

Y-12 and the “super enriched Uranium 235”

Ken Bernander called me to say that he had read in the newspaper about the 100 milligrams of uranium oxide that is 99.999% U-235. He was chuckling when he called, so I knew he was going to tell me something good. Ken calls me when he reads my columns in *The Oak Ridger* and often gives me insights I would not otherwise get. So, getting a call from Ken is a delight.

This time he wanted me to talk to Bill Harmon. It seems that Bill had told Ken that he recalled the time when he purified a sample of uranium 235 after it had been separated in the calutrons at Beta 3. Bill had done the work at the instruction of his supervisors, Roger Hibbs and Gus Cameron.

As Roger's name was mentioned, Ken insisted that there should be more recognition for Hibbs and the impact he and others like Johnny Murray contributed to Y-12's history. He quickly said, “Not to take anything away from Jack Case and others who have been recognized, but these should be included as well.”

Ken said, “Johnny Murray was the key to keeping Y-12 going during the early years when work was slow.” Ken went on to tell that Murray was the one who actually started what has become known as the “Can Do” attitude of Y-12. Ken said that Case kept it going and expanded on the work being brought in.

So, to help me with Bill's and Ken's request to provide recognition for Johnny Murray and Roger Hibbs, if you knew them, send me an email to draysmith@comcast.net or give me a call at 482-4224. I would welcome your insights into their leadership and accomplishments while you knew them.

I would also welcome anyone else you think worthy of additional recognition as I attempt to capture the history of Y-12 through recognizing the accomplishments of some of the past leaders. It is a worthy pursuit and your input would be most welcome.

Ken arranged for us to go see Bill Harmon the next day. When we got there, Bill, who is 92 years old, met us at the car with a long walking stick, which he gave to Ken. Ken, who is 90 years old, readily took the walking stick and both of them used Bill's walking stick to get in the house. It was fun listening to them coach each other about how to walk without falling.

I tell you this to help you know that these two elderly gentlemen are still very alert, very much enjoying life and both men are as sharp as a tack mentally. They seem to just deplore the fact that their bodies are wearing out.

Bill spoke of the exact chemical purification process he used to isolate the uranium oxide and said it was done for Harold Wakley and Jerry Keilholtz. Bill also said, “That was the last I saw of that sample. I don't know what they did with it, but it was just what they wanted.”

So, was this the sample that has been at the Argonne National Laboratory and has now been full circle? Or was it?

The same night I talked to Bill Harmon, I got an email from Harold “Mac” McCurdy who had information on the “super enriched uranium 235.” This email suggested there was a report written about the program which included more than just U-235. The next day, I asked Oak Ridge National Laboratory for a copy of that report.

I also sent an email to Scott Aaron, who has worked in the National Isotope Development Center located at ORNL for several years. While he did not recall the specifics, he suggested Joe Tracy, retired, who might know more.

The report, of which H. C. McCurdy is a co-author, *High Enrichment of Uranium-235*, issued October 28, 1957, described in some detail the results from three programs for the production of highly enriched uranium-235 by the electromagnetic process. The Abstract contains, “Products and enrichments obtained are: (1) 80 grams of 99.9 % U-235; (2) 1100 grams of 99.7% U-235; (3) 8 grams of 99.994% U-235.”

So, the 100 milligrams of uranium oxide that was indicated to be 99.999% U-235 may well have originally been part of this 1950's era program of the Electronuclear Research Division of ORNL.

Mac also told me that a young chemist named John Googin and his associate, T. P. Sprague, were enlisted to handle the selective recovery and purification of the products from the electromagnetic separator (Calutron).

Likely the Bill Harmon sample was also associated with this same set of programs. Which one went to Argonne National Laboratory and returned to Y-12? That is still not confirmed.