1852 General 1967

TABLE 6

Table 1.--Plutonium concentrations in tuff from test holes, 1953.

TH-1		TH-2		TH-3		TH-4		TH-5	
Depth (feet)	Plutonium (d/m/g)a/	Depth (feet)	Plutonium (d/m/g)a/	Depth (feet)	Plutonium (d/m/g)a/	Depth (feet)	Plutonium (d/m/g)a/	Depth (feet)	Plutonium (d/m/g)a/
Surface	70	Surface	9	Surface	8	Surface	410	Surface	32
2	4	2	3	1	400	1	600	2	9
4	4	4	2	2	36,100	2	10	4	8
6	4	6	2	3	45,600	3	80	6	4
6 to 10	2	8	1	12	1,400	4	3,400	8	3
10 to 14	2	10	4	15	5,000	5	530	10	2
15	4	12	3	16	5,100	6	80	11	2
		14	3	17	720	7	1,800	12 b/	450
		16	4	18	24	8	40	12.5	1,510
		18	2	19	12	9	380	13	1,330
		20	3	20	12	10	2,400		

a/ Disintegrations per minute per gram.
b/ Angle hole, point of intersection with pit.

Note: TH-1 and Th-2 are vertical holes in earth filled berm.
TH-3 and TH-4 are vertical holes in pits.
TH-5 is angle hole at 45 degrees extending under pit.

Ion exchange Capacity

TH-3 at 19 feet	0.7	milliequivalent	per	100 grams
TH-4 at 5 feet	3.2	"	"	"
TH-5 at 12 feet	1.7	"	"	"

(Table modified from Hermann, 1954)

Purtymun, 1967[36]

12068

Tab 6

Table 1.--Plutonium concentrations in tuff from test holes, 1953.

TH-1		TH-2		TH-3		TH-4		TH-5	
Depth (feet)	Plutonium (d/m/g)a/	Depth (feet)	Plutonium (d/m/g)a/	Depth (feet)	Plutonium (d/m/g)a/	Depth (feet)	Plutonium (d/m/g)a/	Depth (feet)	Plutonium (d/m/g)a/
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Note: TH-1 and Th-2 are vertical holes in earth filled berm.
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(Table modified from Hermann, 1954)

Purtymun, 1967

Date

Depth below Surface	Description	Plutonium dpm/dry gram
	DPW-1	
August 25 & 1953 Surface	Very fine sandy soil	70
1'	Very fine sandy soil	8
2'	Very sandy soil	4
3'	Sandy soil	8
4'	Coarse sand and clay	4
5'	Sand	4
6'	Sand	4
6' - 10'	Sand	2
10' - 14'	Sand	2
15'	Sand	4
	DPW-2	
August 26 & 27, 1953 Surface	Very fine sandy soil	9
1'	Very fine sandy soil	4
2'	Sandy soil	3
3'	Sandy soil	1
4'	Sand	2
5'	Sand	3
6'	Sand	2
7'	Sand and clay soil	4
8'	Sand	1
9'	Sand	3
10'	Very coarse sand	4
11'	Fine sand, some gravel	4
12'	Fine sand	3
13'	Fine sand	3
14'	Sand	3
15'	Sand	2
16'	Sand	4
17'	Sand	3
18'	Sand	2
19'	Sand	3
20'	Sand	3
	DPW-3	
August 26, 1953 Surface	Very fine sandy soil	32
1'	Very fine sandy soil	5
2'	Very fine sandy soil	9
3'	Very fine sandy soil	7
4'	Sandy soil	8
5'	Sand	6
6'	Very sandy soil	4
7'	Very sandy soil	7
8'	Very sandy soil	3
9'	Sand and clay	3
10'	Fine sand	2
11'	Sand	2
12'	Loose tufaceous sand	450 *
12.5'	Loose tufaceous sand	1510
13'	Loose tufaceous sand	1330
	DPW-4	

Hole drilled on a 45° slant extending under adjacent absorption bed. Depths given are slant depths. * Point of intersection with absorption bed.

TABLE X

Plutonium concentrations in samples from test holes, Chalk Knoll (Area, Hanford, 1946 229)

General

1/1/67

1853

1,24,25,30 & October ,1953	Surface	Sandy soil	8
	1'	Sand and gravel, some clay	400
	2'	Sand a gravel, some clay	100
	3'	Sand and gravel, some clay	45,600
	12'	Very fine loose tuff	1,400
	15'	Fine sand	5,000
	16'	Fine sand	5,100
	17'	Loose tuff	720
	18'	Sandy loose tuff	24
	19'	Loose tuff	12
	20'	Broken tuff cor	12

DPW-5

September 21, 24, 25, 30 & October 1, 1953	Surface	Sand and clay soil	410
	1'	Sand and clay soil	600
	2'	Sand and clay soil	10
	3'	Sand and gravel	80
	4'	Sand and gravel	3,400
	5'	Solid tuff core from a boulder	530
	6'	Solid tuff core from a boulder	80
	7'	Friable tuff core	1,800
	8'	Fine sand and clay	40
	9'	Fine sand and clay	380
	15'	Fine sand	2,400

TABLE ~~X~~ T-IV

Ion exchange capacity of samples from three of the 1953 holes
(Table modified from Hermann, 1953[272])

Sample Depth	Megascopic Description	Minerals Present (parts in ten)			Ion Exchange Capacity (me/kg)
DPW-3 at 12 ft. (slant)	Sandy to silty clay and gravel composed of gray pumiceous Bandelier tuff (probably Tshirege member). Due to 45° dip of hole, vertical depth of sample is 8.5 ft.	Clay <2 μ	Feldspar	4	17
			Montmorillonite	3	
			Hydrous mica	2	
			Kaolin		
			Cristobalite		
			Tridymite		
			Quartz		
		Silt 2-62 μ	Feldspar	4	
			Cristobalite	4	
			Tridymite	1	
			Quartz		
DPW-4 at 19 ft.	Gray tuff of Tshirege member of Bandelier tuff. Contains some bit-broken fine particles.	Clay <2 μ	Feldspar	4	7
			Cristobalite	4	
			Tridymite		
			Quartz		
		Silt 2-62 μ	Feldspar	5	
			Cristobalite	4	
			Tridymite	1	
			Quartz		
DPW-5 at 5 ft.	Dark gray to white pumiceous tuff. Apparently cored from a boulder	Clay <2 μ	Feldspar	5	32
			Montmorillonite	2	
			Cristobalite		
		Silt 2-62 μ	Feldspar		
			Tridymite		
			Cristobalite		