2
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sources, Nanjing 210016, Jiangsu, China;
ources, Tianjin 300170, China

U-Pb Hf
U-Pb 630.6±1.3Ma Hf 2
650~615Ma
odinia

b Hf
A 1671-2552 2014 05-0606-08

roterozoic igneous activity on the northern margin of the Tarim Craton. ***Geologi-***

ne K-feldspar granite and granodiorite in Quruqtagh on the northern margin of the
630.6±1.3Ma, respectively. Zircon Hf isotopes indicate that these granitic rocks were
destic-basic crust with possible involvement of basaltic magma from mantle sources.
roterozoic igneous activities in Tarim, the authors argue that the 650~615Ma igneous
Neoproterozoic igneous activities and genetically related to the breakup of the Rodin
o with the Pan-Africa orogeny. From Neoproterozoic to Cambrian, sedimentary se
ntation features on a passive continental margin, which indicates that the Tarim block
d.
rcon U-Pb ages; Hf isotope; tectonic implications

— [1-3]
TTG
A —
— — —
— — — —
[4-7]

72175

E-mail: zchuanlin1968@gmail.com

825~800 Ma
780~760 Ma 735Ma 650~615 Ma 2
735Ma
[4,7-11] 650~615Ma
[10,12]

[7,12] 630Ma
U-Pb
Hf 650~615Ma

Rodinia
740Ma
Rodinia
—

[13]

1

1.8Ga[5,7]
TTG
[14] 1-a Zhu
[10] 650~
630Ma

[12]

1-b
2~3m
20~30m
2~3m 10~20m
100~150m^2
30%~
35% 20%~25% 35%~45%
2%~5% 2-a

40%~45% 5%~10% 25%~

35% 10
1%~5% 2

2

N41°49′15″ E
34″
,
)

LA-ICP-MS
Pb Hf
[15-16]
U-Pb

1

3

3.1 U-Pb

2~4

23
10^{-6} U 168×1
0.75~1.00
P
$^{206}Pb/^{238}U$
MSWD=0.83

100~200μm
10^{-6}~4081×10^{-6} U
Th/U 0.7~1.8 2

24
$^{207}Pb/^{235}U$ 2-d
630.6±1.3Ma MS

U−Th−Pb

Table 1 U−Th−Pb isotopic data of zircons form Neoproterozoic K−feldspar granite and granodiorite in Quruqtagh area

	Th	[illegible] /10[illegible]	Th/U	$^{206}Pb/^{238}U$	/%	$^{207}Pb/^{235}U$	/%	$^{206}Pb/^{238}U$ /Ma	1	[illegible]	1	$^{207}Pb/^{206}Pb$ /Ma	1
2009KR015													
1	413	[illegible]	0.97	0.1031	0.44	0.8624	1.08	632	[illegible]	631	7	628	22
2	331	[illegible]	0.79	0.1016	0.43	0.8450	1.56	[illegible]	[illegible]	622	10	615	34
3	127	[illegible]	0.58	0.1028	0.48	0.8510	1.60	[illegible]	3	625	10	605	[illegible]
4	355	[illegible]	0.99	0.1030	0.63	0.8714	1.38	[illegible]	4	636	9	652	[illegible]
5	154	[illegible]	0.91	0.1029	0.70	0.8553	2.16	[illegible]	4	628	14	612	[illegible]
6	377	[illegible]	0.98	0.1030	0.72	0.8709	[illegible]	632	5	636	8	[illegible]	27
7	312	[illegible]	0.87	0.1026	0.76	0.8689	[illegible]	629	5	635	9	[illegible]	28
8	147	[illegible]	0.87	0.1025	0.82	0.8425	[illegible]	629	5	621	13	[illegible]	45
9	167	[illegible]	0.87	0.1024	0.85	[illegible]	1.43	628	5	634	[illegible]	652	48
10	198	[illegible]	0.75	0.1023	0.89	[illegible]	1.49	628	6	632	[illegible]	646	30
11	194	[illegible]	[illegible]	0.1028	0.66	[illegible]	1.76	631	4	637	11	657	36
12	388	[illegible]	[illegible]	0.1025	[illegible]	[illegible]	1.10	629	3	[illegible]	7	658	23
13	289	[illegible]	[illegible]	0.1021	[illegible]	0.8646	1.28	626	5	[illegible]	8	655	27
14	251	[illegible]	[illegible]	0.1024	[illegible]	0.8735	1.37	629	5	637	9	669	28
15	136	[illegible]	[illegible]	[illegible]	[illegible]	0.8577	1.58	634	[illegible]	629	10	611	34
16	320	[illegible]	[illegible]	[illegible]	0.54	0.8729	1.11	635	[illegible]	637	7	646	23
17	117	[illegible]	[illegible]	[illegible]	0.56	0.8730	2.01	633	4	637	13	651	42
18	242	[illegible]	[illegible]	[illegible]	0.59	0.8763	1.12	[illegible]	4	639	7	648	[illegible]
19	304	368	[illegible]	0.1028	0.62	0.8721	1.18	[illegible]	4	637	8	658	[illegible]
20	408	428	[illegible]	0.1030	0.49	0.8674	1.07	632	3	634	7	[illegible]	[illegible]
21	995	[illegible]	0.71	0.1022	0.63	0.8704	0.92	627	4	636	6	[illegible]	[illegible]
22	258	[illegible]	[illegible]	0.1019	0.56	0.8631	2.50	626	4	632	16	[illegible]	[illegible]
23	[illegible]	[illegible]	[illegible]	0.1021	0.54	0.8609	2.51	627	3	631	[illegible]	[illegible]	[illegible]
2009KR[illegible]													
1	[illegible]	411	[illegible]	0.1020	0.65	[illegible]	1.04	626	4	631	[illegible]	[illegible]	25
[illegible]	172	190	[illegible]	0.1032	0.65	[illegible]	1.87	633	4	[illegible]	[illegible]	[illegible]	38
3	[illegible]	[illegible]	[illegible]	0.1028	0.74	[illegible]	0.88	631	5	[illegible]	[illegible]	[illegible]	17
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.8785	1.02	632	4	[illegible]	[illegible]	[illegible]	21
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.88	636	[illegible]	[illegible]	6	[illegible]	18
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	632	4	641	[illegible]	671	17
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	637	[illegible]	651	17
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	638	17
[illegible]	[illegible]	[illegible]	[illegible]	0.1031	[illegible]	[illegible]	0.85	[illegible]	[illegible]	[illegible]	5	647	17
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.82	[illegible]	[illegible]	631	5	630	17
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.8619	[illegible]	[illegible]	3	[illegible]	[illegible]	634	18
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.8647	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	0.1028	0.47	0.8638	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]
14	[illegible]	[illegible]	[illegible]	[illegible]	0.52	[illegible]	[illegible]	628	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	287	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.35	[illegible]	3	637	9	664	[illegible]
[illegible]	[illegible]	573	[illegible]	[illegible]	[illegible]	0.8653	0.92	[illegible]	3	633	6	644	19
[illegible]	[illegible]	609	[illegible]	[illegible]	[illegible]	0.8640	[illegible]	629	2	632	6	645	20
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.8621	[illegible]	629	2	631	6	640	22
[illegible]	[illegible]	[illegible]	[illegible]	0.1026	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	649	16
[illegible]	[illegible]	[illegible]	[illegible]	0.1025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	649	18
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.46	[illegible]	0.95	631	3	637	6	658	19
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.45	[illegible]	0.78	630	3	634	5	650	16
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.00	631	3	[illegible]	[illegible]	[illegible]	[illegible]

	$^{176}Yb/^{177}$	
KR015		
	0.0815	
	0.0501	
	0.0418	
	0.038	
	0.046	
	0.054	
	0.069	
	.03	
	.05	
	.03	
	[illegible]	
	[illegible]	
	.06	
	[illegible]	
	.0	
	.044	
	.0661	
	0.0402	
	0.0614	
	0.0453	
	0.0610	
	0.1971	
	0.0505	
14	0.064	
15	0.046	
6	0.094	
	0.0253	
	0.0642	
	.0740	
	[illegible]	
	.0286	
	0.0334	
	.348	
		0.28

5

2

f

— —

ε $_{Hf}$(t

4.2

3 2 [14,18]

ε $_{Hf}$(t) Hf

-5

H 1.3~1.5Ga

T_{DM}^{C} 5Ga

lf 2.2~

2

4.1

Hf

$_{Hf}$(t)

2.2Ga [17]

820~800 [28]

735M [9]

ε $_{Hf}$(t)

[5]Zhang C L, Li H K, Santosh M, et al. Precambrian evolution and