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TITLE

Routine 107 Basin Inlet Samples

AUTHOR

DL Reid

DOCUMENT NO.

HW-45747

DATE 8-25-56

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COPY 1 OF 1, SERIES MA

7-25-56

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TABLE I p.1		RESULTS OF ANALYSES OF REACTOR EFFLUENT WATER SAMPLES					FROM	TO
SAMPLE TYPE		ROUTINE 107 BASIN INLET SAMPLES					7-25-56	8-25-56
SAMPLE DESIGNATION		B-613	C-615	C-616	D-614	D-615		
DATE SAMPLED		7-31-56	7-26-56	8-21-56	7-25-56	8-16-56		
GROSS BETA	10^{-6} UC/ML	4080	3400	3000	2350	2760		
RARE EARTH GROUP	10^{-6} UC/ML	183	84	89	76	62		
	PERCENT	4.5	2.5	3.0	3.2	2.3		
SI 31	10^{-6} UC/ML	214	170	232	180	195		
	PERCENT	5.2	5.0	7.7	7.7	7.1		
N ₂ 24	10^{-6} UC/ML	424	380	311	290	299		
	PERCENT	10.4	11.2	10.4	12.3	10.8		
CU 64	10^{-6} UC/ML	570	560	780	440	626		
	PERCENT	8.1	9.6	17.0	10.9	13.1		
AS 73	10^{-6} UC/ML	86	103	166	90	79		
	PERCENT	2.1	3.0	5.5	3.8	2.9		
TOTAL STRONTIUM	10^{-6} UC/ML	40	16	25	19	27		
	PERCENT	1.0	0.5	0.83	0.8	0.99		
MN 56	10^{-6} UC/ML	1851	1590	1025	680	863		
	PERCENT	45.4	47	34.2	29	31.2		
TOTAL BARIUM	10^{-6} UC/ML	19	22	23	17	13		
	PERCENT	0.5	0.65	0.78	0.7	0.48		
P 32	10^{-6} UC/ML	9.2	5.6	8.4	5.6	6.2		
	PERCENT	0.23	0.16	0.28	0.24	0.22		
TOTAL IODINE	10^{-6} UC/ML	48	22	22	26	27		
	PERCENT	1.2	0.65	0.72	1.1	0.99		
NP 239	10^{-6} UC/ML	392	190	282	240	259		
	PERCENT	9.6	5.6	9.4	10.2	9.4		

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NOTE: 1. ALL DATA ARE CALCULATED TO FOUR HOURS AFTER SAMPLING TIME.
2. LETTER PREFIX OF SAMPLE DESIGNATION DENOTES REACTOR AREA.

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TABLE		RESULTS OF ANALYSES OF REACTOR EFFLUENT WATER SAMPLES				FROM	TO
I p.2						7-25-56	8-25-56
SAMPLE TYPE							
ROUTINE 107 BASIN INLET SAMPLES							
SAMPLE DESIGNATION		DR-613	DRA-614	DRX-614	DR-614		
DATE SAMPLED		7-30-56	8-13-56	8-13-56	Average of DRA and DRX		
GROSS BETA	10 ⁻⁶ UC/ ML	4080	4200	4320	4260		
RARE EARTH GROUP	10 ⁻⁶ UC/ ML	125	104	95	100		
	PERCENT	3.1	2.5	2.2	2.3		
SI 31	10 ⁻⁶ UC/ ML	243	206	243	225		
	PERCENT	6.0	4.9	5.6	5.3		
Na 24	10 ⁻⁶ UC/ ML	422	428	452	440		
	PERCENT	10.3	10.2	10.5	10.3		
CU 64	10 ⁻⁶ UC/ ML	590	733	893	814		
	PERCENT	8.4	10.1	12.0	11.1		
AS 76	10 ⁻⁶ UC/ ML	92	142	146	144		
	PERCENT	2.3	3.4	3.4	3.4		
TOTAL STRONTIUM	10 ⁻⁶ UC/ ML	29	33	32	33		
	PERCENT	0.7	0.79	0.73	0.76		
MN 56	10 ⁻⁶ UC/ ML	1474	1182	1467	1324		
	PERCENT	36	28.1	33.9	31.1		
TOTAL BARIUM	10 ⁻⁶ UC/ ML	26	42	35	39		
	PERCENT	0.64	1.0	0.80	0.90		
P 32	10 ⁻⁶ UC/ ML	6.7	8.8	12	11		
	PERCENT	0.16	0.21	0.28	0.25		
TOTAL IODINE	10 ⁻⁶ UC/ ML	41	28	28	28		
	PERCENT	1.0	0.67	0.65	0.66		
NP 239	10 ⁻⁶ UC/ ML	334	409	460	434		
	PERCENT	8.2	9.7	10.6	10.2		
NOTE: 1. ALL DATA ARE CALCULATED TO FOUR HOURS AFTER SAMPLING TIME. 2. LETTER PREFIX OF SAMPLE DESIGNATION DENOTES REACTOR AREA.							

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RESULTS OF ANALYSES OF REACTOR EFFLUENT WATER SAMPLES

FROM 7-25-56 TO 8-25-56

TABLE I p.3

SAMPLE TYPE		ROUTINE 107 BASIN INLET SAMPLES						
SAMPLE DESIGNATION		F-610	FA-611	FX-611	F-611 (Average of FA and FX)	H-610	H-611	
DATE SAMPLED		8-1-56	8-22-56	8-22-56		8-15-56	8-23-56	
GROSS BETA	10 ⁻⁶ UC/ML	*2590	2212	2856	2534	2760	3096	
RARE EARTH GROUP	10 ⁻⁶ UC/ML	181	61	174	118	59	83	
	PERCENT	7.0	2.7	6.1	4.6	2.1	2.7	
SI 31	10 ⁻⁶ UC/ML	133	124	135	130	113	129	
	PERCENT	5.1	5.6	4.7	5.1	4.1	4.2	
N ₂ 24	10 ⁻⁶ UC/ML	255	238	266	252	229	265	
	PERCENT	9.8	10.7	9.3	9.9	8.3	8.6	
CU 64	10 ⁻⁶ UC/ML	520	431	800	615	683	969	
	PERCENT	11.6	11.3	16.2	14.1	14.4	18.1	
AS 75	10 ⁻⁶ UC/ML	86	101	176	139	77	159	
	PERCENT	3.3	4.6	6.2	5.5	2.8	5.1	
TOTAL STRONTIUM	10 ⁻⁶ UC/ML	20	18	37	27	16	28	
	PERCENT	0.8	0.82	1.3	1.1	0.58	0.89	
MN 56	10 ⁻⁶ UC/ML	666	601	841	721	1419	1096	
	PERCENT	25.5	27.1	29.4	28.4	51.4	35.4	
TOTAL BARIUM	10 ⁻⁶ UC/ML	24	17	20	19	15	19.1	
	PERCENT	0.9	0.79	0.69	0.73	0.53	0.62	
P 32	10 ⁻⁶ UC/ML	7.7	5.1	13*	8.9	5.4	8.7	
	PERCENT	3.0	0.23	0.44	0.35	0.20	0.28	
TOTAL IODINE	10 ⁻⁶ UC/ML	23	17	32	25	18	27	
	PERCENT	0.9	0.8	1.1	1.0	0.7	0.9	
NP 239	10 ⁻⁶ UC/ML	192	178	309	243	238	335	
	PERCENT	7.4	8.1	10.8	9.6	8.6	10.8	

NOTE: 1. ALL DATA ARE CALCULATED TO FOUR HOURS AFTER SAMPLING TIME.
2. LETTER PREFIX OF SAMPLE DESIGNATION DENOTES REACTOR AREA.
* Result questionable due to possible contamination.

J-3786, 1-D

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TABLE I p.4		RESULTS OF ANALYSES OF REACTOR EFFLUENT WATER SAMPLES						FROM 7-25-56	TO 8-25-56
SAMPLE TYPE ROUTINE 107 BASIN INLET SAMPLES									
SAMPLE DESIGNATION		KW-612	KE-612						
DATE SAMPLED		8-14-56	8-20-56						
GROSS BETA	10 ⁻⁶ UC/ ML	1185	1620						
RARE EARTH GROUP	10 ⁻⁶ UC/ ML	27	41						
	PERCENT	2.3	2.5						
SI 31	10 ⁻⁶ UC/ ML	182	146						
	PERCENT	15.4	9.0						
N ₂ 24	10 ⁻⁶ UC/ ML	235	275						
	PERCENT	19.8	17.0						
CU 64	10 ⁻⁶ UC/ ML	222	280						
	PERCENT	10.9	10.0						
AS 76	10 ⁻⁶ UC/ ML	14.4	23						
	PERCENT	1.2	1.4						
TOTAL STRONTIUM	10 ⁻⁶ UC/ML	13.1	14						
	PERCENT	1.1	0.88						
MN 56	10 ⁻⁶ UC/ ML	185	292						
	PERCENT	15.6	16.0						
TOTAL BARIUM	10 ⁻⁶ UC/ ML	8.9	11						
	PERCENT	0.75	0.69						
P 32	10 ⁻⁶ UC/ ML	2.3	2.1						
	PERCENT	0.19	0.13						
TOTAL IODINE	10 ⁻⁶ UC/ ML	7.2	10						
	PERCENT	0.61	0.62						
NP 239	10 ⁻⁶ UC/ ML	56	86						
	PERCENT	4.7	5.3						
NOTES: 1. ALL DATA ARE CALCULATED TO FOUR HOURS AFTER SAMPLING TIME. 2. LETTER PREFIX OF SAMPLE DESIGNATION DENOTES REACTOR AREA.									

J-3798, I-D (5 - 56)

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RESULTS OF ANALYSES OF REACTOR EFFLUENT WATER SAMPLES

FROM

TO

4-17-56

6-6-56

TABLE

II p.1

SAMPLE TYPE

PREVIOUSLY UNREPORTED RESULTS - ROUTINE 107 BASIN INLET SAMPLES

SAMPLE DESIGNATION

B-610

C-608

C-609

C-610

C-611

C-612

DATE SAMPLED

6-6-56

4-17-56

4-30-56

5-22-56

5-24-56

6-4-56

BA 140 - LA 140

10⁻⁶ UC/ML

1.8

1.97

2.8

1.3

1.4

1.3

PERCENT

0.05

0.043

0.075

0.028

0.031

0.03

SR 90 - SR 90

10⁻⁶ UC/ML

0.52

0.74

0.63

0.61

0.31

0.4

PERCENT

0.015

0.016

0.017

0.013

0.007

0.01

SR 90 - Y 90

10⁻⁶ UC/ML

0.102

<0.032

0.039

<0.04

<0.02

<0.32

PERCENT

0.003

<0.001

0.001

<0.001

<0.0004

<0.001

I 131

10⁻⁶ UC/ML

0.53

0.43

0.67

0.41

0.41

0.36

PERCENT

0.015

0.0094

0.018

0.009

0.009

0.009

TOTAL IRON

10⁻⁶ UC/ML

0.1

0.17

0.112

0.22

0.09

0.63

PERCENT

0.003

0.004

0.003

0.005

0.002

0.015

TOTAL CALCIUM

10⁻⁶ UC/ML

0.93

1.02

1.4

1.0

1.0

1.35

PERCENT

0.026

0.022

0.037

0.02

0.02

0.032

10⁻⁶ UC/ML

PERCENT

10⁻⁶ UC/ML

PERCENT

10⁻⁶ UC/ML

PERCENT

10⁻⁶ UC/ML

PERCENT

10⁻⁶ UC/ML

PERCENT

TOTAL UNACCOUNTED

- NOTE: 1. ALL DATA ARE CALCULATED TO FOUR HOURS AFTER SAMPLING TIME
 2. LETTER PREFIX OF SAMPLE DESIGNATION DENOTES REACTOR AREA

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TABLE II p.2		RESULTS OF ANALYSES OF REACTOR EFFLUENT WATER SAMPLES					FROM 5-31-56	TO 6-20-56
SAMPLE TYPE		PREVIOUSLY UNREPORTED RESULTS - ROUTINE 107 BASIN INLET SAMPLES						
SAMPLE DESIGNATION		D-611	D-612	DR-609	DR-610	H-606	KW-608	KW-609
DATE SAMPLED		6-7-56	6-20-56	6-5-56	6-18-56	6-12-56	5-31-56	6-14-56
BA 140 - LA 140	10 ⁻⁶ UC/ML	1.1	1.2	1.4	1.5	0.92	0.34	0.23
	PERCENT	0.038	0.037	0.037	0.038	0.032	0.03	0.026
SR 90 - SR 90	10 ⁻⁶ UC/ML	0.1	0.1	0.51	0.21	0.19	0.003	0.028
	PERCENT	0.003	0.0031	0.014	0.005	0.006	0.003	0.0031
SR 90 - Y 90	10 ⁻⁶ UC/ML	<0.012	<0.02	0.057	<0.026	0.025	<0.02	<0.014
	PERCENT	<0.0004	<0.0006	0.002	<0.0006	0.001	<0.002	<0.0016
I 131	10 ⁻⁶ UC/ML	0.47	0.88	0.4	0.4	0.4	0.15	0.06
	PERCENT	0.016	0.027	0.01	0.01	0.014	0.01	0.007
TOTAL IRON	10 ⁻⁶ UC/ML	0.13	0.05	0.3	0.27	0.07	0.5	0.03
	PERCENT	0.0045	0.0015	0.008	0.0067	0.002	0.04	0.003
TOTAL CALCIUM	10 ⁻⁶ UC/ML	0.77	0.84	1.15	0.99	1.02	0.37	0.231
	PERCENT	0.027	0.025	0.031	0.025	0.035	0.031	0.026
	10 ⁻⁶ UC/ML							
	PERCENT							
	10 ⁻⁶ UC/ML							
	PERCENT							
	10 ⁻⁶ UC/ML							
	PERCENT							
TOTAL UNACCOUNTED	10 ⁻⁶ UC/ML							
	PERCENT							

NOTE: 1. ALL DATA ARE CALCULATED TO FOUR HOURS AFTER SAMPLING TIME
 2. LETTER PREFIX OF SAMPLE DESIGNATION DENOTES REACTOR AREA

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TABLE		RESULTS OF ANALYSES OF REACTOR EFFLUENT WATER SAMPLES					FROM	TO
II p.3							5-29-56	6-19-56
SAMPLE TYPE								
PREVIOUSLY UNREPORTED RESULTS - ROUTINE 107 BASIN INLET SAMPLES								
SAMPLE DESIGNATION		KE-608	KE-609					
DATE SAMPLED		5-29-56	6-19-56					
BA 140 - LA 140	10 ⁻⁶ UC/ ML	0.44	0.3					
	PERCENT	0.03	0.023					
SR 80 - SR 90	10 ⁻⁶ UC/ ML	0.043	0.046					
	PERCENT	0.003	0.0035					
SR 90 - Y 90	10 ⁻⁶ UC/ ML	<0.015	<0.02					
	PERCENT	<0.00	<0.0015					
I 131	10 ⁻⁶ UC/ ML	<0.09	0.1					
	PERCENT	<0.006	0.008					
TOTAL IRON	10 ⁻⁶ UC/ ML	0.28	<0.03					
	PERCENT	0.02	<0.002					
TOTAL CALCIUM	10 ⁻⁶ UC/ ML	0.43	0.36					
	PERCENT	0.03	0.027					
	10 ⁻⁶ UC/ ML							
	PERCENT							
	10 ⁻⁶ UC/ ML							
	PERCENT							
	10 ⁻⁶ UC/ ML							
	PERCENT							
	10 ⁻⁶ UC/ ML							
	PERCENT							
TOTAL UNACCOUNTED	10 ⁻⁶ UC/ ML							
	PERCENT							

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- NOTES: 1. ALL DATA ARE CALCULATED TO FOUR HOURS AFTER SAMPLING TIME
 2. LETTER PREFIX OF SAMPLE DESIGNATION DENOTES REACTOR AREA