Review and Evaluation of the Existing Documents on Iron Mountain Mines

1.0 Introduction

On November 15, 2005, I received different sections of a report “Iron Mountain Mines Project Plan In Situ Mining Project”. The report was prepared by Davy McKee in February 1986. I was asked to review and evaluate the report. I did not perform any field activities in the Iron Mountain Mines and my professional opinion would be solely on the bases of existing information from Executive Summary and Section VI of the Davy McKee report.

2.0 List Documents Received

The information received consisted of the following documents:

- Introduction of the Davy McKee report
- Section I (Executive Summary) of the Davy McKee report
- Section VI (Current Ore Reserves) of the Davy McKee report
- Services (Mining and Metals Divisions)
- List of References Iron Mountain Mines
- Map showing Iron Mountain Mines Location

In addition a two pages letter report that was prepared by Welsh J.D. & Associates dated November 20, 2000 was also part of the documents received. This letter report basically updated the prices of metals using New York-Spot nonferrous metal prices for November 20, 2000.

3.0 Review of Documents

3.1 Introduction

In this section Davy McKee describes the status of their company at the time of the preparation of the report, which is February 1986. At that time Davy McKee was one of the world’s largest engineering and contracting organizations specializing in the creation of the production facilities required by the mining industries.
3.2 Section I – Executive Summary

The executive summary of the Davy McKee report in general describes the key aspects of the report and some of their conclusions. The following information is included in this section:

- The executive summary is suggesting that a Project Plan for a unique mining and metals recovery operation was presented by the report.

- The Iron Mountain property has a substantial ore reserves and it previously worked open pit and underground stopes are readily convertible to a solution mining operation.

- Suitable Plant site with accessible roads, electricity and water are available.

- A hydrometallurgical plant has been developed, which will recover copper, iron, zinc and precious metals (gold and silver). This plant also can recover aluminum sulfate and gypsum as chemical products.

- Financial analysis indicates that an investment of $34 million (1986 dollars) will be required. This will include the cost of construction of a small hydroelectric plant on the Iron Mountain Mines property. The operation will have a projected life of up to 50 years with a favorable return on capital investment. In its operation the plant is expected to generate about $29 million (1986 dollars) in annual gross sale.

- The Iron Mountain Mines at that time selected (1986) Davy McKee Corporation to manage the mining project including basic and detailed engineering, construction, startup, and operation of the facility after startup.

The backup documents for the above conclusions in the Executive Summary including detailed description of the extraction technology and cost analysis are not available, and their review was not included in the scope of this evaluation.

3.3 Section VI – Current Ore Reserves

In this section the Davy McKee report has indicated that using the results of assays and information developed during drilling, drifting and mining of the various segment of Iron Mountain Mines, geological ore reserves calculations were developed by Mountain Copper Company for both the massive sulfide and disseminated ore. Reserves of the gossan ores were developed through cooperation between engineers of Mountain Copper Company and Stauffer Chemical Company. Subsequent checks of these reserves have been made by Southwestern Engineering and Kaiser Engineering Companies. The results of these calculations that were reported by Kaiser indicated that there are approximately
14,000,000 tons of sulfides ore available with an average of 1.7% copper, 2.2% zinc, 0.03 ounce per ton gold, and 1.0 ounce per ton silver. The gossan reserves were estimated at approximately 3,000,000 tons of ore containing an average of 0.033 ounce per ton gold, and 1.28 ounce per ton silver (in some locations up to 0.05 ounce/ton gold and 1.5 ounce/ton silver was reported). The combined geological reserves amount to approximately 17,000,000 tons of sulfides and gossan ore contained within an area of roughly 300 acres. In some locations there are also reserves of magnetite ore. The reserves of magnetite ore were not quantified but this ore also contains gold and silver.

In addition to the above data, in the report references are made to the Tables. These Tables are not available for review at this time.

The reserves calculation was performed by Mountain Copper Company by using what they called Prismonial formula. This method was used for irregular area at that time by Kaiser engineering as well. This section of the report explains the method of reserves calculation.

The backup information for the reserves calculations including laboratory analytical data, drilling information, boring logs, mineralogical composition of the ore, and lateral and vertical extend of ore deposits are not available and their review was not included in the scope of this work.

3.4 Services – Mine and Metal Division

In this section, Davy McKee list all there services that the company was performing at the time when the report was prepared (1986). This section indicates that Davy McKee was one of the largest engineering companies with turnkey mining projects development including exploration, feasibility studies, construction and management. The company had many offices around the world.

3.5 List of References – Iron Mountain Mines

In this section over 20 different publications are listed that was used to prepare the Davy McKee report.

4.0 Conclusions

After review of the documents received the following can be concluded:

- According to Davy McKee report (1986), Iron Mountain Mines are ore deposits with sulfides mineralization that contain copper, zinc, gold and silver.

- According to Davy Mckee report (1986), Iron Mountain Mines have reserves of approximately 14,000,000 tons of sulfides ore and approximately 3,000,000 tons of gossan ore.
• According to Davy McKee report the 14,000,000 tons of sulfides ore has the following values:

1- The sulfides ore contains an average of 1.7% copper or 238,000 tons or 476,000,000 pounds of copper.

2- The sulfides ore contains an average of 2.2% zinc or 308,000 tons or 616,000,000 pounds of zinc.

3- The sulfides ore contains an average of 0.03 ounce per ton gold or approximately a reserve of 420,000 ounces of gold.

4- The sulfides ore contains an average of 1.0 ounce per ton silver or approximately a reserve of 14,000,000 ounces of silver.

• According to Davy McKee report the 3,000,000 tons of gossan ore has the following values:

1- The gossan ore contains an average of 0.033 ounce per ton of gold or approximately 99,000 ounces of gold.

2- The gossan ore contains an average of 1.28 ounce per ton of silver or approximately 3,840,000 ounces of silver.

**Disclaimer**

The author of this report never worked in the Iron Mountain Mines and 1986 Davy McKee data was not independently verified. Detailed description of the extraction technology, flow charts, tables, figures, drilling data, boring logs, laboratory analytical data, mineralogical composition of the ore body or any additional information for reserves calculations, value of the metals or cost analysis were not submitted to the author and their review were not included in the scope of this evaluation. Therefore this evaluation is solely based on the selected sections of Davy McKee report that was presented to the author.

Best Regards,

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CAREER HISTORY

- Over twenty years experience in the field of environmental, remediation, geology and extraction of precious metals  
- Active instructor for the Los Angeles College District for geology

1994 – Present  
Active Hourly Instructor for The Los Angeles Community College District  
- Physical Geology(001)  
- Physical Geology Lab (006)  
- Earth Science

1993 – 1999  
Balboa Pacific Corporation  
Santa Fe Springs, CA  
Executive Vice-President For Research and Development  
- Develop and implement thermal processes for the treatment of hazardous and non-hazardous industrial waste  
- Design and manufacturing of thermal oxidizers and furnaces  
- Design and manufacturing of industrial waste water treatment systems  
- Corporate liaison with regulatory agencies, EPA, AQMD, CERCLA, RCRA, etc. Also obtained permits for different technologies.  
- Provided instruction in Geology, Los Angeles College District

1985 - 1994  
Strategic Minerals Development Institute, Inc. Torrance, CA  
Vice-President and Technical Director  
- Responsible for geological evaluation of mining projects, extraction and separation of precious and strategic metals and minerals.
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1980 – 1985
ERSE Corporation, Commerce, CA
Chief Geologist

- Responsible for exploration, evaluation and conduct of feasibility studies of all mining projects, including the extraction of precious metals

1977 – 1980
Polytechnical Institute, University of Kabul (Afghanistan)
Chairman, Department of Geology
Director of Laboratories for X-Ray, Spectroscopy and Seismology
Associate Professor

- Provide instruction in Physical Geology, Mineralogy and Geochemistry
- Advisor to the Ministry of Mines and Industries, Government of Afghanistan
- Supervised the largest research program in the University.

1973 – 1977
University of Moscow, USSR
Instructor

- Complete Ph.D. theses in Geology and Mineralogy
- Deliver lectures in Physical Geology, Mineralogy and Crystallography

1972 – 1973
Polytechnical Institute, University of Kabul (Afghanistan)
Assistant Professor, Department of Geology

- Instructed Physical Geology, Mineralogy and Geochemistry.
- Director of Laboratories for X-Ray Diffraction and Seismology.
EDUCATION

University of Moscow (Russia)

Ph.D. In “Geology and Mineralogy (1977)”
M.Sc., In “Geology and Geochemistry (1972)”

PROFESSIONAL MEMBERSHIP


Groundwater Resource Association of California

Mineralogical Society of America.

International Conferences

International Material Research Congress (Hazardous Waste Treatment); Cancun, Mexico, August, 1998.


Marital Status: Married with two Children.

Languages: English, Russian, Persian and Pushto.
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PUBLICATIONS

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   Thermal Conversion Systems

2- Shapoor Hamid
   “Mineralogical Studies of Cu-Mines Ainak (Afghanistan)
   Kabul Polytechnical Institute, No. 8, 1979.

3- Shapoor Hamid, Pobidimskaya, E.A. Academic Belove,N.V.
   “Structural Analysis of Petzite Au₃Te₂”

4- Shapoor Hamid, Spiridonov, E.M.
   “Magnetic Properties of Pyrrhotite”
   Moscow University, “Geology” No. 3, 1978.

5- Spiridonov, E.M., Shapoor Hamid
   “Pyrrhotite from Late Ordovic’s Ore Deposits of North Kazakhestan”
   New Observation about Minerals
   Academy of Science USSR No. 27, 1978.

6- Shapoor Hamid
   “Dependence of Chemical Composition and Physical Properties of
   Pyrrhotite to Carriation Conditions”

7- Spiridonov, E.M., Shapoor Hamid
   “Tipomorphism of Garnets From Fe, Au, Cu, Deposits in North
   Kazakhstean”
8- Shapoor Hamid  
Summary of Ph.D. Dissertation  
University of Moscow, 1976.

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9- Shapoor Hamid  
“Chlorite from Jana-Tube Ore Deposits”  

10- Sergeev, V.C., Shapoor Hamid  
“Thermoluminiscence of Carbonates from Different Ore Deposits”  