TABLE 1
Conditions and results for uranium extruded high in the alpha phase

No.	Composition [1]	Billet temp. (°C)	Reduction ratio	Ram speed (in/min)	Strain rate (sec^{-1})	Container temp. (°C)	Extrusion constant K (tsi)	Quench [2] distance (in)	Grain size (μm)		$GI_{long.}$				
									Core	Rim	1	2	3	4	avg.
Group 1. *Structures that appear to have transformed from the beta phase (beta structure)*															
1	U	650	40	110	73	500	18	1	200	100	+2.3	+2.5			+2.4
2	U	650	40	110	73	260	19	10	500	500	+0.3	−0.2	+0.2	−0.2	0
3	U	650	25	110	46	500	20	1	750	750	+1.1	−1.8			−0.3
4	A	650	25	110	46	500	24	1	50	50	−0.1				
5	A	650	25	110	46	500	24	1	50	50					
6	U	650	40	55	37	500	25	1	400	400	+1.8	+1.6			+1.7
7	U	650	25	55	23	500	20	1	250	250	+1.8	+0.9			+1.4
8	U	650	40	20	13	260	17	10	1000	500	+4.5	+3.5			+4.0 [3]
9	U	593	40	110	73	500	19	1	1000	1000	−1.3	−1.9			−1.6 [4]
10	U	593	40	110	73	500	18	10	500	500	−0.3	−1.7			−1.0
11	U	650	40	130	86	500	19	air cool	> 1000	> 1000					
12	U	650	40	110	73	500	21	air cool	> 1000	> 1000					
Group 2. *Structures that appear to have been alpha worked and recrystallized (alpha structure)*															
13	U	650	10	20	3.3	260	14	10	20	20	−5.4				−5.4
14	U	593	10	110	18	500	15	10	15	15	−5.2				−5.2
15	U	593	10	20	3.3	500	13	10	20	20	−3.9				−3.9
Group 3. *Structures with "alpha" cores and "beta" rims*															
16	U	650	10	110	18	260	17	10	250	20	+0.4	0			+0.2
17	U	650	10	55	9.2	500	16	1			+0.4				+0.4
	Core								500		+0.3	+0.5			+0.4
	Rim									20	−0.5	−1.4			−1.0
18	U	650	10	55	9.2	500	14	1							
	Core								500		+0.7	−0.1			+0.3
	Rim									20	−3.0				−3.0
19	A	650	10	110	18	500		1							
	Core														
	Rim														
20	U [5]	650	10	55	9.2	250		1							
	Core								500		+0.1				
	Rim									20					
21	U [5]	650	10	55	9.2	250		1							
	Core								500						
	Rim									20	−1.6				
22	U	593	40	20	13	500	15	10	250	25	−3.4				−3.4
Group 4. *Rattlesnaked extrusions*															
23	U	675	40	110	73	500									
24	A	650	40	110	73	500									

(1) U=unalloyed uranium; A=uranium-0.16 wt % silicon alloy.
(2) Distance from die to quenching head.
(3) The large grain size of this rod makes the X-ray texture results unreliable. The relative pole intensities varied widely between runs.
(4) Although the grain size is very large, the relative pole intensities do not vary much between runs. This average may be reliable.