

# A Pitchblende Specimen on a Stamp from Saint Helena honoring MARIA SKŁODOWSKA CURIE

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A series of four new stamps was issued earlier this year by Saint Helena to honor famous people in medicine such as Marie Curie, Louis Pasteur, Christian Barnard and Alexander Fleming.

The stamps were postmarked from Saint Helena on March 19, 2004.

Why are these stamps interesting to Philagems readers? If you look carefully at the Marie Curie stamp, you will notice, in a circle below her neck, a small mineral specimen which, according to Beverley Francis of the Island of Saint Helena Post Office is the mineral **pitchblende**.



Maria Skłodowska Curie was born in Poland in 1867. She received her education in Polish school and institutions of higher learning. She went to Paris to complete her studies. While in France she met and married Pierre Curie. She worked with her husband in the field of chemistry and as a result of their research they announced on December 16, 1898 the discovery of radium. For this she received the 1903 Nobel prize in physics with Pierre Curie and Henri Becquerel.

In order to carry out her research, Marie Curie obtained a few tonnes of the then (1895) near useless uranium ore. The ore was taken from the oldest uranium mine located in Jáchymov (St. Joachimsthal) in the Czech Republic. At that time uranium was mostly used to give glass a special kind of fluorescent yellowish-green tint.



*Uranium in Jáchymov and radioactivity logo (60h, Aug. 26, 1966), uranium mining in Příbram (30h, Aug. 21, 1967), and a Příbram postmark.*

St. Joachimsthal is in the Erzgebirge (Ore Mountain) near the German border not far from Karlovy Vary (Karlsbad). The Ore Mountain consists of several series of metamorphic rocks. Granite intrusion formed cracks in the metamorphic rocks which allowed for hydrothermal veins. Some of them contained pitchblende, the uranium ore. Uranium is deposited as uraninite and coffinite. Also found there are the following uranium bearing minerals: autunite, becquerellite, cuprosklodowskite, curienite, jachymovite, sklodowskite, uranophane, uranospathite, and zippeite just to name a few.

Příbram is another one of the Czech Republic very old mining towns. Located 50 km south west of Prague the mine is best known for its silver mining which is reported to have taken place as far back as the 10<sup>th</sup> century. For a long time only silver was mined there, then iron ore was extracted and finally uranium. Many fine uranium specimens such as uraninite, uranopillite, cuprosklodowskite and zippeite were also obtained from this mine.



*Italian postmark marking the 1903 Physics Nobel prize awarded in 1903 to Pierre Curie and Maria Skłodowska Curie together with Henri Becquerel, for their discovery of Radium and radio activity (stamp from Sweden). French postmark illustrating the discovery of radium and various types of radiations.*

Marie Curie was the head of the physics department in the University in Paris. Her husband, Pierre, died in a traffic mishap in 1906. She was then offered his position at the Sorbonne University. She was the first woman professor at the university. She campaigned for the creation of a Radium Institute in both Paris and in Warsaw, her home town. For her accomplishments in the field of chemistry Marie Curie received a second Nobel prize in 1911. Marie Curie died July 4, 1934 following an illness due to her long exposure to radiation.

One cannot list all the stamps related to Marie Curie, the discovery of radium, the fight against cancer, as they are in the hundreds. Poland alone regularly issues stamps about the achievements of Maria Skłodowska Curie. In Poland she is a national hero.



## 40<sup>th</sup> anniversary

In September 1938, France and the French colonies issued semi-postal stamps to mark the 40th anniversary of the discovery of radium. Cuba joined this occasion with two semi-postal stamps issued in 1938. The surtax on the sale of all these stamps was for the benefit of the International Union for the Control of Cancer. Three months later, Afghanistan issued two postal tax stamps in December 1938. The use of the stamps was compulsory on all mail posted between December 22 and 28, 1938 and the money collected was used for the Aliabad Hospital near Kabul. These issues, from France and its colonies, as well as Cuba and Afghanistan, may be considered the first common design stamps or what we now call a joint issue.



Among the most unusual stamps honoring the Curies are those from Panama. Between 1939 and 1949 Panama issued numerous postal tax stamps (many sets of 3-4 stamps each, for a total of 22 stamps all with the same design) in favor of the fight against cancer.



## Other anniversaries







*Postmarks with Marie Curie's portrait are numerous*



*Almost all of the world's countries issued stamps on Marie Curie's birthday but also for other occasions. Quite often those stamps show both Pierre and Marie Curie.*

### **Marie Curie and Mendeleiev's periodic table of the elements.**

The name of Marie Curie is associated with the naming of three elements of the periodic table. This is certainly the most ever achieved by a single person.

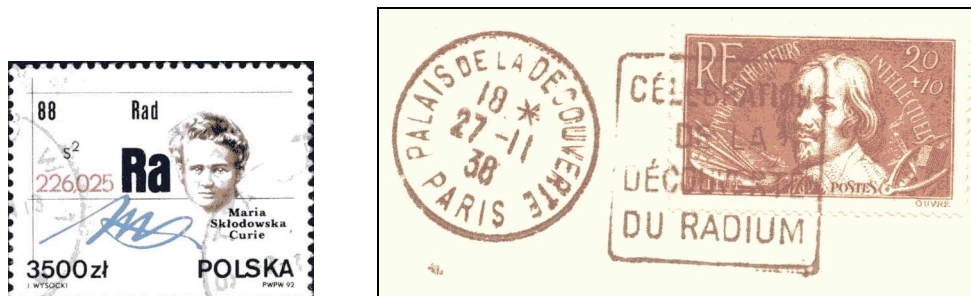
### **Curium, no. 96, Cm.**

The element Curium was found in the fission products in 1944 by Ghiorso, Seaborg, James and Morgan. The element was named in honor of Marie and Pierre Curie.



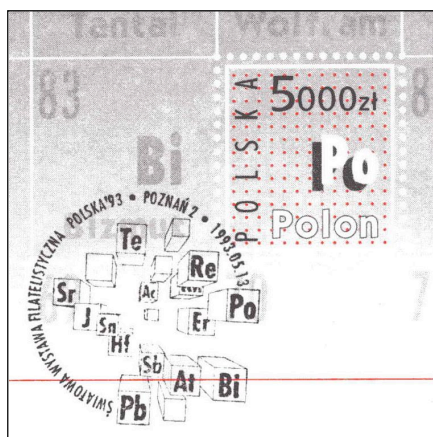
### ***Radium, no. 88, Ra.***

This element was discovered by Marie Curie in the pitchblende from St. Joachimsthal (Bohemia). The element was isolated in 1911 by Marie Curie et Debierne by electrolysis of a pure  $\text{RaCl}_2$  (radium chloride) solution. Element 88, Ra, and a portrait of Maria Skłodowska Curie are shown on a Polish stamp issued in 1992. A postmark used in 1938 at the Palais de la Découverte in Paris, marks the 40<sup>th</sup> anniversary of the discovery of radium.



### ***Polonium, no. 84, Po.***

Polonium is often found with radium. It was discovered in 1898 by Pierre and Marie Curie in pitchblende. The element is so named in honor of Poland, native country of Mme Curie. Illustration: Postal stationery of Poland marking the discovery of Polonium.



### **Uranium minerals related to the works of Pierre and Marie Curie**

Autunite	$\text{Ca}[(\text{UO}_2)_2(\text{PO}_4)_2] \cdot 10\text{-}12 \text{ H}_2\text{O}$
Becquerellite	$\text{Ca}[(\text{UO}_2)_6\text{O}_4(\text{OH})_6] \cdot 8 \text{ H}_2\text{O}$
Coffinite	$\text{U}(\text{SiO}_4)_{1-x}(\text{OH})_{4x}$
Curienite	$\text{Pb}[(\text{UO}_2)_2(\text{VO}_4)_2] \cdot 5 \text{ H}_2\text{O}$
Curite	$\text{Pb}_{3.5}[(\text{UO}_2)_{4.5}(\text{OH})_{2.5}]_2 \cdot 2 \text{ H}_2\text{O}$
Cuproskłodowskite	$\text{Cu}[(\text{UO}_2)_2\text{Si}_2\text{O}_6(\text{OH})_2] \cdot 5 \text{ H}_2\text{O}$
Jachimovite	$[(\text{UO}_2)_8(\text{SO}_4)(\text{OH})_{14}] \cdot 13 \text{ H}_2\text{O}$
Pitchblende is massive uraninite	
Sklodovskite	$\text{Mg}[(\text{UO}_2)_2\text{Si}_2\text{O}_6(\text{OH})_2] \cdot 5 \text{ H}_2\text{O}$
Uraninite	$\text{UO}_2$
Uranophane (uranotile)	$\text{Ca}[(\text{UO}_2)_2\text{Si}_2\text{O}_6(\text{OH})_2] \cdot 5 \text{ H}_2\text{O}$
Uranopillite	$[(\text{UO}_2)_6(\text{SiO}_4)(\text{OH})_{10}] \cdot 12 \text{ H}_2\text{O}$
Uranospathite	$\text{HAl}[(\text{UO}_2)_4(\text{PO}_4)_4] \cdot 40 \text{ H}_2\text{O}$
Zippeite	$\text{K}_4[(\text{UO}_2)_6(\text{SO}_4)_3(\text{OH})_{10}] \cdot 4 \text{ H}_2\text{O}$

## Uranium minerals shown on stamps

The short list of uranium minerals illustrated on stamps is given below:

Autunite: Niger, Zimbabwe

Uraninite: Canada, Gabon, Saint Helena, Togo, Zaire

Uranotile (uranophane): Somalia, Zaire



After the discovery of radium, it was thought radium had medical powers. It has been used extensively in the fight against cancer. As a consequence, Jáchymov became an important center for the production of radium. In Poland, the Radium Institute founded by Marie Curie, operated in Warsaw. A very rare machine cancel was used in Warsaw in support of the fight against cancer in September, 1931.

