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RADIOACTIVITY IN GASEOUS WASTE DISCHARGED FROM THE
SEPARATIONS FACILITIES DURING 1978J. D. Anderson
B. E. Poremba

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RADIOACTIVITY IN GASEOUS WASTE DISCHARGES^D
FROM THE SEPARATIONS FACILITIES^A
DURING 1978

J. D. Anderson
B. E. Poremba

Process Engineering Department
Waste Engineering Unit

March 30, 1979

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INTRODUCTION

This document is issued quarterly for the purpose of summarizing the radioactive gaseous wastes that are discharged from the facilities of the Rockwell Hanford Operations. Data on alpha and beta emissions during 1978 are presented where relevant to the gaseous effluent. Emission data are not included on gaseous wastes produced within the 200 Areas by other Hanford contractors.

DISCUSSION

The volume and activity estimates of the gaseous effluents are detailed on a month-to-month basis for each site, the average activity, maximum activity, and the average concentration discharged from each stack are also presented for each site. Identification of stacks was based upon Item 2 of the Bibliography which used 291- as the prefix for 200-foot main stacks, and 296- as the prefix for other stacks. Also listed in this report is a summary table which contains a listing of the activity for the current year, from startup and decayed from startup. In addition stack 296-S-13 was replaced by 296-S-21 on October 1, 1978. Stack 296-P-1 was used in place of 296-P-6 during December, 1978.

Gaseous effluents from Rockwell Hanford Operations' stacks are analyzed for alpha and beta activity. The Purex process and AR vault waste facilities were not monitored for ^{131}I emission because fuels processing during the report period was suspended. Analyses for other radio-isotopes were performed where warranted by the alpha or beta activity level.

The data presented in the tables are to be read as shown by the following examples:

$$\begin{aligned}.241+007 &= 0.241 \times 10^{+7} \\ .241-007 &= 0.241 \times 10^{-7}\end{aligned}$$

The data in this report supersedes that contained in the third quarter report (RHO-CD-78-35 3Q).

Page 1A "Summary of Radioactive Gas Discharged to the Atmosphere During 1977" has been added to this report because it was in error. These errors were corrected and are included with this years report. Page 1 was the only page in error. Page 1 of the First Three Quarters of 1978 is in error; the Fourth Quarter is correct.

SUMMARY OF RADIOACTIVE GAS DISCHARGED TO THE ATMOSPHERE

PAGE 1

200 EAST

200 WEST

TOTAL

FROM 1/1 TO 12/31 1978

VOLUME	L	.482+013	.864+013	.135+014
PU	CI	.643-003	.587-003	.123-002
U	CI	.000	.000	.000
BETA	CI	.121+000	.133-001	.134+000
I131	CI	.000	.000	.000

THROUGH 12/31 1978 (FROM STARTUP)

VOLUME	L	.567+014	.955+014	.152+015
PU	CI	.875+000	.491+000	.137+001
U	CI	.000	.354-001	.354-001
BETA	CI	.294+004	.721+004	.102+005
I131	CI	.255+006	.219+006	.475+006

DECAYED THROUGH 12/31 1978 FROM STARTUP)

BETA	CI	.190+002	.159+001	.206+002
I131	CI	.000	.000	.000

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

2

STACK NO. 291-A-1
PLANT CODE (291-A)

296-A-1
(E-1)

FACILITY PUREX

PUREX

FUNCTION AIR FROM 291-A FILTERS, IN-
CLUDES CANYON VENTILATION AIR,
VESSEL, AND CONDENSER VENTS,
TREATED DISSOLVER OFF GAS.

FILTERED AIR FROM N AND Q
CELLS AND PR ROOM.

1978	VOL (L)	PU (CI)	BETA (CI)	I-131 (CI)	VOL (L)	PU (CI)	BETA (CI)
JAN	.100+012	.106-003	.201-002		.704+010	.449-005	.294-004
FEB	.895+011	.127-004	.588-002		.563+010	.541-006	.642-005
MAR	.973+011	.636-004	.570-002		.563+010	.194-005	.259-004
APR	.988+011	.312-004	.101-002		.460+010	.488-007	.207-004
MAY	.116+012	.135-004	.136-002		.575+010	.676-006	.929-005
JUN	.106+012	.264-004	.123-002		.460+010	.396-006	.391-005
JUL	.113+012	.505-005	.164-002		.460+010	.445-006	.349-005
AUG	.109+012	.214-004	.213-002		.575+010	.127-006	.803-005
SEP	.988+011	.197-004	.243-002		.460+010	.127-006	.169-004
OCT	.115+012	.743-004	.248-002		.537+010	.716-006	.127-004
NOV	.113+012	.212-004	.180-002		.410+010	.735-006	.114-004
DEC	.106+012	.205-004	.324-002		.425+010	.709-006	.168-004
ADJ							
MONTHLY TOTALS	.126+013	.415-003	.309-001		.619+011	.110-004	.153-003
MONTHLY MAXIMUM RELEASE		(CI/DAY) .330-005	(CI/DAY) .210-003	(CI/DAY)		(CI/DAY) .128-006	(CI/DAY) .926-006
AVERAGE RELEASE		.114-005	.647-004			.301-007	.420-006
AVERAGE CONC.		(UCI/CC) .329-012	(UCI/CC) .245-010	(UCI/CC)		(UCI/CC) .177-012	(UCI/CC) .247-011

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

4

STACK NO. 296-A-5
PLANT CODE (E-5-A)

296-A-6
(E-6)

FACILITY PUREX

PUREX

FUNCTION FILTERED AIR FROM 202-A LAB
HOODS AND GLOVE BOXES, WEST
DUCT. SINGLE STACK SERVICING
TWO SYSTEMS.

FILTERED AIR FROM EAST
SAMPLE GALLERY AND U CELL.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.186+011	.668-006	.439-005
FEB	.148+011	.594-006	.426-005
MAR	.148+011	.423-007	.379-005
APR	.120+011	.514-006	.543-005
MAY	.150+011	.222-006	.474-005
JUN	.120+011	.344-006	.232-005
JUL	.120+011	.176-006	.289-005
AUG	.161+011	.344-006	.386-005
SEP	.120+011	.672-006	.292-005
OCT	.150+011	.665-006	.505-005
NOV	.120+011	.380-006	.341-005
DEC	.124+011	.389-006	.606-005
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.210+011	.800-007	.108-005
.167+011	.112-006	.156-005
.168+011	.799-007	.175-005
.163+011	.109-006	.159-005
.204+011	.181-006	.215-005
.163+011	.290-006	.333-005
.163+011	.186-006	.205-005
.204+011	.156-006	.122-005
.163+011	.156-006	.107-005
.195+011	.178-006	.847-006
.151+011	.115-006	.546-006
.156+011	.716-007	.380-006

MONTHLY TOTALS	.167+012	.501-005	.491-004
-------------------	----------	----------	----------

.211+012	.171-005	.176-004
----------	----------	----------

MONTHLY MAXIMUM RELEASE	(CI/DAY)	(CI/DAY)
	.240-007	.209-006

(CI/DAY)	(CI/DAY)
.104-007	.119-006

AVERAGE RELEASE	.138-007	.135-006
--------------------	----------	----------

.471-008	.482-007
----------	----------

AVERAGE CONC.	(UCI/CC)	(UCI/CC)
	.300-013	.295-012

(UCI/CC)	(UCI/CC)
.813-014	.833-013

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1976

6

STACK NO. 296-A-10
PLANT CODE (BT-2)

296-A-12
(ARV)

FACILITY PUREX

244-AR VAULT

FUNCTION FILTERED AIR FROM BURIAL
TUNNEL NO. 2.

FILTERED AIR FROM VESSEL VENT
SYSTEM.

1976	VOL (L)	PU (CI)	BETA (CI)		VOL (L)	PU (CI)	BETA (CI)	I-131 (CI)
JAN	.238+010	.199-007	.192-006		.725+009	.139-007	.150-006	
FEB	.191+010	.139-007	.152-006		.635+009	.137-007	.337-006	
MAR	.307+010	.634-008	.191-006		.703+009	.175-007	.480-006	
APR	.656+010	.250-007	.767-006		.746+009	.206-007	.395-006	
MAY	.656+010	.250-007	.392-006		.879+009	.327-007	.418-006	
JUN	.821+010	.562-007	.274-006		.799+009	.571-007	.505-006	
JUL	.656+010	.200-006	.732-006		.719+009	.121-006	.537-006	
AUG	.820+010	.500-007	.423-006		.826+009	.857-007	.648-006	
SEP	.656+010	.375-007	.262-006		.772+009	.764-007	.550-006	
OCT	.905+010	.461-007	.295-006		.623+009	.144-006	.585-006	
NOV	.770+010	.587-007	.244-005		.455+009	.218-007	.197-006	
DEC	.797+010	.880-007	.543-006		.471+009	.172-007	.144-006	
ADJ								
MONTHLY TOTALS	.748+011	.628-006	.666-005		.835+010	.621-006	.495-005	
MONTHLY MAXIMUM RELEASE		(CI/DAY)	(CI/DAY)			(CI/DAY)	(CI/DAY)	(CI/DAY)
		.713-006	.670-007			.449-008	.209-007	
AVERAGE RELEASE		.173-008	.183-007			.173-008	.137-007	
AVERAGE CONC.		(UCI/CC)	(UCI/CC)			(UCI/CC)	(UCI/CC)	(UCI/CC)
		.840-014	.891-013			.744-013	.592-012	

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

8

STACK NO. 296-A-17
PLANT CODE (AXF)

296-A-18
(101-AY)

FACILITY 241A,AX,AY TANK FARM

101-AY TANK ANNULUS

FUNCTION FILTERED NONCONDENSIBLE VAPORS
FROM WASTE STORAGE TANKS IN
241-A, AX AND AY TANK FARMS.

FILTERED VENT 241-AY-101 TANK
ANNULUS.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.118+011	.571-006	.989-005
FEB	.103+011	.404-006	.189-004
MAR	.114+011	.161-005	.394-004
APR	.105+011	.171-005	.181-004
MAY	.124+011	.287-005	.145-004
JUN	.113+011	.120-005	.118-004
JUL	.117+011	.145-005	.157-004
AUG	.117+011	.158-005	.982-005
SEP	.109+011	.151-005	.118-004
OCT	.126+011	.125-005	.146-004
NOV	.120+011	.567-006	.163-004
DEC	.116+011	.687-006	.105-004
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.271+010	.144-007	.556-007
.271+010	.120-007	.149-006
.338+010	.165-007	.469-006
.281+010	.150-007	.203-006
.281+010	.113-007	.970-007
.351+010	.150-007	.834-007
.702+009	.107-008	.109-007

MONTHLY TOTALS	.138+012	.154-004	.191-003
-------------------	----------	----------	----------

.186+011	.852-007	.107-005
----------	----------	----------

MONTHLY MAXIMUM RELEASE	(CI/DAY)	(CI/DAY)
	.868-007	.127-005

(CI/DAY)	(CI/DAY)
.535-009	.134-007

AVERAGE RELEASE	.423-007	.526-006
--------------------	----------	----------

.451-009	.565-008
----------	----------

AVERAGE CONC.	(UCI/CC)	(UCI/CC)
	.111-012	.138-011

(UCI/CC)	(UCI/CC)
.458-014	.573-013

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

10

STACK NO. 296-A-21
PLANT CODE (242A)

296-A-22
(242AVV)

FACILITY 242A EVAP CRYSTALLZR.

242A EVAP CRYSTALLZR.

FUNCTION EXHAUST FROM 242-A EVAPORATOR
CRYSTALLIZER BUILDING.

FILTERED EXHAUST AIR FROM THE
242-A EVAPORATOR CRYSTALLIZER.
VESSEL VENT SYSTEM.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.126+007	.142-009	.138-008
FEB	.813+009	.867-007	.545-006
MAR	.126+007	.274-009	.234-008
APR	.243+011	.295-005	.269-004
MAY	.252+011	.209-005	.249-004
JUN	.243+011	.287-005	.217-004
JUL	.254+011	.259-005	.188-004
AUG	.249+011	.398-005	.259-004
SEP	.243+011	.286-005	.312-004
OCT	.244+011	.391-005	.408-004
NOV	.233+011	.425-005	.337-004
DEC	.238+011	.382-005	.166-004
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.784+009	.579-007	.393-006
.710+009	.577-007	.202-005
.782+009	.791-007	.228-005
.832+009	.108-006	.200-005
.860+009	.352-006	.461-005
.832+009	.120-006	.885-006
.859+009	.691-007	.591-006
.776+009	.809-007	.688-006
.915+009	.743-007	.104-005
.336+010	.123-006	.441-006
.449+009	.370-007	.251-006
.459+009	.352-007	.186-006

MONTHLY TOTALS	.221+012	.294-004	.241-003
-------------------	----------	----------	----------

.116+011	.119-005	.154-004
----------	----------	----------

MONTHLY MAXIMUM RELEASE	(CI/DAY)	(CI/DAY)
	.142-006	.136-005

(CI/DAY)	(CI/DAY)
.113-007	.149-006

AVERAGE RELEASE	.824-007	.675-006
--------------------	----------	----------

.334-008	.431-007
----------	----------

AVERAGE CONC.	(UCI/CC)	(UCI/CC)
	.133-012	.109-011

(UCI/CC)	(UCI/CC)
.103-012	.132-011

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

12

STACK NO. 296-B-5
PLANT CODE (221BBS)

296-B-10
(225B)

FACILITY 221-BB BUILDING

225- BUILDING

FUNCTION DISCHARGES FILTERED AIR FROM
THE 221-BB BUILDING.

FILTERED AIR FROM THE
ENCAPSULATION FACILITY.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.164+010	.163-006	.202-005
FEB	.148+010	.149-006	.244-005
MAR	.164+010	.395-006	.474-005
APR	.159+010	.137-006	.280-005
MAY	.164+010	.201-006	.211-005
JUN	.159+010	.166-006	.162-005
JUL	.165+010	.544-006	.227-005
AUG	.164+010	.194-006	.132-005
SEP	.159+010	.129-006	.195-005
OCT	.174+010	.347-006	.786-005
NOV	.185+010	.488-006	.643-005
DEC	.191+010	.420-006	.368-005
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.183+011	.111-005	.105-004
.169+011	.771-006	.884-005
.183+011	.967-006	.181-004
.264+011	.115-005	.200-004
.286+011	.151-005	.124-004
.276+011	.120-005	.691-005
.286+011	.147-005	.802-005
.285+011	.151-005	.107-004
.277+011	.118-005	.182-004
.269+011	.176-005	.846-005
.247+011	.119-005	.818-005
.247+011	.254-005	.149-004

MONTHLY
TOTALS .200+011 .334-005 .392-004

.297+012 .164-004 .145-003

MONTHLY
MAXIMUM
RELEASE (CI/DAY) (CI/DAY)
.176-007 .262-006

(CI/DAY) (CI/DAY)
.847-007 .667-006

AVERAGE
RELEASE .929-008 .109-006

.457-007 .406-006

AVERAGE
CONC. (UCI/CC) (UCI/CC)
.167-012 .196-011

(UCI/CC) (UCI/CC)
.551-013 .489-012

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

14

STACK NO. 291-C-1
PLANT CODE (SWS)

296-C-2
(NPS)

FACILITY SEMIWORKS (201-C)

SEMIWORKS (201-C)

FUNCTION FILTERED AIR FROM CELL
VENTILATION AND PROCESS VESSEL
VENT.

FILTERED AIR FROM A AND C
SAMPLE GALLERIES.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.118+011	.355-006	.934-004
FEB	.103+011	.363-006	.353-005
MAR	.114+011	.370-006	.263-004
APR	.892+010	.255-006	.134-004
MAY	.112+011	.352-006	.393-005
JUN	.991+010	.290-006	.952-005
JUL	.102+011	.862-006	.191-004
AUG	.102+011	.546-006	.662-005
SEP	.958+010	.576-006	.422-005
OCT	.106+011	.427-006	.510-005
NOV	.103+011	.547-006	.372-005
DEC	.985+010	.320-006	.258-005
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.277+010	.185-007	.131-006
.277+010	.141-007	.157-006
.347+010	.316-007	.361-006
.329+010	.157-007	.341-006
.329+010	.115-007	.166-006
.411+010	.156-007	.250-006
.329+010	.125-007	.209-005
.329+010	.188-007	.115-005
.411+010	.219-007	.373-006
.329+010	.157-007	.207-006
.305+010	.376-007	.175-006
.435+010	.219-007	.110-006

MONTHLY
TOTALS .125+012 .526-005 .191-003

.411+011 .235-006 .551-005

MONTHLY
MAXIMUM
RELEASE (CI/DAY) (CI/DAY)
.278-007 .292-005

(CI/DAY) (CI/DAY)
.144-008 .747-007

AVERAGE
RELEASE .145-007 .526-006

.647-009 .152-007

AVERAGE
CONC. (UCI/CC) (UCI/CC)
.423-013 .154-011

(UCI/CC) (UCI/CC)
.573-014 .134-012

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

16

STACK NO. 296-P-3
PLANT CODE (107-BY)

296-P-6
(101A)

FACILITY ITS NO. 2

241-A TANK FARM

FUNCTION FILTERED EXHAUST AIR FROM AIR
COOLING THE CONCENTRATE IN BY
FARM BOTTOMS TANKS (107, 108,
110, AND 111-BY).

FILTERED EXHAUST AIR FROM THE
105A (NOTE: INCLUDES 102A &
104A FOR 2ND QUARTER) TANKS.
(296-P-1 USED DURING DEC.
296-P-6 WAS MOVED OUT)

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.594+010	.285-006	.259-004
FEB	.519+010	.287-006	.368-005
MAR	.575+010	.754-006	.823-005
APR	.534+010	.298-006	.514-005
MAY	.630+010	.118-005	.210-004
JUN	.572+010	.399-006	.171-004
JUL	.592+010	.451-006	.417-005
AUG	.592+010	.667-006	.162-004
SEP	.553+010	.638-006	.645-005
OCT	.627+010	.157-005	.472-004
NOV	.596+010	.109-005	.527-004
DEC	.572+010	.261-006	.126-004
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.223+009	.743-008	.481-006
.872+009	.593-007	.743-006
.368+010	.983-006	.520-005
.691+010	.258-006	.370-005
.231+010	.931-007	.130-005
.201+010	.702-007	.858-006
.568+010	.569-006	.502-005
.531+010	.563-006	.366-005
.223+010	.365-006	.234-005
.141+011	.108-005	.102-004

MONTHLY TOTALS	.696+011	.788-005	.220-003
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.433+011	.405-005	.335-004
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MONTHLY MAXIMUM RELEASE	(CI/DAY)	(CI/DAY)
	.491-007	.176-005

(CI/DAY)	(CI/DAY)
.258-006	.370-005

AVERAGE RELEASE	.217-007	.605-006
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.168-007	.139-006
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AVERAGE CONC.	(UCI/CC)	(UCI/CC)
	.113-012	.317-011

(UCI/CC)	(UCI/CC)
.935-013	.774-012

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

18

STACK NO. 296-P-12
PLANT CODE (TX-9)

296-P-13
(BX1F)

FACILITY 242-TX WASTE EVAP.

241 BX TANK FARM

FUNCTION FILTERED EXHAUST AIR FROM AIR
COOLING THE CONCENTRATE IN TX
FARMS BOTTOMS TANKS (102,105,
106 AND 109-TX).

FILTERED EXHAUST FROM 104,107,
AND 110 BX TANKS

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.612+010	.146-006	.134-005
FEB	.553+010	.412-006	.598-005
MAR	.612+010	.617-006	.647-005
APR	.594+010	.571-006	.656-005
MAY	.614+010	.621-006	.563-005
JUN	.594+010	.341-006	.318-005
JUL	.614+010	.484-006	.371-005
AUG	.614+010	.204-005	.133-004
SEP	.476+010	.108-005	.829-005
OCT			
NOV	.155+010	.336-006	.187-005
DEC	.540+010	.854-006	.826-005
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.759+008	.448-007	.957-006

MONTHLY			
TOTALS	.598+011	.750-005	.646-004
MONTHLY		(CI/DAY)	(CI/DAY)
MAXIMUM			
RELEASE		.658-007	.430-006
AVERAGE			
RELEASE		.245-007	.211-006
AVERAGE		(UCI/CC)	(UCI/CC)
CONC.		.125-012	.108-011

.759+008	.448-007	.957-006
	(CI/DAY)	(CI/DAY)
	.560-008	.137-006
	.560-008	.137-006
	(UCI/CC)	(UCI/CC)
	.590-012	.126-010

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

20

STACK NO. 296-P-16
PLANT CODE (106-CS)

296-P-19
(241U1)

FACILITY TANKS 105 AND 106-C

241-U TANK FARM

FUNCTION PORTABLE AIR EXHAUSTER FOR THE
105 AND 106-C TANKS IN C FARM.

FILTERED EXHAUST AIR FROM THE
102,103,105 AND 106 U TANKS.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.468+010	.552-006	.266-004
FEB	.410+010	.426-006	.236-004
MAR	.454+010	.794-006	.140-004
APR	.390+010	.273-006	.628-005
MAY	.460+010	.272-006	.437-005
JUN	.418+010	.302-006	.599-005
JUL	.432+010	.242-006	.945-005
AUG	.432+010	.996-006	.959-005
SEP	.404+010	.459-006	.816-005
OCT	.406+010	.602-006	.836-005
NOV	.361+010	.454-006	.252-005
DEC	.358+010	.246-006	.151-005
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.923+009	.709-007	.540-006
.833+009	.751-007	.661-006
.923+009	.364-006	.961-006
.591+009	.360-007	.478-006
.600+009	.254-007	.378-006
.581+009	.239-007	.418-006
.600+009	.323-007	.276-006
.600+009	.498-007	.335-005
.581+009	.444-007	.394-006
.801+009	.713-007	.528-006
.190+010	.106-006	.117-005

MONTHLY
TOTALS .500+011 .562-005 .121-003

.894+010 .899-006 .915-005

MONTHLY
MAXIMUM
RELEASE (CI/DAY) (CI/DAY)
.321-007 .844-006

(CI/DAY) (CI/DAY)
.117-007 .108-006

AVERAGE
RELEASE .154-007 .331-006

.246-008 .251-007

AVERAGE
CONC. (UCI/CC) (UCI/CC)
.112-012 .241-011

(UCI/CC) (UCI/CC)
.101-012 .102-011

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

22

STACK NO. 296-P-23
PLANT CODE (SY)

296-P-24
(AREX)

FACILITY 241-SY TANK FARM

244AR VAULT

FUNCTION FILTERED TANK EXHAUST AIR FROM
101,102,103SY.

FILTERED EXHAUST AIR FROM AR
VAULTS & BACK UP UNIT.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.796+009	.311-007	.363-005
FEB	.719+009	.174-007	.948-006
MAR	.796+009	.288-007	.920-006
APR	.690+009	.229-007	.670-006
MAY	.710+009	.204-007	.236-006
JUN	.687+009	.242-007	.108-005
JUL	.710+009	.382-007	.716-006
AUG	.710+009	.238-007	.805-006
SEP	.687+009	.163-007	.235-006
OCT	.813+009	.356-007	.326-006
NOV	.680+009	.352-007	.185-006
DEC	.909+009	.317-007	.117-006
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.649+009	.271-006	.111-005
.120+010	.940-007	.687-006
.132+010	.355-007	.198-005

MONTHLY
TOTALS .911+010 .325-006 .986-005

.317+010 .401-006 .377-005

MONTHLY
MAXIMUM
RELEASE (CI/DAY) (CI/DAY)
.123-008 .117-006

(CI/DAY) (CI/DAY)
.181-007 .737-007

AVERAGE
RELEASE .892-009 .270-007

.541-006 .510-007

AVERAGE
CONC. (UCI/CC) (UCI/CC)
.357-013 .108-011

(UCI/CC) (UCI/CC)
.126-012 .119-011

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

24

STACK NO. 296-S-2
PLANT CODE (X-2)

296-S-4
(EF-3)

FACILITY REDOX

REDOX

FUNCTION FILTERED AIR FROM NORTH SAMPLE
GALLERY AND SAMPLER HOODS.

FILTERED AIR FROM DECONTAMIN-
ATION ROOM AND REGULATED SHOP.
UNFILTERED AIR FROM REGULATED
TOOLROOM, LOW-LEVEL DECONTAM-
INATION SINK, AND SWP LOBBY.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.228+010	.836-007	.742-006
FEB	.183+010	.109-006	.301-005
MAR	.183+010	.473-007	.160-005
APR	.183+010	.446-007	.999-006
MAY	.228+010	.736-008	.250-005
JUN			
JUL	.137+010	.139-007	.553-006
AUG	.228+010	.264-007	.213-006
SEP	.183+010	.697-008	.629-007
OCT	.286+010	.960-008	.553-006
NOV	.259+010	.463-007	.171-005
DEC	.259+010	.437-007	.111-005
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.311+010	.116-006	.133-005
.249+010	.555-007	.291-005
.249+010	.128-006	.350-005
.249+010	.477-007	.166-005
.310+010	.972-007	.138-005
.249+010	.116-006	.157-005
.187+010	.133-006	.102-005
.311+010	.319-006	.303-005
.249+010	.130-006	.138-005
.303+010	.214-006	.155-005
.239+010	.651-007	.820-006
.239+010	.751-008	.411-006

MONTHLY TOTALS	.236+011	.439-006	.130-004
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.314+011	.143-005	.206-004
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MONTHLY MAXIMUM RELEASE	(CI/DAY)	(CI/DAY)
	.390-008	.107-006

(CI/DAY)	(CI/DAY)
.912-008	.125-006

AVERAGE RELEASE	.133-008	.397-007
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.401-008	.578-007
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AVERAGE CONC.	(UCI/CC)	(UCI/CC)
	.166-013	.554-012

(UCI/CC)	(UCI/CC)
.454-013	.654-012

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

26

STACK NO. 296-S-7
PLANT CODE (KX-34)

296-S-13
(S-13)

FACILITY REDOX-PU PROCESSING

222-S LABORATORY

FUNCTION FILTERED GREEN HOUSE VENTILA-
TION AND PROCESS VESSEL VENT
AIR FROM 233-S (PLANT DOWN).

FILTERED AIR FROM HOODS, GLOVE
BOXES, HOT CELLS, AND
VENTILATION. (296-S-13 IS
296-S-21 AFTER OCT.1,1978)

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.250+011	.367-005	.138-004
FEB	.200+011	.871-006	.183-004
MAR	.177+011	.328-005	.406-004
APR	.182+011	.226-005	.193-004
MAY	.182+011	.228-005	.138-004
JUN	.227+011	.182-005	.140-004
JUL	.113+011	.281-005	.759-005
AUG	.227+011	.189-005	.169-004
SEP	.182+011	.141-005	.133-004
OCT	.207+011	.979-005	.196-004
NOV	.219+011	.484-005	.369-004
DEC	.193+011	.233-005	.115-004
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.978+011	.561-005	.273-004
.884+011	.269-005	.340-004
.978+011	.320-005	.576-004
.927+011	.220-005	.361-004
.957+011	.269-005	.249-004
.926+011	.365-005	.201-004
.957+011	.453-005	.357-004
.957+011	.225-005	.296-004
.926+011	.329-005	.235-004
.909+011	.274-005	.255-004
.842+011	.262-005	.152-004
.870+011	.632-005	.193-004

2.90-5-21

MONTHLY TOTALS	.236+012	.373-004	.226-003
MONTHLY MAXIMUM RELEASE		(CI/DAY) .280-006	(CI/DAY) .194-005
AVERAGE RELEASE		.109-006	.658-006
AVERAGE CONC.		(UCI/CC) .156-012	(UCI/CC) .956-012

.111+013	.418-004	.349-003
	(CI/DAY) .204-006	(CI/DAY) .186-005
	.115-006	.958-006
	(UCI/CC) .376-013	(UCI/CC) .314-012

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

28

STACK NO. 296-S-18
PLANT CODE (DEIK11)

296-S-19
(REASS)

FACILITY 242-S WASTE EVAP.

242-S WASTE EVAP.

FUNCTION FILTERED AIR FROM THE 242-S
WASTE EVAPORATOR FACILITY.

FILTERED AIR FROM THE 242-S
CELL AND VESSEL VENT.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.766+009	.170-007	.943-006
FEB	.692+009	.198-007	.171-006
MAR	.766+009	.255-007	.307-006
APR	.791+009	.202-007	.313-006
MAY	.819+009	.214-007	.194-006
JUN	.793+009	.256-007	.140-006
JUL	.819+009	.249-006	.400-006
AUG	.819+009	.955-007	.692-006
SEP	.793+009	.378-007	.382-006
OCT	.144+010	.790-007	.449-006
NOV	.759+010	.385-006	.209-005
DEC	.200+011	.106-005	.580-005
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.766+009	.596-007	.362-005
.692+009	.359-007	.245-004
.766+009	.557-007	.172-005
.187+011	.917-006	.465-003
.200+011	.594-006	.532-004
.193+011	.677-006	.101-004
.200+011	.225-005	.193-003
.200+011	.169-005	.664-004
.193+011	.179-005	.199-004
.174+011	.139-005	.826-005
.123+011	.619-006	.512-005
.260+009	.221-007	.123-005

MONTHLY TOTALS	.361+011	.203-005	.119-004
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.150+012	.101-004	.852-003
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MONTHLY MAXIMUM RELEASE	(CI/DAY)	(CI/DAY)
	.341-007	.187-006

(CI/DAY)	(CI/DAY)
.725-007	.155-004

AVERAGE RELEASE	.557-008	.326-007
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.277-007	.234-005
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AVERAGE CONC.	(UCI/CC)	(UCI/CC)
	.564-013	.330-012

(UCI/CC)	(UCI/CC)
.676-013	.570-011

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

30

STACK NO. 296-T-3
PLANT CODE (TX-6)

296-T-7
(27G6T)

FACILITY 242-T WASTE EVAP.

T PLANT (27G6-T)

FUNCTION FILTERED EXHAUST AIR FROM THE
242-T EVAPORATOR VESSEL VENT.

FILTERED EXHAUST AIR FROM
EQUIPMENT DECONTAMINATION
BLDG., RAILWAY AND AUTOMOTIVE
PITS.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.453+009	.458-007	.616-006
FEB	.409+009	.422-007	.642-006
MAR	.453+009	.180-006	.217-005
APR	.375+009	.131-006	.165-005
MAY	.386+009	.120-006	.144-005
JUN	.373+009	.669-007	.714-006
JUL	.373+009	.215-006	.258-005
AUG	.386+009	.569-006	.206-005
SEP	.373+009	.187-007	.176-006
OCT	.333+009	.122-007	.101-006
NOV	.287+009	.218-007	.692-007
DEC	.297+009	.258-007	.114-005
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.693+010	.868-008	.151-006
.673+010	.119-007	.107-005
.143+010	.362-008	.756-007
.816+009	.217-008	.958-007
.632+010	.134-007	.471-006
.856+010	.179-006	.209-005
.127+009	.217-008	.319-007
.285+010	.217-008	.146-007
.550+010	.527-008	.342-007
.449+010	.446-007	.251-006

MONTHLY			
TOTALS	.450+010	.145-005	.134-004
MONTHLY		(CI/DAY)	(CI/DAY)
MAXIMUM			
RELEASE		.163-007	.859-007
AVERAGE			
RELEASE		.398-008	.367-007
AVERAGE		(UCI/CC)	(UCI/CC)
CONC.		.322-012	.297-011

.438+011	.273-006	.428-005
	(CI/DAY)	(CI/DAY)
.436-008	.510-007	
.128-008	.201-007	
	(UCI/CC)	(UCI/CC)
.623-014	.979-013	

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

32

STACK NO. 296-T-16
PLANT CODE (242TB)

296-T-17
(K2-1)

FACILITY 242-TA VAULT

242-T WASTE EVAP.

FUNCTION FILTERED AIR FROM THE
242-TA VAULT AND FROM 242-T
HOT CELLS.

FILTERED EXHAUST AIR FROM THE
EVAPORATOR AND COLD CELL.

1978	VOL (L)	PU (CI)	BETA (CI)
JAN	.154+010	.180-006	.340-005
FEB	.139+010	.394-006	.623-005
MAR	.154+010	.168-005	.129-004
APR	.149+010	.776-006	.591-005
MAY	.154+010	.360-006	.785-005
JUN	.149+010	.768-006	.488-005
JUL	.154+010	.497-006	.447-005
AUG	.154+010	.654-006	.514-005
SEP	.149+010	.535-006	.560-005
OCT	.151+010	.824-006	.945-005
NOV	.143+010	.416-006	.361-005
DEC	.148+010	.366-006	.221-005
ADJ			

VOL (L)	PU (CI)	BETA (CI)
.134+010	.864-007	.737-006
.121+010	.632-007	.475-006
.134+010	.481-007	.822-006
.151+010	.493-007	.833-006
.157+010	.495-007	.574-006
.152+010	.576-007	.513-006
.157+010	.125-006	.498-006
.157+010	.756-007	.593-006
.152+010	.510-007	.477-006
.157+010	.555-007	.408-006
.153+010	.569-007	.293-006
.158+010	.979-007	.597-006

MONTHLY TOTALS	.180+011	.745-005	.716-004
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.178+011	.816-006	.682-005
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MONTHLY MAXIMUM RELEASE	(CI/DAY)	(CI/DAY)
	.560-007	.430-006

(CI/DAY)	(CI/DAY)
.405-008	.278-007

AVERAGE RELEASE	.205-007	.197-006
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.224-008	.187-007
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AVERAGE CONC.	(UCI/CC)	(UCI/CC)
	.414-012	.398-011

(UCI/CC)	(UCI/CC)
.456-013	.383-012

RADIOACTIVE GASEOUS WASTE - MONTHLY DATA - 1978

34

STACK NO. 296-W-1
PLANT CODE (2724W)

*291-2-1
(291-Z)

FACILITY 2724-W BUILDING

Z PLANT

FUNCTION EXHAUST AIR FROM THE LAUNDRY.

FILTERED PROCESS AND
VENTILATION AIR FROM 234-5,
232-Z, 236-2, AND 242-2.

1978	VOL (L)	PU (CI)	BETA (CI)	VOL (L)	PU (CI)	BETA (CI)
JAN				.340+012	.172-004	.163-003
FEB				.307+012	.153-004	.226-003
MAR	.236+011	.646-006	.919-005	.340+012	.126-004	.245-003
APR	.326+011	.330-006	.109-004	.330+012	.114-004	.188-003
MAY	.304+011	.747-006	.666-005	.340+012	.134-004	.125-003
JUN	.315+011	.337-006	.106-004	.329+012	.135-004	.821-004
JUL	.675+010	.396-006	.253-005	.230+012	.176-005	.102-004
AUG	.630+011	.202-004	.853-004	.384+012	.146-004	.399-004
SEP	.315+011	.108-005	.962-005	.318+012	.505-005	.169-004
OCT	.788+010	.388-006	.363-005	.351+012	.784-005	.223-004
NOV	.158+011	.883-007	.984-005	.318+012	.132-004	.502-004
DEC	.551+011	.297-006	.998-005	.318+012	.614-005	.279-004
ADJ	.578+011	.636-005	.638-004			
MONTHLY TOTALS	.356+012	.309-004	.222-003	.390+013	.132-003	.120-002
MONTHLY MAXIMUM RELEASE		(CI/DAY) .361-006	(CI/DAY) .152-005		(CI/DAY) .572-006	(CI/DAY) .809-005
AVERAGE RELEASE		.104-006	.750-006		.375-006	.340-005
AVERAGE CONC.		(UCI/CC) .868-013	(UCI/CC) .624-012		(UCI/CC) .338-013	(UCI/CC) .306-012

* EDP 801 used first half 1978
EDP 810 used second half 1978
All information is now 810

1. ARH-231 - SLOAT, R. J., (HANFORD LOW-LEVEL WASTE MANAGEMENT REEVALUATION STUDY), DECEMBER 29, 1967, SECRET.
2. ARH-966 - REV. 1, CURREN, E. F., (200 AREA POINTS OF RELEASE OF GASEOUS EFFLUENTS TO THE PLANT ENVIRONMENT), MAY 27, 1971, UNCLASSIFIED.
3. ARH-1187 - UEBELACKER, D. L., (RADIOACTIVITY IN GASEOUS WASTE DISCHARGED FROM THE SEPARATIONS FACILITIES DURING 1968), MARCH 26, 1969, UNCLASSIFIED.
4. ARH-1604 - UEBELACKER, D. L., (RADIOACTIVITY IN GASEOUS WASTE DISCHARGED FROM THE SEPARATIONS FACILITIES DURING 1969), MARCH 6, 1970, UNCLASSIFIED.
5. ARH-2015 - PART 1, JACOBS, M. C. AND UEBELACKER, D. L., (RADIOACTIVITY IN GASEOUS WASTE DISCHARGED FROM THE SEPARATIONS FACILITIES DURING 1970), MARCH 10, 1971, OFFICIAL USE ONLY.
6. ARH-2353 - PART 1, JACOBS, M. C. AND ANDERSON, J. D., (RADIOACTIVITY IN GASEOUS WASTE DISCHARGED FROM THE SEPARATIONS FACILITIES DURING 1971), APRIL 25, 1972, UNCLASSIFIED.
7. LETTER - JACQUES, I. M. TO DISTRIBUTION, (200 AREA TANK FARM PORTABLE EXHAUSTERS), DECEMBER 11, 1972.
8. ARH-2757 - PART 1, ANDERSON, J. D., (RADIOACTIVITY IN GASEOUS WASTE DISCHARGED FROM THE SEPARATIONS FACILITIES DURING 1972), APRIL 10, 1973, UNCLASSIFIED.
9. ARH-2807 - 4Q, ANDERSON, J. D., (RADIOACTIVITY IN GASEOUS WASTE DISCHARGED FROM THE SEPARATIONS FACILITIES DURING 1973), MARCH 29, 1974, UNCLASSIFIED.
10. ARH-3094 - 4Q ANDERSON, J. D., (RADIOACTIVITY IN GASEOUS WASTE DISCHARGED FROM THE SEPARATIONS FACILITIES DURING 1974), MARCH 17, 1975, UNCLASSIFIED.

VALUES EXCEEDING ERDAK0524, ANNEX A, TABLE II COLUMN 1

DISPOSAL SITE	291-A-1	PAGE	2 FOR	JAN	PU	.105005-011
DISPOSAL SITE	296-P-8	PAGE	17 FOR	JAN	PU	.172952-011
DISPOSAL SITE	296-P-8	PAGE	17 FOR	FEB	PU	.228185-011
DISPOSAL SITE	296-P-8	PAGE	17 FOR	MAR	PU	.253878-011
DISPOSAL SITE	296-T-3	PAGE	30 FOR	AUG	PU	.147553-011
DISPOSAL SITE	296-T-16	PAGE	32 FOR	MAR	PU	.109046-011
DISPOSAL SITE	296-U-6	PAGE	33 FOR	JAN	PU	.196758-011
DISPOSAL SITE	296-U-6	PAGE	33 FOR	MAR	PU	.126271-011
DISPOSAL SITE	296-U-6	PAGE	33 FOR	JUL	PU	.733143-011
DISPOSAL SITE	296-Z-3	PAGE	35 FOR	APR	PU	.225185-011
DISPOSAL SITE	296-Z-3	PAGE	35 FOR	MAY	PU	.145205-011
DISPOSAL SITE	296-Z-3	PAGE	35 FOR	JUN	PU	.122046-011
DISPOSAL SITE	296-Z-3	PAGE	35 FOR	AUG	PU	.453180-011
DISPOSAL SITE	296-Z-3	PAGE	35 FOR	SEP	PU	.972476-011
DISPOSAL SITE	296-Z-3	PAGE	35 FOR	OCT	PU	.247169-011