

Soil - Imp Data

R

The name of the island is given in the English and native name. The date given at the end of the line is when the data were collected; the IMP number is given also but detectors have been interchanged.

A and B composites are shown under the soil sample section. "uncorr ratio" is the soil/IMP (ratio) before the IMP value was corrected for % brush.

"corr ratio" is the soil/IMP (ratio) computed after the IMP value was corrected for % brush.

The IMP values are shown with the brush correction (corr Am-241) and without the brush correction (uncorr Am-241).

Enjebi is not included

DOCUMENT DOES NOT CONTAIN ECI

Reviewed by P. Belmonte Date 4/29/97

BEST COPY AVAILABLE

REPOSITORY PNNL
 COLLECTION Marshall Islands
 BOX No. 5685
 FOLDER Soil - IMP Data

ISLAND: PEARL (LUJOR) DATA COLLECTED BY IMP 3 10-11/77

PEARL	SOIL SAMPLES Am-241 pCi/g						IMP VALUES		%	
	LOCATION	A comp	uncorr ratio	corr ratio	B comp	uncorr ratio	corr ratio	uncorr Am-241 pCi/g		corr Am-241
	9-S-2	10.9	1.40	1.22	11.7	1.50	1.31	7.8	8.9	90
	11-S-5	3.29	1.73	1.57	1.66	0.87	0.79	1.9	2.1	5
	5-N-1	9.98	0.58	.50	20.4	1.18	1.02	17.3	20.0	90
	5-S-3	47.4	1.32	1.15	65.4	1.82	1.58	35.9	41.3	90
	1-S-1	21.5	1.62	1.41	10.0	0.75	0.65	13.3	15.3	90
	8-B-0	18.3	1.27	1.26	21.8	1.51	1.50	14.4	14.5	5
	1-N-1	23.0	0.65	0.57	33.5	0.95	0.83	35.2	40.5	90
	3-S-1	28.2	2.09	1.83	6.34	0.47	.41	13.5	15.4	90
	6-S-1	18.7	1.26	1.09	15.3	1.03	0.89	14.8	17.1	90
	8-S-4	3.99	1.25	1.11	3.85	1.20	1.07	3.2	3.6	80

ISLAND: IRENE (BOKEN) DATA COLLECTED BY IMP 1 EXCEPT LOCATION 10-S-4 USED IMP 3 11/77

LOCATION	SOIL SAMPLES Am-241 pCi/g						IMP VALUES pCi/g		%	
	A comp	uncorr ratio	corr ratio	B comp	uncorr ratio	corr ratio	uncorr Am-241	corr Am-241		
	3-B-0	2.39	1.14	1.09	2.83	1.35	1.29	2.1	2.2	5
	7-S-3	1.57	0.87	0.83	4.55	2.53	2.39	1.8	1.9	
	8-N-1	4.46	1.44	1.35	4.1	1.32	1.24	3.1	3.3	4
	10-S-4	1.92	1.37	1.20	1.69	1.21	1.06	1.4	1.6	6
	13-N-2	3.35	0.61	.61	6.31	1.15	1.15	5.5	5.5	
	1-BL-0	1.20	1.20	1.09	1.30	1.30	1.18	1.0	1.1	4
	5-N-1	3.07	1.62	1.62	2.93	1.54	1.54	1.9	1.9	
	6-N-1	3.64	1.10	1.07	3.72	1.13	1.09	3.3	3.4	
	10-N-2	2.78	2.78	2.53	3.15	3.15	2.86	1.0	1.1	
	8-S-1	4.10	1.32	1.21	4.49	3.06	2.79	3.1	3.4	

ISLAND: VERA ALEMABEL DATA COLLECTED BY IMP 1

11/77

LOCATION	SOIL SAMPLES Am-241 pCi/g						IMP VALUES pCi/g		%
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
2-W-2	3.31	1.18	1.03	7.49	2.68	2.34	2.8	3.2	8
4-B-0	3.41	1.55	1.42	2.46	1.12	1.03	2.2	2.4	4
5-E-2	5.04	1.74	1.58	4.9	1.69	1.53	2.9	3.2	7
7-B-U	4.87	1.48	1.43	4.62	1.40	1.36	3.3	3.4	1

ISLAND: OLIVE (AEJ) DATA COLLECTED BY IMP 3

12/77

LOCATION	SOIL SAMPLES - Am-241 pCi/g						IMP VALUES pCi/g		%
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
18-S-2	3.03	1.12	1.08	3.17	1.17	1.13	2.7	2.8	2
10-S-2	2.34	0.67	0.6	4.41	1.26	1.13	3.5	3.9	7
8-N-6	17.0	1.34	1.22	17.0	1.34	1.22	12.7	13.9	6
2-N-2	8.19	2.21	1.95	6.19	1.67	1.47	3.7	4.2	8

ISLAND: LUCY (KIORINEN) DATA COLLECTED BY IMP 1 (LOW VOLT. DATE - 2/78)
 [CORRECTION WAS MADE FOR LOW VOLTAGE]

LOCATION	SOIL SAMPLES - Am-241 pCi/g						IMP VALUES pCi/g		%
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
2 BL 0	20.38	2.91	2.87	2.22	0.32	0.31	7.0	7.1	
0 E 4	4.27	2.14	1.94	2.82	1.41	1.28	2.0	2.2	
6 W 2	18.36	1.62	1.47	19.20	1.70	1.54	11.3	12.5	
6 E 2	47.74	3.10	2.91	24.07	1.56	1.47	15.4	16.4	
8 W 6	9.86	1.23	1.16	14.35	1.79	1.69	8.0	8.5	

ISLAND: ALICE (BOKLUO) - NEW DATA TAKEN BY IMP 2 4/78

LOCATION	SOIL SAMPLES Am-241 pCi/g						IMP VALUES pCi/g		C B
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
2 BL 0	10.89	5.63	3.63	3.97	1.32	1.32	3.0	3.0	6
4 N 2	27.61	1.60	1.44	22.22	1.28	1.16	17.3	19.2	7
8 BL 0	19.42	1.08	1.03	22.04	1.22	1.17	18.0	18.9	3
12 S 4	17.11	1.19	1.07	9.82	0.68	0.61	14.4	16.0	7
16 S 2	49.15	1.61	1.47	25.67	0.84	0.77	30.4	33.5	6

ISLAND: BELLE (BOKOMBAKO) - DATA TAKEN BY IMP 1 (LOW VOLTAGE BUT CORRECTED) 3/78

LOCATION	SOIL SAMPLE Am-241 pCi/g						IMP VALUES pCi/g		C B
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
2-BL-0	28.68	1.27	1.23	24.11	1.07	1.03	22.6	23.3	6
8-BL-0	32.40	1.13	1.07	27.12	0.95	0.90	28.6	30.2	3
14-S-4	5.07	0.20	0.18	29.34	1.17	1.06	25.1	27.7	6
12-S-10	18.34	1.82	1.65	19.52	1.93	1.76	10.1	11.1	6
6-S-4	49.36	1.69	1.65	32.04	1.10	1.07	29.2	29.9	

ISLAND: CLARA (KIEUNU) - DATA TAKEN BY IMP 3 3/78

LOCATION	SOIL SAMPLES Am-241 pCi/g						IMP VALUES pCi/g		C B
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
1-S-1	4.84	1.31	1.24	7.20	1.95	1.85	3.7	3.9	
4-S-3	15.43	1.77	1.62	8.96	1.03	0.94	8.7	9.5	
7-S-5	13.61	1.33	1.19	14.37	1.41	1.26	10.2	11.4	
10-S-6	6.14	0.43	0.41	24.91	1.75	1.67	14.2	14.9	

ISLAND: KATE (MIJIKADREK) - DATA TAKEN BY IMP 1

3/78

LOCATION	SOIL SAMPLE Am-241 pCi/g						IMP VALUES pCi/g		%
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
4-N-2	21.19	1.08	1.04	18.01	0.92	0.88	19.6	20.4	2
0-BL-0	2.65	0.62	0.59	2.67	0.62	0.59	4.3	4.5	3
4-S-2	9.01	1.23	1.19	8.44	1.16	1.11	7.3	7.6	2
8-S-2	13.81	0.82	0.77	23.30	1.38	1.29	16.9	18.0	4
8-S-8	4.76	0.78	0.74	10.14	1.66	1.58	6.1	6.4	3

ISLAND: DAISY (LOWI) - DATA TAKEN BY IMP 3

3/78

LOCATION	SOIL SAMPLE Am-241 pCi/g						IMP VALUES pCi/g		%
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
2 BL 0	2.87	1.25	1.20	3.16	1.37	1.32	2.3	2.4	1
10 BL 0	4.54	0.34	0.34	14.16	1.07	1.05	13.2	13.5	15
8 E 8	1.33	0.35	0.33	3.53	0.93	0.88	3.8	4.0	4
6 E 2	12.70	1.19	1.06	14.58	1.36	1.22	10.7	12.0	7

ISLAND: NANCY (ELLE) - DATA TAKEN BY IMP 1

3/78

LOCATION	SOIL SAMPLE Am-241 pCi/g						IMP VALUES pCi/g		%
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
5-S-1	14.98	1.45	1.45	16.12	1.57	1.56	10.3	10.3	0
8-S-3	1.44	0.65	0.65	2.76	1.25	1.25	2.2	2.2	0
12-S-2	34.89	2.93	2.75	26.09	2.19	2.05	11.9	12.7	4
13-S-5	27.29	2.20	2.17	10.6	0.85	0.84	12.4	12.6	10
16-S-6	5.40	0.69	0.68	7.04	0.90	0.88	7.8	8.0	10

ISLAND: MARY (BOKENLAB) DATA TAKEN BY Imp 1

4/78

LOCATION	SOIL SAMPLE Am-241 pCi/g						IMP VALUES pCi/g		%
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
0-BL-0	8.59	1.30	1.23	5.46	0.83	0.78	6.6	7.0	3
2-N-2	10.07	1.60	1.55	12.01	1.91	1.85	6.3	6.5	2
6-BL-0	2.02	0.78	0.78	2.69	1.03	1.03	2.6	2.6	5
10-BL-0	3.83	1.82	1.82	1.34	0.64	0.64	2.1	2.1	15
12-S-2	4.65	1.26	1.22	2.97	0.80	0.78	3.7	3.8	15

ISLAND: SALLY (ACMON) DATA TAKEN BY Imp 1 (EXCEPT LOCATIONS 28-S-2 & 20-S-4 BY IMP 3) 12/78

LOCATION	SOIL SAMPLE Am-241 pCi/g						IMP VALUES pCi/g		%
	A COMP	RATIO		B COMP	RATIO		UNCORR Am-241	CORR Am-241	
		UNCORR	CORR		UNCORR	CORR			
26-N-12	68.2	2.12	2.09	100.4	3.13	3.08	32.1	32.6	1
28-S-2	2.10	0.50	0.50	5.33	1.27	1.27	4.2	4.2	
14-S-10	16.45	1.70	1.65	5.93	0.61	0.59	9.7	10.0	2
24-N-10	0.28	0.70	0.70	1.38	3.45	3.45	0.4	0.4	5
2-N-2	0.11	0.55	0.55	0.09	0.45	0.45	0.2	0.2	1
12-S-4	<LLD	-	-	<LLD	-	-	no data	-	
14-S-8	<LLD	-	-	<LLD	-	-	0	0	
18-N-4	0.96	0.60	0.60	2.53	1.58	1.58	1.6	1.6	
20-S-4	0.53	1.77	1.77	0.35	1.17	1.17	0.3	0.3	4

ISLAND: WILMA (BILLAE)

LOCATION	SOIL SAMPLE Am-241 pCi/g						IMP VALUE pCi/g	
	A COMP	RATIO UNCORR CORR		B COMP	RATIO UNCORR CORR		uncorr Am-241	corr Am-241
8-N-8	2.72	1.51	1.36	3.10	1.72	1.55	1.8	2.0
4-N-6	2.18	1.98	1.98	0.92	0.84	0.84	1.1	1.1
2-N-2	1.57	1.31	1.21	3.85	3.21	2.96	1.2	1.3
0-S-4	0.21	2.10	2.10	0.2	2.00	2.00	0.1	0.1

ISLAND: TILDA (BIJIRE)

LOCATION	SOIL SAMPLE Am-241 pCi/g						IMP VALUE pCi/g	
	A COMP	RATIO UNCORR CORR		B COMP	RATIO UNCORR CORR		uncorr Am-241	corr Am-241
2-BL-0	1.47	1.8	1.8	0.44	0.55	0.55	0.8	0.8
6-N-4	3.45	0.99	0.99	4.19	1.20	1.20	3.5	3.5
8-S-4	4.03	1.22	1.22	3.12	0.95	0.95	3.3	3.3
14-N-4	1.14	1.43	1.43	0.94	1.18	1.18	0.8	0.8
12-S-12	2.94	1.01	1.01	3.10	1.07	1.07	2.9	2.9

ISLAND: RUBY (ELELERON)

LOCATION	SOIL SAMPLE Am-241 pCi/g						IMP VALUE pCi/g	
	A COMP	RATIO UNCORR CORR		B COMP	RATIO UNCORR CORR		uncorr Am-241	corr Am-241
1-BL-0	0.7	1.00	1.00	0.4	0.57	0.57	0.7	0.7
3-BL-0	1.5	1.36	1.36	1.06	0.96	0.96	1.1	1.1
4-BL-0	1.03	0.86	0.79	0.89	0.74	0.68	1.2	1.3
5-BL-0	1.04	3.47	3.47	0.65	2.17	2.17	0.3	0.3

Regression information

Islands included in the regression analysis are:
Pearl (Lujor), Irene (Boken), Vera (Alembel),
Olive (Aej), Sally (Amon), Lucy (Kidrinen),
Belle (Bokombako), Alice (Bokoluo), Clara (Kirunu),
Kate (Mijikadrek), Daisy (Lauj), Nancy (Elle),
Mary (Bokenelab), Tilda (Bijire), Ruby (Eleleron) &
Wilma (Billae).

The Imp data was corrected for % Brush before the regressions were run.

Three analyses were done using the A & B composites separately (each on log and linear data) - one with all islands included, one with the islands Ruby & Wilma data deleted and the final one excluded the data from Sally, Ruby and Wilma. The reason these islands were excluded is that the activity on these islands was so low that it was below the detection limit of the Imp.

The regression (log & linear data) was also done looking at the average of the A & B composites, excluding the 3 islands mentioned above. On the linear scale, the regression line will be the same as when using the separate composites.

Regression for all islands
using the A & B composites separately.

Linear

$$\text{mean of soil} = 11.0254 \quad \bar{Y}/\bar{X} = 1.2388$$

$$\text{mean of Imp} = 8.9$$

$$\text{Slope} = 1.2103$$

$$\text{Intercept} = 0.2538$$

$$(s_b) \text{ error} = 0.0629$$

$$(s_b) \text{ error} = 0.3134$$

$$\text{Regression error} = 7.8338$$

Log

$$\text{mean of soil} = 0.7366$$

$$\text{mean of Imp} = 0.6708$$

$$\text{Slope} = 0.9520$$

$$\text{Intercept} = 0.0981$$

$$(s_b) \text{ error} = 0.0289$$

$$(s_b) \text{ error} = 0.0252$$

$$\text{Regression error} = 0.2098$$

Regression excluding Ruby & Wilma
using the A & B composites separately.

Linear

mean of soil = 12.0151
mean of Imp = 9.7115

$$\sqrt{r} = 1.2372$$

Slope = 1.2095
(s_b) error = 0.0685

Intercept = 0.2686
(s_b) error = 0.9363

Regression error = 8.2276

Log

mean of soil = 0.8117
mean of Imp = 0.7532

Slope 0.9768 Intercept = 0.07596
(s_b) error = ~~0.0336~~ 0.0336 (s_b) error = ~~MMMM~~ 0.0303

Regression error = 0.2086

Regression excluding Sally, Ruby & Wilma
using the A & B composites separately.

Linear

mean of soil : 11.7585
mean of Imp : 9.9746

$$\bar{Y}/\bar{X} = 1.1788$$

Slope = 1.04696 Intercept = 1.31545
(s_b) error for slope = 0.0556 error on intercept = 0.7637

Regression error = 6.25388

log

mean of soil : 0.86215
mean of Imp : 0.80324

Slope = 0.92329 Intercept = 0.12113
(s_b) error = 0.03838 (s_b) error = 0.03496

Regression error = 0.19644

Regression excluding Sally, Pety & Wilma
using the average of the A & B composites.

Linear:

mean of soil: 11.7585

mean of Imp: 9.9746

Slope = 1.04696

Intercept = 1.31545

error = 0.0593 (s_b)

error = 0.8145 (s_b)

Regression error = 4.7160

Log

mean of soil: 0.8833

mean of Imp: 0.8032

Slope = 0.9306

Intercept = 0.1358

(s_b) error = 0.0365

~~0.0333~~ (s_b) error = 0.0333

Regression error = 0.1322

These are plots that have
the Imp data corrected
for % brush.