

part B0536

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W-7405-ENG-18 3-1-43

The U. S. Government contracted to buy 42 short tons of orange sodium uranate, 83% U₃O₈ and 64 short tons of sodium uranate at about 82.5% U₃O₈, both at \$1.55/lb. The material was to be shipped to the Baker & Williams Warehouse, New York, one day after receipt of notice.

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W-7405-ENG-24 12-8-42

Under this contract, the U. S. Government arranged to buy the U₃O₈ content of approximately 1100 short tons of 65% uranium ore, 750 tons of 65% ore, 250 tons of 65% ore and 1,000 tons of 20% ore. The Government agreed to pay for 85% of the uranium contained in the above lots. The Government also acquired title to the lead content of the 250 ton lot of 65% ore. African Metals agreed to have the radium refined in the first two lots of 65% ore mentioned and of the second two lots of ore to a point where the radium could be refined. AfriMet agreed to return 50% of the radium in the ore to the U. S.. Ore deliveries under the contract were to be completed prior to October 1, 1943.

Under Supplement No. 2 to the contract, the Government agreed to have the radium in the 1,000 tons of 20% ore refined for the account of the contractor and agreed to return to the contractor 90% of the radium in the ore processed as radium bromide and as much of the precious metals as

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possible. The Government agreed to start deliveries of radium not later than November 1, 1944 and to continue at the rate of $3\frac{1}{2}$ grams per month until completed.

Under Supplement No. 4 to this contract, the radium content of the 65% ores was returned to the contractor in the form of a wet sludge containing 50% moisture f.o.b. Mt. Kisco, N.Y., (International Rare Metals Refinery Inc.) AfriMet agreed to recover for the Government a minimum of 70% of the lead (which contained radioactive lead) that was included in the actual amount of radium bearing sludge generated through processing the 250 ton lot of 65% ore.

Note: Two ships transporting material under this contract, the "Besholt" and "Tamesis" were lost to enemy action.

W-7405-ENG-30

5-4-43

Under this contract the Government acquired the U_3O_8 content of 150 long tons of 70% uranium ore at a cost of \$1.045 per pound for 85% of the contained uranium and the total contents of approximately 100 long tons of 70% uranium ore at a cost of \$1.045 per pound for 85% of the uranium and \$12,000/g for the contained radium. Delivery of the ore was to be made f.o.b. Pier 38 New York. Title to the radium content of the 150 ton lot remain with African Metals.

African Metals negotiated a separate contract with Eldorado for recovery of the radium contained in the 150 ton lot. They were required under the contract to return at least 50% of this radium to the U. S. This ore was to be processed at Port Hope by Eldorado.

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The 100 ton lot of ore (entire contents owned by the U.S.) was to be processed at Cannonsburg, PA by Vitro Manufacturing Co. The Government retained the option to recover the radium contained in this lot as radium bromide and resell it to African Metals at a price of \$15.70/mg. The Government had to exercise this sale option within 10 months after delivery of the ore. This option was exercised by the Government and the radium resold to AfriMet.

W-7405-ENG-47

3-29-43

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The Government contracted to buy the following amounts of material which were to be delivered immediately f.o.b. Baker-Williams Warehouse, N.Y., NY. in containers furnished by AfriMet.

<u>Material</u>	<u>Approx. Amount</u>	<u>Assay (%U₃O₈)</u>	<u>Price/lb.</u>
(1) Orange Sodium Uranate	22.67 short tons	82	\$1.55
(2) Yellow Sodium Uranate	20.72 short tons	81	\$1.55
(3) Sodium Uranyl Carbonate	10.86 short tons	48	\$0.75
(4) Black Uranium Oxide	9.81 short tons	98	\$2.05
(5) Yellow Sodium Uranate	147.96 lbs.	72	\$1.37

In addition to these materials the Government retained the option to buy any additional amounts of the above materials received by AfriMet over the following 1-year period. It was expected that AfriMet would receive another 40 short tons of Black Uranium Oxide during the following year and the price to be paid for this material (should the Government exercise their option) was predetermined under the contract as \$2.05/lb. No price was set under the contract for any other materials (items 1-3 and 5) which might become available under the option.

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W-7405-ENG-94

5-27-43

Concerns L30 & L50 Residues

The Government contracted to buy the U₃O₈ content of the following lots of ore from African Metals under this contract. In addition, they also had an option on the lead content of the ores. As was often the case, title to the contained radium remained with African Metals.

<u>Material</u>	<u>Amount *(Short-Tons)</u>	<u>Price/lb.</u>
(1) 65% uranium ore	530	\$1.25 (for 93% of contained U)
(2) 20% uranium ore	1,075	\$1.25 (for 90% of contained U)
(3) 10% uranium ore	10,250	\$1.25 (for 90% of contained U)
(4) 6% uranium ore	2,000	\$1.25 (for 90% of contained U)

*Final revised tonnages of material as per Supplemental Agreement F.

The Government guaranteed the recovery of (in the form of a radium-bearing sludge) 98% of the radium in the 65% ore and 95% of the radium in the other three lots of ore. The Government agreed to pay AfriMet \$12.00 for each milligram they were deficient in radium. This penalty was later reduced to \$9.70/mg by Supplemental Agreement F.

Under the contract the Government also received prior rights to purchase the U₃O₈ content of all similar materials stored in the Belgian Congo and mined prior to May 27, 1943.

Shipment of the ores under this contract was to begin as soon as practical and it was estimated that delivery would be completed by fifteen months from the effective date of the contract.

The Government originally agreed to store all of the residues at its own risk until shipping facilities to Antwerp were free and unoccupied.

Information as to the ultimate disposition of the residues from the first two lots of ore has not been located. However, under Supplemental

Agreement G to this contract the Government agreed to pack, in non-returnable,

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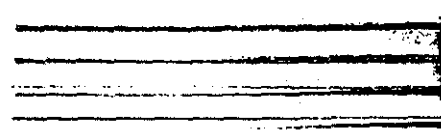
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Government furnished containers, all radium bearing residues from the processing of the 10% (L30) and 6% (L50) ores and return them (f.o.b. New York) at the Government's risk on or before June 30, 1957 upon 6 month's written notice to the Government to do so. If AfriMet failed to give such notice prior to that date, title to the residues passed to the Government.

W-7405-ENG-94 expired on June 30, 1958 and was superseded by the current lease agreement with AfriMet for storage of the residues. African Metals gave up the right to abandon title to the residues under the current agreement.

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W-7405-ENG-259 10-15-43

The Government purchased for immediate delivery approximately 40,000 pounds of 10% African ore in its entirety which included title to the radium content as well as the U_3O_8 . The price paid for the material was based on \$1.125/lb contained uranium and \$11.40/mg contained radium. The uranium content of this ore was originally contracted for under W-7405-ENG-94 and this lot was purchased for experimental purposes.

W-7405-ENG-279 12-5-43 R-10 Residues

The Government arranged to buy 2.6% uranium ore in its entirety from African Metals under this contract. The initial amount contracted for was 5,500 short tons which was increased under several Supplemental Agreements up to 12,000 short tons. The ore was paid for on the basis of \$1.125/lb of contained uranium and \$9.00/mg for the contained radium.

Shipments of ore under the contract from the Belgian Congo were to begin in the first half of 1944 and deliveries f.o.b. New York were to be completed prior to March 15, 1946.

In the event the Government decided to resell any or all of the radium in R-10 material at any time during the five year period following payment of the final invoice, African Metals had the prior right to purchase the material at the following prices: \$9.00/mg contained radium if the material is offered by the Government in the form of a radium bearing sludge containing approx. 50% moisture or \$15.00/mg contained radium if the material had been further refined by the Government and offered for sale in the form of radium bromide.

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The R-10 radium bearing residues generated through the processing of these ores is still owned by the Government and is currently stored in the open at LOOW.

*NOTE: The amount of radium contained in the R-10 was to be determined as follows under the contract.

2.9mg Ra/22.046 lbs. contained U_3O_8

12,000 short tons X 2,000 lbs X 0.027(% U_3O_8) = 648,000 lbs U_3O_8

648,000 lbs contained U_3O_8 X $\frac{1 \text{ mg Ra}}{7.602 \text{ lbs contained } U_3O_8}$ = 85,239.6mg Ra
or 85.24g Ra

This amount is assumed to still be present in the residues stored at the site.

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W-7405-ENG-280

12-5-43

F32 residues

The Government agreed to purchase the uranium concentrated from all of the uranium ore to be mined from the open cut at the Shinkolobwe Mine.

It was originally estimated that this would amount to between 200 to 250 ^(actual was 181 tons) short tons of 50 to 60% uranium ore. This contract was later modified under Supplemental Agreement No. 2 to reflect the purchase of an additional 275 tons of 20% ore. The price paid for the ore was determined as follows: \$1.40/lb for 100% of the U₃O₈ content of ¹³¹~~1250~~ ton lot of 50% ore and \$1.35/lb for the U₃O₈ content of the 20% ore.

African Metals retained title to the radium, lead and precious metals although the Government had an option for purchase of the lead content.

The Government agreed to recover 98% of the radium in the 50% lot of ore and 95% of the radium in the 20% lot as a radium bearing sludge. The Government agreed to pay AfriMet \$9.70 for each mg they were deficient in radium.

Shipments under the contract were to begin in the latter half of 1944 and were to be completed prior to May 15, 1946.

The Government originally agreed to store the radium bearing residues at its own risk until such time as shipping facilities to Antwerp, Belgium, were free and unoccupied by the enemy or until they became available to the contractor. The following passage from Supplemental Agreement No. 7 to the contract gave AfriMet the right to abandon title to the residues on June 30, 1957. This right was eliminated when the current LOOW lease agreement was negotiated.

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"Notwithstanding the provisions of Article III, Recovery and Disposition of F-30 or of any other article of this contract, it is agreed by and between the parties that

- a. All F-32 in the possession of the Government at the Middlesex Warehouse, New Jersey, and subject to this contract will be loaded on freight cars and shipped to the Lake Ontario Ordnance Works in New York by the Government where it will be unloaded from the freight cars, unpacked for bulk storage and dumped into a fenced area by the Government. All such shipping, unloading, unpacking, and dumping will be at the Contractor's sole risk and expense. The Government, however, will assume the expense of loading of said F-32 on freight cars at the Middlesex Warehouse as aforementioned but shall not be responsible for any damage or loss of such material which occurs during the loading operations.
- b. The Government agrees to retain said F-32 in bulk storage within such fenced area and under guard until June 30, 1957 or until it has been removed by the Contractor as hereinafter set forth, provided, however, that such storage of F-32 will be at the Contractor's sole risk without liability being imposed upon the Government for loss, shrinkage, destruction, damage or other cause during such storage period.
- c. The Contractor at its option may repossess said F-32 at any time up to June 30, 1957 by written request to the Government, received by the latter not later than December 30, 1956. Within six months after receipt of such request, the Government will repack, load and ship said F-32 to the Contractor at the sole risk and expense of the Contractor. In the event that said F-32 is not removed from the storage area by June 30, 1957, pursuant to an exercise of the above mentioned option by the Contractor, the parties agree that title thereto will, upon said date, automatically pass to the Government without further action by either party unless they, in the meanwhile, shall have reached a contrary agreement."

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