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RADIOACTIVITY DISCHARGED IN
GASEOUS WASTES FROM SEPARATIONS
FACILITIES 200 AREA STACKS
DURING 1970

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INTRODUCTION:

This document summarizes by stack number the amount of radioactivity discharged from the facilities of Chemical Processing Division, Atlantic Richfield Hanford Company. Emission data for 231-Z Building and 2724-W, Laundry Building, which are operated by other AEC Contractors are not available for this report.

SUMMARY:

Total beta, alpha and iodine¹³¹ radioactive emissions from the stacks for 1970 were as follows:

	Curies
Alpha (Pu, assumed)	1.59×10^{-1}
Alpha (U, assumed)	1.44×10^{-3}
Beta	1.93
Iodine ¹³¹	4.92×10^{-1}

DISCUSSIONS:

Air samples taken continuously from gaseous release facilities were analyzed for total beta and alpha activity (and iodine¹³¹ activity, where applicable). Where sample data were not available, the total radioactive emission was adjusted by using the average emission rate prior to the subject period; or where activity was near constant, by using the daily average as a base. A gamma scan of the 291-S stack is included in the report.

Stack identification numbers used in the report were based on Document No. ARH-968, December 17, 1970, by E. F. Curren, "200 Area Points of Release of Gaseous Effluents to the Plant Environment."

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EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 291-A-1
Sample Code: FSB

291-A-1
(ICS) and (ICC)

Facility: Purex 200' Stack

Purex 200' Stack

Function of Stack: Discharges air from 291-A filters. Includes 202-A canyon ventilation air, vessel and condenser vents, treated dissolver off-gas.

NOTE:

The ICS is a caustic scrubber sampler that samples the 291-A-1 stack gas for Iodine 131. The sample stream then passes through an activated charcoal filter sampler (ICC) for further collection of I 131.

Month	Alpha (Curies)	Beta (Curies)	ICS Iodine 131 (Curies)	ICC Iodine 131 (Curies)
January	1.986×10^{-4}	1.69×10^{-2}	0.03763	0.00352
February	7.06×10^{-5}	2.67×10^{-2}	.0236	.0026
March	4.0×10^{-8}	9.95×10^{-2}	.0116	.0005
April	1.78×10^{-4}	5.27×10^{-2}	.0147	.0005
May	3.91×10^{-4}	9.21×10^{-2}	.02880	.02046
June	3.15×10^{-4}	4.01×10^{-2}	.0620	.0258
July	1.68×10^{-4}	9.41×10^{-2}	.01843	.00035
August	2.87×10^{-4}	1.91×10^{-1}	.0290	.0011
September	3.95×10^{-4}	8.82×10^{-2}	.0122	.00313
October	3.26×10^{-2}	2.07×10^{-1}	.01818	.00139
November	2.68×10^{-2}	3.07×10^{-1}	.01624	.00449
December	9.31×10^{-2}	1.40×10^{-1}	.06682	.0888
TOTAL	1.55×10^{-1}	1.43	3.39×10^{-1}	1.53×10^{-1}

Total I 133 Emission

ICS	3.39×10^{-1}
ICC	1.53×10^{-1}
	4.92×10^{-1}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number:	296-A-1	296-A-2
Sample Code:	E-1	E-2
Facility:	202-A	202-A
Function of Stack:	Filtered air from H and Q Cells and Pr Room.	Hood exhaust air from the West sample gallery.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January	5.49×10^{-5}	4.60×10^{-6}	2.00×10^{-7}	4.20×10^{-6}
February	1.16×10^{-5}	1.69×10^{-5}	2.00×10^{-7}	2.00×10^{-6}
March	4.00×10^{-6}	2.72×10^{-4}	1.00×10^{-7}	4.10×10^{-6}
April	1.13×10^{-4}	6.94×10^{-5}	5.00×10^{-7}	1.40×10^{-6}
May	2.10×10^{-4}	1.56×10^{-5}	4.60×10^{-6}	4.60×10^{-6}
June	2.60×10^{-6}	1.60×10^{-6}	2.50×10^{-6}	3.90×10^{-6}
July	6.16×10^{-6}	5.42×10^{-6}	1.90×10^{-7}	2.51×10^{-6}
August	3.40×10^{-6}	2.40×10^{-6}	1.00×10^{-7}	1.50×10^{-6}
September	4.39×10^{-5}	3.03×10^{-5}	2.00×10^{-7}	8.00×10^{-7}
October	3.40×10^{-7}	2.20×10^{-6}	1.40×10^{-7}	7.00×10^{-7}
November	1.42×10^{-5}	3.10×10^{-6}	1.00×10^{-7}	3.00×10^{-7}
December	3.50×10^{-6}	1.03×10^{-5}	2.00×10^{-8}	5.60×10^{-6}
TOTAL	4.68×10^{-4}	4.34×10^{-4}	8.85×10^{-6}	3.16×10^{-5}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-A-3
Sample Code: E-3

296-A-5A
E-5A

Facility: 202-A

202-A

Function of Stack: Hood exhaust air from
Easte sample gallery.

Filtered air from West duct
of Purex Laboratory.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January	3.00×10^{-7}	3.20×10^{-6}
February	1.00×10^{-7}	2.30×10^{-6}
March	2.00×10^{-7}	1.60×10^{-6}
April	2.00×10^{-7}	4.90×10^{-6}
May	1.00×10^{-7}	4.90×10^{-6}
June	1.00×10^{-7}	1.80×10^{-6}
July	1.50×10^{-7}	9.10×10^{-7}
August	1.00×10^{-7}	1.90×10^{-6}
September	1.00×10^{-7}	2.00×10^{-7}
October	1.50×10^{-7}	4.00×10^{-7}
November	1.00×10^{-7}	1.00×10^{-7}
December	1.50×10^{-7}	4.60×10^{-6}
TOTAL	1.75×10^{-6}	2.68×10^{-5}

<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
2.4×10^{-6}	4.69×10^{-5}
6.0×10^{-7}	2.3×10^{-6}
1.2×10^{-6}	8.39×10^{-5}
5.0×10^{-7}	1.9×10^{-6}
5.0×10^{-7}	3.6×10^{-6}
5.0×10^{-7}	2.9×10^{-6}
5.8×10^{-7}	1.53×10^{-5}
5.0×10^{-7}	2.7×10^{-6}
5.0×10^{-7}	1.3×10^{-5}
7.0×10^{-7}	1.6×10^{-6}
5.0×10^{-7}	1.4×10^{-6}
5.8×10^{-7}	2.63×10^{-5}
9.06×10^{-6}	2.01×10^{-4}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-A-5B
Sample Code: E-5B

296-A-6
E-6

Facility: 202-A

202-A

Function of Stack: Filtered air from the East
duct of the Laboratory.

Unfiltered air from the East sample
gallery and U-cell.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January			1.7×10^{-6}	2.68×10^{-4}
February	5.0×10^{-7}	4.5×10^{-6}	4.0×10^{-7}	5.29×10^{-5}
March	2.7×10^{-6}	9.12×10^{-4}	1.0×10^{-6}	7.48×10^{-4}
April	6.0×10^{-7}	1.5×10^{-6}	5.0×10^{-7}	1.13×10^{-4}
May	5.0×10^{-7}	8.25×10^{-5}	3.0×10^{-7}	5.49×10^{-5}
June	5.0×10^{-7}	1.5×10^{-6}	8.0×10^{-7}	4.5×10^{-4}
July	6.0×10^{-7}	1.89×10^{-5}	4.2×10^{-7}	3.03×10^{-5}
August	5.0×10^{-7}	2.7×10^{-6}	2.0×10^{-7}	1.18×10^{-4}
September	5.0×10^{-7}	8.0×10^{-7}	1.0×10^{-6}	1.97×10^{-5}
October	6.0×10^{-7}	2.7×10^{-6}	6.4×10^{-6}	6.9×10^{-5}
November	5.0×10^{-7}	2.9×10^{-6}	5.0×10^{-7}	2.67×10^{-5}
December	6.0×10^{-7}	1.38×10^{-5}	3.5×10^{-7}	2.48×10^{-4}
TOTAL	8.1×10^{-6}	1.05×10^{-3}	1.36×10^{-5}	2.18×10^{-3}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-A-7
Sample Code: E-7

Facility: 202-A

Function of Stack: Unfiltered air from West
sample gallery and R-cell.

296-A-8
E-8

202-A

Unfiltered air from West
end of P&O gallery. (White Room)

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January	8.1×10^{-6}	5.91×10^{-3}	2.0×10^{-7}	9.14×10^{-5}
February	4.4×10^{-6}	1.86×10^{-4}	1.0×10^{-7}	9.0×10^{-7}
March	3.24×10^{-5}	2.22×10^{-2}	2.1×10^{-6}	2.87×10^{-4}
April	9.5×10^{-6}	1.83×10^{-3}	8.0×10^{-7}	1.0×10^{-7}
May	5.67×10^{-5}	4.88×10^{-4}	5.0×10^{-7}	2.33×10^{-5}
June	2.97×10^{-5}	3.46×10^{-4}	5.0×10^{-7}	2.55×10^{-5}
July	3.82×10^{-6}	3.76×10^{-4}	6.8×10^{-7}	4.46×10^{-5}
August	6.0×10^{-7}	3.17×10^{-4}	7.0×10^{-7}	1.75×10^{-5}
September	3.7×10^{-6}	2.56×10^{-4}	2.2×10^{-6}	1.13×10^{-4}
October	2.67×10^{-5}	3.51×10^{-4}	7.0×10^{-7}	1.07×10^{-5}
November	2.8×10^{-6}	2.98×10^{-4}	5.0×10^{-7}	4.7×10^{-6}
December	2.1×10^{-6}	5.83×10^{-4}	7.0×10^{-7}	1.71×10^{-5}
TOTAL	1.81×10^{-4}	3.31×10^{-2}	9.68×10^{-6}	6.36×10^{-4}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-A-10
Sample Code: BT-2

Facility: Purex

Function of Stack: Filtered air from railroad
burial tunnel No. 2.

296-A-12 (156 ft. stack)
ARVVS

244-AR Vault

Filtered air from the
Vessel Vent system.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>	<u>I-131 (Curies)</u>
January	2.0×10^{-7}	4.97×10^{-2}	8.6×10^{-7}	6.8×10^{-3}	3×10^{-7}
February	4.0×10^{-8}	1.96×10^{-3}	9.5×10^{-8}	3.1×10^{-5}	1.1×10^{-4}
March	1.0×10^{-7}	1.61×10^{-3}	2.1×10^{-7}	9.6×10^{-5}	1.6×10^{-6}
April	3.0×10^{-7}	6.01×10^{-4}	8.7×10^{-7}	3.5×10^{-4}	1.1×10^{-4}
May	2.0×10^{-7}	3.7×10^{-5}	$\angle 7.4 \times 10^{-7}$	6.7×10^{-4}	3.8×10^{-6}
June	2.0×10^{-7}	1.44×10^{-5}	$\angle 1.1 \times 10^{-6}$	1.3×10^{-4}	3.3×10^{-6}
July	2.0×10^{-7}	1.48×10^{-5}	$\angle 4.3 \times 10^{-7}$	2.2×10^{-6}	$\angle 2.0 \times 10^{-7}$
August	2.0×10^{-7}	6.0×10^{-7}	$\angle 6.5 \times 10^{-7}$	2.4×10^{-5}	$\angle 1.1 \times 10^{-7}$
September	1.0×10^{-7}	3.15×10^{-5}	$\angle 1.6 \times 10^{-6}$	1.2×10^{-5}	$\angle 1.3 \times 10^{-7}$
October	2.5×10^{-7}	6.3×10^{-6}	$\angle 6.0 \times 10^{-7}$	3.5×10^{-7}	2.9×10^{-7}
November	2.0×10^{-7}	7.6×10^{-6}	$\angle 1.1 \times 10^{-6}$	3.0×10^{-4}	$\angle 1.9 \times 10^{-7}$
December	1.0×10^{-7}	6.0×10^{-6}	$\angle 3.3 \times 10^{-7}$	3.9×10^{-6}	2.0×10^{-7}
TOTAL	2.99×10^{-6}	5.40×10^{-2}	$\angle 8.6 \times 10^{-6}$	8.4×10^{-3}	2.3×10^{-4}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-A-13

Sample Code: ARCS

Facility: 244-AR Vault

Function of Stack: Filtered air from
canyon and cell ventilation.

296-A-14

F-4

Purex

Filtered air from 293-A
Building.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>	<u>I-131 (Curies)</u>
January	1.5×10^{-6}	7.4×10^{-6}	1.4×10^{-5}
February	6.3×10^{-7}	9.5×10^{-6}	8.9×10^{-6}
March	7.8×10^{-6}	1.7×10^{-5}	1.5×10^{-6}
April	2.5×10^{-5}	2.4×10^{-5}	3.0×10^{-5}
May	1.5×10^{-5}	2.1×10^{-5}	6.0×10^{-6}
June	1.6×10^{-5}	1.5×10^{-5}	2.2×10^{-6}
July	1.8×10^{-5}	1.2×10^{-5}	7.0×10^{-6}
August	1.7×10^{-5}	1.6×10^{-5}	6.0×10^{-6}
September	1.7×10^{-5}	1.9×10^{-5}	6.8×10^{-6}
October	1.8×10^{-5}	1.3×10^{-5}	7.0×10^{-6}
November	1.5×10^{-5}	2.5×10^{-5}	6.0×10^{-6}
December	1.2×10^{-5}	3.8×10^{-5}	5.0×10^{-6}
TOTAL	1.6×10^{-4}	2.2×10^{-4}	1.0×10^{-4}

* Estimate for year

<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
Sampler activated February 1970	
1×10^{-7}	5×10^{-7}
2×10^{-7}	4.7×10^{-6}
3×10^{-7}	8×10^{-7}
3×10^{-7}	8.1×10^{-6}
2×10^{-7}	3×10^{-7}
2.5×10^{-7}	5.5×10^{-7}
2×10^{-7}	1.7×10^{-6}
2×10^{-7}	1×10^{-7}
4×10^{-7}	2.6×10^{-6}
2×10^{-7}	2.7×10^{-6}
2.5×10^{-7}	2.2×10^{-5}
2.6×10^{-6} *	4.4×10^{-5} *

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-A-17
Sample Code: AXFS
Facility: 241-A Tank Farm
Function of Stack: Filtered non-condensable vapors from
waste storage tanks in 241-A and 241-AX
tank farms.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January	7.6×10^{-7}	2.9×10^{-7}
February	8.6×10^{-7}	2.4×10^{-6}
March	1.8×10^{-7}	6.1×10^{-5}
April	3.8×10^{-6}	3.8×10^{-5}
May	12.5×10^{-6}	8.7×10^{-5}
June	13.8×10^{-6}	1.0×10^{-4}
July	13.0×10^{-6}	2.6×10^{-6}
August	14.1×10^{-6}	1.6×10^{-6}
September	16.1×10^{-6}	13.6×10^{-6}
October	13.7×10^{-6}	2.0×10^{-7}
November	11.8×10^{-6}	16.5×10^{-6}
December	13.8×10^{-6}	2.8×10^{-5}
TOTAL	13.5×10^{-5}	3.3×10^{-4}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number:	291-B-1	296-B-2
Sample Code:	291-B	(BYS-ITS-1)
Facility:	B Plant (221-B) 200' Stack	In-Tank Solidification No. 1
Function of Stack:	Air from 291-B-1 filters. Includes canyon ventilation air and air from the No. 1 process vessel vent.	Filtered off-gas from the process exhaust train.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January	4.1×10^{-5}	3.9×10^{-2}	9.4×10^{-7}	1.6×10^{-5}
February	1.7×10^{-5}	2.9×10^{-2}	6.6×10^{-6}	6.6×10^{-5}
March	1.2×10^{-4}	6.6×10^{-2}	1.4×10^{-6}	1.6×10^{-5}
April	2.09×10^{-4}	3.4×10^{-3}	2.1×10^{-6}	1.4×10^{-5}
May	$/2.1 \times 10^{-5}$	1.5×10^{-3}	$/2.9 \times 10^{-6}$	5.9×10^{-5}
June	$/1.9 \times 10^{-5}$	8.6×10^{-4}	$/2.1 \times 10^{-6}$	1.2×10^{-4}
July	$/1.8 \times 10^{-5}$	5.2×10^{-4}	$/2.8 \times 10^{-6}$	5.7×10^{-5}
August	1.4×10^{-5}	8.0×10^{-5}	$/2.3 \times 10^{-6}$	2.2×10^{-5}
September	$/7.4 \times 10^{-5}$	3.2×10^{-4}	$/4.3 \times 10^{-6}$	3.8×10^{-5}
October	$/2.4 \times 10^{-5}$	6.5×10^{-5}	$/4.5 \times 10^{-6}$	2.5×10^{-5}
November	$/1.9 \times 10^{-5}$	4.2×10^{-5}	$/2.0 \times 10^{-6}$	1.7×10^{-5}
December	$/2.0 \times 10^{-5}$	9.6×10^{-5}	$/1.5 \times 10^{-6}$	2.4×10^{-5}
TOTAL	$/5.9 \times 10^{-4}$	1.41×10^{-1}	$/3.3 \times 10^{-5}$	4.7×10^{-4}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number:	296-B-3	296-B-6
Sample Code:	(BYS-ITS-2)	(BYC #3)
Facility:	In-Tank Solidification No. 2	In-Tank Solidification No. 2
Function of Stack:	Filtered off-gas from the process exhaust train.	Filtered exhaust air from air cooling the concentrate in BY Farm "bottoms" tanks (107, 108, 110 and 111-BY).

Month	Alpha (Curies)	Beta (Curies)	Alpha (Curies)	Beta (Curies)
January	1.0×10^{-6}	6.5×10^{-6}	Valid data started in May 1970	
February	8.1×10^{-9}	1.5×10^{-6}		
March	3.5×10^{-8}	1.7×10^{-5}		
April	2.5×10^{-7}	5.8×10^{-5}		
May	2.2×10^{-7}	3.4×10^{-5}	3.5×10^{-6}	5.9×10^{-4}
June	2.1×10^{-7}	3.5×10^{-5}	4.9×10^{-6}	2.6×10^{-4}
July	2.1×10^{-7}	1.6×10^{-5}	4.2×10^{-6}	5.8×10^{-4}
August	3.2×10^{-7}	8.9×10^{-5}	3.7×10^{-6}	7.7×10^{-4}
September	3.0×10^{-6}	3.9×10^{-5}	1.6×10^{-5}	3.6×10^{-4}
October	5.0×10^{-6}	3.6×10^{-5}	3.1×10^{-6}	2.6×10^{-5}
November	2.3×10^{-7}	1.5×10^{-5}	1.6×10^{-6}	2.2×10^{-4}
December	1.5×10^{-7}	7.4×10^{-6}	1.5×10^{-6}	3.1×10^{-5}
			Adjustment *	2.0×10^{-5}
TOTAL	1.1×10^{-5}	3.5×10^{-4}	5.9×10^{-5}	4.2×10^{-3}

* Adjustment for periods when data were not available.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number:	296-B-8	296-B-9
Sample Code:	(BYS #4)	(BYS #5)
Facility:	In-Tank Solidification No. 2.	In-Tank Solidification No. 2.
Function of Stack:	Filtered exhaust air from air cooling the concentrate in BY Farm "bottoms" tanks (109-BY).	Filtered exhaust air from air cooling the concentrate in BY Farm "bottoms" tanks (103, 104, 105 and 106-BY).

<u>Month</u>	<u>Alpha (Curie)</u>	<u>Beta (Curies)</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January				
February				
March				
April	1.1×10^{-7}	6.5×10^{-5}		
May	1.1×10^{-7}	5.1×10^{-5}	3.6×10^{-6}	2.1×10^{-6}
June	1.1×10^{-7}	2.3×10^{-5}	4.3×10^{-6}	3.3×10^{-6}
July	1.7×10^{-7}	7.0×10^{-6}	4.1×10^{-6}	1.5×10^{-5}
August	5.9×10^{-7}	5.2×10^{-6}	4.7×10^{-6}	2.0×10^{-5}
September	5.2×10^{-7}	4.5×10^{-6}	4.1×10^{-6}	4.3×10^{-5}
October	2.1×10^{-7}	1.3×10^{-5}	2.4×10^{-6}	3.3×10^{-5}
November	1.0×10^{-7}	4.0×10^{-6}	1.1×10^{-6}	1.7×10^{-5}
December	3.2×10^{-7}	2.8×10^{-5}	----	----
TOTAL	2.2×10^{-6}	2.0×10^{-4}	2.4×10^{-5}	1.3×10^{-4}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 291-C-1 (200 ft.)
 Sample Code: SSWS

296-C-2
 WPS

Facility: Semiworks (201-C)

Semiworks (201-C)

Function of Stack: Filtered air from cell
 ventilation and process
 vessel vent.

Filtered air from A and
 C sample galleries.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January	7.7×10^{-7}	4.3×10^{-5}	2.3×10^{-8}	5.8×10^{-7}
February	7.6×10^{-7}	8.2×10^{-6}	1.9×10^{-8}	4.9×10^{-7}
March	1.2×10^{-5}	3.0×10^{-5}	4.5×10^{-7}	3.0×10^{-7}
April	1.9×10^{-5}	1.7×10^{-5}	8.0×10^{-7}	4.6×10^{-7}
May	1.5×10^{-5}	1.3×10^{-5}	5.0×10^{-7}	3.6×10^{-7}
June	1.5×10^{-5}	1.2×10^{-5}	5.0×10^{-7}	2.5×10^{-7}
July	1.6×10^{-5}	7.8×10^{-5}	6.1×10^{-7}	8.6×10^{-7}
August	1.9×10^{-5}	1.1×10^{-5}	4.1×10^{-7}	7.8×10^{-7}
September	1.2×10^{-5}	7.7×10^{-6}	1.8×10^{-6}	1.5×10^{-6}
October	1.4×10^{-5}	1.2×10^{-5}	1.2×10^{-6}	3.4×10^{-6}
November	9.8×10^{-6}	6.7×10^{-6}	1.3×10^{-6}	8.2×10^{-7}
December	7.1×10^{-6}	2.7×10^{-5}	1.1×10^{-6}	6.2×10^{-6}
TOTAL	1.4×10^{-4}	2.7×10^{-4}	8.7×10^{-6}	1.6×10^{-5}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-C-5
Sample Code: (CRV)

Facility: 244-AR Vault

Function of Stack: Filtered air from cell ventilation
and process vessel vent.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January	3.5×10^{-6}	1.2×10^{-3}
February	1.3×10^{-6}	3.3×10^{-6}
March	2.8×10^{-6}	5.3×10^{-6}
April	2.6×10^{-7}	2.8×10^{-6}
May	7.6×10^{-7}	8.4×10^{-7}
June	6.0×10^{-6}	1.4×10^{-5}
July	2.3×10^{-6}	4.4×10^{-6}
August	1.4×10^{-6}	8.0×10^{-7}
September	2.4×10^{-6}	4.8×10^{-6}
October	1.6×10^{-6}	3.0×10^{-6}
November	1.2×10^{-6}	3.2×10^{-6}
December	2.0×10^{-6}	8.2×10^{-6}
TOTAL	2.6×10^{-5}	1.3×10^{-3}

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number:	291-S	296-S-1
Sample Code:	001	029
Facility:	Redox 200' stack	Redox 202-S
Function of Stack:	Filtered canyon Ventilation air vessel vents, treated dissolver off-gas.	Filtered air from the south sample gallery and sampler hoods.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January	$/1.28 \times 10^{-5}$	5.76×10^{-3}	$/1.77 \times 10^{-8}$	2.16×10^{-8}
February	$/1.21 \times 10^{-5}$	4.92×10^{-3}	$/2.03 \times 10^{-8}$	2.36×10^{-7}
March	$/2.80 \times 10^{-5}$	2.96×10^{-3}	$/2.53 \times 10^{-8}$	4.74×10^{-7}
April	$/2.44 \times 10^{-5}$	2.04×10^{-3}	$/6.33 \times 10^{-8}$	5.35×10^{-7}
May	$/2.11 \times 10^{-5}$	9.88×10^{-3}	$/2.28 \times 10^{-8}$	1.19×10^{-6}
June	$/1.25 \times 10^{-5}$	2.24×10^{-3}	$/1.77 \times 10^{-8}$	6.61×10^{-7}
July	$/1.88 \times 10^{-5}$	4.31×10^{-3}	$/1.78 \times 10^{-8}$	5.11×10^{-7}
August	$/2.51 \times 10^{-5}$	1.56×10^{-3}	$/1.78 \times 10^{-8}$	5.00×10^{-7}
September	$/2.23 \times 10^{-5}$	1.00×10^{-3}	$/5.06 \times 10^{-8}$	4.84×10^{-7}
October	$/2.03 \times 10^{-5}$	1.15×10^{-3}	$/1.14 \times 10^{-8}$	7.37×10^{-7}
November	$/2.03 \times 10^{-5}$	1.94×10^{-3}	$/2.28 \times 10^{-8}$	1.44×10^{-6}
December	$/1.71 \times 10^{-5}$	2.65×10^{-3}	$/5.49 \times 10^{-8}$	7.87×10^{-6}
TOTAL	$/2.35 \times 10^{-4}$	4.04×10^{-2}	$/3.40 \times 10^{-7}$	1.46×10^{-5}

This sample not received for 16 days
during 1970. DATA ADJUSTING USING AVERAGE
EMISSION RATE AT TIME.

HLM:cb

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-S-2
Sample Code: 016

Facility: Redox 202-S

Function of Stack: Filtered air from the
north sample gallery and
sample hoods.

296-S-4
003

Redox 202-S

Filtered air from Decontamination Room
and Regulated Shop and unfiltered air
from the Regulated Tool Room, Low level
decontamination sink and SWP Lobby.

Month	Alpha (Curies)	Beta (Curies)	Alpha (Curies)	Beta (Curies)
January	5.58×10^{-8}	5.69×10^{-7}	4.94×10^{-8}	8.71×10^{-7}
February	1.02×10^{-8}	1.84×10^{-7}	1.07×10^{-7}	1.07×10^{-6}
March	1.27×10^{-8}	3.96×10^{-7}	7.17×10^{-8}	2.19×10^{-6}
April	2.54×10^{-8}	4.12×10^{-7}	5.25×10^{-8}	1.17×10^{-6}
May	3.55×10^{-8}	6.74×10^{-7}	5.04×10^{-8}	2.96×10^{-6}
June	1.02×10^{-8}	4.83×10^{-7}	1.01×10^{-7}	5.66×10^{-6}
July	4.06×10^{-8}	4.68×10^{-7}	6.36×10^{-9}	4.74×10^{-6}
August	2.38×10^{-7}	2.19×10^{-6}	3.85×10^{-7}	4.01×10^{-6}
September	1.26×10^{-8}	6.29×10^{-7}	6.06×10^{-8}	2.31×10^{-6}
October	2.67×10^{-8}	2.35×10^{-7}	5.50×10^{-8}	5.49×10^{-7}
November	2.66×10^{-8}	1.15×10^{-7}	1.44×10^{-8}	6.02×10^{-7}
December	5.37×10^{-8}	7.45×10^{-7}	4.22×10^{-8}	1.45×10^{-6}
TOTAL	5.48×10^{-7}	1.70×10^{-5}	9.96×10^{-7}	2.76×10^{-5}
	$.49 \times 10^{-7}$	$.15 \times 10^{-5}$	$.15 \times 10^{-7}$	$.41 \times 10^{-5}$
Adjusted	5.97×10^{-7}	1.85×10^{-5}	Adjusted	1.01×10^{-6}
				3.17×10^{-5}

This sample point not received for 30 days
during 1970. DATA ADJUSTED USING AVERAGE EMISSION
RATE AT TIME.
HLM:cb

This sample point not received for
47 days during 1970. DATA ADJUSTED.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-S-5
 Sample Code: 017
 Facility: Redox, 202-S
 Function of Stack: Filtered air from the
 Product Removal Cage (PR-33).

296-S-6
 002

Redox, 202-S

Unfiltered air from the Silo Sample Gallery
 organic feed tank and sample elevator.

Month	Alpha (Curies)	Beta (Curies)	Alpha (Curies)	Beta (Curies)
January	5.48×10^{-8}	1.65×10^{-7}	3.04×10^{-8}	3.85×10^{-6}
February	5.16×10^{-8}	2.61×10^{-7}	3.12×10^{-7}	2.25×10^{-6}
March	9.51×10^{-8}	4.55×10^{-7}	2.05×10^{-7}	9.54×10^{-6}
April	5.22×10^{-8}	5.16×10^{-7}	7.22×10^{-7}	5.47×10^{-6}
May	1.50×10^{-7}	1.10×10^{-7}	3.04×10^{-8}	4.33×10^{-5}
June	7.26×10^{-8}	8.80×10^{-7}	6.73×10^{-7}	1.46×10^{-5}
July	6.07×10^{-7}	5.44×10^{-7}	3.04×10^{-8}	8.45×10^{-6}
August	1.52×10^{-7}	5.89×10^{-7}	3.80×10^{-8}	1.13×10^{-5}
September	1.92×10^{-7}	7.25×10^{-7}	2.05×10^{-7}	6.01×10^{-6}
October	4.76×10^{-8}	4.54×10^{-7}	4.73×10^{-7}	6.46×10^{-6}
November	7.50×10^{-8}	7.53×10^{-7}	6.16×10^{-7}	1.09×10^{-5}
December	1.32×10^{-7}	1.68×10^{-5}	6.78×10^{-7}	7.92×10^{-6}
TOTAL	1.68×10^{-6}	2.32×10^{-5}	4.02×10^{-6}	1.30×10^{-4}

This sample point not received for 14 days during
 1970. DATA ADJUSTED USING AVERAGE EMISSION
 RATE AT TIME.

This sample point not received 14 days
 during 1970. DATA ADJUSTED USING AVERAGE
 EMISSION RATE AT TIME.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-S-7
Sample Code: 101

296-S-7
102

Facility: Redox, 233-S

Function of Stack: The 101 and 102 samplers sample exhaust air from the 233-S Building. The two filter banks located in the filter room adjacent to 233-S Building are used alternately each week. Both banks feed a common exhaust stack, 296-S-7.

Month	Alpha (Curies)	Beta (Curies)	Alpha (Curies)	Beta (Curies)
January	8.71×10^{-7}	8.29×10^{-7}	5.25×10^{-6}	1.49×10^{-6}
February	2.11×10^{-6}	1.01×10^{-6}	1.61×10^{-6}	6.77×10^{-7}
March	1.39×10^{-6}	1.45×10^{-6}	7.52×10^{-7}	8.33×10^{-7}
April	7.65×10^{-7}	2.75×10^{-6}	2.21×10^{-6}	1.96×10^{-6}
May	2.30×10^{-7}	5.16×10^{-7}	3.47×10^{-6}	1.59×10^{-6}
June	1.42×10^{-6}	1.29×10^{-6}	7.64×10^{-7}	1.94×10^{-6}
July	3.88×10^{-7}	1.61×10^{-6}	5.15×10^{-6}	7.19×10^{-7}
August	7.25×10^{-7}	1.28×10^{-6}	1.51×10^{-6}	2.09×10^{-6}
September	3.78×10^{-7}	1.10×10^{-6}	7.52×10^{-6}	1.93×10^{-6}
October	1.73×10^{-6}	1.73×10^{-6}	9.61×10^{-7}	8.78×10^{-7}
November	1.03×10^{-6}	2.20×10^{-6}	7.84×10^{-7}	9.98×10^{-7}
December	5.63×10^{-7}	5.23×10^{-6}	6.29×10^{-7}	3.34×10^{-7}
TOTAL	1.16×10^{-5}	2.10×10^{-5}	3.06×10^{-5}	1.54×10^{-5}
Adjusted	$.94 \times 10^{-5}$	1.69×10^{-5}	3.25×10^{-5}	1.63×10^{-5}
	2.10×10^{-5}	3.79×10^{-5}	Adjusted	6.31×10^{-5}
				3.17×10^{-5}

This sample point not received for 163 days during 1970. DATA ADJUSTED.

This sample point not received for 168 days during 1970. DATA ADJUSTED.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREA.- 1970

Stack Number: 296-S-13
Sample Code: 201

Facility: 222-S Laboratory

Function of Stack: Main stack receives filtered
air from hoods, glove boxes,
hot cells and ventilation.

296-S-14
901

241-SX tank farm, 401 Building

Unfiltered condenser vent from two
241-SX waste tanks.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
January	1.53×10^{-6}	3.14×10^{-4}
February	4.05×10^{-6}	2.75×10^{-4}
March	3.51×10^{-6}	3.94×10^{-4}
April	2.48×10^{-6}	9.42×10^{-4}
May	2.49×10^{-6}	2.72×10^{-3}
June	3.50×10^{-6}	7.33×10^{-4}
July	1.68×10^{-6}	3.22×10^{-4}
August	5.73×10^{-6}	1.59×10^{-3}
September	8.04×10^{-6}	1.43×10^{-3}
October	8.85×10^{-6}	1.56×10^{-3}
November	2.58×10^{-6}	5.69×10^{-4}
December	1.73×10^{-6}	3.63×10^{-3}
TOTAL	4.62×10^{-5}	1.45×10^{-2}

Adjusted

<u>Alpha (Curies)</u>	<u>Beta (Curies)</u>
4.76×10^{-7}	1.55×10^{-5}
5.48×10^{-7}	2.56×10^{-5}
2.54×10^{-8}	1.84×10^{-5}
4.24×10^{-8}	5.79×10^{-4}
3.90×10^{-9}	3.70×10^{-5}
1.61×10^{-7}	7.98×10^{-5}
4.06×10^{-7}	9.32×10^{-5}
2.36×10^{-6}	1.67×10^{-4}
4.02×10^{-6}	1.01×10^{-3}
2.23×10^{-6}	$.60 \times 10^{-3}$
6.25×10^{-6}	1.61×10^{-3}

Samples on 4-10-70, off 7-1-70.

This sample point not received for 130 days
during 1970. DATA ADJUSTED.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 296-S-15
Sample Code: 902

Facility: 241-SX

Function of Stack: Filtered vent off-gas from
241-SX waste tanks (cooling system).

296-S-16
264

219-S Vault, Redox

Filtered air from the 219-S
ventilation storage tanks.

Month	Alpha (Curies)	Beta (Curies)
January	1.706×10^{-9}	1.96×10^{-4}
February	1.225×10^{-7}	7.48×10^{-5}
March	1.794×10^{-7}	1.27×10^{-4}
April	1.296×10^{-7}	2.33×10^{-4}
May	1.276×10^{-7}	1.93×10^{-4}
June	1.433×10^{-7}	1.39×10^{-4}
July	1.186×10^{-7}	8.55×10^{-5}
August	1.120×10^{-6}	1.76×10^{-4}
September	1.453×10^{-7}	2.53×10^{-4}
October	1.270×10^{-7}	1.39×10^{-4}
November	1.261×10^{-7}	1.15×10^{-4}
December	1.459×10^{-7}	1.02×10^{-4}
TOTAL	1.486×10^{-6}	1.83×10^{-3}
	1.05×10^{-6}	$.02 \times 10^{-3}$
Adjusted	1.491×10^{-6}	1.85×10^{-3}

Alpha (Curies)	Beta (Curies)
1.82×10^{-7}	8.02×10^{-6}
6.96×10^{-7}	3.10×10^{-5}
3.57×10^{-6}	7.46×10^{-5}
1.53×10^{-4}	2.63×10^{-3}
4.10×10^{-4}	6.52×10^{-3}
3.09×10^{-4}	4.89×10^{-3}
3.09×10^{-4}	4.89×10^{-3}
1.01×10^{-6}	1.03×10^{-4}
1.58×10^{-6}	9.57×10^{-5}
1.32×10^{-6}	8.25×10^{-5}
9.71×10^{-7}	1.35×10^{-5}
3.2×10^{-7}	2.48×10^{-6}
1.19×10^{-3}	1.93×10^{-2}

This sample point not received for 4 days during
1970. DATA ADJUSTED.

This sample point not received for 49 days
during 1970. DATA ADJUSTED USING ESTIMATED
EMISSION RATE AT TIME.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 291-T
Sample Code: 401

296-T-1
301

Facility: 200 foot stack, 221-T

242-T

Function of Stack. Exhaust air from the 221-T canyon.

Unfiltered air from the hot cells.

Month	Alpha (Curies)	Beta (Curies)	Alpha (Curies)	Beta (Curies)
January	3.45×10^{-5}	4.17×10^{-3}	6.21×10^{-8}	5.93×10^{-6}
February	1.29×10^{-5}	3.27×10^{-3}	8.17×10^{-8}	3.07×10^{-6}
March	1.25×10^{-5}	9.43×10^{-3}	1.62×10^{-7}	3.12×10^{-6}
April	9.29×10^{-6}	9.45×10^{-3}	6.86×10^{-8}	6.34×10^{-6}
May	1.11×10^{-5}	8.53×10^{-3}	7.24×10^{-8}	3.44×10^{-6}
June	1.24×10^{-5}	6.46×10^{-3}	7.54×10^{-8}	4.29×10^{-6}
July	1.96×10^{-5}	3.48×10^{-2}	1.02×10^{-7}	2.80×10^{-6}
August	2.51×10^{-5}	2.54×10^{-2}	3.96×10^{-8}	8.75×10^{-6}
September	1.96×10^{-5}	2.48×10^{-2}	1.02×10^{-7}	6.93×10^{-6}
October	2.36×10^{-5}	2.16×10^{-2}	1.76×10^{-7}	2.93×10^{-6}
November	2.15×10^{-5}	9.43×10^{-3}	6.81×10^{-8}	2.97×10^{-6}
December	1.25×10^{-5}	4.02×10^{-3}	3.44×10^{-8}	2.22×10^{-5}
TOTAL	2.15×10^{-5}	1.61×10^{-1}	1.04×10^{-6}	7.28×10^{-5}
	$.05 \times 10^{-5}$	$.04 \times 10^{-1}$	$.02 \times 10^{-6}$	$.12 \times 10^{-5}$
Adjusted	2.20×10^{-5}	1.65×10^{-1}	1.06×10^{-6}	7.40×10^{-5}

See Gamma Analysis report

This sample point not received for 8 days during 1970. DATA ADJUSTED.

This sample point not received for 6 days during 1970. DATA ADJUSTED.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS 1970

222-5 ANALYTICAL REPORT

Serial Number: 401
Sample Designation: 291-T-1
Sample Site: 291-T Stack

Analysis Requested: Stack Emissions (GEA)

Gamma Energy Analyses

<u>Month</u>	<u>ZrNb-95</u>	<u>RuRh-106</u>	<u>CePr-144</u>	<u>Co-137</u>	<u>Ru-103</u>	<u>Sb-125</u>	<u>Eu-154</u>
July	1.22×10^{-4}	2.26×10^{-3}	1.12×10^{-2}	2.82×10^{-5}	1.20×10^{-5}		
August	2.02×10^{-6}	4.87×10^{-5}	7.23×10^{-4}	1.15×10^{-5}			
September	3.76×10^{-5}	1.94×10^{-4}	5.45×10^{-3}	8.73×10^{-5}			
October	2.71×10^{-4}	4.68×10^{-4}	6.28×10^{-3}	1.84×10^{-4}		3.52×10^{-5}	
November	7.99×10^{-6}	1.03×10^{-4}	1.56×10^{-3}	1.40×10^{-5}		9.22×10^{-6}	1.60×10^{-7}

NOTE: All results curies emitted.

HLM: cb

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number.	296-T-2	296-T-3
Sample Code:	302	306
Facility:	242-T	242-T
Function of Stack.	Exhausts unfiltered air from the waste catch tank cell. (Cold side)	Filtered air from the vessel vent system

Month	Alpha (Curies)	Beta (Curies)	Alpha (Curies)	Beta (Curies)
January	1.81×10^{-8}	2.74×10^{-5}	4.74×10^{-9}	2.16×10^{-7}
February	2.13×10^{-7}	8.6×10^{-6}	5.65×10^{-9}	4.65×10^{-7}
March	2.52×10^{-7}	5.09×10^{-6}	5.68×10^{-9}	6.36×10^{-7}
April	7.94×10^{-8}	4.18×10^{-6}	9.10×10^{-9}	4.57×10^{-7}
May	1.07×10^{-7}	9.46×10^{-6}	6.38×10^{-9}	3.49×10^{-6}
June	1.71×10^{-7}	4.62×10^{-6}	1.19×10^{-8}	7.37×10^{-6}
July	1.35×10^{-7}	3.38×10^{-6}	6.09×10^{-9}	6.73×10^{-7}
August	1.57×10^{-7}	4.03×10^{-6}	1.70×10^{-8}	9.14×10^{-6}
September	1.75×10^{-7}	4.90×10^{-6}	7.21×10^{-9}	9.80×10^{-7}
October	2.08×10^{-7}	5.21×10^{-6}	3.35×10^{-8}	9.10×10^{-7}
November	1.28×10^{-7}	4.38×10^{-6}	6.38×10^{-9}	4.79×10^{-7}
December	9.53×10^{-8}	9.59×10^{-6}	4.10×10^{-8}	2.05×10^{-6}
TOTAL	1.81×10^{-6}	9.15×10^{-5}	1.55×10^{-7}	2.69×10^{-5}
	$.04 \times 10^{-6}$	$.18 \times 10^{-5}$	$.08 \times 10^{-7}$	$.15 \times 10^{-5}$
Adjusted	1.85×10^{-6}	9.33×10^{-5}	1.63×10^{-7}	2.84×10^{-5}

This sample point not received for 7 days
during 1970. DATA ADJUSTED.

This sample point not received for 19
days during 1970. DATA ADJUSTED.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 7/1970

Stack Number: 296-T-4
 Sample Code: 305
 Facility: 241-TX tank farm, waste storage tanks.
 Function of Stack: Exhausts cooling air from TX tanks 113, 114, 115, 116 and 117.

Month	Alpha (Curies)	Beta (Curies)
January	1.76×10^{-7}	6.89×10^{-6}
February	1.26×10^{-7}	5.61×10^{-6}
March	3.16×10^{-7}	1.14×10^{-5}
April	1.52×10^{-7}	1.50×10^{-4}
May	1.35×10^{-7}	2.46×10^{-4}
June	1.43×10^{-7}	2.10×10^{-4}
July	2.37×10^{-7}	6.90×10^{-4}
August	5.78×10^{-7}	1.27×10^{-3}
September	7.31×10^{-7}	6.08×10^{-4}
October	2.96×10^{-7}	2.93×10^{-5}
November	2.18×10^{-7}	3.37×10^{-5}
December	3.13×10^{-7}	3.48×10^{-5}
TOTAL	3.42×10^{-6}	3.30×10^{-3}
	$.08 \times 10^{-6}$	$.07 \times 10^{-3}$
Adjusted	3.50×10^{-6}	3.37×10^{-3}

This sample point not received for 8 days during 1970. DATA ADJUSTED.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number:	296-T-9	296-T-10
Sample Code:	308	307
Facility	241-TX tank farm Waste storage tanks.	241-TX tank Farm
Function of Stack.	Cooling air from the 241-TX-118 tank.	Cooling air from waste tanks 241-TX-110, 111, and 112.

<u>Month</u>	<u>Alpha</u> <u>(Curies)</u>	<u>Beta</u> <u>(Curies)</u>	<u>Alpha</u> <u>(Curies)</u>	<u>Beta</u> <u>(Curies)</u>
January				
February				
March				
April	$\underline{1.95 \times 10^{-9}}$	9.92×10^{-8}	$\underline{5.17 \times 10^{-7}}$	1.04×10^{-5}
May	$\underline{3.59 \times 10^{-8}}$	5.91×10^{-7}	$\underline{8.95 \times 10^{-7}}$	2.08×10^{-5}
June	$\underline{7.97 \times 10^{-9}}$	5.02×10^{-6}	$\underline{1.44 \times 10^{-7}}$	3.30×10^{-6}
July	$\underline{1.81 \times 10^{-8}}$	1.52×10^{-5}	$\underline{1.29 \times 10^{-6}}$	9.03×10^{-6}
August	$\underline{1.44 \times 10^{-8}}$	1.81×10^{-5}	$\underline{9.41 \times 10^{-5}}$	1.14×10^{-5}
September	$\underline{1.20 \times 10^{-8}}$	2.47×10^{-5}	$\underline{1.55 \times 10^{-6}}$	9.22×10^{-6}
October	$\underline{3.65 \times 10^{-8}}$	2.98×10^{-5}	$\underline{1.59 \times 10^{-6}}$	1.82×10^{-5}
November	$\underline{1.95 \times 10^{-8}}$	3.00×10^{-5}	$\underline{1.12 \times 10^{-6}}$	1.58×10^{-4}
December	$\underline{2.10 \times 10^{-8}}$	9.27×10^{-6}	$\underline{1.43 \times 10^{-6}}$	1.70×10^{-4}
TOTAL	$\underline{1.67 \times 10^{-7}}$	1.33×10^{-4}	$\underline{1.03 \times 10^{-4}}$	4.92×10^{-4}

The above systems were put into operation in April of 1970. The sample record is complete.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 291-U-1
Sample Code: 701
Facility: 221-U and 241-WR Vent
Function of Stack: Exhausts air from the 221-U canyon
and the hot cells of the 241-WR Vault.
200' stack.

<u>Month</u>	<u>Alpha</u> <u>(Curies)</u>	<u>Beta</u> <u>(Curies)</u>
January		
February		
March		
April		
May		
June	<u>/1.50x10⁻⁷</u>	2.41x10 ⁻⁴
July	<u>/6.58x10⁻⁷</u>	6.28x10 ⁻⁴
August	<u>/1.08x10⁻⁶</u>	2.70x10 ⁻⁴
September	<u>/7.78x10⁻⁷</u>	1.93x10 ⁻⁴
October	<u>/9.48x10⁻⁶</u>	4.36x10 ⁻⁴
November	<u>/9.14x10⁻⁷</u>	2.21x10 ⁻⁴
December	<u>/1.98x10⁻⁶</u>	2.09x10 ⁻⁴
TOTAL	<u>/1.50x10⁻⁵</u>	2.20x10 ⁻³
	<u>/1.92</u>	2.82x10 ⁻³
Adjusted	<u>/3.42x10⁻⁵</u>	5.02x10 ⁻³

This sample point not received for 205 days during 1970.

DATA ADJUSTED.

HLM:cb

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number:	*296-U-2	*296-U-2
Sample Code:	601	602
Facility:	224-U-A	224-U-A
Function of Stack:	Exhausts air from filter bag No. 1. (X-31-1)	Exhaust air from filter bag No. 2. (X-31-2)

Month	**Alpha (Curies)	Beta (Curies)
January	1.25×10^{-5}	2.30×10^{-5}
February	1.48×10^{-5}	2.45×10^{-5}
March	1.08×10^{-6}	2.51×10^{-6}
April	2.60×10^{-6}	7.36×10^{-6}
May	3.54×10^{-7}	8.54×10^{-6}
June	5.51×10^{-8}	9.17×10^{-7}
July	1.25×10^{-7}	6.69×10^{-6}
August	2.08×10^{-8}	3.20×10^{-7}
September	5.89×10^{-8}	1.74×10^{-6}
October	2.03×10^{-7}	3.46×10^{-6}
November	1.69×10^{-7}	3.44×10^{-6}
December	2.75×10^{-7}	4.70×10^{-6}

TOTAL	3.22×10^{-5}	8.72×10^{-5}
	$.27 \times 10^{-5}$	$.73 \times 10^{-5}$
Adjusted	3.49×10^{-5}	9.45×10^{-5}

This sample point not received for 28 days during 1970. DATA ADJUSTED.

*Single stack for duct filter bags.

**Assumed uranium.

HLM:cb

**Alpha (Curies)	Beta (Curies)
1.20×10^{-5}	2.75×10^{-5}
4.06×10^{-5}	6.34×10^{-5}
2.26×10^{-6}	4.13×10^{-6}
1.32×10^{-5}	2.10×10^{-5}
1.42×10^{-5}	2.49×10^{-5}
2.23×10^{-6}	7.20×10^{-6}
1.51×10^{-7}	3.68×10^{-6}
1.48×10^{-8}	1.15×10^{-6}
1.67×10^{-7}	1.12×10^{-6}
3.74×10^{-7}	2.67×10^{-6}
2.03×10^{-7}	2.45×10^{-6}
5.15×10^{-7}	3.52×10^{-6}

8.59×10^{-5}	1.62×10^{-4}
$.05 \times 10^{-5}$	$.01 \times 10^{-4}$
8.64×10^{-5}	1.63×10^{-4}

This sample point not received for 2 days during 1970. DATA ADJUSTED.

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number.	296-U-3	296-U-5
Sample Code.	603	606
Facility:	224-U	224-U
Function of Stack.	Bag filter exhaust 224-U (A-13 filter- bag).	Unfiltered air from F-cell.

Month	*Alpha (Curies)	Beta (Curies)	*Alpha (Curies)	Beta (Curies)
January	3.47×10^{-6}	1.27×10^{-5}	1.35×10^{-4}	1.53×10^{-6}
February	7.39×10^{-7}	2.25×10^{-5}	1.44×10^{-4}	1.75×10^{-6}
March	4.23×10^{-7}	2.99×10^{-6}	1.25×10^{-4}	7.33×10^{-7}
April	9.68×10^{-6}	2.94×10^{-5}	7.28×10^{-7}	5.12×10^{-6}
May	1.09×10^{-6}	8.32×10^{-6}	7.31×10^{-5}	2.43×10^{-7}
June	4.50×10^{-7}	3.63×10^{-6}	1.32×10^{-4}	1.42×10^{-6}
July	2.85×10^{-7}	4.07×10^{-6}	1.34×10^{-4}	1.77×10^{-6}
August	1.30×10^{-7}	1.95×10^{-6}	1.42×10^{-4}	1.08×10^{-6}
September	7.91×10^{-8}	1.24×10^{-6}	9.42×10^{-5}	9.12×10^{-7}
October	8.26×10^{-7}	3.84×10^{-6}	1.13×10^{-4}	4.71×10^{-7}
November	1.04×10^{-6}	1.75×10^{-5}	1.03×10^{-4}	3.46×10^{-7}
December	1.52×10^{-8}	7.17×10^{-6}	9.93×10^{-5}	1.30×10^{-6}
TOTAL	1.82×10^{-5}	1.15×10^{-4}	1.30×10^{-3}	1.98×10^{-5}
	$.19 \times 10^{-5}$	$.12 \times 10^{-4}$		
Adjusted	2.01×10^{-5}	1.27×10^{-4}		

This sample point not received for 34 days during 1970.

DATA ADJUSTED.

* Assumed uranium.

HLM:cb

EMISSIONS OF GASEOUS WASTE FROM EXHAUST STACKS, 200 AREAS - 1970

Stack Number: 291-Z
Sample Code:

Facility: 234-5 - 200 ' stack

Function of Stack: Filtered air from 234-5, 232-Z, 236-Z
and 242-Z.

<u>Month</u>	<u>Alpha (Curies)</u>	<u>Beta (Curies Emitted)</u>
January	8.99×10^{-6}	1.02×10^{-4}
February	3.16×10^{-5}	8.39×10^{-5}
March	1.55×10^{-5}	8.53×10^{-5}
April	2.22×10^{-5}	1.16×10^{-4}
May	1.67×10^{-5}	6.63×10^{-5}
June	1.74×10^{-5}	8.03×10^{-5}
July	1.43×10^{-5}	6.08×10^{-5}
August	1.89×10^{-5}	6.12×10^{-5}
September	1.08×10^{-5}	6.38×10^{-5}
October	4.65×10^{-5}	6.54×10^{-5}
November	1.08×10^{-5}	1.84×10^{-4}
December	2.02×10^{-5}	4.60×10^{-4}
TOTAL	234×10^{-4}	1.43×10^{-3}

END

**DATE
FILMED**

4/5/94