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1. 210016

2. 300170

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U - Pb 630.1±1.3Ma U - Pb 630.6±1.3Ma Hf

650-615

Rodinia

P534.3 P597.1 U - Pb Hf A 1671- 2552 2014 05- 0606- 08

Zhang C L, Ye X T, Li H K. The latest Neoproterozoic igneous activity on the northern margin of the Tarim block. *Geological Bulletin of China*, 2014, 33(5):606-613

Abstract: Zircon U - Pb dating reveals that the K - feldspar granite and granodiorite in Quruqtagh of the Tarim block crystallized at 630.1±1.3Ma and 630.6±1.3Ma, respectively. Zircon Hf isotopes indicate they were mainly derived from partial melting of old andesitic - basic crust with possible involvement of basaltic rocks. Based on a comprehensive analysis of the Neoproterozoic igneous activities in Tarim, the authors argue that the rocks in Quruqtagh were the latest phase of the Neoproterozoic igneous activities and genetically related to the Pan - Africa orogeny. From Neoproterozoic to the present, the Quruqtagh region was a passive continental margin, which had never incorporated into the Gondwana Land.

Key words: Tarim; Neoproterozoic granites; zircon U - Pb ages; Hf isotope; tectonic implications

[1- 3]

60×10⁴km²

A

[4- 7]

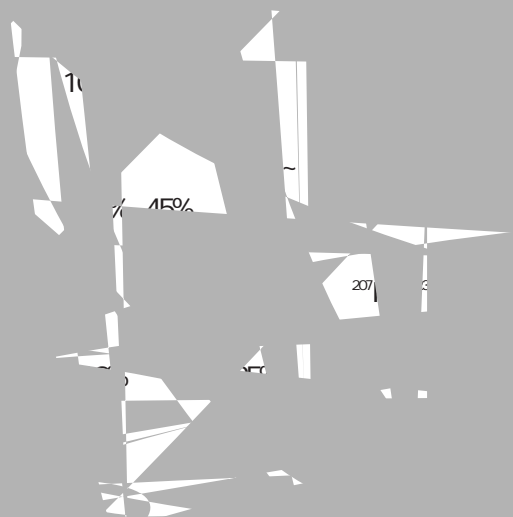
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Fig

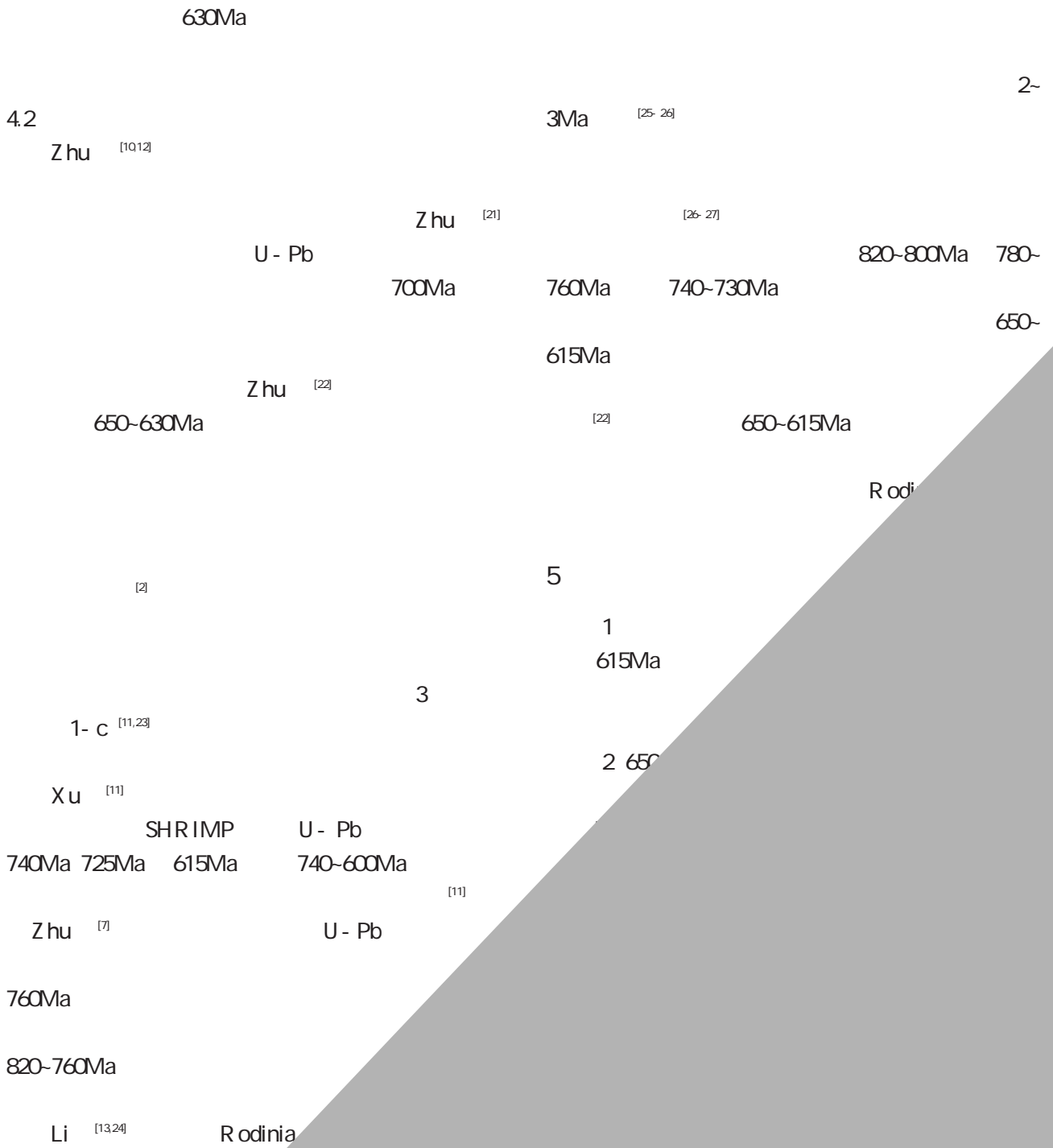
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2 **Hf**
**Table 2 Hf isotopic composition of Neoproterozoic K-feldspar
granite and granodiorite in Quruqtagh area**

	$^{176}\text{Yb}/^{177}\text{Hf}$	$^{176}\text{Lu}/^{177}\text{Hf}$	$^{176}\text{Hf}/^{177}\text{Hf}$	2	$^{176}\text{Hf}/^{177}\text{Hf}_i$	$\epsilon_{\text{f}}(\text{O})$	$\epsilon_{\text{Hf}}(\text{O})$	DM/Ma	$\text{DM}^{\text{c}}/\text{Ma}$	Lu/Hf
2009KR015										
1	0.0815	0.0020	0.282228	0.000021	0.282205	-19.2	-6.2	1484	2509	-0.94
2	0.0501	0.0015	0.282277	0.000020	0.282258	-17.5	-4.3	1398	2340	-0.95
3	0.0418	0.0014	0.282220	0.000016	0.282204	-19.5	-6.2	1470	2511	-0.96
4	0.0381	0.0012	0.282238	0.000016	0.282223	-18.9	-5.5	1440	2450	-0.96
5	0.0468	0.0014	0.282247	0.000017	0.282230	-18.6	-5.3	1436	2430	-0.96
6	0.0542	0.0020	0.282223	0.000014	0.282200	-19.4	-6.4	1490	2524	-0.94
7	0.0696	0.0021	0.282213	0.000022	0.282188	-19.8	-6.8	1511	2561	-0.94
8	0.0350	0.0011	0.282235	0.000018	0.282222	-19.0	-5.6	1439	2454	-0.97
9	0.0502	0.0014	0.282230	0.000019	0.282213	-19.2	-5.9	1460	2484	-0.96
10	0.0342	0.0010	0.282259	0.000020	0.282248	-18.1	-4.7	1402	2374	-0.97
11	0.0555	0.0017	0.282279	0.000020	0.282259	-17.4	-4.3	1400	2337	-0.95
12	0.0378	0.0011	0.282253	0.000020	0.282241	-18.3	-4.9	1413	2396	-0.97
13	0.0647	0.0018	0.282205	0.000021	0.282184	-20.0	-6.9	1509	2574	-0.95
14	0.0265	0.0008	0.282218	0.000018	0.282209	-19.6	-6.0	1450	2494	-0.98
15	0.0787	0.0022	0.282275	0.000020	0.282248	-17.6	-4.7	1427	2372	-0.93
16	0.0442	0.0010	0.282268	0.000019	0.282257	-17.8	-4.4	1389	2345	-0.97
17	0.0661	0.0015	0.282180	0.000023	0.282162	-20.9	-7.7	1533	2643	-0.95
18	0.0402	0.0011	0.282240	0.000025	0.282228	-18.8	-5.4	1430	2436	-0.97
19	0.0614	0.0016	0.282229	0.000024	0.282210	-19.2	-6.0	1468	2492	-0.95
20	0.0453	0.0012	0.282243	0.000022	0.282229	-18.7	-5.3	1431	2432	-0.96
21	0.0610	0.0012	0.282252	0.000020	0.282237	-18.4	-5.0	1421	2407	-0.96
22	0.1971	0.0049	0.282187	0.000023	0.282129	-20.7	-8.9	1674	2746	-0.85
23	0.0505	0.0013	0.282275	0.000021	0.282260	-17.6	-4.2	1389	2334	-0.96
24	0.0531	0.0013	0.282247	0.000020	0.282232	-18.6	-5.2	1429	2422	-0.96
2009KR016										
1	0.1286	0.0031	0.282279	0.000021	0.282242	-17.4	-4.9	1457	2392	-0.91
2	0.0289	0.0008	0.282270	0.000016	0.282260	-17.7	-4.2	1380	2333	-0.97
3	0.0989	0.0027	0.282263	0.000019	0.282231	-18.0	-5.3	1463	2426	-0.92
4	0.0294	0.0008	0.282263	0.000015	0.282253	-18.0	-4.5	1391	2357	-0.97
5	0.0359	0.0010	0.282286	0.000016	0.282274	-17.2	-3.7	1364	2289	-0.97
6	0.0243	0.0007	0.282310	0.000015	0.282302	-16.3	-2.8	1320	2203	-0.98
7	0.0412	0.0012	0.282312	0.000015	0.282299	-16.3	-2.9	1333	2212	-0.97
8	0.0400	0.0010	0.282267	0.000016	0.282254	-17.9	-4.4	1393	2353	-0.97
9	0.0512	0.0013	0.282280	0.000017	0.282265	-17.4	-4.1	1384	2320	-0.96
10	0.0574	0.0016	0.282274	0.000015	0.282255	-17.6	-4.4	1403	2350	-0.95
11	0.0233	0.0007	0.282281	0.000016	0.282273	-17.4	-3.8	1360	2294	-0.98
12	0.0391	0.0011	0.282252	0.000015	0.282239	-18.4	-5.0	1415	2401	-0.97
13	0.0145	0.0004	0.282283	0.000015	0.282278	-17.3	-3.6	1348	2279	-0.99
14	0.0640	0.0016	0.282310	0.000018	0.282291	-16.3	-3.1	1351	2236	-0.95
15	0.0467	0.0012	0.282295	0.000016	0.282282	-16.9	-3.5	1357	2267	-0.97
16	0.0947	0.0024	0.282304	0.000020	0.282276	-16.5	-3.7	1390	2284	-0.93
17	0.0253	0.0007	0.282281	0.000016	0.282273	-17.4	-3.8	1360	2293	-0.98
18	0.0642	0.0017	0.282277	0.000018	0.282257	-17.5	-4.3	1402	2344	-0.95
19	0.0740	0.0019	0.282230	0.000019	0.282207	-19.2	-6.1	1479	2502	-0.94
20	0.1164	0.0032	0.282274	0.000018	0.282236	-17.6	-5.1	1467	2410	-0.90
21	0.0286	0.0008	0.282272	0.000017	0.282263	-17.7	-4.1	1375	2325	-0.98
22	0.0334	0.0008	0.282260	0.000018	0.282250	-18.1	-4.6	1395	2366	-0.97
23	0.0248	0.0007	0.282263	0.000016	0.282255	-18.0	-4.4	1385	2351	-0.98
24	0.0619	0.0015	0.282313	0.000017	0.282295	-16.2	-3.0	1345	2223	-0.95
25	0.0517	0.0014	0.282308	0.000023	0.282291	-16.4	-3.1	1349	2237	-0.96
26	0.0547	0.0016	0.282267	0.000017	0.282249	-17.8	-4.6	1412	2370	-0.95

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Fig. 3



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