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IRON MOUNTAIN MINE
GREAT PAST AND BRIGHT FUTURE

Iron Mountain Mine is located in Shasta County, California, in the southernmost reaches of the Klamath Mountains, about 9 miles north of Redding, Ca. Past mining activities are well marked by the large mine workings that can be seen from the city of Redding and interstate highway 5. The mine produced copper, sulfur, zinc, iron, silver, and gold, and was for many years the largest mining operation in California. About 10 million tons of ore was mined by Mountain Copper Co. and more than 20 million tons of ore are estimated to remain in Iron Mountain.

The first corporate owners of Iron Mountain facilitated its development as California's largest mining operation. "Mountain Copper Co.", was a British company that operated the mine from 1896 until hard rock mining ceased in 1963. In 1967 Mountain Copper Co. was sold to a closely affiliated company, Stauffer Chemical Co., also of Great Britain. Stauffer Chemical Co. kept the principal assets of Mountain Copper Co., which at that time were the enormous phosphate deposits it had acquired in Utah and Florida, and sold Iron Mountain Mines to T.W. Arman in 1976.

Shortly after its acquisition, T.W. Arman formed Iron Mountain Mines, Inc., and transferred all ownership interest in the 2772 acres with Title by Patent Deeds to IMMI.

Shortly after copper mining began in 1896, the miners began utilizing the process of copper cementation, which is the precipitation of copper sulfate using scrap iron materials in an electro-motive reaction with the copper and the artesian waters (AMD) exiting the mountain. By 1907, the copper cementation process had become so extensive that it was necessary to construct a building to enclose the tanks and other facilities.

When major mining operations began, Mountain Copper Co. became the largest private employer in Shasta County. It is estimated that at its peak production Iron Mountain directly employed almost 2000 workers, and that many hundreds more jobs resulted from the support and infrastructure required to sustain the growing population of miners and personnel. The city of Redding, California owes much of its early growth and prosperity to the development of Iron Mountain as the largest mining operation in California.

The mine even had its own town, called "Minnesota", located about a mile west of Keswick, where the families of many of the miners lived. The last residents of Minnesota moved away in 1980, and a forest fire destroyed the last remaining houses in 2008. Today only the 80 year old school building remains.

Depressed copper prices brought an end to copper mining after 1919, and gold and silver was mined from the "gossan", which is the highly oxidized surface of the exposed ore bodies, until 1942, when the U.S. government required copper and zinc mining to resume to aid in the war effort during WWII.

In 1953 a major tunnel collapse in the Richmond mine marked the end of underground mining at Iron Mountain, and in 1963 the open pit mine at the top of the mountain, called "Brick Flat", which was mined primarily for sulfur production, was shut down as well.

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No hard rock mining was done during the ownership of Stauffer Chemical Co. or of IMMI, although the copper precipitation process remained in continuous operation until 1996.

In 1984 IMMI embarked on a radical new approach to copper mining, the revolutionary new process of “solution mining”, also known as *insitu* mining, or sometimes referred to more recently as “bio-mining”. This technology had only been tried experimentally at a few copper mining sites in the United States when T.W. Arman first proposed it in 1983. Davey McKee corp., the nations foremost mine engineering firm, (now a part of Aker Kvaener corp.), was hired to perform the feasibility studies and prepare a proposal to proceed with the solution mining plan. The process was designed to take advantage of the natural process of AMD formation, where the microbes provide the essential biological service of reducing the ferric to ferrous iron, thereby initiating a reaction in the pyrite that ultimately dissolves much of the ore into storm waters entering the mine tunnels, shafts, and stopes. A series of chemical processes were to then be implemented to remove the metals from the mine waters, and the waters could then be recycled by pumping it back to the top of the mountain and injecting it back into the ore to continue the process. Storage facilities were planned to keep much of the winter rains so the process could run continuously throughout the year.

Beginning in 1983, however, the EPA had placed Iron Mountain Mines on the national priority list, or “superfund”, and the proposal to conduct solution mining was met by complete resistance from the EPA. The EPA stopped the projected \$30 million annual income over 20 years to IMMI.

The EPA placed Iron Mountain mines in the superfund program in 1986 with its first Record of Decision, (ROD 1), thus beginning a remediation action that continues through the present day. There have been 5 RODs issued, and after 22 years no remedy for the acid mine drainage has been provided by the EPA.

IMMI insists that solution mining is the only viable remedy for the AMD, and the 25 year battle of Iron Mountain Mines continues in the Courts. Today 40% of all copper mining worldwide is solution mining.

T.W. Arman and IMMI have held on in spite of the adversity of the EPA actions, over the years selling mine tailings until the EPA buried all that was left; selling the remaining pyrite that had been stockpiled until the EPA buried that too; selling magnetite for such things as anchoring the “Posey Tube” between the cities of Oakland and Alameda, after the dredging of the channel removed the original ballast that held the tube underwater; selling iron ores to the U.S. nuclear facilities at Hansford, Washington; selling ferrous-sulfate stockpiles to fertilizer manufactures; selling iron ores for radiation shielding to Mercy Hospital in Sacramento; selling iron ores for use as a cement additive to a Redding cement manufacturer; selling timber, recycling scrap, and the copper precipitations for 20 years until the EPA stopped that recovery process.

Exciting emerging technologies have rekindled interest in the vast ore deposits of Iron Mountain, technologies such as iron and copper catalysts, zinc/air batteries, and cadmium based solar cells that promise the potential to liberate America from its dependence on foreign oil and the scourge of global warming from CO2 emissions, technologies that have revitalized an interest in the potential value of Iron Mountain mines ore, which by some estimates may be worth as much as a \$1 thousand per ton, presenting the very real possibility that the remaining ores at Iron Mountain could be worth over 20 billion dollars.

But the EPA says it is still too hazardous, they would rather make a bigger mountain of useless sludge.

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We are tremendously excited about the many new and revolutionary uses that the minerals from Iron Mountain are going to be used for to help transform our society and the world with new technologies and industries that will free us from the dangers of emissions and global warming.

These technologies include cadmium photo-voltaic cells, zinc/air fuel cells, and catalysts and other nano-technologies utilizing gold, silver, gallium, copper, magnesium, aluminum, and iron.

Iron Mountain is located 9 miles north of Redding, Ca. in Shasta County, at the southern end of the "Shasta Copper Belt". T.W. Arman has owned IMMI and its 2772 acres since 1976. This beautiful property has elevations from 1200 to 3950 feet, with over 10 miles of well maintained roads.

A massive sulfide ore deposit, Iron Mountain is the largest hard rock mine in California, and was one on the largest copper mines in the world. Estimates are that more than half of the original ore remains.

Iron Mountain Mines, Inc. has plans for new facilities to recycle the metals from the mine water and to reuse the water to aid in the cultivation of the microbial archaea inhabiting the ore and aid in the natural acceleration of mineral dissolution by the bacteria present in the ore. Scientists are working on transplanting these microbes to help in the solution mining of other ores at other mines. Over 8 tons of metals and sulfate leach from the ore bodies by storm water passing through the mine workings on average each day. Computer modeling suggests that biological solution mining could essentially solve the problem of acid mine drainage in less than fifty years. Our new water system makes potable water.

Solution mining, or *insitu* mining as it is also known, is virtually harmless to the surface environment, and preparations are underway for a "Christ Statue and spiritual retreat", with numerous landscape features and including a fabulous gondola ride from the public parking area to the summit, which will offer a welcome respite in the cool Klamath mountain air from the sweltering summer heat.

The University of California at Berkeley is sending its second generation of biologists to Iron Mountain Mine to study the microbes that make the Acid Mine Drainage possible. Professor Jill Banfield and her colleagues and students regularly sample the inner pools below the stopes in the Richmond Mine and are studying the many new families and species of these newly discovered life forms.

Studies are underway to understand how far back in the tree of life these forms of life originated.

A new organism was discovered in the mine, and named *ferroplasma acidarmanus* in honor of Ted Arman.

IMMI has waited long enough for the EPA to conclude its experiment at the superfund site, and it is time for the EPA to stop interfering and allow IMMI to perform the lawful solution mining of its resources.

IMMI is preparing plans for a campus and laboratory with facilities and accommodations for researchers to be located at the old town site of Minnesota. T.W. (Ted) Arman is the mayor of Minnesota, California. "Minnesota had housing for mine employees in the early years, it burned down last summer; all that is left is the old school. We plan to build a more modern facility in the near future, and to replant the lost forest areas in the spring. We plan to restore the old school building. We hope that the people of Redding will help us to embrace these new technologies and to make Redding the heart of these revolutions in technology that can free us from dependence on foreign oil.

Thousands of people could be employed making these technologies available, we can save ourselves!

Many thousands of people derived their livelihood from the Iron Mountain mines over the years, and many thousands more could again, not by toiling in tunnels but by making finished products that benefit everyone.

I hope that Iron Mountain will always stay as natural as possible so the wildlife that is there can be undisturbed. It is a big place so we should be able to protect the wildlife, especially the bears."

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For 26 years, T.W. Arman and IMMI have resisted the EPA superfund invasion and questioned the EPA actions and intentions. Before the EPA action stopped all operations, Iron Mountain Mines, Inc. was already performing an environmental cleanup. When the thousands of acres of mining property were originally purchased in 1976, 100 thousand tons of pyrite tailings (valued over \$7 million) were stockpiled. In the early years IMMI sold over 30 thousand tons of pyrite tailings to Best Fertilizers until the EPA buried the remaining 70 thousand tons (@ \$70 per ton, worth almost \$5 million); selling magnetite ore for such things as 3500 tons for anchoring the "Posey Tube" between the cities of Oakland and Alameda, after the Corp. of Engineers dredging of the channel accidentally removed some of the original ballast that held the tube underwater; selling high density concrete to the BART rail system until the EPA used up what was stockpiled by wasting it as fill in their useless Slickrock Creek dam at Iron Mountain; selling iron ores to the U.S. nuclear facilities at Hansford, Washington; selling iron ores for radiation shielding to Mercy Hospital in Sacramento; selling iron ores for use as a cement additive to various cement manufacturers; selling timber, recycling scrap, and operating the copper precipitation recycling plants, (IMMI and T.W. Arman principle source of income) for almost 15 years and selling the copper precipitate to the ASARCO refinery in Arizona and smelters in Korea until the EPA stopped that recovery process.

Since the EPA action commenced and the EPA employees and their contractors employees were on Iron Mountain Mines, Inc. private property, over \$500 thousand in mine equipment, minerals products and artifacts have been stolen.

In all, EPA has needlessly buried as much as 100 thousand tons of valuable pyrite tailings worth over 10 million and as much as 4.5 million tons of other wastes and by-products worth many millions at Iron Mountain Mines, Inc. EPA stopped the fertilizer operations of Essential Solutions, Inc. (www.Ag-gel.com) and Iron Mountain Mines, Inc. worth many more millions, and prevented the mining of over 20 million tons of massive sulfide ore worth billions.

Over the past two years, T.W. Arman has been restricted from free access to Iron Mountain Mines, Inc. property by locked gates managed by the EPA's employees. This is a criminal violation of private property rights. The EPA has occupied Iron Mountain Mines warehouse buildings and facilities without paying rent or compensation since 1983, a fair and reasonable rent for the premises used by the EPA and the site operator would be in excess of \$50 million. EPA destroyed the historical mine building by filing it with concrete waste that will cost millions to repair. The EPA has levied a fraudulent statutory lien against IMMI properties that is fraudulently recorded at the Shasta County Recorders Office. T.W. Arman and IMMI have filed 33 legal claims against the government for damages in excess of \$7 billion. EPA has referred to Iron Mountain Mines as "abandoned mine lands". Iron Mountain Mines was never abandoned, and never will be abandoned

Ted Arman is a true optimist and a dreamer, like the song "Don't cry for me Argentina", Ted has the tenacity, fortitude, and strong faith in God and Jesus Christ to make Iron Mountain Mines a shining light for the world to see and follow.

In spite of the 25 years of EPA invasion and occupation causing pain, suffering, and business losses, the wealth of mineral resources and the research and development of sustainable technologies by Iron Mountain Mines, Inc. will bring many new products for mankind's benefit and jobs for thousands of Californians.

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