NOTICE

**CERTAIN DATA
CONTAINED IN THIS
DOCUMENT MAY BE
DIFFICULT TO READ
IN MICROFICHE
PRODUCTS.**

DECLASSIFIED

HW-19239

HW--19239

DE92 010917

FILE _____

Route List

1. ~~_____~~
2. ~~_____~~
3. ~~_____~~
4. ~~_____~~
5. ~~_____~~
6. ~~_____~~

DATE 9-13-48

SUBJECT Summary of Radioactive Contamination
Surveys in the 3000 Area Drinking Water
System

TO File

FROM W. Singlovich

COPY NO. 1-A

BEFORE READING THIS DOCUMENT, SIGN AND DATE BELOW:

U.S. 4-30-51

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

SEARCHED	
SERIALIZED	
INDEXED	
FILED	
OK P. Delain 5-6-81	
BY J. Jordan 5-7-81	
J. M. Eck 3-5-92	
DISTRIBUTION RESTRICTED TO U.S. ONLY	
MAY 3 1951	
DOCUMENT	

DECLASSIFIED

REFERENCE COPY

HW-19239

DECLASSIFIED

CC: HM Parker - CC Gamertsfelder
CF Quackenbush - R. Thayer
JW Healy
W Singlevich - WC Berlin
File

Classification Cancelled (Change to
DECLASSIFIED)

September 13, 1948

By Authority of DOC

SUMMARY OF RADIOACTIVE CONTAMINATION SURVEYS

IN THE

3000 AREA DRINKING WATER SYSTEM

OF RICHLAND COUNTY, SOUTH CAROLINA

May 1973

PM Eick 3-5-92

Revised by DA Burk 3-6-92

SUMMARY:

At the request of the Design and Construction Division, a summary of the results of water sample analyses for radioactive contamination in the 3000 Area drinking water system is presented. This summary is of interest as some thought is directed towards using the 3000 Area Wells as a source of drinking water for the 300 Area, in view of the fact that a positive degree of uranium contamination has been reported rather consistently in the 300 Area sanitary water system. (The last report summarizing the contamination in the 300 Area Wells is included in the H. I. Environs Report for the Month of August, HW-).

Currently, six wells are in use in the 3000 Area; Durand Well #6 and Wells, A, B, C, D, and E, whose approximate location with respect to the charging basis is shown on the attached sketch.

Tables I and II show the contamination levels measured in samples taken from each of the 3000 Area Wells. No beta activity as great as 5×10^{-5} μ o/Liter was detected in any sample. The sensitivity of detection by the evaporation-direct count method of analysis is $\sim 5 \times 10^{-5}$ μ o/Liter. The alpha contamination detected in the samples varied from < 6 dis/min/Liter to 9 dis/min/Liter. (The limit of sensitivity for the ether extraction counting method of analysis is ~ 6 dis/min/Liter). This alpha activity detected in the 3000 Area Wells is comparable to the alpha activity detected in the Richland Durand Wells; fluorophotometer analyses of these samples confirm the contaminant to be trace amounts of uranium, well within the realm of natural uranium that may be present in the water in this area.

Effective immediately, each 3000 Area Well will be sampled at least once a week.

CONCLUSION:

An overall analysis of the attached data indicates no hazard from radioactive contamination in the current 3000 Area drinking water system.

The data also tends to indicate that no contamination of the 3000 Area drinking water has occurred as a result of seepage from the 300 Area waste pond.

W. Singlevich

HEALTH INSTRUMENT DIVISIONS

WS/ee

DECLASSIFIED

DECLASSIFIED

HW-19239

- 2 -

TABLE I

RADIOACTIVE CONTAMINATION SURVEYS IN 3000 AREA WELLS

Well Description	Date	$\mu\text{c/Liter}$	dis/min/Liter
		Beta-Gamma Activity	Alpha Activity
3000 "A"	6/1/48	$< 5.0 \times 10^{-5}$	< 6
	6/4/48	$< 5.0 \times 10^{-5}$	< 6
	8/18/48	$< 5.0 \times 10^{-5}$	< 6
	8/26/48	$< 5.0 \times 10^{-5}$	7*
3000 "B"	6/1/48	$< 5 \times 10^{-5}$	< 6
	6/4/48	$< 5 \times 10^{-5}$	< 6
	8/18/48	$< 5 \times 10^{-5}$	< 6
	8/26/48	$< 5 \times 10^{-5}$	< 6
3000 "C"	6/17/48	$< 5 \times 10^{-5}$	< 6
	6/29/48	$< 5 \times 10^{-5}$	< 6
	8/26/48	$< 5 \times 10^{-5}$	< 6
3000 "D"	6/14/48	$< 5 \times 10^{-5}$	< 6
	8/18/48	$< 5 \times 10^{-5}$	7*
	9/2/48	$< 5 \times 10^{-5}$	8*
3000 "E"	6/14/48	$< 5 \times 10^{-5}$	< 6
	6/30/48	$< 5 \times 10^{-5}$	< 6
	9/2/48	$< 5 \times 10^{-5}$	< 6

TABLE II

RADIOACTIVE CONTAMINATION SURVEY IN 3000 AREA WELL #5

Well Description	Week Ending Period	No. Samples	Average Contamination	
			$\mu\text{c/Liter}$	dis/min/Liter
			Beta-Gamma Activity	Alpha Activity
3000 #5	7/9/48	4	$< 5 \times 10^{-5}$	< 6
	7/16/48	4	$< 5 \times 10^{-5}$	7*
	7/23/48	3	$< 5 \times 10^{-5}$	7*
	7/30/48	4	$< 5 \times 10^{-5}$	< 6
	8/6/48	5	$< 5 \times 10^{-5}$	9*
	8/13/48	3	$< 5 \times 10^{-5}$	7*
	8/16/48	5	$< 5 \times 10^{-5}$	< 6
	8/23/48	1	$< 5 \times 10^{-5}$	< 6

* This alpha activity is from uranium as confirmed by fluorophotometer analysis; the quantity of uranium involved in each sample is within the range that may be present in the water as natural uranium.

DECLASSIFIED

DECLASSIFIED

3000 AREA — WELL LOCATIONS

HW-19239

DECLASSIFIED
CLASSIFIED FILE
300 AREA
OCT 23

SCALE 1" = 1600'

DECLASSIFIED

END

**DATE
FILMED**

5 / 5 / 92