Table 14. - Analyses, in percent, for uranium in lignite, carbonaceous shale, and associated rocks, localities 1 to 110, Slim Buttes area, Harding County, S. Dak.

[Sample localities shown on plate 11 in U.S. Geol. Survey Prof. Paper 463, 1965. Sample No. underlined indicates spectrographic analysis is given in table 25. Ash: n.d. indicates not determined. Analysts: C. G. Angelo, H. E. Bivens, R. P. Cox, E. J. Fennelly, S. P. Furman, Mary Finch, J. Goode, W. D. Goss, J. Johnson, H. H. Lipp, B. A. McCall, J. McGurk, P. Moore, Roosevelt Moore, Wayne Mountjoy, J. W. Patton, J. P. Schuch, Audrey Smith, Joan Smith, D. L. Stockwell, James Wahlberg, and J. E. Wilson]

Locality No.	Sample No.	Bed description	Ash	Equivalent uranium	Uranium in sample
		T. 16 N., R. 8 E.			
		SE¼SW¼ sec. 2			
57		1.9-ft lignite:			
	235156	Uppermost foot----------	32.2	0.034	0.041
	155	Basal 0.9 ft----------	30.2	.028	.031
	157	Pyrite----------	----	.009	.005
		SW¼NE¼ sec. 8			
42	115186	0.8-ft lignite----------	19.9	.025	.042
		SW¼SE¼ sec. 9			
43	211343	0.5-ft lignite----------	30.1	.010	.016
		SE¼SE¼ sec. 11			
54	235137	1-ft carbonaceous clay----	n.d.	.035	.040
	138	0.9-ft lignite----------	40.6	.24	.33
	139	3-ft sandstone----------	----	.006	.003
		SW¼SE¼ sec. 11			
	235172	1.2-ft lignite----------	31.2	.006	.011
		SE¼SW¼ sec. 11			
56	235136	2-ft lignite----------	35.7	.019	.026
		SW¼SE¼ sec. 12			
50		2.5-ft lignite:			
	235143	Uppermost foot----------	20.4	.009	.010
	142	Basal 1.2 ft----------	21.5	.009	.008
51	163	1.1-ft lignite----------	33.0	.010	.009
		2.8-ft lignite:			
	164	Basal 1.5 ft----------	25.0	.016	.016
		2.8-ft lignite:			
	166	Uppermost 0.9 ft--------	23.5	.040	.014
52	115187	1.3-ft lignite----------	23.3	.026	.038
		SE¼SW¼ sec. 12			
53		1.8-ft lignitic shale:			
	235167	Basal foot----------	60.3	.080	.11
	168	0.1-ft clay----------	n.d.	.048	.047
		1.8-ft lignite:			
	169	Uppermost 0.7 ft--------	22.1	.17	.26
	170	0.9-ft lignite----------	33.0	.011	.012
	171	0.3-ft lignite----------	29.0	.006	.006
		NW¼SE¼ sec. 13			
49	235144	1.1-ft carbonaceous shale-	n.d.	.026	.032
	145	0.7-ft lignite----------	26.1	.11	.16
		NE¼SE¼ sec. 16			
44	211345	1.2-ft lignite----------	44.1	.012	.023
	346	1-ft lignite----------	26.7	.009	.016
	344	1-ft lignite----------	35.2	.032	.056
		SW¼NE¼ sec. 24			
45	235127	0.5-ft sandstone----------	n.d.	.10	.063
	128	2.3-ft siltstone----------	n.d.	.034	.036
	129	1.4-ft carbonaceous clay--	n.d.	.023	.054
	130	0.2-ft lignitic shale-----	55.5	.027	.055
	131	1.6-ft carbonaceous clay--	n.d.	.020	.014
	132	1-ft lignite----------	21.2	.018	.021
	133	Lignitic shale (select)---	59.1	3.5	.30
		SE¼NE¼ sec. 24			
46	235135	1.2-ft lignite----------	44.8	.043	.072
	134	2-ft carbonaceous clay----	n.d.	.012	.004
		T. 16 N., R. 9 E.			
		NE¼SW¼ sec. 6			
58	235162	0.7-ft lignite----------	39.5	0.053	0.13
		NW¼SW¼ sec. 17			
47		1.6-ft lignite:			
	235159	Uppermost 0.5 ft--------	35.4	.024	.033
	160	2d 0.5 ft----------	23.5	.011	.014
	161	Basal 0.6 ft----------	44.4	.010	.009
		NW¼SW¼ sec. 18			
48	235146	0.4-ft carbonaceous shale-	n.d.	.012	.009
	147	0.5-ft lignite----------	22.8	.11	.15
	148	0.8-ft carbonaceous shale-	n.d.	.045	.076
	149	0.4-ft lignite----------	32.5	.20	.21
	150	0.5-ft sandstone----------	n.d.	.024	.028
	151	-----do----------	n.d.	.006	.006
	152	1-ft sandstone----------	n.d.	.008	.007
		T. 17 N., R. 7 E.			
		NW¼SE¼ sec. 1			
27	45368	1.7-ft lignite----------	25.5	0.031	0.030
	65	1.3-ft lignite----------	21.9	.008	.010
		5.5-ft lignite:			
	62	Uppermost 2.75 ft-------	12.2	.005	.004
	45055	Basal 2.75 ft----------	n.d.	.002	.002
		SE¼SW¼ sec. 1			
28		5.5-ft impure lignite:			
	45064	Uppermost 1.5 ft--------	76.2	.010	.011
	65	2d 2 ft----------	n.d.	.009	.008
	66	Basal 2 ft----------	n.d.	.008	.010
		NW¼NW¼ sec. 12			
29		1.7-ft lignite:			
	106305	Uppermost foot----------	14.7	.038	.051
	306	Basal 0.7 ft----------	21.8	.009	.010
		2.1-ft lignite:			
	308	Uppermost foot----------	19.2	.003	.004
	309	Basal 1.1 ft----------	13.3	.002	.003
		SE¼NW¼ sec. 12			
30		3.8-ft lignite:			
	115207	Uppermost foot----------	17.0	.010	.011
	208	2d foot----------	24.0	.014	.017
	209	3d foot----------	21.3	.010	.013
	210	Basal 0.8 ft----------	23.3	.008	.010
		NE¼SW¼ sec. 12			
31	114480	1-ft lignite----------	20.6	.024	.041
		SE¼SW¼ sec. 12			
32	235178	3-ft lignite----------	22.3	.059	.010
		SW¼SW¼ sec. 13			
34	115162	1-ft lignite----------	41.1	.003	.003
		3.7-ft lignite:			
	163	Uppermost foot----------	8.3	.004	.005
	164	2d foot----------	9.5	.003	.004
		3.7 ft lignite:			
	165	3d foot----------	n.d.	.002	----
	166	Basal 0.7 ft----------	n.d.	.002	----
35		2.75-ft carbonaceous shale:			
	159	Uppermost foot----------	n.d.	.005	.008
	160	2d foot----------	n.d.	.002	.002
	161	Basal 0.75 ft----------	n.d.	.003	.002
		T. 17 N., R. 7 E.--Continued			
		SW¼NW¼ sec. 13			
33		4.5-ft lignite:			
	235173	Uppermost 1.5 ft--------	26.0	0.013	0.018
	174	2d 1.0 ft----------	21.1	.024	.028
	175	3d 1.0 ft----------	17.4	.026	.029
	176	Basal 1.0 ft----------	26.5	.056	.082
		SE¼SE¼ sec. 14			
36		2-ft lignite:			
	114469	Uppermost foot----------	11.5	.002	.004
	470	Basal foot----------	22.5	.004	.005
	467	2.6-ft lignite----------	11.9	.003	.004
	468	0.8-ft lignite----------	23.1	.002	.003
	471	2.3-ft lignite----------	31.9	.002	.002
		NW¼NE¼ sec. 23			
37		4.5-ft lignite:			
	114481	Uppermost foot----------	39.1	.002	.002
	482	2d foot----------	13.7	.001	.001
	483	3d foot----------	11.0	<.001	.001
	484	Basal 1.5 ft----------	13.9	<.001	<.001
		NE¼SW¼ sec. 23			
38	114462	0.6-ft lignite----------	21.9	.001	.001
	463	0.4-ft lignite----------	37.1	.002	.002
		3-ft lignite:			
	464	Uppermost foot----------	12.3	.001	.001
	465	2d foot----------	10.7	.001	.001
	466	Basal foot----------	13.7	.002	.003
		SW¼SW¼ sec. 26			
40	216433	2.1-ft lignite----------	15.7	.011	.010
		SE¼NW¼ sec. 26			
39		5-ft lignite:			
	114457	Uppermost foot----------	33.5	.004	.004
	458	2d foot----------	12.3	.006	.007
	459	3d foot----------	10.8	.004	.005
	460	4th foot----------	12.7	.003	.004
	461	Basal foot----------	12.7	.003	.004
		NW¼NW¼ sec. 35			
41	45050	4-ft lignite----------	n.d.	.002	.005
		T. 17 N., R. 8 E.			
		NE¼SW¼ sec. 3			
74	114498	1.2-ft lignite----------	16.0	0.006	0.008
	499	1-ft lignite----------	14.0	.004	.006
	501	1.4-ft lignite----------	11.5	.002	.004
	500	1.3-ft lignite----------	11.2	.002	.003
		SE¼SW¼ sec. 3			
72		2.4-ft lignite:			
	114496	Uppermost 1.2 ft--------	16.1	.007	.009
	497	Basal 1.2 ft----------	23.2	.006	.008
		NW¼SW¼ sec. 3			
73	114502	1-ft lignite----------	32.3	.011	.015
	503	1.1-ft lignite----------	20.7	.016	.018
		SE¼NE¼ sec. 5			
78		4.9-ft lignite:			
	47853	Uppermost 2.1 ft--------	34.3	.009	.010
	54	Basal 2.8 ft----------	29.5	.005	.005
		SW¼SE¼ sec. 8			
77	47852	4.9-ft lignite----------	17.8	.009	.007
		SE¼SW¼ sec. 9			
76	114492	0.9-ft lignitic shale-----	53.0	.009	.011
		NW¼NE¼ sec. 10			
70	114494	1.3-ft lignite----------	27.8	.008	.011
		SW¼SW¼ sec. 10			
75	114493	1.3-ft lignite----------	19.6	.006	.009
		NE¼NW¼ sec. 10			
71	114495	1.4-ft lignite----------	26.0	.004	.005
		NE¼SW¼ sec. 15			
69		2.2-ft lignite:			
	114488	Uppermost 1.1 ft--------	35.5	.006	.008
	489	Basal 1.1 ft----------	35.1	.028	.030
		SE¼SW¼ sec. 15			
68	114486	1-ft lignite----------	19.1	.011	.017
	487	-----do----------	24.6	.007	.010
		NW¼SE¼ sec. 16			
67	114490	1.1-ft lignite----------	34.3	.012	.014
	491	1.5-ft lignite----------	39.1	.005	.006
		NE¼SW¼ sec. 16			
66	114485	0.9-ft lignite----------	32.9	.013	.023
		NW¼SE¼ sec. 17			
65	115167	0.4-ft lignite----------	29.5	.005	.008
		SW¼NE¼ sec. 19			
64		3.2-ft carbonaceous clay:			
	114442	Uppermost 1.6 ft--------	n.d.	.003	.002
	443	Basal 1.6 ft----------	n.d.	.012	.016
		NW¼NE¼ sec. 32			
63	114453	1-ft lignite----------	23.9	.003	.004
	454	1.1-ft lignite----------	23.3	.003	.004
		NE¼SW¼ sec. 32			
62	115170	1.1-ft lignite----------	18.1	.004	.010
		SE¼NW¼ sec. 34			
61	211348	1-ft lignite----------	12.54	.003	.004
		1.4-ft lignite:			
	349	Uppermost 0.7 ft--------	14.23	.005	.004
	350	Basal 0.7-ft----------	21.6	.004	.006
	351	0.5-ft lignite----------	23.7	.003	.005
		T. 17 N., R. 9 E.			
		SW¼SE¼ sec. 30			
60	114431	0.7-ft lignite----------	32.3	0.16	0.26
	432	0.5-ft carbonaceous shale-	n.d.	.023	.019
	433	0.5-ft lignite----------	40.5	.11	.18
		SW¼SE¼ sec. 32			
59		1.6-ft lignite:			
	114428	Uppermost 0.6 ft--------	48.2	.008	.008
	429	Basal 1 ft----------	24.5	.011	.020
	430	1.6-ft lignite----------	12.4	.065	.11
		T. 18 N., R. 7 E.			
		NE¼SE¼ sec. 1			
8		8-ft lignite:			
	43896	Uppermost 5 ft----------	n.d.	0.003	0.004
	97	Basal 3 ft----------	n.d.	.001	.001
		SW¼SW¼ sec. 17			
9	211327	3.1-ft lignite----------	23.4	.005	.006
		SW¼SW¼ sec. 19			
17		2-ft lignite:			
	115150	Uppermost foot----------	n.d.	.002	----
	151	Basal foot----------	21.19	.003	.006
		NE¼SE¼ sec. 24			
18		1.8-ft lignite:			
	115158	Uppermost 0.9 ft--------	19.1	.012	.018
	157	Basal 0.9 ft----------	20.3	.013	.018
		SW¼SW¼ sec. 24			
19		4-ft lignite:			
	115188	Uppermost foot----------	14.5	.005	.007
	189	2d foot----------	10.9	.003	.004
	190	3d foot----------	13.5	.004	.006
	191	Basal foot----------	n.d.	.002	----
	192	0.6-ft lignite----------	23.3	.004	.006
	193	0.3-ft lignite----------	48.6	.004	.004
	194	0.5-ft lignite----------	45.3	.007	.013
		NW¼SW¼ sec. 25			
21	216398	3.5-ft lignite----------	33.2	.10	.18
		SW¼SE¼ sec. 25			
22	47843	3.1-ft lignite----------	22.7	.017	.016
		NE¼NE¼ sec. 26			
20	46213	2.7-ft lignite----------	34.0	.026	.032
		SW¼NE¼ sec. 36			
24	45080	7-ft impure lignite-------	58.5	.005	.007
		NW¼NE¼ sec. 36			
23	45106	3-ft lignite----------	33.1	.015	.019
		SE¼SW¼ sec. 36			
26	115201	1-ft lignite----------	26.7	.042	.064
		1.8-ft lignite:			
	202	Uppermost 0.9 ft--------	39.1	.022	.032
	203	Basal 0.9 ft----------	42.9	.014	.021
		NW¼SE¼ sec. 36			
25		5-ft lignite:			
	45104	Uppermost 2.5 ft--------	20.4	.012	.020
	103	Basal 2.5 ft----------	20.3	.009	.014
		T. 18 N., R. 8 E.			
		NE¼NE¼ sec. 4			
100	211334	2-ft lignite----------	20.49	0.015	0.018
		SE¼SW¼ sec. 8			
98	211322	2-ft lignite----------	46.6	.004	.010
		NE¼SE¼ sec. 9			
95	211320	1.6-ft lignite----------	11.3	.005	.011
		NW¼SE¼ sec. 9			
96	211321	1.4-ft lignite----------	33.8	.006	.010
		NW¼NW¼ sec. 9			
99		4-ft lignite:			
	211337	Uppermost 2 ft----------	25.8	.009	.009
	338	Basal 2 ft----------	36.0	.004	.004
		SW¼SW¼ sec. 15			
94	211319	1.5-ft lignite----------	26.0	.005	.004
		NW¼NE¼ sec. 17			
97		4-ft lignite:			
	211324	Uppermost 2 ft----------	18.2	.004	.004
	325	Basal 2 ft----------	11.9	.004	.007
		SE¼SE¼ sec. 19			
14	115195	3.2-ft lignite----------	20.1	.005	.006
		SE¼SW¼ sec. 19			
15	115199	3.4-ft lignite----------	13.4	.003	.004
		SE¼SW¼ sec. 20			
11	47849	3-ft lignite----------	19.9	.009	.010
	50	2.5-ft lignite----------	17.6	.006	.006
		SE¼NW¼ sec. 20			
10	211328	1.2-ft carbonaceous shale-	62.20	.16	----
		SE¼NE¼ sec. 21			
93		3.3-ft lignite:			
	115173	Uppermost 1.0 ft--------	22.	.008	.011
	174	2d 1.0 ft----------	21.9	.014	.024
	175	Basal 1.3 ft----------	19.5	.018	.025
		SW¼NE¼ sec. 21			
91	115176	0.9-ft lignite----------	22.5	.005	.010
		NW¼NE¼ sec. 21			
92	115177	1.4-ft lignite----------	32.5	.011	.015
		SW¼SW¼ sec. 21			
90	115172	1.8-ft lignite----------	39.5	.030	.053
		SE¼SW¼ sec. 28			
85	115169	1-ft lignite----------	33.4	.007	.009
		SW¼SW¼ sec. 28			
84	47856	3.5-ft lignite----------	35.8	.007	.009
		NW¼SW¼ sec. 28			
86	47855	3.7-ft lignite----------	25.0	.005	.008
		NE¼NE¼ sec. 29			
89		2.4-ft lignite:			
	114472	Uppermost 1.2 ft--------	34.5	.004	.004
	473	Basal 1.2 ft----------	37.5	.011	.014
	474	0.6-ft lignite----------	29.5	.013	.018
		SE¼NE¼ sec. 29			
87	114476	1-ft lignite----------	21.8	.005	.007
	475	0.7-ft lignite----------	17.5	.005	.007
		NW¼NW¼ sec. 29			
12		4.8-ft lignite:			
	115071	Uppermost foot----------	15.0	.012	.018
	072	2d foot----------	8.0	.007	.011
	073	3d foot----------	8.5	.004	.007
	074	4th foot----------	n.d.	.002	----
	075	Basal 0.8 ft----------	9.2	.022	.030
		T. 18 N., R. 8 E.--Continued			
		NW¼NW¼ sec. 29			
13		4-ft lignite:			
	115177	Uppermost 2 ft----------	5.0	0.005	0.010
	178	Basal 2 ft----------	9.2	.006	.010
	077	0.6-ft lignite----------	37.5	.008	.011
		SE¼NW¼ sec. 30			
16	115141	0.3-ft lignite----------	35.9	.019	.029
		3.7-ft lignite:			
	142	Uppermost foot----------	36.5	.009	.012
	143	2d foot----------	14.9	.005	.007
	144	Basal 1.7 ft----------	19.7	.003	.004
	145	0.5-ft lignite----------	21.1	.003	.005
		NE¼NE¼ sec. 32			
83	114444	0.6-ft lignite----------	27.9	.003	.005
		SE¼NE¼ sec. 32			
82	114421	1.4-ft lignite----------	26.3	.008	.009
		3.6-ft lignite:			
	422	Uppermost 1.2 ft--------	9.1	.006	.009
	423	2d 1.2 ft----------	11.1	.005	.008
	424	Basal 1.2 ft----------	11.8	.003	.004
		SW¼NE¼ sec. 32			
81		2.4-ft lignite:			
	114426	Uppermost 1.2 ft--------	41.6	.006	.008
	427	Basal 1.2 ft----------	36.3	.025	.047
		NW¼SE¼ sec. 32			
79	114506	1-ft lignite----------	34.8	.004	.005
	507	-----do----------	11.4	.007	.009
	508	-----do----------	8.9	.003	.005
	510	0.8-ft lignite ash--------	n.d.	.020	.016
		NE¼SW¼ sec. 32			
80	114504	1-ft lignite----------	16.3	.008	.011
	505	-----do----------	10.7	.005	.007
		T. 19 N., R. 7 E.			
		NE¼SE¼ sec. 24			
1		2.1-ft lignite:			
	211354	Uppermost foot----------	28.9	0.038	0.055
	355	Basal 1.1 ft----------	29.7	.028	.036
	352	0.5-ft lignite----------	36.1	.005	.009
	353	-----do----------	24.6	.010	.010
		SE¼NW¼ sec. 24			
2	211357	1.5-ft lignite----------	34.4	.019	.039
	358	----do----------	17.9	.003	.004
	356	0.9-ft lignite----------	34.6	.007	.009
		SW¼NW¼ sec. 24			
3		2-ft lignite:			
	211361	Uppermost foot----------	28.4	.007	.008
	362	Basal foot----------	25.8	.004	.004
	363	1.1-ft lignite----------	29.6	.014	.021
	360	1-ft lignite----------	32.8	.004	.007
		NW¼NW¼ sec. 25			
4		3.5-ft lignite:			
	211367	Uppermost 1.7 ft--------	13.3	.006	.008
	368	Basal 1.8 ft----------	12.8	.003	.003
		SW¼SE¼ sec. 26			
5		3-ft lignite:			
	211371	Uppermost foot----------	42.7	.004	.005
	372	2d foot----------	n.d.	.002	----
	373	Basal foot----------	17.7	.004	.003
		SE¼NE¼ sec. 35			
6		3.1-ft lignite:			
	211376	Uppermost 1.5 ft--------	22.6	.003	.002
	377	Basal 1.6 ft----------	36.5	.003	.002
		SE¼SE¼ sec. 35			
7		1.3-ft lignite:			
	211378	Uppermost 0.6 ft--------	27.7	.007	.009
	379	Basal 0.7 ft----------	28.7	.016	.025
		T. 19 N., R. 8 E.			
		SE¼SE¼ sec. 19			
110	216429	6.2-ft lignite----------	16.22	0.012	0.018
		SE¼SE¼ sec. 20			
108	46201	5.5-ft lignite----------	18.1	.007	.009
		SW¼SE¼ sec. 20			
109	46200	5.5-ft lignite----------	19.1	.011	.015
		NW¼SE¼ sec. 27			
105	211331	3.2-ft lignite----------	30.0	.014	.017
		SW¼NE¼ sec. 28			
107		6-ft lignite:			
	211339	Uppermost 3 ft----------	40.15	.005	.006
	340	Basal 3 ft----------	9.3	.004	.006
		NW¼SE¼ sec. 28			
106		5-ft lignite:			
	46196	Uppermost 2.5 ft--------	28.3	.013	.028
	95	Basal 2.5 ft----------	9.9	.007	.009
		NE¼NE¼ sec. 33			
103	216428	2.1-ft lignite----------	21.7	.026	.057
		SE¼NE¼ sec. 33			
102	216427	3-ft lignite----------	21.2	.027	.022
		NE¼NW¼ sec. 33			
104		12-ft lignite:			
	42729	Uppermost 5 ft----------	23.7	.011	.011
	31	Basal 7 ft----------	15.7	.019	.007
		SE¼SE¼ sec. 34			
101	216428	3.5-ft lignite----------	29.6	.007	.009