. We had insurance.

Swent: Did you?

Enderlin: Yes.

Swent: Social Security came in.

Enderlin: Yes. I took out Social Security, I started out in Grass Valley, when it first came out--in '37, I think. But I don't get very much. They messed it up somewhere. I paid into it. But I'm not saying anything; they might chop some more off [laughter]. I'm doing pretty good; I've been on it for twenty years. I do all right; I get enough to eat on.

Swent: You never got a pension from any place?

Enderlin: No. The union in Butte started one one time, but I didn't stay long enough to build up a lot. I got one vacation, that's all. A one-week vacation. I came down here and went hunting with my brothers one time. That's the only paid vacation I ever got in my life. I never worked steady at anything, and that's the reason I'm still around, I guess [laughs].

Swent: You relaxed. You didn't work too hard? [laughs]

But your brother and sister are still alive, too.

Enderlin: They're both in that picture. My brother's over here; he's in a wheelchair. He's been in a wheelchair for three or four years now. Broke both hips. Not at the same time. One of them--he got over that pretty good, then he fell and busted the other. He's in a wheelchair.

They want me to quit that mine up there and stay here, but I like it up there.

Swent: Do you drive your truck up there?

Enderlin: Yes. That's an Idaho truck; did you notice it?

Swent: Yes.

Enderlin: I'm getting it ready now; I've got to make a trip about the first of the month. I'm going up there to get my driver's license. I'm a registered voter up there. I want to hold that driver's license because then I get a free license to hunt and a free tag. If I got a California license, then I would have to pay \$300 or \$400 if I wanted to hunt up there.

Forty-six Years Mining the Claim in Idaho

Swent: Where is your mine up there?

Enderlin: Well, it's up in what they call the White Clouds. It's out of-- have you heard of Sun Valley?

Swent: Yes.

Enderlin: Straight through the hills, it would be about sixty miles from Sun Valley--up north. Right straight north. It's up in those mountains. It wouldn't be sixty miles--about forty or fifty probably.

Swent: How do you sell what you get out of the mine?

Enderlin: I don't sell. I haven't sold a dime's worth [laughs]. It's all there. I got a lot of ore blocked out, too. Homestake was up there and looked at it just before they picked this up. In fact, those two guys there from Homestake sampled it, and they told me that they had to go to California, and that's when they picked this up. They were looking for gold, and mine doesn't show any gold--so far; it could be there.

I got wild goats right up on the mountain. You can see them right from the cabin. Not all the time, though.

Swent: Did you ever work at the Triumph Mine at Hailey?

Enderlin: No, I never did. I was over there--

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Enderlin: --a lot of money in their mill. They had a bunch of old timers there in that mine, and they just put a bunch of money into that mill--you know, rebuilding it and one thing and another.

Swent: Just recently?

Enderlin: The Triumph. The old guys--there weren't any of them worth a darn, but they've been there for years. You know how it gets when they stay on the job too long; they get lazy. Anyway, they said, "Let's strike for some more money. They won't shut it down now; they got that new mill here." So they went on a strike. It didn't stop them at all; they just shut her down and shipped that mill down to South America someplace. Put them all out of a job, anyway. [laughs] Not any of them worth a darn.

But they're having quite a problem there now, cleaning that up. They had an awful mess. The old tailings pond especially. And it's right in a subdivision. They're having problems up there now, and I think it will be under one of those--what do they call it?

Swent: Super fund?

Enderlin: The super fund will have to clean it up. That's right out of Ketchum, between Ketchum and Hailey. Have you ever been up there?

Swent: Yes, just one time. Have you run into any of these problems at your place, with the environmental problems?

Enderlin: No. I'm underground, and the only thing I do is put out some muck there, and waste. But it's all limestone; it isn't going to hurt anything.

Swent: How did you get your permit to mine?

Enderlin: I just staked those claims.

Swent: A long time ago?

Enderlin: Oh, yes. I've been digging there for forty-six years.

Swent: All right.

Enderlin: I've got a lot of ore blocked out. I need a mill. If I had money for a mill, I wouldn't need the mine or the mill either [laughter]. They've got it now so that I can't get nobody interested in it. That's the trouble. Like Homestake--they came down and looked at it, and a lot of them did. [s soon as they get to thinking about that recreation area, they back away. And they've withdrew it from a patent; they won't let you patent it. So that stops you right there.

Swent: You don't have a patent?

Enderlin: No. It costs a lot of money to patent. They claim you can do it for three dollars an acre, but don't try. We got two patented just over the hill from where I am. One time me and another guy--it cost us in the thousands to get a patent on it. They don't give you nothing.

Swent: You said that your mother lived where the Manhattan is now?

Enderlin: Yes. Right where the pit is.

Swent: So they owned that land?

Enderlin: No. I don't know what company had it, but there was a big store there and a post office at the time. My dad would go up there and get the mail there at the post office. That's how he

come to meet her. Well, he worked with her dad, too. They're buried out here--her dad is buried out here in that old cemetery.

The Pioneer Cemetery, Lower Lake

Swent: At Lower Lake?

Enderlin: Yes. They were going to dig them up here a few years ago and use them for fill over on the new cemetery. As soon as I got a hold of it, I got Dean to write me up a petition on his computer. We circulated that around. No, not that one--I just wrote it out; that was it. And then I had my sister-in-law type it out. It was before Dean came up here. They were going to start digging; they had a notice out there [saying] what day they were going to start. I got that petition out, and I went around and got everybody in town to sign it but one. One refused. He owned this restaurant up here--that old Silver Dollar restaurant. It was kind of a greasy spoon anyway. He wouldn't sign it; he said they ought to dig them up. I said, "That's all right, if that's the way you feel about it." And I've never been back in there since.

Swent: I drove around that cemetery; it's very pretty. It's a beautiful cemetery.

Enderlin: It's a nice place. You've been over there?

Swent: Yes, I drove around it today. It's lovely.

Enderlin: Now maybe you weren't to the old Pioneer Cemetery.

Swent: The one behind the school.

Enderlin: Oh, no. This is further. This is what they call the Herndon Cemetery. It's about a quarter of a mile from there. Further on.

Swent: On Morgan Valley Road?

Enderlin: You can go down that way. But you can go out this way, too. You take Winchester Street out. You go down there; it's about a quarter of a mile from there.

It's an old cemetery. Even got Indians buried in it.

Swent: Why did they want to dig it up?

Enderlin: They wanted to use it for fill over here, fill in for some more burials in this other one, see. We stopped it, but we had to fight, though. Everybody was good; they all signed it.

Swent: You've certainly seen a lot of changes here in Lower Lake.

Enderlin: Yes. Out in Spruce Grove there we had about two or three thousand acres on a ranch there. We didn't own it; we leased it. That one ranch was over two thousand. We had about three or four thousand acres, I guess, under lease. But it took it all to make a living.

Swent: So you had the goats and also cattle?

Enderlin: Cattle, horses, goats, turkeys, chickens, and hogs. It took it all to make a living. And we had grapes, too. We had a vineyard out there. And prunes--a prune orchard.

Swent: Did you hire help?

Enderlin: No, no. The kids did it.

Swent: The kids did it. Five helpers?

Enderlin: Yes.

Swent: Then your dad lived to be 101?

Enderlin: Yes, 101.

Swent: That's wonderful.

Enderlin: I don't think I'll ever make it, but you never know.

Swent: You might. What did he think about all the changes along here?

Enderlin: He couldn't believe there was gold out there at the Manhattan. No gold out there, he said. I guess it was pretty close to surface there where they are digging that pit.

Swent: Did you ever work at the Manhattan?

Enderlin: No. It never did work when I was there. Oh, there would be a few of them puttered around there, you know? Leasing it or something. There was some Chinaman who had that for a while, I heard. But no, I never did work there.

Swent: Were there any Chinese working here when you were working?

Enderlin: No.

Reed Mine was running when I was at Knoxville. They had quite a crew from Lower Lake here.

Swent: Was that a bigger mine than the Knoxville?

Enderlin: It was behind the Knoxville.

Swent: Was it bigger than the Knoxville?

Enderlin: Yes, I believe it was, when I was there. Knoxville wasn't too big, but they had a big mill, and a lot of people working there.

Swent: What about the Oat Hill?

Enderlin: It was running then, too. My brother, Lamar Enderlin, he worked there. That's where he met his wife. She was hashing there in the boarding house there.

Swent: You never worked there?

Enderlin: No. I was up there several times, but I never did work there. Never even asked for a job there.

The Last Job at the Abbott Mine

Swent: What about the Aetna Mine?

Enderlin: I've never been to that. The last job I had was at Abbott. The foreman was off--they put another guy in there as the foreman. I never did get along with him. He had somebody up there in the raise to blast a bunch of holes, to blast a round. He must have gotten scared out; he put in about half of them [laughs] and let the rest go to ruin. They had an awful mess. He wanted me to work up there. I did go up and blast that round. Then when I came off of shift and was taking a shower up there, I told him that if I'm going to work in that raise, I'm going to do it my way; I'm going to put a slide in there so I can go up in there safe.

Swent: A what?

Enderlin: A slide--so that I could go up under the slide instead of crawling up through that chute. He said, "You're not going to do that now; I'm the boss."

So I said, "Then you do it." That's what I told him. I said, "You do it yourself." So the next day I went out to the mine, and I told the superintendent exactly what I told him. I figured it would be safer to do it my way. I told him to get me my check, so I did, and I went up to Lakeport to put in for unemployment.

She says, "Wait a minute; you quit out there, didn't you?" I said, "Yes." She said, "What did you quit for?" And I told her that same thing. "Just a minute," she said. She went and called up the superintendent. He verified it. She wrote another check for me. [laughs] I never went back. I went by and got my diggers. I got them out; [laughs] that was the end of that. It didn't take much to make me quit. He left a board off of the chute, and you crawled over from the manway into the chute, and crawled up under all this ragged rock up there. I told him I wasn't going to do that. I got away with it.

Then I went on Social Security. That was the end of it--after I drew up all the unemployment, I went on Social Security. I've been there ever since. It was just twenty-one years ago next month. The twenty-third of next month.

Swent: Were there ever any black miners around here?

Enderlin: No, not here. There used to be some prospectors up there where I am up there.

Swent: In Idaho?

Enderlin: Yes.

Swent: There were some in Hailey, at Triumph, during the war, I heard. I've heard this, but--did you see any?

Enderlin: No. Well, I never was over there much until they shut down. Then I went over to buy some stuff. I was working for another guy over there, mining barite. He bought some stuff over there, and I went over and got it. I never did do much around Triumph. It was all a bunch of home guards, as far as I knew. They thought they had the company by the tail, you know, with that new mill sitting there. They thought they were going to get another raise. They were probably paying them more than they were worth anyway. So they shut her down.

Swent: What did you call them?

Enderlin: Home guards. They get that way--when they stay in a mine too long, you always see a few of them. Won't do a darn thing, but they can't fire them.

Swent: Were there any Mexicans working in the mine?

Enderlin: I don't know whether Mexicans worked there or not, but I imagine they did.

Swent: Around here?

Enderlin: I've never seen any working here, no. People were all mostly local people when I worked there. Gamble was pretty good about that.

Swent: Did he live there at the mine?

Enderlin: Yes, he lived right there. He had a house there.

Swent: Did you work three shifts?

Enderlin: We worked two shifts, I think--day and night shift.

Swent: What about the Eagle Rock and the Abbott?

Enderlin: We worked two shifts out there, too.

Swent: Did you blast on one shift and muck on another?

Enderlin: It was pretty close to surface. It aired out good; it was just at the surface. Quicksilver don't go very deep.

Swent: You drill and blast the same as you do for hard-rock mining?

Enderlin: Yes. You've got to be careful or you'll cave it. You've got to know what you're doing.

Swent: This stuff you showed me looked awfully--

Enderlin: This is pretty hard.

Winning a Bet at the Eagle Rock Mine

Swent: But it would crumble, wouldn't it? Would it cave?

Enderlin: Well, it will, yes. Over at the Eagle Rock they had a guy, the foreman--[Bert Beales]--he had a little ore sticking out above the timber there in the drift. He asked me one day, "Could you take that out of there without caving this drift?"

I told him, "Well, I guess I could if you would let me do it the way I want to do it."

He said, "I don't know how else you would do it; you won't do a damn thing I tell you." [laughs] He bet me ten dollars I couldn't do it without caving the drift. And I did, and I made him pay up, too.

Swent: How did you do it?

Enderlin: I just took it easy, you know? I worked it out of there.

Swent: You were above the timbers?

Enderlin: Above the timber, yes.

Swent: How do you do that?

Enderlin: You've got to go pretty easy. You've got to be pretty careful, but I did it.

After I left there, I went over here to the Abbott--that was the same company. After I left there, he was driving from Middletown, up over the hill, to the Geysers, to the Eagle Rock. The Shell Oil Company had a road up there, and on this road--him driving by there every day--he saw this cinnabar sticking out there, and he staked it. Shell Oil raised the devil that he couldn't do that. By God, he did; he made it stick, too. I heard afterwards that he drove up there, and he was puttering around up there--he had a brand-new pickup--I guess it was automatic. He forgot to put it in park or some darn thing. He got out, and the darn thing started rolling back. He tried to jump in it, and I guess it drug him for a ways and crippled him all up. That's the last I heard of him; I don't how he came out on that. But he got those claims, and they couldn't stop him. I don't know whether he's still alive or not. Probably not.

Swent: Where did they get the timber from around here?

Enderlin: Local mills. That was a timbered stope we went into down there in Knoxville, the one we broke into. The same way out here at the Abbott--that was timbered stope. They would have sets. They would take out a hole as big as this room, and they would

go out here about five by five, cover it over, and put one set right on top of the other.

Swent: You went up? Mined up?

Enderlin: Yes, and then worked up as far as the ore goes. They're doing away with that; they don't do much of that anymore. That's too expensive. The timber's too expensive. And handling it and everything. You've got to do it fast now. As a rule they go in--like Homestake--with big equipment. With some of that ground, I don't think they can use that big equipment underground because it will bury you. You'd have to be careful. I would like to see that tunnel that they drove out there.

Swent: From the pit?

Enderlin: Yes. Did you see it?

Swent: I just drove by it and saw it.

Enderlin: I never did see it. Dean took me down through that--in fact, we went down--they wanted me to show them where we sunk that shaft in Knoxville. I went down there and showed them about where it was, and then we came up over that hill and down into the pit. They weren't working; they were having a meeting or something. We had it all to ourselves. I got a good tour out of it.

Swent: I bet you enjoyed that.

Enderlin: Yes, I did. I'd like to go in that tunnel sometime and see what they have.

Swent: Dean can probably get you in some day.

Enderlin: If the time is right.

Swent: You never worked in the Reed Mine?

Enderlin: No. I was over there, I went by it.

Swent: That was up high on the hill, wasn't it?

Enderlin: There could be some gold under that, too. I don't know. They drilled over there, I guess, and they didn't find it. But you could miss it with them drills, too--pretty easy. That's what I need up there; I need a good drilling program. No use spending much--I don't think they will ever let us mine it anyway. There's a bunch of hoodlums we got working in D.C.; they're going to break the country, anyway.

Swent: They don't like mining [chuckles].

Enderlin: No, they don't like anything. Not only mines. All the grazing and everything. They're fighting them now, though. It's going to come to a head. I don't know--something's going to happen this year. They're fighting up in Idaho. I got the paper the other day; they're having big meetings up there and right here in California, too. They're fighting the government. And over in Nevada, they're the worst.

Swent: Did you ever work in Nevada?

Enderlin: I worked in Nevada, yes.

Swent: Where did you work?

Enderlin: I worked in a tungsten mine out of Fallon. I worked a little tungsten mine out there. I've worked in pretty near any kind of mine you want to mention. I worked in uranium--

Working in Some Uranium Mines

Swent: Where was that?

Enderlin: Down in the Grand Canyon.

Swent: Oh, really?

Enderlin: I rode down that Grand Canyon on a cable.

Swent: I remember that mine that went in from the canyon. You worked in that?

Enderlin: Yes. I was looking for a piece of that ore this morning. I had a piece of ore from that mine; I can't find it.

Swent: I can't remember the name of that mine.

Enderlin: The Orphan Mine. Teddy Roosevelt gave him a patent on that. That was a good job for a while. But the uranium went out too. I was over in Utah working uranium, too--leasing it. We didn't make anything.

Swent: Near Moab?

Enderlin: No. It wasn't far from the Grand Canyon--out of Hanksville. In the Henry Mountains. Somebody had been in there and dug around. They dug a big hole in there. There was a tree, a petrified tree laying up there, limbs and all, up in the ceiling in that roof. Some of them are pretty hot with uranium, but that one wasn't.

Swent: Didn't affect your health.

Enderlin: No, I don't think so. I'm still going, anyway.

Swent: Your lungs are good. You never smoked? You're not a smoker?

Enderlin: I used to smoke. I smoked--until probably about Dean's age, I guess. About thirty-three. I think I quit when I was thirty-three.

Swent: That's good.

Enderlin: I quit drinking right after I came back from Oregon, over in Butte. It'll be fifty years the tenth of December this year when I quit drinking--took the last drink.

Swent: You quit completely?

Enderlin: Completely, yes. I just quit.

Swent: Why?

Enderlin: Oh, I got in a fight up there, and I didn't know anything about it until the guy that was with me told me about it the next day. So I thought it was time to quit when you get that bad. It was in a Mexican joint, too. I haven't had a drink since.

Swent: Just like that?

Enderlin: Yes, I just quit cold turkey. But then the smoking, I chewed tobacco for a little while. Used a can and a half of Copenhagen--that helps. But you've got to make up your mind to quit. Snose won't do it alone; you've got to do it yourself.

We had a boy right across the street here a few years ago-- a young fellow; he's a lot younger than I am. He killed himself with them cigarettes. He wouldn't quit. He died with one of them in his mouth, right over there at the house.

Some of them say they can't quit, but they can quit if they want to quit. If you don't want to quit, you're not going to quit. There's no use telling them, either. They get mad, see.

Swent: A lot of people kill themselves drinking, too.

Enderlin: Yes, that's right. Some of them kill themselves working, too. [laughter] Work, as a rule, won't hurt you. I've done a lot of it. I got some old junky equipment up there in my mine over the years. I got an old mucking machine and a couple of compressors, machine drills--wore out, of course.

Swent: What do you think about women working in the mines?

Enderlin: It's all right, if they want it. This cousin of mine up there in Alturas, she's a pharmacist. I put her on the mucking machine [laughs]. She liked it. She used to come up right along. Now she can't get away since this computer deal--it's hard for her to get anybody to take care of things, is what she said. She can sneak up there once in a while. She's got a section of ground up there, too. It's out in the sagebrush--she's got a nice place there.

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Swent: Did your mother have brothers and sisters?

Enderlin: Oh, yes. She had several of them. There were two of them that went to school with us for a little while.

Swent: Are they still around?

Enderlin: No. They're all dead. Her family's pretty much all gone. She had a niece up here in Lucerne, and she died last year. She smoked them long Italian cigars. I told her they would kill her. "Well, you have to die from something," she says. She didn't quit. She died.

Lower Lake's Past and Its Possible Future

Swent: So what's going to happen to Lower Lake when the mine closes?

Enderlin: Well, I don't know. They just started talking--I don't know if they're going to go through with it or not--about putting a prison in here. Someplace in here, I don't know. They talked about it a year or two ago, too. If they want to put a prison in here, that would put a lot more jobs around. I wouldn't want one of them. But they'll find something, I guess. I don't know.

Swent: I see there are a lot of new shops on Morgan Valley Road. A lot of new buildings--or old buildings fixed up.

Enderlin: Yes, they fixed them up.

Swent: And new businesses, it looks like.

Enderlin: You ought to come up some time and take a look at that old school.

Swent: I will, yes. I drove around today a little bit. The school, that's new, isn't it? All that school complex over there? All those schools are new?

Enderlin: Yes. Me and a cousin of mine, we cleared that grade school there next to the cemetery. We cleared that one time. We blasted the trees out; they had them scrub oak and pine trees--we would blast them out and cleared that for them under contract.

Swent: For the school?

Enderlin: Yes. I think we got \$150 for it [laughs]. There was no money in them days. We bought a box of powder for four dollars.

Swent: So the school has been there for a long time then?

Enderlin: No, not necessarily. It's been there--well, fifty or sixty years ago.

Swent: When you cleared it?

Enderlin: Yes. I was about--well, it was before I left here. I was just about eighteen or twenty years old.

Swent: Those buildings all look new.

Enderlin: They keep moving in new ones. And they build more. It used to be just that one old high school, the big block building down there. I think it's block, or stucco. That was the high school. After they quit the other school, they put the grade school out there too. We cleared that ground.

Swent: Right up above the cemetery?

Enderlin: Yes. It runs right up to the cemetery there.

Swent: So Lower Lake has always had a high school?

Enderlin: No. About the time I graduated, they put it in. My sister went to it. My dad wanted me to go, but I didn't go.

Swent: Did your brothers go to high school?

Enderlin: No, none of them. My sister's the only one who went to high school. I wrote a poem here last fall. Well, I wrote several of them, but I wrote this one. They had an outfit down in [Sistersville] West Virginia [Sparrowgrass Poetry Forum]. A friend of mine sent the advertisement down to Idaho. Anyway, I sent the poem in; I was supposed to win some money on it. I don't know whether I will or not. I'll probably get the booby prize. [laughter] I don't have a copy of it.

Entering a Poetry Contest

Swent: You read it to me.

Enderlin: I don't think I've got it. I could write one. Here's the last card I got from them.

Swent: [reads] "Dear Elmer Enderlin: I'm certain you'll be proud to see your poem in *Treasured Poems of America*. You're still in the judging for the cash prizes totaling \$1,000."

Enderlin: That's all the prizes, see, that \$1000. The biggest one is \$500. I don't expect to get that. Here's a [shows paper].

Swent: *Treasured Poems of America*. [reads] "Your poem has been approved for publication in the Fall 1995 edition." Well, good. So you bought a copy of the book from them.

Enderlin: Yes, I bought that.

Swent: Sure. Well, that will be pretty exciting to see--what was your poem about? Can you remember?

Enderlin: I could write it out.

Swent: I'll bet you can say it. Recite it for me.

Enderlin: I could write it easier than I could recite it.

Swent: Really? Well, here: I've got a paper and pen.

Enderlin: They told me you had to have it not over twenty lines. Mine was sixteen.

I put a couple of them together, really. I had to get it in by a certain time, so I just put a couple of them together. [begins writing poem] I just sent it in like this; I didn't type it out. I just sent it in like this.

Swent: Will you read it for me?

Enderlin: You read it. [laughter]

Swent: No, you read it for me; go ahead. "The Prospectors."

Enderlin: "Just a-sittin' on a log
A-pettin' my dog
Waitin' for snow
So south we can go
And leave these mountains sleep
Under the snow so deep.
We'll rest up until June
Which will be all too soon
And come back in the spring
And do the same thing.
We'll dig some more holes
Like the lowly moles
And open up the vault
And if it's empty, it's not our fault.
We'll quit that first million
And start on the billion."

Swent: [laughter] Oh, that's wonderful. May I have this?

Enderlin: Yes, you can have it. I can write another one.

Swent: That's really nice. "A-pettin' my dog." Well, you're quite a poet.

Enderlin: What did you think of it? [laughs]

Swent: Quite a poet, yes.

Enderlin: Think I'll get the booby prize? [laughs]

Swent: No, I think you'll get better than that.

Enderlin: I learned a lot on that book. I've written a lot of poems like that. I learned a lot of how the others write them too, see. They're all going to be printed in this book. That book's sixty

dollars. But I ordered it early, see. I got it for forty. But if I don't like it, I can send it back and get my money back. I don't have to keep it. But I'm going to keep it. It's going to be printed in that book. I guess that's their annual book. The way I understand it, they have this every year--they have a contest, and they give out these prizes every year, as far as I know. I thought maybe I'd try it. Maybe while I'm doing my assessment work up there this year maybe I can pick up a better one for next year [laughs].

Swent: That may be another kind of gold mine.

Enderlin: I can't hear a darned thing when I got that thing [hearing aid] off. I don't like it.

Swent: It looks uncomfortable. That's quite a contraption.

Enderlin: You ought to come up to the mountains up there. You'd get a kick out of that.

Swent: How long does it take you to get up there? How many days drive is it up there?

Enderlin: It's only a day and a half. I leave here in the morning and without driving at night, I would go up to Alturas [California], and sometimes I will visit my cousin up there for a couple of hours and rest up. Then I'll drive on up almost to Burns, Oregon; there's a nice lit-up rest stop there where you can park and camp overnight. It's got bathrooms and everything. I generally go there, and then the next day I get in up to the mine in the afternoon sometime. So I should make it to that rest stop if--although last year I didn't. The last time I went up I stayed at my cousin's place in Alturas, and that's too much for the next day, see. But I still got in before dark, up to the mine.

Swent: Have you had any trouble with vandalism at your cabin?

Enderlin: Oh, they break in and steal stuff. Stole frying pans and lots of stuff like that. But the snow takes care of a lot of it. One guy, he even chopped the door out to get in. I have problems with them. But I meet a lot of good people up there, too.

Swent: I'm sure you do.

Enderlin: Most of them are. But some of them are screwballs.

There's not too much I can tell you about the mine. At Knoxville, as far as I could see--for cinnabar--it was pretty well worked out when I was there. Everyplace we would go, we would find one of the old timers had been there. Same way at the Abbott. It was all worked out. I never worked at that one out there by the lake.

Swent: The Mirabel?

Enderlin: No, the Mirabel was down out of Middletown.

Swent: That was a big one, wasn't it?

Enderlin: Yes. My uncle, Hugh Davey, owned that. Lamar, my brother, worked for him down there. He owned that, and he also owned that one down there at Guadalupe. I think it was the Guadalupe. Down there in San Jose or something like that down in there. It was a big one. And he owned that, and he made a fortune. Then he got to drinking down in San Francisco and got in a fight and hit somebody over the head with a wine bottle or whiskey bottle and killed him or crippled him up. So he got sued, and it broke him.

Swent: What was his name? Was he an Enderlin?

Enderlin: His name was--he had that one over there at the Geysers, too. Not the Eagle Rock, but the one up above it there: the Culver-Baer mine. That's where our aunt died, in there. He married our aunt is what he did--on our mother's side. He used to have a big boarding house. I stopped there--I think dad and I stopped there one time. We had dinner with him. They were working there. They had a big boarding house on the west side of the road. South side of the road, I guess. Can't even think of his name now.

Swent: That's okay.

Enderlin: "Retta" [Retta Smith] was our aunt's name.

Swent: Was she on your father's side or your mother's side?

Enderlin: Mother's side.

Swent: She was a dean?

Enderlin: Yes. He had a mine over in Nevada at Daveytown, too. He also had that Manzanita Mine. Lamar, my brother here, he worked for him down there, and that's where he was when he got married--

down there at that Manzanita Mine. I can't think of his name now; it'll come to me some time.

Swent: Well, you've worked in a lot of places. More than fifty mines.

Enderlin: I never made many fortunes, though.

Swent: But you're still here.

Enderlin: Yes, I'm still here.

Keeping Up the Assessment Work on a Claim

Swent: That's the important thing.

Enderlin: I'm still digging holes up there, too. I'll put a round or two in this year for assessment work. Me and the dog. Oh, there's some of them that come up to help me to muck a round. But I've got to be careful about that because I don't have insurance or anything on that. The guy from Boise, he wants to help me--a young fellow. He's forty years old.

Swent: He wants a share of it?

Enderlin: No, he just helps me for nothing. He comes up there and goes fishing--he stays there in my cabin. I got a letter from him the other day. He wants to go in there now and see how deep the snow is. It'll be deep down.

Swent: It'll still be deep, yes. So you go up in about April, do you?

Enderlin: I've got to go up and get me a driver's license before the twenty-third. But that'll just be up and back. I might take a trip over to Coeur d'Alenes where I used to work, and come down through Oregon and Washington. I don't know; depends on how my pickup runs and how much time and money I got.

I know some people--this fellow's uncle lives over at Murray, Idaho. That's up on the other side of Wallace. They want me to come over there and see them. I might go up there; I don't know. It all depends on the weather.

Swent: How many months can you work up there?

Enderlin: Last year I was there about three months, maybe four. I went up about the fifteenth of August last year, and I came back the first of November or a little before.

Swent: Oh, you go up in August?

Enderlin: I did last year, but that was on account of this house. I couldn't get away. The state was dealing on this house, and taking the old house out and all that stuff. So I was late getting up there last year. As a rule, I go about the first of July. I don't know what day I'll get--it doesn't matter too much what day I get up there. When the road is open--sometimes that road up to the mine don't open until the middle of July--from the cabin up. The cabin is down lower--just a few hundred feet--but the snow gets down in the timber. Up at the mine, there's always a slide or two that comes in over my road.

I've got a lot of ore blocked out, and it's good ore, too--some of it will run 15 or 20 per cent zinc. Beautiful stuff. And a lot of tungsten--scheelite. Did you ever see scheelite?

Swent: I don't think so.

Enderlin: You have to have a mineral light to see it. It fluoresces. If you have time sometime, you can check on what I told you about that wollastonite down there; you'll find my name down there. My cousin's name, really: Russeau "Russ" Enderlin. He's the one that sent it down there. And he went to school there. That's how he come to send it there. There's a nice vein of it; it's a pretty rock. It's about the color of that napkin, and it'll have blobs of that idocrase in it. It looks like a chunk of garnet, but it's not garnet, she said. I could get you some--

Swent: It's in a white rock?

Enderlin: Yes.

Swent: It would be very pretty.

Enderlin: It is pretty. It's very pretty. My sister-in-law's got one over there. I brought it down for her. It's just a rock. I had one over at the old house, but I forgot to bring it out, I think. Maybe I did bring it out; it might be in the shed over there, I don't know. When I was moving, I lost a lot.

Swent: That's too bad.

Enderlin: I got a lot of it up there. I think this year--if they don't run me out--I might bring some good samples of that zinc and

tungsten and stuff down. Maybe an ore car too; I got three or four of those little ore cars. I'll bring one of them down and make a flower pot out of it.

Swent: And put it in your truck?

Enderlin: You can sell them, you know. They're worth money now. Dean was telling me some woman out there at the mine wanted one. He told her about the guy over in Grass Valley. She called him up, and by God, she bought one. She paid around \$800 or \$1000 for it. I sold one for \$200 a couple years ago.

Swent: For a flower planter?

Enderlin: He didn't plant nothing in it. He's got a summer home up there, and he just keeps it; somebody will steal it off him, probably. He's going to come up now--he wants me to meet him there the fourth of July; they're having a get-together there with all their family. He wants me to give them a tour in the mine. I took him and his kids in there; they were thrilled. I got about 1100 feet of tunnel in there--in the two tunnels. The longest one is about 800 feet, and then I got about 300 feet down below.

Swent: And you did all this yourself?

Enderlin: Yes. Well, I hired somebody--I had a government loan for a while on the upper one. They had what they called a DMEA. Did you ever hear of that? Defense Minerals Exploration Administration. I had one of them. They put in \$13,000--something on it, and I had to match that. But I could match it with my equipment and my work and cash. It kept me broke for a while. I'm not sure about it, but you see, I'm up above the water table. I got a big spring down there below the mine, a couple of hundred feet down there. I figure if I get down below that water table, I'll have more copper. Copper runs deep, see. It's mostly zinc now. I don't have any water in my tunnel. I would have to go down maybe a hundred feet, and then I'll hit the water table. Then I would be in trouble. Especially up there now, on that fish deal.

So I'm going to let that sleep, that part of it. But I can drift a long ways--I'm trying to get the ore on the lower level at the present time. I'll show you a picture of the mine.

Regional Oral History Office
The Bancroft Library

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Western Mining in the Twentieth Century Series
Knoxville/McLaughlin Project

Claire Fuller

FULLER'S SUPERETTE MARKET, LOWER LAKE, 1982-1995

Interview Conducted by
Eleanor Swent
in 1995

Since 1954 the Regional Oral History Office has been interviewing leading participants in or well-placed witnesses to major events in the development of Northern California, the West, and the Nation. Oral history is a method of collecting historical information through tape-recorded interviews between a narrator with firsthand knowledge of historically significant events and a well-informed interviewer, with the goal of preserving substantive additions to the historical record. The tape recording is transcribed, lightly edited for continuity and clarity, and reviewed by the interviewee. The corrected manuscript is indexed, bound with photographs and illustrative materials, and placed in The Bancroft Library at the University of California, Berkeley, and in other research collections for scholarly use. Because it is primary material, oral history is not intended to present the final, verified, or complete narrative of events. It is a spoken account, offered by the interviewee in response to questioning, and as such it is reflective, partisan, deeply involved, and irreplaceable.

All uses of this manuscript are covered by a legal agreement between The Regents of the University of California and Claire Fuller dated October 18, 1995. The manuscript is thereby made available for research purposes. All literary rights in the manuscript, including the right to publish, are reserved to The Bancroft Library of the University of California, Berkeley. No part of the manuscript may be quoted for publication without the written permission of the Director of The Bancroft Library of the University of California, Berkeley.

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It is recommended that this oral history be cited as follows:

Claire Fuller, "Fuller's Superette Market, Lower Lake," an oral history conducted in 1995 by Eleanor Swent in *The Knoxville Mining District, The McLaughlin Gold Mine, Northern California, 1978-1995, Volume III*, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 1998.

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Claire Fuller, 1995.

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INTERVIEW HISTORY--Claire Fuller

Claire Fuller's oral history documents the impact of an industry on a small-town grocery store/butcher shop. The letter of invitation to participate in the project was sent to her on 9 October 1995 and the interview was conducted on October 18 at her pleasant home on a tree-shaded acreage on Morgan Valley Road, east of the town of Lower Lake. We sat at the table in the dining area which adjoins a spacious living room.

Like many others of her generation, Claire came to California through military service. Born in Pennsylvania, she met and married her husband in San Diego where they were both in the navy. He had grown up on a dairy farm, but decided, as she says, "to cut them up rather than milk them," so he trained as a butcher after his discharge from the navy. They lived in a number of different places before they bought their own butcher shop in Oroville, California. She then became a meat wrapper, and says, "It was kind of hard to get used to working with your husband; there can't be two bosses." Although he scolded her for spending too much time talking with the customers, their business prospered and at one time they owned and ran three stores in different towns. She and her husband worked from 6 a.m. to midnight 364 days of the year. "The only day we would close is Christmas, and I had to fight for that. He would have stayed open Christmas, too." Her philosophy is, "That's what you're there for, to serve the public. You should be nice to them."

In 1982, they bought the Economy Market on Morgan Valley Road in Lower Lake, near the intersection with Highway 29, and changed the name to Fuller's Superette. Her first awareness of the gold mine came, she says, when "we used to have the guys come in every night after work, buying beer,....and some of them cashed their checks there at the store." She remembers vividly the excitement of bringing in the autoclaves, "right down Main Street,...they moved about five miles an hour,....as big as this house....we had all the electric and telephone wires...they had to take all those wires down....I mean, it was something." She recalls the good years as from 1981 to 1984, when they had seven employees and made sandwiches for workers' lunches as well as doing a brisk business in beer sales.

The Fullers have retired now, and Claire is undergoing treatment for lung cancer. The development of the McLaughlin Mine had an impact not only on their business but also on their personal lives. The youngest of their three daughters married a diesel mechanic employed at the mine and now lives in Nevada where he works at another mine.

The tapes of the interview were transcribed in the Regional Oral History Office, and the lightly edited transcript was sent to Claire

Fuller for review. She added a few details of dates and names and returned the transcript promptly. The manuscript was corrected and indexed at our office. The tapes are deposited in The Bancroft Library and are available for study.

The Claire Fuller interview is one of more than forty interviews which were conducted by the Regional Oral History Office from 1993-1997 in order to document the development of the McLaughlin gold mine in the Knoxville District of Lake, Napa, and Yolo Counties, California, from 1978-1996, as part of the ongoing oral history series devoted to Western Mining in the Twentieth Century. The Regional Oral History Office was established in 1954 to record the lives of persons who have contributed significantly to the history of California and the West. The office is a division of The Bancroft Library and is under the direction of Willa K. Baum.

Eleanor Swent, Project Director, Research
Interviewer/Editor
Regional Oral History Office

The Bancroft Library
Berkeley, California
March 1998

Regional Oral History Office
Room 486 The Bancroft Library

University of California
Berkeley, California 94720

BIOGRAPHICAL INFORMATION

(Please write clearly. Use black ink.)

Your full name Claire Louise Fuller

Date of birth 3-31-30 Birthplace Pittsburgh, Pa.

Father's full name Andrew Pierson

Occupation Steam Fitter Birthplace Japan, Pa

Mother's full name Louise Pierson

Occupation Housewife Birthplace Pittsburgh, Pa.

Your spouse Herbert F. Fuller

Occupation Meat cutter, storeowner Birthplace Merced, Ca.

Your children Sally Susan Tina

Where did you grow up? Pittsburgh, Pa

Present community Lower Lake, Ca.

Education High School

Occupation(s) Housewife, meat, wrapper, store owner

Areas of expertise _____

Other interests or activities _____

Organizations in which you are active None

INTERVIEW WITH CLAIRE FULLER

FULLER'S SUPERETTE MARKET, LOWER LAKE, 1982-1995

[Date of Interview: October 18, 1995]##¹

Service in the WAVES, 1953 to 1955

Swent: Where were you born, Claire?

Fuller: Me, I was born in Pittsburgh, Pennsylvania, March 31, 1930. My husband [Herbert] is from Merced, California. He's a native. I joined the WAVES [Women Accepted for Volunteer Emergency Service], and that's where I met my husband, in San Diego.

Swent: What did you do in the WAVES?

Fuller: I gave eye tests for driver's licenses, navy driver's licenses, the eye test and the written tests, and, you know, just like a DMV [Department of Motor Vehicles] office it was, more or less.

Swent: This is after World War II, I guess.

Fuller: Oh, yes. It was 1953, '54, and '55 was when we were discharged. My husband had been in the navy for four and a half years. I was discharged the second of March, and he was discharged a week later, I believe it was, or two weeks later.

Swent: At that time could you be married and be in the navy?

Fuller: Oh, yes. I could have stayed in, and he could have gotten out, but he didn't want to stay in San Diego. He wanted to get rid of the navy altogether. You know, he'd been in that long, and he'd been on a ship the whole time, on the *Princeton*, back and forth to Japan about five times. He was ready to get out. Then that was during the Korean War, too, you know.

¹This symbol (##) indicates that a tape or a segment of a tape has begun or ended. A guide to the tapes follows the transcript.

Then we've lived all over California, you could say. We lived in San Diego, and we went to Merced after that, and then we lived in Winton, and then we lived in--where did we go from Winton? To LeGrand, and from LeGrand to Sacramento, and from Sacramento to Susanville and then to Red Bluff and back to Orland and then back to Red Bluff again, and then to Paradise and Oroville. Then we ended up here.

Herbert Fuller Works as a Butcher, 1955 to 1977

Swent: Were you merchants the whole time?

Fuller: He was a butcher.

Swent: Where did he learn that?

Fuller: In Toledo, Ohio. After we got out of the service, he went to school in Toledo, Ohio, for twelve weeks and learned to be a butcher, and then we came right back out here.

He didn't like Pennsylvania at all. We were there in April for Easter that year, and it snowed, and he said, "Forget this." He didn't want any more to do with Pennsylvania after that.

Swent: But he knew he wanted to be a butcher?

Fuller: Yes. His brother was a butcher, and I guess he decided--because he grew up on a dairy, I figured we'd be milking cows after we got out of the service, and he didn't want to have anything to do with that, but he wanted to cut them up rather than milk them.

Swent: So he was working as a butcher in all these different places?

Fuller: Yes. He worked for Purity Stores for--let's see, how long did he work for Purity? Until probably 1962, I believe it was. And then he went to work for Wentz Markets, which--they had quite a few stores around Northern California. And then Walter Wentz sold out, and Herb worked for--the guy's from Cottonwood. Oh, I can't think of his name.

But anyway, he got a little disenchanted with working for somebody else, and he'd always wanted a store of his own, and the opportunity came along that somebody suggested--I guess he had told people, salesmen and so on, that he was looking for a butcher shop or grocery store of his own, and they suggested his name to Cosby and Hamilton, that were going to open a store in Oroville, and they needed a butcher. So we leased the butcher shop there in Oroville.

Swent: When was this?

Fuller: In 1977. And then Cosby and Hamilton, they had a falling-out with each other, and Mr. Hamilton didn't want to sell to Mr. Cosby, and so he sold the whole store to us after we'd been there--we were there from '77 until '82.

Owners of a Grocery Store in Oroville, California, 1977-1984

Swent: What sort of selling arrangement was it, an outright purchase?

Fuller: Yeah. We gave him our house in Red Bluff as down payment on the store and went from there.

Swent: You were living in Red Bluff?

Fuller: No. We had moved to Paradise. We lived in Paradise for five years, but we still had the house. We left our kids in Red Bluff. It was one way to get out from under them. We had twins, and they were twenty or twenty-one when we left, and they rented the house from us, along with a girlfriend, and we took my youngest daughter with us, and moved to Paradise, which was a half an hour from Oroville.

Before, we were driving. It was sixty miles one way, back and forth, you know, which was quite a--we did that from March until November, I think, of '77. Boy, that was rough, plus working twelve, fifteen hours a day.

Thoughts on Working for Your Husband

Swent: And you worked in the store, too, always?

Fuller: Yeah. I became a meat wrapper, and he used to get so mad at me because I would talk to the customers too long, you know, and, "You've got work to do back here. Let's get with it."

I said, "Well, they just wanted to talk."

He said, "Well, you can't stand there and talk all the time. You have work to do," you know. And it was kind of hard to get used to working with your husband.

Swent: That's a challenge, isn't it?

Fuller: It's quite a chore at first, you know.

Swent: Was this the first time you had done that?

Fuller: Yes.

Swent: Up until then you had not worked--

Fuller: No. No. He had said why didn't I go out and get a job, and I said, "I don't want a job. I know what that's like," because I'd worked six years before we had kids, and I didn't work after that. Sometimes I think he just went into business to put me to work. [laughter] But we got along all right.

The one thing you've got to learn when you work with your husband, especially, is there's only one boss. There can't be two bosses, you know. It's really something to go through. If you're not an easygoing person or if you're going to let everything bother you, forget it, because you'll never make it. But we did all right.

Swent: You said it was a big store in Oroville?

Fuller: Yes. It had been an old Farmers' market. In fact, it was funny because it was an old Purity store to begin with, who my husband had worked for to begin with, Purity. Now it's a True Value hardware store and a video rental place they turned it into.

Swent: But you had a full grocery?

Fuller: Supermarket, yes. We sold it in 1982, and we retired, and he was antsy about it the whole time. In fact, we picked the wrong guy to sell to, and he went broke. And so then we took it back again in--oh, I don't know. Let's see. It was in '84, I think. We took it back for about a year and a half, and he went over there and ran it and left me here.

Swent: Why do you suppose the other fellow went broke when you had made a success of it?

Fuller: Well, because--when we sold, it was a good business. There was nothing wrong with it. If he had stayed there and taken care of it, it would have been all right, because about three blocks down the street from us, a big Holiday Market closed, and so he--I mean he was doing fabulous, you know, twice as much as what we had done in it, and he had all this money coming in, and he didn't know what to do with it. He wasn't smart enough to think, "Well, I'd better put it in the bank and keep it for hard times." He thought they were never going to come.

So he opens another big store in Paradise, and Paradise is a bad--I mean, it's all retired people up there, you know, and there was already five supermarkets, I think, in Paradise, and here he goes and opens another one. He was spending all his time in Paradise and letting his brother run the one in Oroville that he had bought from us, and it just went downhill and downhill and downhill, and finally that was it. He walked out. It wasn't making any money, and he couldn't

keep it up and lost the one in Paradise, also. So he really screwed himself up, is what he did. So since then we've been here.

Swent: And this one that you bought, was this already going when you bought it?

Fuller: Yes, but she was just about ready to file bankruptcy, too. Billie Joe Colett.

Swent: How did you hear of it?

Fuller: Well, United Grocers, that we bought groceries from, they were the ones that she bought groceries from also, and Herb decided that we weren't going to be able to afford the taxes--or what do you call it when you pay taxes during the year? Oh, you know, the bookkeeper tells you you've got to pay so much every four months to cover your income tax.

Swent: Estimated tax?

Fuller: Estimated taxes, yes. I couldn't think. He says, "We're not going to be able to afford--," which, of course, we could have, but he didn't think we could. So anyhow, he started looking around for a store to buy.

Swent: You were living in Oroville?

Fuller: In Paradise. And so we had gone to--in fact, we looked at a store in Lake Tahoe also to buy, and he didn't think he could take the snow again up there, and we came over here and looked, and he thought this was a nice little store and that we should get into it. So United Grocers backed us, and we bought the store and the property.

Fuller's Superette, Lower Lake, 1982 to 1995

Swent: What was it called at that time?

Fuller: Economy Market. And she also had one in Clearlake. Her husband had died about five years before that, and left her--the stores were paid for. Everything was paid for. All she had to do was run them, and she more or less let her sons clean her out. To this day it amazes me that she did that to herself, you know. But she had never worked in the store. She didn't know anything about running the store when he passed away and left this to her, and she had three sons, and they were all grown, I think, except for maybe the youngest one might have been in high school yet. I'm not sure. But she just got in money troubles, you know. So we came over and bought it.

Swent: You just bought the one? You didn't buy the other one up there?

Fuller: No. We didn't buy the one in Clearlake, not until--we bought that one then, what, a year later. We took over it, too, not the property, just the store.

Swent: This one you say you bought the building?

Fuller: Yes. We own the property.

Swent: You changed the name then to Fuller's Superette?

Swent: To Fuller's Superette, yes, and for, I guess, about four years, everybody was still writing checks to Economy Market. [laughter]

Swent: So you moved down here then?

Fuller: Yes. We had a motor home, a nineteen-and-a-half-foot motor home, and we moved with it and lived in it at Shaw's Shady Acres there for a couple of months, until April, I guess it was, and then we bought a big thirty-two-foot motor home and moved into it, because we didn't know how the business was going to go and whether we would stay or not.

The Floods of 1982

Fuller: Then we moved over to Trombetta's in Clearlake with the motor home in '83, and we had to move it up twice because that was the year it flooded here. My husband put it--I told him the first time that we moved it out of the water, I said, "You'd better go higher," I said, "because I bet it's going to flood more."

"Nah, it's not going to flood."

A couple of days later, he's down there with garbage bags around his legs, you know, and getting in there to move it. The water was up just about to the door, to come in the door. He moved up higher then. That was quite an experience, too, that flood.

Swent: That was a bad winter, wasn't it?

Fuller: Yes, it was. Really bad. The store in Clearlake, there's a creek that runs behind it, and the water was coming both ways and come in the back door and in the front door, and she had water in there, I guess about that high, all over the floor. It was quite a--

Swent: Knee-high?

Fuller: Yes. It was bad.

Swent: I'm trying to think back, '82. What was this street like then?

Fuller: Well, it wasn't like what it looks like now, no.

Swent: Was it paved at all?

Fuller: Oh, yes. It was paved. It's always been paved. And there were businesses.

Swent: Was the streetlight there?

Fuller: No, the streetlights have only been in there about five years.

Swent: The traffic light, I mean?

Fuller: Oh, no. The traffic light wasn't there either. The one up at Clearlake wasn't there either. There's two traffic lights since we've been here.

Swent: Was there a lot of traffic?

Fuller: Yes. Bank of America was right across the street from the store. The building is still there, and all the little shops that are--let's see. There's one, two, three, which, in fact, the one on the end of that block right across from the store was a Purity store also. So Purity keeps coming back all the time. In fact, a fellow that I went to high school with worked for Purity stores when Herb first started working for them, from Pennsylvania also. So we're intertwined some way. I don't know why.

Swent: Was the mortuary there?

Fuller: Yes, the mortuary was there. The two big buildings now, the one that has Five Brothers Saloon in it and the other ones that are empty, those burned down in 1986. They weren't big like that then. Then they were just small. Right next to our store was a thrift shop and then a small barber shop, and then it was the Five Brothers Saloon. No, I take that back. Next to the barber shop was an old theater that was built out of redwood, and it went pretty far back, quite a ways back, behind our store even, and then was--let's see. Above the barber shop and the thrift shop was apartments. I think there was two or three apartments above there. And then there was Five Brother's Saloon and an empty parking lot there. There used to be a--what did they call it? It was another bar that had burned down quite a few years ago between the mortuary and Five Brothers.

And then what else was on the street there? Oh, across the street from Five Brothers was another theater, but a movie theater. The other theater was plays, I guess. I don't remember that anybody ever said that they showed movies in there. They might have, but I kind of doubt it. It was just a big empty building. There was no seats or anything in it. They used it for storage, Five Brothers did. And the one across the street was a regular theater, it had seats in it and a

stage and the whole bit, and that was the Zamora Christian School they had in there, and it burned down also. We've had quite a few fires since we've been here. It seemed like they were trying to redo the whole town, burning everything down.

The Fire of 1986

Swent: What was the cause of the fires, do you know?

Fuller: The one in the school started on the second floor where they had a kitchen up there, and it started in the kitchen. Before that, though, Bev Magoon's had burned down, Magoon's store. They had a big old two-story general store, which was on the same side of the street as our store and about a block up from us, and I don't know what caused it to burn down, but it burned down.

And then Five Brothers, they say it was arson, that somebody had started it in the back in this old theater, and that redwood was just as dry as paper, and it just went like nothing.

Swent: You must have been worried about your building.

Fuller: They called us and said that the store was on fire, and this was about midnight, 12:30, something like that in the morning. June sixth it was, 1986. And we went up, and of course the fire engines and everything were there and people just standing there, because the bar was still open. People had come out of the bar and were watching the fire. And the firemen kept the water trained on the buildings next to us to try to keep us from burning, but a third of the store did burn down, next to the thrift shop and the barber shop, because everything went. The roof fell in on that side, that third of the store, and we had a lot of smoke damage. It was miserable. You stood up there and watched it, and there was nothing you could do.

Swent: Did you have insurance?

Fuller: Oh, yes. That's another--talking about insurance. But it was bad, because we had to sell everything that was in the store to a broker. We couldn't sell the product that was left there, because they said it was smoke damaged and it was in a fire and it was watered. Well, everything on the other three-fourths of the store, two-thirds of the store, there wasn't a thing wrong with it. It was a little dirty and dusty from the smoke, but there wasn't anything wrong with it, but yet we had to go through and count everything and price it out at wholesale, what we paid for it. Then the broker came in, and he bought it and hauled it all away. We had to pack it all so that he could haul it away, and then he paid for it, but that was when it really got to me. My brother-in-law and my sister-in-law were here, Herb's brother

and his wife was here visiting us when this happened. And then his older sister and brother-in-law came, and they helped us, and we were all sitting around the table with adding machines and going through this bit, you know. And I got so upset. That was the first time I cried about it, and I really broke down, and I felt bad because here we were selling all this product to somebody that was going to take it and sell it somewhere else. Why couldn't we sell it instead of going through that? It didn't seem right to me, but I guess it was. So it was about four and a half months before we were back in business again, from June until the end of September. And they got us back up and running because we were the only store in town. But the fire department was marvelous. They couldn't have been any better, and it's just a volunteer fire department. So we've had quite a time.

And then it was after that that the Christian School, I guess probably a year or two years after that, it burned down. So we haven't had any--no, we did have another fire. The brick hall, which belongs to the fire department, it burned down. They were going to have a Christmas party, and they were all set up for the Christmas party. They had the tables set up and everything, decorations and all, and I don't remember them saying how that started, but it burned down then, too. It's at this end of town here. That's all the fires we've had so far.

Swent: That's enough.

Fuller: Yes. Since '82. Yes, it's terrible, because Bev, she burned down right after we took over the store. Not too long after that, that her store burned, and she never rebuilt. She had no insurance. The building was about 103 years old, I think, something like that, so she couldn't even get insurance on it.

Mine Workers Bought Beer and Cashed Paychecks

Swent: How did you become aware of the mining around here?

Fuller: Well, what I remember the most, we used to have the guys come in every night after work, buying beer.

Swent: Did you know about it before you moved in?

Fuller: Not really. I didn't have any idea what all these people were doing here.

Swent: You didn't check into that before you bought the store?

Fuller: No. TIC--if you know TIC, they were doing a lot of the work out there, and a couple of the--in fact, Billie, that we had bought the store

from, her son worked for TIC at the time, so he was out there helping to build the mine. The guys would come in to the store after work, buy beer, and some of them cashed their checks there at the store, and we'd seen them going back and forth. They used to take them out on buses. They would park down on the--what is it? It's right next to new [Highway] 53. They built a parking lot for them, and then the guys would park their cars there, and they would pick them up in buses and take them out to the mine. So the buses were back and forth, three, four times a day.

What I remember the most about when they were building the mine, when they brought those--oh, I knew I was going to forget what they were called, those big round things that they use for the slurry, the--

Bringing the Autoclaves Down Main Street

Swent: The autoclaves?

Fuller: Yeah. They brought the autoclave right down Main Street.

Swent: Oh, that was an exciting day, I guess, wasn't it?

Fuller: Well, it took them three days to bring them just from Williams on Highway 20. It took them three days. They moved about five miles an hour, I think.

Swent: Huge things.

Fuller: Oh, they're as big as this house. Well, they had to take--because then we had all the electric and telephone wires were back and forth across the street they weren't underground like they are now, they had to take all those wires down so that they could bring these big autoclaves through town. I mean, it was something. Everybody just--we just stood and looked out the windows there at the store and watched them go by. In fact, I was asking one of the guys that works out there now, I said, "When they start tearing the mine down, are they going to bring those things back through town?"

And he said, "Well, I think they're going to cut them in half this time and bring them out." He said they're going to take them somewhere else.

But that was kind of exciting. I remember that because we all stood out there and watched them take the wires down, and then we watched them creep along. It's fourteen miles from here out to the mine, so that was quite a--it took them a day, I think, to get from here out there. But I remember that. That was quite a sight, to see that going through town. Two, there was two of them.

Swent: Three, I think.

Fuller: Three. Two came at the same time, I think, and then the third one came maybe a day or two later, if I remember right. I don't think--unless they came during the night, but I don't think so.

Swent: And so you were without electricity all that time?

Fuller: For a while, yes. Were we?

Swent: I would guess you were.

Fuller: Yes, but we were open. We stayed open, so we must have--

Swent: Maybe they did some patching or something.

Fuller: Yes. See, that part of it I don't remember. The exciting part I remember.

Swent: Didn't they redo the water and the sewers also?

Fuller: No.

Swent: Along that street.

Fuller: Yes, they did. I was trying to think if Homestake was the one that paid for that or not. They might have. I know they paid to have the street paved after that went through. In fact, it was quite a while after that, because we thought, "Oh, shoot. They're never going to do it." But they finally did, and they said they were, but it was probably three or four years after that they finally got around to paving the main street, and then they only paved as far as DJ's Pizza there, I think, because they said that they were going to widen [Highway] 53. So they just left that part of the street and didn't repave it. Well, here it is 1995, and they're just starting to widen 53, and so...

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Fuller: They donated money to the schools for something, I can't remember what. Two or three times they have. Maybe more than that, even, and then, like I say, paving the street, and they built a whole new road out to the mine. They had to.

Swent: Have you ever been out there to visit the mine?

Fuller: No. I rode by it, but I've never--I've often said we should take the tour and go through it, but we never did. And one of the girls, women, that worked at the store when we bought it owned property out there, about seven miles from town, I think it is, and Homestake bought it from them--

Swent: What was her name?

Fuller: --and put a road right through the middle of their place. Bessie and Eldon Rogers.

Swent: Were they pleased about it?

Fuller: Oh, yes. As soon as Homestake paid them for the land, she quit working. [laughs] Well, she was in her sixties then, and her husband was getting ready to retire, and she wanted to move into town. Out there they didn't have any electricity. They had a generator that ran their TV and so on, you know. In fact, he used to hook up the TV some way to the battery of his car so he could watch television, too.

She wanted to get out, and she kept saying that the land out there was so unstable that her house was moving, it was sliding, she thought, down the hill. They lived kind of on the side of a hill. So anyway, they built a place right down over here after they got it. But it didn't take her five minutes to quit working. She didn't even give us two weeks' notice. That was it. She was done. But they have lived here a long time. Her husband, I can't remember who he worked for now, but anyway, he retired, too. He's passed away just here about four or five months ago.

Grocery Store Employees

Swent: Did you have many employees, many people working for you?

Fuller: Seven, mostly. Seven on an average.

Swent: And you and your husband both worked there all the time?

Fuller: Yes.

Swent: Was it hard to get people to work in the store, or how did you go about getting them?

Fuller: I don't know that it was so hard. In a way it was, because a small store like that, you get somebody to work for you, and they learn how to stock., they learn how to check groceries and the fundamentals, and the first thing you know, they want to work in a big store or they want to make more money somewhere. And there isn't that much money in a little store like this. You pay the people that are--like that would be a manager or a produce man or a butcher, you pay them good. The rest of the people you pay minimum wage. Well, naturally, if you're young and you want to make more money, then of course you'll go to work for, say, Safeway Foods or someplace else, you know, where you can get

benefits and a better hourly wage. So in that way it's hard to keep people.

Now, the girl that we sold the store to, she had worked for us for seven years, and she had always wanted to buy it. So she worked there that long. I was trying to think of anybody else that worked for us quite a while. She worked for us, I'd say, the longest. The rest, in fact, that are still working there, one girl worked for us for a few years, and then she quit and had a couple of kids, and now she's back working again. It's really--it's hard to keep box boys, too. They get out of high school and they're gone.

Swent: You hired high school boys for that?

Fuller: Yes. And then you have to find somebody else. You get one trained, and first thing you know, why, he's graduated and he's gone. There's not too many men that want to work in a small store like that. The fellow that's the butcher up there now, Pete, he worked for us, oh, probably seven or eight years ago, and he was just learning to be a butcher then. And then he went back East or went to the Midwest or somewhere. Arizona, was it? I don't know. Last year, maybe a year and a half ago, he came back, and he came in and said he'd like to work there again, because he couldn't find anything anyplace else.

There's not much--there's no industry here in Lake County, so there's no place to work other than if you're in a store or out at the mine. There's been a lot of people that have been laid off out there, you know, or left because they know that eventually it's going to close.

Changes in the Community Since 1984

Swent: How did things change when the construction phase ended? When you came in, it was still under construction.

Fuller: Yes.

Swent: The TIC people were here. Of course, they left.

Fuller: Yes. After that it kind of--oh, how would you say it? There wasn't the activity that there was before, in and out, the back and forth. Well, there just wasn't the business in town then that there was before.

Swent: 1982 was the busy time, was it?

Fuller: Yes. I'd say probably from '81 to '84 were good years, and then it got down to where they had their permanent crew out there and those people.

Of course, they kept us pretty busy, but I think the majority of the people that worked there at the mine lived in Lakeport or away from Lower Lake, you know, even Clearlake, and they didn't shop much here in Lower Lake after that. They were too far out of town, you know, to bother with us. The men would stop on their way home, or they'd go into--Five Brothers was pretty good then. It's nothing now. They might as well close their doors altogether, the way things are going. And, like I say, all the stores, there was something in all the stores then, too, where now there's nothing uptown.

Swent: Who were your customers then?

Fuller: Well, the majority--you know, there's a lot of people that live around Lower Lake. That sign out there says 1,051 population, and that's been 1,051 since we moved here in '82. I thought that after they took the census, that they would come back and paint a different number on there, but they never did. It's still 1,051 people.

They did a survey here a few years ago. We had a business association going for a while, and they said there were--is it sixty? I believe it was sixty, there were sixty businesses in just this little area here. I never would have thought that, but, like I say, they're outlying businesses. We used to draw quite a few customers from Hidden Valley, which is about, what, ten miles down the road, because they'd either go to Middletown or they would come to Lower Lake. There was no store in between. We used to draw quite a few customers from there. But now Hardester's, that owns Hardester's Corner Store in Middletown, they have built a real nice market in Hidden Valley. So that took some of our customers away. And of course then the bank closed.

Swent: When did that close?

Fuller: Let's see. The bank closed in '85, I believe, because it was after the fire that--well, maybe it was--no, it had to be in '86. I'm trying to remember if the bank was still there in '86. It was a Bank of America branch. It was either '85 or '86 that they closed, and that also added to nobody coming into town. I mean, people came into town for the post office, which was a block from the bank, and they went to the bank. Then they came to the store, did their shopping. Everything was right in that three-block area there. There was a lot of people very upset when the Bank of America closed, because there were a lot of elderly people that lived around here, and they could walk from their home to the store, to the bank, to the post office, with no problem. Now they all have to go into Clearlake to go to the bank. They still get upset about it, because no bank has ever come back into town. They said at the time they would have to have a Clearlake National. We asked them, "Why don't you open a branch here?" because they were just getting started then. They said, well, they would have to have at least an \$800,000 base before they could come in with a bank.

I still think it was here, that they could have opened a bank here with no problem at all, because it was always busy. You would go uptown in those years, and you couldn't find a place to park. In fact, now it looks like you can't find a place to park sometimes, and I don't know what they're up there for, but there must be something there still. It's a shame because it's a nice little town.

Swent: Yes, it is.

Fuller: And hopefully it'll come back. I don't think the mine closing now is going to have much effect on it, really. I think business-wise, it will stay the same. I was trying to think of what else I could--

Swent: I was wondering if your customers--did you carry the same sort of stock here that you did other places; were the customers wanting the same?

Fuller: Yes, we had the same variety of groceries that you can buy in Safeway or anyplace else, and we have a very good meat market.

Swent: Was there anything special that you had here that was different because of the different customers?

Fuller: A little bit we catered to the Mexican people when they were here for the harvest for the walnuts and pears and--what else do they grow around here that they--mostly for the walnuts when they came in. But that's not as heavy as it used to be, either, now. I can remember we used to have to really stock up on tortillas and things like that for them, but we don't get near as many as we used to.

Swent: Did the construction crews or the miners make any special demands?

Fuller: Other than cold beer, I don't know of any. [laughter] That was about all they stopped in for most of the time.

Swent: Did you ever have a deli sandwich service?

Fuller: Yes, we used to make sandwiches. Then Herb quit doing that, too.

Swent: That was for lunches?

Fuller: Yes. Yes. They used to come in for that quite a bit.

Swent: Why did you quit doing that?

Fuller: Well, I think because they quit buying. There weren't as many. You know, it was getting where he would make five or six a day, and we'd have three or four left over at the end of the day, you know, and you can't do that too often. And they're no good the second day.

Swent: There was a deli truck for a while.

Fuller: Yes. Right.

Swent: Where did that come from?

Fuller: It was a guy in Clearlake that had it.

Swent: That wasn't from your place?

Fuller: No. What was it called? I can't remember. But it used to go out there every day, yes.

Swent: He has stopped now.

Fuller: Oh, yes. He stopped quite a while back. And they sold it to this couple that owns it now, and I'm not even sure that they have it now either. She used to have a fabric shop in Clearlake, and her and her husband bought the--what do they call those trucks? Well, whatever. She used to fly in the air races, the women's air races. She was a pilot. My husband used to race go-carts, and they would come out to Lakeport, to the fair grounds there, with their truck when we had races out there. I can't remember. Her name was Kathy something. They didn't have it when it ran to the mine. I don't remember who it was that had it when it went out there. I believe they were from Clearlake, the people that had that truck.

Swent: This wasn't anything that interested you?

Fuller: No. And, in fact, they used to stop at Napa Auto Parts there in town just about every day that they came through to go out to the mine. They stopped there, I remember that. But let's see, what else can I remember that might interest you?

Swent: Well, the school. Your children didn't go to school here, did they?

Fuller: No. They were all grown by then.

Swent: And the hospital was already built by the time you came here, I guess.

Fuller: Yeah. There really hasn't--

Swent: You came, then, just about the peak time, I guess.

Fuller: Yeah, I think so, too. I think they'd been building, what, about two and a half years, something like that.

Swent: I think so.

Fuller: In '82.

Swent: Well, no, actually, the construction contract was given in '82. July '82 is when the contract was given.

Fuller: Really? Wonder what makes me think that they've been out there longer than that.

Swent: Well, there must have been activity before then.

Fuller: Yes. Mr. Wilder, that the property belonged to, he built a theater in Clearlake, a movie theater, and what else did he do?

Swent: The library, I think, he built, too, hasn't he?

Fuller: No, he--

Swent: Or helped it?

Fuller: Yes. I don't--I'd better not say that. I don't know for sure now. He wanted to give them the land for the library, and they didn't like where the land was that he wanted to donate for the library, so they built it over behind Safeway. I'm pretty sure that didn't belong to him, but I wouldn't swear to it. But I remember he had offered them a piece of property, and they didn't--I don't know why they wouldn't take it. I don't know where it was now, but it was over there somewhere in Clearlake.

Swent: But the theater--

Fuller: But he built the theater, yes, and there's a--I don't think the ice cream shop that is connected--well, the theater sits like here. There's another building here. It's behind Bank of America. This was an ice cream shop, and I don't think that's running any more either, but it's still there, the building. Put up a nice building, nice theater, nice little building there. His daughters used to shop in the store with us. You'd never think they were daughters of a millionaire, you could say. They were just ordinary people. In fact, sometimes I wondered about them, but they're nice kids. They're girls.

Swent: Well, Bill made a lot of money.

Fuller: Yes, he did, and he has given a lot to the town of Clearlake, you know. And he's always right there when they need something, so--I think the--oh, what do you call it? I know what it is, the Log Cabins. Log Cabins. It's a motel that was down in Clearlake. I think they belonged to Mr. Wilder, too. Anyway, they've just torn them down in the last couple of weeks. They're going to make a park out of this big area there on Lake Shore Drive that was--well, they were old--old, old, but they were nice. They were quaint, that kind of thing, but they really needed a lot of work, and they bulldozed them down.

Swent: Oh, dear.

Fuller: Yes. Like my brother-in-law says, they do that, they take the tax base away from town, they make a park out of it, then the city realizes

nothing from it but expense, which is true when you think about it. But it looks a lot better.

Swent: I'm sure it does, but--

Fuller: Clearlake is in as bad a shape as Lower Lake is, as far as money goes or businesses. They're always moving in and out. Mr. Pascoe, that owns the buildings that are next to us, the new ones that were built, the two-story pink jobbers, he's been since 1986 building those, and about a year after the fire--probably wasn't that long--he had put in the paper that he was going to rebuild. Well, people were calling there at the store wanting to know when the buildings were going to be up because they wanted to move out of Clearlake and move over to Lower Lake with their businesses. I must have had ten or fifteen calls every couple of weeks, you know, wanting to know when were they going to be able to get out of Clearlake because they wanted to move their business. Well, here we are, and there's nothing yet. He's still putzing around with them. He's something else. And he's old and he's ill. He owns the block across the street from our store, too, the bank and all those buildings, and he says he has those for sale now, but they're in bad shape, too. It's going to take a small fortune to fix them up if somebody would.

Now, this Bright Lights Candle Company moved in here last year, and that man bought that whole block along there, all those blue and white buildings. Except for I don't think he bought the one where the attorney is, I don't believe. Mr. Tulanian is in there. I don't think he owns that one. I might be wrong. And then did you notice that big two-story wooden building there that's got a real estate office on the first floor?

Swent: Yes.

Fuller: That's the old Odd Fellows building there. It's old, old too.

Swent: That's old.

Fuller: Yes. I don't know how old it is, but upstairs they have antiques in there. And then our school, the old schoolhouse--

Swent: That's a museum.

Fuller: Isn't that pretty?

Swent: That is nice.

Fuller: Yes. They've really--

Swent: And they're fixing up the old brick hall, I see.

Fuller: Well, they rebuilt it.

Swent: What are they going to do with that?

Fuller: Well, it belongs to the fire department, and they use it for their meetings and things like that, you know. They built a nice building there again.

Swent: Well, I guess the mine has brought in a lot of taxes, too.

Fuller: Yes. Oh, I'm sure it has. Yes. I've known a few people that work out there. What was their name? They went to Winnemucca also, where my son-in-law is now. My youngest daughter, Tina, is a school bus driver in Winnemucca.

Swent: Your son-in-law, what does he do in Winnemucca?

Fuller: He works at the gold mine there. He's a diesel engineer--mechanic.

Swent: Did he work here at all?

Fuller: Yes. He worked here for about three years out there.

Swent: In the mine?

Fuller: Yes. He was a diesel mechanic there, too, just learning. In fact, he's still learning.

Swent: But then he left to go to Winnemucca?

Fuller: Yes. It was time for them to get out of town. He's got four brothers, and they're quite a family. They all went to Nevada at one time. Slowly they've all come back here again, except for him and one of his brothers. That brother lives in Elko and works at a gold mine, too, and he's one of the guys that works in the laboratory.

Swent: Metallurgy?

Fuller: Yes. Figures out how much gold they're going to get out of whatever they bring in, you know, the dirt that they're bringing in, how much like that. I guess he's pretty good at it. Tom, my son-in-law, is just a diesel mechanic, but he likes it.

Swent: That's a good job, though, isn't it?

Fuller: Yes. He's an hour--Winnemucca is an hour away from the mine that he works in, so they take them up there in buses, too. So it's an hour or two hours he's on the road every day.

Swent: Where did they live when they were here?

Fuller: They lived out down the road here from us.

Swent: So that was kind of a long drive to work, too?

Fuller: Yes. He used to drive out there all the time. He very seldom went on the bus. I don't know why. They quit the buses--oh, let's see. They probably quit the buses about five years ago here because nobody was riding them. You would see them go through town. There would maybe be one or two guys on these big--they were an old school bus more or less. There'd only be one or two guys in them. So they got where it wasn't profitable for them to run it anymore. I think most of them--quite a few of them probably car pool out there now, because they still park over here on 53, but they don't have a bus running there anymore. And once in a while I've seen tour buses come through that are going out to the mine. Just full of people that go out there. Now, my brother-in-law who lives in Chico but used to live in Potter Valley, he has taken the tour of the mines, and here we are, we never have.

Swent: That's the way it goes.

Fuller: That's usually the way it is. Of course, those people didn't move here because of the mine. There's a lot of people that have come up here to retire, still, and then there's a lot of people that work in Santa Rosa that have moved over this way to live. Which I--well, it's cheaper to buy a home here than it is over there, you know, but to me, that doesn't--you figure your wear and tear on your automobile and the gas that it takes in going over that mountain twice a day. No, thank you.

Swent: These are people that are commuting?

Fuller: Yes. When my husband was in the hospital over there, he was over there for eight weeks, and I went back and forth every day. Oh, get in the car, and I would hate that ride over there, just hate it.

Swent: How do you go? Which road do you take?

Fuller: What is it, 29, that goes over St. Helena to Calistoga and then to Santa Rosa.

Swent: That's a hard drive.

Drugs in Lower Lake and Clearlake

Swent: What about crime around here? Has there been any change in that?

Fuller: I don't think so. No, there's not so much here in Lower Lake. Clearlake, they say there's gangs over there, and there's always been drug dealers and drugs in Clearlake, more than Lower Lake. Of course, when my daughter was here, the young people always get into these

things, you know. She looks at me a lot of times and has told me things that--"Oh, Tina, you don't know what you're talking about."

And she says, "Mom, it's the truth." She said, "I know it. I see it all over." So she saw it more than I did. I don't know, maybe I stuck my head in the sand and didn't know I was doing it at the time, but according to her, everybody that worked for us was either smoking marijuana or they were on crack or speed or something else. So maybe they were, and I have come in later years to realize that I guess they were.

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Swent: It's had that reputation around here.

Fuller: Yes, it has been here for years.

Swent: As a business person, how did it affect you?

Fuller: Well, not too bad. The young people that worked for us when we first bought the store, I found that most of them were on it, too, on some kind of drugs, and they had worked for Billie for years, because the fellows were kids that she had hired when they were still in high school. But as far as workers go, they were good workers, and I had no reason to think that they were doing anything wrong. Like I say, this was twelve years ago, thirteen years. But evidently it was rampant then.

I only know of one person that had gotten fired out at the mine for drugs. In fact, he used to be our neighbor over here, and now he's working for this guy that lives way down at the end of this walnut orchard. He just bought the place back there. But he's straight, as they say, now, I guess.

Swent: What kind of drugs was it, do you know?

Fuller: I don't remember. I'm trying to think. What did Tina tell me? Tina told me this, you know. When you have kids, why, you always find out these things. I don't know whether it was marijuana or crack or something else, but they sprung a urine test on them one day, and he was one of the ones that got caught. He had worked for the mine for, I think, about four years. It happens. I've heard of a few others that got caught, too. They just don't use their heads. You know, I mean, here they had a good job in an area where there isn't any work and get a good job like that, and then they had to blow it. But they don't care.

Swent: I guess you lose your perspective.

Fuller: Yes. In fact, the one fellow that worked for Billie when we bought the store, he worked for us for quite a few years, I'd say about three

years anyway, and he's still not--you know, he says he is, but I don't believe him. He has been married, and he has a boy, a young boy that's--God, he must be ten or eleven years old now, and he has worked for Safeway, and had a good job with them, too, and blew it there.

Swent: That's a shame.

Fuller: Still lives here in Clearlake. We've told him I don't know how many times, "Why don't you get out of here? Go somewhere else, get away from it." But, I don't know, it's still here.

In fact, we even have a friend--I probably shouldn't say this. We were out to his house. He took us out--what did we go out there for one time? I don't remember now. Like I said, I've had my head in the sand, I think, then, and we were leaving, and he said something about--he said, "What do you think of my tomato plants?" He said, "They're coming up pretty good, aren't they?" He had about six or eight tomato plants in this little area outside their house.

I said, "Yes. They look real good."

And I guess it was about four or five months later, and he'd come in the store, and he said, "Well, I've harvested my tomato plants."

I said, "Oh, good. How many did you get?" And he started laughing, and then my husband told me it was marijuana he was growing.

Swent: It wasn't tomatoes?

Fuller: It wasn't tomatoes, but they looked like--they were only probably two feet high, if that. But they grow it for themselves, and he lives way out in the hills somewhere. Good guy. There's nothing terrible about him. They've got two kids. He's got this little patch of marijuana there, and I hope he never gets caught with it.

But then we had a lawyer right here in town that got caught growing marijuana in his bedroom or his garage or something. I forget what it was now. This has been about five or six years ago, too. It was in the paper about them finding it. A neighbor boy had told his parents that, "Yes, So-and-so has this big plant growing in the house," or in the garage or wherever it was. We never heard another thing about it, and he's still a practicing attorney.

Restrictions on Butchering Game

Swent: Did you ever get involved at all with hunting, with the people bringing in game?

Fuller: We couldn't. They wanted us to cut up deer and things like that at the store, but we had no place to hang them. It was against--we couldn't put it in our cold box because it wasn't big enough, and it would be in with the other beef and so on. So we couldn't do it. There isn't--there used to be--that's something else that has kind of gone by the wayside, too. There used to be a place in--was it in Clearlake? Well, there used to be a place around here where you could take deer to be cut up, but not anymore there isn't. The only place I know, I think it's called Pachtette's. It's over in Lakeport, and I'm not even sure that they cut them up there now. My husband did cut up. If they'd hang them at home, had someplace to hang it at home, then he would cut it there at the store, but he only did that a couple of times, because you get caught doing that, and it's not worth it.

Swent: What about the ranchers that have their own beef? Do they do their own butchering?

Fuller: Well, some of them, they used to, and there used to be a guy that went around in a truck and would kill and cut up the beef for them, but I don't think there's anybody around here that does that now. At least I haven't heard of him lately. He had a whole setup in the truck, you know, where he could go out and kill, and then he would also cut it up for them, too. But that's been quite a while. It's been a long time since that's been around, too, but they used to do it that way.

Swent: But you didn't get involved in that?

Fuller: No, but every year, deer season, somebody will call up and say, "Would you cut this deer up for me?"

And we'd have to say, "No. I'm sorry, but we can't."

"Well, where can I go?"

Some of them, I guess, they have to go all the way to Ukiah, because I think there's someplace in Ukiah, too, that they do that. But from here, there's no place around here.

I know one butcher that worked for us was always going to set up his own place to do it, but he never did. He bought a saw from us, a big electric saw, and what else did he buy? A wrapping station and scale, I believe. But that's as far as he got. He never did get a cold room set up or anything where he could do this, which would be a nice little sideline, because there's always somebody that's got something that they want cut up. They come in the store with a pig or a goat or even a sheep once in a while, looking for somebody to cut it up for them.

Swent: It isn't just seasonal, then?

Fuller: No, there's always something that somebody's got, or they'd even come in with a big fish. They'll come from the coast with a big salmon or something and want it cut in fillets. We've had a few people with catfish. If it's a big catfish, they'll come in and want you to cut. Those little things we have done for customers, but I don't know whether they're doing anything like that up there now or not, at the store. I don't know whether Pete would know what to do, how to cut up a whole animal or not, because everything comes in a box now wrapped in cryovac.

Swent: All ready to go.

Fuller: Yes. All you have to do is open it up and cut it up. It's not like it used to be.

Swent: No, it isn't. Do you miss it?

Fuller: Working?

Swent: Yes.

Fuller: No.

Swent: No?

Fuller: I don't miss it one bit. I was so glad to get out of there, it wasn't even funny. It's not so much the work or the store, but my husband has been ill for the last two years, and it was just too much. You don't realize that you're doing it while you're doing it. And I remember I went up to the pharmacy for a prescription or something, and John said to me, "Well," he asked me, "how do you like retirement?"

And I said, "I think it's great." I said, "I recommend it to anybody."

And he said, "Well," he said, "you've had quite a time," he said, "taking care of the house and the store and your husband."

I got to thinking, "That's right. I've been doing about four or five jobs all at one time." So I was glad to--I miss seeing the customers.

Swent: I was thinking you would, probably, because you're a "people person."

Fuller: Yes, I do. I can't go uptown. I can't go to the post office or to another store, I run into somebody--

Swent: Sure. Everybody knew you.

Fuller: --that says, "Oh, we miss you so."

And I say, "Well, nothing's changed."

"Yes. It's not the same."

And I think, "Oh, come on now." But, yes, I miss the customers, seeing them there all the time. I even go in the store now, and they'll say, "Well, there's a familiar face. How long has it been since you've been in here?"

Working in the Store, Every Day Except Christmas

Swent: What were the hours that you kept in the store?

Fuller: Well, it's open from eight to eight, eight in the morning until eight at night. We used to work probably from seven to--let's see. Did I get up there at seven o'clock? Yes, seven to four, usually.

When we first came over, it was six to midnight it seemed like, every day, and the store didn't always have a meat counter, either. We used to get our meat from the Clearlake store, Billie's Clearlake store, because she had about four butchers working for her over there then. We used to go over and buy the meat from her and bring it over and put it in the counter--there was a little cold counter between the produce and the deli where we put the meat out, and then we built the meat market in the little store there.

Swent: Were you open seven days week?

Fuller: Yes. The only day we would close is Christmas, and I had to fight for that. He would have stayed open Christmas, too. We've always been open until two clock on Thanksgiving, too. This will be the first year that Ann has the store. I don't know whether she'll stay open on Thanksgiving or not. We'll have to see.

Swent: You had a manager who closed it up for you in the evening?

Fuller: Yes. There was, well, two or three of them that would close at night.

Swent: What did you do with your money then? Did you leave it there?

Fuller: Yeah. There's a safe in the back room. Then I deposited it every day, too, so it wasn't--

Swent: Did you ever have a robbery?

Fuller: Once we were robbed. It was before--let's see. We, in the back room, never had an office until probably 1987, I think it was, when Herb had that office built back there. It was just a desk, and the safe was

behind me. And right out, not in the open, but I mean it had a wall in front of it. But still, delivery persons come in the back door all the time, and I was right there, and that's where the money was. We were robbed once, back there. The safe had been left open, I think, and whoever it was knew at that time that the safe was open and came in and stole about \$1,600 right out of the safe.

Swent: In the night?

Fuller: No, during the day, when we were all there. Nobody heard or saw anything. So still to this day I don't know how they did it, because the meat shop is right here, and this is where my desk and the safe was, and the back door is right here. And there was a wall here. There was probably--from here to there was just a little tiny area. And the butcher mustn't have heard. He mustn't have been in the butcher shop. So nobody was in the back when this happened, and they just came in and took it and ran.

Swent: You never had any idea who it was?

Fuller: Never knew who was back there. It wasn't a salesperson or a delivery person or anything that did it. It was somebody that had been hanging around, I think, out back, and we must have been all out in the store or up front. They figured it was a good chance, "We'll see what we can do," and they did it.

Swent: But just once.

Fuller: Yes. One time was one too much. Nobody--well, let's see. They broke the window up front, in fact, just last year, threw a rock through the window and broke it, but they couldn't get in, the dummies. I don't know what they were thinking that they threw the rock there, put a hole in the window about like that.

Somebody ran their car into the side of the building one time. The woman, she says, "I don't know what happened. The brakes didn't work," or something. We were in the store, and all of a sudden everything starts falling off the shelves, spaghetti, and naturally you have the spaghetti sauce aisle, and we had spaghetti sauce and bread and I don't know what all over the floor, put a good-sized dent in the wall. Since then, we built a barrier. It's about that far away from the wall now.

And then they tried to break in the front door there a couple of times. They have run something into it, just break the glass is all they could do. They couldn't get in, because the alarm goes off right away anyway.

Swent: Do you sell liquor?

Fuller: Yes.

Swent: As well as beer?

Fuller: Yes. We bought the store in Clearlake, and it had liquor in it. When we bought this one here in Lower Lake, it only had a beer and wine license. And then when we closed the store in Clearlake, we just transferred that liquor license over to Lower Lake. So they sell liquor now there.

It has been quite an experience up here. We bought that store in Clearlake in '83 from Billie Joe, which was also the Economy Market, and it was a bigger store than what this is, and it had been there since the forties. I found pictures of it, and I don't know what happened to them. I haven't seen them for quite a few years now. I don't know where they got to, but it was before the street was even paved, Lake Shore Boulevard wasn't paved, and it had all the old cars sitting in front of it in the forties. It was the only grocery store there for a while; then Safeway came in right down the street from them and Foods, Etcetera, too. They've been there about fifteen years now, I guess.

But Billie was--she said that what's his name, the man that owns Foods, I can't think of his name now, he told her that in five years she'd be out of business, and she told him, "No way." And, of course, she did anyway, but it wasn't because of them. It was her own fault that she didn't make it.

At one time we were running three stores. Herb was over in Oroville and I was here with Lower Lake and Clearlake. That's too much, too much for two people.

Swent: Then at the end you just had the one here?

Fuller: Yes. Then we kept this one. Yes, we brought a couple up from Stockton that we thought were friends of ours and asked them if they wanted to run the Clearlake store, and "Oh, yes," because he had just lost his store in Stockton. So they came up in '85, I think, '84 or '85, something like that. They took it over and ran it, did a real good job, then after we sold it to them, they walked out and left us holding the bag again, stole three-fourths of the equipment that was in the store, and there was nothing--we didn't know it at the time. There was nothing we could do about it. Said it was theirs, and it wasn't theirs because they hadn't paid us for it.

They even took a Coca-Cola box that made ice, and it was a fountain type, and they walked off with that, and it was only leased from Coca-Cola. Coca-Cola never went after them for it. I could never understand that. Why wouldn't a company that big, go after them for it? But they didn't.

So anyway, we opened that up again, and she was such a--I don't know what her problem was, but Herb had told him two or three times,

"If you get rid of Jamie out of the store, you'd be a lot better off," because she'd run off people. She was very--one of these that--in a little store like these, you have to cater to the customers, no matter who they are or what they are, and she wouldn't do that. She didn't want to cash their welfare checks. She hated when they would come in with food stamps, and that's your living. You can't do that to people. That's what you're there for, to serve the public, and they are the public, and whether you like the way they're living or not, that doesn't make any difference. She ran off three-fourths of the customers there, because after they left and we opened the store up again, it just wasn't there. And a lot of people had come--even now they come and say they miss the store there, and I often think to myself, "Well, if you had bought more than bread and milk when you'd come in, maybe we'd still be there." But once you do that to the public, you might as well just close the doors and forget it.

Swent: They don't come back.

Fuller: No, they don't. They're very, very fickle. I had never worked in a grocery store. I worked in a drug store back home right out of high school or while I was in high school. It had a soda fountain. That's where I worked, was in the soda fountain, and I never worked in a store until we bought the store in Oroville, so I really didn't have any concept of what a customer was like from that side of the counter, and it really opens your eyes. I started thinking, "Did I act like that when I went into a store? Is that the kind of person I am when some of these weirdos would come in?" You have to be nice to them. You should be. I shouldn't say you have to, but you should be nice to them.

Swent: To keep your business going.

Fuller: Well, sure. You have to, because that's the part of it, but I often thought to myself, then, "God, when I go in a store, I'm going to be altogether different," and I have. I didn't really have that much to change, but I could see things that I did that, jeez, you ought to be slapped for that. I think everybody that's a customer should be a salesperson at some time or another.

Swent: It would change their attitude a lot.

Fuller: I'm sure it would. Definitely. Well, I'm trying to think. I don't know of anything else that I can tell you about the mine.

Swent: Well, you'd better get out there and visit it.

Fuller: Yes, I'd better, before it closes up, and I never will see anything.

Swent: You should go out and take the tour some day.

Fuller: We should.

- Swent: Did you ever get involved in any of the meetings here that they had?
- Fuller: No.
- Swent: I guess that was before you came that they were--
- Fuller: I think so, yes. I think it was, because I don't remember anything.
- Swent: Because they did have quite a few meetings. That may have been before you, too, I think there was a lot of commotion about the sewer and the water systems having to be upgraded, but that was probably before you came.
- Fuller: Yes, I think so. The only thing I remember is something about the ponds that they built out there, but I don't remember what--I'm trying to think what that--
- Swent: People were concerned about the discharge from the mill.
- Fuller: Yes, that's probably what it was. That's all I--
- Swent: But I think they had to upgrade the municipal water and sewer system here in Lower Lake, also. But that must have been before you came.
- Fuller: Must have been before we came.
- Swent: Must have been.
- Fuller: Because I know they didn't upgrade it behind the buildings across the street from us, because that's what somebody--the woman that had the last store there in the Purity store was a ceramic shop, and she said there was something about the water behind there that wasn't right, that whoever came in the building would have to redo the whole piping and whatever behind the building. I can't remember what it was now or why. I'd have to ask--because Bev doesn't seem to have any problem there with water. So it's just the last store, I guess, and the bank never had any problems that I know of.
- I do remember them digging up the street a couple of times for the sewer and water lines. Yes, they did. They would no sooner get it paved than they were digging it up again. It was one of those things. Seemed like when they put the underground wiring in, they did some of that, and then first thing you know, they were digging it up again to do something else. That went on a couple of times that I remember.
- Swent: Well, I guess we've covered the story pretty well.
- Fuller: I think so. I don't know of anything else. I can't think of anything else.
- Swent: So you're staying here?

Fuller: I think we'll stay. Our home is paid for, and we have thought about leaving, but where would we go? You know, you can't go back, usually. We lived in Red Bluff for twelve years and always in a way considered that home because our kids went to school there the whole time. That's where they graduated from high school and so on.

Swent: And your daughters are still up that way.

Fuller: Well, I have two. The twins, Susan and Sally: Susan lives in Mineral, and Sally lives in Corning. Red Bluff is in the middle; Sally works in the bank there. Yes, they're still there. But I don't know. Here we can go to the coast in an hour and a half. We can go to Reno in four hours. He has a sister that lives in Chico, and we have a sister-in-law in Stockton, one in LeGrand, one in Fresno. So they're all within five or six hours of us. So what more could you want?

Swent: That's right. It's awfully nice.

Fuller: Yes, these people just moved here from Hayward last year, put their modular home in there. They could have put it in the middle of the orchard a little more and not been right on our back fence, but they're nice neighbors, so I don't care. What the heck? They wanted to move into the country.

Swent: You have a nice place here.

##

Fuller: [Unclear portion: discussion of handcraft business, Las Manos, which flourished but then had to close]. Mostly, yes, the Mexican people that lived here in town worked for them. Then they built this new building, and the neighbors around it complained because the trucks going in and out was raising so much dust and dirt. So they got very upset, and I don't remember all the details now, but they moved from there to--I want to say Healdsburg, and I'm pretty sure that's where they went. They moved over that way.

And then we had a place in Clearlake that built hot tubs, and the people around it complained because of the smell of the fiberglass or whatever they used, and that place had been there for years. They were in an old boat house where he built these things, and they more or less ran him out of town, too. So they're not very--who wants to come if you're not going to be welcome, and if you've been here for a few years and then all of a sudden they don't want you any more? It's not like they're employing six or seven hundred people, but those two or three hundred, at least, between the hot tub place and Las Manos. I still see their products, the couple from Guatemala. I've seen them in specialty stores and things like that around. I remember his name was Bruce and she had three kids while they were here. One of our neighbors that lived across the road here, her and her husband went to Guatemala to organize their shop or whatever you would call it down

there. They were both Spanish-speaking people, and they got Guatamalans to work for them.

Swent: That sounds like a nice business.

Fuller: It was, and they were great people.

Swent: I know they were hoping for a while to get a university up here. They tried that.

Fuller: Yes, and they were going to build a jail up here, which a few months ago I think I saw something in the paper where they are going to do that, but I haven't heard any more about it. I don't know where that would be, way out somewhere, I guess, but that's just what we need is a jail. I know this fellow that used to live behind us back here, he is a guard at San Quentin, and he went for this job with an understanding that in a few years there would be a jail up here that he could work at. I don't know.

Swent: He commutes from here to San Quentin?

Fuller: No, no, he lives down there. He didn't stay here. When he lived here is when he went to school. So I haven't heard of anything else that wants to come in here. There is Parker Plastics out here. I don't know what they make. They used to make helmets. I don't know whether they still make helmets or not. It's a wonder somebody hasn't run them off. They've been here for quite a few years. You'd think the smell from the plastics there would irritate somebody else. It's just like people building right next to an airport and then complaining about it. I mean, oh, well. Live and let live. [laughter]

Swent: That's right. It seems as if every industry has some drawbacks.

Fuller: Oh, yes. Definitely.

Swent: I didn't ask you, are grocers unionized at all? Did you ever run into any labor difficulties?

Fuller: Well, when we were in Oroville, they said that was a great union town. Our store wasn't unionized, you know, and so they did put up what they called an informational picket for, I don't know, a few weeks, I guess, but they didn't press, you know, to get us to join the union. My husband had been in the butchers union for twenty-five years before we went into business for ourselves. We never had any problem with them or anything. We were more or less grateful to them because they had a good hospitalization plan when the kids were little and that kind of thing, which we didn't use very much but knew it was always there for us. But here there's never been any--nobody ever coming around wanting you to join the union.

Swent: There were some labor disputes here in '82 or so, I think, not the grocers, but the construction people. I didn't know if that affected you at all.

Fuller: I don't remember that.

Swent: I think there were some--I don't know if there were exactly pickets, but things down here on the road, some incidents on the highway.

Fuller: Yes. Could have been. I don't remember if there were.

Swent: That may have been before you came also.

Fuller: Yes. Could have. By October they were probably all over with.

Swent: Well, I guess that covers it. Thank you very much.

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Berkeley, California

Western Mining in the Twentieth Century Series
Knoxville/McLaughlin Project

Dennis Goldstein

HOMESTAKE CORPORATE LAWYER

Interview Conducted by
Eleanor Swent
in 1994

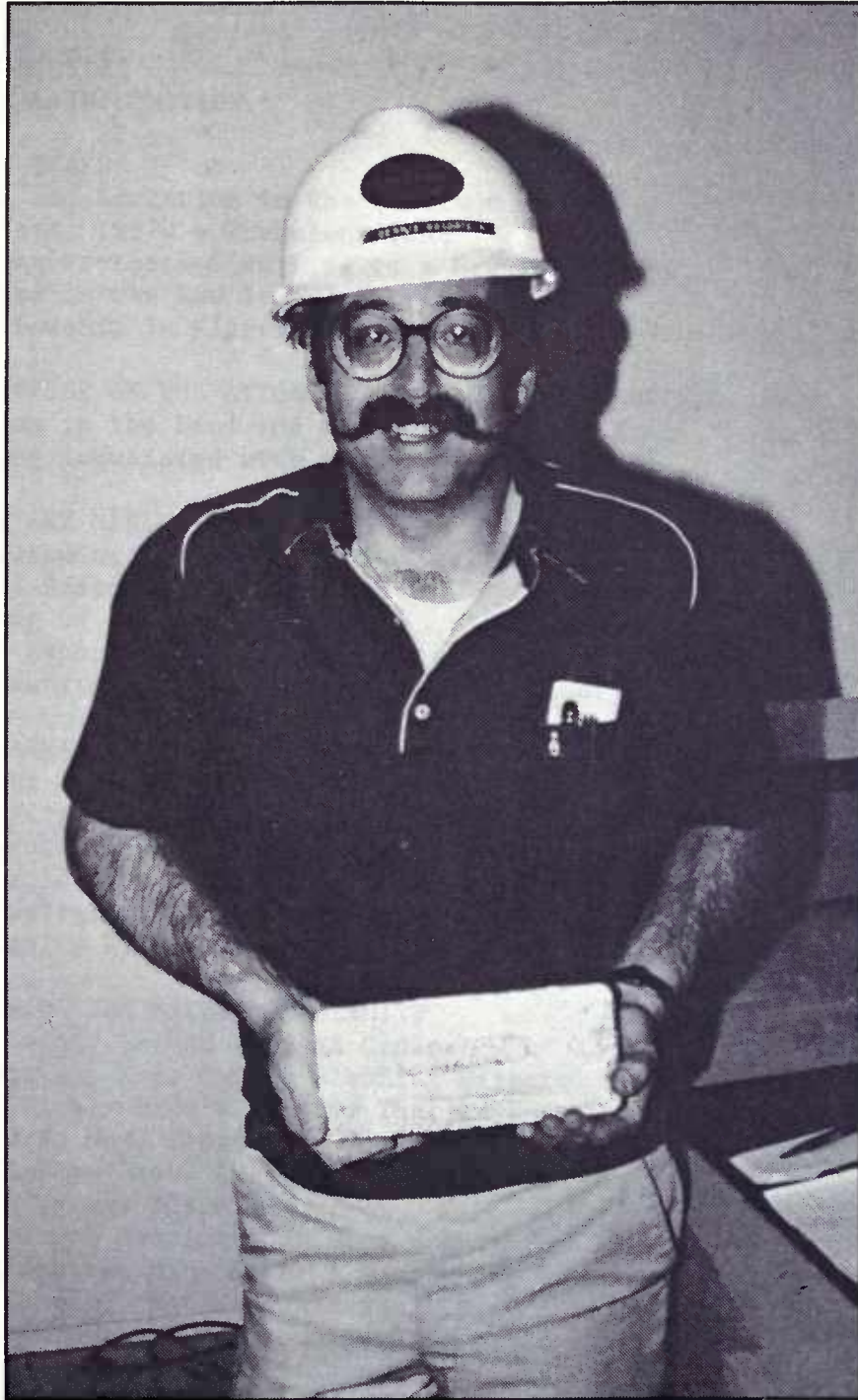
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Dennis Goldstein, with gold bar from the McLaughlin Mine.

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INTERVIEW HISTORY--Dennis Goldstein

Dennis Goldstein, Homestake Mining Company counsel, was involved from the beginning of the negotiations to acquire land and permits for the McLaughlin Mine. The letter of invitation to participate in the oral history project was sent to him in March 1994 and he promptly accepted. The interview was conducted on 15 July 1994 at my home in Piedmont, a convenient location for both of us.

Goldstein was born in Rhode Island, graduated from Brown University, attended Stanford Law School, and did a graduate fellowship in Italy. His field of legal interest from the start was land and natural resources. He was attracted to it, he says, because he likes engineers and geologists, "people with diverse backgrounds, who come from all over the world and join in an international community of miners." Before joining Homestake he worked for the land and natural resources unit of the Attorney General of California at the time when permits were being sought to resume drilling for oil in the Santa Barbara Channel; this gave him experience in requirements for environmental safeguards. As the attorney in another complicated case involving definition of geothermal resources as minerals, he became acquainted with the area near the McLaughlin Mine.

In his interview he recalls his efforts to acquire the land for the McLaughlin mine. He characterizes Bill Wilder, owner of the Manhattan Mine, as a mechanical genius and a reasonable person to deal with, in contrast to others met during this period. He discusses the decision to select Napa County as the lead agency for obtaining permits, and tells of the first visit to the Napa planning department. "We explained to them who we were, and how we wanted to drill for gold. I don't think they believed us. Coming out of that meeting...we believed that the county staff thought that we were trying to explore for geothermal without complying with the geothermal ordinance. They simply didn't believe that anyone would look for gold in Napa County."

Later on, Goldstein was a frequent spokesman for the mining project at public meetings. He says of the Manhattan Mine site, "It really was among the most devastated terrain that I had ever seen. No inch of this property hadn't been kicked up and turned over and dug upon and God knows what had been discharged there in the previous century.... One could argue that what we would bring to the property was an improvement....They [some of the local environmentalist community] were pretty happy at the end. They thought that we were going to bring a net improvement."

The tapes of the interview were transcribed in the Regional Oral History Office, and the lightly edited transcript was sent to Goldstein

for review. He made a few slight corrections for clarity and returned the transcript promptly. The manuscript was corrected and indexed at our office. The tapes are deposited in The Bancroft Library and are available for study.

The Dennis Goldstein interview is one of more than forty interviews which were conducted by the Regional Oral History Office from 1993-1997 in order to document the development of the McLaughlin gold mine in the Knoxville District of Lake, Napa, and Yolo Counties, California, from 1978-1996, as part of the ongoing oral history series devoted to Western Mining in the Twentieth Century. The Regional Oral History Office was established in 1954 to record the lives of persons who have contributed significantly to the history of California and the West. The office is a division of The Bancroft Library and is under the direction of Willa K. Baum.

Eleanor Swent, Project Director, Research
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Regional Oral History Office

The Bancroft Library
Berkeley, California
March 1998

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(Please write clearly. Use black ink.)

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Occupation REAL ESTATE Birthplace PROVIDENCE, RI

Mother's full name IDA GOLDSTEIN

Occupation HOUSEWIFE Birthplace PROVIDENCE, RI

Your spouse NANCY ELENBERGER

Occupation TEACHER Birthplace LONG BRANCH, N.J.

Your children JOSHUA GOLDSTEIN

JEREMY GOLDSTEIN

Where did you grow up? PROVIDENCE RI and WATERTOWN, N.Y.

Present community OAKLAND CA

Education B.A. BROWN UNIVERSITY 1967

J.D. STANFORD UNIVERSITY 1971

Occupation(s) ATTORNEY

Areas of expertise BUSINESS AND MINING LAW; COMMERCIAL TRANSACTIONS

Other interests or activities MUSIC, HISTORY, BASEBALL, EUROPEAN CULTURE

Organizations in which you are active VARIOUS BAR AND OTHER

LEGAL ORGANIZATIONS

INTERVIEW WITH DENNIS GOLDSTEIN

I EARLY YEARS

[Date of Interview: July 15, 1994]##¹

Youth and Education in Rhode Island

Swent: First, Denny, to get started: you were born in Rhode Island.

Goldstein: Yes, I was. Providence, Rhode Island on October 10, 1945.

Swent: In 1945 at the end of the war and went to school, college, there.

Goldstein: All in Rhode Island. Brown University was the college, class of 1967, and local schools before that.

Swent: And a distinguished career at Brown. You have wonderful academic credentials. And how did you happen to come out here to Stanford?

Goldstein: Well, I'm a lawyer. I went to Stanford University law school and when I applied to law school I was faced with the selection. Having been accepted, I liked the West Coast alternative; so I chose Stanford.

Swent: You were good enough to get in there.

Goldstein: Well, when I said looking at my alternatives, I meant after the acceptances had come back I had choices. The East Coast, the West Coast and something in between. And Stanford, the West Coast seemed very attractive to a young lad from the East Coast. So I took the alternative.

¹This symbol (##) indicates that a tape or a segment of a tape has begun or ended. A guide to the tapes follows the transcript.

Swent: That was a turbulent time.

Goldstein: Yes, that was a difficult time. We had the Vietnam War and anybody in the situation I was in was pretty much faced with-- go on to graduate school or be drafted almost immediately. Soon after that the deferment that was available by means of being a graduate student disappeared. In any event they began taking, I think in '68 and '69, even those who were graduate students. So it was quite turbulent and there was quite a turbulence on the college campuses.

Stanford, 1967, a Turbulent Time

Swent: At Stanford too?

Goldstein: Stanford included. Political unrest largely deriving from the Vietnam War. But thinking back on it, I think it was more than that. I think that the students would have been flexing their muscles about something else if not that. There just seemed to be, to me anyway, a period of great awakening for young people: young people realizing they had their own views and they had political power that could be exercised. But of course, it does come to us in the context of the Vietnam War, so it's hard to say.

Swent: Well, there was a lot of different protesting going on; there were Stanford groups that were freeing prisoners and so on. Were you involved in any of the unrest there at Stanford at that time?

Goldstein: Well, I was an observer. I was never a politically active student in the sense of taking part in demonstrations and riots for the so-called left wing causes. My recollection of my years on the Stanford campus is that Berkeley, here, nearby, was the most active place. There were continual riots and the police had to resort to tear gas and other things on a fairly frequent basis. There were several riots on the Stanford campus that I recall where tear gas was thrown around.

Swent: Spring of '70 I know there were some.

Goldstein: Was it spring of '70? Yes, I think that's right.

Student Protests Give Rise to a New Vocabulary

Swent: And even before that, too, I think.

Goldstein: Yes, I went to Stanford for two academic terms commencing in the fall of '67 and then I took a year off. For that year I was living in England. And my recollection is that the greater disturbances were at the end of the year that I was in England. And therefore I missed some of them on the campus. When I came back for my third year of law school I recollect a lot of windows boarded up and broken. There had been some very substantial rioting just prior to the time I returned--in fact, I remember going back into the dormitory and talking to somebody and he said to me among other things, "Oh, we have new vocabulary now since you went away. We have new verbs. One of them is 'to trash'." And he pointed to the windows. He pointed over to the broken windows and things and he said, "See, they've been trashed." And I recollect that to this day. I think there were some other words that I no longer remember which were used.

Swent: And we use that word so much now. That's when it came in.

Goldstein: Yes, that was the first time I'd ever heard it.

Swent: That's true.

Goldstein: I don't know whether this is useful for your tape or not but I recollect some other changes in that one year that I was there. This is a bit off-color but there were big changes in things like *Playboy* magazine while I was gone. Prior to that time, they were very careful about how much of the body they would expose and how they would present it. When I came back, there were no holds barred. I remember going to a barbershop and seeing, in just one year being away, seeing the dramatic change in that.

Swent: That was in 1968?

Goldstein: I was gone from September '69 to June or July of '70. That was the academic year of the riot I referred to and the vocabulary change. But those two things stand out in my mind as big changes. So I probably did miss the big riot that you might have been talking about but I saw the results of it in terms of the broken windows and the changes on the campus.

Swent: Was the environmental movement coming as a part of that?

Goldstein: Well, the time period was the same. Wasn't the first Earth Day on April 1, 1970?

Swent: Yes, I think so. It was beginning then.

Goldstein: Yes, and there had been--I think it already had been perking along; a real awakening in that sense. In fact, the California Environmental Quality Act is the California Environmental Quality Act of 1970. And I think the federal act, NEPA, is a 1969 act. Well, I'm a little fuzzy on that. So clearly things were moving along on the environment.

Changes in the Law School Curriculum

Swent: Were these affecting or coming into the curriculum at all at the law school yet?

Goldstein: No, I don't think the curriculum was affected by the environmental thing. There were some political courses starting to be offered. People were waking up to women's rights and especially civil rights and other things like that but I don't specifically recall anything on the environment. But it was affecting the campus. I mean, there were demonstrations and manifestations in the plazas up on the campus. People were really quite concerned over the various environmental problems of the day.

Swent: Did you think at that time that this was something you'd like eventually to be involved in?

Goldstein: Yes, and in a sense it led to my first job after law school, which was with the California Attorney General's Office. I wanted to do trial work and they did that. And I also wanted to work with land or resources.

Swent: You knew that.

Goldstein: Yes, I always knew that. That was always the direction I was headed in and it was difficult to find a job that fit into this.

Swent: Why did that attract you?

Goldstein: I don't know. I've just always been interested in land and resources as opposed to paper things. I also felt that the people that I had met over the years who dealt with oil or who

dealt with land or dealt with trees, you know, forestry, were interesting people. And I felt that the discipline that I picked to work in would determine those people I worked with. Just to take an obvious example, if you go into criminal law you deal with a lot of criminal defendants. You deal with the police and detectives and investigators. That's a different kind of person than you deal with in, say, the environment of Homestake Mining Company or the Attorney General's office where you're dealing with--in the case of Homestake Mining--mining engineers, geologists. The kind of people that you and Langan have spent your life with.

Swent: They're good people.

Goldstein: Good people, interesting people, too. People with diverse backgrounds other than the education, people who come from all over the world and kind of come together and join in an international community of miners.

Swent: Had your childhood experience in any way come into play? Providence is kind of far from oil and gas and mining.

Goldstein: No, I can't say that there's any specific thing in my background that led to it. I think it just came out of my education. In law school I enjoyed most courses in water law and oil and gas law and real property. Why I did I can't tell you specifically. It just kind of appealed to me that--I think my interests started with the legal systems puzzle; the way the legal system puts the land and the resources puzzle together interested me more than procedural things or other things and from there the substantive interest grew.

A Fellowship in Florence for a Year

Swent: Then you had the year in Florence right after you graduated from law school?

Goldstein: Yes, that was my first job or fellowship out of law school. There was a professor on the Stanford campus who was visiting from Italy. He would come every two or three years and teach a course. And he was preparing a comparative law textbook and he would take the great issues of the day such as, oh, due process as it relates to search and seizure, search warrants. He was putting together a textbook that showed how that German system dealt with that issue and how the American system dealt with it, how the Italian system dealt with it. He was

assembling a staff to do that. He needed someone from each of these countries. He brought the group together in Florence and we worked together for a year and put that book together.

Swent: It must have been wonderful.

Goldstein: It was a wonderful experience.

Swent: And you learned Italian there.

Goldstein: Yes, I did. First I went to live with a family and they spoke no English and I was with them, I think, for three months. I worked hard at Italian, to study, and I read the newspaper every day, from beginning to end. I spent many hours studying Italian. By the end of the time that I was there I was fluent in Italian, enough to carry on a very good conversation. I even began to dream in Italian a little bit.

Swent: That's the test.

Goldstein: Yes, that's one of the tests. Of course, my secretary didn't speak any English and the landlady didn't speak any English.

Swent: And then you had a little time to travel and job hunt. But you knew you wanted to be in California, I take it.

Goldstein: Yes, I knew only as a person that young--how old was I? Twenty-three or four at the time--knows that. First of all, I was a member of the California Bar. There was a hurdle to come back somewhere else. I would have had to start over to study and take the bar exam and that would have delayed me in getting going. But I did like California and I had friends here. I had contacts here. So I came back.

II THE OFFICE OF THE ATTORNEY GENERAL, SAN FRANCISCO, 1973

Working in the Land and Natural Resources Unit

Swent: So you started then with the Attorney General's office in '73, right? April of '73.

Goldstein: That's right, San Francisco. And I was assigned to the land and natural resources unit which was in charge of basically all the lands that the state owned as a consequence of its statehood as opposed to lands that it had acquired; not for example the building where the courthouse is but the beds and rivers of lakes, the school lands, the oil and gas lands, the geothermal resources lands. So there was litigation with respect to the title of those lands and with respect to the ongoing mineral and oil and gas operations.

Getting Acquainted with the Lake County Area

Swent: Were you doing anything with the geothermal development up in Lake County?

Goldstein: Oh, yes. In fact, I spent more of my time in those years working on geothermal resources than anything else. In fact, I had a major case on geothermal resources. The issue was whether, when the state had sold land in the past and reserved the minerals, the geothermal resources were reserved to the state as the owner of the minerals, or belonged to the surface owner.

Swent: No, it isn't really a mineral, is it?

Goldstein: Well, it's clear in California that the surface owner owns underground water. And, there were a number of cases on this subject that I got involved in. It was ultimately determined that for these purposes geothermal resources are mineral because they have a kind of an industrial, energy-producing function. And it was decided that the state was trying to reserve those kinds of things by reserving "minerals." I think that was a good result, the proper result. The other courts have all found that. So that got me up into the McLaughlin general area long before the McLaughlin Mine.

Swent: You were well acquainted with the geography.

Goldstein: Oh, yes. I even knew some of the same people, the county counsels that we dealt with. In fact, that was one of the attractions for me in going out to work on McLaughlin. I knew some people in the state bureaucracy and in the county bureaucracies because of the geothermal involvement. [tape interruption]

III HOMESTAKE MINING COMPANY, 1976

Interviewing for a Job with a Small Company

- Swent: Are we ready then to get you to Homestake?
- Goldstein: I think so. I don't think there's anything else about that.
- Swent: You came to work for Homestake in October of 1976. How did that come about?
- Goldstein: Well, let's see. At that time, Homestake was represented by a law firm called Brobeck, Phleger, and Harrison. They were the opposition lawyers in that very complicated geothermal case I just referred to.
- Swent: Who were some of the people that were at Brobeck at that time?
- Goldstein: David Wynne. He was really the primary contact with respect to what I'm going to get into now. At the end of that trial, he approached me and told me that a mining company was looking for a lawyer, somebody who knew something about minerals and that kind of thing and would I be interested? I'd been with the state then approximately four years, maybe a little more than four years. I thought it would be interesting to leave state employment and get into business. So I went over there and I talked to Dick Stoehr, Paul Henshaw, Bill Langston.
- Swent: Let's see. Dick Stoehr was vice president.
- Goldstein: I think he was a VP at the time. Paul Henshaw was--
- Swent: Paul Henshaw was president.
- Goldstein: --was president.

Swent: And Bill Langston--

Goldstein: Bill Langston was general counsel. I'm sure there are others I spoke to now but those are the ones who come to mind and that I recall meeting. Homestake was a very small company at the time. And you could go in and every employee would be interviewed by Paul Henshaw who was then the president and CEO. And Dick [Stoehr], I guess, was executive vice president. They would take the time to do this. I think some of that is lost now as the company has become a little bigger. But that was useful. It was useful for me as a job applicant. And it was useful for them to see what kind of people were being interviewed or considered for jobs.

A Land-Based Legal Practice

Goldstein: So anyway, ultimately I accepted the position. Then I came to work for them in, what was it, October of '76. And I began doing general mining matters. The company's business in those days was uranium, lead-zinc, and gold. It was from a legal point of view very much a land-based practice, dealing with the public lands and private lands, the leasing of lands and the carrying out of the mining. And of course there was the commercial aspect of selling the lead and the zinc.

Selling of Lead and Zinc

Swent: Oh, you were involved in the selling also?

Goldstein: Yes. Oh, yes. I did whatever was necessary in the legal department and there were--

Swent: That would be contracts?

Goldstein: Contracts were--well, the sale of the product was a significant part of the business in lead and zinc and in uranium. For gold, it has never been a significant part. Gold sells itself. It has an international market with an international price. And the tradition in gold is for material to change hands with a minimum of paperwork. Whereas with uranium and lead and zinc, there might be long-term supply contracts. Very common.

So there was quite a difference in the legal business between those commodities. That continued for some number of years, really. Partnerships and joint ventures and leases. All of the usual kinds of business arrangements that you might expect a mining company to get into.

Swent: Were you involved in the Pitch, Colorado project at all?

Goldstein: No, Pitch was a project that had begun, I think, just prior to my arrival at Homestake. And it was into its licensing process just about the time I got there. Oh, I had some involvement with it. It was inevitable that everybody at Homestake had some. But it wasn't a significant part of anything I ever did.

Swent: You didn't learn anything from it?

Goldstein: Well, I'm sure I learned some small things because I observed the whole process going on. Of course, it was happening in Colorado. I was in San Francisco. Very little.

Swent: I'm sort of intrigued that I haven't been able to get at any carryover that there might have been from Pitch to McLaughlin because it seems to me there were a lot of similarities.

Goldstein: Yes, there probably were. And there were some people who came from Pitch to McLaughlin. In fact, I think there are still a few people on the McLaughlin property today who worked at Pitch. I'm thinking of Dave Hyatt and I suspect that there are more than that, more names than that.

Swent: I was thinking of that permitting problem that they had up there and the public relations aspect of it.

Goldstein: Yes, although permitting is a very, very local thing. And I think those experiences are transferable. But if you think about the people who did the Homestake permitting, and I think it was basically Ray Krauss, Jack Thompson, and myself, and David Crouch, I guess had some role in that as well at the local level.

Swent: At McLaughlin.

Goldstein: Yes. The only one who would have had any experience with Pitch, I think would have been David Crouch. And I'm not certain exactly how much experience he had at Pitch because he joined Homestake slightly after I did, although I'm sure he had some involvement. But I think basically the permitting problem becomes one of establishing a trusting and working

relationship with the local agencies and the local citizenry. Once you do that, you've probably gone a long way towards having done it and then experiences in other jurisdictions assist you less.

Prior Experience with Permitting Controversial Projects

Swent: Had you been involved in any such thing for the AG's office?

Goldstein: Well, certainly working for the Attorney General's office, I was on the other side of the table. They had many oil and gas projects and geothermal projects where they, the state, would lease lands to applicants: oil companies, individuals. They would come in and apply and need consents or permissions and I was asked to work on that from the state's point of view and there were sometimes environmental impact reports involved and there were sometimes public hearings involved. I did that on behalf of the state.

I remember working many, many months on the permission granted by the state for a resumption of oil drilling in the Santa Barbara channel in seventy--oh, I don't know--somewhere between '74 and '76. There had been no new drilling permitted in the Santa Barbara Channel after the oil spill of 1969, by legislation. Certain findings as to environmental safeguards had to be made as to the future in order to resume that drilling.

And of course, there were tremendous economic pressures to resume the drilling. And there were tremendous environmental pressures not to resume the drilling and certainly not to resume it before adequate protections were available. So, yes. I think that that's kind of a comparable thing, but from the other side of the table, so to speak.

Swent: But you saw the intensity of the opposition.

Goldstein: Oh, yes. And I remember other experiences that were quite intense, some problems up at Donner Lake that I worked with the state on, some problems in the Mono Lake area. So, yes. The state Lands Commission did a lot of things that were controversial in the community. I was no stranger to controversial projects in that sense.

Swent: Of course, when you came with Homestake, McLaughlin had not been discovered yet but they were just starting their big--

Don Gustafson Has a Prospect in Napa County

Goldstein: Well, you're right. It hadn't been discovered yet. My first recollection of the McLaughlin--I think it was about 1978 or perhaps it was 1977--but I know it was from Don Gustafson. He called me up one day and he said, as he usually did in that time, "Oh, I have a prospect. We have to go and look at it. This is a wonderful prospect."

And I said, "Okay, where is it?"

And he said, "Well, it's in Napa County."

Swent: Cherry Hill came in first. Were you involved with that at all?

Goldstein: I was involved with Cherry Hill and it may be that Don got to Cherry Hill first but my first involvement at McLaughlin, I believe, preceded my involvement with Cherry Hill although they were very close in time. I'm trying to remember. Well, it could have been there was paperwork involved with Cherry Hill prior to McLaughlin. But I have a very distinct recollection of Don calling me up one day and I'll tell you why. I said to him, "Where is this prospect?"

And he said, "Well, it's in Napa County."

And I said to him in effect, "Gee, Don, what are you wasting my time for? We're not going to have an open pit mine in Napa County." Of course, I'm thinking of the wine country.

And he said to me, "Oh, no, no. This is not the Napa County that you have in mind." He said, "You have to come and look at this prospect." And so I went up there with him and I looked at it personally.

Swent: Oh, you did?

Goldstein: Oh, yes. It was quite a different place from the Napa County that I had in mind. I did go to the Cherry Hill property many times, but I really can't recall whether my first visit to that property was before or after my first visit to McLaughlin. But I do recall that in the progression of events, Don was aware of Cherry Hill before McLaughlin. Don found some historical information, I think in the Homestake archives, about Cherry Hill.

Swent: I have interviewed Don, incidentally.

Goldstein: Oh. And I know that he was, as you said, aware of Cherry Hill and interested in Cherry Hill first. And he branched out from there, is my understanding. He had developed a theory, I guess, from Cherry Hill that maybe he should look for gold at the sites of old mercury mines in this mercury belt area and he knew that the geothermal areas near McLaughlin had been old mercury mines. And that led him indirectly in that sense to the McLaughlin property, which at that time, I think, was called the Manhattan Mine. It was called the Manhattan Mine by Bill Wilder and his partners who were then working the mine for mercury.

Swent: It had long been called the Manhattan Mine.

Goldstein: Oh, I think, for a hundred years or more. But he continued that. He was on the surface. But anyway, I have that distinct recollection of Don coming to me and taking me up to Napa County and me saying, "Gee, this is kind of silly, isn't it, Don." But of course, when we got up there it was so remote and had been so worked over and disturbed and messed up by generations of miners before that it immediately became apparent to me that it shouldn't be an environmental problem.

Swent: How did you get there?

Goldstein: I think we drove up the Berryessa Road and approached it from that direction. I remember driving along the lake and I remember that the last telephone we came into was at the north end of Lake Berryessa about eighteen or twenty miles south of the property. I was amazed. I later learned that the nearest telephone to the north was about the same distance, in Lower Lake. And I was amazed that there could be any place in Napa and Lake Counties at that time, especially the southern part of Lake County, where you could not be within twenty miles of a telephone. So I remember that, going by that telephone and asking Don Gustafson about it. "Yes," he said, "you have to use that telephone. That's the nearest telephone."

Swent: Twenty miles away.

Goldstein: He said, "The property is about eighteen miles to the north." And coming out of the Bay Area up to Napa, I began thinking of this tremendous development in residential neighborhoods by the vineyards. That was a surprise to me, a good surprise in this context.

IV THE MANHATTAN MINE: ACQUIRING THE LAND

Leasing from the Owner, Bill Wilder

- Swent: So what was your first step? What did you first have to do?
- Goldstein: Well, let's see. On this particular trip, I guess I went up to meet Bill Wilder and see the property. I don't exactly remember what I was doing on that particular day. I think it was probably just to get acquainted with it and I think we were going, we had probably begun to, or were about to begin, to put some drill holes in the property or do some other explorations. And we were going to need to get the permission of the Napa County Planning Agency which would have involved the Napa County Counsel and an application to be heard before the Planning Commission. So probably I was being briefed to prepare the relevant papers, which I later did. And I worked through that entire process from the exploration all the way through, of course, to the final mine permit.
- Swent: The first permission to go on the property was from Bill Wilder. Did you get in on any of that?
- Goldstein: Yes, I did. Our land acquisition activities started around the same time. We had a land man who you may or may not have interviewed. His name is Bill Casburn.
- Swent: I know him but I've not talked to him.
- Goldstein: And Bill Casburn is a wonderful, jovial fellow. He went up to meet Bill Wilder first. They struck up a wonderful relationship. They became really fast friends, very much so. Drinking buddies, the whole deal. And Bill Casburn had pretty much laid the ground with Bill Wilder.

The first step with Bill Wilder was a mining lease. We didn't buy the property at first. And I wrote that mining lease. But that wasn't a case where I went out and sat down with the proposed lessor and slogged out the terms as I often did, and still do sometimes, because Bill Casburn had already laid the groundwork for that. There were issues, yes. There were tax issues and legal issues and other issues. But the trusting, working relationship with Bill Wilder was already there.

Acquiring Property from the Kauffmans

Goldstein: Across the ridge where the water reservoir now is and where the north end of the mine is, there was another land owner, the Kauffman family. Robert Kauffman. This family had been on that property for some generations; it was really clear that we needed some of their property as well.

Soon after we commenced dealing with Wilder and his group, it was necessary to deal with the Kauffmans. That was a different situation. Casburn went to approach Mr. Kauffman as a representative of Homestake. I think the initial contact might have come from Don Gustafson or perhaps Ken Jones who also was a geologist working for us in those days.

Unlike the Wilder situation, Kauffman and Casburn didn't get along at all. Kauffman took an instant dislike to Bill Casburn and Bill Casburn took an equal, instant dislike to Kauffman. Kauffman always maintained that he just threw Casburn off his property. Casburn tells the story about being attacked by Kauffman's dog as soon as he got to the property. So maybe Kauffman just didn't like him because his dog didn't like him. I don't know. They didn't get along.

So I was brought in to see how I could do with him. Actually I got along with Bob Kauffman real well. Bob Kauffman and I just struck up a friendship, a good friendship. We enjoyed each other's company very much and we joked with each other a lot. He came to trust me. Generally, he was not a trusting person, Bob Kauffman. He had a tremendous fear or suspicion of companies.

Swent: Was he a miner? He was a rancher, wasn't he?

Goldstein: Well, he wasn't exactly a rancher. As I understand the Kauffman family history, Bob's grandfather was a principal in

a lumber business in San Francisco and it was either called Kauffman and MacArthur or MacArthur and Kauffman. I have forgotten which way. And in old pictures of, I think Sutter or Market Street that are common, you sometimes see a big storefront that says either Kauffman and MacArthur or MacArthur and Kauffman.

This was a successful business. And they were in the business, among other things, of supplying mine timbers to the mercury mines up in the area of what is now known as The Geysers and the McLaughlin mine.

Bob's grandfather became very familiar with the locale of the McLaughlin mine through this mechanism. He had many clients up there. And he began to acquire property there. This was the start of this rather large landholding of Kauffman's in the area. I don't have these numbers at my fingertips any more but I'll bet you they had five or seven thousand acres under their control up there in one fashion or another. They had some mining claims and they had some patented ground and they had some leases from the Bureau of Land Management. They were running cattle, as you said. They were sort of ranchers.

But Bob's individual history is really not that of a rancher. He was a businessman who had tried various things in his life. He had a land leveling business for a while with a couple of cats and bulldozers and he worked at that for a while. Then he had worked for a company as a kind of a salesman. In fact, I think it was a major industrial company. I can't remember which one it was, now. He did that for a number of years.

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Goldstein: He wanted to subdivide and sell off the lands that he owned that are now part of the McLaughlin project. He had this idea that he would build a lake, not too far away from where we ultimately put our water reservoir. And he found himself a partner whose name was Swanson, from whom we acquired ultimately some property. And Swanson and Kauffman tried to get on with these development plans and I think they put some considerable time and money into this. And finally they were unable to get a permission from the state to build the dam that they wanted to construct to create this lake--because of seismic problems or because of some soil instability in the place where they had proposed to put it.

Swent: Was this in Yolo County?

Goldstein: Most of Kauffman's land was in Yolo County but he owned land that crossed over the line into Napa County. And just to put that into perspective, the McLaughlin pit itself stretching from the south to the north is a series of patented and unpatented--mining claims. And the three most northerly of these mining claims are claims that were controlled by Kauffman. All of the others we purchased from Wilder. And I'd say perhaps half of the ground encompassed in these three most northerly mining claims were in Napa County as opposed to Yolo County. But the bulk of his land was in Yolo County.

A Dispute between Kauffman and Swanson

Goldstein: So when Kauffman and Swanson were unable to continue on with the subdivision, there was a dispute between them over who was going to bear the expenses of what had happened. They had a litigation in, I think, the Yolo County Superior Court. It was adjudicated that Kauffman owed money to Swanson. And Kauffman apparently didn't have enough cash to pay Swanson. So the court awarded Swanson, oh, about twelve or fifteen hundred acres, I think it was, of Kauffman's land. And it included a piece up on the ridge where the county line was. That ridge has been taken down by the mining.

And Swanson had a little air strip and some stock raising ponds up there. We bought that land from him, too. But as a consequence of the dispute, Kauffman and Swanson had become enemies. And we had to buy that portion of land from Swanson.

Bob was the kind of a guy who had moved around from job to job, from business to business. At the time I had first encountered him, I think he was unemployed, probably still engaged somewhat in his land leveling business on a touch-and-go basis.

Now, as far as mining is concerned, Bob also mined a little bit. He never mined to the same magnitude as Wilder. But on the properties that the Kauffman family then controlled--most of which had come to him from his grandfather--there were several mines, old mercury mines. As I understand it, Bob and his boys would go out and work these mines on the weekends and sometimes for longer periods than just weekends. But this was pretty much a function of the price of mercury. And there had been a period, I think either in the late '60s or the early '70s when the price of mercury was quite high. I think I recollect somebody saying as high

as \$500 a flask. At that time, Bob and his family found it profitable to work the property for mercury and they did.

Swent: Was the Reed Mine one that they worked?

Goldstein: No, I don't think they worked the Reed Mine. I think they worked some smaller pits. But I couldn't tell you if they had a name. I could take you to them on the ground but I couldn't tell you if those pits have a name. And so they knew something about mining. Bob was a very mechanically-minded person who was good with his hands. Bob could mine, Bob could build, Bob could grade. Bob could do a lot of things. Bob had skills that somebody like myself raised in the city doesn't have.

It's interesting to compare him to Wilder. You've heard something about Wilder?

Swent: I did interview Bill Wilder.

Goldstein: Okay, you've interviewed him. But have others told you about Wilder?

Bill Wilder, a Mechanical Genius

Swent: Some. But I'd like to hear what you feel about him.

Goldstein: Okay, well, Wilder is sort of a mechanical genius. So when I contrast Bob to Wilder, I'd say Bob was a very capable fellow with his hands, but Wilder was very special in this regard. Wilder had this enormous "junkyard," I would call it, on this property. And he'd be very offended if you called it a "junkyard" in his presence, though. It wasn't a junkyard to him. Indeed, it wasn't junk to him. He would use this stuff. And this gets into his mechanical ability.

Swent: It was his warehouse.

Goldstein: It was his "boneyard," as he'd call it. And I remember going up there for the first time. And I told you Don took me up there. And as we came around a bend on this dirt road, there were acres of old machines--junk to me--cars and all kinds of mechanical devices. And there were these--I think I counted eight of them--these old San Francisco buses that still said "8 MacAllister" on them. They were the buses with the pancake engines under the floor boards of the bus; you know, the buses

had no nose or hood. It was a flat, stubnosed vehicle. I think they were diesel buses or gasoline buses--not electrical And so many other vehicles. And each one of them had a use for Bill.

I remember one particular episode. We had an exploration drill on this property. And it broke down. And we were eager to keep drilling. And Don Gustafson and his people got on the phone and they called the Longyear drilling company in either Phoenix or Tucson and to obtain a replacement part for the drill. The part wasn't easy to get. It was going to take ten days or two weeks to get this particular part onto the property to get this drill going. And that just wasn't acceptable to Don.

Before you know it, here's Bill Wilder. And he goes over to the drilling trailers and he studies the specification manuals that came with these drills, you know, like a Chilton manual for a car. And he went down into his boneyard and he stood on the hill there for a while and he took some part out of one of these old vehicles or machines and he took it into his machine shop and he machined it; and in a couple of days, he made a custom part for this drill and they put it in and got that drill running again. That's the kind of guy Bill Wilder was.

He is a very, very smart man and from my way of thinking, a mechanical genius: a guy who had the vision to see how things fit together spatially and how they should work together. And he made that property work. In fact, his facility on that property was an amazing jerry-rigged facility.

The first time I went up there, I could hardly believe my eyes. He was taking ore, or millfeed, whatever he was feeding into his kiln at the time. And he was mixing it into a slurry. He had a large trough outside of this facility with a couple of water hoses coming in. Somebody was shoveling material into it. Some material was also coming in on a conveyor belt. And he was mixing all this together with a small, old Evinrude outboard engine, the kind that I had seen on the back of small skiffs when I was a kid and went fishing with my dad. And this little propeller was turning and mixing the material that was fed to process.

And I went into this mill; he called it a rotary kiln. I had some other term. I called it a retort and he was careful to correct me and say, no, that's not a retort. That's a rotary kiln. I don't know what the difference is to this day.

But if Bill said there was a difference, I'm sure there was. And this rotary kiln had an exterior lining on it for insulation. And it was made of flattened out, large-size Saffola oil tins.

Swent: Saffola?

Goldstein: Saffola oil tins. Where you might buy a gallon or five gallons of "Saffola" brand safflower oil. But I looked at it and it was turning round and round: saffola, saffola, saffola, over and over. The slurry that was coming up and falling into the kiln had come through the trough with the little Evinrude engine on it and onto a conveyor belt that was stopping and starting automatically. And Bill pointed out to me that he had taken the electric eye of the type that opens the supermarket door. They had junked it. It wasn't working right so he took it and fixed it up and he installed it. And when the millfeed that was being conveyed into the entry to the kiln filled it up, material would stack up and build up in height and interrupt the light beam from this electric eye and turn off the conveyor. That homemade device is a testament to the kind of man Bill is.

Now, on the other hand, it was scary to witness these operations because there was mercury lying all over the place. There was liquid mercury on the floor, liquid mercury on the walls. We always wondered how much exposure that he and his workers might have had to mercury in those earlier days. But of course, they didn't work in there every day. They didn't run material through there every day. But still, I don't know a great deal about mercury exposure or mercury poisoning but it seems like you could see that the modern cleanliness and specifications for dealing with mercury probably were not being adhered to back at that time. And that, you know, you look at that and that was scary.

Swent: Bill looks pretty healthy.

Goldstein: Yes, Bill's a pretty healthy fellow. He's a pretty healthy specimen. And to tell you the truth, I got to be somewhat acquainted with a lot of the people, his partners and workers up there, and they all seemed pretty healthy to me. Bill's son, Bill, Junior, is also somebody I know. He worked there for many years and he seems quite healthy to me, too. But they worked there and they did that.

So, let's see. How to organize this. I've told you a little about Kauffman.

- Swent: Did you ever meet Swanson?
- Goldstein: Oh, yes. I--well, let me organize this in my mind. Let me finish with Kauffman and then you will remind me to go back, maybe, to Swanson. Then we'll come back to the second deal with Wilder if that's of interest to you. Okay.
- Swent: Okay, fine. Yes.
- Goldstein: Okay. So, I've told you that Mr. Casburn and Mr. Kauffman didn't get along and I did get along with Mr. Kauffman.
- Swent: Those things are important, aren't they?
- Goldstein: They are. Nobody gets along with everybody. There's a chemistry element here. And I never thought the less of Mr. Casburn for it. He was a good land man. And Kauffman was indeed an unusual fellow. When we talked earlier about the unusual people you meet in this business, both Mr. Wilder and Mr. Kauffman are perfect examples of that. They're very, very unusual people.
- Swent: Did Kauffman also live up on his property?
- Goldstein: No, Kauffman had a home in Woodland in Yolo County, at the time. And he had on this property what I would call a shack. He called it his summer home or his ranch or something.
- Swent: I've been looking at some of the McLaughlin Mine archival footage which has no labels or soundtrack, so a lot of the time I've been looking at things and not knowing what I was looking at. But from the early days there was a lot of footage of a brick building. It was not the Gamble Knoxville building. It was on a hillside with entry from two levels. And I was wondering if that would have been Kauffman's house.
- Goldstein: Made of brick? No. Kauffman's house was made of planks. It was a very simple thing, one room.
- Swent: There was a little bit of footage with sound and it said, "We'll meet down at the Kauffman place." And I thought that might have been it.
- Goldstein: I think this building must have been part of the Reed Mine. There were a couple of buildings there that were made of wood and there was a kiln there that was made of brick and there was an old mill. I think most of this has been torn down now but some of it may still have been there then.

Swent: But it was not the Kauffman house?

Goldstein: Not the Kauffman house. The Kauffman house had no foundation and was a one-room wooden shack with a couple of rocking chairs in it and a little gas stove for butane and that kind of thing. [Break]

Bob Kauffman, a Reluctant Seller

Swent: We're continuing after a short break here.

Goldstein: We were talking about Kauffman and Swanson and I was about to describe the first transaction with Mr. Kauffman. And in order to describe what that was like, I need to say a few things about Bob himself. He was a very different personality from Mr. Wilder. Wilder is a very trusting individual. You could build up a level of trust with him and then work with him on that and things would go fairly rapidly and smoothly as long as you treated each other okay. Kauffman on the other hand had a built-up--long before we met him--had built up a distrust for, I think, large organizations, governments, corporations.

Swent: Lawyers?

Goldstein: No. I don't think he had a particular distrust for lawyers. He, for example, accepted and built a relationship with me where he wouldn't with Mr. Casburn and ultimately he got to the point where he wouldn't deal with Don Gustafson any more either and he's not a lawyer. And on the other hand, Jack Thompson was later successful in building a fairly solid relationship with Bob Kauffman and Jack's not a lawyer. No, I don't think he worked along those lines. But somewhere along the way, something happened to him; or maybe it was just a thing between Bob and his maker, I can't tell you. But he felt that at every turn he had to have his shield up because somebody in a company, including Homestake, might take something away from him or diminish his rights or pull the wool over his eyes. And that was the jumping off point for every discussion about money and every piece of paper and every deal.

He was a perfectly wonderful individual other than for that one trait that got in the way of doing business with him. He had a wonderful sense of humor and an enormous attachment to that land that had been in his family for so long.

And if he told me once, he must have told me ten times about something his grandfather did. His grandfather, although he owned all that land, sold the minerals underneath, what later became the Reed Mine. And I think that the family lore for years after that was that that had been a mistake and that much money had been lost by selling the Reed Mine.

Swent: He sold it to the Bradleys?

Goldstein: Well, he sold it to a predecessor of the Bradleys, I think. If I thought long and hard enough about it I could probably come up with the name for you on that deed, but it doesn't leap to mind. In any event, so, Bob was very leery of selling any of this property; he didn't want to sell it. He feared that if he sold it it would later be seen as a mistake.

Swent: Were you trying to buy outright the property, mineral rights, everything?

Goldstein: We wanted to buy, both from Wilder and Kauffman, these properties. You get to a point where when you're satisfied that there's something on a property you want to be the owner of it. Neither Mr. Kauffman nor Mr. Wilder wanted to sell their property from the beginning.

Swent: Did you consider leasing?

Goldstein: Well, we did lease it. To refine that a little bit more, what we like to do at the beginning of a prospect or a project is to take a lease with an option to purchase so that if you find pursuant to your exploration, something of value, you can exercise the option and buy the property without having to go back and renegotiate the purchase price.

Neither of them would grant us an option. Wilder because he was working the ground himself. Unless it was for something of great value, he really didn't want to be bought out. Knowing Wilder and his personality, that was very consistent with the kind of man he was.

We would have liked to have an option to purchase from Mr. Kauffman but this attachment that he had to the land and his fear of selling the land relative to what had happened in his family before, created a tremendous block in his mind against selling it or giving an option.

Indeed, later on, when we finally did buy the land from him, it was one of the most excruciating deals I've ever been through. He was ambivalent about it to the very end and never

was satisfied, I think, in his mind, that it was the right thing to do, always worried that it was the wrong thing to do.

At any event, even the first deal with the lease was an excruciating experience, because Kauffman didn't really know what he wanted to do. He wanted the income that would come from it. He wanted to see the property developed as a mine. I don't think he really believed at first there was any gold on the property. But he thought it was an opportunity to get rental payments. He needed them at the time. As I stated before, I don't think he was working at the time. I think the income was of some substantial interest to him, to his family.

But it took forever to do this deal. Ken Jones was involved. I think Don Gustafson was involved at this stage. Surely he was at a later stage. But it took many, many, many months to come to terms.

Bob had a couple of lawyers involved on his side. One was an old family friend who had actually been a friend of Bob's oldest child who had been killed in an accident some years before I met Bob. And this lawyer had been a high school classmate and friend of the deceased son and remained a family friend of Bob and his wife and the other children. And he stayed on as an advisor to Bob throughout this entire period that Bob dealt with Homestake.

Swent: What was his name?

Goldstein: His name was Paul Goulart and he practices law in Sacramento.

Swent: Had you known him?

Goldstein: Never had known him before but I've spent many an hour with him now. And I don't think Paul was ever hired by Bob as an attorney although he may have been unbeknownst to me. But more or less an advisor and family friend.

Then he had a wonderful lawyer who lived in Woodland. John Young was his name. He's not with us any longer. And he was a country lawyer, a smart man, not skilled in mining necessarily but a smart man. And Paul and John would go over the papers to the last eyelash and we killed a lot of trees doing that deal. There was paper and more paper and more paper still. But we finally got it done. I guess this must have been about 1979.

The deal didn't differ much from the deal we had with Wilder. It was a lease. We were entitled to explore. We

were entitled to go on and mine under the lease and we would pay a royalty that was more or less the market rate for gold-type operations at that time period. And we would have to--

Swent: The price of gold was pretty high at that time, wasn't it?

Goldstein: Oh, the price of gold hit its high in about '80, '81. This period, I think we're talking about 1978/1979, where gold--I think it was probably bouncing around between three and five hundred dollars at the time. It hadn't been trading freely but for a few years. To tell you the truth, I can't now remember the 1978 price. I know the company's income from gold wasn't very high in '78. In '79 and '80 when the company was doing so well, it was making a lot of money from lead and zinc and from uranium. And I think gold may have been the second or the third contributor to our earnings. Of course, at that time, what did we have for gold? We had only the Homestake, didn't we?

Swent: It was Homestake, I think. Maybe Creede?

Goldstein: Creede was probably in operation then but of course that was silver, not gold. I don't think Creede was big enough to contribute much to our earnings.

Swent: I was just thinking, it must have been pretty hard to arrive at these figures. You were given some leeway obviously, a responsibility or authority to decide what you offered these people.

Goldstein: Yes, we weren't generally paying them.

Swent: A little bit of a gamble because you still didn't know how much was on this property.

Goldstein: Well, we would pay them monthly rentals and to be honest with you, I can't now recall if there was a signing bonus. There may have been.

Swent: A what?

Goldstein: A signing bonus, a cash amount paid over when we signed the lease initially. Sometimes we did that. I don't remember whether we did here.

Swent: But you would protect yourself on these somehow.

Goldstein: Right. But the big interest for the lessor or the landowner in this case was to get the monthly rental payments; sometimes

we'd call them rental and sometimes we'd call them advanced royalties. So the landowner would prosper if the company prospered on the property. The longer we stayed on the property, the longer we would pay these rentals or advance royalties. And of course, if we found something and ultimately produced it, as we did on this property, the landowner would receive a royalty which is a percentage of value derived from the sale of the product. And that turned out to be, I think everybody would agree, very lucrative for all of the landowners. So they came out very well on that score.

Swent: A percentage arrangement--

Goldstein: A typical net smelter return royalty or net return royalty depending on how we bargained on the deal. So we got these two deals done.

Swanson, a Willing Seller

Goldstein: And then after that, I guess I should say something about Swanson. Swanson lived up on the hill. Swanson had taken over these twelve hundred or fifteen hundred acres from Kauffman. He was just happy to get out of there. He had had it up to his eyeballs, I think, with the Kauffmans. They didn't get along. There were times when the sheriff would come out.

The Kauffmans owned the surface of the Bradley Mine, also known as the Reed Mine. And I had said before that Bob's grandfather had sold the minerals and his family was later unhappy about that. There were some bunkhouses and some buildings still standing that we discussed briefly a few moments ago. Swanson had a son who was, I think, a police officer of San Jose which is ironic given the rest of the story, but Kauffman would allege that they would come out there with guns and they would shoot up these buildings because they were on the surface of the Kauffman property.

I remember one weekend where the phone rang and the Kauffmans were complaining to us that the Swanson's son had been up there with an Uzi automatic weapon and shot up the buildings.

Swent: With a what?

Goldstein: An Uzi is a submachine gun, an Israeli-manufactured automatic weapon. Kind of a heavy-duty weapon. I don't know that ordinary citizens were out there wandering around with Uzis. But I was up there a few weeks later and sure enough there were, you know, bullet holes of large caliber throughout all of these buildings and bullet casings lying all over the place. And of course they had said, "Well, gee, Homestake has leased the property from Kauffman and it's our duty as the lessee to keep [the Swansons] out of there." This gives you a feeling for what was going on here.

If you stood down where Bob's shack was--he had a corral and a barn and this one-room building that I described and he had a couple of horses on the property and I think they ran some cattle. He was at a low point under some four or five gigantic walnut trees which provided shade by a little creek, I guess Davis Creek it's called. This is the site of our water reservoir now. All of this is under water.

But if you stood at Bob's ranch house and you looked to the south, you'd be looking up at this ridge which constituted the Yolo-Napa County line and on top of that ridge and to the south of that ridge and a wee bit to the north of that ridge going westerly is the mine, the pit. And this hill was about 2200 feet. And the bottom of this valley, was, I don't know, at least six or eight hundred feet below the top of the ridge. Swanson had put a trailer that he would stay in when he came to the property, right on top of this ridge. And of course, Kauffman maintained that Swanson only put it there to annoy Bob.

Whether that story is true or not I don't know. Swanson just wanted out. And he sold the property to us outright. He was the easiest guy to deal with. He had set his price but he didn't want a royalty and he didn't want to be involved in any mining and he was not a mining man. He had a land-leveling business down in San Luis Obispo County, Hanford, I think. And he wanted to go back to Hanford.

So we dealt with him for, I don't know, some months, and finally put that deal together and we closed it. I think that we bought another property that Swanson was interested in in San Luis Obispo County. And we paid for that property and exchanged that property to him for this property at McLaughlin; there are some tax advantages in doing the deal that way. And so that's how we got that 1200 acres.

V OBTAINING THE NECESSARY PERMITS

Napa County Lacked a SMARA Ordinance

Goldstein: Of course, from there on, after we tied up the land, our focus changed quite considerably to getting permits. We had to get permits to drill. And under the existing ordinances and statutes there were some minimal activities one could engage in without getting any permits. But when you get beyond that stage, you needed to have the permits from the county.

And in Napa County, they didn't have the proper ordinance. They had never gotten around to enacting the ordinance required under state statute for mining, under what we call "SMARA," the Surface Mine and Reclamation Act of, I think, 1976. And so, it was quite a large task to persuade and assist the county of Napa in writing and enacting a proper ordinance.

Swent: They had had some applicants for geothermal projects.

Goldstein: Yes, they had. They had AMAX come in some years back and AMAX wanted to explore the Livermore Ranch. And I've forgotten what they called the Livermore Ranch. It has a colorful name.

Swent: Montesol.

Goldstein: Yes, I always called that property the Oat Hill Ranch because it had on it the old Oat Hill mine and our geologist used to call it that. But when I talked to Putnam and John Livermore they told me, "No, we don't call our ranch that."

Anyway, this property had some geothermal potential. The resources of the county are limited and when the geothermal exploration people came and knocked on their door they too first had to get an ordinance passed before they could use

that ordinance to receive a permit. So they went through a long history with the County trying to help it enact a proper ordinance for geothermal resources. They consulted with other counties to see how they had done it.

Jim Hickey, Napa County Planning Director

Swent: Who were some of the people that you remember?

Goldstein: Well, I remember Bob Westmeyer had a significant role from the office of County Counsel; from the planning office, I remember Jim Hickey, a wonderful man. Director of planning, I guess, as his title at that time.

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Goldstein: Harold Moscowite of the Board of Supervisors was probably the most interested board member. The mine was in his district of the county near the location of "Moscowite Four Corners" which is named after his family. And he had a property holding or a ranch and a business up in that area of the county. He was very much a proponent of the mine's development.

"They Simply Didn't Believe That Anybody Would Look for Gold in Napa County"

Goldstein: The first contact I remember was with Jim Hickey and his planning department. And also there was a member of the County Counsel's office there. Probably it was Mr. Hackett, who was then county counsel. And we went up and we explained to them who we were, what we wanted, and how we wanted to drill for gold. I don't think they believed us. I remember coming out of that meeting and discussing it with other people. We believed that the county staff thought that we were trying to explore for geothermal without complying with the geothermal ordinance. They simply didn't believe that anybody would look for gold in Napa County.

We had an exchange of letters saying that as long as we stayed below a certain magnitude of impact we could drill some initial exploration holes. And I remember particularly that they demanded that when we wrote this up in the letter, the letter had to have a sentence added to the bottom that said

something like: "Provided that you understand that nothing in this letter gives you any permission to do any exploration of any kind for geothermal resources or anything like it." It took a while for them to take us seriously in the sense that I'm speaking about.

A Full-Time Legal Assignment

Swent: You were meeting at their offices in Napa, the city of Napa?

Goldstein: In the city of Napa. They finally came to understand that we would do what we said we would do and that we would not do what we said we would not do. And we made a paper record of virtually everything we did and said with Napa County. That's the way they wanted it and that's the way we wanted it. But even in the exploration period, the processing of those permits and the processing of the consents and whatever we needed was very time consuming.

I remember spending, oh, for several years probably 70 or 80 percent of my time working on McLaughlin. Then as we got further into it and decided to make it into a commercial mine, there were years, I think maybe about two years, where I basically did it full time--the land end of it, the zoning end of it, the planning end of it, the environmental impact reports, the contracting, and all of the other things that were necessary.

Zoning Versus Planning

Swent: What did you have to do with zoning? That was their job, wasn't it?

Goldstein: Well, we needed to apply for zoning changes. We needed to describe to them what we wanted to do. We needed to work out with them what zone we would be in. When I say "zoning changes" as opposed to getting a planning permit, it means, in my terminology that we had to deal with the Board of Supervisors, not the Planning Commission, because a zoning act is a legislative act that requires a vote by the supervisors.

Getting permits under an existing zoning ordinance requires only a vote by Planning Commission. Now, they're

quite different kinds of bodies as a practical matter and as a political matter.

Swent: Supervisors are elected so they've got to deal with the public.

Goldstein: That's right. And the Planning Commissioners are appointed and in those days, and it may still be so, I think each supervisor kind of had the say-so about who would be the member of the Planning Committee for his district.

Swent: And was this true in all three counties, this same sort of setup?

Goldstein: Well, true in the sense of the zoning versus the planning; I'm not certain that the system of having each Supervisor appoint his own planning commissioner was followed in all three counties. It may have been different in Yolo County.

Napa was probably the county with which we had the best relationship from the business point of view. They didn't want anything from us. They didn't press anything unreasonable on us. They had certain financial constraints and we had to cooperate with them to resolve or work within these constraints. They worried that we would bring development to the county in such a way that would impose development costs on the county, and wanted to be certain that Homestake paid its own way.

Anti-Growth Sentiment in Napa County

Swent: They had just been through a bitter controversy about permitting a shopping center. There had been a big brouhaha just before Homestake got there.

Goldstein: A couple of great battles. I think they also had an anti-growth initiative.

Swent: Yes, there was a big anti-growth movement.

Goldstein: I think it went to the electorate in Napa County and this is taking me back a number of years, now.

Swent: They actually stopped a big project that was to go on.

Goldstein: Yes. They had had some real battles. When we got there, they were a "no-growth" county. And there was what we would call a significant environmental movement that was anti-development and anti-growth in the county. This movement was most active down in the agrarian part of the county, down in the valley where the vineyards were. And they really were trying to stop further development and expansion. They didn't like what they saw down there. They weren't as active or as interested up near McLaughlin.

Now, some years back there had been this move to preserve agrarian grounds and we had this Williamson Act preserve thing in the state of California where the taxes of people who contracted to put their agricultural lands into these preserves would not go up or at least not go up at the same rate as other people's taxes. And it was a kind of a tax subsidy to keep lands in agricultural uses and to prevent the urban pressures from forcing people out of agrarian use of land. And there was some of that where we were.

Swent: That was much more important in Yolo County.

Goldstein: It turned out to be much more important in Yolo County. But it had existed in Napa County in this area. In fact, when we later got to deal with, I think, the Gambles, they had some of their property tied up in these Williamson Act contracts. But I raise it to show only that there had been an interest in this, not just down in the wine part of the county but also up on the hills where we were.

And our guys Ray Krauss and Jack Thompson did a real good job in dealing with some of these groups. The Native Plant Society was active. The Sierra Club was active. And they went to these people and described to them what our plans would be and what kind of safeguards we would put into effect in order to protect the environment and to mine in a reasonable manner.

The Manhattan Mine Site: A Moonscape

Goldstein: Of course, again, if you had seen this property--you would have seen that it was torn up before Homestake got there. It was pretty nearly a moonscape. When you walked onto the property where Wilder was, in particular, there were pits and holes and piles and the vegetation had been stripped off. There were big cuts and gouges and trenches. And you really

would gasp when you looked at this ground for the first time. I had walked over many a mining property--by the time I got there I had been working for Homestake, what, two or three years already, and I'd seen some mining properties throughout the West.

It really was among the most devastated terrain that I had ever seen. And I think the only one I could say that might have looked more impacted to me was Leadville in Colorado. I remember having walked over Leadville. There was a different kind of devastation there but it was devastation. No inch of this property hadn't been kicked up and turned over and dug upon and God knows what had been discharged there in the previous century. It was a mess.

One could argue that what we would bring to that property, then, in some ways was an improvement. Even though we would excavate, there would be drainage control. We would take away some of the exposed materials and piles of waste that were lying around and we would dispose of them in a proper manner or run them through our mill and reduce them such that they were no longer in a dangerous state or a state of being hazardous in the technical sense of the term. Our guys did a really good job in presenting our plans to these people. And they were pretty happy, I think, at the end. They thought we were going to bring a net improvement to that property.

Swent: "They" being the Napa planners?

Goldstein: "They" being the Napa chapter of the California Native Plant Society and the Sierra Club. And there were other groups, the names of which I can't remember.

Swent: Did you get involved at that point in the "chicken and pea" circuit? Were you out giving speeches?

Goldstein: Oh, yes. I went out and spoke at a couple of Rotary Club meetings and Kiwanis Club meetings.

Napa Chapter, Native Plant Society

Swent: I know you did later. I didn't know how soon you got into that.

Goldstein: Yes. Actually, I played a less significant role in dealing with the environmental groups than say, Ray Krauss did or Jack Thompson did. There's no question about that. It wasn't my area of expertise. I think Ray took the laboring oar in all of that. And there was discussion with the Napa chapter of the Native Plant Society about some plants that they were concerned about. These plants weren't on any endangered list but they were rare and there were few populations of them up the coast. I think it was a plant in the mustard family. And we made arrangements to transplant some and not to disturb certain ground where it was growing. And there were some other plants that they saw there that they were concerned with. And we accommodated that as best we could with our land plants and we were careful in and around those areas.

I think that took away a lot of the difficulty in the county. And the county planners and the county supervisors didn't see people coming in and shaking their fists over what we were doing; instead they saw that from the organized, environmental point of view things were being handled reasonably and rationally and indeed the organized groups were pleased with what we were doing. In that sense it was an easier job through the whole thing, for the Napa County Supervisors and the Napa County Planning Commission to allow us to go forward because they didn't have over there this undercurrent saying that we were doing bad things.

Labor Unions and Environmental Concerns

Goldstein: Earlier, in our discussions--I think they were off the tape-- you mentioned something about labor relations. There were not many labor relations problems but I do remember that when we got to the environmental hearing, the hearing for the mine on the environmental impact report--now I've jumped ahead a few years. I've jumped ahead to maybe 1983 or 1984, local unions showed up. And they wanted the McLaughlin property to be a unionized operation and at that point it was not and it still is not. Nobody has managed to organize it or persuade the workers that it's to their benefit to have a union. But they showed up and they tried to argue--

Swent: This is the Operating Engineers--

Goldstein: Operating Engineers, Local Number Three--

Swent: Three.

Goldstein: Yes, Local Number Three sounds right. And they did a couple of things. They argued that the mine would be environmentally detrimental or an environmental disaster. But I think it was clear--it was certainly clear to us and I think it was obvious also to the members of the Napa Board of Supervisors that they really didn't believe that. And they were saying that as a way of trying to bring some leverage against Homestake so that they could try to pressure Homestake into unionizing the operation. I don't think their environmental complaints were taken seriously for that reason. But they tried it and that's a tactic that I see now developing in other areas of the country.

There's a substantial--to diverge for a moment--there's a substantial undercurrent of union people who will try to use the environmental argument as a tool to accomplish their union goals. We've seen this come up in another instance, a number of instances. But I diverge to tell you that.

Now I guess I should tell you about some of the things that happened in Yolo County.

The people whom I will describe came over from a place in Yolo County called Capay Valley; they would come over into Napa at this latter stage that I'm describing, 1983 onward. And they would stand up and object before the Napa County Planning Commission because they were unhappy with what we were doing. It came to be our belief that they were simply anti-development. There was no specific thing we could find that they think we had been doing wrong or any specific thing they could identify that we were doing or would be doing that might result in an environmental detriment or a disaster.

So it came through to us that it was a principled opposition; they were opposed to the principle of having a mine, opposed to mining in general. And that was the kind of opposition that the people on the Napa County Boards and Commissions saw. They saw these union people and these people who were opposed in principle; they didn't see people who came forward and said specifically Homestake is doing this wrong and the mine will be harmful or environmentally difficult.

Homestake Pledges to Mitigate Impacts

Goldstein: Our job was to persuade the Boards of Supervisors and the Planning Directors and the Planning Commissioners that what we

wanted to do made sense. It was beneficial to the county. It wouldn't put burdens on the county. It wouldn't bring in unreasonable traffic, wouldn't bring in unreasonable sewer demands, wouldn't bring in unreasonable water demands and the kinds of development demands that cost schools lots of money.

We entered into agreements with Napa County that provided that if the road traffic leading up to the mine from Lake Berryessa were to increase substantially because of our operation, we would contribute towards rebuilding that road. We dealt with many problems in that way. It was a long and hard road even in Napa County with lots of permits, lots of studies, lots of hearings, lots of proceedings, lots of questions to be answered, hours and hours and hours and days and months of hard work--a very hard working time.

Napa County Named the Lead Agency

Swent: How did Napa come to be named the lead agency? Who does this naming?

Goldstein: Well, the statutes require that where you're doing a project that's in more than jurisdiction, one of the agencies involved be the "lead agency." The lead agency has certain duties including the duty to certify that the environmental impact report is--

Swent: This is federal.

Goldstein: Under the California Environmental Quality Act of 1970, which as much requires like the federal act, one of the agencies has to be the administrative agency who certifies that the environmental impact report was properly prepared. They must say that it was prepared under our direction and we're going to certify that it complies with law. And when they do that, they then have the final environmental impact report. Then each of the other agencies with jurisdiction have to take that environmental impact report and they can then act on the applications before them for the permits by denying them or granting them. But they can't act, at least in compliance with law, until the environmental impact report is certified.

And how did it come about? Let's see. We started this project and our entire focus was on Napa County. That's because the target was in Napa County. From an early stage, as we began the drilling, it was clear that the mine--all of

it, if not most of it--would be in Napa County. As it later developed, the ore body extended across the county line a little bit and we did wind up with a small portion of the ore body in Yolo County.

But the involvement in Napa was the most important. First of all, it was the first county we dealt with and they knew more about the project at an earlier date than anybody else did for that reason. They seemed inclined to want to be the lead agency because the biggest physical part of the development was clearly in Napa County. The biggest single facility in Yolo County, other than small parts of the pit, is the water reservoir. Of course, we didn't know we were going to put the water reservoir there until well into eighty, I guess in 1982.

We had quite a bit of difficulty deciding where to put the reservoir. We needed to meet a number of different criteria. There were some water rights criteria. There were some legal criteria. There were some geological criteria. And then we had to acquire the land from Kauffman. I had told you that we originally leased the land from Wilder and Kauffman and we later went back and purchased all of that land in another series of deals that we'll discuss in a few minutes. It was fairly late in the planning process that we decided on that situs.

Swent: So at first was it just Napa County that you were having to get permits from?

Goldstein: Yes. So to us it was natural that Napa should be the lead agency throughout this period. They agreed with that, too. Later on, of course, we situated our mill and our tailings pond in Lake County.

Impacts and Benefits to Lake County

Swent: Actually, Lake County bore the biggest impact in that sense, didn't it?

Goldstein: Yes. In the long run, it clearly is Lake County because at the end of the day, the workers live in Lake County, the mill's in Lake County, the waste in the sense of the tailings is in Lake County. The road traffic is in Lake County. And the kids go to school in Lake County. Yes, that is the big impact.

Swent: But it wasn't clear from the beginning that it would be Lake County?

Goldstein: No, not from the very beginning. But early on we knew the mill would be up the road in Lake County. And we still didn't feel it was necessary to switch from Napa to Lake County for lead agency. Frankly, my recollection is that Lake County never wanted to be the lead agency. I think Yolo had some pretensions to it because they had this very vocal group of people from the Capay Valley who would come over and appear at the hearings in Napa County and Lake County, too. Yolo County would have responded to the political demands of their constituencies, by being the lead agency. I think Yolo County would have wanted to do that.

Then, of course, the BLM was involved because we had some federal ground here.

Swent: The Bureau of Land Management.

Goldstein: The Bureau of Land Management in the federal government. I remember having a series of meetings with representatives of all these people and I believe we entered into a memorandum of understanding, finally. And all the parties agreed that Napa would do the EIR. It would be the lead agency. Then we also determined that substantially the same document would serve as the federal environmental impact statement and as the state environmental impact report. Those documents are really quite similar but they do have some differences. So we had to be careful to assure that the document that was prepared met the criteria of both of them.

Swent: That is, the EIR was for the state.

Goldstein: That's the state, the R standing for report. And the EIS, the S standing for statement, is the federal one. Then, of course, the Bureau of Land Management had to certify that the document met the federal requirements as an environmental impact statement for federal purposes. So there was some wrangling over who would be the lead agency but I don't ever remember that being that major an issue. There was never really any bitter dispute about it, just discussion back and forth.

Homestake Pays for the Cost of the Reports

Swent: And I think Homestake eventually had to pay for a staff.

Goldstein: Yes, we did. One of the mitigation measures recommended by the environmental impact report was just a very lengthy and complicated series of testings and monitorings that would go on throughout the life of the project to look at what environmental impact there might be. And Napa County pointed out to us that it really couldn't afford this. And part of the cost of the project would be to have to hire a person to do this. I think originally it was a full-time position. I think later on we scaled it back to a half-time person. We were asked to contribute funds on an ongoing basis so that the County could fund this extra position because you also must remember that Proposition 13 was enacted here in California in '78. And so from about 1978 on--

Swent: Was it that late?

Goldstein: Oh, yes. I'm sure it was the '70s.

Swent: All right.

Goldstein: And from that period on, because of Proposition 13 and because of some other issues that are affecting us nationwide, the revenue and the income of the California counties and cities has dropped. I suspect that Napa County staff was also reduced. Lots of complaining and wrangling locally in California over this. Funds are really hard to come by. But Napa wasn't in a position to raise funds. They needed funds. They really didn't have any money to hire anybody. It was a large concern to them.

So we agreed to it finally. There was some discussion as to whether we should fight these kinds of requests where the counties, all of them, were asking us to share the cost of the burdens we brought. It all depends on how you look at it. At first blush, it may seem like an unreasonable request, almost as if it's an exaction of money that you shouldn't be obligated to pay. But another way of looking at Proposition 13 was that it shifted county services to a pay-as-you-go basis.

Some of the results of that are we have to pay for parking, library services and entrance to local parks and beaches that we never did before. That's just one way of making the user pay. Homestake finally decided in the long

run it would contribute its share toward the burdens it created.

Swent: You mentioned this was for the monitor and I thought you also --didn't you also pay for the EDAC staff?

Goldstein: Oh, you're referring to the development of the writing and the study for the environmental impact report. Yes, I think it's pretty well established under California law that the developers pay for this work. The county is responsible for getting the report prepared. That has to be done under their control. The law may not permit the developer to go out and hire somebody and pay them directly. But it seems well established that the developer could contribute the funds. He'd contribute the money into the account and yes we had to do that. I think that is very commonly done. People now generally include the cost of doing an environmental impact report in their project cost. That's just the way it's done.

That may not be a Proposition 13 outgrowth. I think that particular practice may have predated Proposition 13. I think I remember that happening when I worked for the state. The oil and gas applicants had to come in and put those funds up because the state didn't have the money to write all the environmental impact reports. I'm thinking in particular of the one they did for the Santa Barbara channel that I referred to earlier; there you're speaking of a mammoth volume of documents.

Swent: A stack many feet high.

Goldstein: Yes, enormous, enormous. So, I think that has always, in my professional experience, been common practice. When we got up into Lake County, they had problems with the schools. They couldn't pay for the burdens of the additional children, especially during the construction period. We agreed to some formula to contribute money to the local school districts in proportion to the number of Homestake and construction company people who sent children to those schools.

Swent: I think there were 700 or more workers during construction.

Goldstein: That sounds like a--yes.

Swent: Seven hundred and fifty at maximum, I believe.

Goldstein: And they had children at the usual proportion. These children were put into these schools for two years. It was a big influx for southern Lake County and you can't build new

schools for two years' use. So we had to contribute to that. Then there was the problem of the road. The road between the property and Lower Lake was a dirt road. It needed to be upgraded. And we ultimately paid to rebuild that road, millions of dollars is my recollection.

Swent: Not everybody was happy about that.

Goldstein: No, not everybody was happy about that. But I think in the long run, we came to the conclusion that that's all we could do. There really wasn't any other source of funds for the money. That county is quite a poor county.

Swent: I meant not everybody was happy about building the road.

Goldstein: You mean, the local people were unhappy.

Swent: Right. Wasn't there quite an opposition to that?

Goldstein: No, I don't recall that it was a major issue. There was some opposition to it, yes. And it came from a few people who locally lived off what was the dirt road and who were trying to guard their quiet way of life. Some of them were people who actually lived in the Bay Area and had summer or weekend homes up there. But you know, I don't recollect thinking that being an issue that ever threatened the viability of the project. Other people may have different perceptions on that. I think the county wanted the development. By county, I mean the Supervisors and the Planning Commissioners and most of the residents of the county. I think they wanted the jobs. I think they wanted the development. And I think they wanted the tax revenue.

Lake County Welcomes the Development

Swent: Lake County was very impressed with that tax.

Goldstein: At that time I think I remember reading that Lake County was one of the five poorest counties in the State of California on a per capita income basis. And I was really quite surprised by that. I didn't know much about Lake County before that. There was not a single mile of railroad track in Lake County. No major highway really goes through that portion of Lake County, or really any portion of Lake County. The 101 stretch is to the west and Route 5, of course, is to the east. And so

you only go to Lake County if you want to or if you have to. You don't pass through Lake County.

Swent: No, and there was high unemployment.

Goldstein: High unemployment, a high native American population, some Indian reservations up there, in fact. A lot of land dedicated to grazing cattle. A lot of apricots, apples, and pears being grown. At that time, there were very few wineries in Lake County. There were vineyards but there were one or two wineries. And they were cooperatives, is my recollection. Well, that's all changed and in the last ten or fifteen years there were more wineries in Lake County, than I can count. So maybe that's changed the business a little bit. Maybe that's attracted some more skilled labor, and more financial assistance and more capital, the kind that had flowed into Napa County in previous years with respect to the wine industry. But it was very poor, very, very poor. They had a tourist industry up there revolving around Clear Lake. I'm sure that's still there. There's some fishing in Clear Lake.

In the Clear Lake area there's a number of old resorts there. It was kind of run-down; back around the turn of the century or maybe in the twenties, it may have been a pretty high class resort [area], but it had fallen out of vogue in the way that the New Jersey coast fell out of vogue, after the days of Calvin Coolidge and Herbert Hoover. People from New York City don't go there in summer anymore. That's the way this area struck me. Personally, I found it kind of hot and dry and it would never have occurred to me to take my family up there to be in Clear Lake for a vacation from the Bay Area. But fishermen and boaters go up there.

I didn't mention this when I was talking about Bob Kauffman's properties but at one time there were a fair number of coastal deer on the property. And I remember Kauffman telling me that his grandfather and his father, Bob's own father, and Bob used to take many people there hunting for these small coastal deer. They're small relative to deer in other parts of the country. Bob was a deer hunter himself and Paul Goulart, who I mentioned before, is an avid deer hunter.

They told me that the number of deer there has fallen off over the years. They've been hunted out and the woodlands have been cut down. So now the deer population is much smaller than it used to be. And there was a big hunting thing going in Lake County for deer in those years. I think that, too, fell out of vogue as the deer population declined. That was the picture I had of Lake County at the time. There was

really never any question in my mind that environmentally or development-wise that Lake County would approve that project. The issues I saw in Lake County were pretty much how and in what manner would they make us foot the bill for what they saw to be the impacts and the costs of our doing business in that county.

New Water and Sewer Requirements##

Swent: I've missed just a little bit there. You say that they would probe and ask for things.

Goldstein: Yes, they would come and they would say, well, we have this cost and you need to find a way to help us defray this cost and whatever. And sometimes they'd ask for too much. And we would try to--

Swent: Water was one of the big things, wasn't it? The sewer problem?

Goldstein: Yes. At one point they made us build a pipeline to bring water down, temporary water down the road. But that really was water for our own use. Let me see. I haven't thought about this in some time. We needed to buy water. We bought it from the Lower Lake Water District Number One or Lower Lake Sanitary District Number One to construct.

Swent: That became quite a problem, didn't it?

Goldstein: I guess the choices were to truck it down the road or to build, yes, or to build this pipeline. And ultimately they did make us put in a temporary pipeline at some expense. But on the other hand, we knew we needed water. You can't construct without water. We hadn't built our water reservoir yet. In mining, you always need the water. But I don't recollect that as a difficult issue because it took time to build the pipeline and it took money to build the pipeline. But again, from my perspective, I don't think that ever threatened us.

You know, backing off from the trees to the forest again, there were many people who said around this time that we couldn't do this project. There hadn't been a significant mining project brought on line in California or really any other country for many years. This was an open-pit or surface mine. And there really had never been one of those in

California. Since mining had wound down after World War II this was one of the few big projects. Since then we've had this environmental movement that we have talked about and there were those who said this is impossible. You cannot get these permits in California.

So our perspective on this whole thing when we went into it was: what do we have to do? Can we economically get through the permitting process and still have left a project that could be profitable? What will it cost us? What will it cost us not only in straight dollars over the table but in time value of money? And so this pipeline was a time threat, as I recall. It cost something, too. That was important. But it was a time threat.

I do remember spending a lot of time in working out the arrangements, not just for the pipeline but for the water that would flow through the pipeline; who we would buy it from and how much we would pay for it. And I think the Lower Lake Water District Number One in turn bought it from another water district further east. I've lost those details but I don't recall that as a big threat.

In fact, as I said, they would probe and ask for too much. I didn't consider the water and the pipeline to be in that category because the water was for our own use. That was more a regulatory problem, how to get it there for our use. The thing that I was worried about was they would ask us for too much for things that were not for our own use, put onto the property additional external costs; that is, ask us for more money to build schools, more money to build roads, and more money to build sewers. And if that got to be too great a cost, that could render the project diseconomic.

There was a lot of give and take in those days between Lake County and Homestake. But we worked it out. We came to a point where it was acceptable to Lake County and it was acceptable to Homestake. It took a while. All of this took a while. Of course, Lake County was subjected to visits from the same people who visited Napa County from Yolo County. These were the people I--

Swent: The Capay Valley group.

Goldstein: The Capay Valley group. They were opposed to mining in principle. They were opposed to any development of mining. They didn't phrase their objection that way but in the long run, that's what I concluded. I think Lake County saw this clearly and they were even less of a factor in Lake County

than even in Napa County and certainly less than in Yolo County. Lake County was very developmentally minded and saw through what they were saying, saw that it was an opposition in principle. And the opposition in principle to mining wasn't going to go over with that particular Lake County Board of Supervisors and Planning Commissioners because they knew their constituencies wanted the jobs and they wanted the development.

Homestake's Commitment to Hire Locally

Swent: Homestake had made a public commitment to hiring locally.

Goldstein: Yes, I'm trying to remember if that came out of--I think that did come out of Lake County.

Swent: Well, it affected Lake County.

Goldstein: As it turned out, it affected Lake County. Early on we didn't know where our people would live. It seemed like they could live down in the Lake Berryessa area. And if we could have improved the road that might have been an option as compared to improving the road to Lake County. As it turned out, there really weren't enough services and community things going on down at Lake Berryessa to support that and it then became clear we had to go north.

Swent: Was this a decision anyone arrived at or did it just sort of happen?

Goldstein: I think it just sort of happened. I think everybody realized from talking to people that nobody wanted to drive down into Napa County. Everybody we spoke to clearly was gravitating towards the north.

Swent: Was there any consideration to building company housing?

Goldstein: No. As I recall, the idea of a company town was something we didn't want to get into. I think from Harry Conger's level on down, it was very clear to us that we didn't want to build a company town. We think that's not the way we'd like to conduct our business these days.

And so, we did agree to use local workers. This was a great concern to Lake County. We've talked about how Lake County was concerned about the roads and the schools. But one

way to minimize that is to use existing labor so that you're not bringing in new people.

Besides that, like most politicians, they want to do something for the local people. So we agreed, quite readily. We didn't have to have our arms twisted to do this at all, to make a great effort to use local labor and to try to train local labor for more skilled work. And I think we were quite successful. We used to keep tabs of it, during the construction period and during the early mining period; how many people from Lake County applied for jobs, how many were accepted, how many were trained, and how many worked on the job.

Swent: Well, that became a condition of your permit, didn't it?

Goldstein: It did become a condition. I can't remember the words of the condition, whether it was a percentage or a specific--

Swent: I just know from reading the newspaper that there were times when--this was one of the things that the labor union people accused you of not coming up to your percentages.

Goldstein: Yes, each of these things that I have described to you in terms of what we did or our agreement to do it found its way into the permits as a condition and into the environmental impact reports as mitigation measures. And you're quite right. It was a condition. The condition as I recall was kind of vague. And it said we would use our best effort to do something along those lines. It didn't really have any firm numbers in it. And the labor union objected as did the Capay Valley people. They said, "Well, gee, this doesn't bind Homestake to do anything and it won't work out. You've really got to put some numbers in there."

I think that the discussion revolved around those issues. But Lake County went with the more general language in the permit and they trusted that we would get it done. In fact, I think we far exceeded their expectations and our expectations for many years in terms of local employees. And they finally said to us, "Okay, this has worked out so well. We don't need to keep track of it anymore." And they dispensed with the condition. That's my recollection as to the history of that.

Effects of Prior Geothermal Projects in Lake County

Swent: I think the geothermal people had antagonized the local people by bringing workers in from outside.

Goldstein: Yes, they certainly have and I think that--

Swent: That worked to your advantage, I suppose.

Goldstein: The geothermal property is, in those days, anyway, was pretty much accessed from Sonoma County. And more of the development was in Sonoma County. And Sonoma County has a little different economic and labor base than Lake County does. It has some large towns in it. Santa Rosa is in Sonoma County and some other places like that. There are people who commute there from the Bay Area up there. Then there were a bunch of skilled workers who came up with them from the San Francisco area.

And you had some large oil companies involved, Union Oil, Phillips, and some others come to mind that we're familiar with. And they did bring in workers from oil fields from all around or other geothermal fields. And Lake County felt that they didn't get anything out of that.

I think there might also have even been some burdens in Lake County. Some of those people may have lived in Lake County and put pressure in the schools and what not. And I think they did have a bad experience with them and whereas I said that the Napa County didn't trust us when we first got there because they thought we were wolves in sheep's clothing or whatever with respect to the geothermal. The Lake County people, you know, they were a little less subtle about it. In a sense they just said, "Boy, we had a bad experience there. We need to make sure we get these costs taken care of here and that's the way it's going to be." And the road came up and the schools came up and so on and so forth.

They had been burned. They were very unhappy, a lot of resentment. On the other hand, a huge proportion of their tax roll came from real property taxes over at The Geysers by the time we got there. As I recall, The Geysers developers were by far the single largest tax payers in the county.

Swent: Was this to your advantage that they had this prior experience?

Goldstein: Well, I don't know. It all worked out in the long run. I think that with the philosophy that our company had, we probably would have gone ahead and done our best to use local labor and to train local labor anyway. It costs you more to bring in people from other places. You want your employees to be rooted in the community and you want the community to accept you as a part of the community. That's a crucial part of any operation and you do that by helping the local people and having them help you.

So I suppose you could probably say the county pushed us a little further, made the arrangements more formal. I think we entered into some agreements with some local colleges for training programs. The Yuba Community College comes to mind. And we put some funds into them to help with the training.

Swent: And the building.

Goldstein: And the building?

Swent: I think you paid for the building.

Goldstein: I don't have a recollection of that. But that may be.

Swent: I think some of those costs were passed onto the contractors.

Goldstein: It could be. I don't recall the building but I do recall the Yuba College training. It wasn't something I personally had a lot of dealing with. It wasn't much in need of legal services. I imagine Ray Krauss and his crew and maybe some of the personnel people at Homestake--

Swent: So your two years of effort were just really the permitting.

Goldstein: Well, permitting, land, and contracts.

Swent: You did a lot of local PR.

Goldstein: A lot of PR. Preparing the paperwork and the applications was an enormous job. And there was a tremendous amount of work to be done with the county counsels in the three counties.

Swent: Did you go to all those meetings?

Goldstein: Oh, yes. Every one of them. Actually two years was my estimate for full time work. But for some years before that it was, you know, 70, 80 percent of what I did. And after that, it continued at some high percentage for a few years and it began to tail down and back off. Homestake also had long

proceedings before the water board about water quality and water rights; these went on for months and months and took much documentation and research and a lot of work with consultants. So I just couldn't tell you how time went into it.

Buying the Land for the Mine from Wilder and Kauffman

Goldstein: And then there came the time in the early '80s when we knew we had a mine and we had pretty much worked out what was there. And we knew, then, we wanted to own these properties. So we went back to the land owners, particularly the Wilder group and Kauffman family. It wasn't that difficult with the Wilder group. Wilder knew at that time that if we--

Swent: He had this One Shot Mining Company.

Goldstein: Yes, that was his partnership. One Shot Mining Company had, I don't know, five or seven partners. I can't remember now. And most of the partners worked with him on the property. They were partners and they worked with their hands.

Swent: They lived there.

Goldstein: Yes, did and they got their hands dirty. They were digging into the ground and working their machines. I mean, they were running the mercury mine. Nice people, all of them.

Swent: His son-in-law, I think, was one of them.

Goldstein: Well, his own son.

Swent: Oh, his son.

Goldstein: Did he have a son-in-law there?

Swent: The names all began with "W", I think.

Goldstein: Well, there was--oh, I think you may be thinking of Howard Wacasser and his son-in-law or Bill's own son.

Swent: Yes, Billy. It was Billy Wilder. But then I think one of the Wacassers is married to Wilder's daughter.

Goldstein: I didn't know that. Okay, let me think. Okay, that's a stretch.

Swent: And then there was another W I've forgotten.

Goldstein: Wilder, Wacasser--yes, that's about all I can remember of the names of all these guys.

Swent: Anyway, you were dealing with--

Goldstein: I dealt exclusively. I mean, Bill was the leader. He was the chief and he was the general partner, the managing partner and he was the business guy. And you know, oh, I knew Howard and I'd go through there and shake his hand and Billy and whatever and you know, we'd sit down, have a beer together. But I dealt with Bill on a business level. Not only me. We, as a company dealt pretty much with Bill Wilder, not with Billy and not with Howard Wacasser and his family. Of course, it was always a pleasure to deal with Bill. He's a gentleman and just a wonderful guy.

Swent: He's a happy man.

Goldstein: Well, he was a happy man before that. I tell you that it hasn't affected him at all. I think there are very few people on earth who could go through the process he went through and become as wealthy as he did and still stay the same genuine, sincere, warm, easy-going person. And he is all of that. He's just a wonderful fellow. I still see him. He still calls me up. We have discussions about things going on with the property or the land at the property all the time. And whenever I'm up in the area, I never fail to stop in and see Bill. Same when he's in San Francisco, every time he sees me. Great, great, just a great person.

So at this time, perhaps it's '82, I don't remember exactly. We knew what we had and we're beginning to apply for the permits so we wanted to go back and buy--we want to own the land. We don't want to have to deal with a landlord. We don't want to have to deal with these kinds of difficulties.

With Bill, it was pretty much finding the right financial arrangements for his group and for himself. And he didn't want to be there if we were going to be there mining. His objection, you will remember to giving us an option to purchase at the beginning was he didn't want us to buy it and do anything with it because he wanted to work the property. He loved the property. He loved the ground. But as long as we were going to mine it, he was just as happy as could be. He had a lawyer in San Francisco. We bought him out. And that was a not unusual business deal for a mining company. There really wasn't any problem with that.

The Kauffman deal, however, was probably the most difficult deal with a land owner that I've ever done in my life. At this time, Kauffman had been dealing with me and Don Gustafson as principals for Homestake.

By this time, however, Jack [Thompson] had come to work for Homestake. He had been with another company and I think he came to--I think he joined us about '81. So he worked into dealing with Kauffman at this point.

But basically, I did the Kauffman deal. And it was excruciating because the Kauffmans didn't come to the table ready to sell. They didn't know whether they wanted to sell. They didn't know whether the family wanted to sell. And they didn't know whether they wanted to sell some of it or all of it. And they didn't know what the terms would be. And they didn't know whether they wanted to cash out some of their royalty or not cash out any of their royalty. And they just didn't know what the hell they wanted to do. And on top of all that, they didn't trust anybody. They didn't trust the company, not because it was Homestake, but because it was a company.

So this was a difficult deal. We would make some progress towards a deal in one format or one structure and Bob would back away from it. "No, I changed my mind. I'm not sure. I don't know." And oh, things would quiet down. And then we would try another structure in another deal. And then oh, back away from that. And constant anxiety over the numbers. Always trouble with the numbers. And finally we arrived at a conclusion where we bought all of the land. All of his title to all of his property and leased back to him for a homesite some of the property north of the water reservoir.

And, pursuant to the terms of the lease back, they have twenty or twenty-five years from 1982 or '83 or whenever we did the deal. And at that time, they'll have to give it up and leave the property. Bob never really wanted to leave the property. This leaseback arrangement allowed him to still go there. He moved his little cabin back up the canyon. The family still goes up there. At the same time, they sold the property and get the financial benefit of a royalty. I don't know how they feel about it today, but they were very ambivalent about it at that time.

Swent: You said you still have dealings with them. This is the payment of the royalties?

Goldstein: Yes, we pay them a royalty and they still are the lessee on this property.

Swent: Right. So you still do need to see them on the property?

Goldstein: So we see them. They're up there on the property from time to time. I don't see them very much, personally. But the manager of the mine has constant discussions with them and we did have some litigation with them. So we saw them in that respect over a number of years. They were pursuing a theory that they were entitled to royalties arising out of a concept in the mining law which is sometimes referred to as the law of the apex or extra-lateral rights.

And the company and they didn't see, didn't see those issues in the same way. And so they filed a law suit in Yolo County. We went through a number of motions in front of the judge and it appeared they were going to lose the lawsuit. And finally they withdrew it. So we saw them and had dealings with them over that period of time.

And at that period of time, Bob became ill. And I think that lawsuit in some ways was actually caused by Bob's illness in the sense that Bob knew he wanted to straighten up all of his affairs before he died. He said that to me.

But to the day he died, I would still call Bob a friend. I think he would have called me his friend. We had a nice relationship. He was a jovial fellow, had a wonderful sense of humor and a unique outlook on life. But when it came to those business dealings and dealings about dollars, there was hard going with Bob. And it was always that way from the very first day that I met him till the last day that I saw him.

Swent: So he ended up selling all of his land to you.

Goldstein: Ended up selling all of the land to us.

Swent: He didn't keep any ownership?

Goldstein: Well, see, we wanted the land and I think the hard decision was to sell or not to sell. Once you've decided to sell and you know you are going to be up there next to a mine, which is an industrial operation, most of the land isn't of any value to you for hunting deer and vacationing.

So you had the mine pit and there's some open ground, a little bit of open ground. And then there's this water reservoir which creates a buffer zone for the mining. And it

attracts deer and whatever to drink from the water reservoir. And this land is north of that, away from the mine and runs back a couple of miles. So you get back there a couple of miles and you're pretty well insulated in the trees that break up the noise and what not.

I think that end of that canyon is still probably pretty much as the entire area was before Homestake came there. I think the Kauffmans are the kind of people who probably go up there and enjoy, very much enjoy, that land and that cabin.

Swent: But that was a tough one.

Goldstein: Yes, that was a very difficult deal. He was a very difficult person to make a business arrangement with. I guess the other significant part of the project is, of course, the Yolo County thing.

Later Litigation with Labor Unions

Swent: Yes, we have to get to Yolo County. Before we do that, was there any more you wanted to say about the labor? I think there was--we left out a little bit. You had started to say there was one--I don't mean to belabor this (no pun intended) but--

Goldstein: Well, labor unions came. The Engineers [union] came and they opposed based on environmental objections. We talked about that.

Swent: Was there some incident later?

Goldstein: Yes, they filed a lawsuit or an administrative proceeding of some kind against us soon after we got going. We, as I mentioned before, had to build this road between the property and Lake County. And it's a county road. And when we built it according to the agreement we entered into, we ultimately gave the road to the county. It is now incorporated in the county system. And they filed an administrative proceeding before the labor commissioner arguing that the county couldn't do it that way, that that really was a ruse for the county to take what was a county project on which union forces would have to be used and fob it off to Homestake such that Homestake constructed it privately without a union force.

They did not prevail on this thing. They took it at least through the administrative hearing before the Labor Commission in San Francisco and I'm having a little difficulty now in remembering whether that got into the Superior Court or not. It may have. I honestly can't remember. But they did not prevail on that issue. Again, that was an attempt by the union to find jobs for the union workers although we often felt that many of the workers who came to work for us both at the mine and on the construction crews were union members working non-union.

We still question whether it makes sense for a union to oppose development in order to make the development a union development when in fact, one of these days they may be successful and actually defeat a project. Whether in the long run that's good or bad for laborers in general, and for union laborers in general is not clear to me because I think in areas where there's not a lot of work--there wasn't a lot of work in California at that time--union workers work non-union. They do. They can't find a union job, they work a non-union job.

Now, in our case, the pay scale is very high. In fact, I'm not sure that the union workers working union jobs in California earned any more. In fact, this is why I think the work force up there has failed to vote the union in when it has come up. They're well paid, well taken care of and that goes a long way. I guess the history on this thing is too that the unions have been very strong in northern California.

This apparently is the first large project in northern California that went forward without union jobs. So there was a principle involved here. I think they saw this as an inroad. They saw this as the beginning of the lessening of their grip on northern California. But the project has gone on now for what, almost ten years and there's no union there.

That's the only other significant labor thing that I know of. I'm sure there were more contacts with the labor unions at the site.

Swent: Yes, this is out of your hands.

Goldstein: Well, you're looking only at what I know and what I dealt with as opposed to other people in the company. And then there's a ten-, twelve-year hiatus here. So, you know, there could be things that I have forgotten but those are the only skirmishes that I do recall.

- Swent: And you weren't really involved that much with that?
- Goldstein: No, I was so involved with the land and the permitting and getting the project on and I didn't have time to deal with certain other matters. For example, the hearing before the labor commission is ordinarily something I probably would have done. But I had to engage an outside lawyer to do it. I was running around full-time trying to get the project going and I couldn't be in two places at once. So it isn't that I was disinterested in that subject. I just couldn't do it.
- Swent: Where were you? You were working most of the time in San Francisco or did you spend a lot of time up with Napa?
- Goldstein: I was stationed in San Francisco but I spent well more than half my time in Napa, Lake, and Yolo.
- Swent: Did you have to go to Sacramento very much?
- Goldstein: Oh, yes. Sacramento was--I probably set the all-time record for the number of Hertz cars rented during that two-year period. Oh, yes. I would frequently go to Sacramento--the water agencies are in Sacramento. There's BLM stuff going on in Sacramento. There are the State board of mines and geology and other agencies that we needed to deal with on a regular basis are in Sacramento.
- Swent: Well, we're dragging our heels on getting to Yolo County but we've got to go to Yolo County.
- Goldstein: Yes, nobody wants to go to Yolo County.

The Issue of Dam Safety

- Swent: Were you involved in the dam safety issue?
- Goldstein: Yes, I looked at, I did the dam safety thing from a legal point of view. That was a technical problem. I mean, I guess our guys felt that dam safety demanded too much and technically were too stringent.
- Swent: That was in Yolo County.
- Goldstein: The dam is in Yolo County, but "dam safety" is a state agency in Sacramento.

Swent: That's the safety of dams.

Goldstein: The division of the safety of dams--it's of the Department of Water Resources. And they were worried. I had mentioned to you earlier that when Mr. Kauffman and Mr. Swanson tried to develop that area that they ran into a problem and I thought that the ultimate issue was the dam and that they couldn't get approval for the dam the way they wanted to. Well we, too, ran into some ground problems from the Division of Dam Safety's point of view.

They made us build what I understand is a first-class dam to say the least. We had to dig down and grout out underneath that dam and anchor that thing many, many feet down. There wasn't anything wrong, legally, with what the Division was doing. Our geologists and our advisors thought maybe they were asking for something was a little bit of belt and suspenders too, a little bit of overkill. And it was expensive.

Then we ran into some problems during the construction of the dam where conditions were not as they may have been projected and the dam safety people had to come in and work on that, too.

Yolo County: The Most Difficult##

Swent: I think we finally have to get to Yolo County.

Goldstein: Yolo County. Yolo County was the most difficult of the three counties for us in the sense that it really was the only place where we had environmental opposition.

Swent: I gathered from talking to Will Baker that this wasn't anticipated, was it?

Goldstein: No, I don't think it was anticipated at all. We had dealt with the organized groups. I discussed it in Napa County.

Swent: Napa County was where you would have expected it, right.

Goldstein: Yes, because most of the development was there. But we had discussed this project with organized groups in both Yolo and Napa Counties. And I remember a woman who was the president of the Yolo County--

Swent: Ada Merhoff?

Goldstein: Ada Merhoff, yes. A wonderful lady, a very good, clear thinking lady who was president of their Sierra Club Chapter.

Swent: Unfortunately, she has died. I would love to interview her.

Goldstein: Oh, I didn't know that. Ada was really a sound lady.

Swent: I was hoping to interview her but she isn't around.

Goldstein: Yes, I have a great deal of respect for Ada. So, we were surprised. We thought we had dealt with the few concerns that were there with the organized groups because after all, when you start out, that's all you can deal with. All you have, are the organized groups. And when this group from the Capay Valley--

Swent: There was a Capay Valley water users group.

Goldstein: Yes, there were a couple. The Capay Valley is a little valley that runs, I think, north-south and it's over the county line and a bit east and probably, I think it's a bit north of the mine.

Swent: It's lovely. I drove through it.

Goldstein: It's a lovely area, fruit-growing area. It's difficult--I think it's on either Cache Creek or a branch of Cache Creek.

Swent: There's another group called the Friends of Cache Creek.

Goldstein: Okay, that doesn't ring a bell with me. But Cache Creek runs sort of southeasterly or Davis Creek runs kind of southeast off the McLaughlin property and runs--it twists and turns and runs back and forth. But it finally finds its way down into Cache Creek. Then Cache Creek is running more or less north-south there. And this valley is a valley that is either on the creek itself or on an offshoot.

A Grassroots Opposition to Mining in Principle

Goldstein: These people are not close to the noise. They can't see it. They made some claim that the air quality would be affected. But that's very tenuous. There don't seem to be any direct physical links between where they are and the mine. So that

wasn't what motivated them. Nevertheless a group of people who live in that valley came forward at every opportunity and argued that this mine was a bad thing, that we don't need more mines; mine development is bad and what we need is more open space and things of that nature.

Swent: I think a number of these people also were fairly recent residents there, weren't they? They weren't all old, old timers.

Goldstein: I heard that said about a number of them and I really don't know enough about their personal history other than to say I heard other people say that, too. Some of them were retired people who lived on ranches growing fruit. Avery Tindell comes to mind. He had been, I think--he told me he had been an executive with an insurance company. When the insurance aspects of the project came up (the environmental insurance) he leaped forward and said he had some experience in insurance and that's how I know that. I think he had retired there. So he couldn't have been there too many years.

One fellow was a professor at UC Davis or a teaching assistant at UC Davis. That's Will Baker. I don't know what some of them--I'm trying to remember what John Ceteras did for a living.

Swent: He had moved up from Santa Cruz or someplace like that.

Goldstein: Yes, but I couldn't remember what he did for a living. Maybe he was supporting himself with farming.

Swent: A landscape architect or something?

Goldstein: Could be. I really, I don't have a recollection of that. And then there were some people in that group who really lived in Woodland. Francis Looney and her husband come to mind. I understand they lived down there in Woodland. Mr. Speirs [Robert Speirs], I think, Dr. Speirs. He had been a college professor, I think, in some discipline which I guess was a science discipline but I can't remember the details of that, really. But these people formed a group together and they would review all of the documents, the environmental papers and the planning papers. And they would make specific as well as general objection to anything that caught their interest or they thought would be a problem.

As I've said before, I'd concluded quite early on that they were opposed to the project in principle and no compromise that we made or no detail of the project that we

would change, in my opinion, would have changed their minds. And we did try to do things to respond. In fact, we did many things to respond to the comments they made. I think there was created a citizens task force that survived the permitting process; it probably still exists in Yolo County to this day.

Swent: Technical Review Committee.

Goldstein: Yes. And so that institutionalized a procedure where the citizens of Yolo, meaning these Capay Valley people, could continue to be heard. And eventually we realized that this is what they were doing. So in order not to lose time, we stopped changing our project plans to try to accommodate every whim and desire that they might have come up with and eventually we just said, okay, this is it.

I think each of the agency people in each of the counties had to decide whether these people were trying to make a case that the mine would be detrimental and could be improved. Whether we could mine better, dispose of our waste better, discharge the air differently or in some way that was better.

I think each of them ultimately reached the same conclusion I did. That these people really didn't want the mine to be there and nothing that you could say would change their mind on that. That each of their specific comments was an attempt at delay, and an attempt at confusion and obfuscation. And I guess I must say that in the long run, they did delay the project in the sense that we probably would have gotten through some months earlier without them.

Swent: They held up the approval of the EIR.

Goldstein: Yes, the EIR was a complicated document and they probably held it up by three to six months. And it might be that we spent more money than we would have had to otherwise without their intervention. And I probably should say that they may have improved the project in some ways because they did force us and the regulators into closer scrutiny of issues that they raised, especially in the early part of their objections, when the planning of the mine was still going on. This was done. We double-checked everything and made sure that we weren't going to cause a problem, especially in the areas that they had highlighted.

"Our System Works" But it is Costly

Goldstein: So I guess you could say our system works, in that sense. These people came forward. They voiced an objection. And whether their motivation is one with which you agree or disagree, they probably made the project sounder from that point of view.

I think from an overall point of view, the question is whether the changes that they brought about were worth the cost that went into them. I don't think I can answer that question for you today because I really have made no effort to catalogue where they brought about changes and what those changes were. To do that, you have to look back at what the regulators would have required in their absence and that's a very difficult task.

But I think it's fair to say that some good came out of it, in that sense. But on balance, I think it cost a lot of money. And my gut reaction without trying to marshal all the facts and arguments is that it probably wasn't worth the cost or the time to have gone through what they put the regulators through.

Now, they were received differently in the three counties. Lake, it seemed to me, paid the least attention to their complaints and Lake, as I've said, was very pro-development. Napa paid much closer attention. Napa after all was the lead agency and was charged with the responsibility of certifying the EIR. And there are sincere people in Napa. I think they did a very good job. I think they wanted that environmental impact report to be a good one, not only because they didn't want it challenged, and didn't want to go through court proceedings but also because they didn't want to slow down the project. Also, they took pride in their work. I think Hickey's department was a good department. I think Hickey knew what was important and what wasn't important.

Swent: Hickey was on the planning and conservation--

Goldstein: Jim Hickey was the director of planning in Napa County.

Swent: Planning and Conservation, I think they called it.

Goldstein: Yes, Department of Planning and Conservation. And his recommendation to the Planning Commission was to go forward with the EIS in the final form that it was approved and certified.

Yolo County Politics

Goldstein: I must say, Yolo County's politics were quite different from the politics of the other counties. First of all, Napa County was influenced by the influx of capital and sophisticated skilled labor from the wine industry and the tourist industries. The Napa County Planning Commission had seen big dollar investments go into these wineries. They were represented by good lawyers, good bankers, good planners. They knew a good piece of work when they saw one and they knew a shabby piece of work when they saw one.

Lake County was much less sophisticated in that sense than probably either of the other two counties. Their perspective on life was to try to promote development, reasonable development, but they really wanted the development. They needed the development. They were a poor county. And they were less inclined to hear the kind of arguments made by the folks from Capay Valley.

Yolo County was somewhere in between the other two on this score. But Yolo County for many, many years was strictly an agrarian county and I think it was very Republican. The growth of the University at Davis, I think, and some of the supreme court decisions on one man, one vote through the '60s and '70s had a big impact in that county. I think when we got there, the county was no longer clearly Republican. Some Republicans were elected and some Democrats were elected, the big Democratic forces coming out of the young people at the University of California at Davis. So the county was ambivalent to begin with.

But the thing that I found the most odd about Yolo County politics was the proclivity of both the Board of Supervisors and the Planning Commission to let people talk on to no end, forever, about things of the slightest importance from my way of thinking. They didn't seem to make a rule of reason or materiality to what they were doing.

I remember one day going over to Woodland and sitting in the Planning Commission chambers waiting for some matter to be heard fairly early on for two or three hours. Some student from the University of Davis showed up and he had a bobcat or a leopard in his room at the university. Somebody objected to this. The animal control officer objected to it. He said the student couldn't have it because it was not a domestic animal and you could only have domestic animals.

The student argued that this was a pussy cat. It was very domesticated. Therefore it was domestic within the meaning of this animal control ordinance. And he had a parade of witnesses, other students from the dormitory at the University of California. And they testified for hours about the disposition of this wildcat or leopard or whatever the hell it was. It was clearly not a domestic animal in the sense that we understand that term.

Here are people in the audience waiting to be called, lawyers with many, many clients being paid hundreds of dollars an hour, sitting through this, waiting for their matter and here are the planning commissioners, listening to testimony about whether this animal was wild or domestic.

I later learned by observing many, many more of these episodes that anybody could come to the Supervisors or the Planning Commission in Yolo County and say anything for hours. I always thought this was an odd way to run your government. Certainly it's a good thing to let the people say what they want to say and approach the people who make the decisions. But at a certain point, also, one has to put some boundaries to it.

So looking at our project in that context, you have a backdrop where the county is split politically and every politician is looking for votes.

So you look at all this and along comes our mine, which is not insignificant like the bobcat in the dormitory room. It's a big project by anybody's standards. It needed some serious thought. And these people appear from the Capay Valley and they have things to say. So given that context, as you can imagine, they were allowed to speak at ultimate length and to put in letters and comments and what. They did so and they went on and on.

Swent: There were references in the newspaper to all-night meetings.

Goldstein: Yes, there were some long meetings. We had some community meetings in each of these communities to introduce ourselves to them. We had one in the Capay Valley--I don't know what kind of hall it was.

Swent: Grange Hall, I think.

Goldstein: I remember now. It was Grange Hall. And these people were in their hometown, their home territory. That was the first we really heard of them. I think it was a bit of a surprise to

us as you mentioned. But they appeared after that at nearly every hearing and objected to almost everything we did. And they had some knowledge and they had some skills.

Swent: There was talk of asbestos in the air.

Goldstein: Well, they made some arguments that we thought were remote, even bordering on the ludicrous. They made some other arguments that were sounder than that. And as I said, where they made arguments that we thought were sound, we did our homework. We double checked to see that we had done it right or that there wasn't a problem with it. Our approach was reasonable, our design was satisfactory.

Tindell was active. He would write letters. Speirs was active. He wrote many letters and he fancied himself a toxicologist or an epidemiologist or something of that nature and he would marshal statistics and numbers of various kinds and make calculations about everything including what you just said about how much asbestos would get into the air from the serpentinite soils and how it would be transported to the Capay Valley. Some of their arguments did relate to that particular issue. And the hazardous waste issue was of great concern to them. They thought maybe there would be some acid mine drainage and maybe there would be hazardous materials in there.

Swent: Mercury, of course.

Goldstein: And mercury; they went on at great lengths about mercury.

Swent: Cyanide?

Goldstein: Yes, they mentioned that cyanide was of concern to them, too. The cyanide, of course, is in the tailings and it's enclosed in our impoundment. And that's in Lake County. But they did make all of those arguments. They made it clear that they didn't want the project. They were somewhat acrimonious about it and there was concern in the Yolo County board of supervisors that this could become an issue in the community. And if the issue were taken up by the voting population of the University of California at Davis, this could have had a significant impact on Yolo County politics. And the Planning Commissioners, of course, knew this, too. And when you add to this the proclivity that I was discussing earlier, it is clear that it was going to take a long time to go through the process. And the Planning Commissioner in Yolo County at the time--excuse me, the Planning Director in Yolo County at the time--was not a decisive person.

Swent: What was his name?

Goldstein: His name was Jeff Hulse at the beginning of this, I think. Hulse? Yes, Hulse. He was not what I would call a decisive character like Jim Hickey. Hickey knew what he wanted to do and took his views to his commission in the form of a recommendation; Hulse was inclined, at least on this project, to lay the facts out on the table and describe what it was we wanted to do and not give a recommendation with any firmness to his commission. He would let the commission flail around and come to its own conclusions without the benefit of recommendations.

Now, this may not be just a description of Mr. Hulse's character. This may be as apt a description of the politics in Lake County, excuse me, in Yolo County. The politics in Yolo County may have demanded that a planning director act that way. But somewhere in the middle is the answer. I mean, some of it came out of Jeff's character. Some of it came out of Yolo County. But this in the long run, I think, was as much of a problem as anything else. I think if we'd had a forceful and decisive planning director who was willing to say look, I'm going to sort out what the good arguments are, the reasonable ones and I'm going to tell you what the unreasonable ones are. I'm going to tell you commissioners which to listen to and which not to listen to, which to agonize over and which not to agonize over. But a lot of time might not have been lost. But oh well, it wasn't. And all in all we found the proceedings that we went to in Yolo County to be unpleasant, unnecessarily wasteful and inefficient. Ultimately, however, we got to where we are. And the mine was approved.

Dealing with the Solano Irrigation District

Swent: Did you have any dealings with the Solano Irrigation District?

Goldstein: Oh, yes.

Swent: You personally.

Goldstein: Oh, yes. Quite a number of them. They appeared at an early time in the proceedings. [interruption]

We were beginning to discuss the Solano Irrigation District's role in the whole thing. They appeared one day, I

think it was in Lake County at a hearing. Sort of said, "Oh, we don't know about this project and we kind of object to it and we need to look at it some more." So we met with the Solano Irrigation District. And they had some concerns about being the largest downstream water user, downstream of our project. And they said they were not opposed to the project in principle but they needed to understand it better and for some reason they had been a little bit delayed in getting into the process.

Swent: Did you have to get permits from them?

Goldstein: No, we didn't need any permits from them. They were just, they were a big political force, both in Lake County and in Yolo County. And when they appeared--

Swent: It's a combined district, I guess, Solano and Yolo.

Goldstein: No. No, it's Solano Irrigation District. What it is, is it has the rights to the water that's licensed in Lake Berryessa, the federal Solano project, I guess they call it. And the Solano Irrigation District buys almost all of the water out of Lake Berryessa and then sell it onward, mostly into Yolo County. But the water that comes down into Lake Berryessa comes down through Lake and a portion of Napa County. So they're an important force there in the sense that they control water rights.

Swent: And it's not only used for irrigation. It's some industrial work.

Goldstein: Oh, no. It's an entire water supply: domestic, industrial, irrigation. They control a very large amount of water.

Swent: So the name is a little misleading.

Goldstein: Yes, yes. The name--I see what you're talking about. Yes, that name is misleading. But these districts are formed for various reasons and they do whatever they do when they sell the water to whoever buys it, so, yes, I can see why you would say that.

Anyway, they hadn't appeared in the proceeding at what we would have expected to be the usual time; they came in late. They explained that to us at one time. They just got interested in it. But they came in and they wanted assurances. So, we took a little hiatus from the permit process because we knew they were a large political force. And if we had them against us, that may well have mattered.

So we wanted to examine what their needs or perceptions were. They didn't have any complaint at the time.

Swent: Brice Bledsoe is the one you were dealing with?

Goldstein: Yes. Brice Bledsoe is the executive director, I think he calls himself.

Swent: He was when I--

Goldstein: I think he still is. Yes, yes. We have continuing relations with them and the last time I spoke to them some months back he was the executive director, still. They didn't have a particular complaint, they just said they needed to study the project and learn more. So we had this hearing adjourned. I can't remember now what the subject of the hearing was and we met with them. They wanted to bring on their consultant and they wanted to do this and that, study it and understand it. We went through all of the hoops with them. I think it probably cost us some time. They didn't find anything in the project that they thought was bad. They never did oppose the project. We made an agreement with them.

Swent: There was concern about your shipping of the cyanide. Wasn't that one of the big things, that you were bringing in cyanide in their drainage?

Goldstein: We are bringing in cyanide in trucks. The cyanide issue had been raised before they got into it. But yes, that was one of the issues they raised. And we talked about that whole thing with them, how we were going to bring materials in, how we were going to mine, how we were going to discharge waste, what impact it would have on water quality, what monitoring needed to be done to see that, and what we would do in the event that there was a problem. And we entered into an agreement with them, a written agreement. Finally, it provides for monitoring and a joint water quality expert to resolve problems between us and giving them data and giving them access.

It's what I would call a professional agreement. There wasn't any objection in principle. There wasn't any animosity. When they were satisfied that the agreement had in it what they wanted to be in it, they didn't make any opposition to the project. But it did cost us some time and some effort. I consider that to be the natural happenstance of any complicated project. People who are impacted by it sooner or later wake up to it. Sometimes they catch it at the

beginning. Sometimes they're aware of it but they don't realize its impact on them.

While it's true that these people came quite late in the process and we should have been, I suppose you could say, more alert and come in earlier, then it wouldn't have caused us the delay that it did. I don't think they did anything unreasonable. I would expect them just to act that way in the future or in another place. At first we speculated that maybe the Capay Valley people worked up the district. I don't think that's the case. Subsequently, we've known these people now for many years and I have a pretty good idea of what their internal politics is.

Swent: I gather, my impression was that this is one of the most critical things.

Goldstein: Oh, yes. It was very significant in the sense that if they had opposed the project, we might well have had a big political problem. We might well have not have been able to get a permit, particularly from Yolo County. Perhaps that would have extended over into Lake County. It was crucial not to have them come in and oppose us. And so when we--I can't remember how much time was lost in this particular period of time. But when we stopped doing what we were doing, to let them examine it, we knew the stakes were big. We knew we had to persuade them that it was a good project and we did. And I don't ever recall them having an opposition that was unreasonable. They hired a respectable consultant, somebody that we had heard about in the past before.

Swent: Who hired Caldwell and Brown?

Goldstein: I think Brown and Caldwell were hired as part of the EIR process. These people hired another consulting firm. I can't remember which one it was, now. But they did a responsible job of reviewing our project. It took us some time to bargain, negotiate and write the agreement between us and the Solano Irrigation District. But in the long run, it was a good agreement. I think it did both parties well.

Along the same theory as I was describing to you before about the Capay Valley people, they forced us to look at our emergency procedures. They forced us to look at our cyanide transport again. They forced us to look at water discharge controls. It worked out fine. We've been sending them data ever since. They've never been upset with anything. They've never opposed, to my knowledge, any permit that we've ever asked for or ever asked to have one amended. They are

responsible people. They're happy with us; we're happy with them.

But it would have been difficult if we had them in opposition. Any large government agency in opposition can cause a difficult problem. The politics of Yolo County were such as we described before that this would have been a powerful force.

Swent: What about the commercial users, industrial users?

Goldstein: None of them showed up. The SID spoke for them, I guess, is the way I look at that. But I want to emphasize in looking back on it. They never did object to the project or any part of it. They simply had come and said, "Well, gee, we need to study it."

Swent: Had to see that it was done right.

Goldstein: Yes. And then they supported it after a while. We made it public that we had this agreement with them and it totally took away that opposition. But there were some tense moments at that time, writing that agreement, trying to figure out where they were really coming from at first and who was motivating them and why. I think we probably lost more sleep over it than, looking back on it, because we didn't know whether the environmentalists were behind it or whether they were going to act reasonably on it. But they did.

So, looking back on it, I don't give it as great a significance as I did at the time, now that you raise the question in my mind. Looking back on it, I think we probably should have anticipated water users coming in and wanting to know more about it. And we hadn't really given it much thought. And I think they were the only public agency that actually came in, other than those that had to issue permits. I don't know what the others who were involved in the process, such as Ray and Jack, would have said about this process. That's about all that comes to my mind on that one.

The Capay Valley People

Swent: There was a big--one of the big contentions of the Capay Valley people was that you skipped a second hearing on the-- Do you remember that? That they didn't get information in time for a hearing to go over their materials.

Goldstein: They were constantly arguing that they didn't have enough time or whatever. I don't necessarily recall the hearing you're talking about but they were always trying to cause adjournments and postponements and delay.

Swent: You personally have much more on the--at least, I'm getting this from the newspaper clippings--you appeared to be on the hot seat much more in Yolo County but--

Goldstein: Oh, yes, yes. That's true probably of me personally and of the project in general. But they would write letters and I would respond. We didn't focus on it this way but in terms of documents, I produced them all for the projects. So, when they wrote letters, I would answer their letters. They would put in briefs or position papers or something.

Swent: When they didn't get things in time, it was your fault.

Goldstein: Yes. It was my fault. And I would respond to these things in writing. So, they would--

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Goldstein: If I thought they had made mistakes or twisted things, I would try to sort it out, always in writing. I'd write letters about these things and put them in on the record. And I think they didn't like that.

Swent: Did they have lawyers, too?

Goldstein: Not known to me. I have heard once or twice that they had consulted with a few lawyers, people that I knew.

Swent: You weren't dealing with a lawyer representing them at any time.

Goldstein: No, not at any stage. I always expected that they would hire a lawyer and bring somebody or maybe file a lawsuit if they really were opposed to this. I think one of the things we have to realize is they really couldn't find a solid objection against the project. It's not enough to be opposed in principle. Well, I never knew what their financial situation was. They said they didn't have a lot of money. They didn't organize in a way that would raise funds. So, whatever they were spending presumably did come out of their own pocket.

Swent: Well, I know that later they had a benefit to pay for some of the--

- Goldstein: Oh, I didn't know that.
- Swent: Yes, there was something in the paper. There was a notice of a benefit poetry reading. Among other things, Will Baker was reading some of his poetry at the benefit to raise a little local money to pay for some of their expenses.
- Goldstein: To pay back for what they had--to reimburse them. Well, I didn't know that. Maybe that makes your point, though, that they really didn't have a lot of money.
- Swent: So, again, they hadn't had heavy funding, anyhow.
- Goldstein: Yes, well, so that may have been a factor in hiring a lawyer. but as I said, I know they consulted with a couple of lawyers in the Sacramento area. So, I think there's more to it than just lack of money. I think there was not a clear legal issue.
- Swent: Not a good case.
- Goldstein: Well, at least they hadn't found an issue that made a good case. That was the preliminary advice they were probably getting. We tried to dot all the i's and cross all the t's. I think a couple of those people took out after me personally. I don't know which letters or newspaper articles you were reading. But I think Avery Tindell, in particular, would rail at me and I think Bob Speirs would too, pretty much, you know.
- Swent: There were strong implications that you were bribing people.
- Goldstein: Oh, I didn't know that.
- Swent: Well, they criticized this and said Homestake came in--I'm not quoting exactly but Homestake came in with its smooth talking people or attorneys--I don't know whether they said smooth talking attorneys or just smooth talking people.
- Goldstein: Yes, well, whatever they said, I'm probably one of them, you know.
- Swent: --and all their big money. Now, of course, probably there's the attraction of incoming taxes.
- Goldstein: Well, maybe I'm being naive but I think--they did talk a lot about Homestake and its money. I never took that to mean that they thought or were even alleging that we bribed them. I thought what they meant was--

Swent: Just at the incoming--

Goldstein: Yes. We're big and we can afford to take-- It irked the hell out of them that I was working on this thing full time. And when Avery Tindell or Bob Speirs wrote a letter, I would take the two or the three hours or the four hours, whatever's necessary, to research those issues and I would write an answer. And I wouldn't just stand up and rail in public. I would write an answer and send it to them and send it to every supervisor and every planning commissioner. And I would say the way it was in black and white.

Avery Tindell, Bob Speirs, Will Baker

Goldstein: This was hard on Avery. Avery was a nice fellow in some ways. I got to know Avery Tindell personally. We didn't dislike each other personally. He would come up to me after the hearings and we'd kind of have some of this personal repartee. And yes, he found--what did he say to me one day? "You write a hell of a letter." And what I took that to mean was he found that barrage of correspondence answering the charges to be difficult to deal with because he'd get up and, in his own way or in his letter or orally, he would try to get the planning commissioners or the supervisors worked up over an issue which he thought led in the direction he wanted to go. And then I would, two days later, answer with a letter that frequently would deflate it or at least put it back into perspective. And so, in a way, he was complimenting me for it, the way we handled that on a personal level. So I know it had an impact on them.

Speirs was a little tougher to deal with. You couldn't joke with Bob Speirs. I couldn't have a personal repartee with him. And certainly not Will Baker. He was the most, the person who believes the most fervently in no development. There wasn't anything to be discussed. And he would say things to me like--it was not beneficial to mining. Or putting it another way, the benefits of mining were outweighed by, say, the environmental impacts of mining or the detrimental aspects of having a mine.

You couldn't have a rational discussion with Will Baker on the subject because if you made a point that he didn't have an answer to, he would just say, "Well, you just believe that because you're on Homestake's payroll and therefore your views don't count. And it's not possible that a rational,

reasonable person would believe that mining is good." That would be the end of the conversation. There's no answer to that. That's the end of the discussion. That's the way he would approach the discussion. He'd get so far. He would even initiate the discussion, too. You'd start to talk with him. You'd get to the point where you made a cogent argument or something like that and you'd wait for his answer and that would be his answer. Oh, that was the end of it. But that was quite an episode.

If they had more money and were better organized, perhaps they could have forced an issue. But I don't think there was an issue there. I think we dotted the i's, crossed the t's, went through the procedures and designed a pretty good project.

You Can't Judge a Mine Until You're Through Mining

Swent: Do you think it was worth the effort?

Goldstein: Well, from a business point of view, you ultimately have to look at the mine when it closes, and see what you invested. And you look at what you got out of it. You've got to decide whether it was profitable. And we've had a lot of fluctuations in the gold price during the lifetime of the McLaughlin Mine. And it still isn't clear to me that it's going to be a hugely profitable endeavor. We'll have to see what the last chapter says. Those miners are fond of saying, you never know whether a mine made money till you're through mining. And nowadays--

Swent: Of course the price of gold may go up too.

Goldstein: Yes, we got our costs very much under control at that mine in the last few years and it's really been doing well. The price of gold has not been as high as we would have liked it to have been through its lifetime. When we did the mine, we were hoping we would see upwards of \$400 if not \$500 per ounce through the lifetime of the mine and we have not had that.

We've responded by trying to and succeeding at cutting costs and things of that nature. But I don't think it would ever have turned out to be your proverbial gold mine. It's not going to be one of the most profitable things we ever did. And we still haven't funded all of the monitoring and reclamation and closure activities. So it adds even more

strength to the old mining proverb that you never know whether a mine was profitable until you've spent the last penny on it. But it still has a few years left and the price of gold has some strength in these recent days. So we shall see.

I think one big disappointment to us all was that we were not able to find more ore on that property. That raises an interesting question about the property to the south, the Gamble Ranch. We haven't really talked about it that much.

Acquiring the Gamble Ranch

Swent: Yes, we haven't mentioned the Gamble Ranch. Do you want to do that?

Goldstein: Yes, we could talk for a little bit about that. That's a large tract of land, I don't know, ten, twelve thousand acres that runs up north from Lake Berryessa to the south end of the McLaughlin Mine. And the ore body goes right on down to the Gamble property line. We're fond of saying in the mining business that, when God created ore bodies, he didn't respect any property lines.

So we wanted to acquire the Gamble property for many, many years. And we finally did. And when we drilled over the line, we found, in this case, that God did respect the property lines. Much to our surprise, there was nothing that we found just south of the mine, just south of the existing ore body; it just stopped right there on the property. So, we were really disappointed in that.

Swent: And that was quite a hard negotiation, too, wasn't it?

Goldstein: Yes, it was. The most difficult thing about acquiring that ranch was that the owners didn't want to sell it under any circumstances, for years. We began to approach them back in the days--

Swent: Who were you approaching?

Goldstein: Well, the owners, the two Gamble brothers that owned it, George and--

Swent: Launce.

Goldstein: George and Launce, yes. George lived on the property; Launce had a business office in the city.

He practices business out of his office in San Francisco. And they just weren't interested. We approached them, I guess, as far back as, gosh, I'm going to guess '82, '81 even. Maybe even earlier. Maybe when we first approached Wilder and Kauffman in the late '70s, '79. But they just--we tried everything with them. And then finally, just a few years ago --oh, golly. How am I going to remember this date? Eighty-eight or '89, I guess. But they said, all right, we're interested now.

Dick Stoehr and I did this deal. And it took us more than a year to do the deal. It was a hard deal but it wasn't hard in the way the Kauffman deal was hard. A lot of people involved-- Dick, me, Gamble's attorney. Gamble, busy doing other things. We didn't meet as frequently as I did with Kauffman. We got it done. But they pretty much knew what they wanted to do, the Gambles, that is, at that time. And we had to agree on the terms and price.

Swent: Did they need the money?

Goldstein: Oh, I don't know whether that would be a fair subject for me to even speculate about. I mean, it's kind of private. I think a businessman wants to get a fair value for his asset regardless of his circumstances. I think they were trying to --I won't say for whatever reason--they wanted to maximize the value of the ranch and of course, we wanted the ranch to explore it. Since they wouldn't option it to us and they wouldn't lease it to us, we had to make a decision whether or not to buy it. And we did.

Swent: Before you did any drilling.

Goldstein: Before we did any drilling. And we have not yet found anything out there. But you have to do what you have to do. But it's getting to the point, now, where the ore reserves are--we have a couple of years left, I think they're telling us. And if we don't find anything pretty quickly, I guess that will be the end of the ore body at McLaughlin. And that is a great disappointment. In most cases, you find more than one mine in a mining district. Most mines have neighboring mines, have new ore bodies. But we haven't found one.

Swent: That's been a disappointment.

VI POST-MINING AND RECLAMATION PLANS

University of California Nature Reserve

Goldstein: Something else that might be of interest to people in the future is what we've done with our reclamation plan here. We needed to have, to comply with the Surface Mining Act, a post-mining land use. And you can't fill a big pit like that back up. And the land had very little use to begin with. It could barely support grazing in its natural state and it certainly couldn't support any grazing after the condition of the land that I described to you after it had been ripped up. So we proposed that we make an environmental research station out of this thing and give it to--

Swent: Whose idea was this? Do you know?

Goldstein: You know, I'm going to guess that the bulk of the idea, if not all of it, was Ray Krauss's. I don't remember anybody else coming up with it. I think it was Ray. It was a great idea, a great idea from the company's point of view because it got us into compliance with the statute with a proposal that made sense. And it results in something which I'll describe in a minute that's a benefit to the university system. So everybody seems to come out on top.

Swent: And this had to be incorporated in your plan from the beginning?

Goldstein: Well, we had to say from the beginning what the post-mining land use was. And Ray proposed that it be this environmental research station that we could cooperate with the university on. We hadn't picked out a university, a specific university at the time. And they could come and use it as a study thing for whatever they wanted to, whether it was mining related or not mining related. And over the course of the years, Ray has

worked with, I think, some Davis people who have done some Ph.D.'s out there in native plants and other botanical matters.

Swent: He had taught at Sonoma College, too.

Goldstein: Ray had been a planner in the Sonoma County planning department.

So he proposed we do this. And subsequently, the counties accepted that. And as it has developed, we have now entered into an agreement with the University of California. But I think it's going to be administered out of Davis.

They have a series of things which they call natural reserves. And they're trying to duplicate the seven or eight natural habitats of California. The sea coast, the desert, and some others. This one is their serpentinite preserve.

This, apparently, is one of the few areas of the state where the natural serpentinite soil is obvious to the eyesight and still in part untouched. And there's some ground up there that we've not touched, that still has native plants growing there, the thallopodium, a plant in the mustard family.

We've made some progress on the preserve. We've given the University the rights to use some land already, in anticipation of this. We're not exactly sure what this is going to look like when we're through or how much of the ground they'll want or how much they'll give them. But we'll get it done. And I think that was a unique idea that Ray had, a unique approach to the post-mining land use.

Swent: And you committed to it in the big public ceremony not too long ago, named it for the McLaughlins.

Goldstein: Yes, that was named conjointly by the university and the BLM. The BLM is going to add some of its lands into this package to make this research station.

Swent: It's a fine idea. Have you been up there recently?

Goldstein: No. I missed the big celebration at the two-millionth ounce. I was out of the country.

Swent: Oh, you were in Venezuela, I guess.

Goldstein: I think I was in Japan. Yes, we had some complicated travel plans and I couldn't arrange it otherwise. So I missed the two-millionth ounce. And I really, I haven't been up there this year, to be honest with you. I'm planning a trip soon. We're still hoping to find some more ore, of course. And they're driving a little exploration drift. And I wanted to look at that, walk through it, see what the guys are up to.

Swent: Keep your fingers crossed.

The Uniqueness of the McLaughlin Experience

Goldstein: Yes, well, I have a greater emotional attachment to that mine than any of Homestake's other mines because of the tremendous time I put into that, you know. But I guess you could say I've cut my mining teeth on it. In some respects there are some things that I did for McLaughlin that I never did for any other mine. And I must add that McLaughlin presented me with a unique experience because I took that thing from unacquired land, all the way through to a mine. I watched the mine develop. I watched the mine produce. I sold its commercial product. I wrote all of the agreements that were necessary. And I will be there through its reclamation and its closure. And I think there are few people who can say that they have done that with one mine; stayed in one place, and went from raw prospect through to the end. Whether I outsurvive the mine or the mine outsurvives me may yet be a question. But I hope to get to the end of this. I think Ray and Jack can make that same comment.

Swent: Jack Thompson.

Goldstein: Jack Thompson, yes. And there are others up there who went through the life of that mine.

Swent: Well, it is special in that way. So many people have been involved from the beginning.

Goldstein: Yes, good people. We had a good crew up there. I think the people that we brought in to run that mine were very capable, not to take anything away from our operators elsewhere. But I saw this one very close up and they were very capable people. They were very capable in their community relations and they were very capable in what they did on the ground, with their mining and with their processing. All of them contributed to it.

Swent: I think the very fact that it is finite has made the people there appreciate it more while it's there, too, maybe. I've been really impressed when I've gone up there and talked to some of the employees who--the Lake County people--that they know it's not going to be there forever and they're really appreciative while it's there.

Goldstein: Yes, it's been a nice episode. Well, what else can I tell you? We haven't talked about the Reed Mine.

The Reed Mine Cleanup

Swent: You talked a little about the acquisition but not the cleanup. Was that something that you got into?

Goldstein: Yes. The acquisition was, I think, unremarkable. I mean, they weren't producing from the property for years and I got in touch with Rick Bradley, the son of--well, there were two Bradley brothers that had been in the mining business for many, many years. Rick is the son of Fred. His name is Frederick, too. But he calls himself Rick.

It was pretty unremarkable. By that time they were pretty happy to get rid of the property. It wasn't producing any income for them and it had potential environmental liability.

There's a mine at Clear Lake that they own and I can't think of the name. It was a mine on the lake and it had some acid mine drainage coming out of it and the water quality control board got involved. They had to clean it up. I know that the Bradley family had to spend a lot of money cleaning it up. So now, going back to the Reed Mine, this represented a potential liability to them as well. It wasn't producing any income, so they were just as happy to sell. I don't even remember what the price was now; it wasn't a remarkably high price; the mine is mined out; it's not worth a lot. From their point of view, they were happy to get rid of a liability. I think we had a price that moved around depending on how much we were required to spend on cleanup.

We had gone through two periods of cleanup. First, as I said, Kauffman owned the surface; the minerals were owned by the Bradleys. So we always had some right to this ground. We saw there was a mess there early on; the stream was discolored and some other problems were there. We sent a crew in there

way back, I don't know, early '80s, mid-'80s. We did some things; we plugged up the portal and some other things and tried to clean up.

Swent: I think I heard you did some grouting.

Goldstein: Some grouting. And I think they did a good job and cleaned it up quite a bit. Then later on, just prior to the time we bought it, the water people came out, the Water Quality Control Board, and they didn't like what they saw. They approached Bradley over it and that made Bradley all the more interested in selling.

We bought it and then had a second round of cleanup at that point. I think the first time we just cleaned up things lying around on the surface--waste piles and other stuff. This time, and I guess that's when the grouting took place. I think this is when we put in the portal, put in the grouting, blocked it off, and I think it's been fine since then. I think there are no complaints from the Water Quality Control Board. It's not a mess we made, but we did put some money into cleaning it up. From my way of thinking, that's a nice community service that we did, but from a business point of view, or a mining lawyer's point of view, it wasn't a remarkable episode.

It consolidated our land position, but we never did find any more ore there.

Swent: You were not required to clean it up?

Goldstein: Well, Bradley may have been. Bradley was the owner of the minerals and drainage was coming through the portal. After we bought it--put it another way--we bought it knowing that we would clean it up whether or not we were required to. We factored into the price we paid for it what we thought we would spend to clean it up. So we took on the liability in that sense.

Swent: You got good PR out of it in Yolo County.

Goldstein: Yes, I think Yolo County people were quite interested in having it cleaned up. I never studied the problem there; I didn't have to professionally. I don't know how bad a pollution problem that was. I have a feeling that it wasn't as big a threat as people in Yolo County made it out to be. There was some discoloration in the water from a discharge that was high in iron. Nobody has told me there was any problem with mercury or cyanide or anything that one would

consider a poison or a toxin. Surely if you have enough iron, it can be as toxic as anything else can be, but as I say, we took care of that problem.

Swent: Those were all the things I had on my list.

Goldstein: Nothing comes to my mind as major, but I'm not very far away, and if anything else comes up, call me up.

Swent: It's hard to recapture the excitement of those times.

Goldstein: Yes, it is. And I say, like looking back at the SID thing, I think we were tense over that; we didn't know what it meant. But looking back on it, one tends to have a clouded perspective. Because you can see that it really should have happened, and it did happen.

I think the personalities were the most difficult problem. Kauffman was difficult from a business point of view. And the Capay Valley people were difficult in the sense that they really didn't come there to try to modify or improve our project; they just wanted it to go away. And when people approach a project from that point of view, from the developer's point of view there is little to be gained.

The system is probably designed to make those two sets of people work together to develop a better project; in that sense maybe you could say they cut off their noses to spite their faces. If they hadn't been so intent on simply blocking the project, and if they had some sincere concerns, they might have been able to convey them to us, we might have fixed them, they might have been happier, and from their point of view it would have been a better project. But it didn't go that way.

Swent: Thank you, Dennis. We have covered a lot of ground.

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Rex Guinivere

HOMESTAKE VICE PRESIDENT-ENGINEERING

Interviews Conducted by
Eleanor Swent
in 1994 and 1995

Since 1954 the Regional Oral History Office has been interviewing leading participants in or well-placed witnesses to major events in the development of Northern California, the West, and the Nation. Oral history is a method of collecting historical information through tape-recorded interviews between a narrator with firsthand knowledge of historically significant events and a well-informed interviewer, with the goal of preserving substantive additions to the historical record. The tape recording is transcribed, lightly edited for continuity and clarity, and reviewed by the interviewee. The corrected manuscript is indexed, bound with photographs and illustrative materials, and placed in The Bancroft Library at the University of California, Berkeley, and in other research collections for scholarly use. Because it is primary material, oral history is not intended to present the final, verified, or complete narrative of events. It is a spoken account, offered by the interviewee in response to questioning, and as such it is reflective, partisan, deeply involved, and irreplaceable.

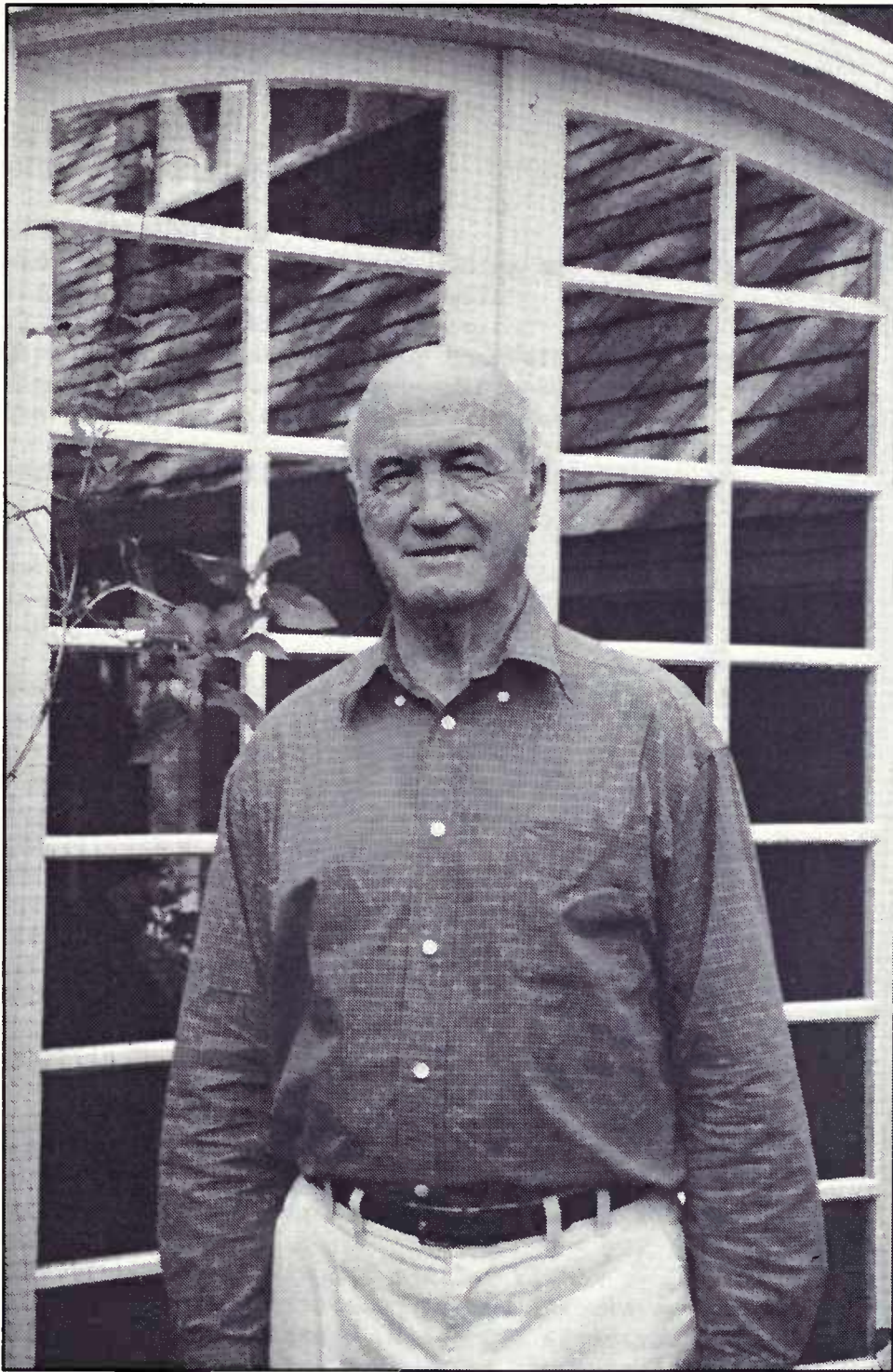
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INTERVIEW HISTORY--Rex Guinivere

Rex Guinivere was hired by Homestake in 1981 as Manager of Design and Construction for the McLaughlin Project, which he calls "a major success technically." The letter of invitation to participate in the oral history program was sent to him in May, 1994, and we interviewed first on 27 May 1994 at my home in Piedmont, a short time before I was scheduled to interview John Ransone, McLaughlin project engineer. John's death made this impossible, so Rex and I held another interview on 24 May 1995 at my home to fill in some of the gaps.

Guinivere was born and trained as a bachelor of engineering and mining in New Zealand, and then worked, as he says, "six years in the bush in Australia, and three years in the jungle in Malaya," where he was production superintendent for Bukit Besi, an 80,000-ton-a-day open-cut iron ore mine. He came to the United States on holiday to visit a brother. He had worked for Kaiser Engineers in Australia on various dam projects, and when they learned he was here, they procured the necessary papers and hired him to work on the Hellhole Dam on the American River. He later transferred from construction into the newly-created minerals division, and by 1981 was vice president for nonferrous minerals.

Homestake then recruited him as a vice president to direct the McLaughlin project at the point when it was changing over from exploration to operations. He discusses frankly the difficulties of the transition. He spent the first few months reading the files, at a speed of 10,000 words a minute. He found that "We agreed to things in the permits that we had really no concept of what the impact was going to be, what the final result was going to be. And then we'd find out what it was and it would cost us a bunch of money." He discusses his decision and insistence on training and hiring local workers for the biggest non-union construction project (3 million man-hours) that had ever been done in California. He retraces the decision to use the autoclave process and to forego building a pilot plant. He recalls the risks in using titanium and oxygen in a processing plant. His conclusion is that "We engineered the dickens out of everything up there."

Since leaving Homestake in 1988, Guinivere has divided his time between developing an underground gold mine on the Feather River in California and an open-pit placer gold and rare earths project in Peru. Rex Guinivere is forthright and open in voicing his opinions. He speaks rapidly, abruptly, and with a New Zealand speech pattern which challenged our student transcribers.

The tapes of the interviews were transcribed in the Regional Oral History Office, and the lightly edited transcript was sent to Guinivere

for review. He did not return the transcript, but gave his approval over the telephone for the manuscript as it stood. Some errors of spelling may remain and there are a number of unanswered editorial questions. The manuscript was indexed at our office. The tapes are deposited in The Bancroft Library and are available for study.

The Rex Guinivere interview is one of more than forty interviews which were conducted by the Regional Oral History Office from 1993-1997 in order to document the development of the McLaughlin gold mine in the Knoxville District of Lake, Napa, and Yolo Counties, California, from 1978-1996, as part of the ongoing oral history series devoted to Western Mining in the Twentieth Century. The Regional Oral History Office was established in 1954 to record the lives of persons who have contributed significantly to the history of California and the West. The office is a division of The Bancroft Library and is under the direction of Willa K. Baum.

Eleanor Swent, Project Director, Research
Interviewer/Editor
Regional Oral History Office

The Bancroft Library
Berkeley, California
March 1998

Regional Oral History Office
Room 486 The Bancroft Library

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Berkeley, California 94720

BIOGRAPHICAL INFORMATION

(Please write clearly. Use black ink.)

Your full name HORACE REX GUINIVERE

Date of birth OCT. 1ST 1931 Birthplace AUCKLAND, N.Z.

Father's full name LESLIE EDWARDS

Occupation SEAMAN Birthplace IRELAND

Mother's full name LENNOR LILLIAN GRICK

Occupation HOUSEWIFE Birthplace ENGLAND

Your spouse SUZANNE THOMAS GUINIVERE

Occupation DINING ROOM MANAGER Birthplace 12th FEB 1933

Your children DAVID THOMAS, JOHN LESLIE, MARTY GRICK

Where did you grow up? NEW ZEALAND

Present community DIABLO CA.

Education BACHELOR OF ENGINEERING (MINING)

Occupation(s) PROSIDENT KUBATITA PLACKR MINING LLC

Areas of expertise MINING, METALLURGY, PROJECT MANAGEMENT

Other interests or activities HISTORY, PHYSICS, WRITING,

GARDENING

Organizations in which you are active _____

INTERVIEW WITH REX GUINIVERE

HOMESTAKE VICE PRESIDENT-ENGINEERING

I WORKING IN AUSTRALIA, MALAYA

[Interview 1: May 31, 1994]##¹

Otago, New Zealand, School of Mining and Metallurgy

Swent: Let's begin, Rex, with something of your life and training and background before you got to McLaughlin. Just tell me where and when you were born, please.

Guinivere: I was born in New Zealand on the first of October, 1931, in Auckland, which was the major city in New Zealand--still is. It's not a very large place even now. It wasn't very large then.

I went to Auckland Grammar School--I went to Ponsonby School as a primary school, and then I went to Auckland Grammar School in Auckland. And went into the University at Auckland. From Auckland, I went down to Otago, which had most of the specialist schools, and among the specialist schools there was the Otago School of Mining and Metallurgy, which was the oldest professional school in New Zealand. It was started in what was really the '49er days of New Zealand in the last century.

New Zealand was a major producer of gold. They produced some 33 million ounces of gold, predominantly from placer deposits.

¹This symbol (##) indicates that a tape or a segment of a tape has begun or ended. A guide to the tapes follows the transcript.

Swent: They pioneered dredging.

Guinivere: That's right, they pioneered dredging. They also pioneered cyanide leaching and extraction, and what is known here as a Pachuca tank was developed at the Maca mine by the then superintendent whose name was Brown, so that in New Zealand they're known as Brown tanks. They were introduced into Pachuca in Mexico, so they got the name of Pachuca tanks here in North America.

Swent: I didn't know that. Did you have mining in your family?

Guinivere: No. No one could figure out why I was going into mining, because we had no background whatever in mining. No, nothing like that at all. I have two brothers and two sisters, all of whom are still alive. I'm the youngest in the family. My mother's been dead for many years now; she died in 1970 at the age of eighty-four. I never knew my father; he went down on the North Sea in the Second World War. I never knowingly met him.

Working as an Engineer in Australia

Guinivere: I graduated as a bachelor of engineering and mining out of Otago, and I went to Australia. I worked at Broken Hill initially as a miner underground, and then I went into the coal mining areas of New South Wales in Burward, and then I did some shaft sinking south of Sydney in Oakdale. Then I was offered a job--actually, I applied for a job as a shaft sinker or an engineer on a shaft extension, because I'd never done this sort of work, working in an existing shaft, under what they call a rentiss.

Swent: What is that?

Guinivere: It's a special deck where you make a deck that you can work through, so that while the shaft is working above you, you're extending the shaft under this special deck that you build. Instead of that, when they knew from my application that I was a graduate engineer, they offered me a job as an engineer, which I took. That was at Lake George Mines.

Lake George Mines was quite an historical area. It was one of the few areas in the world where they ever used rill stopping. Rill stopping was used there because the people who

started Lake George Mines had come out of Mexico at that silver district--what's the big silver mine down in Mexico?

Oh, it will come to me in a minute. But Wilkinson--it's still operating; it's one of the major silver mines, I believe. But they introduced this rill stoping there; it was the only place they'd ever had it in Australia.

Rill Stoping at Lake George Mines

Swent: What is it?

Guinivere: A rill is the slope that rock makes when you let it roll; it makes a rill. So what you do is you allow the rock to rill, and then you build a sliding deck on top of the fill. Then you let the fill rill as well, and put boards, and you get this tremendous open stope, in a sense, because we were 160 feet between levels. It was up to thirty feet wide, this almost vertical seam, and you have all these boards down, and they'll blast, and it would land on the boards and then roll down to the bottom, and then you would use a scraper hoe to put it into the ore pass.

It was a very difficult operation if you didn't have strong rock on the foot wall and the hanging wall, and they didn't. They really should never have used them, but they did, because the result was they had to leave five to six feet of the highest grade ore on the footwall to hold the wall from crumbling, because it was a shear zone.

From there, I went to Broken Hill. I had worked in Broken Hill in the South mine, and I got an offer from Don Fairweather, who was the underground manager at the time, to go to Broken Hill, so I left Lake George Mines and went to Broken Hill South, where I was for about two years.

Engineer for KPMR at the Snowy Mountain Power Project

Guinivere: At that time, the Snowy Mountains was in operation, building these big water conservation tunnels and dams, underground powerhouses up in the Snowy. I was tired of working at Broken Hill, which is a very remote area, and I thought I'd go and see what an American company was doing, because just about all the

contractors were American at that time. I joined Kaiser-Perrini-Morrison-Raymond, which was known as KPMR. But Kaiser was the operating partner.

So I was first associated with Kaiser from the end of 1956 until I think it was about Easter of 1958, at which time the excavation was complete in the underground powerhouse and the tunnels, and they were getting into the concrete work, and I wasn't particularly interested in that, because I was still mining-orientated.

So I left there, and I worked a little bit around the Sydney area in industrial rock minerals, calcite and talc and that sort of thing. They had some clay as well. But I was only there for a few months, and then I went up to Malaya on the--I think I arrived on New Year's Eve of 1961.

Rising to Production Superintendent, Bukit Besi Iron Mine

Guinivere: I had a three-year contract in Malaya. I started off as assistant planning and research engineer, and I finished up as production superintendent on an 80,000-ton-a-day open-cut iron ore mine.

Swent: This was an open pit?

Guinivere: Open-cut, yes. And I had never been in open-cut before. I had worked in a quarry when I was a student, but those were the days when it was like South America was the training ground for American engineers, and young American engineers got sent down there, and they were given a lot of responsibility. If you didn't cut it, well, that was it. The same sort of thing happened in places like Malaya for Australian and New Zealand engineers. I was about thirty years old, thirty-one years old, and I was in charge of a 700-man department, producing 80,000 tons a day of ore and waste. That was at Bukit Besi. Bukit is Malay for hill, and besi is Malay for iron, so it was hill of iron; iron hill.

I was in Treng Ganu state on the east coast of Malaya.

Eastern Mining and Metals and World War II

Swent: What company were you working for?

Guinivere: That was for Eastern Mining and Metals. That was a company that had been started--it had a very interesting history that, if it hasn't been recorded, it needs to be recorded, because it's a tremendous story. A couple of Australians who were in the export-import business with a company they called Scott & English out of Sydney and Melbourne and Brisbane, and they had offices in Hong Kong and Japan and Singapore. At the end of the war, the Japanese had owned a mine. It was owned, I think, by Nippon Mining Company, prior to the war, back in the thirties.

The mining engineers had totally mapped the peninsula of Malaya. They had mapped every jungle path. Their purpose was for the invasion of Malaya. When the Japanese finally invaded Malaya, just after Pearl Harbor, a few months after Pearl Harbor, they did in fifty-four days with one and a half divisions what the German high command had said would take six months with five divisions. And they did it by mounting their forces, their infantry, on bicycles. They were on collapsible bicycles, and every infantryman had a collapsible bicycle. They'd land on a beach that was unprotected and then bike down the paths, the jungle paths, which they had all mapped. They would come in behind all the British forces here where they had major naval installations, like at Quantun and Perac and Singapore, and they came in behind, and the guns were for a naval attack, and the guns couldn't point inland. So they just got taken, bang, bang, bang, just one after the other.

I was there for three years, and what had happened there was that at the end of the war, the Japanese had kept mining during the war, but they couldn't get the ore off because the British were torpedoing the ships. So they stockpiled this, and they had this big stockpile of high-grade washed iron ore. It went about 65, 66 percent Fe, and that was stockpiled at a place called Sura. Because of the shallow water, there was a big jetty, and the ships were loaded by lighter off the coast. Five miles off the coast, the ships would wait and they would take them out on a heap on the lighter, and hand load them using ship's gear into one-ton skips.

The Dispose of Enemy Property put this stockpile, as the Scott & English people thought they were bidding on it, up for tender. Scott & English won the tender. They shipped the iron ore to Japan, because they were desperate for a source of iron

ore for their steel industry that they were trying to get back into business, and having made their money out of the iron ore, they received a letter from the Dispose of Enemy Property asking what they were going to do with the mine, and they wrote back and said, "What mine?"

He said, "Well, when you tendered for the stockpile at Sura, you also tendered for the mine. You now own it. What do you intend to do with it?"

So they said, "Oh. Well, we'll try to operate it."

When I was there, that mine was shipping 5 million tons a year of high-grade iron ore to Japan.

Swent: And they just came on it by accident?

Guinivere: They more or less came on it by accident, and made it a tremendous business. We were putting iron ore on the ships at Sura for two and a half dollars, and they were selling it for twelve and a half dollars.

Sura is at the mouth of the Dungum River, on the east coast.

But that's just a tremendous story. So I was there for three years, and that's how I learned what I know about open-cut work there.

Swent: That must have been lots of fun.

Guinivere: I had a four-month-long leave at the end of the contract, and I went back home for a little bit and saw my mother, who was still alive. Then I went to Australia for a few weeks, and there were a lot of jobs in Australia, but they were all out in the bush. I had spent six years in the bush in Australia, and three years in the jungle in Malaya, so I thought I had had enough of this for a bit.

Swent: Were you married?

Guinivere: No, I was still single. I hadn't seen my brother; he was in San Francisco; I hadn't seen him for seventeen years. So I went down to a friend I had at American Express and I said, "Get me a ticket for San Francisco for tomorrow."

He said, "You have to get a visa first."

I said, "I've got a visa."

He said, "But you'll have to have a return."

I said, "I'm not going to buy a return; I don't know where I'm going. I'll probably go back down to Brazil. I don't want to pay for a return to Australia I'm not going to use now."

He said, "Well, you have to."

I said, "No, I don't. I've got my visa. Why do I have to?"

The guy said, "Well, let me see the visa." It was an open visa for five years. He said, "Where did you get this?"

I said, "Oh, I have a girlfriend in the American consulate in Kuala Lumpur. [laughter] And she gave it to me." So it was kind of funny. He thought it was uproarious, because he had a strange conversation on the telephone about it. And I came and saw my brother.

II KAISER ENGINEERS MINERAL DIVISION, 1964-1981

Kaiser Employees at Snowy Mountains

Swent: Let me just go back a bit. When you worked for Kaiser, who were you working for? What Kaiser people?

Guinivere: Red Fulton was the head man at that time. His son worked for Kaiser when I was up here later on. Berl Blaine was there, as a matter of fact, and Berl Blaine was married to Carlin Kaiser, who was Edgar Kaiser's daughter. They had long since been divorced, I believe. And there was Bob Miller, who used to live in Orinda here. He was my immediate boss. His father had been treasurer, I think it was, of the original Kaiser Engineers with Henry [Kaiser].

Swent: So this was still first generation.

Guinivere: Yes, a lot of it was. And early second generation. And then there were a lot of tunnel stiffs, and tunnel stiffs go all over the place. They go from one company to the next, depending on who's doing the tunnel.

I worked with Mokie Blaine, and he had one of his twin sons, Berl Blaine, working on it. And Paul Pond was on the dam. There were a whole bunch of guys, some of whom I've seen since then. Bob Morris, who lives down in Belmont here, and he worked for Gardner Denver. He was one of the walkers in the headrace tunnel. Just a big strong--big line of people, most of whom were still in the business.

When I came to visit my brother, I contacted some of them, and as a result of that, I finished up staying here, because that was in the days of first preference. They needed tunnel engineers, and--

Swent: First preference in the immigration sense, you mean?

Guinivere: Yes, and it was kind of a strange situation. I came for a vacation; I was going to go down to Brazil. I was talking to Bud Morris, and he said, "Hey, do you want a job?"

I said, "Well, I'm just here on a visitor's visa."

He said, "That doesn't matter. If they want you, they'll get you the visa."

Swent: Your brother was a resident here?

Guinivere: Yes, he's naturalized.

Swent: Naturalized, I see. So that gave you the first preference.

Guinivere: No, no. The company that wanted you got the first preference. You didn't do anything in those days. You didn't do anything at all. If they wanted you, and you were a graduate engineer, they just filed for you and did all the work.

Engineer for Dravo

Guinivere: I joined Dravo to start with, down in a new office they had in South San Francisco for tunnels and shafts. The dam office was up in Bellevue, Washington. There was a young fellow working there who had grown up with my wife in Ohio. He introduced us, and we got married later on, the next year.

But in the meantime, I got a job back at Kaiser on the American River up in the Sierras, and working for Don Barry, a big tunnel--

Swent: So you were with Dravo first--

Guinivere: Yes, just for six months.

Tunnel Work on Dams for Kaiser

Swent: And then you went with Kaiser.

Guinivere: Yes. I was doing estimating work for them. And then I went back into the tunnels up in the Sierras.

During the Dravo period, or actually before the Dravo period, I was staying with my brother, and his wife had worked with Jack Havard at Fibreboard Corporation.¹ She said, "Well, you should meet Jack." She took me over, and we met, and we had lunch with Jack. It must have been like--just on thirty years ago. It was like June or July of 1964 when I first arrived here.

So I met Jack, and then I joined Kaiser. Unbeknownst to Jack, I joined Kaiser as American River Partners, and Kaiser was the active partner in that on the American River Project, in the tunnels. And then I stayed and finished the Hellhole Dam, on the river just across from Tahoe, just immediately west of Tahoe. There were several other dams. There was a rockfill dam at French Meadows, was it? French Meadows Dam. Then there was the concrete dam on Brushy Canyon on the Middle Fork River, at the outflow of the Middle Fork [of the American] River. And the Middle Fork River started then behind the Hellhole Dam. And the funny part about that was that I had watched Hellhole Dam go down the river when they had that huge flood on Christmas Eve. I watched it on TV; they had it on TV. Three or four months later, I was up there working on the project, and I hadn't expected to be. It was just one of those strange things.

So when we finished the project up there, I was married, and we had some children. I didn't want to be traipsing around the countryside in the construction business. So I looked up Jack Havard again to see if he had any work in the minerals group, because he was in charge of the minerals group.

Swent: He had moved to Kaiser by then from Fibreboard?

Guinivere: To Kaiser. They transferred me out of construction into the minerals group. I was there for fifteen years.

Swent: I guess we should say that we attended Jack's memorial service just three days ago.

Guinivere: Right, just last Saturday.

Swent: Yes. He was a great person.

¹John F. Havard, Mining Engineer and Executive, 1935-1981, Regional Oral History Office, University of California, Berkeley, 1992.

Guinivere: He was a great guy, he really was.

Rising to Vice President for Nonferrous Minerals

Guinivere: I started off as a project engineer and doing minor [mine] consulting for a couple of years. I had clients around various parts of the States, and I was mining consultant to Bore Mining in Yugoslavia through Kaiser at Midenpick and at Bore. And various projects here and there. One for Freeport in West Virginia, and so on. Eventually became vice president of nonferrous minerals for Kaiser Engineers. That took me through to August of 1981.

Hay Point, Queensland, Australia

Swent: And you were based in Oakland the entire time?

Guinivere: I was based in Oakland, yes. Except for two years; we had two and a half years in Australia in the Hay Point project on the coal loading port for Utah [Mining and Construction Company]. Hay Point is just south of Mackay in Queensland, way up north on the top of the land.¹

Swent: So you moved your family then to Australia?

Guinivere: Yes, we had two and a half years, which my wife thoroughly enjoyed, and two of the children came back with Australian accents, the two young ones. We left the older boy to finish his high school education there, because the high school-- schooling in general was so far superior to anything in California. He stayed another year to finish his high school there. He had started in his age group, he was about a year behind academically when he went into the high school there. He was just about to start high school here. He started there over halfway through the year, so he was really behind the eight ball. And they made him work. They demanded that he work.

¹For more on Utah and building the deepwater port at Hay Point, see Alexander Wilson, interview in Western Mining in the Twentieth Century series, Regional Oral History Office, University of California, Berkeley, in process 1998.

So he came back here after three years there, and he was a year and a half ahead of all of his schoolmates. He went on to become a computer programmer, and he works for Unisys.

So '81 was when I started with Homestake.

III HOMESTAKE MINING COMPANY, VICE PRESIDENT, 1981-1988

A Shared Concern in Peru

Swent: How did that come about?

Guinivere: It was kind of strange, actually. We were doing work in Peru. We had a lot of work in Peru, and--

Swent: Where?

Guinivere: La Oroya. And we were bidding on a number of other projects in various parts, down in Arequipa. Kaiser maintained a presence through the financial problems that Peru had, and we were always accepting pay in soles, which were pretty worthless anywhere else. They had an inflation rate in Peru that--and they kept the exchange rate of the sol to the dollar just going almost in tandem with it, so the sol became worth less and less as the local money became less and less. But we built up a large fund of soles, and kept project work, and accepted payments in soles, so they were rather fond of us.

As a result of that time, Homestake had a mine down there, the name of which escapes me--

Swent: Madrigal.

Guinivere: Madrigal, that's right. I got called in to talk to--what was his name?

He was here, and he left just shortly after Bill Humphrey came on board. Tall, thin guy. What was his name? I see him around every so often now and then. But he was talking about his problems at Homestake, as well as the problems of the Madrigal mine.

Swent: And he called you in?

Guinivere: Yes, because he was wanting to talk about the Peruvian situation, and I was in charge of the Kaiser Engineers work down there.

Swent: I wish we could think who it was.

Guinivere: Yes, it will come to me in a bit. He had spent a lot of time at Creede. Big, tall, gangly sort of guy. About as tall as Ken Canfield. Oh, deary me. I'm very bad with names. But anyhow--

Swent: We'll think of it.

Guinivere: As a result of what he said to me, I went home that night and I said to Suzanne that, "I think I might be able to get a job at Homestake before the year's out."

She sort of looked at me strangely. But I did. I started with them on the first of September of that year. [laughs]

Swent: Did you ask this fellow then for a job?

Guinivere: No, no. From what he said, I recognized that he was on his way out, and there wasn't going to be any point in asking him for a job. I knew they were making some changes. I knew Harry Conger; I had known Harry Conger for some years because--

Acquaintance with Harry Conger

Swent: He was also with Kaiser.

Guinivere: He used to be with Kaiser, and I had met him down at Eagle Mountain. And then I knew him further when he was on the Kaiser Resources situation. As Kaiser Engineers, they had wanted us to go up and do some tunnel work for them on the conveyor tunnel. They were doing things, to our mind, they were doing them insufficiently. We said we wouldn't do anything unless they did certain things. There was a guy in charge of it at the time named--not Hess, but a name like Hess. He was one of these survivors. They refused to do what we wanted to do, and they got into exactly the problems that we said they'd get into if they didn't do these things.

Swent: This was up in British Columbia, at the Balmer project?

Guinivere: Yes, on the big conveyor tunnel. But they had other problems, of course, there as well. They had a lot of technical problems in the process plant, and then it burnt down, of course, when they first started it up.

But as a result of that, I had some contacts with Homestake already. We were doing the Pitch job for them. They had taken the--

Swent: This was in Colorado.

Guinivere: Yes, Colorado. Had taken the process plant off Dravo and they gave it to our office in Denver, so I was again closer with Homestake, and I got to know Bill Humphrey. And then Bill called me up one day and said they were looking for a vice president for engineering to do their development work, because they were going to go very strongly into exploration and development of projects, rather than buying an operation.

He asked me if I wanted to apply, which I did. So I was fortunate enough to be chosen.

Swent: Bill Humphrey was--?

Guinivere: He was senior vice president. He was the operations person.

The Homestake Organization, a Very Small Group

Guinivere: It was a very small group, you know, at that time. Harry Conger was chairman of the board, CEO, and president. There was Jim Anderson, who was vice president for exploration, and there was Bill Humphrey, vice president for operations, for mining. There was Ken Canfield, who was vice president for sales and whatnot. And they had a CFT [?] financial officer. And me for the thing. It was--if I wanted something done, I just walked in to Bill, and Bill called Harry, and it got done. It was amazing in those days. It was a very small group. And then it gradually got larger and larger over those next three or four years.

Manager of Design and Construction, McLaughlin Project

Guinivere: So I was brought in to manage the design and construction of the McLaughlin project, which was in the hands of the exploration people at the time.

[some was lost in the tape change]

Swent: --so Jim Anderson was the--

Guinivere: He was vice president of exploration.

Swent: And he wanted to kind of hang onto it--

Guinivere: Oh, yes. As a result of it, I started inquiring of my colleagues in other companies how they handled this sort of a transition from exploration--when did it become a project? And it was all different. There was no rule, it was just a question of how strong certain people were.

The Difficult Transition from Exploration to Engineering

Swent: Is there a moment at which you can say it has become the time?

Guinivere: Well, there is if you want to accept it. It depends on if you've got a strong exploration person, well, they believe they can do everything, and they don't need engineers, and they don't need project people, so they try to go right through. There was one funny case where exactly the opposite had happened in one major company. I forget which one it was now, but the guy laughed like hell when I asked him the question. He said, "Well, I hope you don't do it the way we did the last one."

I said, "Well, what was that?"

He said, "Well, the exploration people ran out of money, so they handed it over to the operations people, and they didn't have any money either." [laughs] They had to get rid of it, because they couldn't fund it. [laughs] But everybody was different. So it took--I started there the first of September, and it wasn't until May, I believe, of the following year before the project was handed over to the engineering group to do the project.

Swent: In what sense? How did this manifest itself?

Guinivere: Well, it was an actual handing-over. Jim Anderson agreed, very reluctantly, to give it up, and there was a lot of ill feeling at the time, because I was getting really teed off. I had been brought in to manage a project, and I was being kept at arm's length. I was allowed to attend their meetings, but I had no input to anything. My people were sitting there at the command of the geologists. They used to have these enormous meetings with thirty, forty people in them, what was going on, so everybody was sort of kept well abreast of what was happening.

But when you get into this situation, you get operations people who don't think they need engineering people, and you get exploration people who don't think they need the operations people or the engineering people. [laughs] It's really a bureaucratic mess.

Swent: Did you hire people when you came in? Did you build up a staff?

Guinivere: Well, we had to hire a few, but no, not very many. They had a large enough group to handle the basic requirements. What we hired were outside consulting engineers.

Swent: So when you came in--

Guinivere: We had no intention of building up a little hierarchy. There was never more than six or eight people in the engineering group. We didn't need them, because we didn't have the work to keep them busy all the time. So what we had to do was use outside consultants, and we went out for bid on different parts of the project.

Swent: So when you came there, in 1981--

Guinivere: Fall of '81. First of September.

Swent: They had the property, they had--

Guinivere: Yes. They had first drilled it in--

Swent: Seventy-eight is when they first started--

Guinivere: Seventy-six I think was actually when they first got into it.

Swent: Oh, really?

Guinivere: Yes. And then they had drilled a lot. I think when I got there, they had already drilled about 400-odd holes. They had had a statistical study done by Fluor down in Redwood City.

Whole-Ore Autoclaving: A Matter of Economics and Environmental Protection

Guinivere: When I first joined the group, I was amazed that they were talking whole-ore autoclaving. Typically, an autoclave, because it's a very expensive thing to operate, you make a concentrate and you autoclave the concentrate. They were talking about doing the whole ore, because all their test work had indicated that they couldn't get sufficient recovery by multiple steps, by flotation and whatnot. Gravity was totally out of it, because the gold was too fine. Flotation left too much.

My recollection is that, of all the various flow sheets--there were umpteen of them--the average recovery without going to oxidation was something like 45 percent overall. You might get 70 percent when you did the flotation, but then in the next step, you only got 70 or 80 percent, so you were down to 50 percent or something like that.

So from all the work that we did, and it was very extensive, and some of it had already been done by the time I arrived, we couldn't see any way of getting a sufficient recovery without going through the oxidation process, and there were several oxidation processes. The best appeared to be the autoclave, rather than roasting. And roasting, of course, had environmental aspects that we didn't think we would ever get through in California.

So we continued the test work.

Swent: Was this under your jurisdiction?

Guinivere: Right.

Swent: But they had already done a good deal.

Guinivere: Yes, they had done a lot. But they didn't have a flow sheet, they didn't have the materials balanced.

Swent: They did not?

Guinivere: No, they didn't have a flow sheet. We didn't have a flow sheet until [tape interruption]

Swent: We had a little power problem here for a minute, an interruption in the power. So there was no flow sheet. You were saying they didn't have a flow sheet until later on.

Guinivere: Oh, much later, yes. We didn't have a flow sheet until we had completed test work at Sherritt Gordon up in Fort Saskatchewan.

Swent: What connection did that have with it?

Guinivere: Well, we had to get a lot of lab test work done. They had done test work at a number of small labs on a little spot basis. We had decided that we needed to do some very extensive test work, and if possible, do a pilot plant. We looked at, well, how big a pilot plant? You can do a pilot plant on a bench, or you can go out and build a 10- or 15-ton-a-day pilot plant.

One of the things we were looking at, of course, is that the environmental requirements were going to be very extensive because of where it was, because we were not only involved with three counties, we were also involved with the Bay Area Air Quality District, because one of the counties was Napa, and under that, the rules of the Bay Area Air Quality District, it didn't matter where in Napa. We were at the very extreme end of Napa. As a matter of fact, we were in a little panhandle of Napa that had been annexed by the county, way back when it was a mercury mining area. So we were subject to the Bay Area Air Quality District, the forestry [U.S. Forest Service], and the BLM [Bureau of Land Management], and the EPA [Environmental Protection Agency], as a result of which the environmental costs on that project were about \$45 million. I signed 327 permits. It was just a continual signing of permits to keep the project going.

We started construction with, I think it was one or two permits in hand. We were just getting them as we went along, to keep us moving.

But one of the things we looked at was, no one had done this. No one had ever done whole-ore autoclaving. A lot of people just straight did not believe it could be done.

Swent: And autoclaving had not been done much with gold, had it?

Guinivere: No, because there was no need to. Most gold was relatively free gold, or it was difficult and they put up with the difficulties and sent what they got to the smelter, like in the

tellurides, for example. They're difficult to operate, and they did what they could, but no one did autoclaving. Most people that did autoclaving did it on concentrates of some sort or another, in various other industries.

What we were proposing was to put the total ore into an autoclave and oxidize the refractory sulfides that coated the minute particles of gold, so that we could then leach the gold with cyanide. It worked fine in the lab.

Swent: But had this already been researched or decided before you came?

Guinivere: Hadn't been totally decided.

Swent: They were talking about it.

Guinivere: But they were pretty comfortable with it. I initially was uncomfortable with it until I looked at all the data and realized that this was the only possible way to go.

Swent: You at first were uncomfortable with it?

Guinivere: Initially I was, because nobody had ever done it. Why was it going to work, and wasn't there an easier way? Because it was obviously expensive.

Swent: How had this idea even come up? The exploration people--?

Guinivere: No, it was the metallurgical people, Bob Lear and his people. What you were faced with was what appeared to be a large deposit of about 3.5 million ounces, with gold that was mostly refractory. You couldn't extract it simply with flotation or your normal hydrometallurgical processes of putting an auxiliant in like cyanide or whatnot. So they looked at other methods. From the examination that they had made by microscope, they knew that what was preventing the gold from being dissolved was the fact that these small particles of gold--and it was submicron particles--they were surrounded by refractory sulfides of silver. The only way to get at them was to oxidize those sulfides so that they became pervious to the cyanide solutions, or whatever solution you wanted to, or even activate them for flotations. No one runs around trying to float off submicron material. But anyhow, so that was the physical fact. What you had to really look at was reversing the thermodynamics of the hot springs that had placed them there. The gold comes up in minute particles, and it's placed alongside with sulfides of silver and iron and copper and

whatever, so you had to reverse that. One way of doing it was with a roaster, and we looked at that extensively.

Research Around the World

- Guinivere: And the other way was autoclaving. The three of us--Bob Lear, John Ransone, and myself--we went around the world talking to the people that we knew in the industry who did autoclaving work. Most of the autoclaving work in the industry, in the minerals industry, is done in the nickel business and in the zinc business. So we went to--
- Swent: John Ransone was working under you?
- Guinivere: He was my project engineer. Bob Lear was the manager of the metallurgical group. Bob Previdi was the manager of the mining evaluation group.
- Swent: Had you hired any of these people?
- Guinivere: No, the organization was already in place. I was brought in, and I was managing them as a total engineering group.
- Swent: As a team. So you were looking at it from the point of view of the engineering.
- Guinivere: Design and construction, right. They had already gone a long ways with the metallurgy, and the exploration people had gone a long way with the ore reserve, as a geological ore reserve. And the mining people under Jack Thompson were just starting to look at it as a minable ore reserve. A lot of the mining investigation work had been done by Bob Previdi initially. That continued for a period of time until Jack Thompson brought in the people that he needed for the mine planning work, doing that under Bill Humphrey.
- Swent: And you had a budget?
- Guinivere: Yes, it was a bit loose. It was an engineering budget, but the exploration people had the budget to start with.
- Swent: They still had the purse strings?
- Guinivere: Yes. But by the time we took it over, they had spent \$23.5 million on exploration and preliminary environmental and engineering work. They had done a lot of the testing. Then we

went through--I remember we settled on, I think it was seven or eight flow sheets that were sort of basic ideas of flow sheets, and we sort of eliminated them gradually over the rest of '82.

We got to the situation that we needed a lot of help. We were ready to do something that no one had ever done before, but there were aspects of it that had been done in other parts of the industry. We looked at it, and I said, "Look, I think we've got to go find someone who's done this sort of work and can do the lab work as well."

We went right around the world, and we spoke to the Lurgi people, because they were in the roasting business--

Swent: Where is that?

Guinivere: We went into Frankfurt. But the first people we went to was in Japan to Mitsui Mining. We went to them because they were in the zinc business in pressure oxidation of zinc concentrates, and what they called the glittite process. Lurgi were in the roasting business, but also knew the pressure work, because Lurgi is a very big engineering group. But they were in the jarosite process in the zinc business as well, which is roasters.

And they were in the roasting process. We spoke at length, and they had a lot of work done by Sherritt, who were in the nickel business.

Unsatisfactory Test Work from Sherritt Gordon

Swent: That was in Canada.

Guinivere: That was in Canada, up at Fort Saskatchewan. And as a result of all the work we did talking to people, we realized that only Sherritt had the two requirements. They had the chemical engineering people, because it wasn't a metallurgical problem, it was a chemical engineering problem, and they had the lab to back up the test work. They had already developed what they called their mini-pilot plant, where they did sort of one or two kilograms per day, and we could set up the whole flow sheet the way it would look in the final plant, and then do it exactly as you would with a little bitty autoclave and little tanks, and little thickeners and all the rest of it.

And that's what we did, eventually. We went to Sherritt.

Swent: You went to South Africa too, didn't you?

Guinivere: Well, that's quite a story, which John Ransone can fill you in more on the details on than I can. But I had been in engineering design and construction work for a long time by this time, and Sherritt was giving stuff to me that I just couldn't accept. It was--we paid them a quarter of a million dollars for a pile of paper that was almost worthless.

Swent: In what sense?

Guinivere: It was incomplete; it was nothing we could use for design, which was what it was supposed to be. It was inconsistent. Their test work was excellent. I mean, they have great test people, have excellent chemical engineering people. Their design work was just very bad. They had offered us technology they said they had out of South Africa that would solve all our problems, and none of it was on these drawings. And they were wanting a lot of money as well. They wanted large fees, and they wanted license fees for using what they provided.

But I had written a contract, which they were very annoyed at. I had written a contract so that I paid them a certain amount of their licensing fees piece by piece. If I used their agitator technology, I would pay them so much. If I used their autoclave technology, I would pay them so much. If I used their let-down technology, I would pay them so much. But I knew already from my own previous work at Kaiser Engineers that their agitator technology was not their technology at all. It was Lightlin. (They don't use the "g" in the way they spell it.) Which is one of the major agitator companies in the world. It was their so-called technology, and there was nothing strange about it anyway.

Swent: So you didn't need to pay them for that.

Guinivere: So I didn't need to pay them for that.

And then we found that what we really wanted was with Anglo-American in South Africa, so I sent Bob Lear and John Ransone down to talk to the people who actually had a small pilot plant that they had been using for uranium. But it was capable of doing what we wanted for gold. They had spent a lot of money developing a special let-down valve, so that you came down out of the autoclave and let down the pressures without destroying the valve every time you opened it.

We were talking to them, and John Ransone can tell you this better than I can possibly do. But it turned out that back years and years before, and the Anglo people that we were talking to weren't even aware of it, Anglo had had a problem in the platinum business in an autoclave or something. I'm not even clear about what that was. They had brought in Sherritt to solve this problem for them. The Anglo person at the time had very foolishly signed a contract with the Sherritt person who came to solve this little problem for him, a very minor problem, apparently, which gave Sherritt ownership of any technology they developed whatsoever, for eternity, connected with this situation.

Sherritt did not know what the Vaal Reefs people were doing. That was the actual mine. They didn't know what they had, although they had claimed they did to us. They didn't know what they had done, they didn't know what they were doing, didn't know what they had accomplished, but they came in and said, "Homestake, get out of here, you're not talking to these people; this is our technology." John Ransone can fill you in on what happened there. It was very interesting.

But as a result of it, I told Sherritt I didn't want them to have any more to do with what they were giving to us. I was going to pay them for what work they had done. I was not going to use any of their technology, and I didn't owe them any licensing. So there was a bit of uproar between us and them over that, but I stuck to my guns, and we found a way of getting what we needed from the Vaal Reefs people to assist us in the detail design of the autoclaves and the letdown system.

A Focus of Industry-Wide Attention

Guinivere: Just to let you understand what the attitude in the industry was to what we were doing: you've heard of Plato Malozemoff?

Swent: Yes, I interviewed Plato Malozemoff.¹

Guinivere: Oh, good. Now, Plato was chairman of Newmont, and Bill Humphrey had left Newmont under him to join Harry Conger at Homestake. It must have been--oh, I guess it was 1985, we had

¹Plato Malozemoff, A Life in Mining: Siberia to Chairman of Newmont Mining Corporation, 1909-1985, Regional Oral History Office, University of California, Berkeley. 1990.

started up the oxidation process, and we were building the autoclave system, and we weren't expecting to start that up until August of that year. Plato was the speaker at the mining dinner at Berkeley, at the mining school at the university there. I was there, and Bill Humphrey was there, and we were standing in this little circle before the dinner, having a drink.

Plato was at the opposite side of Bill to me, and he leaned over to Bill and said something to him and then walked away. Bill just sort of looked glum, and shrugged his shoulders, and looked a bit annoyed. I said, "What did he say?"

He [Bill] said, "[He said], 'You'll never make it work,' and walked off."

So I just laughed, and I said, "Well, he's going to be surprised."

So in August, we started up the autoclave, and we had on our schedule that we would start it up, we would operate for two or three weeks, then we would shut it down and we would go in and tear it apart and see what had happened. Because we didn't know where the gypsum buildups were going to be, or how the valves or the agitator mechanism or the patterns were going to be working under this.

As soon as we did that, outside in industry, "Oh, we understand it blew up, we understand it fell apart, we understand this." [laughs] All these stories came in.

We said, "No, we just closed it down, and we've got a minor leak on one of the autoclaves." A lead lining had gotten cracked, and we had a tell-tale system that told us that it happened, so we had to dig and find it until we could repair it.

So we started up in August, operated it, it worked exactly as planned. We shut it down, inspected it, put it back together again, started it up again, and in September, we handed it over to the operators and said, "Here, it's all yours," and walked away from it. Except that we had to give them some support for maintenance things and little minor changes, and revamping this and redoing that, some piping and that sort of thing.

Plato Malozemoff Unconvinced

Guinivere: But in October, I guess it was, the AMC [American Mining Congress] was in San Francisco, and we were out on a DuPont ferryboat that they had hired for entertaining everybody. I'm sitting at a little table after dinner or something, having a drink, and Bill was beside me, and Plato Malozemoff was across the other side of the table. He leans across the table and says, "You'll never keep it working."

So Bill and I just looked at each other and shrugged. There was no way he was ever going to let anyone have something that he didn't have, and he didn't think it was going to work. That was his attitude.

A couple of years ago, he was a guest when they had that-- all the mining people--

Swent: The hall of fame?

Guinivere: No, not the hall of fame, but it was like what we're doing here, they brought in these old people every so often, old mining guys, to tell about their--and they give them an award as the senior mining man of the year. I forget who the old gentleman was, but Plato was sitting at the head table there with all the other old people, and I said hi to him, had a couple of words with him. Bill was sitting behind me, and I leaned back to Bill, and I said, "You know what? I should go up to that old son of a bitch and tell him it's still working!" [laughter]

He laughed and said, "Why don't you do that? Why don't you?"

I said, "No, I'll ruin his dinner." [laughter]

McLaughlin Performance Quickly Met World Bank Standards

Guinivere: But it was a tremendous project. It started up and went up to its capacity very quickly. I had Davy McKee plot the performance of the project on a long chart that Charles River Associates had produced back in the seventies for the World Bank, because the World Bank was very tired of the fact that all these millions and millions of dollars were being spent on projects that never got underway properly, never met their

requirement, never met their design capacities. They had these major projects, and of them, only one, and that was Bougainville, had gotten up to the capacity within their four years they had as the schedule for financial reasons. Most of them had never gotten past like 70 or 80 percent. In one case, it had never gotten past 35 percent. One of them had started up and then shut down because it was producing something they couldn't sell.

And we had them plot it on what happened at McLaughlin, and McLaughlin went up to 90 percent in the first couple of months, and then sort of wandered along, and then gradually got up to full capacity. And it was an extremely complex project. It was extremely complex for environmental reasons, and it was complex for the ore. We had to, because of the environmental aspects, we had to separate the mill from the process area by four or five miles and 400 feet, and they had to pump the slurry that we ground down at the mine, we had to pump up to the autoclave.

Swent: Yes, because normally, you would have your mill right by the mine, wouldn't you?

Guinivere: And it would be there, but we were forced into that decision by the environmental fact that there was nowhere around the mine that we could put a process plant and be totally sure that no spill was ever going to go into Hunting Creek, or over into Davis and get into Davis Creek. It was just a very difficult situation.

Swent: So you had to put your processing plant where it was.

Guinivere: Plus the fact that the permitting requirements were a lot easier in Lake County. I don't know what it would have cost us--

Environmental Reasons for the Plant Location

Swent: You were just saying that you located your processing plant in Lake County, partly because of the permitting requirements there?

Guinivere: Yes, mostly because of it, plus the terrain. The terrain down at the mine is very steep, and there's not very many--the areas that weren't steep were not owned by us, or were going to be mined out. On either side of the mine, the ground drops off

into the Davis Creek area, or on the south side into Hunting Creek, which goes into Lake Berryessa.

Plus the fact that, at the mine, they are severely limited on the speed they can operate the trucks at, because they have to meet Bay Area air quality standards as far as dust is concerned. And there are monitoring stations all around the mine. Each one of them cost like \$150,000 to install. So we didn't think we could ever meet the emissions standards of the Bay Area quality if we put the process plant there as well, so we went into Lake County.

Bay Area Air Quality Restrictions

Guinivere: It was so bad that during construction, I estimated at one time we had something like 45,000 horsepower of big construction trucks and dozers and scrapers working on the excavation work, and the preliminary mining at the mine site. We were using the rock to make the gravel for our concrete for construction purposes, and we had a gravel plant in the mine site. That had an 850-kilowatt generator, a diesel generator. That was a stationary plant, and it came under the aegis of the Bay Area Air Quality District, and we could not operate that as often--as much as we wanted, despite the fact that it was surrounded by, as I say, about 45,000 horsepower of the same sort of diesel equipment, spewing out these diesel fumes, but that stationary plant came under the aegis of the Bay Area Air Quality District, and they wouldn't let us operate it more than so many hours a day because we couldn't meet their emission standards with the diesel.

They actually suggested, and we looked at, putting on catalytic converters. But no one had catalytic converters for that size equipment at that time, and we would have to have put two of them on, each of which was going to cost \$65,000, and the manufacturer didn't know if they were going to work. So we did the gravel there, and we paid the contractor several hundred thousand dollars to move the sand plant into Lake County, so that we did not have to go through any more of that nonsense with the Bay Area Air Quality District. It was just unbelievable red tape. But that was the sort of thing that we went through out there, getting the project into operation.

Swent: Had some of these decisions had been made before you came on board, or did you have to make those decisions?

Guinivere: No, we had to make these as we were going along.

Swent: That came under your authority?

Guinivere: Yes. Those sorts of decisions--see, what had been done was that they had done the baseline studies, and they had brought the archaeology people and the botany people, and are there any endangered plants, and they even had little fences all over the place--

Swent: This was the D'Appolonia study--

Guinivere: D'Appolonia had done the dam work, and they had done some other environmental work, and--

Swent: You must have had a tremendous job just educating yourself about this--

Guinivere: Oh, yes. I spent the first few months just reading files.

Swent: You must have.

Guinivere: Yes. Fortunately, I was a very fast reader in those days. Before I had to wear bifocals, I used to read at 10,000 words a minute. I had learned to do that when I was at Kaiser, because I just had so much reading and writing to do all the time, with specifications and proposals and that sort of thing. So I was able to read pretty fast and get up to speed on it.

Swent: Was Ray Krauss already there?

Guinivere: Yes, Ray Krauss was already there. He was working for Jack Thompson as the environmental man. It was difficult working with Ray for a long time, because Ray had come out of being the gung-ho, kill-'em-dead, anti-industrial type environmental person. It was years before he became a--realized whose side he was supposed to be on. It was very difficult, some of the requirements. We agreed to things in the permits that we had really no concept of what the impact was going to be, what the final result was going to be. And then we'd find out what it was and it would cost us a bunch of money.

Swent: You had not run up against this kind of thing in these other projects you worked on?

Guinivere: Oh, yes, absolutely, but not in three counties in California involved with the Bay Area Air Quality District. Plus the fact that the head office for the EPA was in San Francisco, and it was run by hippy-type people. They weren't very supportive at

all of us. But the company bent over backwards and did a pretty good job, as a result of which they got a commendation from the Sierra Club, and everybody was pretty happy.

But there are always some people that you can't satisfy, because they don't want it to happen at all. They don't care what conditions of its happening may be; they do not want it to happen. Like the Capay Valley people. These people were fifteen, twenty miles away, growing almonds. They were concerned that we were going to poison their almonds. From fifteen miles away. It was just the sort of thing--. And they were in Yolo County, which is run by [the University of California at] Davis, which is run by the students, who are temporary citizens but get behind all sorts of things because they're students. [laughs]

Swent: So you had--the autoclaving was one of the major decisions that involved you.

Guinivere: Yes. The rest of it was a very straightforward process.

Swent: The other decisions were more conventional--

Guinivere: Absolutely conventional. The grinding was very hard.

Swent: The grinding.

Guinivere: Yes. It was a very hard ore.

Non-Union Construction

Swent: Who selected contractors, then?

Guinivere: We selected contractors, and we selected all the equipment. We did a very extensive training program in-house. When I joined Homestake, I had come out of Kaiser Engineers, which had been a National Contractors Association company. The National Contractors were all the big contractors, like Bechtel, Fluor, Kaiser, Dravo, et cetera. They had these special sweetheart deals with the unions. Out of those deals, the small contractors, the AGC [Associated General Contractors] people, would get hammered in any district, and the big guys would sit back there saying, "Well, don't strike our project. You keep our project going, and when you guys are finished making a deal with the AGC people, we'll just agree to whatever you've agreed to." That was the way it worked.

So they did very little, and avoided as much as possible, doing non-union work. It used to enrage me, because we'd go to some very poor areas of the country, like south Texas, which is a pitifully poor area in many ways. I couldn't employ local people, because Kaiser would decide it was a union job, and I'd have to bring the union people out of San Antonio or Corpus Christi. In the meantime, there's all these people that are desperately looking for work, and good workers, lots of capabilities, but you couldn't use them. [tape interruptions]

Swent: So you were not allowed to hire local people.

Guinivere: Because they didn't belong to the union. So when I joined Homestake, I said to the Homestake people, "Look, I'd like to do this non-union," and they said, "Yes, yes, we want to do it non-union, because we want to operate a non-union plant as well."

I was talking to construction people, and they said, "You've got to be nuts."

I said, "Why?"

They said, "You're going to try to do a big non-union construction project seventy miles out of San Francisco, right next to Konocti, where the Plumbers Union has got their big fancy resort?"

I said, "Well, with the economic conditions we have at present, if I can't do it now, I can never do it."

So we determined that we would do it. I said to the people at Homestake, "Look, you have to understand that if we do this, you're going to get picketed, the offices here might get picketed, and you've got to be prepared to put up with that."

They said, "Yes, fine, we understand that."

So then I took Dick--the administration VP, Dick--it begins with an H, what's his name?

Swent: Hinkel?

Guinivere: Hinkel, Dick Hinkel. I took him around and some other people, the Spanish guy, Bob--?

Swent: Bob Reveles?

Guinivere: Bob Reveles. And I said, "I'm going to put you guys through a training program of what non-union work is about."

So we went around talking--went all around the countryside talking with non-union contractors who were going to bid on the project, beginning to understand what we had to do. We hired lawyers, a non-union lawyer out of San Francisco. We put on a training program for our people, and our engineering people as well, because they would be talking to people, but principally for the construction people and the operations people, so they understood how you had to address yourself properly and not say certain things, not do certain things--because there were certain things, if you did them, the law took over and you just lost control, and the unions could make the law do what the people themselves might not want to do. And I mean by that, if the unions used the law, under the NLRB, they can organize an owner, and the workers don't even get to vote. They're just confronted with the situation, saying, "Well, we have a contract with this union."

And that's what they always try to do up front. They try to get you to sign an agreement that you'll do the job under their auspices.

So we were picketed all through the project by the Operating Engineers, and they opposed our permit applications, and all sorts of weird ideas which would disappear overnight if we said, "Oh, okay, we'll make a contract with you." All of a sudden, all the dangers and the terrible things we were going to do would disappear the minute we would sign a contract with them. They picketed us, and we had the two entrances.

I had joined the Business Roundtable group. They had a non-union construction group called the Western Council.

Swent: Western Council of--?

Guinivere: Western Council of Construction Users. That was Business Roundtable--Harry was in the Business Roundtable. I used to go to their meetings and talk about what we were doing. We got the reputation that I had written the book on how to do a big non-union construction project in California. This was the biggest non-union construction project that had ever been done in California. We did 3 million man-hours. We got picketed all through the project up until when we came to lift the cold box on the oxygen plant, and we had to bring in Bigge Construction, because they were the only people who had the cranes big enough to handle lifting a 125-foot cold box up without breaking it.

Swent: Is that cold?

Guinivere: Yes, cold. It's the heat transfer system that you see--if you ever see an oxygen plant, you see a big tall, very narrow, big tall column standing beside it, and that's the cold box. It's got all these heat exchanger trays in it. They're a union company, so we told the pickets the day before, "Well, Bigge's coming in here tomorrow, and if you guys picket them, they won't cross the picket line, so some of your guys won't get to have a job." So they declared on the radio and in the newspaper that they had won, and they left. [laughter] And we never saw them again.

We did 3 million man-hours, and one of the things we required of the contractors was that they hired local people and trained them to the utmost possible. What they did was they took over an old hangar at the airport in Lower Lake, they set up the training school there, and they hired people to be trained, and they would give them exactly the same discipline at that school as they would be required to meet up on the project. As a result of that, 60 percent of our 3 million man-hours was local people.

Swent: And Lake County was a very depressed area before then.

Guinivere: Oh, yes. There was something like 30 percent unemployment, and it was essentially a welfare community and an old folks' home, mostly people living in trailer homes and whatnot. We were giving people their first full-time job in their life, and they were in their thirties. I think it was under the work of the Davy McKee construction manager, Klaus Thiel, that he got the contractors together and they all put their own money in, and they built a trade school at the junior college in Clearlake--what's the major town there?

Swent: I think it was in Clearlake.

Guinivere: Is it Clearlake? Okay. They put up this big building as a trade school. That was just great.

So as a result of that, the local population was really behind us, because all the good jobs at the Geysers, which is in Lake County, had gone to people out of Santa Rosa, Oakland, San Francisco, Sacramento, because it was Operating Engineers and they bused people in. Some of those people came and eventually settled in Lake County, but the Lake County people didn't regard them as Lake County people. They were Operating Engineers from outside who had taken their jobs. They never

got a look in. They had no jobs at the Geysers, because it was union-run.

Swent: And this was a personal decision that you had made?

Guinivere: Yes, right from the start. And everybody was very much on my side then, but it wasn't easy. It took a lot of work and a lot of training. I had to get management to understand what the consequences might be, to start with. They were fine on that. Then I took Dick Hinkel and Bob Reveles, who were in the administrative-personnel side of things--Bob Reveles was looking after the PR end of it. So they could understand what we would be doing--

Swent: So all of the contractors that you used, then, were all non-union?

Guinivere: They were all non-union, without--with one exception, and that was Bigge, because they were the only guys that had the big heavy lift cranes for that one job. And we trained people. They put on 250 people who for the most part were local people. It was only the top engineering and maintenance people who were brought in from outside.

Swent: I was talking a couple of weeks ago to Pat Purtell, who's manager up there now--

Guinivere: Yes. He was one of the metallurgists in the early days.

Swent: Right. He was saying that they had just renewed a permit that had to be renewed, and that they had a lot of difficulty renewing it, and that the difficulty went way back to the construction days--

Guinivere: Oh, really?

Swent: --and that there was still union opposition to renewing this contract today.

Guinivere: Oh, there would be, yes. Because, see, they operate non-union still out there, right. Yes.

Swent: So it did have far-reaching consequences.

Guinivere: Oh, yes. And you get into this political situation.

Swent: So who was picketing?

Guinivere: The Operating Engineers.

Swent: Not people who were working there--

Guinivere: No, no, the union people.

Swent: --who came in from outside--

Guinivere: There were a lot of--we knew there were a lot of people who were working there who had union tickets, but they needed the job. This was '82, '83. The recession was still on.

Swent: Absolutely.

Guinivere: See, when you're doing non-union work in a situation, you're paying close to union rates.

Swent: Of course.

Guinivere: The major thing you're not doing is you're not featherbedding, and you're crossing jurisdiction. I mean, TIC did a lot of the construction work.

Swent: Who is that?

Guinivere: The Industrial Company, TIC, out of Steamboat Springs. They were owned by Raymond for a bit with Kaiser, and then that fell apart when Raymond fell apart. But you would be talking to a TIC guy on the job who would be placing concrete, and he's working as a laborer placing concrete. The week before, he was a foreman on the carpentry work somewhere else. They were just cross-trained--not only that, they got trained, but they were totally free to go across into different jurisdictions.

Swent: Which made it much more efficient.

Guinivere: Oh, it makes it much more--yes, very efficient. But they're still getting excellent pay. But they're not paying union dues, which are quite considerable, and management isn't throttled by being inflexible. You can take a guy and as a laborer, having helped the electrician, without the IBEW raising hell that that should be an electrician at three times the pay sort of thing. It could be lifting work, carrying conduit, something like that. [laughs]

Swent: What is the IBEW?

Guinivere: It's International Brotherhood of Electrical Workers.

Swent: So that was one big decision that you had to make.

Guinivere: Yes. And it worked very well. The job was famous up and down the coast. I used to go down to meetings of the Western Council, and everybody would just be as helpful as hell, and ask, "How did you do this, and how did you do that, and how did you do that?" So it was well worth while. The company very smoothly worked into the--with the same lawyers, same system, same training programs, into a non-union operation, which they still have as far as I know.

Swent: I think so, yes.

Guinivere: So that was a major part of the project.

Extraordinary Requirements for Dam Safety

Swent: So the autoclaving and the non-union aspect, and what else was a consideration?

Guinivere: Well, it was a very big project. It was thirty-odd miles long. We had to do some extraordinary things because of the environmental requirements. You were talking about D'Appolonia. They did the initial design work for the dam. They did the foundation test work.

Swent: Which dam?

Guinivere: The big water dam at Davis Creek.

Swent: The Davis Creek Dam.

Guinivere: Yes, that was the big dam that we had.

Swent: Well, I was thinking you also had tailings.

Guinivere: Yes, we had the tailings dam, but that was a fairly small dam.

Swent: Right. The Davis Creek Dam.

Guinivere: And there was a fault zone going through there. Most places where you get a river or a creek in California, it's going down a fault. There was a fault zone on the left bank. D'Appolonia estimated it was going to cost us \$55,000, \$60,000 to grout it. Now, the dam was under the jurisdiction, because of its size, if it's higher than twenty-five feet and got more than--how does that work?--twenty-five feet high and fifty acre-feet, I

think it is?--it comes under the Division of Dam Safety in California.

They are extremely conservative. They won't tell you what they want you to do. They'll just tell you that what you're going to do isn't satisfactory; go back and take another look at it. They decided that we should do a lot of grouting on the dam. They also had decided that we had to cut out all the fault zone on the left bank and put in concrete pedestals all the way up. They also demanded that we put a certain inspector on. He was a private consultant, but he was the only guy they would accept as a consulting inspector on the foundation.

The grouting cost us \$2.5 million, instead of the \$55,000 that we had budgeted. And my recollection is that we only put in 1,300 sacks of cement, because the ground was so tight, it would not take the cement. This guy had us drilling holes and grouting for weeks, and then after we'd done that, he made us drill core holes across it to see where the grout had gone, and the grout hadn't gone anywhere, because there wasn't anywhere for it to go.

At the end of that, I think it was Klaus Thiel did a calculation and realized that all the cement had gone in the bald bottom of the holes because there was so little. Now, this was 1,200 feet across, and he made us go about halfway across with all of these holes. We finished up with holes on two-foot centers.

I remember remarking, someone saying, "Well, that would make it pretty safe."

I said, "No, if we get an earthquake, you're just going to tear on the dotted line."

Swent: Oh, the drill holes!

Guinivere: Because we had drill holes every two feet. It was just insane. It held us up; we had to pay the contractor extra because we held him up; \$2.5 million for a grouting permit; it was just absolutely ridiculous. And when you're dealing with the Division of Dam Safety, there's virtually nothing you can do about it. There's just no other recourse. And on top of that, you're under pressure, because the plant was going to start up, and we didn't have any water.

It was funny: [laughing] we were going ahead with a little bit of water, and we finished the dam, and it was only

about a third full. So I contracted to bring in cloud seeding. I had a big argument with Bill, the lawyer, Bill--?

Swent: Langston?

Guinivere: Langston, the lawyer. He said, "It doesn't work."

I said, "It worked in Australia when I was there back in the fifties, and I know it will work here, and it regularly gives you 15 to 20 percent more in your rainfall."

So I brought in these cloud seeders, trying to get the rain to happen, because we were in the middle of a drought. The funny thing was that one day, Jack Thompson said to me, "Oh, you'll enjoy this. We had a staff meeting last week. I have a guy who goes around doing the atmospheric stuff, and he reads rain gauges all over the project. At this meeting, he said, 'There's something really strange going on that I don't understand up at Davis Creek.'"

Jack says, "What do you mean; what's so strange about it?"

He says, "It doesn't make any sense at all, but they're getting 20 percent more rain up there than we're getting anywhere else."

He didn't know I had cloud seeding going on up there. So I laughed like hell, and I went in to see Bill Langston. I told him. He just _____ to me about it.

So then, along came the following March with the tremendous storms, and do you remember, Napa got flooded? We had twenty-three inches of rain in two or three days out of that one storm. Napa was flooded--all of Napa was under about three or four feet of water. And Davis Creek fills up overnight, and it was overflowing.

I called Jack Thompson about it and asked him what was going on, and he told me. I said, "Oh, I'll have two more planes up right away." [laughter]

A couple of years later, I think someone out of--upstream of Davis Creek sued that we had caused damage in the Clear Lake area, which was totally absurd, because Clear Lake was to the west, and that was where the weather had come from. Davis Creek comes into Cache Creek downstream of the lake, but these people decided, well, there's a big deep pocket up there, we'll go after them. Those suits happen occasionally, but none of

them have ever been won, because you can't prove that the cloud seeding caused any rain in the first place.

Swent: But you think that it did.

Guinivere: Oh, it's known that it does. You usually expect 15 to 20 percent.

Swent: There was an episode, and I had forgotten about this, but during the construction, there was a heavy rain that caused a lot of mud and interfered with the whole winter's schedule. When was that?

Guinivere: In the very beginning.

Swent: That was before this cloud seeding?

Guinivere: Yes.

Swent: It held them up a long time?

Guinivere: We had very heavy rains when we--we had the contractors up there, and I remember, I think it was January, and we had the contractors on a field trip, showing them what the project was and how we were going to start that year. I'm just trying to think--we had some rain the following year when we were in construction. We started there in September, I think it was, in '83, I think it was. Yes, '83, it must have been. I'm not sure of the year now. Took us, what, two and a half years? We started up in '85, so it must have been--

Swent: There was a heavy rain in the winter that interfered with construction at one time.

Guinivere: Well, that always happens when you're doing construction.

Swent: Sure. But that was before what you're talking about?

Guinivere: Before, yes. I've been around a lot of dams, and it's axiomatic that when you are building the dam, you will have the thousand-year flood, and when you're trying to fill the dam, you'll have the thousand-year drought. We almost had that situation, not quite, but then the next year, we got a very heavy rain and filled that--I don't think they've ever had a water problem since. That's a 6,000-acre-foot dam, which was pretty marginal. [There was much?] put in that area at a reasonable cost. I think even during the most recent drought, they always got rain up there. I don't know if they've continued to do any cloud seeding. I just don't know. But I

don't believe they've ever run out of water up there. There's no water in the area, no aquifers of any sort around there.

Swent: So the construction people that you hired, they all performed all right; no problems?

Guinivere: Yes, we had mostly a pretty good -----?--- put together there. Low on the accidents. We were going very well on claims until towards the end, and then we had two or three claims that knocked us out on the compensation.

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Guinivere: Towards the end of the project, there were claims coming in from months before. One guy had had a serious problem with his elbow and his arm, and that cost us hundreds of thousands of dollars, as I recall.

Swent: There were no fatalities, were there?

Guinivere: I don't believe so, no.

Swent: No, I don't think so.

Guinivere: No, we had a pretty good safety record, as I recall. And we started up on schedule. We started up the oxide system in March of that year. And we started the autoclaves on schedule in August. _____ handed over the project in September.

Swent: They've since modified it.

Guinivere: Well, they've done other things. They've put a flotation plant in, but that wasn't a modification, that was to deal with the low-grade sulfide ore that you can't afford to put through the autoclave. The autoclave has to have about 2 percent, 2 or 3 percent sulfur, to be autogenous, to get enough heat from the oxidation of the sulfur to get the temperature up to where everything oxidizes.

Swent: But it has been successful, the autoclaving?

Guinivere: Yes. They're still, I noticed a report in a magazine just the other day that McLaughlin is the lowest cash cost producer for the original Homestake properties. Their lowest cash cost producer is one that they've bought, a high-grade Canadian operation that they bought when they took over Crown Resources, what was it, International Corona?

Swent: Corona.

Guinivere: International Corona. But McLaughlin has always been around about \$200 cash cost. It was just about exactly what was estimated. The capital cost was high because of the nature of the beast. But someone said--Jim Orr was at an AIME meeting the other day at Kaiser Center there, the original Kaiser building, up at the--what do they call it, the Lakeshore Club?

Swent: Lakeview Club.

Guinivere: Lakeview Club. He said that they were--_____ but they did the McLaughlin project and its performance. I think he said that he understood that they had gotten something like 150 percent more gold than they expected there.

That brings back to my mind a conversation I had with Dick Stoehr early in the job. Dick was always totally against the project. In all the years that I knew Dick, I didn't--he was never for any project we had going. I don't know about any project he was happy with in those days. He was asking me--it wasn't long after I had joined the company, and I had gotten into the metallurgical work, so I realized that while there was no question about where we had to go, it also didn't look like there was any question it was going to work, going to the autoclaving.

Geostatistical Analysis Allays Doubts About the Ore Reserves

Guinivere: But I had concern about the ore reserves, until I had read the geostatistical report that Fluor had done. I remember we were working out of the office and were going down California Street, and Dick was asking me what I thought about the project. I said, well, I was really concerned initially about the process, but I was quite happy now; after studying it and seeing all the work they had already done, I didn't have any doubt that the process was going to be fine. And I said I had been very concerned about the ore reserves, because it's a very complex ore body. We had eleven or twelve different ore types which would occur within a hundred-foot length, two-hundred-foot length, go through every damn ore type. So trying to decide what the structure of the ore body was was very difficult, and they didn't work it out for years afterward, until they got into the mining of it.

And I said I had been very concerned about the ore reserves until I read the report that Fluor had done. I said, "Now, I'm happy about both of them." I think I also made the

comment that from the study that Fluor had done, it seemed to me they had done about twice as much drilling as they needed to have done. Because they just drilled the hell out of that place.

Swent: Fluor or Homestake?

Guinivere: Homestake. I'd been in statistical work for mining from my student days, when Sichel was developing his t-estimator in South Africa. I was keeping up with all the work he was doing.

Swent: Sichel?

Guinivere: He's still around. He worked with Kreger on the Kreger processes later on, I guess. But statistically, it was apparent to me that there was a lot more gold there than they were using in their numbers. The problem they had was initially, they couldn't correlate the bench work with the ore reserve work. Until Khadri Dagdelen, our statistical man in the engineering group, did some statistical work on it and gave them a regressive technique of going on the log normal regression from these high-grade holes, and as a result of that, when I was there, he was getting just about perfect correlation between the drill holes and the bench results.

But as a result of that, they thought they had a problem in the first year of operation, and that very quickly disappeared when they started getting into some very high-grade zones. But the high-grade zones in a lot of cases weren't where they thought they were going to be. That's always a problem. It's a mining problem rather than an ore reserve problem.

Swent: How to get it out.

Guinivere: It's a scheduling problem. If you get it--when you're taking it all out, you've got the whole lot. That's one of the good things about open-pit mining: you get everything.

Swent: Right. So what did Dick say?

Guinivere: Dick was upset, because he was hoping I'd say yes, it was a terrible project. That was what he was looking for. He was totally against the whole project all the way through.

Swent: I didn't know that.

Guinivere: Oh, yes. He was against every project that came up in the years I was there. I had the impression that the only good

projects would have been the ones that he'd been on himself in the previous years.

Engineering Success Without a Pilot Plant

Guinivere: He wanted us to do a pilot plant, and we pointed out that a pilot plant itself would cost us about \$7 or \$8 million. The permitting for the pilot plant would cost us the same as for doing the full project. And the time involved with all the requirements would be the same. You obviously weren't going to do a pilot plant and haul the rock off somewhere else. Anywhere you did it, you'd have to go through permitting there anyway. And I said to the board and to Harry and everybody that rather than spend \$7 million on a pilot plant, we thought that we could spend some extra money in engineering and really engineer the project, and not have to do a pilot plant.

So what I did was I sent my engineering and metallurgical groups all over the world. When we had a problem, we would sit down and talk to people and look at the literature and say, "Well, who's handled this problem before? Who has a similar problem?"

"Well, so-and-so in Spain."

"Well, go over and talk to them." And they'd go over and talk to them. As a result of that, they finally found that what was the really good stuff, they got out of Vaal Reefs. Which we should have been given by Sherritt. They just tried to swoggle us all the way through, and I wouldn't put up with it. I kicked them off the job. They were pretty teed off with me. [laughs]

Swent: I'm sure. So you didn't have any pilot plant at all?

Guinivere: We had a mini-pilot plant, one or two kilograms a day, I think it was, up at Fort Saskatchewan. And they did such good test work, and then John and his people and Davy-McKee and the Vaal Reefs people did such good engineering work that that project started up and did exactly what it was designed to do.

A couple of years later, I remember sitting in a Japanese restaurant just down the road from the office on Grant Street with Bill Humphrey, I guess it was, Dave Fagin, and the fellow that came from Newmont--Ray Beebe.

And Ray said--and he used to be a professor of metallurgy and whatnot, and he's been around forever and all over the place, he said that is the only project that he knows of that was done totally from design, from engineering, without a pilot plant project, and worked precisely as it was designed to do. Even to the extent of being, on the metallurgical side, I think it was within about twenty-five or fifty cents per ton from the estimate.

Now, the costs were distributed a little bit differently here and there, but you expect that anyway. Nobody's perfect. [laughs]

Avoiding the Risk of Titanium in the Autoclaves

Swent: And how did the startup go?

Guinivere: Just smooth as could be. One of the funny things that we often look back about and laugh about it was during the design phase, we were interested in the application of titanium in the process, using titanium for the autoclaves. Now, titanium used to be a very high-tech material, but by the time we had come along into the early eighties, it was no longer the big high-tech material. The Russians were making submarines and the whole damn submarine was made out of titanium, and I guess the U.S. Navy had a couple of titanium vessels on the board as well, because it's not magnetic, so it's more difficult to detect the submarine if it's got a titanium hull.

So titanium had become pretty easy to get hold of, and the price was quite reasonable, and we were in the middle of the recession. The titanium people were offering us titanium autoclaves which were almost identical in the cost of going cast, going steel with all the various lining systems that were required. The engineering people worked through all this, and we had all of the stuff from the titanium people. They not only gave us a good price, but they gave us a guarantee that they would take the titanium back at a certain price within fifteen years or ten years or something like that. It was really quite astonishing.

Titanium and oxygen is very dangerous. There's a certain pressure area, pressure-temperature area, with a certain amount of oxygen, that if you scrape the surface of titanium and take that oxide coating that protects it off it, it will explode. We had a couple of cases where we did have things that burnt up

in the autoclave. Some of the tubes and piping--all the internals were titanium, and we had a couple of cases where a piece of piping actually burnt up. We'd pull out a flange, and here there's be a stub of a pipe with all the discoloration from the high temperature burning on it.

We got to the situation where we had this all wrapped up, and I said to Bill and the director who's at Berkeley--

Swent: Douglas Fuerstenau.

Guinivere: Fuerstenau, Doug Fuerstenau. I said, "Well, we'll be ready to give our recommendation to you for you guys to sign off on next Wednesday," or whatever it was.

What had happened was my engineering people had gotten to think--they wrapped up, they looked and decided that we had some considerations about the fact that you can get a reducing atmosphere if you had a bit of sand that sat in some area where it wasn't getting agitated and it could go reducing, and that's sudden death for titanium, because it takes off the oxide coating, and [snaps fingers] you've got that oxygen atmosphere, away you go.

So I think everybody was interested in sort of, Gee, wouldn't it be great to have a titanium autoclave? It was sort of _____ engineering, looked good, looked nice, very modern and all that sort of thing. So I remember saying to them, "Well, that's great. What I want you to do before we finally make up our mind is do a final study on the total risk analysis."

I remember John Turney saying, "You want us to do a risk analysis?"

I said, "Yes. Tell me what you think the risk is of going titanium."

Well, they spent another week or so on it, and they came back and said, "You know, we really don't think it's worth the risk for this and this and this and this reason."

We went to that meeting and we gave our presentation to Bill and Doug, and said, "So we're recommending the standard metal autoclave with the brick lining system."

Bill looked at me and he said, "I would have bet money that you were going to recommend the titanium."

I said, "You know, I would have too." [laughs] I told him the story of what had happened.

Manholes for the Agitators to Improve Efficiency

Guinivere: So we went with the steel autoclaves. We decided to go with the big manholes for the entry way for the agitators because we were concerned about the time of doing maintenance work on the agitators. We weren't sure of materials of construction for the agitators, particularly the blades in the turbine system. Those autoclaves operate at 300 degrees C and 300 psi, and you don't just turn them off and get into them. It takes you three or four days to turn them off, because you've got to let the temperature come down very gradually. Otherwise, you implode the lining system. So it's a very tedious process, and when it has cooled enough to open the autoclave, it's still too hot for anyone to go in there, because it's still boiling. It's still around 200 degrees F. So it's sort of a week to go and do anything in the autoclave.

So we thought, well, we don't want to have to go in and do every time there's something wrong with one of those agitators, so we designed the opening so that we could take off the whole thing, just take the agitator attached to the flange, to the top plate of the inlet, and just lift the whole thing out, and then bring another one over and just pop it back in and _____ them up again.

We'd had a guy we'd hired to be the maintenance guy in that area, and there was something about him, we couldn't get him to do anything. There was just something about his nature that he wouldn't follow through and get things done. But one thing he did was, he came back from Europe, I think he'd been there with Bob Lear. He'd been on a field trip for--

Swent: Who was this?

Guinivere: I can't remember his name now.

Swent: Roger Madsen maybe?

Guinivere: No, no, it wasn't Roger. No, it was a guy that we'd hired from outside. I forget exactly what his name was. I think he was English, as a matter of fact. But anyhow, he came back, and he had been looking--had been in this shop, and I guess they were doing--it was where they were building the autoclaves. He had

noticed these special cylinders [?] that they use in the oil business for taking flanges off, and you'd put all these units around all these multiple bolts, and you might have a hundred bolts on a flange, and you'd put these cap units and just hand tighten them like this, and then you'd put pressure on them--they're hydraulic--and you'd put a hydraulic pressure on them; they are a little piston.

And what they would do is they would stretch the bolt. They would grab hold of the head and they would stretch the bolt, and then you just go in and undo the hand [?]. By hand, you could undo the nut, and you're finished. And when you put it back on, you do the same thing. So it does in minutes what it takes several hours to do with a wrench, going round and round and round with a wrench like that. But he came back with this idea, and we bought a set of these things. They were just great.

So as a result of the design of those autoclaves, those autoclaves, the last time I saw any results was after about four years of operation, I think. Those autoclaves were on line or ready to be on line 96 percent of the time. And they had actually been on line something like 94 percent of the time, and 2 or 3 percent of that was something else somewhere else. It was something wrong upstream or something wrong downstream. But the autoclaves themselves were only unavailable for about 4 percent of the time.

And then the brick work we had put in, I had insisted that it be put in by Siemens--not Siemens--oh, dear, I've got the wrong name. Sorry, it will come to me in a bit. I'd had a lot of experience with acid linings in the uranium and zinc business, and I had come to realize that you had to buy a system, and you had to have that system put in by the people who were selling you the system. Otherwise, there were people pointing fingers everywhere, "Well, it's not my material, it's the way he put it in." "It's not the way I put them in, it's his material."

Importing a German Brick System for the Autoclave

Guinivere: So we bought the brick system that they had been using in South Africa from the German company, but it wasn't a purchase order, it was a contract: supply and install. When they installed it, they said, "Five-year guarantee." I think it was exactly five years when they put all the autoclaves down in August of

1988. I think it was exactly five years to the day that they redid all the autoclaves.

One of the side things that happened there was that--oh, what was their name?--they were doing a lot of brick work all over the countryside, all over the state. They had crews everywhere, and they were all German crews. We had them train our people. We hired people and put them with them, and then they learned how to do it. It was very meticulous work. It has to be just done very precisely, because it was a very complex system of about four or five layers. So it had to be redone properly, and you had to get someone that learned it properly and was a real _____ about it.

But the Bricklayers Union had taken the INS [Immigration and Naturalization Service] to court, because these people were here on what they called an H visa, I think it was, which permits you as a specialist showing someone how to do something properly to come in and work. It was very common, and it had been challenged like seven or eight different times this century, and Congress had always reaffirmed it, and they had quite recently reaffirmed it, saying, "Yes, that's the way the law is written, that's the way we want to do it, and that's it."

But the Bricklayers Union took them to court here in San Francisco, and one of the friends of the court was a guy called Flanagan, I think his name was, who was with a lining company, brick and acid lining company out of Calaveras I think. I knew them. One of the lawyers asked me, "Why didn't you bring them in, because they're --?"

I said, "Yes, I know, and they did a project for me in Knoxville, Tennessee, and I will not have them on the property. They couldn't even do a rubber lining on a concrete tank without having leaks. I'm not going to have them doing this very important job. Forget it."

Well, they were in the lawsuit. The judge over there found against the INS. After eighty-five years of law, he just threw it out. [laughs] Typical San Francisco, California-type judge. I don't know what's happened since then, but--

Swent: So they were not allowed--

Guinivere: It was nothing for us. That job was finished. By the time the lawsuit was over, our job was finished. But they had six or seven crews around the country doing the same sort of thing in their specialty brick lining system.

A Terribly Complex Project From Beginning to End

- Swent: So you can't just go out and buy an autoclave; you had to design the whole thing?
- Guinivere: See, the autoclave itself had to be designed by people who do pressure vessels, and I think it was--
- Swent: You couldn't just say, "I want an autoclave like the one I saw at Vaal Reefs?"
- Guinivere: No, because there were none.
- Swent: At Vaal Reefs didn't--
- Guinivere: No, because that one they had was a little bitty--about a cubic meter. The ones we had were about fifty-eight feet long and thirteen foot ID.
- Swent: And nobody had done such a big one before?
- Guinivere: Yes, but not for putting in high acid, high oxygen, et cetera, with a slurry. The high-pressure autoclaves in the minerals business were in solution. The material was heavy solutions, but it was in solution, it wasn't a slurry. In the nickel business, for example, you have a special sort of autoclave there where you actually do a process that plates the nickel out of solution onto the walls of the autoclave, and then you deplate it back into solution, and then you finish up getting your nickel out of that. In the zinc business, you put oxide material, you put the concentrate in, and it goes into solution. It's not a slurry.
- What we were looking at was .15 ounces per ton going into solution, and the rest of the material staying as a slurry. So that was peculiar and had never been done, at these pressures and these temperatures.
- Now, Homestake had autoclave experience with the carbonate plant down at Grants, the Homestake-Sapin, that was a carbonate oxidation, but that was just a few psi, and just a little warm. And again, it was a solution process. And then they were little things; half the size of this room. It was a very small autoclave. No one had done what we were proposing to do. Everybody in the industry was sitting there waiting for us to fall flat on our ass. [laughs]
- Swent: But now it's been copied.

Guinivere: Yes, now everybody does it. And you know, now I talk to people and they don't know that McLaughlin was the first one, there's just so many of them around now.

Swent: It must have been exciting.

Guinivere: It was. It was a tremendous project. And it worked exactly as designed, and it was a tremendous project because it was a big construction project. It was done non-union in a very strong union area. It was a great embarrassment to Joe Mazzola, the president of the Plumbers Union, because they had Konocti Harbor Inn there, and we made him talk to us at our lawyer's office in San Francisco, surrounded by anti-union posters, and he tried to make a deal. It was reported to me--we kept away from it. We just had our project managers from Davy-McKee go in with the lawyer. Everybody else kept away from it. You have to be very careful with these things, because if you say the wrong thing or appear to be helpful or something, so you just keep away from it.

He said, "You know, I had my people build that big resort up there because I figured big things were going to happen in Lake County, and we got the Geysers. All of a sudden out of nowhere just the biggest project I've ever heard of. A \$250 million project comes out of nowhere right in my back yard, and you won't even give me a job on it? Can't we make some sort of a deal?"

So they said, "Well, you know, we're hiring local people."

He said, "Well, we can handle that. We'll hand out a couple of cards to those local people."

He said, "Yeah, you'll hand it out, and then kick their ass out as soon as someone from Sacramento needs a job."

But anyhow, it was interesting from the--it was very difficult from the technical point of view, because it was a very involved ore body. It was difficult from the mining point of view too. They mined that stuff with little benches and drilled holes on very close centers and little flags all over the place of different colors so they'll know what sort of ore it is and where it goes, and which stockpile it goes on or which part of the plant it goes into. It was just one terribly complex project from beginning to end.

As I said to Jim Anderson one time, I said, "Jim, in the first place, did you have to find such a complex ore? And

secondly, did you have to find it in northern California?"
[laughter]

Swent: In three counties? And now they're already talking about the end of it.

Guinivere: Yes. Well, it was a ten-year project when we did it, so that's--but I guess they're going underground.

Swent: They're starting a little underground mining.

Guinivere: But we're very worried about the ground conditions. I don't know what they're going to work on it.

Swent: I don't know either.

Guinivere: I guess they've got a lot of ore down there, high-grade stuff, going down that pipe, I guess.

Over Budget Because of Environmental Aspects

Swent: So it has turned out pretty much as you thought it would.

Guinivere: It did, yes. It really did. We were over budget. We were doing things that no one had done before, but most of where we were over budget was in the environmental aspects. You know, you get a \$50,000 estimate for grouting and it costs you \$2.5 million; my God.

Swent: That wrecks your budget in a hurry, doesn't it?

Guinivere: And then you have to pay the contractor extra to--you know, these things add up. You pay them a quarter of a million dollars to move the sand plant out of Napa County and go up to Lake County. Then you have to pay the dam contractor extra money because you've held him up, and he's got a schedule he's got to meet.

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Guinivere: Well, as you could imagine, in a project of that size over that period of time, there were a lot of fun things and interesting things that happened. I remember when we started off on our around-the-world trip, we were waiting at the airport in San Francisco, John Ransone and Bob Lear and myself, and we had the Japanese gentleman with us.

Swent: Bon Maene?

Guinivere: Yes, Maene, because he was going to help us with the Japanese interpreting in Japan.

Swent: "Bon" is his nickname. Takefumi, his real name is.

Guinivere: Yes, Takefumi, that's right. We were waiting at the airport there, and I made some comment, and as a result of that, John Ransone said, "Well, this is the first time I've been out of the United States." And I was astonished, because I'd been in construction and project work for so long, I just thought that everybody in the minerals business had traveled a lot, and he hadn't. He hadn't been out of the United States before.

I remember saying to him, "My God, the first time you go out of the United States, you're going to go clear around the world? What are you going to do for the second?"

I had to send him down to South Africa several times during the project, because he handled the liaison with the South African people. I said to him, "You know, I've been trying to figure out how to get you around the world vertically, north-south. I can't do it." [laughter]

Learning About the South African Patent Process

Guinivere: But one of the things that he had to contend with there was-- one thing that Homestake had never done was they had never patented anything. So I had a discussion with Bill Humphrey, and I said, "You know, there's a lot of these things that we're doing that we should get a patent on." They went ahead and got a patent on the flow sheet for the McLaughlin project, but they couldn't patent anything other than that, because everything else had been done somewhere else.

Swent: I didn't know you could patent a flow sheet.

Guinivere: Yes, but that was just the arrangement, and anyone could just get around it by just changing the arrangement. It was a pretty useless patent in many ways, and it was a nuisance more than anything else.

Swent: What about the autoclave, if you designed that specially?

Guinivere: Well, what I did was, I thought, Well, we'd better protect some of this stuff, and find out during the discovery phase whether we can't patent them. So I filed patents in Canada and the United States, Australia, Japan, Germany, I think, and South Africa. Well, what I didn't understand or didn't know was that in South Africa, you don't go through the sort of process that you go through here for getting a patent. If you apply for a patent in South Africa, they just grant you the patent immediately, and they put it out into the literature saying, "We award this patent. Has anyone got a problem with it?"

Well, it really hit the fan, because that happened, and my attitude was, Well, we'll protect it, and then we'll talk to the South Africans and get them into it. But the way the South African patent law works is they granted the patent immediately, and the people that we were working with in South Africa were suddenly confronted with a piece of paper that said Homestake's got a patent on stuff that was rightfully partly theirs.

And the guy got really mad about it, but I called and I said, "I didn't realize it happened that way. I was going to talk to you during the process." It was a matter of getting a date, because see, the American law is different. The American law is who files first, not who's invented first, it's who files first. I said, "I had to do it here, because of the law here." During the long, involved process that you go through for patenting, I figured we would work out between ourselves what we did about it.

So anyhow, I had to withdraw it down there to keep them happy, and of course, caused John Ransone some problems, [laughs] because he was dealing with them, and the guy was real outraged. He was Australian, as a matter of fact. So that happened there.

The Mystery of the Wobbling Agitator and a Ladder That Disappeared

Guinivere: There were a lot of fun things happened. I mentioned the titanium problem, of titanium being very dangerous around oxygen. One of the darnedest things that happened was we started up the first autoclave, and we'd been operating, I think it was just for a day or two, when an agitator starts wobbling. We had these switches on it that if the shaft started deflecting, because the agitator was out of balance,

because something had happened to the blades, if it started moving too far, it hit a proximity switch and stopped the autoclave.

Swent: And these were made of titanium, you said?

Guinivere: Yes, the agitators and blades were, yes. And this one starts just waggling like the devil. Blade's going out [?].

So we shut it down, and we go and take a look at it, and we pull out the agitator, and we look in astonishment. Some of the bolts are gone, and the ones that are gone aren't gone [?], I guess they were about a three-quarter bolt of titanium, and now they're about an eighth of an inch in diameter. "God, look at this! Something went totally reducing here. The titanium's just gone. What happened? What the devil was it?"

They get in to a bottom [?] and get a guy in _____, and he comes up with some red plastic rope. "What in the hell is that? How did that get in there?"

You know what had happened? The last guy to leave the agitator, to leave that autoclave, that section, had left an aluminum ladder in it. And the way you produce hydrogen is you put aluminum into acid. The hydrogen caused it to go producing [?]. We thought, Oh, my God, can you imagine what would have happened if we'd had a titanium autoclave?

Swent: Oh, my!

Guinivere: [laughs] I remember saying to John, "I'm glad you did that risk analysis, John."

Swent: Oh! And all that was left of it was the red plastic--

Guinivere: All that was left of this aluminum ladder was the plastic rope. You know the red plastic rope that you pull? It was an extension ladder.

Swent: Right.

Guinivere: [laughs]

Swent: Oh!

Guinivere: John [Turney] will remember that when you talk to him.

Bugs? In Lime Storage Tanks?

Guinivere: Oh, the funniest thing that happened was the bugs. Oh, deary me. We'd been operating for, I guess it was about a year. John Turney or someone called me up and said, "We've got holes in the lime storage tanks."

I said, "Holes? What do you mean, there are holes?"

He said, "There's holes all over them. We're losing lime out these little holes all over the tank."

"What do you mean, you've got holes in them? There's no acid there; that's lime. How can you have holes in the lime storage tank?"

"Well, I don't know, but we have."

So I said, "Well, drain it down. I've got some metallurgical people that I use over in Hayward. They're metal lab people. I've used them before. I'll have them send someone up."

So they drained the tank, and the guy goes up and comes to the tank, and he walks out and gets on the phone and calls me up and says, "It's bugs."

I said, "What do you mean, it's bugs? How can there be bugs? It's a lime tank. How can there be bugs?"

He said, "It is bugs. It's a ferro-oxidant; it's absolutely typical. There are little tubercles all over the tank, and on the inside of the tubercle, this is where they make acid. They've just gone straight through the tank." This was three-quarter steel that they'd gone through the tank in a matter of months.

I said, "That's ridiculous. It's a lime tank. How did it happen?"

Well, there was absolutely no question about it. I remember going and looking at the tank, and they had baffles in it, and the bottom layer was where the agitator was, and it was nothing, it was clean. All the baffles were riddled with thousands of little holes. And all over the inside of the tank were these, as he said, these tubercles, like little igloos, where these bacteria colonies form themselves a little carbonate igloo, and then went acidifying underneath.

What they were doing was--[laughs] and we found this out because these guys did the investigation for it--we had started recycling solutions out of the tailings pond. Ferro-oxidants had established themselves in the tailings pond, and of course, there were sulfides in the solution coming back, and then we made up the lime, and there was enough sulfur, and the bacteria were already there, they formed these colonies, and they totally ruined these tanks. We had to line all the tanks.

Within a week or two, John Turney is going down the cyanide tanks in the leach system, and he sees this bad-looking piece of paint on the side of the tank, and he takes that, and [he goes psst, and it goes psst?] [laughing] And they're in those tanks, and we have to pull them all down and put an acid-proof lining in them.

And the funny thing about it was, South Africans were building a similar plant with Sherritt in Brazil, and there was a guy visiting us to see what we'd done, because they were in the startup procedures and whatnot. They had started up, and they were having operational things, and they came up to see what we were doing and how we'd done things and whatnot. He happened to be there when we solved what this problem was and we were lining the tanks. He said, "We've got that problem down there. What is it? Have you found out what it is? We've tried everything. We thought it was electrolytics, and we tried insulating things, and we thought it was this, and we tried that, and nothing works, and we've got these holes everywhere. What is it?"

One of our guys said, "It's bugs."

He said, "It's what?" And he rushed off to the fax and the telephone to tell his people what the problem was.

And when we looked in the literature, we found a case that had occurred in lime tanks at a chemical operation, I think it was in Utah. Mostly you talk to people, and they say, "Bugs? Don't be ridiculous. It's not going to happen in lime." It happened there. It's amazing.

Swent: You know it does.

Guinivere: That was really curious. Well, I've just about lost my voice. But you've got the basics for it. If there's something else you want--

Swent: Thank you very much, Rex. You've added a lot of information.

[Interview 2: May 24, 1995]##

Swent: There were several times in our previous interview where you had said that I could talk to John Ransone in more detail because at that time John was still alive, and I was planning to interview him. Since then John has died, unfortunately. So we're coming back now to fill in, and perhaps you can fill in a little bit more and take John's part.

Filling in for John Ransone

Swent: The first one here was you had said--I asked you about the South African trip, and you said, "John Ransone can fill you in more on the details on that."

Guinivere: The problem is I haven't been down to South Africa myself. I sent my people down there.

Swent: Oh, you did not go yourself?

Guinivere: I never went down there. The only South Africans that I met were--we had a couple of good people who came up to help us in the startup. They helped us with some of the detail design in the autoclave area, which is what we were interested in obtaining from them. So what I have is just what John reported to me at the time. Previously I mentioned how the Sherritt Gordon people came down and virtually threw John and Klaus Thiel out of the office, [and we] decided they had nothing to do with anything, and we said that we would get back to them--other than the technology that we were talking to the Vaal Reefs people about. We got around that by buying their valves, which was their own valve.

Did I mention the patenting effort? Do you recall?

More About the Homestake Patents

Swent: Yes, but you may want to talk about it some more.

Guinivere: Well, that was interesting. Homestake had typically not patented things. They did a lot of the major development work on the cyanide extraction using activated carbon. But they didn't patent it so everybody just sort of went ahead and used

it. And that's not unusual in the mining industry. But when you get into the sort of hydrometallurgy we were doing at McLaughlin, you're getting into more like chemical engineering. And the chemical people were extremely secretive or they patent everything. If they're not going to be secretive, they patent it.

So I had put in a situation where we were patenting anything that we were coming up with. They patented the bacterial system that they had developed up at Lead for purifying the water, an antibacterial system that went through a sewage system up there. They had a bug that ate the cyanide but it formed ammonia, so they had another bug that ate the ammonia, so you got a very pure solution--so pure that the test of it was a little aquarium full of fingerling trout on the outflow. The trout had to live for so many days to prove that the solution was pure.

So when we were working on this autoclave information, we started a patenting process. What I didn't realize and didn't know was that in South Africa, when you file for a patent in South Africa, they give you a patent immediately. They don't put it through anything. They give you the patent immediately, and they throw it out into the public, and the public could come back and say, "Hey, you shouldn't have that" and challenge you to it. We didn't realize that would happen; we were just doing a protective sort of thing, and [I thought we ought to?] then talk to the Vaal Reefs people and say, "Look, we thought we should protect this with a patent," because they hadn't done so. Being an old-time mining company, they didn't believe in patenting. The mining industry is very much that way; they transfer information.

Swent: It is very open, isn't it?

Guinivere: [inaudible]. That was well and good in the old days when they didn't have any marvelous things anyway; it was a pretty solid sort of a hands-on type of operation. But the more complicated it's been getting, the more people that have been prone to try to keep control of their technology because it gives you a major advantage.

What happened there was they suddenly get a letter from the patent office saying, "Homestake is patenting this technology. Do you have anything to say about it?" They had a lot to say about it. [laughs] I had to withdraw the patent from down there. And John was in the middle of that because they didn't know me. They had never met me or even spoken to

me. They just called up John and tore some [frees?] off John [laughs].

Swent: You were patenting it here in the States?

Guinivere: Well, we were patenting it in any major country in the world where it could be applied, and South Africa was obviously one of them.

Mostly you go through a patenting process. Then they issue the patent. But it's secret while it's going through the patent process except that you have the patent applied for and people would know what it is you've applied for. But while it's going through the actual patenting, no one knows it. Down there they do exactly the opposite: they just give it to you, and then they put out a notice to the public saying, "We just issued this patent. Does anyone have to say anything about it?" [laughs]

Swent: So that caused a little consternation.

Guinivere: Yes, it did; a little bit of bad feeling on the part of--they had an Australian gentleman who was in charge of the group. I can't recall his name at the present. Like most Australians, he's pretty straightforward in what he says about things [laughs]. So that was one interesting aspect. We were only able to patent an arrangement of equipment, which made it more or less worthless because all you have to do is change the arrangement of your equipment. It's the same thing, so it became pretty much a worthless patent.

Swent: It has been copied very widely, hasn't it?

Guinivere: Yes. I mean, the Union Mines of South Africa put one in Brazil shortly after we did ours, and they did that with Sherritt. From then on it has been pretty continuous, but with different requirements; of course every mine is different. There's a huge one now of course that Barrick has near Elko [Nevada]. It's a very large one.

Swent: Larger than McLaughlin has?

Guinivere: I believe the autoclaves are larger, and more agitators, and there's more of them. I haven't kept up with the details of it; I've been doing other things.

Transferring from Construction to Operations

Swent: When we had the other interview you also talked about the ladder and the bugs in the lime tanks, and about the South African patents also. You were in charge of the construction; then when it transfers over to operations, what happens?

Guinivere: Well, what we do was we had a schedule that said we expected to start the project up in June--I'm just trying to remember the dates. We started the oxide plant up in March.

Swent: In 1985, wasn't it?

Guinivere: March of '85, yes. And then we were still doing the autoclave system, the oxidation for the south mines. And we expected to start that up in August, and under our schedule we were going to start it all up, run it for a couple of weeks, shut it down, and then tear it apart and take a look at it and see what had happened inside. No one knew what was going to happen with the materials in [the] construction [phase] because no one had done what we were doing with a heavy slurry and high pressure and high acidity. And we did that, and we couldn't find much wrong at all. The only real problem we had was that aluminum ladder.

We spent August tearing it down, then putting it back together again. And then in September we handed it over to the operations people as a going concern. They kept TIC on as the maintenance contractor. I think they were working there for years, they have been, as the maintenance contractor. And we just walked away; it was their project.

Swent: Now when you say "we" and "they"--

Guinivere: Oh, the engineering people. We more or less handed it over, and we walked away.

Expanding the Processing Plant and Avoiding a Heap Leach System

Swent: Who was there at that time?

Guinivere: John Ransone, Bob Lear, and the people that we hired. Davy-McKee was around for a while just helping with the various little things that go wrong or need changing--for a few months. Post-startup work. Because you can't afford to have enough people on your payroll to look after the odds and ends that you

have to deal with. And we spent the next six or eight months closing out the project, waiting for final bills to come in and paying out bonuses and all that sort of thing, and then started doing other projects.

I think it was the next year that we had a meeting on-- they were looking at treating their low-grade material that was not oxidized. They couldn't put it through the autoclaves because you couldn't afford to and it didn't have enough sulfur in it anyway. And the grade was too low.

And then we did the expansion, and that took it from 3,000 tons per day to 6,000 tons per day. The expansion was a straight cyanide system. I remember being at a meeting up at McLaughlin with John Turney and John Ransone and Bob Lear and Ray Krauss. And the metallurgical group, what they were looking at was--they were intending to do the heap leaching. I know Ray was really concerned about it. I personally didn't think they would even be able to get a permit to do heap leaching in Napa County because on one side you had the dam that went into Lake County and down into Cache Creek and then into the Capay Valley. And we had had more trouble with Yolo County than the rest of the people put together even though very little of the project was in Yolo County. But the dam was in Yolo County. On the other side you had Hunting Creek which went down into Lake Berryessa, and a very stringent requirement with Busch Brewery at Fairfield because they got their water out of Berryessa. So there was never to be any possibility or question of cyanide getting into Hunting Creek. I couldn't imagine where they could put a heap leach operation that would get a permit.

Swent: This was a heap leach without doing any milling?

Guinivere: Yes. What you do is you crush it, and maybe you pelletize it.

Swent: Bypass the plant there.

Guinivere: Yes. What you do is you sprinkle solution on it, and then you collect the solution and you send it to what they call an ADR plant, which is like the CIP but it's not CIP--

Swent: CIP is carbon-in-pulp. What's ADR?

Guinivere: ADR. It's one of these things you always forget what it means because you use it constantly. ADR is something or other dissolution and replay, is that right? Well, it's a carbon system but in different sorts of tanks.

Swent: And this works on ore that is not--

Guinivere: Low-grade ore. It's oxide ore. It's amenable to straight leach, without having to put it through an autoclave. And it was low grade. And they indicated in the course of the conversation that they were getting 70 percent plus out of .05 or .06 ore. And I said to them, "Why do you want to put it through a heap leach?"

And they said, "What do you mean?" [laughs]

I said, "If there's that good a recovery from what you're getting--which was much better than we've [inaudible; crosstalk]--"

Swent: They were _____ing it.

Guinivere: Yes. And they were doing a lot of test work because they had thousands of thousands of tons of it. I said, "If it's that good, why don't you just put it through an ordinary agitated leach? You can certainly justify it with that grade." And I pointed out that that plant up in Montana, what do they call themselves? There's an operation that was operating on tertiary crushing and grinding on .05. I said, "This stuff is--"

Swent: What do you mean by .05?

Guinivere: .05 ounces [of gold] per ton. After that, Ray said, "Thanks very much." [laughs] I got rid of his problem having to try to permit that heap leach. What we did was we put another pipeline there and put another set of tanks up at Lake County, at the process plant. And we put another set of grinding mills in and a new crusher down in Napa County. So we had a 6,000-ton-per-day operation. And they were built so that they were pretty much identical. We used a secondhand grinding mill for the ball mill, and I think we bought a new SAG mill--about twenty or twenty-five million dollars worth of--

Swent: SAG: semi-autogenous grinding, right?

Guinivere: Yes. So the two sides, if they had a problem in the original mill, they could use the new mill for the high-grade ore. Of course, you wouldn't want to keep running low-grade ore when the sulfide ore system went down. I don't know if they ever had to do that. Of course, it was all pretty reliable, really.

Swent: So this was the simple extension of the original plant; it didn't have to be re-permitted then.

Guinivere: No, we had to do more permitting work, but it was much easier because it didn't take much time at all. Just a matter of months. And it went into the same place, it was all under the same protective system--all the flow, the spillage, went down into the tailings pond up at the plant site.

I think they ran that ore for three or four years. Then after I had left, they eventually put in a flotation plant to take care of the low-grade sulfide material that wouldn't go through the straight cyanide. All the time they were mining they had about twelve different ore types that belonged to different stockpiles. Some could go straight to autoclaving and some would go to straight cyaniding; some was too low-grade to go to autoclaving, but it had sulfide in it. So to upgrade the sulfide in the gold, they put a flotation plant in.

Swent: You were in charge of the engineering and the construction.

Guinivere: Yes. I was chief engineer for the construction.

Swent: Right. And then when it was handed off to the operations people, what were you doing?

Guinivere: Oh, we were providing various services for them. My people provided the engineering management for the expansion to the 3,000-ton-a-day plant, based on the test work that the metallurgical people at the operations had done.

We had done test work on drill holes and bulk samples, but now they were running a 3,000-ton-a-day operation. And they were getting right into the mine, so we knew exactly what things looked like.

Help From Khadri Dagdelen, Computer Specialist

Swent: Did you have anything to say about the mining?

Guinivere: No. That was always under the control of the mining people themselves. They did all the test work. The only thing that we did was we had a computer specialist, a fellow who was terrific in statistical work--he's a professor at Colorado University in Golden.

Swent: What was his name?

Guinivere: Khadri Dagdelen. He was a Turkish fellow. He was excellent in mathematics. He did a regressive program for us on the computer that enabled them to pretty well exactly match their bench results to the original drill hole results. That made the mine planning a lot easier, or better. I think he's professor of computer sciences or something like that at Colorado University in Golden.

Swent: Colorado School of Mines?

Guinivere: Well, the university is there as well as the School of Mines.

Swent: The university is in Boulder.

Guinivere: Is it? I thought there was one at Golden as well.

Swent: The School of Mines is at Golden.

Guinivere: But just the School of Mines?

Swent: I think so. Maybe there's a branch of the university, but not that I know of.

Guinivere: It's awfully big for just the School of Mines.

It wasn't long after that that I left.

Swent: When did you leave?

Guinivere: The end of 1988. And then I went as a consultant on the Golden Bear Project for them for six months in the first half of '89, up in Vancouver.

Swent: Was that gold also?

Guinivere: Yes. It was a high-grade vein mine that they had bought into from North American Metals. Chevron was the partner. And I was on that for six months as well. It was a total disaster.

Swent: Why?

Guinivere: Many, many reasons [laughs]. That they would probably not like to have spoken about. It was a disaster from beginning to end.

But getting back to McLaughlin, was there anything else we wanted to talk about?

"It Did Exactly What It Was Designed To Do"

Swent: How do you feel about McLaughlin now?

Guinivere: It was the best thing that I had ever been associated with. We went over budget, and it was difficult to grasp the reason that we went over budget. What had happened was we had saved a lot of money on the architectural and plant construction side of the project up until we hit the autoclave area. And it wasn't until after we completed it that we found out that the engineering company had never re-estimated the autoclave area.

Swent: Who was this?

Guinivere: That was Davy-McKee. Everything we had saved on the rest of the project we lost in the autoclave area with some tremendous costs that we hadn't budgeted for, and they just kept on going. But it was new technology. And it was the first time in my experience that I had had an over-run on a project. All the time I was with Kaiser, I never had any over-runs.

So it was really disappointing from that point of view, but it was a project that was designed on paper with a lot of engineering. We broke a lot of new ground, and it did exactly what it was designed to do, and the eventual operating cost was within a dollar, I think it was, per ton. But that was for a variety of reasons; no estimate is ever perfect, no matter what you do. But if you're lucky, you find that you've missed out here in one way, and you've missed out here the other way, and they balance each other out.

Problems with Pacific Gas & Electric

Guinivere: And that is sort of what happened with us up there because we had used a high-cost power because that was the indicated rate that we were going to have. We went for non-interruptible power with PG&E [Pacific Gas and Electric] because at the time they were having political problems getting Diablo Canyon on stream. There was a time when it looked like Diablo Canyon might not even get permitted.

And then we had about 5 or 6 percent free power on the entire network, so we had this 5,000-horsepower oxygen plant and a 285-million-dollar project that we thought was going to be \$243 million, and we were worried about that supply of

power. Now the fact of the matter, as it turned out, was that PG&E was in no position to give us non-interruptible power anyway because their grid system was so badly engineered that they had to make a lot of changes before they--they kept on shutting us down on the voltage, and they kept on saying, "No, there's nothing wrong with our voltage regulation." We had a big synchronous motor on the oxygen plant, and it couldn't take what they considered to be normal voltage regulation, which was almost _____ outside of what we could accept on a synchronous motor.

Swent: It would fluctuate, that is.

Guinivere: It was terrible. I mean, we were getting 10 or 15 percent fluctuations, and they thought that was normal. That was okay as far as they were concerned. It took us ages to find this out because they always answered, "No, we haven't had any bad fluctuations." Well, in their meaning of the term, they hadn't. But it kept on chopping out the motor. When we found that out, we made them do something about it, and they eventually did.

Swent: How did you find it out?

Guinivere: Sending people up to where the--they were supposed to have someone--for example, they had told us there was always someone on the project at the plant. We found that was not the case--

Swent: At your plant?

Guinivere: At their plant. We found that there was one guy who was looking after three different plants. Up at the Geysers. But he didn't know what the hell was going on, so I waited until a meter reading came through on the system and told him that the plant up in the mountains there wasn't doing what it was supposed to be doing. So he [just pick up and go off?] and find out why it happened [laughs]. That took us months to find this out because as far as they were concerned that was their normal operation, nothing wrong with it.

Swent: Did you burn anything out or--

Guinivere: No, no, we didn't; we had a lot of protective gear on the motor. But you don't just start up a synchronous motor and stop it down every few hours.

Swent: So how did you finally work it out?

Guinivere: Oh, eventually we got them to put better voltage regulation on the line that they were feeding us with. There are some things that you're just not speaking the same language when you're talking to the utility.

We had some specialists out of Oregon who did that sort of--I guess they're out of Washington. And they had helped us negotiate the design of the line and the contract with PG&E at the time. Then we had a large amount of money tied up because under the law in those days--I don't know if it's still the same--we had this avoided cost, and the fact that we had done the line ourselves--of course, we couldn't afford to let PG&E do it because they wanted too much money to do it--we went ahead and did it ourselves.

Swent: Put in your own?

Guinivere: We put in the line at our expense and had a contractor do it. The funny thing was that under the law PG&E had to pay us their avoided cost, and their avoided cost under the law was their estimate--which was way above our cost, which was why we did it ourselves. And we were in that position, and that was part of our working capital. It was like a million and a half dollars, I think it was, or more.

So we were trying to negotiate a different schedule and get that money back on the previous schedule. Eventually they went on to interruptible power which was, I think, less than half the price--_____ I believe seven cents, and we finished up paying about three and a quarter. So that was a major cost saving when we finally got going out there.

We lost that somewhere else on the operating costs--I think it was in grinding. They had very hard ore there, and the grinding and comminution down there--the crushing and grinding was costing about twelve dollars a ton, I believe it was. Then we had gone through very hard stuff; some of that stuff was very, very hard. It was a hot spring deposit of silicate. That stuff would ring like a bell, it was so hard, if you hit it with a hammer. It wouldn't break it; the hammer would bounce off it and go "ding" [laughs]. It had a grinding index of about twenty-eight. Twenty-eight kilowatt hours per ton, and in some cases even greater than that, I think.

The project was a major success technically because it worked so well. And it went over budget. But it always produced gold at about two hundred dollars an ounce, direct cost. I think they've gotten more out of there than they

expected on the original reserves. They're just about through now--their mining program is just about finished.

Swent: They're talking about winding down.

Guinivere: They've got a lot of stockpile. It will last another four or five years. If I remember right, 3.6 million ounces--

##

Swent: I think they are still hoping to find more, but--

Guinivere: I was talking to someone the other day, and he said that they had done a lot of exploration at depth; they're trying to establish an underground mine there, but I don't think it panned out. It was Mike Attaway, who is with Viceroy; he used to be the mine manager. He was talking to the general manager at one time--recently, I think--he said, "I think they've got about another year or so of mining, and then they'll do another four or five years of operations with the stockpiled ore." Then close it down and close it up. I believe they'll probably stick with the original program where the administration there becomes an environmental center for Lake County.

Swent: That's a nice facility.

Guinivere: Yes, it is. It's a very impressive facility. When we were doing that, a lot of people didn't believe that it was ever going to work.

I think I told you the story about Plato Malozemoff, didn't I?

Swent: Yes, you did [laughs].

Guinivere: He was one who, as I said, didn't believe it would work in the first place, and when it was working he didn't believe we would be able to keep it working. But since then, of course, it's become very ordinary, and everybody's doing it now. And of course, you know, autoclaves have been around for a long time. It was the heavy slurry that hadn't been done in autoclaves before. People hadn't put a 30 or 40 percent slurry into an autoclave and then let it down from 300 or 400 psi, down to ambient.

Swent: Down to what? Ambient?

Guinivere: Ambient conditions.

Swent: Right.

Guinivere: That's where the know-how that Vaal Reefs had and that valve that they manufactured--that's where that came in so _____ . Some of the valves that were around at the time would never have lasted; [maybe it wasn't much of a?] let-down _____ . And you couldn't afford anything like that. It's a very complicated valve; it had about five different materials of construction in it. I suppose it was necessary; they had done a lot of work on it.

I remember talking to John Turney after he had been operating up there for several years. I asked him if there was anything major that he would change from what we had done originally, and he said there wasn't. And I remember--what's his name?--Ray Beebe. We were having a discussion one time in a little Japanese restaurant near San Francisco with Dave Fagin, I think it was, and Bill Humphrey, I think. And Ray Beebe said that was the only project that he was aware of that had ever gone from just detailed engineering work to operating perfectly without having a pilot project. Of course, we did the mini-pilot plant. And the cost of doing a pilot project in that situation with the environmental concerns was going to be so large that we couldn't afford to [inaudible]. So it worked out very well.

Swent: Has this been a benefit to you? Were you able to take some of the things you learned from this?

Guinivere: No, because it wasn't that esoteric, you know. While we were finishing that one, Sherritt was doing one down in Brazil, and then [Wright?] Engineers got into doing the one for Ferrous Mississippi in Nevada. And since that, it's been a continuous situation--they did the alkaline one at Getty, in Mercur, Utah. So it was easy for people to see what all Homestake had done and that it works okay, so we don't have to worry about whether it's going to work or not [inaudible].

Swent: Once it was done, it was all easy.

Guinivere: Yes. There was nothing individually very esoteric about what we did; it was just putting it together. And the slurry, that was the major question: could you handle the slurry with the let-down valve system and without tearing the valves up every time you--and it was continuous. Some of the autoclave systems in the past had been discontinuous. Batch units. Ours was continuous. It was always amazing to me to take visitors into the autoclave building because there was never anyone there. The visitors would look around, expecting to find operators,

and the operators were up in the computer room, in the control room. You never saw anyone around there because you didn't need it [laughs].

Didier guaranteed the brick for five years, and I think it lasted five years to the hour almost. It went to August of 1990, when they tore them all down and redid them. That's about almost ten years now.

Swent: Just coming up on ten years.

Guinivere: September will be ten years.

As far as I am aware of, it has always worked perfectly there. As a matter of fact, we had some presentations after we had started up there with Newmont and Freeport. Freeport were looking at their chloride roasts, which they have in eastern Nevada. Frankly, at those meetings--we had a symposium for them at Davy-McKee. I don't believe that they believed what we were saying, you know? John Turney was in charge of the metallurgical department up there at the time, in the operations. He had it 94 or 95 percent on line, of all hours in the day, all year. He was 94 or 95 percent on line with that autoclave plant. And I don't think they believed it. Some of those percents were due to stuff upstream, not to the autoclave plant. Or downstream.

Swent: The shutdowns, you mean?

Guinivere: Yes. The autoclave plant was just so--I think it was actually about 96 percent available. And they didn't believe it. They were very, very skeptical of what we were saying. But it's a fact.

Swent: It must have been very satisfying to you.

Guinivere: Yes. I think it was for everybody that was on the project, even after they got some flak because of the over-run of the cost. But it was a pretty new--putting things together. And we had unbelievable environmental restraints on us. The environmental _____ cost like 45 million dollars. A 280 million dollar project and 45 million dollars went to environmental _____. We did things we never believed we would ever be asked to do, but we had to do.

Swent: That's a big percent, isn't it?

Guinivere: It's about 15 percent. Well, it's a lot of money [laughs]. We had to rebuild roads, and _____ dams, that we didn't

think we were going to have to do. But as I said, the major reason for the over-run was a lack of re-estimating in the autoclave area. Right up to a few months before we were completing our project, the designers were insisting that it was going to come in on budget despite the fact that we had a curve that was still going uphill. It wasn't starting to flatten off at all.

Swent: This was the cost of the equipment?

Guinivere: The cost to install the equipment.

Problems With Poorly Made and Very Expensive Titanium Valves

Swent: Installation was expensive too? More than they expected?

Guinivere: Yes, because it was mostly--in the autoclave area it's virtually all titanium piping. Titanium piping has to be very specially welded and very specially tested. It's expensive to buy in the first place.

Swent: And they hadn't anticipated how much time it would take?

Guinivere: No. And I think we had more piping than we had originally expected. We were buying valves there, you know; the Resun block valves were \$45,000 apiece. One valve. That's quite a penny for a valve. And when they arrived we had to send them all back. They were the simplest type of valve in the world, a plug valve. The idiot who manufactured them had put the grease holes going away from the plug--if they had put them in at all. Some valves they hadn't even drilled the grease holes. So we had these valves, each one was the price of a Mercedes-Benz at the time, and we had to send them all back.

Swent: Who made them?

Guinivere: Resun Valve.

Swent: In this country?

Guinivere: Yes. I remember saying at the time, "And they wonder why we buy Japanese stuff." Because the Japanese had a saying in those days that "If I buy something American they will tell me how to fix it." [laughter] It was very bad in the early eighties. You couldn't buy an automobile that was reliable. And you had a thing like this: it was one valve that cost

\$45,000, the simplest type of valve that you can have--it's just a plug that you turn at right angles, like a cock, you know? You turn it at right angles, and it's off, and you turn it at right angles, and it's on. That's how simple it was. You had to have a special grease in it, a grease that cost 270 dollars a pound; a special DuPont grease. It had to have grease holes in it. All these valves arrive, and they're the block valves for shutting off the autoclave from the system, and they're all wrong. They actually had holes drilled in them but away from the plug instead of to the plug.

Swent: Were they made of titanium?

Guinivere: Titanium. Out of solid titanium.

Swent: That's why they were so expensive?

Guinivere: Yes, that was why they were expensive. But to get a thing that costs so much money, you would think they would have some quality controls that when it left the factory they would have the grease holes in the right place. They didn't. Had to put them on a truck and send them back.

Swent: Oh, my.

Guinivere: I was furious. I would have strangled that guy who was responsible for it.

Oxygen, Extremely Dangerous Stuff

Guinivere: We didn't have too much of that, fortunately. We learned a great deal about oxygen at the time, from doing that. I had no idea how dangerous oxygen is. It's extremely dangerous stuff [laughs].

Swent: Flammable, of course.

Guinivere: Everything's flammable with it; I mean, it makes everything else burn. The world exists on the edge; if we had 2 or 3 percent more oxygen in the air here, everything would go up in flames.

Swent: Did you have any accidents with the oxygen?

Guinivere: No, I don't believe so. We finally had to put blocks on the-- had to put a relay, sort of thing, made out of non-titanium

metal in the long pipeline system because if titanium gets sparked in an oxygen atmosphere it goes off like a fuse. It just burns. We lost some of our sparge pipes inside the autoclaves--

Swent: Your what pipes?

Guinivere: Sparge pipes. They're the pipes that came in through the wall of the autoclave and took the oxygen down into the slurry. Every so often when they tore down on regular maintenance, they would find that the pipe no longer existed. They used to send me the pieces for metallurgical testing to see what had happened, but you could see the discoloration; the high heat had burned it off. And what had happened was that we had had one nozzle that was too close to another nozzle, and one nozzle was loose so it could move. Apparently it would move and every so often it would hit this other one and nick it, cut through the oxide coating which makes titanium resistant, and in a 40-percent-oxygen atmosphere it would just go up in flames inside the autoclave. But there was so much agitation and work going on that it still worked okay; you didn't notice that it wasn't working.

They had one autoclave agitator that blew out through its seal and filled the entire building up with oxide. It looked like it had been painted with rusty paint. But that's the only one I ever heard of. They had a lot more problems with that sort of thing in Nevada because they had a higher pressure and a higher temperature. They were right into the very reactive zone of oxygen and titanium. We were sort of on the edge of it. But oxygen is terrible stuff.

I just noticed a news report a couple of months ago--two guys working with it in a tank. They were using an acetylene burner, and you have an oxygen line and an acetylene line. When you turn it on, you turn on the acetylene--you have to get that alight--and then you turn on the oxygen line. When you get the oxygen, you get the hot flame. And if you're not careful, you can have the oxygen going. Now these people were wearing denims, and as I found out when we were doing the McLaughlin project, cotton absorbs oxygen. So you can be in an oxygen atmosphere and walk away from it, light a cigarette, and go up in flames. And I'm sure that's what happened to these people. One of them was out of the tank, and all of a sudden his buddy bursts into flames down below, in the tank. He went in to help him, and he burst into flames too. Probably what had happened was they had either a leak in their oxygen line, in with the cutting torch, or the _____ maybe flamed out, and he had to turn [off?] the oxygen. And the oxygen got into

his clothes. That's almost certainly what happened. That's how dangerous that stuff is.

"We Engineered the Dickens Out of Everything Up There"

Swent: How did you find this out at McLaughlin? The hard way?

Guinivere: No, no! We engineered the dickens out of everything up there. And so when we realized we had to have a big oxygen plant, and we had oxygen and titanium, we got people finding out all about it. We spoke at great lengths to the oxygen people and with the titanium people and everything else. We just engineered everything so that we knew what could happen. And the final choice of whether we were going to be a lead-lined steel autoclave or a solid titanium autoclave was done on the basis of a risk analysis that I had the people do. Because there was no money between them. Also we liked the idea of a solid titanium autoclave. And we realized immediately when that ladder got left in the plant in that first autoclave, that would have eaten the wall of the autoclave up. We all looked at each other and thought, "Wow. Are we glad we did that risk analysis?" Because it was that sort of thing happening that turned us away from a solid titanium autoclave. That autoclave would have gone up like a bomb. But that's what we did; we did a lot of engineering so we knew what was going to happen with things.

Swent: And it paid off.

Guinivere: Yes, it does.

It was a very successful project, technically, and I imagine they made money on it. Price of gold has never been anywhere near their--they had 600- dollar pit designs and it never got up to \$600.

Swent: No. That was one estimate that went--

Guinivere: Well, you never know in this business. It's the way things are.

Mining Rare Earths and Zircon in Peru

- Swent: So now where are you working?
- Guinivere: Trying to get an underground placer mine going up in the Sierras, and a big open pit placer deposit on the Riobamba down in Peru. So if you know anyone that has a few million dollars, tell them to give me a call.
- Swent: All right, I'll be glad to do that [laughter]. But you're not involved in building big plants there.
- Guinivere: No. We would never need a big plant up in the Sierras because it's placer gold. So it's just a gravity separation plant. I doubt that Peru--we wouldn't to start with, but if we wanted to go into the rare-earth business or into zirconium oxide, that's a good place to do it because we have enormous potential for hydropower. And a few hundred miles north there's a huge gas field being developed, so we would have hydrogen and carbon, and we could go to a small mini-iron ore and steel plant. You know, 200,000 tons a year sort of thing. There's a lot of black sand magnetite there as well. We would have magnetite, ilmenite, rutile, rare earths, and zircon, 10 percent of the world's reserves of zircon. So we'll get it.
- Swent: Plus gold.
- Guinivere: Plus gold, yes. It works as a gold deposit. The other stuff is just extra.
- Swent: What rare earths are you talking about?
- Guinivere: The so-called rare earths: they're not earths, they're not rare [laughs]. They just gave them that name back in the early periodic tables. They're things like neodymium and yttrium; there's a whole bunch of them, and they're used for a variety of things, but mostly I think they go into--well, some of them, the cesium goes into metals, you know, rare-earth oxides. And then your color system on color TV tubes, they fluoresce; that's why they make a metal [out of it?] because they fluoresce when it gets hot. And then the other ones they put them on a tube to get the colors because they fluoresce when the TV signal hits it and give you the color. Those were some of the major uses of it.
- Swent: It sounds pretty exciting.

Guinivere: Yes, and the curious thing about the rare earths down there is 30 percent of them are on the heavy end of the rare earths, which is very unusual. Most of the rare earths are under the control of an American company here, out of New Mexico, I guess it is--what's their name?

Swent: Molycorp?

Guinivere: Is it Molycorp? Yes, I guess it is Molycorp. The Chinese are one of the major producers. I think they have the bulk of the rare-earth preserves, of minable rare earths.

Swent: You said these are placers. Are they in the river?

Guinivere: Yes, in the black sands and actually tied up in the zircon.

Swent: Are you dredging?

Guinivere: Yes, we would dredge. To start with we will use excavators and finding motors [?] on the islands in the river area. And then there are big terraces. Once we've established the deposits better with more sampling, if it's sizable we'll put in some dredges. Eventually go to a large dredger, like 20 or 24 million cubic yards a year. The thing about placers is it's easy to get in because you don't need much money but it's difficult to get that money because the average mining company, their eyes just glaze over if you talk placers. The only time that I recall that Homestake got into looking at placer was that Fortune Cookie deposit, and that was salted. They were warned that it was salted before they went into it.

Swent: Where was that?

Guinivere: It was Arizona or Nevada. I think it was Arizona.

They spent hundreds of thousands of dollars in the entire geology department out there.

Swent: Was it called Fortune Cookie?

Guinivere: Yes, it was called Fortune Cookie; it was a big low-grade deposit, and they had been given some results from the owner, and then they went out to check the results with tracers down next to the holes, and there was no correlation whatever. They were doing work with all those people on the project at the time.

Swent: A classic story, isn't it?

Guinivere: The world is full of stories like that.

Remember I was talking about Bukit Besi? I've written an account of Bukit Besi. It was an interesting project; it was really interesting work. It went back before the war.

Swent: That was the one in Malaysia.

Guinivere: In Malaysia. It was where the mining engineers mapped the peninsula so that the Japanese could invade it. Took fifty-two days. One and a half divisions, as I recall. The British had every gun pointing the wrong way; they expected to be invaded from the sea. And the gunners couldn't turn around and fire inland. And they [the Japanese] used the ladders of the mine at Bukit Besi to bring their troops ashore at dawn. They had it all worked out years before.

Well, is there anything else that you might get?

Swent: I don't think so, Rex. Thank you very much for this.¹

Transcribers: Shannon Page, Gary Varney
Final Typist: Shana Chen

¹For excerpts from the Davy-McKee project report, see Appendix E2 and E3, pages 341-351.

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APPENDIX A

McLAUGHLIN MINE

SERVING THE MINING INDUSTRY SINCE 1866

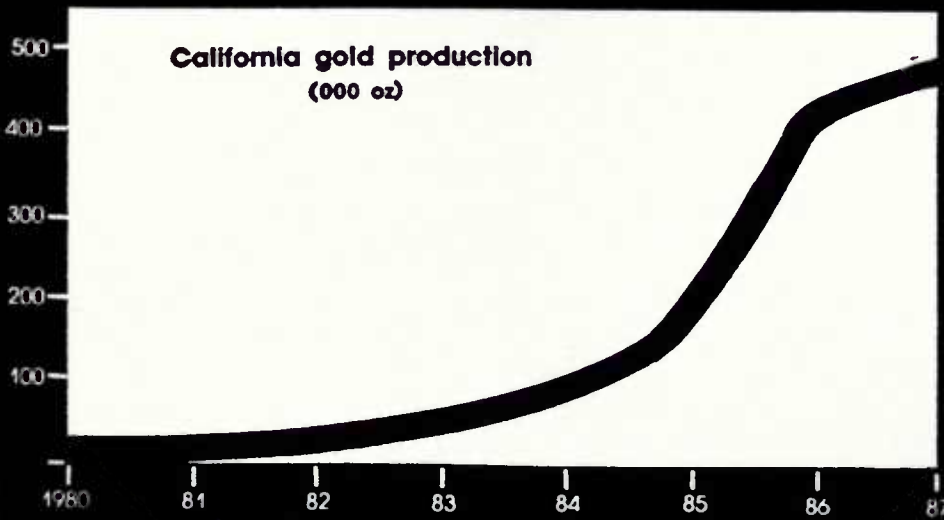
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ENGINEERING AND MINING JOURNAL
A McGRAW-HILL PUBLICATION

DECEMBER 1987

THE INTERNATIONAL MINING MAGAZINE

THE NEW CALIFORNIA GOLD RUSH



APPENDIX B

DAVID CROUCH

1.0 INTRODUCTION AND SUMMARY

1.1 GENERAL ENVIRONMENTAL SETTING

Homestake Mining Company proposes to develop a major gold mine, the McLaughlin Project, near the junction of Napa, Lake, and Yolo Counties. The project is located in a rural, sparsely inhabited region about midway between Clear Lake and Lake Berryessa on the Berryessa-Knoxville/Morgan Valley Road approximately 18 miles southeast of the recently incorporated city of Clearlake in Lake County (Figure 3-1). The project is situated in the historic "Knoxville Mining District" which embraces an area of approximately 50 square miles and includes several historic mining properties. The ore deposit is at the site of the old Manhattan mercury mine which produced 40,000 to 50,000 flasks of mercury in over 100 Years of operations. Last mined for mercury in 1974, the site remains extensively disturbed.

The project area, about 50 air miles northwest of Sacramento and 70 air miles northeast of San Francisco, is situated in the eastern portion of the Coast Range Geomorphic Province near the boundary of the Great Valley Province. The regional terrain is rugged with narrow valleys and mountain peaks having elevations reaching to nearly 6,000 feet. Northwest-trending ridges and valleys predominate. In the project area itself, elevations range from 1,160 to 2,800 feet -- a total relief of 1,640 feet.

The project area is characterized by a Mediterranean climate featuring warm, dry summers and cool winters. Almost 90 percent of the average annual precipitation of about 30 inches occurs between October and April. For this reason, the three creeks in the project area -- Hunting, Knoxville, and Davis -- are intermittent streams with zero flow during hot summer months. Neither primary nor secondary National Ambient Air Quality Standards (NAAQS) are exceeded in the project area for any regulated pollutant.

Wildlife species are typical of those found in the northern California coastal region's relatively rugged and remote areas which have been subjected to only moderate human disturbance.

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The project vicinity offers limited outdoor recreational uses and contains several historic sites which have been surveyed and are described in Section 5.9. Further study is required to determine the possible eligibility of historic or archeological sites for nomination to the National Register of Historic Places.

The mine, mill, and associated facilities will be located in portions of the three counties as follows:

- o Napa County -- Mine pit (80 percent), low-grade ore stock pile, waste rock facility, grinding and crushing area, and ore slurry pipeline.
- o Yolo County -- Mine pit (20 percent) and water supply system.
- o Lake County -- Mill area, tailings facility, tailings slurry pipeline, ore slurry pipeline, electric transmission corridor, and improved access roadway.

A detailed description of the "baseline" condition of the existing environment in the proposed project area is contained in three separate volumes, the Environmental Report which is summarized in Section 5.0 of this volume.

1.2 REGULATORY BACKGROUND

Approximately 20 local, state, and federal permits and other approvals will be required to authorize construction and operation of the McLaughlin Project. Homestake and D'Appolonia Consulting Engineers, Inc. evaluated the permit and regulatory requirements. The "Detailed Study Plan" for the environmental studies, prepared by D'Appolonia in April 1981, reflects the assessment of data needs to satisfy these requirements.

The evaluation of permit and regulatory requirements included review of statutes and regulations and discussions with regulatory agency personnel. Local concerned groups and individuals were also contacted and the

Environmental Report (D'Appolonia, June 1982) reflects their major concerns. Homestake, D'Appolonia, and/or other project consultants, including Steffen, Robertson, and Kirsten (SRK - tailings and waste rock management); Murray, Burns, and Kienlen (MBK - water resources); Environmental Research and Technology, Inc. (ERT - air quality and meteorology); and Sonoma State University, Anthropological Studies Center (cultural and paleontologic resources) have contacted and maintained liaison with the appropriate regulatory agencies. The agencies' assistance has been invaluable in scoping the studies and designing the project to minimize potential impacts.

The project includes lands in the three counties as well as lands under the supervision of the Bureau of Land Management (BLM). In a spirit of cooperation, the three counties and the BLM adopted a Memorandum of Understanding establishing a joint committee to assist Homestake in developing the appropriate environmental data base. The committee agreed to coordinate the preparation of a single Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the project, with Napa County serving as the "lead agency" for purposes of the California Environmental Quality Act (CEQA) and BLM for purposes of the National Environmental Policy Act (NEPA).

Major permits required for the McLaughlin Project are:

<u>Permit</u>	<u>Agency</u>
Use Permits	Napa, Yolo, and Lake Counties
Rezoning	Lake and Yolo Counties
Surface Mining and Reclamation Act Permits	Napa, Yolo, and Lake Counties
Plan of Operations and Rights-of-Way	Bureau of Land Management
Dam Approvals	California Department of Water Resources, Division of Dam Safety

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<u>Permit</u>	<u>Agency</u>
Hazardous Waste Facility Permit	California Department of Health Services
Solid Waste Disposal Facility Permit	Lake County Solid Waste Management Board
Waste Discharge Requirements and NPDES Permit	Central Valley Regional Water Quality Control Board
Authorities to Construct and Permits to Operate	Bay Area Air Quality Management District Yolo/Solano Air Quality Pollution Control District Lake County Air Pollution Control District
Water Appropriation	State Water Resources Control Board
Stream Alteration Agreement	California Department of Fish and Game

1.3 ENVIRONMENTAL ASSESSMENT APPROACH

Assessment of project environmental effects has been ongoing throughout the project conceptualization, planning, and design process in order to facilitate maximum incorporation of environmental considerations into the project description and reclamation plan.

The overall purposes of the environmental assessment are the evaluation of potential impacts on the existing physical, biological, and socioeconomic environment and the incorporation of appropriate alternatives and mitigation measures into the project design to avoid or alleviate undesirable environmental consequences. Specific objectives are as follows:

- o Describe those mining, milling, transportation, and worker activities with the potential to impact (change, alter) the physical, biological, or socioeconomic environment.
- o Describe important environmental resource components (the affected environment) which may be sensitive or otherwise responsive to such environmental changes.

- o Determine both positive and negative environmental consequences associated with project-related activities in specific locations.
- o Recommend mitigation measures proposed to be undertaken in order to avoid or mitigate undesirable environmental consequences of the described activities.
- o Identify alternatives to the proposed mining and milling project with respect to both alternative facility locations and alternative types of projects, including the "no action" alternative.

1.4 SIGNIFICANT ENVIRONMENTAL ASSESSMENT ISSUES

For the purposes of this assessment, an "issue" is defined as a topic, problem, question, concern, or matter in disagreement or controversy pertaining to the location, design, construction, operation, and post-operation of the mine, mill, associated facilities, and transportation systems. While the issues briefly defined below closely relate to categories of impacts (i.e., there would be no issues without impacts), they are discussed here in the context of the overall project decision-making system which consists of five basic categories of issues: regulatory, environmental, engineering, economic, and sociopolitical. Many of these issues overlap. The issues considered here are primarily those that act as environmental constraints or opportunities with respect to project development.

The environmental issues identified for the McLaughlin Project are defined as follows:

- o Air Quality Degradation. This issue includes consideration of climatic factors affecting air dispersion, precipitation patterns, inversion and stagnation potential, and the potential emission of hazardous air pollutants. Air quality considerations have been important to decisions regarding mining, milling rate, and the extraction process.

- o Sensitive Plants. This issue is not confined to species "listed" by federal or state agencies but also includes plants, populations, and ecosystems which may be considered unusual, unique, or locally valuable. It includes consideration of the 22 species of sensitive plants located in the project area, 8 of which are listed by the U.S. Fish and Wildlife Service as candidate species for threatened or endangered classification and 14 of which are listed as rare by the California Native Plant Society. The issue also includes locally valuable riparian ecosystems.
- o Reclamation Potential/Ultimate Land Use. This issue involves the potential for reclaiming disturbed areas, during or following mining, and includes hydrologic restoration, topsoil availability and suitability, reclamation success history, site-specific reclamation techniques, and overburden chemical and physical characteristics. It also addresses the question of the ultimate land use which is dependent on reclamation potential, Federal Land Policy and Management Act (FLPMA) and California Surface Mining and Reclamation Act (SMARA) regulations, and local concerns/desires.
- o Geologic Instability. This issue includes site potential for seismic events, subsidence, landslides, and topographic characteristics which might present geologic hazards. It is specifically concerned with serpentine rock and soils which demonstrate a potential for sliding.
- o Hazardous/Solid Waste Disposal. The importance of this issue depends on characteristics of the waste generated, present and future local, regional, state, and federal regulatory requirements and the methods used for transportation, storage, and disposal of hazardous or nonhazardous solid waste. Because of the quantities of mill tailings and waste rock that will be generated over a long time frame, the issue is of particular importance.
- o Socioeconomic Impacts. Impacts on socioeconomic conditions are a function of the size of the required work force and the accompanying need to import additional workers. A population increase associated with the proposed project could require expansion of community services and facilities, including housing, transportation, health and hospital facilities, educational facilities, and sewer and water and other utilities.

- o Surface Water Quality Degradation. Water supply of an acceptable quality for agricultural, domestic, and recreational use is important to each of the three counties to be affected by the project. The water supply could be affected by tailings disposal and accidental discharges, spills, or leaks into receiving waters which consist mostly of ephemeral and intermittent streams. The issue is particularly important because of the presence of a large recreational and water supply reservoir downstream from the project area -- Lake Berryessa in Napa County.
- o Wildlife Habitat/Endangered Wildlife. This issue concerns possible disturbance of wildlife habitat. It includes consideration of rare and endangered wildlife and those receiving special protection, such as the southern bald eagle, the golden eagle, mountain lion, and black bear. Relevant factors include habitat types, migration routes, breeding and wintering areas, presence of significant populations, hunting values, and the availability of similar wildlife habitat in the immediate vicinity.
- o Significant Cultural Resources. This issue relates to the presence in areas subject to disturbance by the proposed project of archeological, historical, or paleontological resources which may qualify for nomination to the National Register of Historic Places but require further study to determine possible qualification. It may also relate to sites considered locally unique.
- o Noise Emission/Reception. This issue centers around the existence of both a source of noise emissions from the mine, the mill, or road corridors, and a "receptor" such as a house or a community. Wildlife may also be considered as receptors, although data on wildlife sensitivity to noise are limited.

- o Permanent Visual Impacts. Visual impacts are dependent on the quality of the existing landscape, local perceptions of scenic quality and value, the portion of the impacted area which is observable, and the numbers of people who will view visual quality disturbances. It also includes the degree to which the visual disturbance is permanent and whether or not it can be mitigated. The mine pit, tailings facility, waste rock facility, mill, and reservoir have the greatest potential for permanent visual impacts.
- o Recreation/Public Access. Lands in close proximity to the project area, including BLM lands, are presently used by picnickers, off-the-road-vehicle enthusiasts, hunters, and others. This issue revolves around maintenance of and continued access to these areas.

1.5 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A detailed analysis of the potential effects of the proposed McLaughlin Project on the physical, biological, and socioeconomic environment is contained in Section 6.0, Environmental Consequences. The section examines direct and indirect impacts on the following environmental resource elements:

- o Geology, topography, and soils
- o Water resources
- o Air quality
- o Wildlife
- o Aquatic ecology
- o Vegetation
- o Noise
- o Visual resources
- o Cultural resources
- o Socioeconomics
- o Land use

The environmental impact analysis in Section 6.0 focuses on the potential of a project activity (mine, mill, tailings disposal, etc.) to change, alter, or disturb a particular environmental resource either positively or negatively. It also examines opportunities for environmental enhancement. The impact analysis does not forecast what will happen. Rather, it serves to identify and evaluate what could happen

under certain conditions or in the absence of mitigation measures which are integral to project design. Both significant and insignificant or unlikely impacts are discussed in Section 6.0. The following brief summary of major potential impacts is accompanied by an estimate of the very low, low, moderate, or high probability of their actual occurrence.

<u>POTENTIAL IMPACT</u>	<u>PROBABILITY OF OCCURRENCE</u>
o Surface water contamination from tailings impoundment leaks, ruptures, or overtopping.	Very Low
o Structure or impoundment failure due to earthquake activity.	Very Low
o Ground water contamination by tailings impoundment or mining operation.	Very Low
o Stream sedimentation due to increased runoff caused by vegetation/topsoil removal.	Low to Moderate
o Water or process chemical discharges from the mill operation.	Very Low
o Surface water contamination from the waste rock site.	Very Low
o Releases of chemicals to surface waters as a result of truck accidents.	Very Low
o Damage to plant or wildlife communities resulting from waste disposal activities.	Low
o Disturbance of about 1,550 acres some of which is wildlife habitat.	High
o Negative impacts on endangered southern bald eagle and protected golden eagle.	Very Low
o Stream sedimentation resulting from project-induced landslides.	Low to Moderate

<u>POTENTIAL IMPACT</u>	<u>PROBABILITY OF OCCURRENCE</u>
o Reduction of the population some of the sensitive plants occurring in the project area.	High
o Conversion of 139 acres of Class II agricultural lands in Yolo County to reservoir.	High
o Unsuccessful reclamation and revegetation of disturbed areas following termination of mining and mill decommissioning.	Very Low
o Increased potential for soil erosion due to removal of vegetation.	Moderate
o Increases in noise levels from truck traffic on the Morgan Valley Road.	High
o Unacceptable noise levels (above EPA criteria) from mine or mill operations.	Very Low
o Visual intrusions by the mine, mill, waste rock facility, low-grade ore stockpile, and transmission line during facility operation.	Moderate to High
o Affecting 34 prehistoric and historic archeological sites which must be mitigated by avoidance, collection/relocation, or recordation.	Moderate to High
o Social disruptions in Lower Lake, Clearlake, and surrounding communities due to in-migration of construction or permanent workers.	Low
o Contribution to local economy through payroll, supply purchases, and tax payments.	High
o Additional burdens on community services and facilities.	Low
o Safety hazards created by trucks carrying hazardous materials.	Low

Section 7.0 provides a summary of more than 80 mitigation measures proposed by Homestake to avoid, minimize, rectify, reduce, or compensate for undesirable environmental impacts associated with the proposed project. Mitigation measures are indicated for the following facilities, activities, or processes:

- o General Operations
- o Mining, Crushing, and Grinding
- o Waste Rock Facility
- o Ore Transport
- o Milling
- o Tailings Site
- o Water Supply Reservoir
- o Energy Use
- o Fuel Transport and Storage
- o Electrical Transmission/Distribution
- o Support Facilities
- o Health and Safety
- o Socioeconomics and Land Use

APPENDIX C

ELMER ENDERLIN

Regional Oral History Office
Room 486 The Bancroft Library

University of California
Berkeley, California 94720

BIOGRAPHICAL INFORMATION

(written by Dean Enderlin)

(Please write clearly. Use black ink.)

Your full name Elmer Elwood Enderlin

Date of birth 23 April 1912 Birthplace Spruce Grove, Lake Co., CA

Father's full name Henry (Heinrich) Enderlin

Occupation Miner/Rancher/Highway worker Birthplace Germany

Mother's full name Mabel Dean

Occupation Housewife Birthplace (Unknown)

Your spouse (Never married)

Occupation — Birthplace —

Your children (None)

Where did you grow up? Spruce Grove, Lake County, California

Present community Lower Lake, Lake County, California

Education Eighth Grade (Spruce Grove School)

Occupation(s) Miner ("tramp mining"), rancher, whistle punk (logger)

Areas of expertise Over 60 years of mining experience

Other interests or activities _____

Organizations in which you are active None

ELMER E. ENDERLIN

✕ *"Tramp Miner 1st Class"* ✕

**A list of the mines and construction projects he worked in
through the years...**

MINE NAME	LOCATION	TIME FRAME	PRODUCT	NEXT MINE
Rawhide Mine	American R., Colfax, CA	1933, 2-3 mos	Au	North Star
North Star Mine	Grass Valley, CA	~4 yrs	Au	
Cornucopia Mine	Baker, OR	4 days	Ag	
Mary Mine	Silver Peak, NV		Au	Shasta Dam
Shasta Dam Project	Shasta, CA	1939	Const.	Deer Creek
Deer Creek Tunnel	Orem, UT	1939	Const.	Silver King
Silver King Mine	Park City, UT	?	Pb-Ag	Walker
Walker Mine	Portola, CA		Cu	
Otto Mine	Middletown, CA	~1940	Hg	
Knoxville Mine	Knoxville, CA	1941 ~1 yr	Hg	
Mountain Cons.	Butte, MT	> 1941	Cu	
Belmont Mine	Butte, MT	"	Cu	
Orphan Girl Mine	Butte, MT	"	Mn	
Emma Mine	Butte, MT	"	Mn	
Stewart Mine	Butte, MT	"	Cu	
Tramway Mine	Butte, MT	"	Cu	
Leonard Mine	Butte, MT	"	Cu	
Lexington Mine	Butte, MT	"	Cu	
Kelley Mine	Butte, MT	"	Cu	
St. Lawrence Mine	Butte, MT	"	Cu	
Mountain View Mine	Butte, MT	"	Cu	
Anselmo Mine	Butte, MT	"	Cu	
Tungsten Mountain	Fallon, NV	few mos	W	
Chute Canyon Prospect	Chute Canyon, UT	1960 or 61	U	
?	Brighton, UT		Ag	
Sunshine Mine	Wallace, ID	1 shift	Pb-Ag	Couer D'Alene
Couer D'Alene Mines	Kellogg, ID	~1 mo	Pb-Ag	Highland Surprise
Highland Surprise	Kellogg, ID	~3 yrs	Ag-Pb-Zn	Nevada Stewart
Nevada Stewart	Kellogg, ID		Pb-Zn	
Sunset Minerals	Kellogg, ID		Ag-Pb-Zn	
Sunset Lease	Wallace, ID		Ag-Pb-Zn	
Haywire Lease	Wallace, ID		Ag-Pb-Zn	
Terrible Edith Mine	Murray, ID		Pb-Zn	
Bunker Hill Mine	Kellogg, ID		Ag-Pb-Zn	
Tungsten Jim Mine	Clayton, ID		W	
Muldoon Barium Mine	Carey, ID		Barite	
Livingston Mine	Clayton, ID	~1957, 1 shift	Pb-Zn	
Fluorspar Mine	Challis, ID	~1957	Fluorspar	
Black Bird	Panther Creek., Cobalt, ID	~1957	Co-Cu	
Deer Trail Mine	Stanley, ID		Ag-Pb-Zn	
Travonia Mine	Butte, MT		Mn	
Black Rock Claims	Washington Basin, Stanley, ID		Zn-Au-W	
Lost Packer	Clayton, ID		Au-Ag-Cu	
Falling Star	West Pass Creek, Clayton, ID		Pb-Zn-Ag	

<u>MINE</u>	<u>LOCATION</u>	<u>TIME FRAME</u>	<u>PRODUCT</u>	<u>NEXT MINE</u>
Red Top Mine	Clayton, ID		Pb-Zn-Ag	
Good Hope Mine	Clayton, ID		Pb-Ag-Au	
Corn Husker	Copper Basin, Mackay, ID	~1956	Pb-Ag	
Coal Creek Uranium	Basin Creek, Stanley, ID		U	
Shattuck Den	Bisbee, AZ		Cu	
Orphan Mine	Grand Canyon, AZ		U	
Eagle Rock Mine	The Geysers (Mercuryville), CA	~1963 1 winter	Hg	
Abott Mine	Lower Lake, CA	~1963 1 winter	Hg	
Patty Flynn	Stanley, ID	Current	Pb-Ag-Sb	
Timberline	Stanley, ID	Current	Pb-Ag-Sn	
Rupert Mine	Stanley, ID	Current	Pb-Ag	
Meadow View Mine	Stanley, ID	Current	Zn-W	
Confidence Mine	Stanley, ID	Current	Pb-Zn-Ag	
Silver Dollar Mine	Stanley, ID	Current	Ag-Pb	

Compiled by Dean A. Enderlin

File: EE-MINES.DOC

Printed: 29 September, 1997

The Prospectors

Just sittin on a log
Repettin my Dog
Awaitin for a snow
So South we can go
And leave these mountains sleep
Under the snow so deep
We'll rest up until June
Which will be all too soon
And come back in the Spring
and do the same thing
We'll dig some more holes
Like the lowly moles
and open up the vault
and if it's empty it's not our fault
We'll quit that first million
and start on the Billion

APPENDIX D

DENNIS GOLDSTEIN

1979 - October 1979 Deputy Attorney General
State of California

Principal responsibilities included litigation for the California State Lands Commission, the California State Division of Oil and Gas, and California Geopline's Resource Bank. This was primarily done in

appellate litigation practice, but also included negotiation of complex oil and gas and geothermal transactions and real property matters.

EDUCATION

Stanford Executive Program - 1987
Stanford University Graduate School of Business

Graduate Fellow in Comparative Law--September 1971 through June 1972
Institute of Comparative Law,
University of Florence, Florence, Italy

Stanford University Law School, J.D., 1971
Stanford Law Review, Board of Editors
Hilmer Oehlman, Jr. Prize for Legal Research and Writing

Brown University, A.B., 1967
Cum Laude and Phi Beta Kappa

OTHER QUALIFICATIONS

Sound working knowledge of French, Italian and Spanish
Member, Executive Committee, California Mining Association, 1989 - 1992
Chairman, Tax Committee, California Mining Association, 1986 - 1992
Member, American Bar Association, Natural Resources Section
Admitted to California Bar, January 25, 1972
Member, Board of Directors, North Oakland Little League

PUBLICATIONS

Unitization for Geothermal Resources: United We Save,
8 Land and Water Law Review 159 (1977)

REFERENCES

Personal references will be furnished upon request.

APPENDIX E

REX GUINIVERE

**SUMMARY RESUME'
REX GUINIVERE**

**Graduate Bachelor of Mining Engineering-Otago University School
of Mines and Metallurgy-Dunedin New Zealand-1957**

**Present Position: Vice President (Mining) Seine River Resources
Director, Seine River Resources**

**Previous Positions: Vice President, Engineering, Homestake Mining
Company
Vice President, Non-Ferrous, Kaiser Engineers
Production Superintendent, Eastern Mining
and Metals**

**Various positions in operations and Project Management.
Consultant to Texaco, Homestake, Nerco, Plumas Gold Mines
Chevron, etc.**

**Total of Projects in 1994 \$'s-\$5,500,000,000 as Construction
Engineer, Superintendent, Project Engineer and Project Manager
and Vice President.**

**Project experience includes:- Heavy Construction on Dams
and Tunnels and Underground and Surface Power Houses. Gold,
Lead, Iron, Zinc, Copper, Uranium, Industrial Rocks.**

PROJECT HIGHLIGHTS

1982June 1

Homestake Mining Company gave notification of contract award.

June 7

Work on the project began in San Mateo office.

July 6

Project task force transferred to San Ramon office.

July 7

Alternate Ore Transport Study issued to HMC.

July 20

Contract for project executed. Preliminary budget estimate presented to HMC.

August 27

Requests for quotations issued for SAG and ball mills.

September 1

Process site location established adjacent to tailings dam.

September 17

Trend estimate completed.

September 30

HMC executive review meeting held at DMC offices.

October 8

Verbal authorization by HMC for DMC to start with the design for the water reservoir dam.

October 12

Started final soils and foundation investigation for the plant and mill sites.

October 19

Geotechnical investigation for water dam reactivated by D'Appolonia under DMC supervision.

October 26-29

Review meetings with SAG and ball mill vendors held at DMC offices.

November 24

Administrative draft of EIR/EIS issued by Engineering Science.

December 13-15

December estimate submitted and reviewed by HMC at Denver, Colorado offices.

December 20

HMC executive review meeting held at DMC offices.

1983

January 6

Environmental permitting status review meeting held at DMC offices.

January 27

HMC/DMC team returned from inspection trip on GEHO and FELUWA pumps and Lurgi autoclaves in Europe.

February 2

Purchase order for SAG and ball mill placed with Koppers.

February 18

Environmental Data Advisory Committee (EDAC) approved draft of EIR/EIS.

March 4

Topographic model received.

March 16

First public hearing held in Napa County for EIR/EIS.

April 1

Start of DMC mobilization for construction.

April 26-27

Earthwork contract C-1 prebid conference meeting held at McLaughlin Project site.

May 16

DMC made presentation to HMC management on "Labor Relations Approach".

May 23-27

Bids for Contract C-1, earthwork, received.

Discussions held with Vaal Reefs, APV-Kestner, Didier and Metplant, all in South Africa, on autoclave detail design. Received HMC decision on final design approach.

June 20

Kickoff meeting with Metplant.

June 24

Revised bids for Contract C-1, earthwork, received.

July 6

EIR/EIS certified.

July 22

EDAC approves concept of permit applications for specific plan of development for preliminary construction activities.

July 27

DMC nominated as Project Manager of the McLaughlin Gold Project site activities.

July 28

Letters of intent transmitted to TIC for general plant construction, Argee for earthwork, and McLaughlin Constructors for earthwork.

August 18

Contractors authorized to mobilize equipment.

September 2

Start of construction.

September 22

Dedication of the McLaughlin-Yuba College training center.

October 2

Prejob conference held with all contractors at Yuba College.

October 10

Work starts on M-1 sediment dam core and filter placement.

October 25

Morgan Valley Road channel cut complete with riprap.

October 26

T-1 sediment dam complete with spillway and hydromulch seed.

November 4

DMC preliminary definitive estimate, dated October, 1983, presented to HMC.

November 10

HMC decision to use three brick-lined autoclaves.

November 11

Letter of intent for autoclave supply to APV-Kestner, RSA.

November 15

Earthwork Contracts C-1, Argee Corporation, and C-3, McLaughlin Contractors, signed.

November 30

DMC issued definitive estimate for HMC review.

General construction Contract C-2, The Industrial Company (TIC), executed.

December 7

Napa County Use Permit received. (On hold due to appeal.)

December 8

Tentative target estimate accepted by HMC for project control purposes.

December 19

Knoxville/Berryessa Road and Morgan Valley Road realignment open to public traffic.

December 21

Lake County Use Permit received.

1984

January 3

Napa County Use Permit appeal rejected.

January 13

Preliminary acceptance of process area "rough grading" from McLaughlin Contractors and "handover" of the process area for general construction of TIC.

Grading Permit issued by Napa County.

January 20

First concrete poured by TIC at process leach/CIP area.

February 22

First concrete poured by TIC in SAG and ball mill foundations at grinding site.

February 24

Authority to operate sands plant received.

March 8

Contract estimate approved.

March 13

Yolo County Board of Supervisors approves monitoring plan.

March 22

SAG mill pedestal concrete complete.

March 28-29

Field inspection of tailings dam exploration trench by Department of Safety of Dams (DSOD), Department of Health Services, Bureau of Land Management, Solano Irrigation District, Environmental Protection Agency, and Water Resources Board - Central Valley Region.

April 3

Contract estimate approved.

April 24

Structural steel erection started at the laboratory building.

May 16

A permit to construct a concrete batch plant near the Davis Creek Dam is issued by the Yolo-Solano Air Pollution Control District.

May 25

The Bay Area Air Quality Management District issues a modified permit to increase operating time of the aggregate plant and to install a gyro-disc crusher.

June 14

Steel erection started in the grinding area.

June 27

The "rice-paddy" concept for waste-rock sediment control approved by the Napa Planning Commission as an alternative to W-1 dam.

June 27

Tailings Dam Permit from DSOD received.

July 25

PG&E energized a 12.5 KV power line.

Lower Lake water supply commissioned.

August 3

DSOD permit for the Davis Creek Dam embankment received, and placement of material started.

August 14 and 21

SAG and ball mills set in place.

August 28

Hydrotesting of the slurry pipelines completed.

September 13

Cold box erected.

September 28

Tailings dam embankment completed.

Paving of Morgan Valley Road substantially completed.

October 22

The administration building is occupied by HMC.

October 27

Davis Creek Dam reaches elevation 1410.0 feet, which is critical for impounding water.

November 17

Davis Creek Dam embankment completed.

November 20

Grinding main substation energized.

November 28

Process main substation energized.

December 12

Overhead power distribution is energized at the grinding area.

December 13

Water impoundment started at Davis Creek Reservoir.

Dry run of the ball mill completed.

December 14

Overhead power distribution is energized at the process area.

December 18

The north substation is energized at the process area.

December 20

The south substation is energized at the process area.

December 27

Slurry pumps and pipeline test with water completed.

December 28

Grinding circuit water test completed.

CIP/leach water test completed.

1985

January 11

The primary crusher is commissioned.

January 18

The grinding circuit is commissioned.

January 22

The first autoclave vessel is set in place.

January 31

The slurry system is commissioned.

February 6

Process area cooling and runoff system commissioned.

February 14

Truck shop and laboratory accepted by HMC.

Grinding area water systems commissioned.

Grinding area power systems accepted by HMC.

February 19

Grinding, slurry, and leach circuits accepted by HMC.

March 4

First gold poured.

Last autoclave arrived on site.

March 11

Work on Davis Creek Dam spillway started.

April 9

25,000 lb/hr boiler completed.

April 12

Davis Creek Water Supply System completed.

Preoxidation area completed.

CCD/precipitation facility completed.

April 30

Straight gold cyanidation production exceeded all estimates for the first two months of operation.

May 21

Contractor mobilization for earthwork at Davis Creek. This was the final construction contract to be awarded for the project.

May 28

First tank of liquid oxygen (LOX) received.

May 29

Mechanical acceptance of autoclave train No. 3. All processing facilities were mechanically complete.

June 2

Autoclave "B" bricks cured.

June 11

Autoclave "B" charged with oxide ore and heated up.

June 19

First sulfide ore fed to the mills.

June 22

Autoclaves "A" and "B" fed with sulfide ore.

July 31

Oxygen plant performance test completed.

August 11

Autoclave "A" commissioned after fixing problems with lead lining, GEHO pumps, etc.

September 16

Operational completion and acceptance by HMC of the entire plant.

1986

February 18

Davis Creek Dam Reservoir filled up and ran over at the spillway.

PLANT DESCRIPTION

Homestake Mining Company's McLaughlin gold deposit is located at the junction of three California counties - Napa, Lake, and Yolo, about 75 miles (air) north of San Francisco. The mineralized zone is mainly in Napa County, with approximately 20 percent of the ore tonnage occurring in Yolo County. The crushing and grinding area and the waste rock facility are located in Napa County, while the process area and tailings sites are in Lake County, approximately 5 miles northwest of the grinding area. The water supply reservoir is in Yolo County.

The McLaughlin gold deposit was found as a result of an exploration program begun by Homestake Mining Company in 1978. By August 27, 1980, the company was able to announce the discovery of six million tons with 0.17 ounces of gold per ton. On May 12, 1981, this total was raised to 20 million tons with 0.16 ounce of gold per ton.

Metallurgical testing, engineering studies and detailed design have proceeded concurrent with this exploration program. Mining and processing are briefly described in the following. A detailed description of all processing facilities is given in the engineering section.

MINING

Mining is by open pit methods beginning with the removal and stockpiling of top soil to be used later for reclamation. Blast holes are drilled with rotary drills and the holes loaded with an explosive made by mixing ammonium nitrate prills with diesel oil (ANFO). After blasting, the broken rock is excavated on 20- to 30-foot benches by large front-end loader or hydraulic shovels of approximately 8- to 12-yard capacity. The rock is loaded onto haulage trucks for transportation to either the crushing plant or to the waste rock site. Low-grade ores below the initial cutoff grade are stockpiled northwest of the crusher facility.

Underground mining techniques will be used in the future for that portion of the deposit extending down-dip from the bottom of the pit. This ore is more localized and of higher grade than the shallower part of the deposit. Underground mining will not be implemented until later in the life of the project when the ore is exposed by excavation of the pit.

Ore is removed at a rate of up to 4000 tons per calendar day (5600 tons per operating day), along with approximately 22,000 tons per calendar day (30,000 tons per operating day) of combined waste rock and low-grade ore.

PROCESS

The process involves oxidation of the ore in an autoclave followed by conventional gold cyanide leaching recovery techniques (see simplified flowsheet 00-65-000). The process in brief is as follows:

1. Run-of-mine ore is crushed in a single stage open circuit.
2. Crushed ore is ground by closed circuit semiautogenous milling followed by closed circuit ball milling.
3. The ground ore is thickened. The thickener underflow slurry is pumped 5 miles to the process area.
4. The ore is oxidized by oxygen in an autoclave. The elevated pressure and temperature in an acid environment promote the reactions.
5. The oxidized ore is washed and cooled in a two stage continuous countercurrent decantation thickener circuit.
6. The overflow from the thickener circuit is used to pretreat the ore ahead of the autoclave circuit. After the pretreat, this solution is treated with lime to neutralize the acid and precipitate gypsum and metal hydroxides.
7. The gypsum and metal hydroxides slurry is thickened. The thickened underflow is discarded to tailings. The overflow goes to a cooling pond. Solution from the cooling pond is recycled to the two stage wash circuit.
8. The washed, oxidized ore along with some acid is neutralized with lime.
9. The neutralized ore slurry is leached with sodium cyanide.
10. Gold is recovered from the leach slurry by adsorption of the gold cyanide complex on activated carbon.
11. Carbon containing gold is screened from the slurry, washed, and stripped of gold. An aqueous hot pressure strip is used in the desorption step.

- 12 Strip solution from the desorption step is passed through electrowin cells. Gold is deposited on steel wool cathodes.
13. The steel wool containing gold and mercury is retorted to recover mercury.
14. The residue from retorting is smelted to remove iron and other metals in a slag which is separated from the gold bullion.
15. The stripped carbon is reactivated by heat treatment. The reactivated carbon is washed with nitric acid. After washing, any excess acid is neutralized by caustic. The reactivated carbon is returned to the adsorption circuit.
16. Tailings slurry from the adsorption circuit is contained in a pond. Solution from the tailings pond is recycled to the plant.

APPENDIX F

WESTERN MINING IN THE TWENTIETH CENTURY ORAL HISTORY SERIES

PREFACE

The oral history series on Western Mining in the Twentieth Century documents the lives of leaders in mining, metallurgy, geology, education in the earth and materials sciences, mining law, and the pertinent government bodies. The field includes metal, non-metal, and industrial minerals. In its tenth year the series numbers thirty-five volumes completed and others in process.

Mining has changed greatly in this century: in the technology and technical education; in the organization of corporations; in the perception of the national strategic importance of minerals; in the labor movement; and in consideration of health and environmental effects of mining.

The idea of an oral history series to document these developments in twentieth century mining had been on the drawing board of the Regional Oral History Office for more than twenty years. The project finally got underway on January 25, 1986, when Mrs. Willa Baum, Mr. and Mrs. Philip Bradley, Professor and Mrs. Douglas Fuerstenau, Mr. and Mrs. Clifford Heimbucher, Mrs. Donald McLaughlin, and Mr. and Mrs. Langan Swent met at the Swent home to plan the project, and Professor Fuerstenau agreed to serve as Principal Investigator.

An advisory committee was selected which included representatives from the materials science and mineral engineering faculty and a professor of history of science at the University of California at Berkeley; a professor emeritus of history from the California Institute of Technology; and executives of mining companies. Langan Swent delighted in referring to himself as "technical advisor" to the series. He abetted the project from the beginning, directly with his wise counsel and store of information, and indirectly by his patience as the oral histories took more and more of his wife's time and attention. He completed the review of his own oral history transcript when he was in the hospital just before his death in 1992. As some of the original advisors have died, others have been added to help in selecting interviewees, suggesting research topics, and securing funds.

The project was presented to the San Francisco section of the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME) on "Old-timers Night," March 10, 1986, when Philip Read Bradley, Jr., was the speaker. This section and the Southern California section of AIME provided initial funding and organizational sponsorship.

The Northern and Southern California sections of the Woman's Auxiliary to the AIME (WAAIME), the California Mining Association, and the Mining and Metallurgical Society of America (MMSA) were early supporters. Later the National Mining Association became a sponsor. The project was significantly advanced by a generous bequest received in November 1997 upon the death of J. Ward Downey, UC Berkeley alumnus and

early member of the mining series advisory committee. His own oral history was completed in 1992. Other individual and corporate donors are listed in the volumes. Sponsors to date include nineteen corporations, four foundations, and 113 individuals. The project is ongoing, and funds continue to be sought.

The first five interviewees were all born in 1904 or earlier. Horace Albright, mining lawyer and president of United States Potash Company, was ninety-six years old when interviewed. Although brief, this interview adds another dimension to a man known primarily as a conservationist.

James Boyd was director of the industry division of the military government of Germany after World War II, director of the U.S. Bureau of Mines, dean of the Colorado School of Mines, vice president of Kennecott Copper Corporation, president of Copper Range, and executive director of the National Commission on Materials Policy. He had reviewed the transcript of his lengthy oral history just before his death in November, 1987. In 1990, he was inducted into the National Mining Hall of Fame, Leadville, Colorado.

Philip Bradley, Jr., mining engineer, was a member of the California Mining Board for thirty-two years, most of them as chairman. He also founded the parent organization of the California Mining Association, as well as the Western Governors Mining Advisory Council. His uncle, Frederick Worthen Bradley, who figures in the oral history, was in the first group inducted into the National Mining Hall of Fame in 1988.

Frank McQuiston, metallurgist for the Raw Materials Division of the Atomic Energy Commission and vice president of Newmont Mining Corporation, died before his oral history was complete; thirteen hours of taped interviews with him were supplemented by three hours with his friend and associate, Robert Shoemaker.

Gordon Oakeshott, geologist, was president of the National Association of Geology Teachers and chief of the California Division of Mines and Geology.

These oral histories establish the framework for the series; subsequent oral histories amplify the basic themes. After over thirty individual biographical oral histories were completed, a community oral history was undertaken, documenting the development of the McLaughlin gold mine in the Napa, Yolo, and Lake Counties of California (the historic Knoxville mercury mining district), and the resulting changes in the surrounding communities. This comprises forty-three interviews.

Future researchers will turn to these oral histories to learn how decisions were made which led to changes in mining engineering education, corporate structures, and technology, as well as public policy regarding minerals. In addition, the interviews stimulate the deposit, by interviewees and others, of a number of documents, photographs, memoirs,

and other materials related to twentieth century mining in the West. This collection is being added to The Bancroft Library's extensive holdings. A list of completed and in process interviews for the mining series appears at the end of this volume.

The Regional Oral History Office is under the direction of Willa Baum, division head, and under the administrative direction of The Bancroft Library.

Interviews were conducted by Malca Chall and Eleanor Swent.

Willa K. Baum, Division Head
Regional Oral History Office

Eleanor Swent, Project Director
Western Mining in the Twentieth
Century Series

January 1998
Regional Oral History Office
University of California, Berkeley

Western Mining in the Twentieth Century Oral History Series

Interviews Completed, May 1998

- Horace Albright, *Mining Lawyer and Executive, U.S. Potash Company, U.S. Borax, 1933-1962, 1989*
- Samuel S. Arentz, Jr., *Mining Engineer, Consultant, and Entrepreneur in Nevada and Utah, 1934-1992, 1993*
- James Boyd, *Minerals and Critical Materials Management: Military and Government Administrator and Mining Executive, 1941-1987, 1988*
- Philip Read Bradley, Jr., *A Mining Engineer in Alaska, Canada, the Western United States, Latin America, and Southeast Asia, 1988*
- Catherine C. Campbell, Ian and Catherine Campbell, *Geologists: Teaching, Government Service, Editing, 1989*
- William Clark, *Reporting on California's Gold Mines for the State Division of Mines and Geology, 1951-1979, 1993*
- Norman Cleaveland, *Dredge Mining for Gold, Malaysian Tin, Diamonds, 1921-1966; Exposing the 1883 Murder of William Raymond Morley, 1995*
- James T. Curry, Sr., *Metallurgist for Empire Star Mine and Newmont Exploration, 1932-1955; Plant Manager for Calaveras Cement Company, 1956-1975, 1990*
- Donald Dickey, *The Oriental Mine, 1938-1991, 1996*
- J. Ward Downey, *Mining and Construction Engineer, Industrial Management Consultant, 1936 to the 1990s, 1992*
- Warren Fenzi, *Junior Engineer to President, Director of Phelps Dodge, 1937 to 1984, 1996*
- Hedley S. "Pete" Fowler, *Mining Engineer in the Americas, India, and Africa, 1933-1983, 1992*
- James Mack Gerstley, *Executive, U.S. Borax & Chemical Corporation; Trustee, Pomona College; Civic Leader, San Francisco Asian Art Museum, 1991*
- Robert M. Haldeman, *Managing Copper Mines in Chile: Braden, CODELCO, Minerec, Pudahuel; Developing Controlled Bacterial Leaching of Copper from Sulfide Ores; 1941-1993, 1995*
- John F. Havard, *Mining Engineer and Executive, 1935-1981, 1992*
- Wayne Hazen, *Plutonium Technology Applied to Mineral Processing; Solvent Extraction; Building Hazen Research; 1940-1993, 1995*

- George Heikes, *Mining Geologist on Four Continents, 1924-1974*, 1992
- Helen R. Henshaw, *Recollections of Life with Paul Henshaw: Latin America, Homestake Mining Company*, 1988
- Homestake Mine Workers, Lead, South Dakota, 1929-1993*, interviews with Clarence Kravig, Wayne Harford, and Kenneth Kinghorn, 1995
- Lewis L. Huelsdonk, *Manager of Gold and Chrome Mines, Spokesman for Gold Mining, 1935-1974*, 1988
- James Jensen, *Chemical and Metallurgical Process Engineer: Making Deuterium, Extracting Salines and Base and Heavy Metals, 1938-1990s*, 1993
- Arthur I. Johnson, *Mining and Metallurgical Engineer in the Black Hills: Pegmatites and Rare Minerals, 1922 to the 1990s*, 1990
- G. Frank Joklik, *Exploration Geologist, Developer of Mt. Newman, President and CEO of Kennecott, 1949-1996; Chairman, Salt Lake 2002 Olympic Winter Games Committee*, 1997
- Evan Just, *Geologist: Engineering and Mining Journal, Marshall Plan, Cyprus Mines Corporation, and Stanford University, 1922-1980*, 1989
- Robert Kendall, *Mining Borax, Shaft-Freezing in Potash Mines, U.S. Borax, Inc., 1954-1988*, 1994
- Marian Lane, *Mine Doctor's Wife in Mexico During the 1920s*, 1996
- Plato Malozemoff, *A Life in Mining: Siberia to Chairman of Newmont Mining Corporation, 1909-1985*, 1990
- James and Malcolm McPherson, *Brothers in Mining*, 1992
- Frank Woods McQuiston, Jr., *Metallurgist for Newmont Mining Corporation and U.S. Atomic Energy Commission, 1934-1982*, 1989
- Gordon B. Oakeshott, *The California Division of Mines and Geology, 1948-1974*, 1988
- James H. Orr, *An Entrepreneur in Mining in North and South America, 1930s to 1990s*, 1995
- Vincent D. Perry, *A Half Century as Mining and Exploration Geologist with the Anaconda Company*, 1991
- Carl Randolph, *Research Manager to President, U.S. Borax & Chemical Corporation, 1957-1986*, 1992
- John Reed, *Pioneer in Applied Rock Mechanics, Braden Mine, Chile, 1944-1950; St. Joseph Lead Company, 1955-1960; Colorado School of Mines, 1960-1972*, 1993

Joseph Rosenblatt, *EIMCO, Pioneer in Underground Mining Machinery and Process Equipment, 1926-1963, 1992*

Eugene David Smith, *Working on the Twenty-Mule Team: Laborer to Vice President, U.S. Borax & Chemical Corporation, 1941-1989, 1993*

Simon Strauss, *Market Analyst for Non-ferrous Metals and Non-metallic Minerals, Journalist, Mining Corporation Executive, 1927-1994, 1995*

Langan W. Swent, *Working for Safety and Health in Underground Mines: San Luis and Homestake Mining Companies, 1946-1988, 1995*

James V. Thompson, *Mining and Metallurgical Engineer: the Philippine Islands; Dorr, Humphreys, Kaiser Engineers Companies; 1940-1990s, 1992*

Interviews In Process

Robert Clarkson, Clarkson Company
John Livermore, geologist
Alexander Wilson, BHP-Utah Minerals

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William Humphrey, *Mining Operations and Engineering Executive for Anaconda, Newmont, Homestake, 1950 to 1995, 1996*

William Wilder, *Owner of One Shot Mining Company: Manhattan Mercury Mine, 1965-1981, 1996*

The Knoxville Mining District, The McLaughlin Gold Mine, Northern California, 1978-1995, Volume I, 1998

Anderson, James, "Homestake Vice President-Exploration"

Baker, Will, "Citizen Activist, Yolo County"

Birdsey, Norman, "Metallurgical Technician, McLaughlin Process Plant"

Bledsoe, Brice, "Director, Solano Irrigation District"

The Knoxville Mining District, The McLaughlin Gold Mine, Northern California, 1978-1995, Volume II, 1998

Cerar, Anthony, "Mercury Miner, 1935-1995"

Ceteras, John, "Organic Farmer, Yolo County"

Conger, Harry, "President, Chairman, and CEO, Homestake Mining Company, 1977 to 1994"

Corley, John Jay, "Chairman, Napa County Planning Commission, 1981 to 1985"

Cornelison, William, "Superintendent of Schools, Lake County" (Includes an interview with John A. Drummond, Lake County Schools Attorney)

The Knoxville Mining District, The McLaughlin Gold Mine, Northern California, 1978-1995, Volume III, 1998

Crouch, David, "Homestake Corporate Manager-Environmental Affairs"
 Enderlin, Elmer, "Miner in Fifty-Eight Mines"
 Fuller, Claire, "Fuller's Superette Market, Lower Lake"
 Goldstein, Dennis, "Homestake Corporate Lawyer"
 Guinivere, Rex, "Homestake Vice President-Engineering"

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Gustafson, Donald, "Homestake Exploration Geologist"
 Hanchett, Bonnie, "Owner and Editor, Clearlake Observer"
 Hickey, James, "Director, Napa County Planning Department"
 Jago, Irene, "Lower Lake High School Teacher"
 Jonas, James, "Bulk Fuel Plant Owner, Lower Lake"
 Koontz, Dolora, "Environmental Engineer, McLaughlin Mine"
 Krauss, Raymond, "Environmental Manager, McLaughlin Mine"
 Kritikos, William, "Operator, Oat Hill Mine"
 Landman, John, "Rancher, Morgan Valley"
 Lyons, Roberta, "Journalist and Environmentalist"
 Madsen, Roger, "Homestake Mechanical Engineer"
 Magoon, Beverly, "Merchant and Craft Instructor, Lower Lake"
 McGinnis, Edward, "Worker at the Reed Mine"
 McKenzie, Robert, "Photographer and Local Historian, Napa County"
 Moscowite, Harold, "County Supervisor, Napa County"
 Onstad, Marion, "Morgan Valley Rancher, Homestake Secretary"
 Parker, Ronald, "General Manager, McLaughlin Mine, 1988-1994"
 Purtell, Patrick, "General Manager, McLaughlin Mine, 1994"
 Stoehr, Richard, "Homestake Vice President and Director"
 Strapko, Joseph, "Homestake Field Geologist"
 Thompson, Jack, "General Manager, McLaughlin Mine, 1981-1988"
 Thompson, Twyla, "County Supervisor, Yolo County"
 Tindell, Avery, "Capay Valley Environmentalist"
 Turney, John, "McLaughlin Metallurgist: Pioneering Autoclaving for Gold"
 Underwood, Della, "Knoxville Rancher, McLaughlin Mine Surveyor"
 Wilcox, Walter, "County Supervisor, Lake County"

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Eleanor Herz Swent

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