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O'Brien, T.M., Miller, E.L., Pease, V., Hayden, L.A., Fisher, C.M., Hourigan, J.K., and Vervoort, J.D., 2017, Provenance, U-Pb detrital zircon geochronology, Hf isotopic analyses, and Cr-spinel geochemistry of the northeast Yukon-Koyukuk Basin: Implications for interior basin development and sedimentation in Alaska: GSA Bulletin, https://doi.org/10.1130/B31825.1.

DATA REPOSITORY

Supplementary Table 1

Supplementary Table 2. Raw proportions of heavy mineral phases in Yukon

Supplementary Table 3

Supplementary Table 4. U-Pb geochronology of detrital zircons from the Kobuk Koyukuk Basin

Supplementary Table 5. U-Pb geochronology results of gabbroic clasts

Supplementary Table 6. U-Pb geochronology of Ruby Batholith plutons of the Ruby terrane

Supplementary Table 7. Lu-Hf isotopic results from detrital and igneous zircons

Additional Lu-Hf methods

To account for the offset between measured $^{176}Hf/^{177}Hf$ of reference zircons and their "accepted" values, calibration to an external zircon standard was employed. Fisher et al. (2011) indicated that this approach more accurately reflects instrumental conditions (including mass bias) during the laser ablation analyses of unknowns and uses the Plesovice zircon standard ($^{176}Hf/^{177}Hf$ value of 0.282482 ± 13) to normalize all other zircons analyzed in this study. The typical correction factor is 1.00015.

The Lu-Hf data reduction followed the protocol of Fisher et al. (2014) using the Iolite software program that was customized for in-house usage at WSU. Each Hf isotope analysis consists of 30 s of on-peak baseline (gas blank) followed by 65 s of ablation. The Iolite "auto spline" is fit to the mean baseline intensity determined for each isotope and is subtracted from signal intensities measured for each measurement cycle, or "integration" during ablation (Paton et al., 2010). The Yb mass bias, to correct for the ^{176}Yb interference on ^{176}Hf, was determined for each integration of the zircon analyses by measuring the $^{173}Yb/^{171}Yb$ ratio relative to $^{173}Yb/^{171}Yb$ = 1.13285 (Segal et al., 2003) using the exponential law. The ^{176}Yb interference is then corrected using the measured voltage of ^{173}Yb, the Yb mass bias, an adjusted $^{176}Yb/^{173}Yb$ of 0.79639, also applied for each integration. The $^{176}Yb/^{173}Yb$ used at WSU was calibrated based on numerous measurements of synthetic zircons with a wide range of Yb/Hf. The mass bias of Hf is determined by the measurement of $^{179}Hf/^{177}Hf$, using the exponential law and a value for $^{179}Hf/^{177}Hf$ of 0.7325 (Patchett and Tatsumoto, 1980). Results from the Hf isotope analyses are presented in Supplementary Data Table 7. Due to the size of the zircons (<<40 μm) compared to the laser slot diameter, sample BRHR14–8 (Bonanza Pluton) was not analyzed for Lu-Hf.

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SUPPLEMENTARY TABLE 1

Kobuk Koyukuk Detrital Zircon Samples

Sample	Latitude	Longitude	Sediment Type
BRJR13-K1c	67.13081	-151.84866	3
BRJR13-K2	67.12331	-151.88650	3
BRJR13-K4	67.10410	-151.90341	3
BRJR13-K8a,b	67.04972	-151.80911	1
BRJR13-K10	66.97217	-151.77534	1
BRJR13-K13	66.96473	-161.63725	1
BRK14-1	66.94365	-151.49437	1
BRK14-2	66.95888	-151.44429	1
BRK14-4	67.00058	-151.37514	2
BRK14-5	67.02470	-151.13617	2
BRK14-6	67.04401	-150.96781	2
BRK14-7a	67.05321	-150.89839	2
BRK14-8	67.05725	-150.74413	2
BRK14-9	67.05759	-150.68266	2
BRK14-10	67.07908	-150.64569	2
BRHR14-1	66.99385	-150.29173	2
BRNF15-58a,b	67.10089	-150.94406	2
BRNF15-59	67.09377	150.92844	2
BRNF15-60	67.09226	-150.96120	2
BRNF15-61	67.06725	-150.97581	2

Ruby Batholith Samples

Sample	Latitude	Longitude	Pluton name
BRHR14-2	66.99123	-150.28926	Jim River
BRHR14-7	66.71753	-150.66723	Bonanza
BRHR14-8	66.77020	-150.67111	Bonanza

Brooks Range Detrital Zircon Samples

Sample	Latitude	Longitude	Formation
BRJR13-HF1	67.76040	-152.38437	Hunt Fork
BRJR13-HF3	67.75354	-152.36230	Hunt Fork
BRJR13-HF7	67.76893	-152.39911	Hunt Fork
BRJR13-SA1	67.74483	-152.40138	Sillyasheen
BRJR13-SA3	67.69317	-152.32903	Sillyasheen
ELM13-BR07	67.69317	-152.32903	Sillyasheen
BRJR13-BC1	67.66329	-152.31403	Beaucoup
BRJR13-BC2	67.66199	-152.32350	Beaucoup
BRJR13-MS9	67.16293	-151.89006	MzPzs[1]

1) Unnamed lithic unit -- Mississippian - Triassic quartzite and phyllite

Supplementary Table 2 - Raw proportions of heavy mineral phases in Yukon Koyukuk Basin sediments

BRJR13-K1C

Mineral	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Total	Average (%)
apatite	1.2	0.5	0.1	1.2	0.1	0.9	1.3	0.2	0	0	0.3	0	0	0	0	0	0.2	0	0	0.1	6.1	**2.3**
Chloritoid	0	0.2	0	0	0	0	0	0.8	0.4	0.3	0	0.5	0	0.4	0.5	0	0.2	0.4	0	0	3.7	**1.4**
Cr-Spinel	0	0.1	1.7	0	0	0	0	0	0	1.1	0	0	1.3	0	0.5	0	0	0	1	0	5.7	**2.1**
monazite	4.2	2.2	1.6	2.3	5.7	2.3	0.5	1.1	0.4	1.7	3.3	2.7	0	4.8	10.3	1.1	1.1	1.4	1.7	3.1	51.5	**19.1**
Rutile	1	10.2	20	4.3	18	5.1	7.6	10.8	0.9	11.2	6.9	12	12.1	18.1	11.8	12.8	10.8	3.3	10.2	7.2	194.3	**72.0**
xenotime	0.3	0.7	1.1	0.1	0.4	0.1	0	0.2	0.3	0.9	0.4	0.4	0.5	1.3	0.2	0.1	0.2	0.3	0.5	0.4	8.4	**3.1**

BRJR13-K2

Mineral	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Total	Average (%)
Biotite	4.4	8.3	4.5	4.5	2.6	6.6	4.2	1.2	4.1	2.1	11.5	2.5	0.3	0.5	5.4	3.1	4.4	2.7	4.4	6.6	83.9	**49.7**
Chloritoid	1.3	4.4	0.4	0	4.9	0	0.6	2.3	1.2	1.6	1.0	7.6	2.7	11.7	0.7	5.2	2.8	7.6	2.2	0	58.2	**34.5**
Rutile	2.2	0.1	1.3	2.6	2.4	2.6	0.3	0	2.8	1.6	0.7	0.7	0.3	0.6	1.3	2	0.9	0.5	1.2	2.6	26.7	**15.8**
																					168.8	**100.0**

BRJR13-K4

Mineral	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Total	Average (%)
Apatite	3.2	6.2	7.2	5.1	0.9	5	4	3	5.3	5.6	2.5	3.8	6.9	5.4	1.4	2.1	1.3	0.1	5.5	1.6	76.1	**16.2**
Biotite	4.4	6.1	0	6.8	5.5	7.3	1	10.6	5.8	5.9	5.6	4.2	2.8	0	6.3	7.7	0	0	5.1	7.4	92.5	**19.7**
Chloritoid	9.1	8.7	4.9	14.1	17.1	17	10.7	6.3	7.4	14.3	9.8	9	9	15.2	5.1	17.8	19.8	12.3	14.4	11.9	233.9	**49.8**
Rutile	2.6	0.1	1.4	2.1	5.6	4.5	0.3	3	4.3	3.5	4.3	2.6	3.8	5.7	1.7	4.6	2.4	3.2	4.8	4.9	65.4	**13.9**
Xenotime	0.1	0.1	0	0	0	0	0	0	1.3	0.2	0	0	0	0	0	0	0	0	0	0	1.7	**0.4**

BRK14-K2

Mineral	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Total	Average (%)
Apatite	0.9	0.5	0.4	0	0	0.7	0	0	0.1	0	0	0	1	0	0.1	1.1	0.1	0.8	0	0.1	5.8	**2.5**
Cr-Spinel	2	2.5	0.8	2	3.2	2	2.2	0.7	1	1.2	0	2.4	3.3	2.3	1.3	2.4	0.6	3.7	1.3	0.7	35.6	**15.5**
Rutile	0	0.1	0	0	0	1.2	0	0.1	0	0	0	0	0	0	0.4	0	0	0	0.6	0	2.4	**1.0**
Sphene	11.3	9.9	8.2	9.7	10.2	6.3	7	12.6	7	9.9	3.2	14.4	7.3	9.5	6.4	12.3	7.1	9.6	13.9	10.7	186.5	**81.0**

BRJR13-K8a

Mineral	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Total	Average (%)
Clinopyroxer	18.6	3.0	3.5	7.0	8.9	5.9	1.0	2.9	6.2	16.7	5.4	3.1	0.8	5.3	1.7	3.9	2.6	8.4	4.2	6.0	115.1	**43.3**
Cr-Spinel	2.7	5.2	0.0	1.8	1.5	0.8	0.5	3.0	0.5	3.5	3.4	2.7	2.2	2.1	1.4	0.3	1.1	1.0	2.4	2.0	38.1	**14.3**
Hornblende	8.0	2.0	6.4	3.5	3.0	5.2	0.6	5.6	8.0	4.2	2.6	4.2	2.0	2.8	3.4	3.8	3.8	7.6	0.0	4.2	80.8	**30.4**
Ilmenite	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.1	**0.4**
Sphene	1.0	1.6	0.0	0.0	3.9	1.7	2.2	0.4	2.5	1.5	2.5	1.1	1.8	2.7	3.0	0.0	0.0	2.5	0.6	1.5	30.5	**11.5**

BRNF15-60

Mineral	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Total	Average (%)
Apatite	0.1	0.0	0.6	0.3	0.4	2.3	1.6	2.1	0.3	0.5	0.1	0.0	0.4	1.5	0.1	0.9	0.7	0.7	1.6	1.2	15.4	**5.0**
Clinopyroxer	11.4	3.9	5.8	12.3	9.5	9.3	6.4	18.5	8.3	4.9	14.6	5.7	8.8	8.8	6.9	3.6	10.2	12.4	17.2	8.9	187.4	**61.2**
Hornblende	3.2	2.4	1.2	1.7	3.4	2.7	2.5	0.8	2.4	3.0	0.8	4.7	0.3	3.0	2.2	0.7	2.4	2.8	2.5	3.5	46.2	**15.1**
Ilmenite	1.7	0.0	0.0	3.4	2.7	2.5	0.8	0.0	0.9	3.2	2.1	0.6	1.3	0.7	1.3	0.1	0.0	0.5	0.8	0.0	22.6	**7.4**
Rutile	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.2	0.0	0.8	0.0	0.0	0.3	0.2	1.9	**0.6**
Sphene	0.5	2.8	2.3	0.8	1.2	3.2	1.1	3.1	0.0	1.3	0.0	1.8	1.7	0.3	2.0	2.3	2.8	1.7	1.5	2.2	32.6	**10.7**

BRK14-7A

Mineral	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Total	Average (%)
Apatite	0.6	0.0	0.0	0.4	0.1	0.7	1.2	3.4	0.1	0.6	0.3	0.1	1.1	0.9	1.8	0.2	0.1	0.5	1.4	2.0	15.5	**12.1**
Biotite	0.0	0.0	7.3	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	3.2	4.3	0.0	0.0	2.3	21.6	**16.8**
Cr-Spinel	0.3	0.3	0.1	0.4	0.6	0.8	0.1	0.7	0.3	0.2	0.4	0.0	0.0	0.5	1.0	0.0	1.7	1.4	1.6	1.8	12.2	**9.5**
hornblende	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.3	0.1	2.1	3.3	**2.6**
monazite	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.4	0.3	0.0	0.1	0.0	0.0	0.0	0.0	1.1	**0.9**
Rutile	1.0	4.6	1.9	0.5	6.0	0.8	3.3	4.9	1.1	1.4	1.0	1.2	1.4	5.6	2.6	3.0	5.4	3.2	2.9	5.4	57.2	**44.6**
Sphene	0.8	1.4	1.0	0.4	1.1	0.1	0.4	0.7	0.9	0.2	0.3	0.0	0.7	0.5	0.0	0.2	5.4	1.2	0.8	1.2	17.3	**13.5**

BRJR13-K13a

Mineral	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Total	Average (%)
Apatite	0.3	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	**0.7**
Clinopyroxer	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.0	2.1	0.0	0.0	0.0	0.0	0.0	5.2	**1.1**
Cr-Spinel	9.1	8.2	11.2	5.5	5.4	8.7	6.9	2.9	7.2	6.4	14.8	8.2	8.1	8.6	5.9	11.9	4.4	8.9	7.1	8.8	158.2	**34.4**
hornblende	2.8	4.9	0.2	4.4	3.0	5.1	4.6	3.4	2.1	0.0	1.8	1.1	0.7	4.6	0.5	0.0	1.2	0.9	0.6	2.2	44.1	**9.6**
Rutile	0.1	0.0	3.2	2.9	1.8	1.1	1.2	1.0	0.3	2.1	1.1	0.3	1.3	2.2	0.8	0.7	2.1	0.0	1.6	0.9	24.7	**5.4**
Sphene	11.9	12.8	13.0	12.4	9.4	16.4	9.9	11.9	8.9	11.0	10.3	8.0	16.5	8.9	8.8	7.9	9.8	12.1	13.7	11.5	225.1	**48.9**

BRNF15-58a

Mineral	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Total	Average (%)
Apatite	1.7	2.1	0.0	2.4	1.4	1.4	0.6	3.3	1.3	0.4	4.7	0.8	0.1	3.1	0.9	21.1	1.1	1.1	0.2	0.0	47.7	**11.3**
Clinopyroxer	12.2	8.1	2.9	6.6	6.8	5.3	4.2	5.8	6.9	8.8	5.1	5.6	9.0	3.9	6.4	11.5	7.5	15.5	6.0	10.1	148.2	**35.1**
Cr-Spinel	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.7	0.0	0.0	0.0	3.1	**0.7**
Hornblende	0.0	1.0	4.1	4.0	0.7	8.6	10.4	7.3	12.4	0.9	4.6	4.5	5.3	12.0	17.0	0.0	9.2	1.7	5.7	1.1	110.5	**26.2**
Ilmenite	3.2	2.9	1.9	3.5	4.6	6.2	5.7	0.0	5.5	6.3	5.4	3.7	7.0	3.7	1.6	1.4	6.1	3.0	1.4	3.5	76.6	**18.1**
Rutile	1.3	0.1	0.5	2.2	0.3	0.9	0.4	0.9	0.0	0.4	0.7	1.6	1.6	0.0	0.0	0.3	1.3	0.0	0.0	0.5	13.0	**3.1**
Sphene	1.7	0.9	2.8	1.8	1.1	0.4	2.6	0.3	0.9	1.0	2.1	0.2	0.3	1.1	0.5	1.7	0.5	1.5	1.6	0.0	23.0	**5.4**

SUPPLEMENTARY TABLE 3

Chrome Spinel chemistry

BRJR13-K13a Type 1

Analysis	MgO	Al2O3	Cr2O3	FeO	TiO2*	Total
1	16.6	34.5	30.9	16.8	0.4	99.2
2	14.1	30.2	37.2	16.8	0.2	98.6
3	6.4	17.2	40.3	33.0	1.3	98.2
4	15.2	32.6	31.7	19.7	0.6	99.8
5	7.5	17.1	45.7	29.0	0.3	99.5
6	11.0	23.0	40.2	24.6	0.3	99.2
7	14.6	31.4	38.1	15.7	0.2	100.0
8	9.2	20.5	45.5	23.2	0.2	98.6
9	8.4	7.6	59.5	23.0	0.2	98.7
10	12.1	27.8	38.9	20.9	0.4	100.0
11	13.4	24.9	37.3	23.4	0.8	99.8
12	11.8	33.3	32.5	21.8	0.7	100.0
13	13.8	22.1	46.4	16.4	0.2	98.9
14	7.1	16.2	47.5	28.1	0.4	99.3
15	10.6	26.6	37.4	23.6	0.3	98.5
16	11.8	25.6	39.5	21.6	0.2	98.7
17	11.4	24.3	42.9	20.2	0.3	99.0
18	16.0	35.4	31.9	16.1	0.2	99.6
19	13.5	29.9	39.1	16.6	0.2	99.3
20	10.1	24.5	40.0	25.1	0.4	100.0
21	10.0	26.2	37.9	25.9	0.3	100.3
22	8.0	21.8	35.3	33.8	0.6	99.4
23	10.3	30.4	33.2	24.4	0.2	98.4
24	11.7	24.8	39.1	23.3	0.7	99.6
25	11.8	22.5	45.1	19.5	0.3	99.2
26	10.7	23.7	38.5	25.7	0.3	98.9
27	5.0	15.4	49.9	27.6	0.2	98.1
28	7.3	13.8	51.6	25.7	0.3	98.7
29	9.5	13.8	55.9	19.2	0.2	98.6
30	9.8	13.0	56.3	20.0	0.3	99.3
31	10.3	26.7	39.2	22.5	0.2	98.9
32	8.4	21.2	45.0	24.2	0.2	99.0
33	13.1	24.5	43.2	18.1	0.1	98.9
34	12.3	25.7	38.5	22.1	0.3	98.9
35	13.0	30.0	34.8	21.1	0.4	99.3
36	13.2	14.9	50.2	19.5	1.1	98.9
37	7.4	26.1	36.5	28.9	0.2	99.0
38	10.3	24.8	38.5	25.0	0.4	98.9
39	13.6	36.8	29.3	19.6	0.2	99.4
40	10.3	21.7	40.1	26.0	1.2	99.2

SUPPLEMENTARY TABLE 3

BRJR13-K8a **Type 1**

Analysis	MgO	Al2O3	Cr2O3	FeO	TiO2*	Total
1	14.9	33.1	34.7	17.4	0.4	100.4
2	7.4	10.5	40.9	36.8	0.3	95.9
3	14.9	25.8	36.4	19.0	0.5	96.6
4	3.5	5.7	46.0	43.6	0.3	99.1
5	13.7	37.7	26.8	21.3	0.7	100.2
6	8.9	21.2	40.4	27.5	0.3	98.3
7	10.5	24.8	38.5	24.7	0.3	98.7
8	9.3	11.7	55.3	22.1	0.2	98.6
9	6.7	12.6	51.9	28.6	0.2	100.0
10	9.7	24.3	40.4	24.5	-	98.8
11	19.3	50.4	15.6	14.1	0.4	99.7
12	9.2	23.6	41.5	24.4	0.3	99.0
13	9.9	27.0	35.0	27.1	0.3	99.3
14	8.8	24.1	40.7	25.0	-	98.4
15	16.3	26.5	33.9	15.7	-	92.4
16	12.4	26.6	39.2	21.0	-	99.1
17	7.9	9.7	56.4	26.1	0.2	100.2
18	9.3	22.8	42.0	25.7	0.2	100.0
19	9.2	22.5	42.1	25.4	0.3	99.4
20	8.6	22.3	40.3	27.1	0.3	98.6
21	8.6	19.6	44.2	26.7	0.9	100.1
22	10.2	21.5	42.2	24.8	0.3	99.0
23	10.7	21.3	43.4	23.5	0.3	99.2
24	6.6	15.9	48.5	27.5	0.2	98.7
25	15.8	29.1	35.2	19.1	0.3	99.4
26	7.0	16.7	43.7	30.2	0.4	98.0
27	10.6	22.0	41.3	25.4	0.2	99.5
28	7.0	23.4	37.1	30.8	0.3	98.6
29	9.7	18.3	49.3	21.4	0.5	99.1
30	6.2	7.3	50.1	34.8	0.4	98.8
31	13.3	26.1	39.7	19.5	0.2	98.8
32	8.3	20.9	44.3	24.8	0.4	98.7
33	8.4	21.7	41.2	26.6	0.4	98.3
34	2.6	6.8	53.2	34.4	0.2	97.2
35	10.4	21.6	40.6	26.4	0.3	99.3
36	11.5	14.3	52.0	21.2	0.5	99.3
37	11.9	29.5	34.8	22.2	-	98.4
38	6.2	12.9	51.1	29.7	0.3	100.3
39	7.5	20.8	40.2	30.7	0.4	99.6
40	12.3	26.5	38.8	21.8	0.3	99.6
41	12.4	28.3	37.5	21.7	0.3	100.1
42	12.5	29.2	37.4	20.3	0.8	100.2
43	9.0	21.6	41.0	26.3	0.4	98.3
44	14.7	42.2	24.9	17.8	0.3	99.9
45	6.0	9.0	51.5	32.2	0.3	99.0
46	17.8	46.2	20.6	14.2	0.3	99.2
47	11.8	15.5	52.5	18.5	-	98.2

SUPPLEMENTARY TABLE 3

BRK14-2 **Type 1**

Analysis	MgO	Al2O3	Cr2O3	FeO	TiO2*	Total
1	16.0	38.2	29.7	15.1	0.2	99.1
2	7.9	11.2	50.9	29.4	0.3	99.8
3	9.6	25.7	39.4	23.8	0.2	98.6
4	9.7	10.9	57.1	20.3	0.3	98.3
5	9.2	18.1	43.2	27.2	1.4	99.0
6	16.8	43.2	22.4	16.6	0.2	99.2
7	10.9	15.4	52.1	20.4	0.3	99.0
8	15.0	29.2	39.5	15.5	0.0	99.3
9	9.0	22.0	46.2	17.2	0.3	94.8
10	10.6	27.0	39.3	21.9	0.4	99.3
11	15.1	40.5	25.3	18.2	0.2	99.3
12	16.1	35.7	25.3	20.9	0.3	98.3
13	9.9	24.7	34.6	29.1	0.4	98.8
14	10.9	31.7	33.9	22.2	0.2	98.9
15	10.5	28.8	35.3	23.6	0.3	98.5
16	16.6	32.3	36.3	14.4	0.2	99.8
17	16.2	35.4	28.3	19.1	0.5	99.5
18	12.7	28.8	21.9	28.7	0.3	92.5
19	2.3	22.6	36.8	36.8	0.3	98.8
20	11.8	22.8	25.3	33.1	1.9	94.8
21	9.0	24.8	40.0	24.2	0.3	98.3
22	8.2	19.4	43.2	27.7	0.4	99.0
23	11.8	26.2	39.0	21.8	0.4	99.2
24	7.8	10.9	56.5	23.0	0.2	98.4
25	2.4	4.9	45.0	45.0	0.5	97.8
26	16.3	22.6	19.1	24.4	0.3	82.6
27	10.5	18.9	19.8	36.2	1.9	87.4
28	4.0	8.5	45.4	33.1	0.4	91.3
29	13.9	38.6	27.9	18.7	0.3	99.3
30	12.3	29.4	36.1	22.0	0.3	100.0
31	11.2	21.7	46.5	19.5	0.2	99.0
32	8.2	18.6	47.2	25.6	0.2	99.6
33	7.8	21.5	36.3	32.6	0.9	99.1
34	9.8	25.3	33.7	29.8	0.4	98.9
35	10.0	21.6	44.0	24.2	0.3	100.0
36	11.7	30.0	36.0	21.2	0.3	99.2
37	6.5	13.8	50.9	27.1	0.4	98.7
38	8.9	21.7	46.4	21.5	0.2	98.7
39	11.1	21.0	47.5	19.4	0.3	99.3
40	6.3	10.1	48.1	34.5	0.3	99.3
41	13.4	29.5	39.3	16.8	0.3	99.3
42	13.5	25.1	41.5	20.0	0.0	100.0
43	12.0	27.7	35.6	24.0	0.4	99.7
44	10.5	23.0	44.5	20.8	0.3	99.0
45	12.3	26.9	41.1	18.9	0.0	99.2
46	3.6	9.0	50.4	35.4	0.4	98.7
47	11.8	33.8	31.6	21.8	0.3	99.3
48	13.8	34.6	32.5	18.7	0.4	100.0

SUPPLEMENTARY TABLE 3

BRK14-7a **Type 2**

Analysis	MgO	Al2O3	Cr2O3	FeO	TiO2*	Total
1	15.0	7.6	62.3	13.7	0.3	98.9
2	11.5	9.9	61.1	17.3	0.2	99.8
3	6.3	12.2	44.6	34.7	0.1	98.0
4	8.9	12.3	56.3	21.0	0.4	98.9
5	9.6	23.6	44.3	20.6	0.4	98.6
6	11.7	21.0	46.2	20.0	0.2	99.2
7	11.4	20.5	48.4	18.2	0.2	98.7
8	14.7	14.8	50.6	17.6	1.1	98.8
9	8.6	12.6	50.7	26.3	0.4	98.6
10	9.9	23.0	39.2	26.2	0.5	98.8
11	8.0	17.3	50.3	24.5	0.0	100.0
12	9.7	10.0	43.2	32.0	3.8	98.6
13	8.8	26.0	33.4	29.6	0.3	98.1
14	14.7	30.6	35.4	18.0	0.4	99.1
15	18.5	40.4	26.9	13.7	0.2	99.7
16	12.0	16.8	46.2	22.7	1.3	99.0
17	8.3	9.1	60.2	21.1	0.4	99.0
18	16.0	36.6	26.7	19.4	0.4	99.1
19	14.0	39.5	24.1	21.7	0.2	99.6
20	7.4	8.2	61.4	21.8	0.4	99.1
21	11.8	21.6	49.2	16.4	0.2	99.2
22	16.7	34.4	30.9	17.5	0.2	99.8
23	8.9	22.8	38.9	27.7	0.6	99.0
24	10.0	13.2	42.6	30.4	2.8	99.0
25	17.4	48.3	18.0	15.6	0.1	99.4
26	16.6	31.2	33.3	17.5	0.3	99.0
27	13.8	35.4	30.0	19.7	0.2	99.0
28	9.6	11.5	52.5	23.8	1.4	98.7
29	9.6	15.2	44.5	28.5	1.1	98.9
30	14.2	36.8	27.9	18.6	0.3	97.8
31	11.0	9.9	40.9	31.3	5.3	98.4
32	9.5	11.7	57.2	20.3	0.3	98.9
33	8.4	18.1	46.0	27.1	0.0	99.6
34	7.0	14.6	45.2	31.3	0.2	98.3
35	7.3	16.3	45.8	29.1	0.3	98.7

* - Below detection

Supplementary Table 5 - U-Pb geochronology results of gabbroic clasts

Analysis	U	Isotopic Ratios							Apparent Ages						Best	±
		$^{207}Pb^*/^{206}Pb^*$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{238}U$	±	error	$^{206}Pb^*/^{238}U$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{207}Pb^*$	±		
	(ppm)		(%)		(%)		(%)	corr.		Ma		Ma		Ma	Age	Ma
BRNF15-K58B_1_13	120	0.0516	2.81007752	0.194	4.3814433	0.02676	3.55007474	0.13603	170.2	6	178.7	7	310	60	170	6
BRNF15-K58B_1_17	77	0.0522	4.98084291	0.193	5.69948187	0.02745	3.46083789	0.060641	174.5	6	176	9.5	190	85	175	6
BRNF15-K58B_1_11	199	0.0535	2.42990654	0.2073	4.10033767	0.02779	3.5984167	0.17721	176.7	6.5	192.1	7	351	50	177	7
BRNF15-K58B_1_3	42	0.0517	5.60928433	0.196	6.12244898	0.02796	3.75536481	-0.10999	177.7	6.5	178	10	150	95	178	7
BRNF15-K58B_1_15	132	0.0503	3.18091451	0.191	4.45026178	0.02796	3.57653791	0.29468	177.7	6	178.7	7	210	60	178	6
BRNF15-K58B_1_7	58	0.0509	4.22396857	0.208	5.28846154	0.02797	3.57525921	0.25564	177.8	6.5	190	9.5	230	80	178	7
BRNF15-K58B_1_14	71	0.0507	4.63510848	0.191	5.7591623	0.02817	3.72736954	0.35814	179.1	6.5	175	9	150	85	179	7
BRNF15-K58B_1_5	63	0.0499	3.80761523	0.193	4.92227979	0.02835	3.52733686	-0.002178	180.2	6.5	180	8	210	70	180	7
BRNF15-K58B_1_12	85	0.0493	3.54969574	0.189	5.02645503	0.02855	3.50262697	0.33796	181.4	6.5	177	8	170	65	181	7
BRNF15-K58B_1_10	73	0.0471	4.14012739	0.187	5.34759358	0.02868	3.66108787	0.17074	182.2	6.5	175	8.5	100	75	182	7
BRNF15-K58B_1_19	97	0.0497	3.31991952	0.192	4.6875	0.02873	3.65471632	-0.15442	182.5	6.5	176.8	7.5	170	65	183	7
BRNF15-K58B_1_8	82	0.0471	3.60934183	0.186	4.83870968	0.02896	3.62569061	0.21703	184	6.5	172	8	80	65	184	7
BRNF15-K58B_1_18	88	0.0551	6.44283122	0.28	25	0.02904	3.61570248	0.055651	184.5	6.5	192	8.5	270	75	185	7
BRNF15-K58B_1_6	69	0.0496	4.33467742	0.204	5.39215686	0.02906	3.61321404	0.017747	184.6	6.5	184	9	160	75	185	7
BRNF15-K58B_1_9	50	0.0467	4.49678801	0.184	5.70652174	0.02913	3.77617576	0.28231	185.1	7	169	9	30	80	185	7
BRNF15-K58B_1_20	60	0.051	4.01960784	0.198	5.55555556	0.02916	3.60082305	0.36568	185.2	6.5	183	9	220	80	185	7
BRNF15-K58B_1_2	73	0.0518	4.82625483	0.21	5.71428571	0.02982	3.52112676	-0.11295	189.4	6.5	190	9.5	180	80	189	7

Analysis	U	Isotopic Ratios							Apparent Ages						Best	±
		$^{207}Pb^*/^{206}Pb^*$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{238}U$	±	error	$^{206}Pb^*/^{238}U$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{207}Pb^*$	±		
	(ppm)		(%)		(%)		(%)	corr.		Ma		Ma		Ma	Age	Ma
BRNF15-K58B_2_20	318	0.0494	2.3	0.1954	4.1	0.02803	3.7	0.2569	178.2	6.5	180.7	7	166	48	178	7
BRNF15-K58B_2_19	401	0.0497	2.2	0.239	15.3	0.02899	3.6	0.0541	184.2	6.5	187.8	3.45	168	44.5	184	7
BRNF15-K58B_2_13	224	0.0499	2.6	0.1983	4.0	0.0295	3.4	0.1818	187.4	6.5	183.1	7	184	50	187	7
BRNF15-K58B_2_17	103	0.0505	3.0	0.213	4.5	0.03009	3.7	0.2764	191.1	7	195.1	8	190	60	191	7
BRNF15-K58B_2_4	141	0.0508	3.2	0.21	4.3	0.03064	3.4	-0.0175	194.5	6.5	192.1	7.5	200	60	195	7
BRNF15-K58B_2_12	138	0.0523	3.0	0.224	4.2	0.03106	3.5	0.1198	197.1	7	203.7	8	260	60	197	7
BRNF15-K58B_2_18	319	0.0499	2.2	0.2175	3.9	0.03115	3.5	0.1664	197.7	7	200.1	7	188	45.5	198	7
BRNF15-K58B_2_7	373	0.0509	2.1	0.2178	3.9	0.03125	3.5	0.4110	198.3	7	199.7	7	225	43.5	198	7
BRNF15-K58B_2_14	461	0.05	1.9	0.2173	3.9	0.0314	3.5	0.3729	199.3	7	199.4	7	199	40.5	199	7
BRNF15-K58B_2_6	160	0.0539	2.6	0.229	4.1	0.0315	3.5	0.0128	199.9	7	209.7	7.5	330	55	200	7
BRNF15-K58B_2_16	117	0.0544	3.0	0.236	4.4	0.03152	3.5	0.1283	200	7	214	8.5	330	60	200	7
BRNF15-K58B_2_10	231	0.0505	2.3	0.2176	4.1	0.03172	3.5	0.3864	201.3	7	199.2	7.5	228	47.5	201	7
BRNF15-K58B_2_3	290	0.0483	2.2	0.2125	4.0	0.03204	3.4	0.3514	203.3	6.5	195.9	7	123	43	203	7
BRNF15-K58B_2_8	313	0.0514	2.0	0.2265	4.0	0.03231	3.4	0.0581	205	7	206.8	7.5	243	42	205	7
BRNF15-K58B_2_5	204	0.0509	2.2	0.2239	4.0	0.0324	3.5	0.2608	205.5	7	205.4	7.5	235	46.5	206	7
BRNF15-K58B_2_11	173	0.0508	3.4	0.225	4.7	0.03242	3.4	0.0318	205.7	7	205	8.5	170	60	206	7
BRNF15-K58B_2_1	403	0.0496	1.9	0.2189	3.7	0.03276	3.4	0.0788	207.8	7	200.8	7	178	40	208	7

Analysis	U	Isotopic Ratios							Apparent Ages						Best	±
		$^{207}Pb^*/^{206}Pb^*$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{238}U$	±	error	$^{206}Pb^*/^{238}U$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{207}Pb^*$	±		
	(ppm)		(%)		(%)		(%)	corr.		Ma		Ma		Ma	Age	Ma
BRJR13-K8b_1_16	170	0.0524	2.7	0.211	4.3	0.0288	3.6	0.31753	183	6.5	193.1	7.5	264	55	183	7
BRJR13-K8b_1_3	417	0.0532	1.8	0.219	3.9	0.02928	3.6	0.35409	186	6.5	200.8	7	317	39.5	186	7
BRJR13-K8b_1_7	305	0.0508	2.2	0.2028	3.9	0.02937	3.4	0.10082	186.6	6.5	187.6	7	222	46	187	7
BRJR13-K8b_1_12	62	0.0474	4.0	0.192	5.2	0.02949	3.6	0.1696	187.3	6.5	178	8.5	110	70	187	7
BRJR13-K8b_1_17	170	0.0527	2.8	0.211	4.3	0.02972	3.5	0.14739	188.8	6.5	194.5	7.5	287	55	189	7
BRJR13-K8b_1_2	314	0.0501	2.2	0.2054	3.9	0.02976	3.5	0.29429	189	6.5	190.5	7	191	46	189	7
BRJR13-K8b_1_10	193	0.0492	2.8	0.206	4.4	0.03021	3.5	0.10823	191.8	6.5	190.3	7.5	143	55	192	7
BRJR13-K8b_1_11	93	0.0542	3.8	0.224	5.1	0.03021	3.6	0.1046	191.8	7	203	9.5	300	70	192	7
BRJR13-K8b_1_6	720	0.0503	1.7	0.2103	3.8	0.03022	3.5	0.45598	191.9	6.5	193.6	6.5	199	36	192	7
BRJR13-K8b_1_8	298	0.0501	2.4	0.2108	4.0	0.03047	3.4	0.068418	193.5	6.5	193.6	7	184	47	194	7
BRJR13-K8b_1_15	267	0.0516	2.3	0.2139	4.2	0.03078	3.6	0.28652	195.4	6.5	197.7	7.5	265	46	195	7

Supplementary Table 6 - U-Pb geochronology of Ruby Batholith plutons of the Ruby terrane

Jim River Pluton		Isotopic Ratios							Apparent Ages							
Analysis	U	$^{207}Pb^*/^{206}Pb^*$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{238}U$	±	error	$^{206}Pb^*/^{238}U$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{207}Pb^*$	±	Best	±
	(ppm)		(%)		(%)		(%)	corr.		Ma		Ma		Ma	Age	Ma
BRHR14_2_2	403	0.0486	3.6	0.1093	3.2	0.0164	3.1	0.0848	105.4	2.35	105.1	3.2	129	47	105	3
BRHR14_2_11	108	0.0510	5.8	0.1160	5.2	0.0166	3.3	-0.0439	105.8	2.7	110	5.5	260	95	106	4
BRHR14_2_12	204	0.0501	4.3	0.1114	3.8	0.0166	3.3	0.0532	106.2	2.45	107.4	3.95	170	65	106	3
BRHR14_2_13	833	0.0458	3.3	0.1063	3.0	0.0167	3.0	0.4723	107.1	2.35	102.4	2.9	16	35	107	3
BRHR14_2_6	384	0.0483	3.5	0.1106	3.3	0.0168	3.3	0.4704	107.6	2.45	106.2	3.3	136	46.5	107	3
BRHR14_2_9	248	0.0462	4.1	0.1050	3.8	0.0169	3.3	0.2136	107.8	2.45	101.6	3.7	40	55	108	3
BRHR14_2_8	226	0.0491	4.4	0.1115	3.8	0.0169	3.3	-0.0053	108.1	2.55	106.8	3.9	150	65	108	3
BRHR14_2_19	211	0.0466	4.1	0.1092	3.5	0.0169	3.2	0.1262	108.2	2.6	106.1	3.5	90	55	108	4
BRHR14_2_1	1677	0.0478	3.0	0.1117	2.6	0.0169	3.0	0.0062	109	2.35	107.4	2.7	101	31	108	3
BRHR14_2_5	211	0.0493	4.4	0.1153	3.9	0.0171	3.2	0.1444	109.6	2.5	110.2	4.15	130	60	109	3
BRHR14_2_4	259	0.0469	3.8	0.1090	3.6	0.0171	3.2	-0.0633	110	2.55	104.8	3.55	60	55	110	4
BRHR14_2_15	182	0.0470	4.0	0.1096	3.9	0.0172	3.2	0.3761	109.7	2.55	105.1	3.9	80	55	110	4
BRHR14_2_16	1340	0.0481	3.1	0.1105	3.2	0.0172	3.2	-0.2333	109.4	2.5	106.3	3.25	117	41	110	3
BRHR14_2_10	210	0.0497	4.2	0.1146	3.7	0.0172	3.2	0.1020	110.1	2.55	109.7	3.9	170	60	110	4
BRHR14_2_20	393	0.0454	3.4	0.1059	3.1	0.0173	3.2	0.0667	110.4	2.5	102	3.05	13	42	110	3
BRHR14_2_14	512	0.0465	3.3	0.1112	3.0	0.0175	3.2	0.1584	111.5	2.5	106.9	3.05	58	41.5	112	4
BRHR14_2_3	162	0.0477	4.4	0.1178	4.7	0.0175	3.4	0.0595	110	2.7	112.5	4.95	170	80	112	4
BRHR14_2_18	168	0.0460	4.5	0.1094	4.2	0.0177	3.1	0.0905	112.8	2.6	104.8	4.2	30	65	113	4
BRHR14_2_17	250	0.0485	3.6	0.1187	3.3	0.0180	3.3	0.3243	115.2	2.85	114.2	3.65	127	48	115	4

Bonanza Pluton		Isotopic Ratios							Apparent Ages							
Analysis	U	$^{207}Pb^*/^{206}Pb^*$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{238}U$	±	error	$^{206}Pb^*/^{238}U$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{207}Pb^*$	±	Best	±
	(ppm)		(%)		(%)		(%)	corr.		Ma		Ma		Ma	Age	Ma
BRHR14_7_10	466	0.05	2.5	0.1088	3.2	0.01654	2.3	0.1919	105.8	2.4	104.7	3.2	181	50	106	2
BRHR14_7_12	2819	0.0551	1.5	0.1261	2.6	0.01704	2.3	0.4866	108.9	2.45	120.5	2.95	401	32	109	2
BRHR14_7_17	1228	0.0489	1.7	0.1119	2.9	0.01722	2.2	0.4591	110.1	2.45	107.6	2.9	148	36.5	110	2
BRHR14_7_1	907	0.0487	1.8	0.1139	2.9	0.01725	2.3	0.1190	110.2	2.45	109.4	3	129	36.5	110	2
BRHR14_7_7	1878	0.0539	1.8	0.1274	2.9	0.01741	2.2	0.3932	111.2	2.45	122.1	3.35	358	40	111	2
BRHR14_7_14	3075	0.0524	1.4	0.1242	2.7	0.01752	2.2	0.4536	111.9	2.45	118.8	2.95	300	33	112	2
BRHR14_7_2	1795	0.0475	1.5	0.1142	2.7	0.01766	2.2	0.5364	112.8	2.45	109.7	2.8	81	30.5	113	2
BRHR14_7_4	1745	0.0488	1.6	0.1188	2.7	0.01801	2.2	0.1993	115.1	2.45	113.9	2.9	138	32	115	2
BRHR14_7_18	990	0.0487	1.6	0.1214	2.7	0.01829	2.2	0.3851	116.8	2.6	116.3	3	142	34.5	117	3
BRHR14_7_20	2346	0.0529	1.6	0.1282	2.7	0.01829	2.2	0.3521	116.8	2.6	122.3	3.05	300	34.5	117	3

Bonanza Pluton		Isotopic Ratios							Apparent Ages							
Analysis	U	$^{207}Pb^*/^{206}Pb^*$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{238}U$	±	error	$^{206}Pb^*/^{238}U$	±	$^{207}Pb^*/^{235}U$	±	$^{206}Pb^*/^{207}Pb^*$	±	Best	±
	(ppm)		(%)		(%)		(%)	corr.		Ma		Ma		Ma	Age	Ma
BRHR14_8_17	3393	0.0490	1.3	0.112	2.6	0.0166	2.2	0.6827	105.9	2.35	108	2.75	144	29	106	2
BRHR14_8_16	2356	0.0686	2.0	0.1592	3.1	0.0167	2.2	0.5062	106.6	2.3	150.8	4.3	846	44.5	107	2
BRHR14_8_14	2788	0.0529	1.6	0.1230	2.7	0.0168	2.2	0.4062	107.5	2.3	117.7	3.05	311	35	108	2
BRHR14_8_10	1478	0.0521	6.7	0.1220	7.4	0.0170	2.2	-0.0243	108.7	2.4	109.4	1.5	133	26	109	2
BRHR14_8_3	3346	0.0526	1.4	0.1225	2.6	0.0170	2.2	0.2559	108.9	2.4	117.2	2.9	298	31	109	2
BRHR14_8_15	1124	0.0493	1.7	0.1180	2.8	0.0172	2.2	0.2905	109.7	2.5	113.1	2.95	159	37	110	2
BRHR14_8_13	1614	0.0484	1.5	0.1141	2.8	0.0172	2.2	-0.0162	109.8	2.5	109.6	2.9	121	33	110	2
BRHR14_8_5	2084	0.0484	1.3	0.1150	2.7	0.0173	2.2	0.5779	110.7	2.5	110.4	2.8	126	30	111	2
BRHR14_8_8	1675	0.0487	1.5	0.1156	2.6	0.0174	2.2	0.3862	110.9	2.4	111	2.75	138	32	111	2
BRHR14_8_12	1347	0.0486	1.4	0.1170	2.7	0.0174	2.2	0.4883	111.1	2.4	112.3	2.85	127	31	111	2
BRHR14_8_2	3113	0.0600	1.9	0.1443	2.9	0.0177	2.3	0.3887	113.2	2.5	136.7	3.75	600	43	113	3
BRHR14_8_11	2147	0.0584	1.7	0.1448	2.9	0.0180	2.2	0.5192	114.9	2.5	137.1	3.75	535	38	115	3
BRHR14_8_18	1475	0.0481	1.5	0.1199	2.6	0.0180	2.2	0.5167	115.3	2.5	114.9	2.85	108	30	115	3
BRHR14_8_6	844	0.0475	1.8	0.1160	2.9	0.0181	2.3	0.4497	115.8	2.7	111.3	3.05	82	35	116	3

Supplementary Table 7 - Lu-Hf isotopic results from detrital and igneous zircons

Yukon Koyukuk Sediments

Type 1

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRJR13-K8a_02	0.283038	0.000043	0.002248	0.000026	0.049620	0.000640	1.467149	0.000039	1.887050	0.000170	195.3	0.283030	9.0	13.0	1.5
BRJR13-K8a_04	0.283032	0.000032	0.001641	0.000022	0.033670	0.000520	1.467178	0.000040	1.887100	0.000120	196.3	0.283026	8.7	12.9	1.1
BRJR13-K8a_08	0.282602	0.000042	0.000886	0.000033	0.022850	0.000990	1.467222	0.000060	1.887000	0.000130	108.8	0.282600	-6.5	-4.1	1.5
BRJR13-K8a_21	0.282974	0.000029	0.001806	0.000051	0.038600	0.001300	1.467138	0.000057	1.887190	0.000100	218.0	0.282967	6.7	11.3	1.0
BRJR13-K8a_23	0.283027	0.000042	0.002302	0.000056	0.057500	0.001400	1.467188	0.000045	1.887220	0.000130	175.2	0.283020	8.6	12.2	1.5
BRJR13-K8a_26	0.283040	0.000042	0.001498	0.000066	0.030500	0.001500	1.467189	0.000057	1.887190	0.000130	217.0	0.283034	9.0	13.6	1.5
BRJR13-K8a_28	0.282996	0.000040	0.001219	0.000023	0.026430	0.000550	1.467172	0.000061	1.887180	0.000130	238.4	0.282991	7.5	12.6	1.4
BRJR13-K8a_59	0.283117	0.000036	0.002602	0.000033	0.056970	0.000700	1.467176	0.000050	1.887020	0.000150	170.2	0.283109	11.7	15.2	1.3
BRJR13-K8a_63	0.283030	0.000045	0.001096	0.000038	0.026800	0.001000	1.467145	0.000054	1.887229	0.000098	197.2	0.283026	8.7	12.9	1.6
BRJR13-K8a_74	0.283058	0.000032	0.000688	0.000016	0.014890	0.000300	1.467187	0.000041	1.887080	0.000120	198.2	0.283056	9.7	14.0	1.1
BRJR13-K8a_78	0.283050	0.000020	0.001437	0.000012	0.034140	0.000220	1.467178	0.000039	1.887041	0.000097	202.9	0.283045	9.4	13.7	0.7
BRJR13-K8a_81	0.283053	0.000029	0.001069	0.000061	0.022900	0.001300	1.467148	0.000049	1.886890	0.000100	187.3	0.283049	9.5	13.5	1.0
BRJR13-K8a_84	0.283100	0.000025	0.001617	0.000076	0.040300	0.001700	1.467194	0.000049	1.886975	0.000074	192.1	0.283094	11.1	15.2	0.9
BRJR13-K8a_85	0.283085	0.000035	0.000986	0.000037	0.022200	0.000830	1.467200	0.000043	1.887003	0.000076	207.1	0.283081	10.6	15.1	1.2
BRJR13-K8a_86	0.283079	0.000024	0.000474	0.000013	0.010000	0.000240	1.467197	0.000038	1.887040	0.000100	219.4	0.283077	10.4	15.2	0.8
BRJR13-K8a_87	0.283048	0.000028	0.001430	0.000110	0.032600	0.002400	1.467202	0.000048	1.887070	0.000100	167.3	0.283044	9.3	12.9	1.0
BRJR13-K8a_90	0.283073	0.000027	0.000618	0.000011	0.014260	0.000280	1.467169	0.000043	1.886878	0.000097	207.1	0.283071	10.2	14.7	1.0
BRJR13-K8a_91	0.283065	0.000028	0.000896	0.000006	0.020760	0.000250	1.467196	0.000044	1.886980	0.000110	236.8	0.283061	9.9	15.0	1.0
BRJR13-K8a_92	0.283064	0.000034	0.000991	0.000012	0.020340	0.000170	1.467163	0.000049	1.887000	0.000110	166.0	0.283061	9.9	13.5	1.2
BRJR13-K8a_93	0.282784	0.000035	0.001257	0.000028	0.039820	0.000540	1.467138	0.000058	1.886906	0.000092	403.1	0.282775	0.0	1.2	8.6
BRJR13-K8a_94	0.283082	0.000026	0.001290	0.000046	0.029500	0.001100	1.467132	0.000042	1.886920	0.000100	195.8	0.283077	10.5	14.7	0.9
BRJR13-K8a_101	0.283035	0.000034	0.002243	0.000044	0.046990	0.000500	1.467154	0.000050	1.887010	0.000120	209.2	0.283026	8.8	13.2	1.2

Type 2

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRNF15-58a_02	0.282719	0.000043	0.000458	0.000017	0.011190	0.000310	1.467044	0.000040	1.886980	0.000140	420.0	0.282715	-2.3	6.9	1.5
BRNF15-58a_09	0.282716	0.000032	0.000881	0.000019	0.022610	0.000690	1.467099	0.000048	1.886930	0.000140	425.4	0.282709	-2.4	6.8	1.1
BRNF15-58a_14	0.282272	0.000051	0.001263	0.000045	0.042200	0.001700	1.467083	0.000065	1.887120	0.000190	447.1	0.282261	-18.1	-8.6	1.8
BRNF15-58a_16	0.282812	0.000036	0.002010	0.000040	0.059800	0.001900	1.467107	0.000052	1.886950	0.000120	412.9	0.282797	1.0	9.6	1.3
BRNF15-58a_18	0.282709	0.000037	0.001506	0.000027	0.043400	0.001300	1.467089	0.000047	1.886990	0.000140	400.3	0.282698	-2.7	5.8	1.3
BRNF15-58a_22	0.282281	0.000036	0.002250	0.000100	0.065300	0.002300	1.467086	0.000047	1.887120	0.000120	453.1	0.282262	-17.8	-8.4	1.3
BRNF15-58a_23	0.282762	0.000041	0.000995	0.000048	0.026600	0.001400	1.467094	0.000036	1.887020	0.000130	461.4	0.282753	-0.8	9.2	1.5
BRNF15-58a_26	0.283091	0.000038	0.000523	0.000010	0.016180	0.000490	1.467093	0.000032	1.886950	0.000120	167.5	0.283089	10.8	14.5	1.3
BRNF15-58a_29	0.283110	0.000032	0.001111	0.000070	0.034600	0.002500	1.467127	0.000037	1.887000	0.000100	206.3	0.283106	11.5	15.9	1.1
BRNF15-58a_34	0.282601	0.000036	0.000312	0.000010	0.008380	0.000470	1.467098	0.000056	1.887160	0.000130	428.9	0.282599	-6.5	3.0	1.3
BRNF15-58a_36	0.282751	0.000039	0.001576	0.000083	0.037700	0.002100	1.467018	0.000051	1.887000	0.000130	424.8	0.282739	-1.2	7.8	1.4
BRNF15-58a_37	0.282778	0.000030	0.001028	0.000016	0.029780	0.000550	1.467116	0.000031	1.887070	0.000110	453.2	0.282769	-0.2	9.6	1.1
BRNF15-58a_49	0.283098	0.000031	0.003241	0.000055	0.091300	0.001200	1.467118	0.000045	1.886990	0.000110	164.2	0.283088	11.1	14.4	1.1
BRNF15-58a_94	0.283068	0.000034	0.000979	0.000011	0.028740	0.000580	1.467102	0.000049	1.886860	0.000130	191.2	0.283065	10.0	14.1	1.2
BRNF15-58a_101	0.282273	0.000029	0.000614	0.000009	0.016710	0.000290	1.467100	0.000046	1.886980	0.000140	456.2	0.282268	-18.1	-8.1	1.0

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRNF15-59_09	0.282827	0.000049	0.001858	0.000006	0.045690	0.000230	1.467131	0.000058	1.887200	0.000170	450.3	0.282811	1.5	11.0	1.7
BRNF15-59_21	0.282652	0.000074	0.002186	0.000056	0.054700	0.001500	1.467082	0.000055	1.887220	0.000210	304.5	0.282640	-4.7	1.6	2.6
BRNF15-59_39	0.282755	0.000056	0.001494	0.000029	0.039200	0.001000	1.467136	0.000074	1.886970	0.000150	479.0	0.282742	-1.1	9.1	2.0
BRNF15-59_40	0.283079	0.000053	0.001546	0.000022	0.043370	0.000300	1.467070	0.000057	1.886980	0.000170	195.4	0.283073	10.4	14.5	1.9
BRNF15-59_41	0.282972	0.000045	0.000840	0.000170	0.026900	0.006700	1.467125	0.000044	1.886970	0.000160	353.1	0.282967	6.6	14.3	1.6
BRNF15-59_45	0.283119	0.000059	0.000689	0.000005	0.016840	0.000120	1.467146	0.000068	1.887000	0.000220	208.8	0.283116	11.8	16.4	2.1
BRNF15-59_48	0.282763	0.000037	0.000965	0.000013	0.026640	0.000600	1.467114	0.000045	1.887110	0.000120	383.4	0.282756	-0.8	7.5	1.3
BRNF15-59_54	0.282735	0.000047	0.001144	0.000008	0.034860	0.000150	1.467141	0.000078	1.887040	0.000220	399.2	0.282726	-1.8	6.8	1.7
BRNF15-59_56	0.282446	0.000064	0.002569	0.000038	0.067400	0.002000	1.467028	0.000072	1.887090	0.000170	459.6	0.282424	-12.0	-2.5	2.3
BRNF15-59_61	0.282797	0.000052	0.001294	0.000016	0.028080	0.000480	1.467075	0.000059	1.887100	0.000140	454.4	0.282786	0.4	10.2	1.8
BRNF15-59_65	0.282761	0.000059	0.005435	0.000096	0.152200	0.002100	1.467068	0.000057	1.886960	0.000160	435.6	0.282717	-0.8	7.3	2.1
BRNF15-59_76	0.282766	0.000037	0.001006	0.000011	0.023260	0.000220	1.467071	0.000057	1.886910	0.000140	449.6	0.282758	-0.7	9.1	1.3
BRNF15-59_78	0.282052	0.000043	0.000756	0.000012	0.022000	0.000120	1.467044	0.000052	1.886890	0.000140	388.6	0.282046	-25.9	-17.5	1.5
BRNF15-59_97	0.282652	0.000040	0.001402	0.000033	0.037900	0.001200	1.467027	0.000046	1.887020	0.000110	334.1	0.282643	-4.7	2.4	1.4
BRNF15-59_100	0.282812	0.000076	0.002191	0.000012	0.046210	0.000370	1.466920	0.000120	1.887580	0.000240	196.7	0.282804	1.0	5.0	2.7
BRNF15-59_102	0.282541	0.000047	0.001028	0.000016	0.024900	0.000650	1.467119	0.000055	1.887080	0.000170	494.9	0.282531	-8.6	2.1	1.7

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRNF15-60_05	0.283116	0.000029	0.000889	0.000033	0.019570	0.000670	1.467127	0.000030	1.886923	0.000095	191.5	0.283113	11.7	15.9	1.0
BRNF15-60_11	0.282748	0.000040	0.000978	0.000027	0.028700	0.001100	1.467092	0.000037	1.886830	0.000110	113.1	0.282746	-1.3	1.1	1.4
BRNF15-60_12	0.283047	0.000039	0.000577	0.000029	0.015260	0.000750	1.467142	0.000034	1.886960	0.000130	199.7	0.283045	9.3	13.6	1.4
BRNF15-60_18	0.282761	0.000030	0.000592	0.000015	0.013930	0.000410	1.467175	0.000036	1.886960	0.000110	438.1	0.282756	-0.8	8.7	1.1
BRNF15-60_21	0.282991	0.000078	0.001108	0.000011	0.027320	0.000310	1.467018	0.000070	1.887080	0.000250	193.5	0.282987	7.3	11.5	2.8
BRNF15-60_25	0.282526	0.000039	0.001032	0.000011	0.029200	0.000430	1.467132	0.000029	1.886940	0.000110	190.9	0.282522	-9.2	-5.0	1.4
BRNF15-60_27	0.282659	0.000045	0.000514	0.000017	0.013950	0.000250	1.467122	0.000049	1.887210	0.000170	114.0	0.282658	-4.5	-2.0	1.6
BRNF15-60_28	0.283098	0.000022	0.000762	0.000045	0.016930	0.000990	1.467116	0.000038	1.886952	0.000078	202.7	0.283095	11.1	15.5	0.8
BRNF15-60_44	0.281673	0.000024	0.001017	0.000040	0.027900	0.001000	1.467112	0.000045	1.887069	0.000079	444.9	0.281664	-39.3	-29.7	0.9
BRNF15-60_55	0.282561	0.000040	0.001002	0.000073	0.028900	0.002700	1.467159	0.000035	1.886980	0.000110	305.4	0.282555	-7.9	-1.3	1.4
BRNF15-60_67	0.282107	0.000032	0.002012	0.000063	0.063100	0.003100	1.467119	0.000035	1.886930	0.000130	360.3	0.282093	-24.0	-16.5	1.1
BRNF15-60_69	0.283098	0.000062	0.000571	0.000014	0.014130	0.000180	1.467138	0.000042	1.886970	0.000220	205.6	0.283096	11.1	15.6	2.2
BRNF15-60_72	0.283095	0.000041	0.000546	0.000025	0.014240	0.000790	1.467141	0.000040	1.886950	0.000130	204.3	0.283093	11.0	15.4	1.4
BRNF15-60_94	0.282832	0.000043	0.001988	0.000074	0.059900	0.003100	1.467100	0.000035	1.887020	0.000130	357.2	0.282819	1.7	9.2	1.5
BRNF15-60_95	0.282671	0.000039	0.000658	0.000021	0.015730	0.000440	1.467145	0.000037	1.886930	0.000140	360.5	0.282667	-4.0	3.8	1.4
BRNF15-60_96	0.282147	0.000040	0.000841	0.000045	0.027400	0.002200	1.467146	0.000034	1.887000	0.000130	331.5	0.282142	-22.6	-15.4	1.4
BRNF15-60_97	0.282731	0.000034	0.000804	0.000048	0.019500	0.001200	1.467104	0.000032	1.886950	0.000120	356.3	0.282726	-1.9	5.8	1.2
BRNF15-60_99	0.282774	0.000038	0.000879	0.000016	0.018800	0.000350	1.467164	0.000042	1.886850	0.000140	400.7	0.282767	-0.4	8.3	1.3
BRNF15-60_102	0.282263	0.000037	0.001607	0.000036	0.041820	0.000690	1.467100	0.000039	1.887140	0.000160	408.1	0.282251	-18.5	-9.8	1.3

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRHR14-1A_13	0.282789	0.000043	0.000672	0.000031	0.017570	0.000880	1.467169	0.000063	1.886980	0.000150	113.7	0.282788	0.1	2.6	1.5
BRHR14-1A_34	0.282744	0.000045	0.001103	0.000024	0.028590	0.000620	1.467221	0.000082	1.887300	0.000170	109.6	0.282742	-1.4	0.9	1.6
BRHR14-1A_44	0.282733	0.000037	0.001003	0.000005	0.026250	0.000210	1.467187	0.000046	1.887130	0.000110	109.6	0.282731	-1.8	0.5	1.3
BRHR14-1A_49	0.282624	0.000042	0.001253	0.000021	0.031630	0.000430	1.467142	0.000062	1.886990	0.000260	113.1	0.282621	-5.7	-3.3	1.5
BRHR14-1A_50	0.282766	0.000030	0.000794	0.000025	0.021460	0.000630	1.467184	0.000041	1.886990	0.000076	115.0	0.282764	-0.7	1.8	1.1
BRHR14-1A_86	0.282786	0.000030	0.001998	0.000071	0.053600	0.001800	1.467159	0.000043	1.887112	0.000098	111.8	0.282782	0.0	2.4	1.1

BRHR14-1A_87	0.282787	0.000038	0.000582	0.000014	0.014490	0.000310	1.467202	0.000056	1.887080	0.000100	116.1	0.282786	0.1	2.6	1.3
BRHR14-1A_95	0.282759	0.000042	0.000697	0.000053	0.018600	0.001400	1.467190	0.000043	1.887120	0.000140	107.2	0.282758	-0.9	1.4	1.5

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRK14-10_03	0.282574	0.000035	0.001608	0.000016	0.038260	0.000370	1.467217	0.000057	1.886920	0.000210	443.3	0.282561	-7.5	1.9	1.2
BRK14-10_07	0.282765	0.000044	0.001978	0.000072	0.045800	0.001600	1.467140	0.000033	1.887030	0.000140	408.3	0.282750	-0.7	7.9	1.6
BRK14-10_43	0.282785	0.000030	0.000923	0.000047	0.021900	0.001100	1.467124	0.000032	1.887010	0.000100	421.0	0.282778	0.0	9.1	1.1
BRK14-10_50	0.282494	0.000043	0.001446	0.000065	0.035500	0.001600	1.467138	0.000033	1.887080	0.000130	496.9	0.282481	-10.3	0.3	1.5
BRK14-10_53	0.282823	0.000033	0.000996	0.000013	0.019580	0.000270	1.467178	0.000035	1.886990	0.000120	428.7	0.282815	1.3	10.6	1.2
BRK14-10_59	0.282739	0.000038	0.000631	0.000030	0.015630	0.000750	1.467189	0.000040	1.887010	0.000130	406.1	0.282734	-1.6	7.3	1.3
BRK14-10_86	0.282866	0.000036	0.001317	0.000018	0.029910	0.000490	1.467203	0.000040	1.886980	0.000110	468.5	0.282855	2.9	12.9	1.3

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRK14-7a_61	0.283033	0.000023	0.001380	0.000043	0.035700	0.000970	1.467176	0.000031	1.887000	0.000075	164.2	0.283029	8.8	12.3	0.8
BRK14-7a_74	0.282613	0.000061	0.001950	0.000110	0.050100	0.003500	1.467074	0.000047	1.887320	0.000210	114.2	0.282609	-6.1	-3.7	2.2
BRK14-7a_80	0.282800	0.000032	0.001504	0.000031	0.036760	0.000680	1.467176	0.000027	1.886990	0.000120	110.6	0.282797	0.5	2.9	1.1
BRK14-7a_90	0.282796	0.000040	0.001147	0.000023	0.027820	0.000440	1.467186	0.000031	1.887020	0.000130	113.0	0.282794	0.4	2.8	1.4
BRK14-7a_97	0.282896	0.000032	0.003450	0.000047	0.083000	0.001600	1.467103	0.000037	1.886939	0.000061	364.7	0.282774	3.9	1.1	41.8

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRK14-9_01	0.282795	0.000036	0.001333	0.000033	0.034100	0.001200	1.467161	0.000049	1.886930	0.000130	350.7	0.282786	0.4	7.9	1.3
BRK14-9_04	0.282492	0.000047	0.001174	0.000007	0.028490	0.000140	1.467112	0.000054	1.887190	0.000120	403.9	0.282483	-10.4	-1.7	1.7
BRK14-9_07	0.282070	0.000028	0.000675	0.000015	0.016620	0.000450	1.467157	0.000045	1.886970	0.000076	376.1	0.282065	-25.3	-17.1	1.0
BRK14-9_09	0.282352	0.000026	0.001327	0.000085	0.033600	0.002500	1.467193	0.000030	1.887010	0.000110	372.2	0.282343	-15.3	-7.4	0.9
BRK14-9_14	0.281597	0.000027	0.000634	0.000004	0.015940	0.000170	1.467147	0.000048	1.887170	0.000120	428.3	0.281592	-42.0	-32.7	1.0
BRK14-9_37	0.282206	0.000032	0.001131	0.000056	0.031300	0.001500	1.467189	0.000045	1.887050	0.000110	362.4	0.282198	-20.5	-12.7	1.1
BRK14-9_40	0.281103	0.000039	0.000416	0.000006	0.010330	0.000140	1.467174	0.000041	1.887120	0.000100	431.4	0.281099	-59.5	-50.1	1.4
BRK14-9_41	0.282070	0.000052	0.002210	0.000110	0.060900	0.003000	1.467153	0.000071	1.887150	0.000130	351.0	0.282055	-25.3	-18.0	1.8
BRK14-9_43	0.280917	0.000030	0.000892	0.000030	0.021220	0.000650	1.467133	0.000040	1.887140	0.000130	362.4	0.280911	-66.1	-58.3	1.1
BRK14-9_47	0.282127	0.000039	0.001207	0.000022	0.029700	0.000440	1.467170	0.000041	1.887010	0.000120	351.0	0.282119	-23.3	-15.8	1.4
BRK14-9_51	0.282283	0.000039	0.001388	0.000020	0.036690	0.000420	1.467188	0.000043	1.887090	0.000110	347.8	0.282274	-17.8	-10.3	1.4
BRK14-9_58	0.282214	0.000030	0.000920	0.000019	0.023630	0.000610	1.467123	0.000029	1.887058	0.000084	347.8	0.282208	-20.2	-12.7	1.1
BRK14-9_70	0.282353	0.000031	0.001348	0.000051	0.038300	0.001600	1.467196	0.000040	1.887000	0.000120	363.3	0.282344	-15.3	-7.5	1.1
BRK14-9_75	0.281044	0.000045	0.000425	0.000012	0.011200	0.000360	1.467138	0.000043	1.887260	0.000130	436.2	0.281040	-61.6	-52.0	1.6
BRK14-9_80	0.282759	0.000032	0.001713	0.000019	0.047140	0.000700	1.467145	0.000045	1.886990	0.000110	390.2	0.282747	-0.9	7.3	1.1
BRK14-9_85	0.282587	0.000033	0.003100	0.000210	0.083300	0.006300	1.467124	0.000037	1.887120	0.000100	393.9	0.282564	-7.0	1.0	1.2
BRK14-9_89	0.282729	0.000031	0.001186	0.000028	0.026710	0.000550	1.467141	0.000035	1.887080	0.000100	392.5	0.282720	-2.0	6.5	1.1
BRK14-9_93	0.282548	0.000053	0.002249	0.000032	0.067470	0.000820	1.467087	0.000075	1.887420	0.000250	369.4	0.282532	-8.4	-0.7	1.9

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRK14-4_6	0.282754	0.000031	0.002198	0.000039	0.059830	0.000960	1.467068	0.000047	1.886899	0.000099	354.0	0.282739	-1.1	1.1	6.3
BRK14-4_8	0.282686	0.000037	0.000500	0.000007	0.010670	0.000180	1.467084	0.000057	1.886948	0.000097	396.2	0.282682	-3.5	1.3	5.2
BRK14-4_11	0.282833	0.000027	0.001565	0.000027	0.045990	0.000580	1.467106	0.000040	1.886809	0.000072	352.3	0.282823	1.7	1.0	9.2

BRK14-4_14	0.282760	0.000047	0.002318	0.000098	0.056000	0.002300	1.466983	0.000066	1.886930	0.000120	380.8	0.282744	-0.9	1.7	7.0
BRK14-4_15	0.282687	0.000039	0.001280	0.000120	0.032900	0.003000	1.467000	0.000052	1.886980	0.000120	407.8	0.282677	-3.5	1.4	5.3
BRK14-4_19	0.282026	0.000054	0.001280	0.000130	0.032200	0.003500	1.467072	0.000078	1.886990	0.000140	537.4	0.282013	-26.8	1.9	-15.3
BRK14-4_20	0.282056	0.000031	0.000904	0.000008	0.022380	0.000220	1.467088	0.000045	1.886932	0.000071	369.5	0.282050	-25.8	1.1	-17.8
BRK14-4_27	0.281763	0.000024	0.001477	0.000024	0.037650	0.000540	1.467118	0.000044	1.886811	0.000074	427.4	0.281751	-36.1	0.9	-27.1
BRK14-4_35	0.281939	0.000038	0.000622	0.000029	0.016380	0.000590	1.467093	0.000049	1.886950	0.000100	368.1	0.281935	-29.9	1.3	-21.9
BRK14-4_36	0.281119	0.000024	0.001100	0.000041	0.027900	0.001100	1.467068	0.000035	1.886883	0.000061	357.4	0.281111	-58.9	0.9	-51.3
BRK14-4_50	0.282787	0.000041	0.000606	0.000019	0.015750	0.000280	1.467060	0.000082	1.886855	0.000082	431.3	0.282782	0.1	1.5	9.5
BRK14-4_68	0.282752	0.000021	0.000608	0.000010	0.015360	0.000350	1.467139	0.000043	1.886828	0.000068	395.2	0.282748	-1.2	0.7	7.5
BRK14-4_76	0.282756	0.000035	0.001146	0.000008	0.031060	0.000560	1.467121	0.000063	1.886852	0.000089	401.1	0.282747	-1.0	1.2	7.6
BRK14-4_81	0.282710	0.000039	0.001775	0.000043	0.047900	0.001100	1.467049	0.000088	1.886960	0.000110	372.0	0.282698	-2.7	1.4	5.2
BRK14-4_90	0.282784	0.000020	0.000850	0.000029	0.022250	0.000810	1.467122	0.000045	1.886795	0.000060	409.9	0.282778	0.0	0.7	8.9
BRK14-4_94	0.282729	0.000030	0.000646	0.000008	0.015960	0.000220	1.467119	0.000053	1.886874	0.000075	421.7	0.282724	-2.0	1.1	7.2
BRK14-4_99	0.282434	0.000024	0.000457	0.000006	0.011579	0.000099	1.467125	0.000050	1.886835	0.000077	517.2	0.282430	-12.4	0.8	-1.0
BRK14-4_100	0.282784	0.000026	0.002536	0.000049	0.065800	0.001000	1.467115	0.000042	1.886915	0.000072	415.5	0.282764	0.0	0.9	8.5

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRK14-5_44	0.282378	0.000026	0.000679	0.000028	0.020140	0.000640	1.467101	0.000047	1.886819	0.000077	532.8	0.282371	-14.4	0.9	-2.8
BRK14-5_70	0.282463	0.000030	0.001415	0.000034	0.041130	0.000780	1.467140	0.000056	1.886845	0.000082	535.3	0.282449	-11.4	1.1	0.0

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRK14-6_13	0.282848	0.000036	0.003350	0.000085	0.090300	0.003200	1.467124	0.000045	1.886981	0.000093	468.7	0.282819	2.2	1.3	11.6
BRK14-6_50	0.282670	0.000037	0.001477	0.000051	0.037400	0.001200	1.467045	0.000052	1.886900	0.000110	473.8	0.282657	-4.1	1.3	6.0

Type 3

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRJR13-K1c_2	0.282701	0.000039	0.001078	0.000064	0.027500	0.001900	1.467016	0.000056	1.886880	0.000120	419.1	0.282693	-3.0	1.4	6.1
BRJR13-K1c_13	0.282516	0.000045	0.000972	0.000010	0.024130	0.000360	1.467071	0.000052	1.886900	0.000110	385.4	0.282509	-9.5	1.6	-1.2
BRJR13-K1c_32	0.282713	0.000024	0.000525	0.000007	0.013010	0.000200	1.467100	0.000040	1.886836	0.000086	442.0	0.282709	-2.5	0.8	7.2
BRJR13-K1c_33	0.282729	0.000028	0.002027	0.000021	0.052870	0.000530	1.467088	0.000039	1.886908	0.000095	410.4	0.282713	-2.0	1.0	6.6
BRJR13-K1c_34	0.282566	0.000039	0.003520	0.000043	0.106100	0.001200	1.467055	0.000058	1.886850	0.000120	380.8	0.282541	-7.7	1.4	-0.2
BRJR13-K1c_38	0.282450	0.000032	0.001290	0.000100	0.034300	0.002800	1.467094	0.000041	1.886938	0.000074	442.6	0.282439	-11.8	1.1	-2.4
BRJR13-K1c_41	0.282049	0.000024	0.000577	0.000004	0.015350	0.000051	1.467116	0.000035	1.886930	0.000073	368.1	0.282045	-26.0	0.9	-18.0
BRJR13-K1c_45	0.282029	0.000035	0.000935	0.000041	0.023700	0.001000	1.467067	0.000054	1.886946	0.000099	369.3	0.282022	-26.7	1.2	-18.8
BRJR13-K1c_47	0.282526	0.000033	0.000875	0.000016	0.022510	0.000430	1.467103	0.000048	1.886875	0.000098	470.3	0.282518	-9.2	1.2	1.0
BRJR13-K1c_55	0.282775	0.000039	0.001553	0.000014	0.043730	0.000680	1.467157	0.000047	1.886920	0.000110	373.9	0.282764	-0.4	1.4	7.6
BRJR13-K1c_58	0.282653	0.000026	0.000892	0.000004	0.024340	0.000130	1.467121	0.000036	1.886822	0.000076	443.7	0.282646	-4.7	0.9	5.0
BRJR13-K1c_71	0.282744	0.000024	0.000740	0.000030	0.022450	0.000920	1.467082	0.000056	1.886838	0.000097	505.4	0.282737	-1.4	0.8	9.6
BRJR13-K1c_72	0.282632	0.000034	0.001030	0.000064	0.032000	0.001500	1.467123	0.000048	1.886847	0.000083	490.5	0.282623	-5.4	1.2	5.2
BRJR13-K1c_73	0.282783	0.000055	0.002136	0.000067	0.057800	0.003100	1.467094	0.000065	1.886900	0.000100	459.3	0.282765	-0.1	1.9	9.5
BRJR13-K1c_76	0.282652	0.000038	0.000465	0.000010	0.013790	0.000450	1.467178	0.000065	1.886880	0.000110	470.0	0.282648	-4.7	1.3	5.6

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE

BRJR13-K2_5	0.282493	0.000028	0.001399	0.000045	0.041090	0.000970	1.467078	0.000045	1.886832	0.000082	424.6	0.282482	-10.3	1.0	-1.3
BRJR13-K2_8	0.282267	0.000083	0.000998	0.000021	0.025320	0.000570	1.467000	0.000120	1.886870	0.000160	488.0	0.282258	-18.3	2.9	-7.8
BRJR13-K2_11	0.282727	0.000028	0.001369	0.000023	0.033030	0.000580	1.467123	0.000054	1.886854	0.000071	376.1	0.282717	-2.0	1.0	6.0
BRJR13-K2_21	0.282734	0.000019	0.000851	0.000039	0.020040	0.000970	1.467134	0.000032	1.886851	0.000051	374.6	0.282728	-1.8	0.7	6.3
BRJR13-K2_35	0.282526	0.000026	0.000137	0.000002	0.003173	0.000040	1.467095	0.000047	1.886853	0.000069	408.3	0.282525	-9.2	0.9	-0.1
BRJR13-K2_57	0.282397	0.000036	0.000903	0.000029	0.025090	0.000840	1.467105	0.000060	1.886947	0.000078	460.3	0.282389	-13.7	1.3	-3.7
BRJR13-K2_4	0.282387	0.000022	0.001477	0.000037	0.043500	0.001300	1.467104	0.000030	1.886816	0.000070	488.4	0.282373	-14.1	0.8	-3.7
BRJR13-K2_66	0.282670	0.000024	0.001545	0.000026	0.039800	0.000530	1.467099	0.000043	1.886891	0.000068	440.7	0.282657	-4.1	0.8	5.3

Gabbro Clasts

Type 1

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRJR13-K8B_06	0.283081	0.000029	0.000849	0.000040	0.022100	0.001100	1.467092	0.000027	1.887005	0.000098	194.3	0.283078	10.5	14.7	1.0
BRJR13-K8B_08	0.283126	0.000037	0.001901	0.000025	0.047000	0.001000	1.467152	0.000024	1.886900	0.000130	194.3	0.283119	12.1	16.1	1.3
BRJR13-K8B_10	0.283120	0.000047	0.001474	0.000016	0.035420	0.000490	1.467186	0.000041	1.886850	0.000190	194.3	0.283115	11.9	16.0	1.7
BRJR13-K8B_11	0.283105	0.000037	0.001103	0.000023	0.028560	0.000320	1.467128	0.000033	1.887010	0.000140	194.3	0.283101	11.3	15.5	1.3
BRJR13-K8B_12	0.283055	0.000040	0.001610	0.000140	0.040500	0.003200	1.467118	0.000042	1.887220	0.000170	194.3	0.283049	9.6	13.7	1.4
BRJR13-K8B_17	0.283063	0.000045	0.001770	0.000074	0.044200	0.001400	1.467110	0.000040	1.887080	0.000130	194.3	0.283057	9.8	13.9	1.6
												Weighted Mean =		**14.9**	**1.0**

Type 2

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRNF15-58B_1_02	0.283086	0.000024	0.000750	0.000150	0.018500	0.004100	1.467149	0.000031	1.886824	0.000085	180.5	0.283084	10.6	14.6	0.8
BRNF15-58B_1_03	0.283044	0.000022	0.000977	0.000030	0.026400	0.000700	1.467125	0.000027	1.887047	0.000089	180.5	0.283041	9.2	13.1	0.8
BRNF15-58B_1_06	0.283104	0.000021	0.000520	0.000045	0.013800	0.001300	1.467132	0.000034	1.886907	0.000076	180.5	0.283102	11.3	15.2	0.7
BRNF15-58B_1_07	0.283094	0.000022	0.000541	0.000010	0.014370	0.000340	1.467115	0.000026	1.886953	0.000070	180.5	0.283092	10.9	14.9	0.8
BRNF15-58B_1_08	0.283071	0.000028	0.000644	0.000034	0.017100	0.001000	1.467126	0.000030	1.886939	0.000080	180.5	0.283069	10.1	14.1	1.0
BRNF15-58B_1_09	0.283070	0.000024	0.000649	0.000028	0.017690	0.000870	1.467123	0.000028	1.886990	0.000100	180.5	0.283068	10.1	14.0	0.8
BRNF15-58B_1_10	0.283094	0.000025	0.000730	0.000014	0.019970	0.000470	1.467147	0.000023	1.886985	0.000081	180.5	0.283092	10.9	14.9	0.9
BRNF15-58B_1_12	0.283060	0.000022	0.001060	0.000110	0.028900	0.002900	1.467139	0.000032	1.887020	0.000100	180.5	0.283057	9.7	13.6	0.8
BRNF15-58B_1_14	0.283063	0.000024	0.000759	0.000022	0.020390	0.000560	1.467147	0.000031	1.887060	0.000100	180.5	0.283061	9.8	13.8	0.8
BRNF15-58B_1_15	0.283081	0.000023	0.000519	0.000022	0.013860	0.000510	1.467149	0.000032	1.887005	0.000088	180.5	0.283079	10.5	14.4	0.8
BRNF15-58B_1_18	0.283074	0.000021	0.000514	0.000005	0.013330	0.000240	1.467172	0.000027	1.887058	0.000074	180.5	0.283072	10.2	14.2	0.7
												Weighted Mean =		**14.3**	**0.5**

Sample	$^{176}Hf/^{177}Hf$	2SE	$^{176}Lu/^{177}Hf$	2SE	$^{176}Yb/^{177}Hf$	2SE	$^{178}Hf/^{177}Hf$	2SE	$^{180}Hf/^{177}Hf$	2SE	Age (Ma)	$^{176}Hf/^{177}Hf(i)$	εHF(0)	εHf(*i*)	2SE
BRNF15-58B_2_03	0.283096	0.000019	0.001229	0.000049	0.027100	0.001200	1.467167	0.000030	1.886893	0.000078	198.4	0.283092	11.0	15.3	0.7
BRNF15-58B_2_04	0.283106	0.000037	0.000820	0.000089	0.019700	0.002300	1.467122	0.000048	1.886790	0.000120	198.4	0.283103	11.4	15.7	1.3
BRNF15-58B_2_05	0.283111	0.000029	0.001766	0.000056	0.041000	0.001200	1.467119	0.000043	1.886957	0.000087	198.4	0.283105	11.5	15.7	1.0
BRNF15-58B_2_06	0.283090	0.000026	0.001236	0.000092	0.027400	0.002000	1.467132	0.000044	1.886890	0.000087	198.4	0.283086	10.8	15.0	0.9
BRNF15-58B_2_07	0.283082	0.000029	0.001124	0.000030	0.024980	0.000700	1.467103	0.000038	1.886948	0.000089	198.4	0.283078	10.5	14.8	1.0
BRNF15-58B_2_08	0.283091	0.000026	0.001613	0.000077	0.038400	0.002200	1.467125	0.000038	1.886986	0.000076	198.4	0.283085	10.8	15.0	0.9
BRNF15-58B_2_10	0.283094	0.000024	0.001073	0.000084	0.024900	0.002000	1.467137	0.000029	1.887021	0.000097	198.4	0.283090	10.9	15.2	0.8
BRNF15-58B_2_11	0.283095	0.000033	0.002672	0.000029	0.067090	0.000870	1.467207	0.000037	1.886980	0.000120	198.4	0.283085	11.0	15.0	1.2
BRNF15-58B_2_14	0.283087	0.000036	0.001136	0.000054	0.026500	0.001700	1.467105	0.000037	1.886940	0.000120	198.4	0.283083	10.7	15.0	1.3
BRNF15-58B_2_16	0.283108	0.000039	0.002020	0.000150	0.048000	0.004100	1.467162	0.000036	1.886900	0.000110	198.4	0.283101	11.4	15.6	1.4

BRNF15-58B_2_18	0.283067	0.000027	0.001240	0.000075	0.030800	0.001900	1.467129	0.000043	1.887060	0.000120	198.4	0.283063	10.0	14.2	1.0
												Weighted Mean =		**15.1**	**0.6**

Ruby Batholith plutonics

Jim River Pluton

Sample	**$^{176}Hf/^{177}Hf$**	**2SE**	**$^{176}Lu/^{177}Hf$**	**2SE**	**$^{176}Yb/^{177}Hf$**	**2SE**	**$^{178}Hf/^{177}Hf$**	**2SE**	**$^{180}Hf/^{177}Hf$**	**2SE**	**Age (Ma)**	**$^{176}Hf/^{177}Hf(i)$**	**εHF(0)**	**εHf(*i*)**	**2SE**
BRHR14-2_01	0.282706	0.000039	0.000267	0.000027	0.006470	0.000730	1.467181	0.000050	1.887110	0.000120	109.0	0.282706	-2.8	-0.4	1.4
BRHR14-2_03	0.282683	0.000037	0.000427	0.000008	0.011520	0.000130	1.467160	0.000048	1.887100	0.000120	109.0	0.282682	-3.6	-1.2	1.3
BRHR14-2_04	0.282686	0.000052	0.000935	0.000015	0.025530	0.000270	1.467184	0.000064	1.887090	0.000140	109.0	0.282684	-3.5	-1.1	1.8
BRHR14-2_05	0.282689	0.000060	0.000581	0.000018	0.015440	0.000450	1.467190	0.000056	1.887120	0.000120	109.0	0.282688	-3.4	-1.0	2.1
BRHR14-2_06	0.282737	0.000045	0.000439	0.000004	0.011550	0.000210	1.467147	0.000044	1.887070	0.000120	109.0	0.282736	-1.7	0.7	1.6
BRHR14-2_08	0.282764	0.000038	0.000470	0.000002	0.012186	0.000042	1.467175	0.000047	1.887030	0.000110	109.0	0.282763	-0.7	1.6	1.3
												Weighted Mean =		**-0.1**	**1.2**

Bonanza Pluton

Sample	**$^{176}Hf/^{177}Hf$**	**2SE**	**$^{176}Lu/^{177}Hf$**	**2SE**	**$^{176}Yb/^{177}Hf$**	**2SE**	**$^{178}Hf/^{177}Hf$**	**2SE**	**$^{180}Hf/^{177}Hf$**	**2SE**	**Age (Ma)**	**$^{176}Hf/^{177}Hf(i)$**	**εHF(0)**	**εHf(*i*)**	**2SE**
BRHR14-7_01	0.282753	0.000035	0.000992	0.000017	0.023560	0.000500	1.467249	0.000057	1.887020	0.000120	111.8	0.282751	-1.1	1.3	1.2
BRHR14-7_02	0.282732	0.000041	0.001046	0.000011	0.026660	0.000400	1.467162	0.000053	1.886980	0.000130	111.8	0.282730	-1.9	0.5	1.5
BRHR14-7_04	0.282765	0.000034	0.001251	0.000024	0.032530	0.000770	1.467162	0.000052	1.886970	0.000110	111.8	0.282762	-0.7	1.7	1.2
BRHR14-7_14	0.282752	0.000039	0.002524	0.000075	0.067100	0.002200	1.467163	0.000037	1.887080	0.000120	111.8	0.282747	-1.2	1.1	1.4
BRHR14-7_17	0.282701	0.000038	0.001641	0.000020	0.043160	0.000480	1.467103	0.000048	1.887010	0.000110	111.8	0.282698	-3.0	-0.6	1.3
BRHR14-7_18	0.282747	0.000043	0.000833	0.000041	0.020400	0.001100	1.467163	0.000048	1.887120	0.000130	111.8	0.282745	-1.3	1.1	1.5
												Weighted Mean =		**0.9**	**1.1**