



U-Pb ages of Archean basement and Paleoproterozoic plutonic rocks, southern Cumberland Peninsula, eastern Baffin Island, Nunavut

N.M. Rayner, M. Sanborn-Barrie, M.D. Young, and J.B. Whalen

Geological Survey of Canada Current Research 2012-8

2012



Geological Survey of Canada Current Research 2012-8



U-Pb ages of Archean basement and Paleoproterozoic plutonic rocks, southern Cumberland Peninsula, eastern Baffin Island, Nunavut

N.M. Rayner, M. Sanborn-Barrie, M.D. Young, and J.B. Whalen

©Her Majesty the Queen in Right of Canada 2012

ISSN 1701-4387 Catalogue No. M44-2012/8E-PDF ISBN 978-1-100-20684-4 doi:10.4095/291401

A copy of this publication is also available for reference in depository libraries across Canada through access to the Depository Services Program's Web site at http://dsp-psd.pwgsc.gc.ca

This publication is available for free download through GEOSCAN http://geoscan.ess.nrcan.gc.ca

Toll-free (Canada and U.S.A.): 1-888-252-4301

Recommended citation

Rayner, N.M., Sanborn-Barrie, M., Young, M.D., and Whalen, J.B., 2012. U-Pb ages of Archean basement and Paleoproterozoic plutonic rocks, southern Cumberland Peninsula, eastern Baffin Island, Nunavut; Geological Survey of Canada, Current Research 2012-8, 24 p. doi: 10.4095/291401

Critical review

N. Wodicka

Authors

K1A 0E8

N.M. Rayner (Nicole.Rayner@NRCan-RNCan.gc.ca)
M. Sanborn-Barrie (Mary.Sanborn-Barrie@NRCan-RNCan.gc.ca)
J.B. Whalen (Joe. Whalen@NRCan-RNCan.gc.ca)
Geological Survey of Canada
601 Booth Street
Ottawa, Ontario

M.D. Young (MDYoung@Dal.ca)
Department of Earth Sciences
Dalhousie University
1459 Oxford Street
P.O. Box 15 000
Halifax, Nova Scotia
B3H 4R2

Correction date:

All requests for permission to reproduce this work, in whole or in part, for purposes of commercial use, resale, or redistribution shall be addressed to: Earth Sciences Sector Copyright Information Officer, Room 650, 615 Booth Street, Ottawa, Ontario K1A 0E9.

E-mail: ESSCopyright@NRCan.gc.ca

U-Pb ages of Archean basement and Paleoproterozoic plutonic rocks, southern Cumberland Peninsula, eastern Baffin Island, Nunavut

N.M. Rayner, M. Sanborn-Barrie, M.D. Young, and J.B. Whalen

Rayner, N.M., Sanborn-Barrie, M., Young, M.D., and Whalen, J.B., 2012. U-Pb ages of Archean basement and Paleoproterozoic plutonic rocks, southern Cumberland Peninsula, eastern Baffin Island, Nunavut; Geological Survey of Canada, Current Research 2012-8, 24 p. doi: 10.4095/291401

Abstract: Recent mapping coupled with geochronological and isotopic studies on the southern half of Cumberland Peninsula, Baffin Island, have identified and characterized four distinct plutonic suites. An extensive plutonic gneiss complex yields ages of 2991 ± 4 Ma, 2938 ± 4 Ma, and 2782 ± 4 Ma, whereas a second group of discrete plutons yields solely Neoarchean ages of 2772 ± 6 Ma, 2759 ± 3 Ma, and 2700 ± 4 Ma. These Archean rocks form the structural basement to a cover sequence, the Hoare Bay Group, both of which are cut by a charnockite-granodiorite-diorite suite with ages of 1894 ± 5 Ma and 1889 ± 3 Ma, informally designated the Qikiqtarjuaq plutonic suite. Mylonitic, high-K intrusive sheets, interpreted to have been emplaced syntectonically during regional deformation, yield ages of 1882 ± 13 Ma and 1873 ± 16 Ma.

Résumé : De récents travaux cartographiques dans la moitié sud de la péninsule Cumberland, sur l'île de Baffin, combinés à des études géochronologiques et isotopiques, ont permis d'identifier et de caractériser quatre suites plutoniques distinctes. Des datations effectuées sur un vaste complexe gneissique d'origine plutonique ont fourni des âges de 2991 ± 4 Ma, 2938 ± 4 Ma et 2782 ± 4 Ma, alors qu'un second groupe de plutons distincts a livré uniquement des âges néoarchéens, soit 2772 ± 6 Ma, 2759 ± 3 Ma et 2700 ± 4 Ma. Ces roches archéennes forment le socle structural d'une séquence de couverture, le Groupe de Hoare Bay; ces deux entités sont recoupées par une suite de charnockite-granodiorite-diorite, appelée de façon informelle suite plutonique de Qikiqtarjuaq, qui a livré des âges de 1894 ± 5 et 1889 ± 3 Ma. Des feuillets mylonitiques intrusifs à haute teneur en potassium, dont la mise en place syntectonique aurait eu lieu pendant la déformation régionale, ont donné des âges de 1882 ± 13 Ma et 1873 ± 16 Ma.

INTRODUCTION

Framework geoscience mapping of Cumberland Peninsula, eastern Baffin Island, was undertaken during the summers of 2009 and 2010 as part of NRCan's Geomapping for Energy and Minerals (GEM) initiative. Prior to this, significant geoscience knowledge gaps existed due to limited and outdated mapping, as well as scant isotopic information. New maps (Sanborn-Barrie et al., 2011a, b, c), in conjunction with the geochronological results presented here, have resulted in a vastly improved understanding of the lithological associations, crustal architecture, and mineral potential of this part of the eastern Canadian Arctic.

It is now recognized that variably foliated to gneissic plutonic rocks underlie about 60% of Cumberland Peninsula and dominate its southern part (Fig. 1). Narrow strands of Archean supracrustal rocks including semipelite, amphibolite, rare pillowed volcanic rocks, and porphyry form a minor, yet significant lithological component in the south. Supracrustal rocks of a Paleoproterozoic cover sequence, the Hoare Bay Group, form a coherent succession of clastic and chemical metasedimentary rocks across the central part of the peninsula (Fig. 1). Where the basement-cover contact is exposed, strongly deformed metasedimentary rocks, devoid of primary depositional features, are in contact with concordant plutonic mylonite gneiss. Both the basement complex and cover sequence are cut by foliated, locally K-feldspar porphyritic granodiorite±charnockite±quartz dioritic plutons. Fabrics and structures in the basement complex provide evidence of two regionally developed penetrative deformation events, the youngest of which is also recorded in the cover sequence.

This report focuses on the geochronology and geological significance of plutonic rocks of southern Cumberland Peninsula.

ANALYTICAL METHODS

Sample preparation and SHRIMP analytical procedures followed those described by Stern (1997), with standards and U-Pb calibration methods following Stern and Amelin (2003). The internal features of the zircon grains (such as zoning, structures, alteration, etc.) were characterized in back-scattered electron mode utilizing a Zeiss Evo 50 scanning electron microscope. Footnotes supplied on the accompanying data table (Table 1) highlight analytical details for each session. Off-line data processing was accomplished using SQUID2. Common Pb correction utilized the Pb composition of the surface blank (Stern, 1997). Data from some sessions required a mass fractionation correction to the Pb-isotope data, the magnitude of which was determined from the measurement of secondary standard z1242 (accepted ²⁰⁷Pb/²⁰⁶Pb age = 2681 Ma, B. Davis, pers. comm. (2010)). See footnote to Table 1 for details on the mass fractionation correction. Isoplot v. 3.00 (Ludwig, 2003) was used to generate concordia plots and to calculate weighted means. The error ellipses on the concordia diagrams and the weighted mean errors are reported at 2σ .

TARGETED SAMPLES

The predominant lithology exposed throughout the southern part of the map area is strongly foliated to gneissic tonalite to granodiorite in which gneissic banding is typically attributed to high strain and concordant felsic injections (Fig. 2a). Three samples (09SRB-B76A, 09SRB-M106A, 09SRB-M100A) were collected to constrain the age of the gneiss complex, and one of these (09SRB-M100A) displayed an intrusive relationship to metasedimentary rocks, thereby also providing a minimum age for supracrustal panels exposed across the southern part of the peninsula. This region also exposes homogeneous, variably foliated, aeromagnetically delineated plutons, sampled at three localities (10SRB-M197, 09SRB-D042A, 09SRB-D040B). Plutonic rocks that cut the Hoare Bay Group (Jackson, 1971; St-Onge et al., 2006) form a 200 km long plutonic belt, exposed between Pangnirtung and Qikiqtarjuaq (Fig. 1). Two samples (07SAB-002, 09SRB-M109A) were targeted to constrain the timing of this plutonic belt and test whether it represents part of the 1.865-1.845 Ga Cumberland Batholith (Whalen et al., 2010). Lastly, mylonitic sheets proximal to the contact between the plutonic gneiss complex and the Hoare Bay Group were dated at two localities (09SRB-D010C, 09SRB-M145) to determine the timing of magmatism and deformation near the apparent basement-cover contact.

RESULTS

09SRB-B076A (GSC lab number z9971)

In order to constrain the age of the oldest component of the gneiss complex, a relatively homogenous tonalitic layer from a grey tonalite to granodiorite banded gneiss was collected (Fig. 2a). It yielded elongate prismatic, colourless to pale yellow zircon with few inclusions, but significant fracturing. Back-scattered electron imaging of the zircon grains reveals faint, 10-20 µm zoning in their inner regions and occasionally finer scale (sub-micrometre), parallel zoning toward the grain edge. Twenty-four SHRIMP analyses were carried out on 22 individual zircon grains yielding ages ranging from 3005-2884 Ma (Fig. 2b). The sixteen oldest analyses form a single population with a weighted mean 207 Pb/ 206 Pb age of 2991 \pm 4 Ma, interpreted as the time of crystallization. The remaining eight analyses scatter sporadically to younger ages, with no age predominating. One of these younger analyses is a duplicate analysis of a grain that

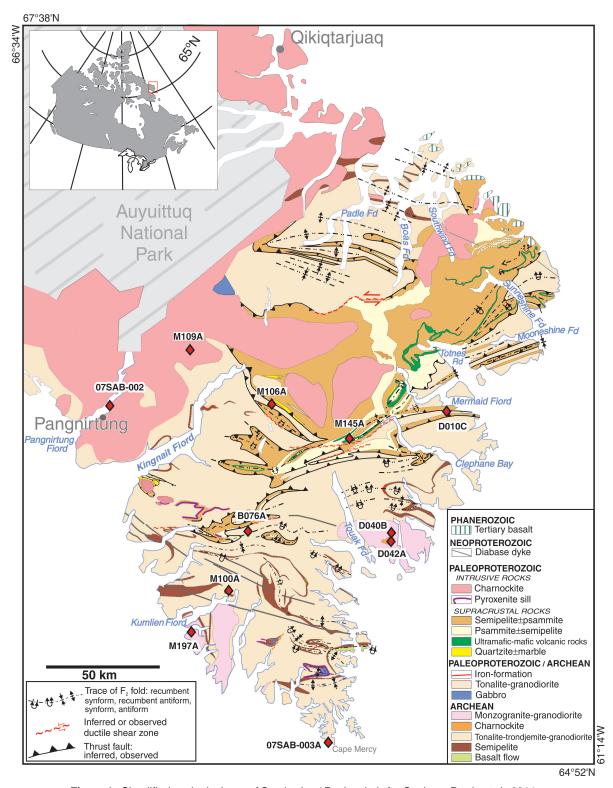


Figure 1. Simplified geological map of Cumberland Peninsula (*after* Sanborn-Barrie et al., 2011a, b, c). Abbreviated sample names shown; complete names are found in text and table.

Table 1. SHRIMP U-Pb results.

																			•	Appare	Apparent ages (Ma)	(Ma)	
Spot name	U Th (mdd)	Th (ppm)	티그	Yb (mdd)	Yb Hf (ppm)	²⁰⁴ Pb ²⁰⁶ Pb	+ %	f(206) ²⁰⁴	²⁰⁶ Pb* (ppm)	208 .Pb	+ %	285U	+ %	, 0,852 0,882	+ %	Coeff	207. Pb	+ %	Pb +	± ²⁰⁶ Pb	20° Pb	± ²⁰⁷ Pb ²⁰⁶ Pb	Disc. (%)
076A(G	SC lab nu	mber 299	971) IP55E	9; NAD83	3: 65.7195	59N, -64.39622V									1	1							
9971-29.1	653	121	0.19	pu	pu	0.000190	22	0.33	306	0.057	3.7	15.561	4.1	0.5448	1.3	0.9585	0.2072	0.39	2803	30	2884	9 4	3.4
9971-27.1	377	188	0.52	2	P	0.000077	30	0.13	187	0.145	3.2	+	$^{+}$	0.5771	+	+	0.2131	0.41	2937	34	2929	2	-0.3
9971-22.1	572	289	0.52	pu	pu	0.000042	40	0.07	276	0.142	5.6	16.656	1.4	0.5613	1.3	9026.0	0.2152	0.33	2872	30	2945	2	3.1
9971-33.2	394	260	99.0	ъ	pu	0:00000:0	40	0.05	177	0.191	3.4		Н	0.5229	Н		0.2168	0.47	2711	31	2957	80	10.2
9971-33.1	468	357	0.79	2 3	2	0.000029	137	0.05	231	0.218	5.4	17.189	4.	0.5745	6. 6	0.9314	0.2170	0.52	2926	E 6	2959	80 6	4. 6
9971-34.1	396	242	0.63	2 2	2 2	0.000082	83 8	0.04	179	0.174	3.2	_	+	0.5256	+	_	0.2182	0.30	2723	30	2967	0 /	10.1
9971-22.2	431	309	0.74	pu	pu	0.000042	40	0.07	208	0.195	5.9	+		0.5616	+	+	0.2200	0.41	2873	31	2981	7	4.5
9971-4.1	318	164	0.53	Б	pu	0.00000.0	100	0.00	155	0.144	3.5	17.232	4.1	0.5680	4.1	0.9570	0.2200	0.42	2900	32	2981	7	3.4
9971-36.1	443	285	99.0	ы	ы	0.0000050	41	60:0	216	0.200	5.9	17.207		0.5665	1.3		0.2203	0.41	2893	31	2983	7	3.7
9971-38.1	1190	808	0.70	ы	pu	0.000077	52	0.13	604	0.185	9.1			0.5910			0.2207	0.51	2994	31	2986	8	-0.3
9971-35.1	355	175	0.51	Б	pu	0.000044	22	80:0	183	0.143	3.3			0.5984	Н		0.2207	0.40	3023	33	2986	9	-1.6
9971-26.1	408	267	99.0	pu	pu	0.000019	40	0.03	205	0.179	2.8			0.5870			0.2210	0.37	2977	32	2988	9	9.0
9971-2.1	278	326	0.58	pu	pu	0.000011	47	0.02	289	0.166	2.5			0.5823		Н	0.2212	0.32	2958	31	2990	2	1.3
9971-14.1	417	307	92.0	pu	pu	0.000014	144	0.02	214	0.185	5.6			0.5970			0.2213	98.0	3018	36	2990	9	-1.2
9971-18.1	449	310	0.71	ъ.	pu .	0.000000	100	0.00	220	0.191	2.7	_		0.5718	-	-	0.2213	0.36	2915	3	2990	9	3.1
9971-25.1	429	237	0.57	ē .	Б.	0.000260	55	0.45	210	0.157	5.9	-		0.5690	+	\dashv	0.2214	0.49	2904	3	2991	ω ι	3.6
9971-8.1	469	368	0.81	Б.	Б.	0.000015	40	0.03	238	0.212	2.3	\rightarrow	+	0.5901	\dashv	+	0.2214	0.34	2990	32	2991	ۍ د	0.1
9971-13.1	465	285	0.63	e .	ը .	0.000072	88	0.12	225	0.176	4.1	\dashv	1	0.5634	+	+	0.2217	0.37	2881	35	2993	φ I	4.7
9971-12.1	561	356	0.65	2 2	2 2	0.00000.0	47	0.00	272	0.282	e 4.5	17.325	4. 4.	0.5653	υ 4 2	0.9747	0.2222	0.32	3046	3 %	7887	n n	-2.1
9971-19.1	381	274	0.74	2	2	0.000017	140	0.03	205	0.197	2.8	+	+	0.6248	+	+	0.2231	0.40	3129	38	3003	9	2 2
9971-16.1	505	319	0.65	P	pu	0.000000	100	0.00	261	0.182	2.5	+		0.6027	+	+	0.2234	0.39	3041	32	3005	9	5.5
09SRB-M106A (GSC lab number z10464) IP609; NAD83: 66.20447N, -64.10985W	SC lab n	umber z1	0464) IP6	09; NAD	83: 66.20	447N, -64.1098	.5W								+	+							
10464-35.2	810	99	0.07	274	12724	0.000217	12	0.38	338	0.012	3.6	10.566	1.2	0.4863	1.2	0.9632	0.1576	0.33	2555	25	2430	9	-6.2
10464-53.2	619	78	0.13		14576	0.000165	18	0.29	283	0:030	3.7		1.3	0.5317			0.1764	0.34	2749	27	2620	9	-6.1
10464-55.1	1030	20	0.02		16445	0.000091	13	0.16	444	0.005	3.5			0.5016			0.1786	0.18	2621	25	2640	က	6.0
10464-22.1	1318	37	0.03		15371	0.000001	852	0.00	591	0.008	5.9	-	\exists	0.5222	-	-	0.1818	0.20	2708	56	5669	က	-1.8
10464-64.2	913	37	0.04		15059	0.000025	21	0.04	433	0.011	5.6	\dashv	+	0.5524	\dashv	+	0.1852	0.18	2835	27	2700	e 1	-6.2
10464-94.3	414	69	0.17		13385	0.000466	φ ;	0.81	196	0.049	1.7	\rightarrow	+	0.5510	+	+	0.1855	0.29	2829	27	2703	2	ထ် ပ
10464-86.1	1003	8 2	0.04	20.00	18538	0.000083	= &	0.14	1484	0.004	5.0	13.540	zi e	0.5615	2 0	0.9885	0.1879	0.18	28/3	12	2724	n 1	9.0
10464-46.2	206	120	0.60	288	7945	0.000023	141	0.04	101	0.169	1.7	+	$^{+}$	0.5723	+	+	0.2082	0.36	2917	28 28	2891	. 6	1 1
10464-46.1	182	78	0.44	190	8013	-0.000039	69	-0.07	88	0.125	2.2	_		0.5634	+	+	0.2098	99.0	2881	59	2904	- F	1.0
10464-2.1	352	204	09:0	252	8875	60000000	25	0.02	171	0.170	1.3	+		0.5663	+	-	0.2103	0.23	2893	59	2908	4	0.7
10464-40.1	431	182	0.44	360	11199	0.000007	29	0.01	207	0.124	1.3	Н		0.5579	Н		0.2104	0.21	2858	27	2908	3	2.1
10464-36.1	465	281	0.62	298	10167	9000000	186	0.01	225	0.173	11			0.5621			0.2104	0.62	2875	28	5909	10	1.4
10464-19.1	446	223	0.52	291	10339	0.000031	23	0.05	212	0.145	2 .	16.057	2. 5	0.5533	2. 5	0.9847	0.2105	0.21	2839	27	2909	e -	3.0
10464-5.1	207	77	0.38	220	8417	0.000045	33 5	0.08	103	0.109	5. 5.	+	+	0.5778	+	+	0.2119	0.33	2940	28 28	2920	+ 10	0.0
10464-10.1	171	06	0.54	180	8093	0.000013	82	0.02	82	0.151	6.1	+	$^{+}$	0.5801	+	+	0.2121	0.33	2949	30	2921	ro.	-1.2
10464-25.1	307	141	0.47	301	9121	0.00000	286	0.01	152	0.133	9.1	16.862	$^{+}$	0.5764	1.2	+	0.2122	0.28	2934	28	2922	4	-0.5
10464-89.1	221	124	0.58	195	8633	0.000055	83	60.0	108	0.154	1.7	16.675	1.3	0.5696	\vdash		0.2123	0.39	2906	28	2923	9	0.7
10464-18.1	165	54	0.34	198	8250	-0.000022	29	-0.04	80	060.0	5.6		1.3	0.5628			0.2126	0.35	2878	28	2926	9	2.0
10464-4.1	304	185	0.63	242	8530	0.000013	42	0.02	152	0.178	1.3			0.5828			0.2128	0.24	2960	28	2927	4	-1.4
10464-94.2	278	183	89.0	220	7982	0.000005	349	0.01	143	0.189	1.3			0.5980	Н	Н	0.2128	0.27	3022	30	2927	4	-4.0
10464-64.1	282	150	0.55	378	8580	0.000010	68	0.02	134	0.152	1.7	-		0.5525	-	-	0.2129	0.30	2835	27	2928	2	3.9
10464-14.1	246	135	0.57	506	8345	-0.000005	200	-0.01	120	0.160	9.1	_	_	0.5707	-	-	0.2132	0.29	2911	58	2930	2	8.0
10464-35.1	237	135	0.59	314	8145	0.000030	22 53	0.05	115	0.159	9	16.601	2 6	0.5640	2. 5	0.9716	0.2135	0.29	2883	28	2932	0 1	2.1
10464-30 1	235	3 2	0.40	210	8012	0.000019	8 8	0.03	11.0	0.157	t	+	†	0.5496	+	+	0.2137	0.30	2823	27	2934	~ K	4.7
10464-36.2	301	115	0.30	294	9071	0.000014	24 5	0.02	143	0.110	6.	-	$^{+}$	0.5533	+	+	0.2140	0.28	2839	27	2936	2 2	. t
	;	,	;	3			i	1,	2	;	:	-			-	-	,	7117	333	i	3	,	-

Table 1. Continued.

																		Г		Appai	Apparent ages (Ma)	s (Ma)	
U Th Spot name (ppm) (ppm)	n (maa)	Th (mag)	티그	Yb (maa)	Yb Hf	204 Pb	+ %	f(206)²⁴ %	™gpb*	208. Pb	"	235 U 3	» » + %	Dp	+ %	Coeff	²⁰⁷ Pb	+ %	206Pb	±206 Pb	207 Pb	±207 Pb	Disc.
09SRB-M106A (GSC lab number z10464) IP609; NAD83: 66.20447N, -64.10985W (continued)	GSC lab	number z	10464) IP	609; NAD	83: 66.20	447N, -64.1098	35W (cont				╁	+		+	t	+							
10464-3.1	175	99	0.39	187	8206	0.000000	100	0.00	68	0.107	2.2	17.429 1	1.2 0.	9069.0		0.9652	0.2140	0.33	2992	59	2936	2	-2.4
10464-53.1	247	126	0.53	284	8651	0.000073	31	0.13	120	0.133	1.7		1.2 0.		1.2		0.2141	0.30	2890	28	2937	2	2.0
10464-24.1	249	148	0.61	381	8088	0.000012	129	0.02	121	0.172			1.4		4.1	0.9788	0.2141	0.30	2889	33	2937	2	5.0
10464-47.2	368	220	0.62	257	9322	0.000007	45	0.01	177	0.173	H		1.2 0.		1.2	-	0.2142	0.25	5869	58	2937	4	5.9
10464-39.2	274	160	09:0	213	8203	0.000003	852	0.00	135	0.166	1.5	17.035 1	1.2 0.	0.5759	1.2	0.9705	0.2146	0.30	2932	28	2940	2	0.4
10464-47.1	322	140	0.45	274	9587	0.000010	97	0.02	157	0.122	1.5	16.782 1	1.3		1.2	0.9811	0.2146	0.24	2896	59	2941	4	1.9
10464-90.1	175	28	0.34	208	9049	0.000057	80	0.10	88	0.089	-	17.314	1.3	0.5850	1.2	0.9487	0.2147	0.41	5963	59	2941	7	-1.2
10464-39.1	175	98	0.51	238	8171	0.000004	73	0.01	88	0.143	1.9	17.438 1	1.2	0.5874	1.2	0.9655	0.2153	0.33	2979	53	2946	2	4.1-
10464-12.1	184	84	0.47	509	7923	0.000027	59	0.05	95	0.128	-	17.312		0.5803	1.2	0.9700	0.2164	0:30	2950	59	2954	2	0.2
09SBB-M100A (GSC lab number 29979) IP539: NAD83: 65	GSC lab	number 2	9979) IP5	39: NAD8:		16097N -64 48530W	<u>*</u>																
9979-85.2	1598	33	0.02	pu ,		0.000058	12	0.10	640	90000	3.5	10.295 1	1.2 0.	0.4663	1.2	0.9914	0.1601	0.15	2467	24	2457	3	-0.5
9979-83.1	1389	58	0.02	pu	pu	0.000013	97	0.02	260	0.007	+	_	t	0.4698	+	+	0.1642	0.20	2483	24	2499	60	0.8
9979-49.2	1904	-	0.15	pu	pu	0.000168	9	0.29	869	0.049	+	+	$^{+}$	+	+	+	0.1871	0.14	2748	56	2717	2	4.
9979-45.1	1546	_	0.29	2	2	0.000004	113	10.0	922	0.083	+	+		+	+	+	0.1892	0.29	2811	27	2735	ı ıc	3.4
9979-3 1	274	+	0 11	2	2	0 000057	69	0.10	119	0.034	+	+		+	+	+	0 1903	0.36	2650	22	2745		4.2
9979-38 1	907	Ŧ.	0.16	2	2	0.000111	; ;	0.19	373	0.049	+	+	t	+	+	+	0 1921	0 19	2523	: K	2760	o (*)	10.4
9979-85 1	90	+	2.46	2 2	2 2	0.000962	. 25	0.15	47	0.720	+	+		+	+	-	0.1921	0.0	2682	3 8	2761	· =	. K
9979-161	307	+	00.0	2 2	2 2	0.00000	3 8	2 5	F	0.064	+	+		+	+	+	0.1027	0.00	2781	g 8	2769	<u>-</u> α	5 5
9979-10.1	720	- 22	27.0	2 2	2 2	0.000023	2 6	± 0.0	2 2	0.00	+	+	+	+	+	+	0.1902	4.0	1017	000	5774	D 14	5
9979-52.1	339	+	0.84	2 7	2 7	0.000036	36	0.06	20 5	0.229	+	_		+	+	+	0.1934	0.32	7862	82 12	1//2	۵,	4 4
19979-60.1	3/6	_	0.46	P .	P .	0.000016	0	0.03	9/1	621.0	-	-	+	+	+	+	0.1940	0.23	5804	77	2//6	4	
9979-73.1	1564	_	0.44	ը .	된 .	0.000008	43	0.01	749	0.122	+		1	+	\dashv	-	0.1942	0.19	2855	27	2778	e .	4.8-
9979-58.1	372	+	0.24	<u>5</u>	<u>Б</u>	0.000071	16	0.12	174	0.065	-		1	-	-	-	0.1944	0.23	2801	27	2779	4	-1.0
9979-70.1	181	+	0.47	2	ը .	0.000032	32	90.0	88	0.133	-	-		+	\dashv	+	0.1945	0.33	2761	53	2781	2	6.0
9979-24.1	618		0.20	Б	Б	0.000003	329	0.00	282	0.053	-	\dashv		-	\dashv	-	0.1945	0.27	2749	27	2781	4	4.1
9979-55.1	240	+	0.28	Б	ы	0.000073	27	0.13	112	0.080	-	-	\dashv	-	-	+	0.1946	0.30	5849	90	2781	2	-3.0
9979-43.2	214	\dashv	0.43	Б	Б	0.000022	93	0.04	96	0.128	-	\rightarrow					0.1946	0.44	5698	44	2782	7	3.6
9979-7.1	674	223	0.34	P.	Б	0.000014	29	0.03	311	0.095	-	\dashv	+	-	\rightarrow	-	0.1947	0.28	2770	27	2782	2	9.0
1.1-6/66	- C	[2]	0.28	2	2	0.000004	666	٠.٠٥	760	0.080	-	_	_	-	+	-	0.1955	0.24	2823	33	5/89	4	d. [-
99/9-64.1	465	1/6	0.39	2	P.	0.000022	20	0.04	218	0.110	-	\dashv		-	\dashv	-	0.1955	0.27	2811	80	2/89	4	-1.0
9979-6.1	211	109	0.22	믿	Б	-0.000023	61	-0.04	237	0.062						-	0.1961	0.22	2777	27	2794	4	0.7
9979-66.1	177	$\overline{}$	0.28	ы	ы	0.000045	140	80.0	85	0.081	-				\dashv	-	0.1965	0.53	2773	53	2798	6	Ξ.
9979-39.1	/19	_	0.27	ē .	ē .	0.000011	3/	0.02	586	0.077	+	\pm	+	+	+	+	0.1973	0.25	2/81	82 8	2804	4	0.1
9979-49.1	493	+	0.46	ē .	ē .	0.000051	92	60.0	536	0.142	+	\dashv	+	+	+	+	0.2048	0.25	2828	8, 1	5982	4	0.3
9979-8.2	1473	291	0.20	2	2	0.000162	9	0.28	767	0.063	\dashv	\rightarrow	_	-	+	+	0.2050	0.13	3054	78	2866	2	-8.2
9979-48.1	Ξ	58	0.26	2	Б	0.000064	24	0.11	22	0.081	-	_	_	-	-	\dashv	0.2059	0.55	2936	32	2873	6	-2.7
9979-31.1	261	75	0.30	Б	Б	0.000019	09	0.03	126	0.086	2.4	16.055 1	1.3	0.5607	1.3	0.9743	0.2077	0.29	2870	53	2887	2	0.8
10SRB-M197A (GSC lab number z10462) IP604; NAD83: 65	GSC lab	number z	10462) IP.	604; NAD		32232 N, -64.84211W	11W		-	_	ŀ	-		-	ŀ	-		-					
10462-56.2	801		0.03		10665	0.000113	13	0.20	357	9000	-	\rightarrow			-	-	0.1786	0.24	2697	35	2640	4	-2.6
10462-41.1	2/3	\dashv	0.30		9725	0.000010	980	0.02	112	0.083	-	\dashv	1	\dashv		-	0.1811	0.33	5526	99	2663	D.	6.2
10462-11.2	943	_	0.21		10226	0.000338	4	0.59	445	0.031	_			-	-	-	0.1814	0.43	2808	32	2666	7	9.9-
10462-35.2 221 Notes (see Stern, 1997):	221 n, 1997):	26	0.26	85	9825	0.000044	34	80:0	94	0.073	2.9	12.503	5.	0.4972		0.9655	0.1824	0.40	2602	31	2675		3.3
Spot name follows the convention x-yz; where x sample unmerer, y a grain number, and z = spot number. Multiple analyses in an individual spot are labelled as x-y.z.z Uncertainties recorded at 1s and are calculated by usin SQUID 2.23.08.10.21; rev. 2.10.02.2008	vs the cor orted at 1	1s and are	y.z; wher calculated	e x = sam	ple numba SQUID 2.	er, y = grain nu 23.08.10.21. n	mber, and ev. 21 Oct	z = spot nur 2008	nber. Mult	iple analys	es in an ir	ndividual sp	ot are lat	oelled as	y.z.z								
nd = not determined	per per	later to	208 Dh	6 0 0		or minoron one if one is a consolidation of the consolidation used in the surface block 1/16. O DE 770, 716. O DDE 00. O 400 M	2 df grieg	2 de 10 de 1	9	9	i de inicialis	4	acld cool	74/6	7.0223	0000	90	(040)					
* refers to mole percent of total Pro that is du * refers to radiogenic Pb (corrected for common Pb)	note perc enic Pb (c	corrected f	or commo	r IS due to in Pb)		rb, calculated	eu Guisn	PD-memor	common :	PD compo	esinon ase	a is me sur	lace blan	K (4/6: U.	// in//cr	0.8850	0, 8/6: 2.1,	3840)					
Discordance relative to origin = 100 * ((207/206 age -206/238 age -206/238 age -206/238 age -206/238 age -206/238 age -206/238 age - 559 Mar.	tive to or.	igin = 100	* ((207/20	6 age -20t - 559 Ma	6/238 age	age)/(207Pb/206Pb age))	je))																
Analytical details	ls.	· ·																					
IP539: 26 µm spot; 5 scans; U-Pb calibration error 1.15% (included); Measured age of secondary standard 1242 = 2685 ± 4 Ma (n = 15); no mass fractionation correction.	ot; 5 scar ' seconda	าร; U-Pb ca เry standan	alibration (d 1242 = 1	error 1.155 2685 ± 4 №	% (include //a (n = 15	d);); no mass frac	tionation	orrection.															
IP559: 16 µm spot; 5 scans; U-Pb calibration error 1.23% (included);	ot; 5 scar	ns; U-Pb ca	alibration (error 1.239	% (include	d);	o de cito de cito	delico															
Measured age of secondary standard 1242 = 2077 ± 6 Ma (II = 10), 1 IP604: 23 µm spot; 6 scans; U-Pb calibration error 1.41% (included);	ot; 6 scan	ırıy starıdarı ıs; U-Pb ce	u 1242 = . alibration 6	eo / / ± o n error 1.419	wa (in = it % (include), IIO IIIdass IIdu d);	ilonation	OI eciloii.															
Measured age of secondary standard 1242 = 2679 ± 4 Ma (n = 21); no mass fractionation correction	seconda	rry standar	d 1242 = :	2679 ± 4 N	Ma (n = 21); no mass frac	tionation	orrection.															
IPOUS: ∠3 µm spot; o scaris; U-rD calibration efror 1.1.7% (incuded); Measured age of secondary standard 1242 = 2675 ±3 Ma (n = 37); Intraelement mass fractionation correction of 0.3% applied to unknowns.	ot, e scar Seconda	is; U-Pb ca iry standan	alibration (d 1242 = 2	2675 ± 3 N	% (include //a (n = 37	a);); Intraelement	mass frac	tionation cor	rection of	0.3% appli	ed to unkn	iowns.											

Table 1. Continued.

1 1 1 1 1 1 1 1 1 1	Spot name (ppm) (ppm) Th (ppm) Th (ppm) 10562-21 (1962-22.1 (1962)) 122 (1962) 10462-21.1 (1962) 10462-21 (1962) 222 (1962) 0.3 (1962) 10462-31.1 (196 (199 (1962)) 0.1 (1962) 0.1 (1962) 10462-33.1 (1963) 419 (1962) 0.1 (1962) 10462-34.1 (1963) 36 (1962) 0.1 (1962) 10462-34.1 (1963) 36 (1962) 0.1 (1962) 10462-34.1 (1963) 377 (1962) 0.3 (1962) 10462-34.2 (1963) 317 (1962) 0.3 (1962) 10462-34.2 (1963) 347 (1962) 0.3 (1962) 10462-34.2 (1963) 347 (1962) 0.3 (1962) 10462-34.3 (1963) 347 (1962) 0.3 (1962) 10462-34.1 (1963) 347 (1962) 0.3 (1962)	dY <u>r</u>	Ξ			200	20605	308.												_	
	winnber z10465 454 0.3 454 0.3 454 0.3 92 0.4 109 0.1 47 0.2 110 0.2 95 0.0 56 0.1 77 0.3 239 0.7 89 0.0 100 0.3		udd) (ر		**	r(206) %	ppm)	2 <u>8</u>	+1		+1							±206 Pb	207 Pb	± ²⁰⁷ Pb 206Pb	Disc. (%)
4.0 1.0 0.0 <td>92 0.4 85 0.3 109 0.1 110 0.2 110 0.2 95 0.0 75 0.3 89 0.0 100 0.3</td> <td>9 102 102</td> <td>AD83: 65. 12532</td> <td>32232 N, -64.842 0.000254</td> <td>211W (con</td> <td>0.44</td> <td>532</td> <td>0.007</td> <td>l</td> <td></td> <td></td> <td>_</td> <td></td> <td> -</td> <td>0.1861</td> <td>0.19</td> <td>2631</td> <td>31</td> <td>2708</td> <td>8</td> <td>3.5</td>	92 0.4 85 0.3 109 0.1 110 0.2 110 0.2 95 0.0 75 0.3 89 0.0 100 0.3	9 102 102	AD83: 65. 12532	32232 N, -64.842 0.000254	211W (con	0.44	532	0.007	l			_		-	0.1861	0.19	2631	31	2708	8	3.5
0.0 0.0 <td></td> <td>3 29</td> <td>8633</td> <td></td> <td>54</td> <td>0.18</td> <td>26</td> <td>0.114</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>0.1863</td> <td>0.38</td> <td>2655</td> <td>32</td> <td>2709</td> <td>9</td> <td>2.4</td>		3 29	8633		54	0.18	26	0.114	+	+	+	+	+	+	0.1863	0.38	2655	32	2709	9	2.4
10 0.00 558 0.00 13 1.58 1.58 1.59 2.59 2.75			9032		09	80:0	86	0.097	-	+			\vdash		0.1876	0.55	2639	35	2722	6	3.7
7. 0.00 1.00		\vdash	10686	\vdash	9	0.02	535	0.026	\vdash		\vdash	\vdash	\vdash	-	0.1881	0.41	2760	32	2725	7	5. 1.5
6.0 6.0 <td></td> <td>+</td> <td>10150</td> <td>+</td> <td>2 80</td> <td>80.0</td> <td>185</td> <td>0.076</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>0.1004</td> <td>2 0.42</td> <td>2668</td> <td>6</td> <td>2735</td> <td></td> <td>7.0</td>		+	10150	+	2 80	80.0	185	0.076	+	+	+	+	+	+	0.1004	2 0.42	2668	6	2735		7.0
		+			38	0.03	493	0.023	+	_		+	+	+	0.1894	0.17	2782	32 5	2737	r 00	-2.0
		+			72	-0.03	145	0.050	+	+	+	+	+	+	0.1895	0.31	2756	42	2738	2	-0.8
90 1446 O.216 1.4 14401 1.5 O.5947 1.6 O.997 O.999 O.1990 0.8 2776 0.8 2776 0.8 0.7 0.8 0.7 0.8 0.7 0.8 0.7 0.8 0.7 0.8 0.7 0.8		+	8868	$^{+}$	2	0.09	107	0.093	+	+	$^{+}$	+	+	+	0.1897	0.37	2803	34	2739	(C	6.2-
0 0		+	9530		73	0.04	146	0.216	+	+	+	+	+	+	0.1901	0.33	2761	83	2743	2	-0.8
13 0.086 165 0.086 1.6 0.0876 1.6 0.0876 1.6 0.0876 0		+		÷	0	-0.01	526	0.021	+	+	+	+	+	+	0.1912	0.16	5669	32	2752	3	3.7
64 0.02 1.14 0.114 1.14 0.114 1.14 0.114 1.14 0.114 1.14 0.114 1.14 0.014 1.14 0.0244 1.2 0.0249 0.114 0.024 2.2 1.24 0.024 2.2 1.24 0.024 2.2 1.24 0.024 2.2 1.24 0.024 <th< td=""><td></td><td>+</td><td></td><td>+</td><td>13</td><td>0.36</td><td>163</td><td>0.080</td><td>+</td><td>+</td><td></td><td>-</td><td>+</td><td></td><td>0.1913</td><td>0.34</td><td>2864</td><td>35</td><td>2753</td><td>9</td><td>-5.0</td></th<>		+		+	13	0.36	163	0.080	+	+		-	+		0.1913	0.34	2864	35	2753	9	-5.0
31 0.08 118 0.084 2.2 13864 1.7 0.080 0.1916 0.34 2791 3.7 0.080 0.1916 0.34 2791 3.7 0.08 0.09 1.2 0.070 1.8 0.09 1.8 0.09 0.08 1.9 0.08 0.09 0		+	+	\top	64	0.02	140	0.115	+	+		+	+		0.1915	0.29	2601	33	2755	2	8.9
94 0.00 152 0.101 1.9 1.3589 1.7 0.5584 1.6 0.9972 0.199 0.94 2771 36 2772 6 1.0 0.00 4.24 0.000 2.4 1.5689 1.5 0.5499 1.4 0.9865 0.199 0.50 3883 35 2759 4 3.0 0.02 4.71 0.102 1.6 1.4774 1.5 0.5489 1.4 0.9865 0.1980 0.59 2.889 33 2769 4 3.0 0.01 3.4 0.1684 1.6 0.9869 1.6 0.9895 0.1980 0.29 2.889 1.8 2.789 4 0.9869 0.99 0.99 0.99 0.09 1.4 0.9869 0.19 0.98 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 </td <td></td> <td>-</td> <td>8996</td> <td></td> <td>31</td> <td>60.0</td> <td>118</td> <td>0.094</td> <td>-</td> <td>+</td> <td></td> <td></td> <td></td> <td>+</td> <td>0.1916</td> <td>0.34</td> <td>2731</td> <td>37</td> <td>2756</td> <td>9</td> <td>=</td>		-	8996		31	60.0	118	0.094	-	+				+	0.1916	0.34	2731	37	2756	9	=
42 0.07 248 0.109 24 1.3596 1.5 0.5539 1.4 0.0865 0.199 0.25 2667 3.1 2759 4 7. 0.02 1.4 1.020 4.8 1.4474 1.5 0.5467 1.4 0.9850 0.090 2.8 2.7<	118		10085		94	0.05	152	0.101	-			\vdash		+	0.1918	0.34	2717	36	2757	9	1.8
19 0.03 421 0.010 48 14,000 14 0.04897 0.18 0.03 257 275 289 275 <t< td=""><td>240</td><td></td><td>10705</td><td></td><td>42</td><td>20.0</td><td>248</td><td>0.109</td><td>\vdash</td><td></td><td></td><td>H</td><td>+</td><td>+</td><td>0.1919</td><td>0.25</td><td>2673</td><td>31</td><td>2758</td><td>4</td><td>3.8</td></t<>	240		10705		42	20.0	248	0.109	\vdash			H	+	+	0.1919	0.25	2673	31	2758	4	3.8
	16		11404	\vdash	16	0.03	421	0.005	-	-		-	-	\vdash	0.1920	0.50	2833	35	2759	80	-3.3
29 0.02 5.38 0.0262 1.5 14.736 1.4 0.03696 0.182 0.14 0.24 3.9 2.76 3.9 3.0 2.76 3.0	160				37	0.02	174	0.122							0.1920	0.28	2811	33	2760	2	-2.3
949 0.01 342 0.009 1.6 14.756 1.5 0.5549 1.4 0.0549 1.5 0.5440 1.5 0.5460 0.1020 0.040 2849 3.7 2779 3.7 4.7 18 0.014 3.9 0.079 1.5 1.4462 1.5 0.5460 1.6 0.0899 0.1989 0.044 2864 3.4 2869 3.4 2879 3.7 7 7 11 0.22 2.047 1.5 0.5460 1.6 0.0999 0.198 0.24 2864 3.2 2778 4 7 20 0.03 1.02 0.079 1.5 1.2466 1.5 0.9469 0.1989 0.24 2869 3.2 2778 4 7 20 0.03 1.0 1.2476 1.5 0.5460 1.4 0.9869 0.1989 0.34 2869 3.2 2778 4 7 20 0.03 1.0 0.2476 </td <td>218</td> <td></td> <td></td> <td></td> <td>53</td> <td>0.02</td> <td>538</td> <td>0.052</td> <td></td> <td></td> <td></td> <td>H</td> <td></td> <td>H</td> <td>0.1923</td> <td>0.16</td> <td>2840</td> <td>33</td> <td>2762</td> <td>က</td> <td>-3.5</td>	218				53	0.02	538	0.052				H		H	0.1923	0.16	2840	33	2762	က	-3.5
32 0.14 983 0.079 2.6 1442 1.5 0.5446 1.5 0.5446 1.5 0.5446 1.6 0.9696 0.1020 0.1120 0.241 2.7 7 7 11 0.258 282 0.078 1.5 14427 1.5 0.0867 0.1182 0.078 2.5 1.8 0.0867 0.1189 0.22 2.515 3 2.773 5 1 60 0.05 1.44 0.117 1.5 1.0867 1.5 0.0367 0.1389 0.22 2.515 3 2.773 5 1 20 0.03 1.0 1.4472 1.5 0.0461 1.5 0.0468 1.4 0.0498 0.03 2.24 2.773 6 2 2.773 6 2 2.773 6 2 2.4428 1.5 0.0472 1.4 0.0889 0.1989 0.1989 0.22 2.516 3 2.7784 4 2 2 2	168				249	0.01	342	690.0							0.1926	0.26	2845	33	2765	4	-3.6
13 0.03 144 0.164 1.3 14273 1.7 0.2666 1.6 0.9899 0.1939 0.24 2769 3 2778 3 60 0.056 1.44 0.107 1.5 1.3883 1.5 0.5140 1.0 0.989 0.24 2874 3 2775 6 60 0.05 142 0.176 1.5 0.5145 1.6 0.9893 0.1943 0.38 282 2775 6 7 80 0.03 1.02 0.076 1.4 14.732 1.5 0.9843 0.1943 0.38 282 2775 6 7 24 0.02 1.0 1.4 14.732 1.5 0.9843 1.9 0.1944 0.38 0.24 286 2778 4 4 7 24 0.02 1.0 1.4 1.4 1.4 0.9863 1.4 0.9863 1.5 0.9844 1.5 0.9843 1.6 <td< td=""><td>26</td><td></td><td>9078</td><td></td><td>35</td><td>0.14</td><td>93</td><td>0.079</td><td>-</td><td></td><td></td><td>-</td><td></td><td>-</td><td>0.1929</td><td>0.40</td><td>2803</td><td>34</td><td>2767</td><td>7</td><td>-1.6</td></td<>	26		9078		35	0.14	93	0.079	-			-		-	0.1929	0.40	2803	34	2767	7	-1.6
111 0.28 282 0.07 1.5 1.3683 1.5 0.5440 1.4 0.9867 0.1936 0.24 2874 3.2 2773 6 0.003 112 10.17 1.8 1.2740 1.5 0.5772 1.0386 0.32 2856 3.2 2773 6 7 3.0 0.003 1.02 0.073 2.5 1.3846 1.5 0.5781 1.0986 0.34 2889 3.2 2773 6 7 3.2 0.003 1.00 0.076 2.0 1.4386 1.5 0.5843 1.4 0.1946 0.22 2822 3.2 2774 4 7 2.2 0.00 1.00 0.076 2.1 1.4386 1.5 0.5841 1.4 0.1846 0.2 2774 4 7 2.2 0.00 1.0 1.1 1.1 1.2440 1.5 0.5841 1.6 0.9949 0.1946 0.2 2774 3.2	236	Н		Н	18	0.03	194	0.164	\vdash	Н		Н		Н	0.1929	0.41	2769	37	2767	7	-0.1
60 0.00 1.44 0.117 1.81 1.44 0.117 1.81 1.44 0.117 1.81 1.44 0.117 1.81 1.44 0.117 1.81 1.44 0.117 1.81 2.44 1.55 1.54 1.55 0.5175 1.5 0.9734 0.184 0.28 2.862 3.2 2.773 5 3.2 0.03 3.04 0.203 1.0 1.4486 1.5 0.9843 0.34 0.28 2.78 3 2.781 4 2.2 0.03 2.04 1.2 1.4368 1.5 0.59843 1.4 0.9843 0.28 2.784 3 2.781 4 2.2 0.03 1.0 1.4420 1.5 0.500 1.4 0.9862 0.1944 0.28 2.784 1.4 0.9862 0.9843 0.1984 0.28 2.784 4 7 2.784 4 2.884 4 2.884 1.4 0.9862 0.1984 0.28 2.	322			\dashv	Ξ	0.28	262	9.000	-	-		-	-		0.1931	0.24	2674	32	2768	4	4.2
60 0.03 102 0.079 2.5 13.894 1.5 0.5175 1.5 0.9734 0.1839 0.34 2669 3.2 2775 6 22 0.03 2040 0.203 1.6 0.5016 1.4 14.732 1.5 0.5361 1.5 0.9473 0.1945 0.22 2820 3.3 2771 6 24 0.02 250 0.106 1.4 14.328 1.5 0.5381 1.4 0.9843 0.1945 0.22 2820 3.3 2784 4 25 0.08 274 0.156 1.4 14.732 1.5 0.5381 1.4 0.9843 0.1945 0.1945 3.2 2787 4 4 26 0.00 1.2 1.4 14.732 1.5 0.5288 1.4 0.9843 3.7 3.9 2784 4 4 27 0.01 2.1 1.4 2.2 2.2 2.8 3.2 3.8	148				09	0.05	144	0.117				_			0.1936	0.32	2515	ဗ္ဗ	2773	2	11.2
32 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 260 0.03 276 0.04 0.02 0.03 276 0.04 0.02 0.03 276 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 2764 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 <	61				09	0.03	102	0.079							0.1939	0.34	2689	32	2775	9	3.8
3.2 0.003 2.00 0.0103 0.0104 0.022 0.0104 0.023 0.0104 0.023 0.0104 0.023 0.0104 0.023 0.0104 0.023 0.0104 0.023 0.0104 0.023 0.0104 0.023 0.0104 0.023 0.0104 0.023 0.0104 0.0103 0.0104 0.0103	487	-	-1		35	0.03	304	0.203	-	_		-	+	-	0.1943	98.0	2620	35	2779	9	6.9
7.0. 7.0. <th< td=""><td>261</td><td></td><td></td><td>+</td><td>20 00</td><td>0.00</td><td>170</td><td>0.103</td><td>+</td><td>+</td><td></td><td>+</td><td>+</td><td>+</td><td>0.1945</td><td>0.97</td><td>2202</td><td>8 8</td><td>2781</td><td>1 <</td><td>0.</td></th<>	261			+	20 00	0.00	170	0.103	+	+		+	+	+	0.1945	0.97	2202	8 8	2781	1 <	0.
17 0.09 127 0.128 1.9 13.467 1.5 0.5008 1.5 0.9744 0.1950 0.32 2817 32 2788 5 188 0.06 165 0.104 1.7 14.117 1.5 0.5241 1.4 0.9662 0.1954 0.29 2777 32 2788 6 56 0.00 11 0.157 1.3 14.230 1.5 0.5808 1.5 0.9844 0.1964 0.29 2774 3 2788 6 48 0.01 237 0.161 1.2 14.4353 1.5 0.5808 1.5 0.9773 0.1961 0.278 3 2784 4 20 0.02 1.11 0.246 1.4 1.4353 1.5 0.5289 1.5 0.9873 0.34 1.4 3.2744 3 2784 4 4 56 0.22 1.28 1.5 0.9862 0.189 0.276 0.38 2774<	302	+	+	+	52	0.08	214	0.151	+	+	$^{+}$	+	+	+	0.1949	0.28	2764	33 2	2784	r 10	6:0
128 0.06 165 0.104 1.7 14.117 1.5 0.5241 1.4 0.0662 0.1964 0.26 2734 33 2788 6 66 0.00 37 0.125 1.3 14.230 1.5 0.5263 1.5 0.9864 0.1964 0.26 2734 33 2788 6 48 0.01 237 0.161 1.2 14.403 1.5 0.5268 1.5 0.9873 0.1967 2.93 2788 6 222 0.02 111 0.246 1.4 14.353 1.5 0.5280 1.5 0.9863 0.38 2768 289 2793 33 2798 6 222 0.02 111 0.246 1.4 1.258 0.178 1.5 0.5280 1.5 0.9863 0.184 0.268 1.2 0.9863 0.184 0.77 289 279 4 4 223 0.28 1.2 0.528 1.5	137	+	+		17	0.09	127	0.126	+	+	$^{+}$	+	+	+	0.1950	0.32	2617	32	2785	2	7.3
58 0.01 211 0.157 1.3 14.290 1.5 0.9864 0.1964 0.26 2734 33 2788 4 48 0.00 97 0.125 2.0 14442 1.6 0.5869 1.5 0.9170 0.1965 0.38 2766 34 2789 6 48 0.01 237 0.161 1.2 14442 1.6 0.5280 1.5 0.9873 0.1961 0.24 36 2794 4 58 0.02 111 0.246 1.4 14.365 1.5 0.5880 1.5 0.9843 0.1961 0.24 259 2794 4 4 50 0.22 1.1 0.246 1.4 1.6 0.5286 1.5 0.9843 0.1966 0.296 2794 4 4 20 1.2 0.4969 1.7 0.5869 1.1 0.5699 1.2 0.7869 0.184 0.77 2862 272 288	134	+	+	+	128	90:0	165	0.104	+	+	+	+	+	+	0.1954	0.39	2717	32	2788	9	3.1
66 0.06 97 0.125 2.0 14442 1.6 0.5588 1.5 0.9710 0.1955 0.38 2766 34 2789 6 48 0.01 237 0.161 1.2 14,003 1.5 0.5180 1.5 0.9873 0.1961 0.24 269 33 2794 4 22 0.02 111 0.246 1.4 14383 1.5 0.5280 1.6 0.9873 0.1961 0.24 35 2794 4 56 0.28 0.12 0.124 1.4 14383 1.5 0.5280 1.6 0.8845 0.298 2784 35 2893 6 20 0.91 1.6 0.5286 1.7 0.5099 1.2 0.789 0.184 0.77 289 1.9 1.9 1.8 1.8 0.5289 1.1 0.9502 0.184 0.77 289 2724 35 28903 6 1.8 1.8 1.1	256	+	+	+	28	0.01	211	0.157	+	+		+	+	+	0.1954	0.25	2734	33	2788	4	2.4
48 0.01 237 0.161 1.2 14,003 1.5 0.5180 1.5 0.9873 0.1961 0.24 2691 33 2794 4 222 0.02 111 0.246 1.4 14,353 1.5 0.5280 1.5 0.9703 0.1972 0.36 2733 33 2803 6 30 0.22 3.0 0.120 5.5 14,995 1.8 0.528 1.0 0.884 0.279 2744 35 2891 14 21 0.23 143 0.279 1.4 14,294 1.2 0.683 1.1 0.9608 0.184 0.77 2656 266 266 269 1.9 21 0.23 1.2,996 1.7 0.509 1.1 0.973 274 266 269 1.9 1.9 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.1 1.0	93	+	8714	+	99	90.0	97	0.125	+	+	$^{+}$	+	+	+	0.1955	0.38	2766	34	2789	9	1.0
222 0.02 111 0.244 1.4 1.4533 1.5 0.5280 1.5 0.9703 0.1972 0.36 2733 33 2803 6 58 0.28 0.28 1.2 0.6845 1.6 0.8845 0.286 0.83 2724 35 2881 14 20 0.93 1.2 0.8845 1.8 0.6845 1.1 0.9608 0.184 0.77 2656 266 266 2689 19 21 0.23 1.2 1.4 14.294 1.2 0.5632 1.1 0.9602 0.1841 0.37 2880 26 2699 19 22 0.03 1.2 1.4 1.4204 1.2 0.5692 1.1 0.9782 0.77 2622 26 2699 1.9 22 0.03 1.2 1.4 1.4204 1.1 0.5607 1.1 0.9493 0.184 0.77 2622 26 2699 1.9 1.2 </td <td>293</td> <td>H</td> <td></td> <td></td> <td>48</td> <td>0.01</td> <td>237</td> <td>0.161</td> <td>\vdash</td> <td>+</td> <td></td> <td>\vdash</td> <td>+</td> <td>-</td> <td>0.1961</td> <td>0.24</td> <td>2691</td> <td>33</td> <td>2794</td> <td>4</td> <td>4.5</td>	293	H			48	0.01	237	0.161	\vdash	+		\vdash	+	-	0.1961	0.24	2691	33	2794	4	4.5
68 0.28 0.28 0.28 0.286 0.286 0.2866 0.2866 0.884 0.2068 0.884 2724 36 2784 36 2881 14 21 0.23 1.43 0.278 1.4 0.4846 1.2 0.6846 0.1840 1.15 2656 26 2880 18 1.4 1.4284 1.2 0.6632 1.1 0.3602 0.1841 0.37 2880 26 2890 18 0.8946 1.3 0.8846 0.1849 0.27 2622 26 2899 18 0.8946 1.3 0.8848 0.1849 0.27 2622 28 26 2899 18 0.8946 1.3 0.8848 1.2 0.8448 0.77 2622 28 28 289 1.3 0.889 1.3 0.8848 1.2 0.8848 1.2 0.8489 0.1849 0.77 2622 28 289 28 1.3 0.8898 1.2 0.8489 0.1849 <	207				222	0.02	111	0.246							0.1972	98.0	2733	33	2803	9	3.1
21 0.93 165 0.134 2.9 12.936 1.7 0.5699 1.2 0.1840 1.7 0.5669 1.7 0.5699 1.2 0.1840 1.7 0.5669 0.1841 0.37 2880 26 2689 19 64 0.26 1.25 0.178 2.3 12.789 1.4 0.5692 1.1 0.9602 0.1841 0.37 2880 26 2696 13 22 0.08 3.48 0.162 1.2 1.4 0.5795 0.1849 0.77 2622 26 2696 13 22 0.03 3.46 0.162 1.4 1.4290 1.3 0.5687 1.1 0.9529 0.1849 0.77 2622 26 2696 13 22 0.03 3.16 1.4 1.4280 1.3 0.5586 1.1 0.9529 0.1849 0.77 2622 26 2696 13 23 0.279 1.4 1.4280	3 28 0.4	5 172	8513	3 0.000162	28	0.28	30	0.120							0.2068	0.83	2724	32	2881	14	6.7
290 110 110 110 110 110 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 110 2000 20 20 110 2000 20	0 number 29974)	IF340; NAL	000:000	7 Z65IN, -62.9397.		200	10.7	707	\perp	\perp	ŀ	\perp	+	\perp	0707	E T	0000	90	0000	ç	1
185 0.66 rid rid 0.000151 64 0.26 125 0.178 2.3 12.789 1.4 0.5019 1.2 0.8426 0.1849 0.77 2622 26 2696 1.3 215 1.16 rid rid <td>290</td> <td>+</td> <td>2 2</td> <td>0.000130</td> <td>2 8</td> <td>0.23</td> <td>143</td> <td>0.279</td> <td>+</td> <td>+</td> <td>t</td> <td>+</td> <td>+</td> <td>+</td> <td>0.1841</td> <td>0.37</td> <td>2880</td> <td>56</td> <td>2690</td> <td>9</td> <td>8.8</td>	290	+	2 2	0.000130	2 8	0.23	143	0.279	+	+	t	+	+	+	0.1841	0.37	2880	56	2690	9	8.8
420 0.59 rd rd 0.000049 22 0.08 348 0.162 1.1 0.5507 1.1 0.5795 0.1849 0.22 2828 2.4 2698 4 215 1.16 rd nd 0.000193 22 0.33 92 0.313 1.6 14.280 1.2 0.9243 0.1854 0.49 2861 27 2701 8 265 0.68 nd 0.000127 1.7 0.22 318 0.186 1.2 0.9243 0.1857 0.31 270 29 0.31 1.0 0.5286 1.1 0.9629 0.38 274 2.0 270 9 0.186 1.4 13.479 1.1 0.5624 1.1 0.9623 0.186 0.4 270 29 0.777 2.0 1.237 1.1 0.5282 1.1 0.5623 1.1 0.5624 1.1 0.5623 1.1 0.5623 2.2 2.3 1.2 2.23 1.2	185		pu	0.000151	64	0.26	125	0.178	+	+	t	+	+	+	0.1848	72.0	2622	56	2696	13	3.4
215 1.16 nd nd nd 0.000193 22 0.333 92 0.313 1.6 1.4 1.3 0.5588 1.2 0.99243 0.1854 0.49 2861 27 2701 8 265 0.68 nd nd 0.000127 1.7 0.22 318 0.186 1.4 13.479 1.1 0.5624 1.1 0.9623 0.1857 0.31 270 2 2 2 2 2 2 2 2 2 2 2 2 2 1.1 0.5624 1.1 0.9622 0.35 2743 2 2 2 2 2 2 1.0 6 0.277 2.9 1.2370 1.8 0.4682 1.1 0.6662 0.40 2 2 2 2 2 2 1.2 2.237 1.2 1.2370 1.8 1.2 1.2370 1.8 1.2 2.3470 1.8 1.2 2.3470 1.8	420		pu	0.000048	22	90.0	348	0.162	-			-	\vdash	\vdash	0.1849	0.22	2828	24	2698	4	-6.0
459 0.68 nd nd 0.000127 17 0.22 318 0.146 1.4 13.79 1.1 0.5264 1.1 0.9629 0.1857 0.31 2705 2707 5 265 0.42 nd 0.000156 21 0.27 294 0.115 1.8 1.8604 1.2 0.5305 1.1 0.9623 0.385 2707 6 2707 6 7 167 1.03 nd 0.000150 32 1.09 69 0.277 2.9 1.2370 1.8 0.4622 1.3 0.7661 1.14 2837 28 2713 7 414 1.01 nd 0.000150 36 0.27 1.2 1.2340 1.3 0.7655 0.1867 0.34 25 2713 7 444 1.01 nd 0.000150 36 0.27 1.2 12.341 1.8 0.5051 1.3 0.7655 1.13 2713 271 27	215		P	0.000193	22	0.33	95	0.313							0.1854	0.49	2861	27	2701	80	-7.3
266 0.42 nd nd 0.000166 21 0.27 2.94 0.115 1.8 13.604 1.2 0.5305 1.1 0.9823 0.1860 0.35 2743 2.5 2707 6 167 1.03 nd 0.000629 23 1.09 69 0.277 2.9 1.2370 1.8 0.7601 0.1861 1.14 2853 2.5 2708 1.9 414 1.01 nd 0.000120 36 0.21 73 0.243 1.2 0.1874 1.0 0.895 0.14 269 2.7 2.8 279 1.8 1.8 0.765 1.1 0.3413 0.1872 0.4 2518 2718 1.9 1.8 1.8 0.7655 1.3 0.7655 0.1872 0.4 2.7 1.9 1.9 1.8 1.8 0.5051 1.3 0.7655 0.1875 0.13 270 1.9 1.9 1.8 1.8 0.5051 1.3 0.7655	459		Ъ	0.000127	17	0.22	318	0.186							0.1857	0.31	2726	24	2705	2	-1.0
167 1.03 nd nd 0.0000629 23 1.09 69 0.277 2.9 1.2370 1.8 0.7801 0.1861 1.14 2637 28 2708 19 423 0.90 nd 0.000191 19 0.33 217 0.243 1.5 13.344 1.2 0.5166 1.1 0.3666 0.40 2693 25 2718 7 144 1.01 nd nd 0.020150 36 0.247 1.2 0.518 1.1 0.3666 0.40 2693 25 2718 7 164 1.08 nd 0.000170 21 1.07 70 0.313 2.1 13451 1.3 0.7865 0.1875 1.07 30 271 3 0.8198 0.1875 0.1875 0.37 2638 272 272 1.0 1.2 1.0 0.0004 1.3 1.0 0.8965 0.1898 0.97 2746 29 2773	265	_	2	0.000156	24	0.27	594	0.115	-	\dashv		-	\dashv	\dashv	0.1860	0.35	2743	52	2707	9	-1.6
423 0.390 Ind Ind	167	+	2	0.000629	23	1.09	69	0.277	-	+	+	+	+	+	0.1861	1.14	2537	28	2708	19	7.6
414 1.01 nd nd 0.0000120 36 0.21 1/3 0.279 1.2 12.331 1.2 0.47/18 1.1 0.9258 0.1872 0.44 2518 23 2718 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	423	+	2	0.000191	20 2	0.33	/12	0.243	+	\dashv	+	+	+	+	0.1866	0.40	2693	63	2/13	,	6.0
164 1.08	414	+	2	0.000120	88	0.21	1/3	0.279	-		+	+	+		0.1872	0.44	2518	8 8	2/18	, ,	50 G
267 1.31 nd nd 0.000/38 15 1.28 91 0.389 2.4 13.079 1.6 0.5051 1.3 0.8198 0.1878 0.92 2636 29 2723 15 15 15 0.88 nd nd 0.000680 14 1.18 84 0.287 2.3 13.836 1.6 0.5311 1.3 0.8952 0.187 2746 29 2733 16 7 14 0.228 0.777 nd nd 0.000440 21 0.76 138 0.205 1.8 13.722 1.4 0.5255 1.2 0.8595 0.189 0.77 2723 26 2737 12 17 0.25 nd nd 0.00040 16 0.14 361 0.054 1.8 14.744 1.1 0.5643 1.0 0.8685 0.27 2844 24 2738 4 1 1 1 0.5477 0.7 nd nd 0.00077 28 0.13 12 0.054 1.8 14.744 1.1 0.5530 1.1 0.5655 0.27 2844 24 2738 4 1 1 1 0.5477 0.7 nd nd 0.00077 28 0.14 273 12 0.054 1.8 14.744 1.1 0.5530 1.1 0	164	_	된 .	0.000617	21	1.07	02	0.313	-	_		+	+	-	0.1875	1.13	2701	e :	2720	6 !	6:0
157 0.88 nd nd 0.000680 14 1.18 84 0.237 2.3 13.836 1.6 0.5311 1.3 0.8042 0.1889 0.97 2746 29 2733 16	267	+	P.	0.000736	15	1.28	91	0.369	-	\rightarrow	_	\dashv	\dashv	-	0.1878	0.92	2636	53	2723	15	3.9
220 u. d. nd 0,000000 16 0.14 361 0.064 1.8 14.744 1.1 0.5640 0.0530 0.01034 24 2738 4 271 0.07 nd nd 0,000000 16 0.13 1.20 0.071 26 13667 1.2 0.6530 1.1 0.0657 0.1896 0.3 2712 2864 2.4 2738 5 5	157	+	2 2	0.000680	4 5	1.18	138	0.237	-	-	+	+	+	-	0.1889	0.97	2746	58	2733	16	9.0-
71 027 nd nd 0000077 26 0313 129 0.007 12 15.230 11 0.0570 13.095 0.320 2719 25 2738 5	143	+	2 2	0.00000	16	0.70	361	0.54	+	+	$^{+}$	+	+	+	0 1895	0.70	2884	2 7	2738	3 4	9 9
	2 5	+	2 2	0,000027	2 %	j c	- 62	0.021	+	+	$^{+}$	+	+	+	0.1000	1,50	2712	1, 1%	2738	t 10	5 6

Table 1. Continued.

Specified (para)													_	_										
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,		-	₽	티:	q,	Ξ	204 Pb		f(206) ²⁰⁴														±207 Pb	Disc.
42 135 62256 12 0.0000 0.1902 0.54 2771 26 2774 9 42 135842 14 0.6275 12 0.0299 0.1907 0.07 26 2774 12 23 13566 13 0.5475 12 0.0299 0.1907 0.07 26 2774 12 23 13566 13 0.5679 12 0.0299 0.1907 0.07 26 2774 12 0.0299 0.1907 0.07 26 2774 27 12 0.0299 0.1907 0.07 260 2774 28 14 0.08 1.1 0.080 0.1907 0.09 28 1.0 0.09 0.0	Spot name	(bbm)	(mdd)	n	(mdd)		- 10	∓%	o		_	#	\dashv	+1	_	#	-	+	+1	_	1		%Pb	%
2.6 1.8.5 1.4 0.5275 1.7 2.74 2.7 2.74 1.7 2.74 1.7 2.74 1.7 2.74 1.7 2.74 1.7 2.74 1.8 2.8 1.8 2.8 1.8 2.8 1.8 2.8 1.8 2.8 1.8 2.74 8 8 2.8 1.8 8 2.74 8 8 2.8 1.8 8 2.74 8 8 2.8 1.8 8 1.8 8 1.8 8 1.8	924-175 1	205	Jamper 2	0.25	40; NADO		- 1	w (conur	0.40	130	0.085	_	+	+			+	-	-	0240	90	2744	o	
4.2 1.3. 0.5.5.7 1.2 0.0269 0.1930 0.090 2.717 2.5 2.718 8.5 2.718 8.5 2.718 8.5 2.718 8.5 2.718 8.5 2.718 8.5 2.718 8.5 2.718 8.5 2.718 8.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 2.718 9.5 9.7 9.5 9.7 9.5 9.7 9.5 9.7 9.5 9.7 9.7 9.5 9.7 </td <td>74-87-1</td> <td>300</td> <td>2 &</td> <td>22.0</td> <td>2 2</td> <td>2 2</td> <td>0.000508</td> <td>3 4</td> <td>88.0</td> <td>3 6</td> <td>020</td> <td>+</td> <td>+</td> <td>$^{+}$</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>2734</td> <td>22 6</td> <td>27.4E</td> <td>, ç</td> <td>2 6</td>	74-87-1	300	2 &	22.0	2 2	2 2	0.000508	3 4	88.0	3 6	020	+	+	$^{+}$	+	+	+	+	+	2734	22 6	27.4E	, ç	2 6
13 13786 13 0.5542 11 0.5853 0.1908 0.557 0.577 0.557 0.	74-188 1	323	130	0.27	2 2	2 2	0.000300	2 5	0.00	143	0.070	+	+		+	+	+	+	+	10,5	12 96	2748	2 8	0.0
3.2 13.486 1.4 0.5268 1.2 0.0874 0.1914 0.539 27.46 1.7 1.7 1.7 1.2 1.4 2.7 4.4390 1.3 0.5568 1.2 0.0874 0.1914 0.539 27.74 4.2 27.56 6 3.2 1.4400 1.2 0.5579 1.1 0.0850 0.087 2.7 4 27.56 6 7 3.2 1.4400 1.2 0.5579 1.1 0.0850 2.6 2.7 2.7 2.7 4 2.7 4 2.7 4 2.7 4 2.7 4 2.7 4 2.7 4 2.7 4 2.7 4 2.7 4 2.7 4 2.7 4 2.7 4 4 2.7 4 4 2.7 4 4 2.7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	74-57 1	494	124	0.26	2	2	0.000397	6.	0.69	223	0.067	+	+	$^{+}$	+	$^{+}$	+	+	+	2717	25	2749	σ	14
2.7 14,390 13 0.5461 13 0.0456 0.191 0.05 2774 24 2756 6 3.2 14,190 11.0 0.5876 1.1 0.5876 1.1 0.5876 1.1 0.5876 1.1 0.5876 1.1 0.5876 1.1 0.5876 1.1 0.5876 1.1 0.5876 1.1 0.5876 1.1 0.5876 1.1 0.5876 1.1 0.5876 1.2 0.5876 1.2 0.5876 1.2 0.5876 1.2 0.5876 1.2 0.5876 1.2 0.5876 1.2 0.5876 1.2 0.5876 1.2 0.5876 1.2 0.5876 1.2 0.6898 0.1892 0.59 27.48 2.578 1.2 0.5876 1.2 0.5876 1.2 0.6898 0.1892 0.59 1.2 0.5876 1.2 0.5876 1.2 0.5898 0.1892 0.59 2.748 2.748 2.748 2.748 2.748 2.748 2.748 2.	74-163.1	438	135	0.32	2 2	2	0.000302	2 83	0.52	198	0.095	+	_	+	+	+	+	+	+	2726	26	2749	, =	: =
3.2 14,197 1.1 0.8569 1.1 0.8569 1.1 0.8569 1.1 0.8569 1.1 0.8569 1.2 0.5567 1.1 0.8569 1.1 0.8569 1.1 0.9180 0.187 2.5 1.4489 1.4 2.5 1.4489 1.4 4.848 1.4 4.848 1.4 4.849 1.4 4.849 1.1 0.5889 1.1 0.7889 0.898 2.749 2.8 2.749 9 2.2 1.4209 1.1 0.6588 1.1 0.898 0.182 2.749 2.8 2.759 9 2.2 1.4209 1.1 0.6588 1.1 0.898 0.182 0.29 1.1 0.898 0.182 0.29 1.1 0.188 0.258 1.2 0.258 1.2 0.888 1.2 0.888 0.188 0.288 1.1 0.898 0.188 0.188 0.298 0.188 0.188 0.298 0.188 0.288 0.188 0.288	74-201.1	795	91	0.12	рц	pu	0.000266	=	0.46	373	0.031	-	+			H	+	-	H	5809	30	2752	2	-2.6
2.6 1.4 606 1.2 0.5587 1.1 0.0587 1.1 0.0589 1.1 0.0589 1.1 0.0589 1.1 0.0589 1.1 0.0589 1.1 0.0589 1.1 0.0589 1.0 0.0589 1.0 0.0589 0.0589 0.0589 0.0589 0.0589 0.0589 0.0589 0.0589 0.0589 0.0589 0.0589	74-183.1	682	114	0.17	Б	ри	0.000152	23	0.26	315	0.047	-	-		\vdash	\vdash	\vdash	\vdash	H	2774	24	2755	9	6.0-
3.4 14249 1.4 0.5883 1.1 0.7983 0.1870 0.887 2778 26 2759 1.4 2.5 1.4009 1.3 0.5818 1.2 0.9905 0.83 2749 26 2769 9 2.5 1.4009 1.3 0.5318 1.2 0.9905 0.83 0.9829 0.	74-198.2	611	247	0.42	ри	pu	0.000206	30	98.0	290	0.101	\vdash		\vdash	-	\vdash	\vdash	\vdash	H	2837	25	2756	80	-3.6
3.4 14 (406) 1.3 0.5315 1.2 0.9113 0.1820 0.53 27748 26 2779 9 2.5 14 (406) 1.3 0.5515 1.2 0.9805 0.1820 0.53 2749 26 7770 9 2.2 1.4 (188) 1.3 0.5507 1.4 0.9807 1.4 0.9807 1.2 0.9808 0.182 1.276 2.7 2.761 9 2.4 1.4 (188) 1.3 0.5307 1.4 0.9809 0.182 0.748 26 2.748 26 2.766 9 2.4 1.4 (198) 1.2 0.5307 1.1 0.9809 0.198 0.776 2.779 1.6 0.9901 0.98 0.776 2.779 1.6 0.776 0.786 0.188 0.776 2.779 1.6 0.786 0.188 0.786 0.786 0.786 0.786 0.786 0.786 0.786 0.786 0.786 0.786 0.786 0.786	74-170.1	403	22	0.15	pu	pu	0.000207	23	98.0	186	0.039	-	\vdash				-			5776	56	2759	14	-0.8
2.5 1,4080 1.3 0.5318 1.2 0.9085 0.1380 0.538 27.4 2.7 2.8 2.7 2.8 2.7 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8<	74-12.1	407	137	0.35	ы	pu	0.000364	15	0.63	186	0.088	-	+	\vdash	H			\vdash		2748	56	2759	6	0.5
2.2 12.139 1.1 0.4680 1.1 0.9663 0.1922 1.27 2761 2761 5 2.4 4.4142 1.8 0.5037 1.4 0.6882 0.1922 1.27 2763 9 2.8 4.4142 1.8 0.5037 1.4 0.7829 0.1822 1.274 26 2763 9 2.9 1.4118 1.2 0.0901 0.1800 0.444 1.44 26 2763 9 2.9 1.4118 1.2 0.0902 0.1800 0.44 26 2763 9 2.9 1.4218 1.2 0.0803 0.1802 0.08 2757 26 2763 1 4.3 1.4197 1.4 0.5836 1.2 0.8983 0.1982 0.78 2757 26 2763 1 3.8 1.3798 1.8 0.5170 1.4 0.7928 0.1980 1.09 0.79 2757 26 1 1 <t< td=""><td>74-193.1</td><td>344</td><td>108</td><td>0.33</td><td>pu</td><td>Б</td><td>0.000529</td><td>12</td><td>0.92</td><td>157</td><td>0.083</td><td></td><td></td><td></td><td></td><td>H</td><td></td><td></td><td></td><td>2749</td><td>56</td><td>2760</td><td>6</td><td>0.5</td></t<>	74-193.1	344	108	0.33	pu	Б	0.000529	12	0.92	157	0.083					H				2749	56	2760	6	0.5
2.4 14.142 18 0.6535 1.2 0.6939 0.1924 1.14 2665 27 2761 21 2.8 13.522 18 0.5047 1.2 0.6907 1.14 2665 27 2766 19 2.9 14.218 1.33 0.5377 1.1 0.8902 0.1982 0.63 2774 26 2776 19 2.9 14.230 1.2 0.6392 1.2 0.8987 0.1982 0.63 2774 26 2776 1 4.3 14.13 1.2 0.6366 1.1 0.9668 1.18 0.7987 2774 26 2770 1 4.3 14.13 0.5770 1.1 0.9666 1.1 0.7982 1.08 2779 1 1 5.0 1.4 0.7982 1.1 0.7982 0.1982 0.78 2774 26 2779 1 5.0 1.4 1.0 0.786 0.1982 0.7	74-163.3	422	141	0.35	ы	ы	0.000016	47	0.03	166	960.0	\vdash	\vdash				-			2431	22	2761	2	14.3
2.8 13.522 1.8 0.6097 1.4 0.7829 0.1824 1.14 2865 31 2763 1.9 1 2.9 14.377 1.1 0.9302 0.1986 0.54 2748 26 2769 10 2.9 14.377 1.3 0.5356 1.2 0.8902 0.1982 0.64 2774 26 2769 10 2.9 14.377 1.3 0.5329 1.2 0.8802 0.1982 0.68 2777 13 2.9 14.207 1.3 0.5249 1.2 0.8892 0.1982 0.68 2779 13 0.7 15.044 1.4 0.5269 1.2 0.8892 0.1982 0.03 2779 14 17 1.0 <td>74-181.1</td> <td>226</td> <td>213</td> <td>0.97</td> <td>ри</td> <td>ы</td> <td>0.000753</td> <td>18</td> <td>1.31</td> <td>104</td> <td>0.248</td> <td>-</td> <td>+</td> <td>\vdash</td> <td>┝</td> <td>+</td> <td>+</td> <td>\vdash</td> <td>-</td> <td>2756</td> <td>27</td> <td>2761</td> <td>21</td> <td>0.2</td>	74-181.1	226	213	0.97	ри	ы	0.000753	18	1.31	104	0.248	-	+	\vdash	┝	+	+	\vdash	-	2756	27	2761	21	0.2
2.4 14.118 1.3 0.5315 1.2 0.9891 0.1826 0.54 274 6 2766 9 2.9 14.207 1.2 0.5377 1.1 0.9802 0.1890 0.64 2774 25 2786 7 4.3 14.187 1.4 0.5329 1.2 0.8802 0.1802 0.63 2776 26 2770 13 4.3 14.187 1.4 0.5329 1.2 0.8827 0.1980 0.1982 0.78 2776 26 2770 13 4.3 14.187 1.4 0.5329 1.1 0.7866 1.08 </td <td>74-182.1</td> <td>121</td> <td>84</td> <td>0.71</td> <td>рц</td> <td>pu</td> <td>0.001074</td> <td>41</td> <td>1.86</td> <td>53</td> <td>0.202</td> <td>\vdash</td> <td></td> <td>H</td> <td>H</td> <td>H</td> <td>⊬</td> <td>\vdash</td> <td>H</td> <td>2655</td> <td>31</td> <td>2763</td> <td>19</td> <td>4.8</td>	74-182.1	121	84	0.71	рц	pu	0.001074	41	1.86	53	0.202	\vdash		H	H	H	⊬	\vdash	H	2655	31	2763	19	4.8
2.9 14.307 1.2 0.5377 1.1 0.9302 0.1800 0.44 2774 26 2768 7 2.9 14.307 1.2 0.5336 1.2 0.8830 0.1832 0.078 2784 26 2770 10 4 4.3 14.197 1.4 0.5830 1.2 0.8830 0.1832 0.08 2784 26 2770 15 0.7 15.084 1.1 0.5666 1.1 0.9860 0.1892 0.08 2792 28 2773 15 1.2 1.5084 1.1 0.5666 0.1396 0.08 2792 28 2773 15 2.2 1.4471 1.5 0.5427 1.2 0.8899 0.1986 0.09 2792 28 2773 16 2.2 1.4470 1.5 0.5428 1.2 0.8899 0.1986 0.78 2743 16 17 2.2 1.4471 1.5 0.5428	74-198.1	303	218	0.74	Б	ы	0.000315	18	0.55	138	0.211	-	+					-	-	2748	56	2765	6	0.7
1 2.9 14273 13 0.5336 12 0.8837 0.1982 0.63 2757 26 2770 13 4 4.3 14.97 14 0.5839 12 0.8837 0.1982 0.03 2884 25 2770 13 5 2 2 1 1 1 1 1 0.5836 1.1 0.9866 0.1982 0.138 2754 26 2770 13 5 2 2 1 1 1 1 1 0.5841 1.1 0.5859 1.1 0.9866 0.1982 0.198 279 28 2773 16 2 2 2 1 1 1 1 1 0.5841 1.2 0.5431 1.1 0.9866 0.1986 0.108 2887 31 2773 16 2 2 2 1 1 1 1 1 0.5441 1.1 0.5441 1.2 0.8897 0.1982 0.198 0.198 279 2 2 2 773 1 1 1 2 1 1 1 0.5441 1.1 0.5441 1.1 0.5441 1.1 0.5441 1.1 0.8837 0.1841 0.7 0.7 0.4 0.7 0.4 0.7 0.4 0.7 0.4 0.7 0.4 0.1 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.7 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.7 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4	74-202.1	434	94	0.22	P	Б	0.000167	53	0.29	200	0.062	⊬			-	\vdash	\vdash	\vdash	H	2774	52	2768	7	-0.3
4 4.3 14.197 1.4 0.5329 1.2 0.8887 0.7825 0.78 2770 13 0.7 16.04 1.1 0.5666 1.1 0.9568 1.0 0.958 1.2 2770 13 8.8 13.798 1.5 0.5439 1.1 0.7865 0.1936 1.01 2797 25 2773 16 8.9 1.4570 1.5 0.5439 1.1 0.7866 0.1936 1.01 2797 25 2773 16 9.2 1.4471 1.5 0.5491 1.2 0.7869 0.78 2773 17 2.7 1.3824 1.5 0.5196 1.3 0.8697 0.1943 0.75 2689 28 2773 17 1.2 1.4471 1.5 0.5196 1.3 0.8697 0.1943 0.75 288 2773 17 2.0 1.4 0.7884 0.1890 0.187 0.786 0.1869 0.78	74-171.1	333	86	0:30	ри	pu	0.000223	36	0.39	152	0.081	\vdash	\vdash		H	\vdash	\vdash	H	H	2757	56	2769	10	9.0
7 0.7 15.094 1.1 0.5666 1.1 0.9568 1.01 2.894 25 2770 5 8 8.1 1.378 1.8 0.5170 1.4 0.1936 1.01 2897 25 2773 1.8 2 2.1 1.4.200 1.5 0.5423 1.2 0.8869 0.1936 0.80 2792 28 2773 1.8 2 2.1 1.4.440 1.5 0.5423 1.2 0.8869 0.1942 0.44 2764 2773 1.8 2 2.1 1.4.440 1.5 0.5428 1.2 0.8894 0.1942 0.78 2792 28 2773 1.2 2 2.1 1.4.440 1.3 0.5584 1.2 0.8897 0.1942 0.78 2792 28 2773 1.2 2 2.1 1.4.420 1.7 0.5864 1.1 0.7869 0.89 2774 27 2778 1.7 <	74-203.1	374	09	0.17	pu	pu	0.000425	56	0.74	171	0.044									2754	56	2770	13	0.7
3.8 13.796 1.8 0.6170 1.4 0.7965 1.09 2797 3.8 13.796 1.8 0.6170 1.4 0.7965 1.09 2797 2737 1.6 2.2 1.4471 1.5 0.6243 1.1 0.1966 0.1969 2797 22 22 2773 1.6 2.1 1.4320 1.3 0.6384 1.2 0.8669 0.1942 0.75 2896 2773 1.7 1.7 2.2 1.4430 1.3 0.5394 1.2 0.8694 0.1942 0.75 2896 2773 1.2 1.2 1.0 1.0 0.75 2896 2773 1.2 1.2 1.0 1.0 0.75 2896 1.1 2896 1.1 2797 2896 1.1 2797 2896 1.1 2797 2896 1.1 2797 2896 1.1 2797 2796 2896 1.1 2797 2896 1.2 2779 1.2 2779	74-176.2		1085	1.87	ы	pu	0.000028	135	0.05	292	0.527						l.			5894	25	2770	2	-5.6
6.9 14,500 1.5 0.5433 1.1 0.7366 0.1936 1.01 2797 2.5 2773 1.6 2.2 14,447 1.5 0.55421 1.2 0.8369 0.1945 0.896 2792 2773 1.3 2.7 13,924 1.5 0.55421 1.2 0.8974 0.1943 0.76 2886 28 2773 1.5 2.7 13,924 1.5 0.5548 1.3 0.8987 0.1943 0.76 2886 28 2773 1.5 2.0 14,420 2.7 0.5548 1.3 0.8987 0.1980 0.76 2898 28 2773 1.7 1.7 0.5608 1.1 0.768 0.78 2747 278 2778 1.7 1.7 0.5618 1.1 0.7884 0.1837 0.76 274 2868 3 1.7 1.7 1.7 0.5618 1.1 0.7883 0.40 274 2888 7 1.7 1	74-57.2	159	129	0.84	Б	Б	0.000677	50	1.17	71	0.220							1936		2687	31	2773	18	3.8
2 2. 14471 1.5 0.5421 1.2 0.8369 0.1936 0.80 2792 2.8 2773 1.3 1.3 0.837 0.3 0.837 0.1939 0.74 2764 2.77 2.77 1.3 0.837 0.1939 0.78 2.77 2.8 2.8 2779 1.2 0.837 0.1943 0.75 2.8 2.77 2.2 2.0 1.4420 2.7 0.5146 1.3 0.837 0.1943 0.75 2.8 2.8 2779 1.3 0.8 2.7 1.3 0.8 2.7 0.1943 0.7 2.7 2.8 2.8 2.77 2.2 2.0 1.4420 2.7 0.5312 2.6 0.9664 0.1969 0.78 2.74 5.7 2.8 2.8 1.7 0.5406 1.4 0.7884 0.1969 0.78 2.74 5.7 2.8 2.8 1.7 0.5406 1.4 0.7 2.8 0.1969 0.78 2.74 5.7 2.8 1.7 0.5406 1.1 0.8520 0.1 1.0 0.8 2.7 2.8 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.7 1.1 0.8 2.8 1.1 0.8 2.8 1.1 0.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2	74-159.1	581	09	0.11	ы	pu	0.000288	17	0.50	271	0.028									2797	25	2773	16	-1.1
2 2.1 14.340 1.3 0.5354 1.2 0.8974 0.1942 0.044 2764 27 2778 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	74-183.2	250	270	1.11	pu	pu	0.000203	41	0.35	117	0.313	_						_		2792	28	2773	13	6.0-
2.7 13.824 1.5 0.5198 1.3 0.6897 0.78 2779 12 2.2 14.420 2.7 0.5312 2.6 0.9564 0.1969 1.07 2766 31 2818 17 4 2.1 14.420 2.7 0.5312 2.6 0.9564 0.1969 1.07 2766 31 2818 17 2 2.0 14.420 1.4 0.7884 0.1969 1.07 2766 31 2818 17 1 0.0 1.1 0.5236 1.1 0.9824 1.1 0.3628 1.2 2684 3 2 2684 3 2 2684 3 3 3 3 3 2 2684 1.1 0.5698 1.1 0.9829 0.1837 0.26 2746 24 2688 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2	74-179.1	506	135	89.0	pu	ы	0.0000000	47	0.14	92	0.172		Н			-				5764	27	2778	7	9.0
2 2.0 14,40 2.7 0.5512 2.6 0.9564 0.1969 0.78 2747 57 2800 13 4 2.1 14,831 1.7 0.5406 1.4 0.7884 0.1990 1.07 2786 31 2818 17 2 3.0 13,190 1.1 0.5626 1.1 0.9637 0.1837 0.20 2774 24 2678 3 1 0.9 13,246 1.1 0.5624 1.1 0.9637 0.1837 0.20 2774 24 2678 3 1 0.9 1.2 0.5679 1.1 0.9634 0.1837 0.20 2774 24 2678 3 1 1.0 1.0076 0.1837 0.20 2774 24 2688 3 1 2 1.0 1.3076 1.1 0.9637 1.1 0.833 4 1 1 1 1 1 1 1	74-166.1	200	104	0.54	pu	pu	0.000572	16	66.0	68	0.150	_								5698	28	2779	12	3.5
1 2.1 14.831 1.7 0.5406 1.4 0.7884 0.1990 107 2774 24 2678 3 1 0.9 13.190 1.1 0.5637 0.1827 0.20 2774 24 2678 3 1 0.9 13.294 1.1 0.5639 1.1 0.9637 0.1831 0.30 2745 24 2681 5 2 0.9 13.294 1.1 0.5624 1.1 0.9637 0.1837 0.20 2746 24 2681 5 3 1.0 13.06 1.1 0.5764 1.1 0.9437 0.20 2746 24 2681 4 4 1.0 13.076 1.1 0.5769 1.1 0.9437 0.1837 0.20 2776 24 2681 4 5 1.0 13.06 1.1 0.9437 0.1839 0.40 284 2 2689 4 2 2681 4	74-186.1	211	227	1.11	ри	pu	0.000266	38	0.46	96	0.312	Н	\vdash		Н	Н		Н	Н	2747	22	2800	13	2.4
2 3.0 13.190 1.1 0.5236 1.1 0.9829 0.1827 0.20 2714 24 2678 3 1 0.9 13.405 1.1 0.5639 1.1 0.9637 0.1831 0.30 2745 24 2681 5 7 1.0 13.24 1.1 0.5639 1.1 0.9824 0.1837 0.20 2746 24 2681 5 7 1.0 13.076 1.1 0.5769 1.1 0.9774 0.1837 0.20 2746 24 2681 3 8 1.1 13.121 1.1 0.5774 0.1837 0.20 2746 23 2680 4 9 1.1 0.5757 1.1 0.3742 0.1837 0.28 2680 23 2680 4 1 1.3 1.3 1.1 0.5743 1.1 0.3947 0.1844 0.25 2682 23 2680 7 1 </td <td>74-161.1</td> <td>148</td> <td>205</td> <td>1.43</td> <td>Б</td> <td></td> <td>0.000232</td> <td></td> <td>0.40</td> <td>69</td> <td>0.414</td> <td>-</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5786</td> <td>31</td> <td>2818</td> <td>17</td> <td>4.</td>	74-161.1	148	205	1.43	Б		0.000232		0.40	69	0.414	-	-							5786	31	2818	17	4.
2 3.0 13.190 1.1 0.5250 1.1 0.5250 1.1 0.5250 1.1 0.5250 1.1 0.5250 1.1 0.5637 0.1832 0.20 2745 24 2681 5 7 1.0 13.206 1.1 0.5530 1.1 0.5963 0.23 2684 23 2680 4 7 1.0 13.204 1.1 0.5764 1.1 0.5770 2.2 2786 23 2686 4 8 1.1 13.204 1.1 0.5769 1.1 0.5770 2.6 2880 23 2688 7 9 2.6 1.1 0.5779 1.1 0.9780 0.89 0.89 2.89 28 2683 4 1 1.0 1.1 0.5779 1.1 0.9780 0.18 1.844 0.23 2683 4 1 1 1.0 1.1 0.5773 1.1 0.9673 0.1844 0.2	SRB-D040B (G	SC lab n	umber z	3973) IP54	10; NAD8;	\sim	33N, -62.963951		100	000	000	ŀ	H	ŀ	-	ŀ	H	-	-	, ,		0100		,
1 0.09 13.240 1.1 0.5369 1.1 0.9824 0.1831 0.30 2745 24 2681 5 0 0.0 13.244 1.1 0.5269 1.1 0.9974 0.1835 0.20 2726 24 2688 3 1 0.0 13.04 1.1 0.5264 1.1 0.9774 0.1836 0.23 2684 23 2686 4 1 0.0 13.078 1.1 0.5774 0.1836 0.23 2684 23 2686 4 1 0.2 2.1 0.2 2.1 0.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2	3-87.1	1985	757	80.0	Б.	e .	0.000028	g !	0.05	893	0.022	+	+	+	+	\pm	+	+	+	2/14	54	2018	n	7
1 1 13.124 1.1 10.5549 1.1 1 0.5774 0.1832 0.250 2684 23 2686 3 2 2 2 2 2 2 2 2 2	73-101.2	879	675	0.79	2	2	0.000088	17	0.15	401	0.221	-	-	+	+	+	+	+	+	2745	24	2681	2	6.29
1. 1. 1. 1. 1. 1. 1. 1.	0-09.1	0761	702	0.00	2 2	2 2	0.000114	2 8	0.20	090	0.140	+	+	$^{+}$	+	+	+	+	+	02/20	+ Z	7007	0 <	0.5
1. 1. 13.17 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	2 70 1	000	200	20.0	2 2	2 2	0.000040	3 5	0.00	207	97.0	+	+	t	+	+	+	+	+	1000	3 8	2887		- 0
1.0 13.387 1.1 0.5579 1.1 0.5742 0.1892 0.749 2.2 2680 1.7 0.0892 0.7 0.0892 0.7 0.1 0.2 0.7 0.1 0.2 0.7 0.1 0.2 0.7 0.1 0.2 0.7 0.1 0.2 0.7 0.1 0.2 0.7 0.1 0.2 0.7 0.1 0.2 0.7 0.1 0.2 0.2 0.7 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.2 0.1 0.1 0.2 0.2 0.1 0.1 0.2 0.2 0.1 0.1 0.2 0.2 0.1 0.1 0.2 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.2 0.1 0.1 0.1 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	70.70.1	000	900	0.0	2 7	2 2	0.000232	2 0	0.40	467	00.00	+	+		+	+	+	+	+	2000	2 90	2000	+ 1	7.0
1 13 13.116 1.1 0.5243 1.1 0.9961 0.1844 0.29 2718 2.2 2693 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2-42.1	1000	220	0.60	2 2	2 2	0.000177	2 =	10.0	121	0.000	+	+		+	+	+	+	+	2740	02 00	2600		0.7
1. 13.357 1.1 0.5214 1.0 0.9763 0.1849 0.23 2706 23 2697 4 0.08 13.289 1.1 0.5214 1.0 0.9763 0.1849 0.23 2705 23 2697 4 0.08 13.289 1.1 0.5214 1.0 0.9763 0.1849 0.18 2778 23 2697 4 0.08 13.289 1.1 0.5214 1.0 0.9851 0.1849 0.18 2770 23 2698 3 0.09 13.449 1.1 0.5279 1.0 0.9852 0.1855 0.19 2724 23 2703 2 0.09 13.449 1.1 0.5175 1.1 0.9810 0.1857 0.21 2889 23 2703 3 0.09 11.2 0.9 13.449 1.1 0.5175 1.1 0.9810 0.1857 0.21 2889 23 2704 3 0.09 1.1 0.12.208 1.1 0.4766 1.0 0.9822 0.1858 0.20 2513 22 2705 3 0.09 1.1 0.13.800 1.1 0.4766 1.1 0.9932 0.1858 0.30 2473 22 2706 5 0.09 1.1 0.11.800 1.1 0.4676 1.1 0.9134 0.1860 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.1858 0.30 2473 22 2706 5 0.09 1.1 0.9134 0.1861 0.49 0.1858 0.30 2473 22 2706 5 0.09 1.1 0.9134 0.1861 0.1858 0.30 2473 22 2706 5 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.48 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.49 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.49 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.49 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.49 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.1861 0.49 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.1861 0.49 2710 24 2707 8 0.09 1.1 0.9134 0.1861 0.1861 0.49 2710 24 2707 8 0.09 1.1 0.9134 0.1861	73-65-1	900	533	0.09	2 2	2 2	0.0000170	- α	0.29	432	0.133	+	+	$^{+}$	+	+	+	+	+	61.19	8 8	2693	1 4	
0.08 13.289 1.1 0.5214 1.0 0.9763 0.1849 0.23 2705 23 2697 4 0 0.8 13.289 1.1 0.5214 1.0 0.9763 0.1849 0.28 2705 23 2689 3 2 0.8 13.446 1.1 0.5273 1.0 0.9851 0.1854 0.28 247 22 2702 5 2 0.9 13.449 1.1 0.5575 1.1 0.9870 0.1857 0.19 2724 23 2704 3 2 0.0 13.250 1.1 0.5175 1.1 0.9810 0.1857 0.21 2689 23 2704 3 2 0.0 13.250 1.1 0.5175 1.1 0.9810 0.1857 0.21 2689 23 2704 3 2 0.0 11.2 0.0 11.2 0.0 11.2 0.1 0.9822 0.1858 0.20 2513 22 2706 3 2 0.0 11.2 0.5226 1.1 0.9829 0.1859 0.30 2473 22 2706 5 5 0.0 11.2 0.5226 1.1 0.9134 0.1860 0.48 2710 24 2707 8 0.0 11.2 0.5226 1.1 0.9134 0.1860 0.48 2710 24 2707 8	73-73 1	744	449	0 62	2	2	0.000186	5	0.32	335	0 184	+	+		+	+	+	+	+	2718	24	2696	· · · · ·	-
5 0.8 13.446 1.1 0.5273 1.0 0.9851 0.1849 0.18 2730 23 2689 3 1.0 1.798 1.1 0.4616 1.1 0.9679 0.1854 0.28 2447 22 2702 5 1.0 0.9879 1.1 0.4616 1.1 0.9679 0.1854 0.28 2447 22 2702 5 1.0 0.9879 1.1 0.9879 0.1854 0.29 2744 23 2703 3 1.0 1.208 1.1 0.5775 1.1 0.9870 0.1857 0.21 2689 23 2704 3 1.0 1.208 1.1 0.4876 1.0 0.9822 0.1858 0.20 2513 22 2705 3 1.0 1.1980 1.1 0.4876 1.1 0.9639 0.1858 0.20 2513 22 2705 3 1.0 1.1980 1.1 0.4876 1.1 0.9134 0.1860 0.48 2710 24 2707 8 1.0 1.208 1.1 0.9134 0.1860 0.48 2710 24 2707 8	73-78.1		1128	0.94	2	ы	0.000030	89	0.05	554	0.260	+	+	$^{+}$	+	+	+	+	+	2705	23	2697	4	-0.4
3 1.0 11.798 1.1 0.4616 1.1 0.9679 0.1854 0.28 2447 22 2702 5 0.9 13.449 1.1 0.5259 1.0 0.9828 0.1855 0.19 2724 23 2703 3 5 1.0 13.260 1.1 0.5755 1.1 0.8810 0.1857 0.21 2689 23 2704 3 5 1.0 12.208 1.1 0.4766 1.0 0.9828 0.20 2513 22 2706 3 5 1.0 11.980 1.1 0.4766 1.1 0.9839 0.1858 0.20 2473 22 2706 3 5 1.0 11.980 1.1 0.4766 1.1 0.9839 0.1858 0.30 2473 22 2706 5 5 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1859 0.048 2710 24 2707 8 5 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.30 2473 22 2706 5 5 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 5 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 5 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.48 2710 24 2707 8 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.1 0.48 2710 24 2707 1.0 12.014 1.2 0.5256 1.1 0.9134 0.1869 0.1 0.48 2710 24 2707 1.0 1.0 12.0 1.0 12.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	73-107.1	1020	842	0.85	ы	pu	0.000054	17	60.0	462	0.235	+	+	t	+	+	+	+	+	2730	23	2698	m	-1.5
2 0.9 13.449 1.1 0.5259 1.0 0.9828 0.1855 0.19 2724 23 2703 3 3 1 1 0.5259 1.1 0.5859 1.0 0.9828 0.1855 0.19 2724 23 2704 3 3 1 0.1 0.208 1.1 0.5175 1.1 0.9810 0.1857 0.21 2689 23 2704 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	73-104.3	1058	701	89.0	рц	pu	0.000031	23	0.05	419	0.183	-		\vdash	-	+	+	+	H	2447	22	2702	2	11.3
1.0 13.250 1.1 0.5175 1.1 0.9810 0.1857 0.21 2689 23 2704 3 5 1.0 12.208 1.1 0.4766 1.0 0.8822 0.1858 0.20 2513 22 2705 3 5 1.0 12.208 1.1 0.4766 1.1 0.9839 0.1858 0.20 2473 22 2705 5 1.0 13.800 1.1 0.4676 1.1 0.9839 0.1858 0.30 2473 22 2706 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	73-108.1	266	969	0.62	ы	Б	0.000077	21	0.13	450	0.172	\vdash	\vdash		\vdash	\vdash	+	+	⊬	2724	23	2703	ဗ	-1.0
1.0 12.208 1.1 0.4766 1.0 0.9822 0.1858 0.20 2513 22 2705 3 2 1.0 11.380 1.1 0.4676 1.1 0.9639 0.1858 0.30 2473 22 2706 5 1 1 0.9639 1.1 0.9639 0.1868 0.30 2473 22 2706 5 1 1 0.9134 0.1860 0.48 2710 24 2707 8 1 1 0.9134 0.1860 0.48 2710 24 2707 8 1 1 0.9134 0.1860 0.48 2710 24 2707 8 1 1 0.9134 0.1860 0.48 2710 24 2707 8 1 1 0.9134 0.1860 0.48 2710 24 2707 8 1 1 0.9134 0.1860 0.48 2710 24 2707 8 1 1 0.9134 0.1860 0.48 2710 24 2707 8 1 1 0.9134 0.1860 0.48 2710 24 2707 8 1 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2707 8 1 0.9134 0.1860 0.48 2710 24 2710	73-104.1	983	675	0.71	ри	pu	0.000048	22	90.0	437	0.195	\vdash		\vdash	H	H	\vdash	\vdash	H	689	23	2704	ဇ	0.7
3 1.4 13.401 1.2 0.5226 1.1 0.9639 0.1858 0.30 2473 22 2706 5 8 1 1 13.401 1.2 0.5226 1.1 0.9134 0.1860 0.48 2710 24 2707 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	73-78.2	1065	759	0.74	ы	ы	0.000031	56	0.05	436	0.205									2513	22	2705	က	8.6
3 1.4 13.401 1.2 0.5226 1.1 0.9134 0.1860 0.48 2710 24 2707 8 nalyses in an individual spot are labelled as $x \cdot y.z.z$ omposition used is the surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840)	73-104.2	918	644	0.72	ы	pu	0:0000000	24	60.0	369	0.196					H	-	H	H	2473	22	2706	2	10.3
tes (see Stern.1991): of name follows the convention x-y,z; where x = sample number, and z = spot number. Multiple analyses in an individual spot are labelled as x-y,z.z of name follows the convention x-y,z; where x = sample number, y = grain number, and z = spot number. Multiple analyses in an individual spot are labelled as x-y,z.z of name follows the convention x-y,z; where x = sample number, y = grain	73-81.1	620	295	0.49	pu	ри	0.000872	9	1.51	278	0.133								H	2710	24	2707	8	-0.1
= not determined = not determined to tall a part is due to common Pb, calculated using the **Pb-method; common Pb composition used is the surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840) = not determined to recommon Pb, calculated using the **Pb-method; common Pb composition used is the not determined to the not of the not determined to the not of the not determined to the not determined to the not of the not	ot name follows	; the conv	ention x-	y.z; where	9 x = samp	ple numbe	er, y = grain nun 23.08.10.21. re	nber, and	z = spot num 2008	ber. Mult	ple analys	es in an i	ndividual sp	oot are lat	belled as x-	y.z.z								
efers to radiogenic PD (corrected for common Pb) Sociolation enable to forticated for common Pb) The sociolation enable to common enable to consider the sociolation correction.	= not determine	ed ple percer	nt of total	206 Dh that	i di b		Ph calculated in	sing the	*Ph-method	dommoo	Ph compo	eition use	die the eur	face blan	k (4/6: 0.0	5770-7/6	0.89500	8/6· 2·13	(0)					
Solvation remarks to object 1 = 100 (Not Too agr - Council age) (Not to a council age) (Not	efers to radioge	nic Pb (cc	orrected for	or common	n Pb))/38 200	/// ²⁰⁷ Dh/ ²⁰⁶ Dh ag						2		200			i	ì					
alytical details 450-22 Jan spot, a analysee marked with * analysed using 16 µm spot; 5 scans; U-Pb calibration error 1.0% (included); 4540-22 Jan spot, analysees marked with * analysed using 16 µm spot; 5 scans; U-Pb calibration error 1.41% (included); 504: 29 µm spot; 6 scans; U-Pb calibration error 1.41% (included); 505. 20 µm spot; 6 scans; U-Pb calibration error 1.41% (included);	scordance relation libration standa	rd 6266; t	U = 910 p	((201/201 pm; Age =	= 559 Ma;	206 Pb/236	// ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	(1)																
The Let pure language and the language of the	alytical details	. covlean	o morkod	the * dim.	ion poorle	16.11	- Poople	L Dh collin	t rouse acites	Oo, /inch	. (700)													
blat, 25 Jm ligót je Sarait, L-De Galladiando elfort (1-4) from mass fractionation contraction assurad ans et economic tandent 40.40 – 2679 e. 4. Ma for – 91. The mass fractionation contraction	sasured age of s	secondary	y standan	d 1242 = 2	2680 ± 6 N	/a (n = 12); no mass fract	ionation c	orrection.	0/0	,(2)													
	oo4: 23 Jill spo	t, o scaris	s, U-ru ce , standar	11242 = 2	3679 + 4 M	% (IIICIUUE 1a (n = 21	u),): no mass fract	ionation	orrection															

Table 1. Continued.

																				Арра	Apparent ages (Ma)	es (Ma)		П
U Th Th Yb Hf 204 Pb Spot name (ppm) (ppm) U (ppm) (ppm) U (ppm) (ppm) 206 Pb	O (mdd)	Th (ppm)	티그	Yb (mdd)	Ht (bpm)	²⁰⁴ Pb ²⁰⁶ Pb	# %	f(206) ²⁰⁴ %	²⁰⁶ Pb* (ppm)	²⁰⁸ Pb	+ %	235 U	# %	206°Pb	+ %	Corr	²⁰⁷ •Pb	# %	088 ∪88	+206 Pb	207 Pb	± ²⁰⁷ Pb 206 Pb	Disc. (%)	
SRB-D040B (G	SC lab	number z	9973) IP54	10; NAD83	3: 65.687:	33N, -62.96395W	V (continued)																	
9973-101.1	1140	116	0.65	P P	P P	0.000091	13 20	0.16	390	0.028	3.4	13.182	 	0.5605	<u> </u>	0.9728	0.1860	0.34	2673	22 23	2707	4 9	1.5	_
9973-63.1	383	128	0.34	pu	pu	0.000552	Ξ	96.0	174	0.083	2.4	13.670	1.2	0.5278	Ξ	0.9110	0.1878	0.51	2732	25	2723	80	-0.4	Т
9973-41.1	1193	109	60.0	pu	pu	0.000185	F	0.32	220	0.019	3.7	13.904	Ξ	0.5365	-	0.9716	0.1880	0.26	2769	24	2724	4	-2.0	
9973-21.1	2329	658	0.29	pu	pu	0.000038	18	0.07	1206	0.091	4.1	15.665	1.1	0.6028	1.1	0.9814	0.1885	0.21	3041	56	2729	က	-14.4	
9973-91.1	1567	84	90.0	ри	pu	0.000016	49	0.03	733	0.015	4.2	14.229	1.1	0.5449	1.0	0.9354	0.1894	0.39	2804	24	2737	9	-3.0	
9973-57.1	270	116	0.45	pu	pu	0.000479	13	0.83	123	0.108	3.5	13.867	1.4	0.5305	1.2	0.8638	0.1896	0.70	2744	27	2738	Ξ	-0.2	
9973-106.1	268	198	0.36	pu	pu	0.000063	41	0.11	259	0.100	1.8	13.927	1.1	0.5304	1.1	0.9641	0.1904	0:30	2743	24	2746	2	0.1	
9973-9.1	882	09	0.07	Б	Б	0.000024	49	0.04	333	0.021	5.9	13.807	Ξ	0.5258	1.0	0.9819	0.1904	0.20	2724	23	2746	ო	1.0	
9973-61.1	1059	73	0.07	2	Б	0.000111	17	0.19	490	0.019	4.2	14.189	Ξ	0.5389	7	0.9718	0.1910	0.26	2779	24	2750	4	-1.3	
9973-67.1	930	36	0.04	pu	pu	0.000074	25	0.13	427	0.011	4.2	14.094	1.1	0.5351	17	0.9748	0.1910	0.24	2763	24	2751	4	-0.5	
9973-66.1	260	123	0.49	р	pu	0.000434	15	0.75	119	0.134	2.3	14.067	1.4	0.5323	1.2	0.8636	0.1917	69.0	2751	27	2756	=	0.2	
9973-72.1	763	46	90.0	pu	pu	0.000126	18	0.22	344	0.016	5.1	13.870	1.1	0.5238	1.1	0.9640	0.1920	0:30	2715	24	2760	22	2.0	
9973-42.2	271	117	0.45	pu	pu	0.000394	20	0.68	116	0.123	3.7	13.229	9.1	0.4987	1.2	0.8000	0.1924	0.93	2608	27	2763	15	6.8	
9973-41.2	343	142	0.43	Б	ы	0.000273	18	0.47	160	0.106	2.4	14.356	1.2	0.5411	1.	0.9246	0.1924	0.47	2788	56	2763	80	Ŧ	
9973-21.2	382	82	0.23	Б	ы	0.000399	31	69.0	170	0.053	0.9	13.747	1.5	0.5171	1.2	0.8064	0.1928	0.87	2687	56	2766	4-	3.5	
9973-39.1	468	174	0.38	ри	pu	0.000111	25	0.19	210	0.110	5.1	13.863	1.2	0.5213	7	0.9547	0.1929	0.35	2705	25	2767	9	2.7	
9973-85.1	331	192	09:0	pu	pu	0.000429	12	0.74	153	0.155	5.6	14.294	1.3	0.5372	1.1	0.8984	0.1930	0.56	2772	56	2768	6	-0.2	
9973-29.1	368	148	0.42	Б	Ы	0.000316	17	0.55	170	0.113	3.1	14.341	1.3	0.5365	1.2	0.9156	0.1939	0.52	2769	27	2775	80	0.3	
9973-103.1	111	785	0.73	Б	Б	0.000035	54	90.0	522	0.201	6:0	14.651	Ξ	0.5477	17	0.9854	0.1940	0.18	2816	24	2776	ღ	-1.7	
9973-97.1	798	354	0.46	5	pp	0.000181	=	0.31	371	0.126	6.	14.515	F	0.5411	Ξ	0.9620	0.1946	0:30	2788	54	2781	ည	-0.3	
9973-79.1	267	105	0.40	2 3	2 3	0.000282	20 2	0.49	124	0.119	4. 0	14.483	6. 6	0.5389	ci ;	0.9074	0.1949	0.56	2779	27	2784	o 4	0.2	
99/3-61.2	- 62	202	54.0	2 3	2 2	0.000322	ري د	0.30	2 7	0.128	0 0	14.750	0. 1.	0.5470		0.7929	0.1950	0.30	2013	R C	06/2	9 1	0.1-	
9973-72.2	240	200	14.0	2 3	2 2	0.000235	6 6	14.0	- 77	0.13	מ מ	14.089		0.5223	5 6	0.7078	0.1950	90.	8072	82 6	08/2		0.0	1
9973-1021	310	43	0.30	2 2	2 2	0.000118	83	0.21	± 5	- 0	C.2	15.205	ń r	0.5275	4 6	0.939	0.0050	64.0	2612	000	2868	· =	7.7	
9973-93-1	149	g g	0.00	2 2	2 2	0.000332	3 8	0.0	3 8	0.000	o f	15 158		0.5333	5 G	0.0733	0.2061	0.70	2756	62	2875	= =	. r.	1
9973-96.1	87	788	0.33	. P	pu	0.000487	3 6	0.84	42	0.084	6.4	16.968	6.1	0.5604	5 5	0.7833	0.2196	1.15	2868	34	2978	19	4.5	
07SAB-02 (GSC lab number z10151) IP561_3; NAD83: 66.32	lab num	ber z1015	1) IP561	3; NAD83		667N, -65.50183W																		1
10151-37.1	681	403	0.61	pu	pu	0.000035	25	90:0	194	0.178	1	5.160	-	0.3320	Ξ	0.9673	0.1127	0.28	1848	17	1844	2	-0.2	
10151-19.1	265	315	0.55	pu	pu	0.000019	20	0.03	168	0.163	1.2	5.140	Ξ	0.3307	1.0	0.9596	0.1128	0:30	1842	16	1844	co.	0.2	
10151-13.1	247	143	09:0	pu	pu	0.000019	84	0.03	0,	0.177	8.	5.123	1.2	0.3290	Ξ	0.8848	0.1130	0.55	1833	17	1847	10	6.0	
10151-44.1	523	231	0.46	ъ	pu	0.000008	82	10.0	149	0.134	4.	5.205	F	0.3325	0.1	0.9197	0.1135	0.44	1851	17	1857	ω	0.4	
10151-11.1	613	281	0.47	2 7	2	0.000040	3	0.07	172	0.136	2. 5	5.120	- ;	0.3270	0.0	0.9593	0.1135	0.30	1824	9 1	1857	ro c	5.0	
10151-36.1	430	102	0.04	2 3	2 2	-0.000003	467	0.0-	4 6	0.100	3 6	0.130	: :	0.3310	2 5	0.9402	0.1130	0.33	1047	- 9	1050	ه م	0.7	T
10151-42.1	247	141	0.59	2 2	2 2	0.000068	2 86	0.12	2 02	0.170	<u>.</u> 6	5.207	- 10	0.3317	2 0	0.8024	0.1138	06.0	1847	0 0	1862	9 9	6.0	\top
10151-109.1	177	29	0.39	рц	pu	0.000042	88	0.07	20	0.114	5.6	5.140	1.3	0.3275	-	0.8485	0.1138	29.0	1826	17	1862	12	2.2	Τ
10151-20.1	347	190	0.57	ри	pu	0.000038	53	0.07	66	0.167	2.3	5.202	F.F	0.3310	1.0	0.9251	0.1140	0.43	1843	17	1864	80	1.3	
10151-114.2	743	121	0.17	р	pu	0.000025	25	0.04	212	0:000	1.9	5.233	1.1	0.3328	1.0	0.9724	0.1141	0.25	1852	17	1865	2	0.8	
10151-22.1	199	89	0.35	pu	pu	0.000041	87	0.07	26	0.104	5.6	5.175	1.2	0.3289	-	0.8579	0.1141	0.64	1833	17	1866	12	2.1	
10151-94.2	641	509	0.34	ъ	ы	0.000025	50	0.04	180	0.095	1.5	5.163	F	0.3278	1.0	0.9677	0.1142	0.27	1828	16	1868	2	2.5	
10151-67.1	217	97	0.46	Б	Ы	0.000021	119	0.04	62	0.132	2.2	5.256	1.2	0.3321	Ξ.	0.8900	0.1148	0.54	1848	17	1877	9	1.7	
10151-14.1	380	209	0.57	2 1	2 7	0.000011	5 2	0.02	109	0.171	5.5	5.313		0.3355	0 :	0.9473	0.1149	0.35	1865	17	1878	9	0.8	
10151-99 1	198	92	0.40	2 2	2 2	0.000037	27	00.0	3 4	0.114	5.2	5.218	4 C	0.3289	= =	0.9068	0.1151	0.50	1833	12	1881	n o	o	1
10151-114 1	176	74	0.43	2	2	0.000049	i &	0.08	202	0 127	40	5 244	1 0	0.3302	:	0.8998	0 1152	0.52	1839	17	1883	σ	2.7	\top
10151-45.1	180		0.41	2	2	0.000033	2 86	90.0	3 5	0.127	2.4	5.258	. 6	0.3310	-	0.8651	0.1152	0.62	1843	17	1883	, -	2.4	T
10151-9.1	225	92	0.42	2 2	2 2	0.000040	126	0.07	65	0.124	2.1	5.327	1.3	0.3351	5	0.8247	0.1153	0.73	1863	17	1884	13	1.3	
10151-94.1	182	09	0.34	ы	pu	0.000023	78	0.04	52	0.101	2.7	5.327	1.2	0.3350	17	0.8934	0.1153	0.54	1863	17	1885	10	1.3	Π
10151-15.1	1387	314	0.23	ри	pu	0.00000	98	0.01	412	0.070	1.2	5.498	1.0	0.3455	1.0	0.9663	0.1154	0.27	1913	17	1886	ς.	-1.6	
10151-88.1	187	92	0.53	pu .	PL .	0.000001	88	0.00	23	0.154	3.8	5.253	1.2	0.3299	Ξ:	0.9153	0.1155	0.47	1838	17	1887	80	3.0	
10151-21.1	310	155	0.52	pu	pu	0.000038	34	0.07	06	0.156	1.7	5.408	Ţ.	0.3393	1.0	0.9336	0.1156	0.40	1883	17	1889	7	0.4	\neg

Table 1. Continued.

1 10 10 10 10 10 10 10																					Арра	Apparent ages (Ma)	es (Ma)	
70.1 70.1 <th< th=""><th>***************************************</th><th>Э .</th><th>T (</th><th></th><th>dY b</th><th>Ŧ</th><th></th><th></th><th></th><th>200 Pb*</th><th></th><th>ò</th><th>207*Pb</th><th>+ 6</th><th>206*Pb</th><th></th><th>Corr</th><th>207.Pb</th><th></th><th>206Pb</th><th>±²⁰⁶Pb</th><th>207 Pb</th><th>+207Pb</th><th>Disc.</th></th<>	***************************************	Э .	T (dY b	Ŧ				200 Pb*		ò	207*Pb	+ 6	206* Pb		Corr	207.Pb		206 Pb	± ²⁰⁶ Pb	207 Pb	+207Pb	Disc.
1.1 0.33584 1.1 0.9070 0.1157 0.49 1866 17 1891 9 1.1 0.33584 1.1 0.9600 0.1157 0.49 1891 17 1891 9 1.1 0.3473 1.1 0.94148 0.1159 0.49 1892 19 1898 4 - 1.1 0.3429 1.1 0.9140 0.1164 0.49 1898 17 1902 6 1.1 0.3240 1.1 0.9140 0.1166 0.29 1898 17 1904 6 1.1 0.3240 1.1 0.9574 0.1169 0.49 1898 17 1904 6 1.1 0.3252 1.4 0.9640 0.1138 0.55 1898 17 1902 9 1.4 0.050 0.1150 0.93 1898 0.92 1894 9 7 1.4 0.050 0.1150 0.03 1894 2	Spot name 07SAB-02 (GSC	(ppr	nber z101	7 U 51) IP561_	3; NADE		FD 37N, -65.50183	% ± W (contir	(panu	(ppm)		%	>	+ %	>		Coen	5			0	5	a G	(%)
1.1 0.3388 1.1 0.9600 0.1157 0.30 1881 17 1891 5 11.1 0.3283 1.1 0.9448 0.1157 0.3473 1.1 0.9418 0.1158 0.49 1892 19 1894 9 1.1 0.9473 1.1 0.9418 0.1169 0.49 1896 19 1894 9 1.1 0.3473 1.1 0.9473 1.1 0.9461 0.1164 0.49 1896 19 1944 9 1944 1 1 0.3424 1.1 0.9461 0.1169 0.24 1900 19 1900 19 1944 0.1 0.1169 0.24 1.1 0.3424 1.1 0.3452 1.1 0.3452 0.1 0.1169 0.24 1900 19 19 1944 0.1 0.1169 0.24 19 19 1944 0.1 0.1 0.3452 0.1 0.1 0.3474 0.1 0.1 0.349 19 19 19 19 19 19 19 19 19 19 19 19 19	10151-5.1	220		0.51	pu	pu	0.000062	28	0.11	63	0.145	2.1	5.351	1.2	0.3354	1.1	0.9077	0.1157	0.49	1865	17	1891	6	1.6
11.2 0.3371 1.1 0.9944 0.1159 0.249 1873 18 1894 9 1.1 0.3473 1.1 0.39473 1.1 0.39473 1.1 0.39473 1.1 0.39473 1.1 0.39470 0.1162 0.229 1899 18 1994 9 1.1 0.39430 1.1 0.1 0.39430 1.1 0.1 0.39430 1.1 0.1 0.39430 1.1 0.1 0.39430 1.1 0.1 0.39430 1.1 0.1 0.39430 1.1 0.1 0.39430 1.1 0.1 0.39430 1.1 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	10151-41.1	486		0.68	Б	ы	0.000013	13	0.02	141	0.197	1.2	5.406	-:	0.3388	1.0	0.96.0	0.1157	0:30	1881	17	1891	2	0.7
11.1 0.3473 1.1 0.9811 0.1162 0.24 1921 19 19 19 6 4 1.1 0.3340 1.1 0.3410 0.1164 0.42 1882 19 17 1902 9 5 11.1 0.3420 1.	10151-116.1	180		0.41	ри	pu	0.000015	30	0.03	52	0.123	2.4	5.386	1.2	0.3371	Ξ	0.9148	0.1159	0.49	1873	18	1894	6	1.3
11. 0.3426 1.1 0.9110 0.1164 0.29 1896 17 1902 9 11.1 0.3424 1.1 0.2961 0.1166 0.29 1896 18 1904 5 5 11.1 0.3422 1.1 0.2961 0.1166 0.29 1896 18 1904 5 5 11.1 0.3422 1.1 0.2961 11.1 0.2973 0.116 0.29 1896 189 7 14.1 0.2962 1.1 0.2973 0.118 0.29 1892 7 14.1 0.2962 1.1 0.2973 0.118 0.29 1892 2 1863 1.0 0.371 1.1 0.2913 0.29 1892 0.2 1893 7 14.1 0.2969 1.1 0.1142 0.34 1823 2.2 1868 1.0 0.34 1823 0.29 1893 7 14.1 0.2969 1.1 0.1142 0.34 1842 2.2 1868 1.0 0.34 1842 0.38 1840 0.2 1893 7 14.1 0.2969 1.1 0.1142 0.34 1842 0.3 1840 0.2 1893 7 14.1 0.2969 1.1 0.1142 0.34 1847 0.3 1889 0.1 1.1 0.3	10151-10.1	1007		0.30	pu	pu	0.000000	540	00:00	300	0.088	1.2	5.561		0.3473	Ξ	0.9811	0.1162	0.21	1921	18	1898	4	4.1-
1.1 0.3424 1.1 0.9861 0.1166 0.23 1888 18 18 1904 5 5 1.1 0.3424 1.1 0.9861 0.116 0.23 1810 18 1909 5 1 1.1 0.3422 1.1 0.9871 0.1169 0.23 1810 18 1909 5 7 1.1 0.3422 1.0 0.9374 0.1180 0.39 1850 1850 7 1.1 0.3422 1.0 0.9374 0.1180 0.39 1850 1824 22 1861 10 1.4 0.3256 1.1 1.4 0.9298 0.118 0.56 1824 22 1861 10 1.1 0.3286 1.1 4 0.9707 0.1139 0.39 1860 22 1863 7 1.1 0.3286 1.1 4 0.9707 0.1139 0.39 1860 22 1863 7 1.1 0.3286 1.1 0.3286 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3380 1.1 0.3980 0.1151 0.23 1877 22 1882 5 1.1 0.3380 1.1 0.3380 1.1 0.3980 0.1152 0.22 1867 22 1889 5 1.1 0.3380 1.1 0.3880 1.1 0.3980 0.1152 0.22 1887 22 1889 5 1.1 0.3380 1.1 0.3980 0.1152 0.22 1887 22 1889 5 1.1 0.3380 1.1 0.3980 0.1152 0.22 1887 22 1889 5 1.1 0.3380 1.1 0.3980 0.1152 0.22 1887 22 1889 5 1.1 0.3380 1.1 0.3980 0.1152 0.22 1887 22 1889 5 1.1 0.3380 1.1 0.3880 1.1 0.3880 1.1 0.1580 0.22 1887 22 1889 5 1.1 0.3880 1.1 0.1 0.3880 1.1 0.3880 0.1 0.1 0.	10151-46.1	214		0.43	ри	ри	0.000003	501	0.01	61	0.132	2.2	5.363	1.2	0.3340	1:1	0.9110	0.1164	0.48	1858	17	1902	6	2.7
1.2 0.3420 1.1 0.9261 0.1169 0.347 10180 0.393 1912 17 1956 7 1.4 0.3482 1.0 0.3874 0.1180 0.393 1912 17 1926 7 1.44 0.3282 1.4 0.9640 0.1133 0.58 1850 2 1863 7 1.49 0.3273 1.4 0.9640 0.1138 0.38 1850 2 1863 7 1.41 0.3286 1.4 0.9679 0.1142 0.38 1840 2 1868 6 7 1.41 0.3286 1.4 0.9679 0.1150 0.38 1840 2 1868 6 7 1.42 0.3286 1.4 0.9679 0.1150 0.38 1841 22 1889 6 7 7 1.43 0.3286 1.4 0.9679 0.1150 0.28 1844 22 1889 6 7	0151-8.1	523		0.72	ы	ри	0.000014	44	0.02	154	0.211	1.	5.502		0.3424	Ξ	0.9661	0.1166	0.29	1898	8	1904	2	0.4
1.4 0.3462 1.0 0.3942 1.1 1.3462 7 1.4 0.3252 1.4 0.3640 0.1133 0.38 1850 22 1863 7 1.43 0.3251 1.4 0.3640 0.1138 0.56 1824 22 1861 10 1.43 0.3291 1.4 0.9671 0.1142 0.34 1824 22 1861 1 1.41 0.2300 1.4 0.9706 0.1142 0.34 1840 22 1861 7 1.42 0.2300 1.4 0.9706 0.1151 0.34 1847 22 1861 7 1.42 0.3302 1.4 0.9706 0.1151 0.24 1847 22 1881 7 1.40 0.3302 1.4 0.9706 0.1151 0.24 1874 22 1882 5 1.40 0.3902 0.1151 0.24 1864 22 1881 4 18	10151-17.1	360		0.45	р	pu	-0.000003	817	-0.01	106	0.133	1.7	5.528	1.2	0.3430	1:	0.9213	0.1169	0.47	1901	18	1909	80	0.5
1.44 0.3825 1.4 0.98640 0.1133 0.58 1854 22 1861 10 1.49 0.2327 1.4 0.9260 0.1138 0.56 1824 22 1861 10 1.41 0.23291 1.4 0.9671 0.1138 0.56 1824 22 1868 6 1.41 0.2329 1.4 0.9700 0.1142 0.34 1847 22 1868 6 1.42 0.3306 1.4 0.9673 0.1150 0.38 1864 22 1868 6 1.42 0.3306 1.4 0.9673 0.1150 0.38 1864 22 1889 7 1.42 0.3306 1.4 0.9679 0.1151 0.29 1868 6 1.42 0.3306 1.4 0.9686 0.1152 0.29 1886 6 1.43 0.3375 1.4 0.9686 0.1154 0.29 1886 1	10151-12.1	273		0.57	pu	pu	0.000001	80	0.00	81	0.170	1.7	5.614	1.1	0.3452	1.0	0.9374	0.1180	0.39	1912	17	1926	7	8.0
144 0.0325 14 0.0640 0.1133 0.036 1850 7 148 0.03271 14 0.0640 0.1138 0.58 1854 22 1861 10 143 0.02271 14 0.06290 0.1142 0.34 1823 22 1868 6 143 0.03802 14 0.0673 0.1144 0.34 1823 22 1868 6 144 0.3302 14 0.9722 0.1150 0.36 1847 2 1868 6 142 0.3318 14 0.9673 0.1151 0.36 1847 22 1868 6 140 0.3360 14 0.9673 0.1151 0.24 1872 2 1882 6 140 0.3360 14 0.9670 0.1151 0.24 1874 22 1888 6 143 0.0360 0.1152 0.24 1884 22 1884 6	9SRB-M109A ((GSC lab	number 2	210150) IP	7561_4; N		.40735N, -64.8	6038W																
149 0.2271 14 0.9296 0.1138 0.55 1824 22 1861 10 143 0.2391 14 0.9671 0.1142 0.34 22 1863 7 143 0.2390 14 0.970 0.1144 0.34 122 1863 7 144 0.2306 14 0.970 0.1150 0.36 1840 22 1879 6 145 0.3302 14 0.970 0.1151 0.34 1840 22 1879 6 146 0.3302 14 0.976 0.1151 0.34 1847 22 1877 6 148 0.3402 0.1151 0.24 1874 22 1880 7 149 0.3350 14 0.9765 0.1154 0.29 1874 22 1880 4 1.42 0.3350 14 0.9765 0.1154 0.29 1874 22 1880 4	10150-29.1	250	7	0.29	297	11923	0.000039	30	0.07	7	0.085	2.2	5.193	1.44	0.3325	4.1	0.9640	0.1133	0.38	1850	22	1853		0.2
1.43 0.3291 1.4 0.9671 0.1139 0.36 1884 22 1863 7 1.41 0.2369 1.4 0.9678 0.1142 0.34 1823 22 1868 6 1.41 0.3206 1.4 0.9679 0.1150 0.32 1841 22 1868 6 1.45 0.3306 1.4 0.9679 0.1151 0.29 1841 22 1879 6 1.46 0.3338 1.4 0.9679 0.1151 0.29 1882 2 1882 6 1.47 0.3338 1.4 0.9785 0.1151 0.29 1894 6 7 1.48 0.3338 1.4 0.9966 0.1154 0.29 1898 4 1882 6 1.48 0.3348 1.4 0.9966 0.1154 0.29 1884 4 1 1.53 0.3375 1.4 0.9967 0.1154 0.29 1884	10150-46.1	192	H	0.37	173	10211	0.000022	161	0.04	24	0.112	2.0	5.132	1.49	0.3271	4.1	0.9296	0.1138	0.55	1824	22	1861	9	2.3
1.41 0.3266 1.44 0.996 0.1142 0.34 1823 22 1869 6 1.43 0.3262 1.44 0.996 0.1144 0.38 1840 22 1877 7 1.45 0.3302 1.4 0.9979 0.1150 0.32 1841 22 1877 7 1.40 0.3333 1.4 0.9979 0.1151 0.24 1862 22 1882 6 1.40 0.3335 1.4 0.9979 0.1151 0.24 1867 22 1882 6 1.40 0.9378 0.1154 0.29 1879 0.1154 0.28 1879 1 0.1156 0.24 1889 1 1 0.9780 0.1154 0.28 1874 22 1889 4 1 1 0.9869 0.1154 0.28 1874 0.28 1 0.988 0.1154 0.28 1874 0.28 1887 1 0.88 1 0.	10150-55.1	303	H	0.29	387	11877	0.000058	54	0.10	98	0.084	2.0	5.169	1.43	0.3291	1.4	0.9671	0.1139	0.36	1834	22	1863	7	1.8
1.43 0.3302 1.4 0.9631 0.1144 0.38 1840 22 1877 7 1.41 0.3302 1.4 0.9742 0.1150 0.32 1841 22 1879 6 1.42 0.3338 1.4 0.9769 0.1151 0.34 1847 22 1882 6 1.39 0.3383 1.4 0.9785 0.1152 0.24 1862 5 1882 6 1.40 0.3383 1.4 0.9785 0.1152 0.24 1862 22 1882 6 7 1.39 0.3375 1.4 0.9785 0.1152 0.24 1865 22 1882 4 7 1.39 0.3375 1.4 0.9658 0.1154 0.29 1867 22 1886 4 7 18 3 1887 4 7 18 3 1887 4 7 18 18 4 18 18 18	1150-30.1	292		0.34	266	11564	0.000041	22	0.07	82	0.102	1.9	5.149	1.41	0.3269	1.4	9026.0	0.1142	0.34	1823	22	1868	9	2.7
1.41 0.3306 1.4 0.9442 0.1150 0.32 1841 22 1879 6 1.45 0.3383 1.4 0.9679 0.1151 0.34 1864 23 1880 7 1.40 0.3383 1.4 0.9678 0.1151 0.29 1874 22 1882 6 1.40 0.3383 1.4 0.9785 0.1151 0.29 1878 22 1882 6 1.53 0.3373 1.4 0.9956 0.1154 0.29 1874 22 1882 6 1.39 0.3375 1.4 0.9958 0.1154 0.29 1884 22 1886 1 1.39 0.3375 1.4 0.9968 0.1154 0.29 1884 22 1886 1 1.40 0.3375 1.4 0.9879 0.1156 0.22 1894 4 1.40 0.3374 1.4 0.9879 0.1156 0.29	10150-29.2	291		0.33	294	11622	0.000020	66	0.04	83	0.100	1.7	5.210	1.43	0.3302	4.1	0.9631	0.1144	0.38	1840	22	1871	7	1.9
1.45 0.3333 1.4 0.9679 0.1150 0.36 1884 22 1880 7 1.42 0.3338 1.4 0.9786 0.1151 0.34 1847 22 1882 6 1.49 0.3338 1.4 0.9856 0.1152 0.24 1865 22 1882 6 1.53 0.3335 1.4 0.9856 0.1152 0.24 1865 22 1882 6 1.53 0.3376 1.4 0.9856 0.1154 0.29 1874 22 1886 5 1.39 0.3349 1.4 0.9856 0.1156 0.22 1887 4 - 1.30 0.3493 1.4 0.9866 0.1156 0.22 1887 4 - 1.30 0.3349 1.4 0.9879 0.1156 0.22 1884 5 1.40 0.3968 1.14 0.2969 0.1156 0.22 1889 4 -	10150-79.1	292	-	0.31	280	11823	0.000020	54	0.04	83	0.092	1.9	5.241	1.41	0.3306	1.4	0.9742	0.1150	0.32	1841	22	1879	9	2.3
1.42 0.3318 1.4 0.9709 0.1151 0.34 1847 22 1882 6 1 1.4 0.3838 1.4 0.29 1878 22 1882 5 1 1.4 0.2956 0.1152 0.24 1855 22 1882 5 1 1.4 0.2956 0.1153 0.22 1874 22 1885 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10150-84.1	188		0.39	455	11195	-0.000005	84	-0.01	24	0.120	1.9	5.285	1.45	0.3333	1.4	0.9679	0.1150	98.0	1854	23	1880	7	1.6
140 0.3383 14 0.9956 0.1151 0.29 1876 22 1882 5 1 1 1 39 0.3353 14 0.9956 0.1152 0.24 1865 22 1889 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	150-86.1	372		0.28	324	11791	0.000017	103	0.03	106	0.082	1.8	5.266	1.42	0.3318	1.4	0.9709	0.1151	0.34	1847	22	1882	9	2.1
1.59 0.3335 14 0.9956 0.1152 0.24 1885 17 1886 11 1.25 0.3373 1.4 0.9956 0.1154 0.29 1867 23 1886 11 1.25 0.3373 1.4 0.9790 0.1154 0.29 1867 23 1886 11 1.25 0.3375 1.4 0.9959 0.1154 0.29 1867 23 1874 22 1886 4 1.25 0.3395 1.4 0.9979 0.1154 0.29 1874 22 1886 4 1.25 0.3395 1.4 0.9979 0.1156 0.29 1874 22 1889 4 1.38 0.3374 1.4 0.9979 0.1156 0.29 1882 22 1889 5 1.4 0.9979 0.1156 0.29 1882 22 1889 5 1.4 0.9980 0.1157 0.23 1817 22 1891 5 1.39 0.3256 1.4 0.9960 0.1157 0.23 1817 22 1891 7 1.40 0.3355 1.4 0.9960 0.1157 0.23 1817 22 1891 7 1.41 0.3355 1.4 0.9960 0.1157 0.23 1817 22 1891 7 1.42 0.3358 1.4 0.9967 0.1159 0.29 1847 22 1894 5 1.44 0.9974 0.1159 0.29 1847 22 1894 5 1.44 0.9907 0.1159 0.29 1847 22 1894 5 1.44 0.9907 0.1159 0.29 1847 22 1894 5 1.44 0.9907 0.1159 0.29 1847 22 1894 5 1.44 0.9907 0.1159 0.29 1847 22 1894 6 1.44 0.9907 0.1159 0.29 1847 22 1894 6 1.44 0.9907 0.1159 0.29 1847 22 1894 6 1.44 0.9907 0.1159 0.29 1847 22 1894 6 1.44 0.9907 0.1159 0.29 1847 22 1894 6 1.44 0.9907 0.1161 0.35 1891 22 1898 4 1.44 0.9907 0.1161 0.35 1891 22 1898 6 1.44 0.9907 0.1161 0.35 1891 22 1898 6 1.44 0.9907 0.1161 0.35 1891 22 1898 6 1.44 0.9907 0.1162 0.25 1891 22 1898 6 1.44 0.9907 0.1164 0.36 1892 22 1976 1.44 0.9908 0.1164 0.25 1894 22 1976 1.44 0.9909 0.1164 0.25 1894 22 1976 0.1399 0.79 22 1976 0.79 1891 0.7	1150-80.1	329		0.34	298	11688	0.0000025	33	0.04	104	0.100	1.6	5.370	1.40	0.3383	1.4	0.9785	0.1151	0.29	1878	22	1882	2	0.2
1.53 0.3373 1.4 0.9155 0.1153 0.62 1874 23 1885 11 1.42 0.3350 1.4 0.2950 0.1154 0.29 1867 23 1886 5 1 1.39 0.33493 1.4 0.9959 0.1154 0.29 1874 22 1886 5 5 1.39 0.33493 1.4 0.99679 0.1155 0.22 1931 22 1889 4 7 1.39 0.33493 1.4 0.99679 0.1155 0.22 1931 22 1889 7 7 1.40 0.3358 1.4 0.9968 0.1156 0.29 1866 22 1889 7 7 1.41 0.3358 1.4 0.9968 0.1157 0.23 1817 22 1891 5 1.41 0.3958 1.4 0.9968 0.1157 0.23 1817 22 1891 5 1.41 0.3958 1.4 0.9968 0.1157 0.23 1817 22 1891 5 1.41 0.3958 1.4 0.9968 0.1157 0.23 1817 22 1891 5 1.41 0.3958 1.4 0.9967 0.1159 0.29 1847 22 1894 5 1.41 0.3967 0.1159 0.29 1847 22 1894 5 1.41 0.3967 0.1159 0.29 1847 22 1894 5 1.41 0.3968 1.4 0.9967 0.1161 0.35 1889 23 1894 5 1.41 0.3969 1.4 0.9967 0.1161 0.35 1889 23 1894 6 1.41 0.3969 1.41 0.3969 0.1161 0.35 1889 23 1898 6 1.41 0.3969 1.41 0.3969 0.1161 0.35 1889 22 1898 6 1.41 0.3969 1.41 0.3959 0.1161 0.35 1894 22 1898 6 1.41 0.3959 1.41 0.3969 0.1161 0.35 1894 22 1898 6 1.41 0.3959 1.41 0.3959 0.1162 0.29 1847 22 1898 6 1.41 0.3959 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1898 6 1.41 0.3959 0.1162 0.29 1894 22 1894 22 1894 6 1.41 0.3959 0.1162 0.29 1894 22 1894 22 1894 6 1.41 0.3959 0.1162 0.29 1894 22 1894 22 1894 6 1.41 0.3959 0.1162 0.29 1894 22 1894 6 1.41 0.3959 0.1162 0.29 1894 22 1894 6 1.41 0.3959 0.1162 0.29 1894 22 1894 6 1.41 0.3959 0.1162 0.29 1894 22 1894 22 1894 6 1.41 0.3959 0.1162 0	1150-44.1	203		0.29	375	11885	0.000003	66	0.00	144	0.089	1.4	5.299	1.39	0.3335	4.1	0.9856	0.1152	0.24	1855	22	1883	4	1.7
1.42 0.3360 1.4 0.9979 0.1154 0.29 1867 23 1886 5 5 1.39 0.3375 1.4 0.9958 0.1154 0.22 1897 22 1886 4 4 1.39 0.3375 1.4 0.9979 0.1156 0.21 1874 22 1886 4 4 1.39 0.3374 1.4 0.9979 0.1156 0.21 1874 22 1889 4 1.4 0.343 1.4 0.9979 0.1156 0.21 1874 22 1889 5 1.40 0.3349 1.4 0.9968 0.1157 0.27 1865 22 1889 7 7 1.42 0.3358 1.4 0.9969 0.1157 0.27 1865 22 1899 7 7 1.42 0.3358 1.4 0.9969 0.1157 0.23 1817 22 1891 7 7 1.43 0.3369 1.4 0.9969 0.1157 0.23 1817 22 1891 7 7 1.44 0.3969 0.1157 0.23 1817 22 1894 5 1.4 0.9967 0.1159 0.29 1847 22 1894 5 1.4 0.3969 0.1167 0.38 1865 22 1894 5 1.4 0.3969 0.1167 0.38 1865 22 1894 5 1.4 0.3969 0.1161 0.35 1894 5 1.4 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3969 0.1161 0.3	1150-82.1	153		0:30	420	11712	0.000047	77	80.0	44	0.090	2.7	5.363	1.53	0.3373	1.4	0.9155	0.1153	0.62	1874	23	1885	Ξ	0.7
1.39 0.3375 14 0.8958 0.1154 0.22 1884 22 1886 4 1.39 0.3475 1.4 0.8977 0.1155 0.22 1331 2.3 1887 4 4 1.39 0.3434 14 0.9781 0.1156 0.29 1862 22 1889 4 1.4 0.9781 0.1156 0.29 1862 22 1889 5 1.4 0.8969 0.1156 0.29 1862 22 1889 7 1.4 0.8969 0.1157 0.27 1865 22 1889 7 1.4 0.8969 0.1157 0.27 1865 22 1881 5 1.4 0.8969 0.1157 0.27 1865 22 1881 4 1.4 0.8969 0.1157 0.27 1865 22 1881 4 1.4 0.8969 0.1157 0.27 1865 22 1881 4 1.4 0.8969 0.1157 0.27 1872 22 1891 4 1.4 0.8969 0.1157 0.27 1879 22 1894 5 1.4 0.8969 0.1159 0.28 1814 22 1894 5 1.4 0.8967 0.1159 0.28 1814 22 1894 5 1.4 0.8967 0.1159 0.28 1814 22 1894 5 1.4 0.8967 0.1161 0.35 1898 6 1.4 0.8969 0.1161 0.31 1881 22 1894 6 1.4 0.8969 0.1161 0.35 1898 23 1898 6 1.4 0.8969 0.1161 0.31 1881 22 1898 6 1.4 0.8969 0.1161 0.35 1898 23 1898 6 1.4 0.8969 0.1161 0.35 1898 23 1898 6 1.4 0.8969 0.1161 0.35 1898 22 1898 6 1.4 0.8969 0.1161 0.35 1898 0.28 1894 5 1.4 0.8969 0.1161 0.35 1898 23 1898 6 1.4 0.8969 0.1161 0.35 1898 0.29 1898 0.14 0.8969 0.1161 0.35 1898 0.29 1898 0.16 0.36 1898 0.16 0.36 1898 0.16 0.38 1898 0.14 0.8969 0.1161 0.35 1898 0.29 1898 0.14 0.8969 0.1161 0.35 1898 0.29 1898 0.14 0.8969 0.1161 0.35 1898 0.29 1898 0.14 0.8969 0.1161 0.35 1898 0.20 1898 0.14 0.8969 0.1161 0.35 1898 0.20 1898 0.14 0.8969 0.1161 0.35 1898 0.20 1898 0.14 0.8969 0.1161 0.36 1898 0.20 1898 0.14 0.8969 0.1161 0.36 1898 0.20 1898 0.14 0.8969 0.1161 0.36 1898 0.20 1898 0.14 0.8969 0.1161 0.36 1898 0.20 1898 0.14 0.8969 0.1161 0.36 1898 0.20 1898 0.14 0.8969 0.1161 0.36 1898 0.20 1898 0.14 0.8969 0.1161 0.36 1898 0.20 1898 0.14 0.8969 0.1161 0.36 1898 0.20 1898 0.14 0.8969 0.1161 0.36 1898 0.14 0.25 1898 0.25 1898 0.14 0.25 1898 0.14 0.25 1898 0.25 1898 0.14 0.25 1898 0.25 1898 0.14 0.25 1898 0.14 0.25 1898 0	1150-7.1	384		0.27	480	12036	0.000013	48	0.02	Ξ	0.078	1.8	5.346	1.42	0.3360	4.	0.9790	0.1154	0.29	1867	23	1886	co	1.2
1.39 0.3495 1.4 0.9877 10.1155 0.22 1887 4 7 1.40 0.3349 1.4 0.9878 10.1156 0.22 1887 22 1889 5 1.4 0.3688 1.4 0.9781 0.1156 0.29 1862 22 1889 5 1.4 0.3688 1.4 0.9868 0.1156 0.29 1862 22 1889 5 1.4 0.3858 1.4 0.9869 0.1157 0.23 1817 22 1891 4 1.41 0.3355 1.4 0.9589 0.1157 0.23 1817 22 1891 4 1.41 0.3359 1.4 0.9589 0.1157 0.23 1817 22 1891 4 1.41 0.3281 1.4 0.9589 0.1159 0.241 1872 22 1893 7 1.43 0.3369 1.4 0.9589 0.1159 0.27 1879 22 1894 5 1.41 0.3281 1.4 0.9807 0.1159 0.27 1879 22 1894 5 1.41 0.3281 1.4 0.9807 0.1159 0.29 1881 22 1894 5 1.41 0.3281 1.4 0.9897 0.1161 0.33 1881 22 1898 6 1.41 0.3862 1.4 0.9897 0.1161 0.33 1881 22 1898 6 1.41 0.3898 1.4 0.9993 0.1161 0.31 1881 22 1898 6 1.41 0.3898 1.4 0.9993 0.1161 0.31 1881 22 1898 6 1.41 0.3993 0.1161 0.35 1898 23 1898 6 1.41 0.3993 0.1161 0.35 1893 0.22 1894 5 1.41 0.3993 0.1161 0.35 1893 0.22 1894 5 1.41 0.3993 0.1161 0.35 1894 22 1898 6 1.41 0.3993 0.1161 0.35 1893 0.22 1894 5 1.41 0.3993 0.1161 0.35 1894 22 1898 6 1.41 0.3993 0.1161 0.35 1894 0.25 1898 0.1161 0.39 0.3399 1.4 0.9993 0.1161 0.35 1894 22 1898 6 1.41 0.3993 0.1161 0.35 1893 0.22 1894 0.1161 0.35 1894 0.1161 0.35 1894 0.1161 0.39 0.3399 0.1162 0.25 1894 0.1161 0.35 1894 0.1161 0.39 0.3399 0.1161 0.39 0.29 0.1194 0.35 0.22 1894 0.1194 0.35 0.3394 0.14 0.3993 0.1162 0.25 1894 0.25 1894 0.1194 0.35 0.3994 0.1194 0.35 0.1214 0.25 0.25 0.24 0.1194 0.35 0.24 0.1194 0.35 0.3994 0.1194 0.35 0.39 0.1194 0.35 0.1194 0.35 0.39 0.1194 0.35 0	150-56.1	569	-	0.34	386	11652	-0.000002	422	0.00	165	0.102	1.3	5.369	1.39	0.3375	4.	0.9858	0.1154	0.23	1874	22 5	1886	4	0.7
1.38 0.3334 14 0.3969 0.1150 0.221 1862 22 1889 4 1.4 0.3358 1.4 0.3966 0.1156 0.29 1865 22 1889 5 5 1.4 0.3358 1.4 0.3969 0.1157 0.27 1865 22 1889 5 5 1.39 0.3358 1.4 0.3969 0.1157 0.27 1865 22 1891 4 1.39 0.3256 1.4 0.3969 0.1157 0.27 1865 22 1891 4 1.39 0.3256 1.4 0.3969 0.1157 0.23 1877 22 1891 7 1.39 0.3369 1.4 0.3969 0.1159 0.28 1814 22 1894 5 1.41 0.3251 1.4 0.3967 0.1159 0.28 1814 22 1894 5 1.4 0.3967 0.1159 0.29 1847 23 1894 5 1.4 0.3967 0.1159 0.28 1814 22 1894 5 1.4 0.3967 0.1169 0.29 1847 23 1894 5 1.4 0.3967 0.1161 0.35 1898 8 1 1.4 0.3967 0.1161 0.35 1891 22 1898 8 1 1.4 0.3969 0.1161 0.35 1891 22 1898 6 1.3 0.3389 1.4 0.3969 0.1161 0.35 1891 22 1898 6 1.3 0.3389 1.4 0.3969 0.1161 0.35 1891 22 1898 6 1.3 0.3389 1.4 0.3969 0.1162 0.25 1881 22 1898 6 1.3 0.3389 1.4 0.3969 0.1161 0.35 1894 22 1976 4 1.4 0.3967 0.1161 0.35 1894 22 1976 4 1.4 0.3967 0.1161 0.35 1894 22 1976 4 1.4 0.3969 0.1162 0.25 1881 22 1898 6 1.4 0.3969 0.1162 0.25 1881 22 1898 6 1.4 0.3969 0.1162 0.25 1881 22 1898 8 1.4 0.3969 0.1162 0.25 1881 22 1898 8 1.4 0.3969 0.1162 0.32 1994 0.36 1894 0.36 1894 0.36 1894 0.36 1894 0.36 1894 0.36 1894 0.36 1894 0.399 0.3999 1.4 0.3969 0.1161 0.35 1894 0.35 1894 0.36 1894 0.399 0.3999 1.4 0.3969 0.1161 0.35 1894 0.35 1894 0.399 0.3999 1.4 0.3969 0.1161 0.35 1894 0.35 1894 0.399 0.3999 0	1.150-061	715	\pm	09:0	549	96911	0.000007	25	L0.0	214	181.0	6.0	5.567	98.1	0.3493	4.	0.9871	0.1155	0.22	1931	R S	1887	4 .	-2.7
1.40 0.3349 1.4 0.9781 0.1156 0.29 1882 22 1889 5 1 1.4 0.03356 1.4 0.9866 0.1157 0.23 1817 22 1891 5 1.3 0.3355 1.4 0.9860 0.1157 0.23 1817 22 1891 5 1.3 0.3256 1.4 0.9860 0.1157 0.23 1817 22 1891 7 7 1.4 0.334 1.4 0.9863 0.1157 0.39 1865 23 1891 7 7 1.4 0.3381 1.4 0.9863 0.1157 0.23 1817 22 1894 5 1.4 0.9863 0.1159 0.29 1814 22 1894 5 1.4 0.9807 0.1159 0.29 1814 22 1894 5 1.4 0.9807 0.1159 0.29 1814 22 1894 5 1.4 0.9807 0.1159 0.29 1814 22 1894 5 1.4 0.9807 0.1159 0.29 1847 23 1894 5 1.4 0.9807 0.1159 0.29 1847 23 1894 6 1.4 0.9807 0.1161 0.35 1889 23 1899 6 1.4 0.9808 0.1161 0.35 1889 23 1899 6 1.4 0.9808 0.1161 0.35 1893 22 1898 6 1.4 0.9808 0.1161 0.35 1893 22 1898 6 1.4 0.9808 0.1161 0.35 1893 22 1898 6 1.4 0.9808 0.1162 0.32 1893 0.32 1973 22 1898 6 1.4 0.9808 0.1162 0.32 1891 0.35 1891 0	150-32.1	/8/	+	0.12	488	12882	0.000000	2418	00:00	528	0.034	80	5.3//	88.	0.33/4	4.	0.9879	0.1156	0.21	18/4	22	1889	4	6.0
1.47 0.3358 1.4 0.3966 0.1156 0.356 1886 22 1889 7 1.4 0.3358 1.4 0.3966 0.1156 0.356 1886 22 1891 5 1.4 0.3256 1.4 0.39609 0.1157 0.27 1865 22 1891 5 1.4 0.3256 1.4 0.39609 0.1157 0.23 1817 22 1891 4 7 1.4 0.3256 1.4 0.39607 0.1157 0.38 1855 23 1891 7 7 1.39 0.3359 1.4 0.39607 0.1159 0.24 1879 22 1894 5 1.4 0.39607 0.1159 0.27 1879 22 1894 5 1.4 0.3251 1.4 0.39607 0.1159 0.29 1847 22 1894 5 1.4 0.39607 0.1159 0.29 1847 22 1894 5 1.4 0.39607 0.1159 0.29 1847 23 1898 6 1.4 0.39609 0.1161 0.35 1959 23 1897 6 1.3 0.3369 1.4 0.39639 0.1161 0.35 1959 23 1898 6 1.3 0.3269 1.4 0.39639 0.1161 0.35 1898 22 1898 6 1.3 0.3269 1.4 0.39639 0.1161 0.35 1891 22 1898 6 1.3 0.3269 1.4 0.39639 0.1161 0.35 1891 22 1898 6 1.4 0.39639 1.4 0.39639 0.1161 0.35 1891 22 1898 6 1.4 0.39639 1.4 0.39639 0.1161 0.25 1894 22 1976 4 1.4 0.3754 0.1185 0.359 1892 22 1976 4 1.4 0.39639 0.1161 0.25 1894 22 1976 4 1.4 0.39639 0.1164 0.25 1894 22 1976 4 1.4 0.39639 0.1164 0.25 1894 22 1976 4 1.4 0.39639 0.1164 0.25 1894 22 1976 4 1.4 0.39639 0.1164 0.25 1894 22 1976 4 1.4 0.39639 0.1164 0.25 1894 22 1976 4 1.4 0.39639 0.1164 0.25 1894 22 1976 4 1.4 0.39639 0.1164 0.25 1894 22 1976 4 1.4 0.39639 0.1164 0.25 1894 22 1976 4 1.4 0.39639 0.1164 0.25 1894 22 1976 8 1.4 0.39639 0.1164 0.396 0.178 2243 27 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 137 1.4 0.39630 0.178 2243 2.7 2226 133 1.4 0.39630 0.178 2243 2.7 2226 133 1.4 0.39630 0.178 2243 2.7 2226 133 1.4 0.39630 0.178 2243 2.7 2226 133 1.4 0.39630 0.178 2243 2.7 2226 133 1.4 0.39630 0.178 2243 2.7 2226 133 1.4 0.39630 0.178 2243 2.7 2226 134 1.4 0.39630 0.178 2243 2.7 2226 134	150-5.1	348	+	0.27	307	12082	-0.000005	151	-0.01	100	0.080	8.	5.337	1.40	0.3349	4.1	0.9781	0.1156	0.29	1862	52	1889	ഹ	1.6
1.39 0.3266 14 0.9963 0.1157 0.23 1817 22 1891 4 1 1.39 0.3266 14 0.9963 0.1157 0.23 1817 22 1891 4 1 1.39 0.3334 1.4 0.9963 0.1157 0.38 1865 23 1891 7 7 1.39 0.3389 1.4 0.9963 0.1159 0.24 1889 5 1.4 0.9967 0.1159 0.24 1879 22 1894 5 1.4 0.3961 0.1159 0.29 1847 22 1894 5 1.4 0.3961 0.1161 0.35 1895 22 1894 5 1.4 0.3961 0.1161 0.35 1895 23 1894 5 1.4 0.3963 0.1161 0.35 1895 23 1894 5 1.4 0.3963 0.1161 0.35 1895 23 1894 6 1.4 0.3963 0.1161 0.35 1895 23 1894 6 1.4 0.3963 0.1161 0.35 1895 23 1894 6 1.4 0.3963 0.1161 0.35 1893 22 1894 6 1.4 0.3963 0.1161 0.35 1893 22 1894 6 1.4 0.3963 0.1161 0.35 1893 22 1894 6 1.4 0.3963 0.1161 0.35 1893 22 1894 6 1.4 0.3963 0.1161 0.35 1893 22 1894 6 1.4 0.3963 0.1161 0.36 1892 22 1897 6 1.4 0.3963 0.1164 0.26 1894 22 1897 6 1.4 0.3963 0.1194 0.26 1894 22 1876 4 1.4 0.3963 0.1194 0.26 1894 22 1876 4 1.4 0.3963 0.1399 0.78 2243 27 2226 13 1 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1	150-57.1	729	+	0.30	269	11965	0.000010	385	0.02	75	0.089	2.7	5.352	24.5	0.3358	4.	0.9666	0.1156	0.36	1866	8 8	1889		4.
146 0.3289 1.4 0.9567 0.1157 0.38 1865 23 1891 4 141 0.3289 1.4 0.9568 0.1159 0.24 148 0.3589 1.4 0.9589 0.1159 0.27 1872 22 1893 7 1.39 0.3389 1.4 0.9589 0.1159 0.27 1879 22 1894 5 1.4 0.3281 1.4 0.3281 1.4 0.3897 0.1159 0.27 1879 22 1894 5 1.4 0.3281 1.4 0.3897 0.1159 0.29 1847 22 1894 5 1.4 0.3281 1.4 0.3897 0.1161 0.38 1886 23 1894 6 1.5 0.3381 1.4 0.39807 0.1161 0.33 1898 8 1.4 0.3980 1.4 0.3980 0.1161 0.31 1881 22 1898 6 1.5 0.3381 1.4 0.3989 0.1161 0.31 1881 22 1898 6 1.4 0.3898 0.1 0.1161 0.3 1881 22 1898 6 1.4 0.3898 0.1 0.1161 0.3 1881 22 1898 6 1.4 0.3898 0.1 0.1161 0.3 1881 22 1898 6 1.4 0.3898 0.1 0.1161 0.3 1881 22 1898 6 1.4 0.3898 0.1 0.1161 0.3 1881 22 1898 6 1.4 0.3898 0.1 0.1161 0.3 1881 22 1898 6 1.4 0.3898 0.1 0.1161 0.3 1892 0.2 1894 0.1 0.1 0.3 1892 0.2 1894 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.1 0.1 0.3 1892 0.3 1892 0.1 0.3 1892 0.1 0.3 1892 0.1 0.3 1892 0.1 0.3 1892 0.1 0.3 1892 0.3 1892 0.3 1892 0.1 0.3 1892 0.3 1892 0.3 1892 0.1 0.3 1892 0.3 189	130-0.1	95	+	0.20	95/	11061	0.000017	2 5	30.0	146	0.004	0.	2000	- - - - - - - -	0.0000	4.	0.9009	0.1157	72.0	1000	77 6	60 7	0 4	
1.45 0.3534 1.4 0.3658 0.1157 0.157 0.36 1833 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	150-66.1	126	+	0.30	40/	11951	0.000000	9 9	0.00	146	0.093	4. 1.	5.194	1.39	0.3256	4.1	0.9863	0.115/	0.23	/181	22 8	1881	4 1	t.5
1.35 0.3508 1.4 0.3987 0.1159 0.27 1879 22 1894 5 1.4 0.3883 1.4 0.3883 1.4 0.3883 1.4 0.3881 1.4 0.3881 1.4 0.3881 1.4 0.3881 1.4 0.3897 0.1159 0.29 1814 22 1894 5 1.4 0.3818 1.4 0.3898 0.1162 0.29 1847 23 1897 6 5 1.5 0.381 1.4 0.3898 0.1161 0.35 1898 23 1898 8 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3974 0.1162 0.25 1881 22 1898 4 1.4 0.3898 1.4 0.3898 1.4 0.3898 1.4 0.3989 0.1162 0.2 0.2 1973 22 1898 4 1.4 0.3898 1.4 0.3989 0.1194 0.36 1892 22 1947 6 1.1 0.3898 1.4 0.3989 0.1 0.1194 0.2 0.32 1973 24 1934 6 1.1 0.3898 1.4 0.3989 0.1 0.3999 0.1 0.1 0.3999 0.1 0.3999 0.1 0.3999 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.3999 0.1 0.1 0.1 0.3999 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	150-54.1	7/7	+	0.40	914	11316	0.000018	201	0.03	6	9119	, ,	5.327	94.	0.3334	4.	0.9657	0.115/	0.38	1855	8 8	1881	, ,	22
14.1 0.3358 1.4 0.3967 0.1159 0.27 1814 22 1894 5 1.4 0.3967 0.1159 0.29 1814 22 1894 5 1.4 0.3967 0.1159 0.29 1817 22 1894 5 1.4 0.3967 0.1159 0.29 1847 22 1894 5 1.4 0.3967 0.1159 0.29 1847 22 1894 5 1.4 0.3552 1.4 0.3969 0.1161 0.35 1989 23 1987 6 1.4 0.3288 1.4 0.3969 0.1161 0.31 1888 23 1898 8 1.39 0.3289 1.4 0.3975 0.1161 0.31 1881 22 1898 6 1.39 0.3289 1.4 0.3975 0.1162 0.22 1891 6 1.4 0.3754 0.1162 0.32 1973 24 1898 6 1.4 0.3754 0.1185 0.32 1973 24 1894 6 1.4 0.3754 0.1185 0.32 1973 24 1894 6 1.4 0.3754 0.1185 0.32 1973 24 1894 6 1.4 0.3754 0.1185 0.32 1894 22 1976 4 1.4 0.3893 0.1214 0.25 1884 22 1976 4 1.4 0.3893 0.1214 0.25 1884 22 1976 4 1.4 0.3893 0.1214 0.25 1884 22 1976 4 1.4 0.3754 0.1185 0.1399 0.78 2243 27 2226 13 1.3 1.4 0.3894 0.1184 0.25 1884 22 1976 4 1.4 0.3894 0.1184 0.128 0.1284 0.1184 0.128 0.1284 0.1184 0.128 0.1284 0.1184 0.128 0.1284 0.1184 0.128 0.1284 0.1184 0.128 0.1284 0.1184 0.128 0.1284 0.1184 0.128 0.1284 0.1284 0.1184 0.128 0.1284 0.1184 0.128 0.1284 0.1184 0.128 0.1284 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1284 0.1184 0.1884 0.1184 0.1284 0.1184 0.1884 0.	150-63.1	4	+	0.63	720	0/021	0.000000	20 0	0.0	8 9	0.004	0.	2000	2 5	0.0009	4.	0.9009	0.1139	0.4	2/01	77 8	260		3 6
1.47 0.3318 1.4 0.9907 0.1159 0.29 1847 23 1894 5 1.47 0.3318 1.4 0.9905 0.1161 0.35 1959 23 1894 5 1.48 0.3552 1.4 0.9905 0.1161 0.35 1959 23 1897 6 1.41 0.3286 1.4 0.9993 0.1161 0.43 1888 23 1898 6 1.49 0.3289 1.4 0.9983 0.1162 0.25 1891 22 1898 6 1.49 0.3289 1.4 0.9754 0.1161 0.35 1897 22 1898 6 1.49 0.3580 1.4 0.9754 0.1194 0.35 1897 0.25 1873 24 1898 6 1.49 0.3580 1.4 0.9754 0.1194 0.36 1892 22 1977 6 1.40 0.3394 1.4 0.9993 0.1194 0.25 1894 22 1977 6 1.40 0.3394 1.4 0.8776 0.1399 0.78 2243 27 2226 13 1 1.50 1.50 0.4162 1.4 0.8776 0.1399 0.78 2243 27 2226 13 1 1.50 1.50 0.4162 1.4 0.8776 0.1399 0.78 2243 27 2226 13 1 1.50 0.50 0.78 2.	150-4.1	446	+	0.30	338	11906	0.00000	3 5	0.02	125	0.039	- - - - - -	5.400	5. t	0.3363	<u> </u>	0.9017	0.1150	0.27	1817	22 66	1804	ט ת	σ. α
1.42 0.3562 1.4 0.9695 0.1161 0.35 1959 23 1897 6 1.4 0.3262 1.4 0.9695 0.1161 0.35 1959 23 1897 6 1.4 0.3262 1.4 0.9599 0.1161 0.34 1888 23 1898 6 1.4 0.3286 1.4 0.9754 0.1161 0.31 1831 22 1898 6 1.4 0.3280 1.4 0.9754 0.1161 0.31 1831 22 1898 6 1.4 0.3280 1.4 0.9754 0.1164 0.35 1897 24 1894 6 1.45 0.3287 1.4 0.9694 0.1194 0.36 1832 22 1947 6 1.40 0.3394 1.4 0.8977 0.1214 0.25 1884 22 1947 6 1.40 0.3394 1.4 0.8776 0.1399 0.78 2243 27 2226 1.3	150-30.2	360	+	0.35	287	11469	0.000019	28	0.03	100	0 106	1 9	5 303	1 47	0.3318	1.4	0 9807	0 1159	0 29	1847	8	1894	ıc	60
1.51 0.3341 1.4 0.9591 0.1161 0.43 1886 23 1898 8 144 0.3286 1.4 0.9749 0.1161 0.31 1831 22 1898 6 1.39 0.3389 1.4 0.9749 0.1161 0.31 1831 22 1898 6 1.39 0.3389 1.4 0.9754 0.1165 0.25 1881 22 1898 4 1.4 0.9754 0.1165 0.32 1973 24 1998 6 1.4 0.389 0.14 0.35 1881 22 1947 6 1.40 0.3394 1.4 0.9897 0.1214 0.25 1884 22 1947 6 1.40 0.3394 1.4 0.8937 0.1214 0.25 1884 22 1976 4 1.40 0.3394 1.4 0.8776 0.1399 0.78 2243 27 2226 13	150-46.3	264	+	0.38	240	9979	0.000010	117	0.02	81	0.113	8.1	5.686	1.42	0.3552	4.	0.9695	0.1161	0.35	1959	2 82	1897	9	8.6
1.41 0.3286 1.4 0.9749 0.1161 0.31 1831 22 1898 6 1.39 0.3389 1.4 0.9838 0.1162 0.25 1881 22 1898 4 1.45 0.3889 1.4 0.9754 0.1162 0.25 1881 22 1894 6 1.45 0.3287 1.4 0.9754 0.1185 0.32 1973 24 1894 6 1.40 0.3894 1.4 0.3894 0.1194 0.36 1892 22 1977 6 1.40 0.3894 1.4 0.9837 0.1214 0.25 1884 22 1976 4 1.40 0.3894 1.4 0.8776 0.1399 0.78 2243 27 2226 13 18pt and the standard of the st	150-85.1	356	+	0.23	298	12283	0.000014	56	0.02	102	0.069	1.9	5.350	1.51	0.3341	4.1	0.9591	0.1161	0.43	1858	23	1898	80	2.4
1.39 0.3389 1.4 0.3838 0.1162 0.25 1881 22 1896 4 1.4 0.3838 0.1162 0.25 1887 22 1896 4 1.4 0.3850 1.4 0.3754 0.1185 0.32 1977 24 1934 6 1.45 0.3287 1.4 0.3894 0.1194 0.38 1832 22 1947 6 1.45 0.3394 1.4 0.3897 0.1214 0.25 1884 22 1976 4 4 1.40 0.3394 1.4 0.8776 0.1399 0.78 2243 27 2226 13 1897 1800 are labelled as x-y.z.z.	150-1.1	429	\vdash	0.34	397	10616	0.000001	1107	00:00	121	0.099	1.5	5.262	1.41	0.3286	4.1	0.9749	0.1161	0.31	1831	22	1898	9	4.0
1.43 0.3580 1.4 0.9754 0.1185 0.32 1973 24 1934 6 1.45 0.3287 1.4 0.9694 0.1194 0.36 1832 22 1947 6 1.4.0 0.3394 1.4 0.9837 0.1214 0.25 1884 22 1976 4 1.6.2 0.4162 1.4 0.8776 0.1399 0.78 2243 27 2226 1.3 1 spot are labelled as x-y.z.z.	150-31.1	512	+	0.32	358	12061	0.000003	86	0.00	149	0.094	1.5	5.427	1.39	0.3389	4.1	0.9838	0.1162	0.25	1881	22	1898	4	1.0
1.45 0.3287 1.4 0.9694 0.1194 0.36 1832 22 1947 6 1.4 0.9694 0.1194 0.36 1832 22 1947 6 1.4 0.9637 0.1214 0.25 1884 22 1976 4 1.62 0.4162 1.4 0.8776 0.1399 0.78 2243 27 2226 13 1 spot are labelled as x-y.z.z	150-46.2	321		0.05	182	12607	-0.000018	48	-0.03	66	0.019	4.2	5.850	1.43	0.3580	1.4	0.9754	0.1185	0.32	1973	24	1934	9	-2.3
140 0.3394 1.4 0.9837 0.1214 0.25 1884 22 1976 4 1.62 0.4162 1.4 0.8776 0.1399 0.78 2243 27 2226 13	150-55.3	345		0.45	420	10227	0.000005	413	0.01	86	0.135	1.4	5.410	1.45	0.3287	1.4	0.9694	0.1194	0.36	1832	22	1947	9	6.7
1.62 0.4162 1.4 0.8776 0.1399 0.78 2243 27 2226 13 I spot are labelled as x-y.z.z surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840)	150-55.2	422		0.57	465	8974	0.000014	38	0.02	123	0.162	1.4	5.679	1.40	0.3394	1.4	0.9837	0.1214	0.25	1884	22	1976	4	5.4
oftes Stern. 1997): of the convention x-y.z; where x = sample number, y = grain number, and z = spot number. Multiple analyses in an individual spot are labelled as x-y.z.z contrained reducible by using SOUID 2.23.08.10.21, rev. 21 Oct 2008 1 = not determined 1 = not determined 106 ²²⁷ refers to mole percent of total ²⁷⁹ Pb that is due to common Pb, calculated using the ²⁸⁷ Pb-method; common Pb composition used is the surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840) refers to mole percent of total ²⁸⁷ Pb that is due to common Pb, calculated using the ²⁸⁷ Pb-method; common Pb composition used is the surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840) refers to mole percent of total ²⁸⁷ Pb that is due to common Pb, calculated using the ²⁸⁸ Pb-method; common Pb composition used is the surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840) refers to mole and the common Pb, calculated using the mass fractionation error 1.0% (included); resulted adealise a coordary standard 1242 = 2869 ± Ma (in = 12); no mass fractionation correction. 561.3. 23 µm spot; analyses marked with * 2879 ± Ma (in = 21); no mass fractionation correction. 561.4: 23 µm spot; 6 scans; U-Pb calibration error 1.36% (included);	10150-20.1	276		0.46	224	10345	-0.000001	650	0.00	66	0.131	1.4	8.030	1.62	0.4162	1.4	0.8776	0.1399	0.78	2243	27	2226	13	6.0-
ncertairties reported at 1s and are acticulated by using SQUID 2.23.08.10.21, rev. 21 Oct 2008 1 = not determined 90 ²⁴⁷ refers to mole percent of total ²⁸⁷ Pb that is due to common Pb, calculated using the ²⁸⁷ Pb—method; common Pb composition used is the surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840) 90 ²⁴⁷ refers to mole percent of total ²⁸⁷ Pb that is due to common Pb, calculated using the ²⁸⁷ Pb—method; common Pb canculated using the ²⁸⁸ age)/(²⁸⁸ Pb) ²⁸⁸ pb age)) 90 ²⁴⁸ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁹ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴⁰ refers to radiogenic Pb (corrected for common Pb) 90 ²⁴¹ refers to radiogenic Pb (corrected for correction for cor	lotes (see Ster	rn, 1997).	invention x	-v - wher	a.	dmin alon	er v = drain nu	mber and	d z = snot n	mher M	Ilfinle anal	re ui sesv	la individual	snotare	ghallada	X-V-7 2								
= In ord determined Secondary Secondary Standard (142, 25073±3 Ma; "Pb that is due to common Pb, calculated using the "Pb-method; common Pb composition used is the surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840) Observed that is due to common Pb, calculated using the "Pb-method; common Pb composition used is the surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840) Secondaries relative to origin = 100 * ((207/206 age -206/238 age)/("Pb/"Pb,"Pb age)) Secondaries relative to origin = 100 * ((207/206 age -206/238 age)/("Pb/"Pb,"Pb,"Pb = 10.09059 Secondaries relative to origin = 100 * ((207/206 age -206/238 age)/("Pb,"Pb,"Pb,"Pb = 10.09059 Secondaries relative to origin = 100 * ((207/206 age -206/238 age)/("Pb,"Pb,"Pb,"Pb,"Pb,"Pb,"Pb,"Pb,"Pb,"Pb,	Incertainties rep	ported at	1s and are	s calculate	d by usin	g SQUID 2	2.23.08.10.21, r	ev. 21 Oc	x 2008															
refers to radiogenic Pb (corrected for common Pb) scordance relative to origin = 100 "(1207/206 age =269 Ma; "*Pb,**Pb age)) alibration standard 6266; U = 910 ppm; Age = 559 Ma; "*Pb,**Pb age)) 440: 23 µm spot; analyses marked with "analysed using 16 µm spot; 5 scans; U-Pb calibration error 1.0% (included); sessured age of secondary standard 1242 =2869 ± 6 Ma (n = 12); no mass fractionation correction. 461-23 z J m spot; 2 cans; U-Pb calibration error 1.0% (included); sessured age of secondary standard 1242 =2879 ± 3 Ma (in = 21); no mass fractionation correction.	1 = not determi 06 ²⁰⁴ refers to r	ined mole per	cent of tota	ol ²⁰⁶ Ph tha	tion of the	dommoo o	Ph calculated	using the	204 Ph-metho	ommoo .pi	n Ph com	nosition	sed is the	Surface	lank (4/6	0.05770	7/6- 0.895	. 6 .9/8 .00	(3840)					
alibration standard 6266; U = 910 ppm; Age = 559 Ma; "Pb/#U = 0.09059 natyrida details Age 240: 23 µm spot; analysed using 16 µm spot; 5 scans; U-Pb calibration error 1.0% (included); seasured age of secondary standard 1242 = 2680 ± 6 Ma (n = 12); no mass fractionation correction. seasured age of secondary standard 1242 = 2680 ± 6 Ma (n = 21); no mass fractionation correction. seasured age of secondary standard 1242 = 2687 ± 3 Ma (n = 21); no mass fractionation correction. seasured age of secondary standard 1242 = 2687 ± 3 Ma (n = 21); no mass fractionation correction.	refers to radiog	jenic Pb	(corrected rigin = 100	for comm:	on Pb) 16 age -2	.06/238 age)/(°°'Pb/°°Pb ag	(et		í								i 5	2					
frayticat etents: 4840. 23 µm spot; analyses marked with * analysed using 16 µm spot; 5 scans; U-Pb calibration error 1.0% (included); 481.32 µm spot; a scans; U-Pb calibration error 1.0% (included); 481.32 µm spot; 6 scans; U-Pb calibration error 1.0% (included); 482.32 µm spot; 6 scans; U-Pb calibration error 1.36% (included);	alibration stanc	dard 6260	6; U = 910	ppm; Age	= 559 M.	la; [∞] Pb/ [∞] ُL	J = 0.09059	:																
easured age of secondary standard 1242 = 5680 ± 6 Ma (n = 12); no mass fractionation correction. 561_325 Jm spott, 2 secars, U-Pb calibration rent 1242 = 2687 ± 3 Ma (n = 21); no mass fractionation correction. 561_45: 23 µm spott, 6 scans; U-Pb calibration error 1.36% (included);	540: 23 µm sp	ns ot; analy.	ses marke	d with * ar.	nalysed u	ısing 16 µm	spot; 5 scans;	· U-Pb cal.	ibration erro.	r 1.0% (inc	;(pepn);													
.991_32. An import, a scalar, but a calculation for the 1.27; no mass fractionation correction. 561_4: 23 µm spott. 6 scans; U-Pb calibration error 1.36% (included);	easured age o.	f second.	ary standa.	rd 1242 =	2680 ± 6	Ma (n = 1:	2); no mass frau	ctionation	correction.															
561-4: 23 µm spot.: 6 scans; у-Pb calibration error 1.36% (included);	ອຣາຼສະຂອມm easured age ot	spor;, b : f seconda	scans; U-r arv standa	rd 1242 = .	on error 2679±3	1.0% (Incit. ' Ma (n = 2'	ided); 1); no mass frac	ctionation	correction.															
The property of the contract o	561_4: 23 µm	spot;. 6	scans; U-P	b calibrati	on error	1.36% (incl	(papn);		;	,		:												

Table 1. Continued.

															H					Appa	Apparent ages (Ma)	es (Ma)	
U Th Spot name (ppm) (ppm)	n (mdd)	Th (ppm)	티그	Yb Hf (mdd)	∰ (mdd)	²⁰⁴ Pb ²⁰⁶ Pb	+ %	f(206) ²⁰⁴	²⁰⁶ Pb*	^{208.Pb}	+ %	207.Pb	# **	206.Pb	+ %	Coeff	207. Pb	+1 %	Pb Uss	±206 Pb	²⁰⁷ Pb ²⁰⁶ Pb	± ²⁰⁷ Pb ²⁰⁶ Pb	Disc. (%)
9SRB-D010C (C	GSC lab r	number z	9972) IP5£	59; NAD8	3: 66.155	09SRB-D010C (GSC lab number z9972) IP559; NAD83: 66.15591N, -62.44485W	_							-		l							
9972-51.1	395	93	0.35	5 5	5 5	0.0000042	151	0.07	155	0.100	6.0	5.459	1.7	0.3098	1.3	0.7734	0.1134	1.09	1930	8 8	1855	20 21	7.4
9972-37.1	501	243	0.50	pu	pu	0.000042	59	0.07	146	0.142	+	+	+	+	+	+	0.1143	09.0	1879	23	1869	=	-0.7
9972-14.1	397	139	98.0	pu	pu	0.000065	23	0.11	118	960.0	4.8	5.460	1.5 0	0.3449	1.3 0	0.8992	0.1148	0.65	1910	22	1877	12	-2.1
9972-40.2	494	165	0.35	pu	pu	0.000038	38	0.07	141	0.099	4.4	5.288	1.5	0.3320	1.4	0.9182	0.1155	09.0	1848	22	1888	Ξ	2.4
9972-40.1	584	257	0.45	pu	pu	-0.000010	83	-0.02	168	0.129	3.5	5.360	1.4	0.3352	1.3	0.9281	0.1160	0.53	1864	21	1895	6	1.9
9972-29.1	261	71	0.28	pu	pu	0.000077	32	0.13	7.3	920.0					1.5 0		0.1161	0.85	1814	23	1897	15	5.1
9972-60.1	371	100	0.28	ы	pu	0.000000.0	100	00.00	108	0.075		5.435	1.6	0.3379	1.4 0	0.8288	0.1167	0.91	1876	22	1906	16	1.8
9972-14.2	279	122	0.45	ы	рu	-0.000139	43	-0.24	9/	0.131	5.2	5.165	1.7 0	0.3175 1	1.4	0.8047	0.1180	1.01	1777	51	1926	18	8.8
9972-44.1	156	09	0.40	р	ы	-0.000208	S	-0.36	46	0.114	7.3	2.639	1.8	0.3442	1.5	0.8375	0.1188	0.97	1907	24	1938	17	1.9
9972-67.1	857	191	0.23	ри	ри	0.000407	16	0.71	298	0.051	4.0	8.164	1.5	0.4055	1.3	0.8820	0.1460	69.0	2194	24	2300	12	5.4
9972-35.2	784	54	0.07	рц	рц	0.000062	28	0.11	264	0.017	7.9	8.191	1.4	0.3928	1.3	0.9507	0.1512	0.42	2136	24	2360	7	11.1
9972-56.1	1079	95	60.0	Б	P	0.000015	56	0.03	390	0.027	2.0	8.803	1.3	0.4209	1.3	0.9681	0.1517	0.33	2264	24	2365	9	2.0
9972-28.1	842	6/	0.10	pu	pu	0.000084	32	0.14	325	0.027	9.6	10.134	1.4	0.4492	1.3	0.9526	0.1636	0.41	2392	56	2494	7	4.9
9972-31.1	848	77	60.0	pu	pu	0.000032	23	90.0	354	0.017	7.4	11.118	1.3	\vdash		0.9604	0.1657	0.37	2556	27	2514	9	-2.0
9972-16.1	806	83	60.0	ри	pu	0.000034	42	90.0	371	0.027	6.4	10.953	1.3	0.4759	1.3	0.9699	0.1669	0.32	2509	27	2527	2	8.0
9972-1.1	798	63	90.0	pu	pu	0.000013	47	0.02	323	0.022	7.7	10.943	+	0.4707	1.4	0.9560	0.1686	0.42	2487	28	2544	7	2.7
9972-3.1	815	28	0.07	pu	pu	0.000058	35	0.10	339	0.019	. 9.7	. 6/4.11	1.4	0.4844	1.3	0.9505	0.1719	0.43	2547	28	2576	7	1.4
9972-56.2	969	22	0.08	ри	Р	0.000022	59	0.04	259	0.025	-	10.321	1.5	0.4330	1.4	0.9629	0.1729	0.39	2319	27	2586	7	12.3
9972-45.1	787	55	0.07	pu	pu	0.000011	97	0.02	334	0.020	6.4	12.119	1.3	0.4939	1.3 0	0.9704	0.1780	0.32	2587	28	2634	2	2.1
9972-61.1	756	99	60.0	pu	pu	0.000031	21	0.05	329	0.023	5.8	12.538	1.4	0.5057	1.3	0.9713	0.1798	0.33	2638	58	2651	2	9.0
9972-54.1	715	28	0.08	Б	ы	0.000010	136	0.02	301	0.026	6.5	12.195	1.4		1.3 0		0.1804	0.37	2573	28	2656	9	3.8
9972-5.2	832	85	0.11	pu	pu	0.000000	100	0.00	352	0.029		-					0.1820	0.46	2579	28	2671	8	4.2
9972-33.1	756	61	0.08	Б	Б	0.000015	33	0.03	366	0.019	-						0.1826	0:30	2885	30	2677	2	9.6-
9972-70.1	844	37	0.05	Б.	ъ.	0.000018	35	0.03	371	0.013	+	-		-		+	0.1839	0.33	2663	78	2688	2	Ξ :
9972-5.3	970	104	0.11	2	2 1	0.000019	151	0.03	434	0.030	0.4	13.413	+	0.5212	+	0.9635	0.1866	0.36	2704	8 8	2713	9 1	4.0
9972-10.0	90	900	0.07	2 2	2 2	0.000018	60	0.03	100	0.021	+	+	υ α	+	5. E	+	0.1003	0.30	0220	30	2811	0 0	, v.
9972-12.2	1 023	245	0.03	2 2	2 2	0.00000	96	0.10	200	0.44	+	+		+	+		0.130	0.0	2000	9 6	1000	2 4	0.00
9972-521	743	0 5	0.40	2 2	2 2	0.000032	37	0.00	357	0.144	+	+	5 6	+	+	+	0.2008	0.04	2861	00 00	2833	0 10	
9972-20 1	322	10	0.03	2	2	0.000025	138	0.04	162	0.005	+	+	+	+	+	+	0 2064	0.50	2966	3 8	2878	0 00	. e
9972-35.1	66	2	0.02	Б	Б	0.000073	47	0.13	48	0.002	+	+	+	+	+	+	0.2084	0.91	2878	39	2893	15	9.0
9972-18.1	176	13	0.08	pu	pu	0.000066	59	0.11	84	0.021	+	+		+	+	+	0.2136	0.61	2853	34	2933	10	3.4
9972-50.1	238	119	0.52	ы	Б	0.000051	34	60.0	117	0.140	6.4	16.919	1.5	0.5736	1.4	0.9315	0.2139	0.55	2922	33	2936	6	9.0
9972-64.1	252	240	0.98	Р	Б	0.000084	22	0.15	128	0.264	5.9		1.5		1.4	0.9412	0.2139	0.51	2989	34	2936	8	-2.3
9972-6.1	307	167	0.56	pu	pu	0.000048	40	80.0	155	0.146	Н		2.5 0				0.2142	0.44	2986	09	2938	7	-2.0
9972-62.1	114	4	0.04	<u>Б</u>	P 7	0.000142	83	0.25	54	900.0	+	16.371	+	+	+	-	0.2148	0.76	2837	98	2942	1 12	4.4
9972-48 1	91	- 22	0.57	2 2	2 2	0.00000	9 14	0.00	45	0.130	t 0:	+	4	0.5681	4	0.9505	0.2170	0.86	2900	t 19	2922	, 4	2.5
9972-67.2	282	189	0.69	<u>P</u>	2	0.000108	27	0.19	136	0.182	-	+	+	+		+	0.2190	0.63	2874	34	2973	19	F.4
09SRB-M145A (GSC lab number z9983) IP559; NAD83: 66.04	GSC lab r	number z	9983) IP5t	59; NAD8	3: 66.048	860N, -63.34248W	>																
9983-93.1	213	69	0.34	ē	2	0.000163	27	0.28	61	660.0	-	\dashv		-		\dashv	0.1125	1.15	1863	54	1840	21	-1.4
9983-25.1	541	212	0.40	2 3	2 2	0.000056	24	0.10	160	0.031	_	_		+		0.9120	0.1132	0.59	1910	8 8	1851	1 4	-3.7
9983-76.2	451	901	0.40	2 2	2 2	0.000001	96	0.07	140	0.137	5 7	5 739		0.3410	t 6	+	0 1149	090	1993	23 82	1878	= =	. 1.
9983-103.1	257	118	0.48	Pu	P	0.000000	100	0.00	11	0.117	+	+	+	+	+	+	0.1150	0.88	1931	24	1880	16	-3.2
9983-76.1	464	88	0.20	pu	ы	0.000026	137	0.05	137	0.052	+			+	+		0.1151	0.75	1904	22	1881	13	4.1-
9983-93.2	401	155	0.40	Pu	Pu	0.000000	100	0.00	113	0.108	4.5	5.247	\vdash	0.3284	+	0.9308	0.1159	0.61	1831	25	1893	Ξ	3.8
9983-102.1	523	243	0.48	pu	pu	0.000026	93	0.04	164	0.125	3.8	0000.9	1.5	0.3651	1.3 0	0.9061	0.1192	0.62	2006	23	1944	Ξ	-3.7
9983-44.1	1191	151	0.13	pu	pu	0.000017	88	0.03	462	0.037	-			\vdash		\vdash	0.1604	0.31	2401	56	2459	2	2.8
9983-75.1	1273	246	0.20	2 3	2 2	0.000033	88 8	90.0	506	0.057	-	_		+	+	+	0.1621	0.29	2452	58	2478	υ ç	6.
9983-32.1	\$ 1.	191	1 27	2 2	2 2	0.000336	3 5	0.93	200	0.322	7.00	19 756	- K	0.4042	r	0.8341	0.1742	080	2458	20 %	2665	5 t	0.0
9983-106 1	2 2	500	12.1	2 2	2 2	0.000212	-1	3.61	3 2	0.000	+	+	+	+	+	+	0 1819	27.0	2625	37	2671	45	21
	į	3	:	3	3	0.00	:	3	}	:	-	_			-	-			3101	ż		ř	i

Table 1. Continued.

																	_						
Spot name	U Th (ppm)	T (mdd)	티그	Yb (mdd)	Yb Hf (ppm)	204 Pb 206 Pb	# %	f(206) ²⁰⁴	Pb*	206*Pb	+ %	235 U	# %	206.Pb	+ %	Corr	207.Pb 206.Pb	++ %	286 <u>Pb</u> ∪828	+ ²⁰⁶ Pb	2 8	+ ²⁰⁷ Pb	Disc.
09SRB-M145A (GSC lab number z9983) IP559; NAD83: 66.04860N, -63.342	SC lab n	umber z9	983) IP55	9; NADE	13: 66.048	60N, -63.342	48W	(continued)															1
9983-14.1	169	194	1.18	pu	pu	0.000115	27	0.20	75	0.315	3.5	13.284	1.7	0.5177	1.5	0.9025	0.1861	0.73	5689	34	2708	12	0
9983-39.1	117	158	1.39	ы	pu	0.000000	100	0.00	52	0.364	4.1	13.357	8.	0.5190	1.6	0.8800	0.1867	0.87	2692	32	2713	4	0.8
9983-21.1	66	158	1.66	pu	pu	0.000134	31	0.23	45	0.455	4.0	13.644	6.1	0.5254	1.7	0.8617	0.1883	96.0	2722	37	2728	16	0.2
9983-17.1	79	106	1.38	Б	Б	0.000191	40	0.33	37	0.368	4.6	14.018	5.0	0.5395	1.7	0.8397	0.1885	1.10	2781	99	2729	8	-2.4
9983-56.1	117	172	1.52	Б	5	0.000112	78	0.19	25	0.427	3.5	13.863	1.8	0.5328	1.6	0.8864	0.1887	0.82	2753	32	2731	4	-1.0
9983-82.1	103	142	1.42	Б	Б.	0.000059	47	0.10	48	0.392	4.0	14.044	89.	0.5392	9.	0.8772	0.1889	0.88	2780	98	2733	5	-5.1
9983-19.1	96	116	1.25	2	2 7	0.000000	9 5	0.00	84 2	0.324	6.4	13.627	6.0	0.5229	9.	0.8811	0.1890	0.88	2711	98	2733	5 5	1.0
9983-10.1	081	777	9/.	2	2	0.000000	001	00:00	5	0.483	5.0	14.466	0.20	0.5489	ρ,	0.9154	0.1908	6/.0	2825	- 4	2/49	2 9	4.5
9983-94.1	211	543	1.32	5	5	0.000081	13/	0.14	64	0.365	5.4	13.582	2.2	0.5150	p.	0.8588	0.1913	1.14	56/8	45	2/23	<u></u>	3.3
9983-64.1	121	185	1.59	Б	Б	0.000448	22	0.78	24	0.386	3.9	13.810	5.1	0.5228	1.7	0.8365	0.1916	1.14	2711	88	2756	10	2.0
9983-87.1	147	184	1.29	ы	ъ	0.00000.0	100	00:00	89	0.357	3.6	14.367	1.7	0.5430	1.5	0.8982	0.1919	0.75	2796	32	2759	12	-1.7
9983-74.1	79	115	1.51	ь.	p.	0.000104	41	0.18	35	0.425	4.3	13.848	2.3	0.5227	1.7	0.7531	0.1921	1.52	2711	88	2761	55	2.2
9983-69.1	1873	78	0.04	Б	Б	0.000026	37	0.05	784	0.012	5.1	13.048	د .	0.4874	1.3	0.9869	0.1942	0.21	2559	27	2778	ო	9.5
9983-40.1	1405	113	80.0	ы	ы	0.000251	13	0.44	572	0.008	5.3	12.996	5.	0.4741	1.5	0.9768	0.1988	0.32	2502	8	2816	co	13.5
9983-50.1	1867	87	0.05	pu	pu	0.000224	12	0.39	807	0.011	4.5	14.210	1.3	0.5029	1.3	0.9780	0.2049	0.27	2626	27	2866	4	10.2
9983-28.2	1429	29	90.0	pu	pu	0.000007	92	0.01	627	0.020	5.2	15.278	1.3	0.5108	1.3	0.9808	0.2169	0.25	2660	28	2958	4	12.3
9983-18.1	1239	263	0.22	pu	pu	0.00000	56	0.02	615	0.054	3.0	21.475	1.3	0.5778	1.3	0.9843	0.2696	0.23	2940	31	3303	4	13.7
9983-61.1	861	241	0.29	pu	pu	0.000231	92	0.40	460	0.069	5.9	23.568	1.3	0.6221	1.3	0.9731	0.2747	0.31	3118	32	3333	2	8.1
9983-46.1	400	364	0.94	ы	Б	0.00000.0	100	0.00	229	0.247	2.2	36.649	9.1	0.7558	1.5	0.9796	0.3517	0.31	3629	43	3714	ro.	3.0
9983-28.1	135	123	0.94	pu	pu	0.000067	93	0.12	97	0.237	3.4	44.620	1.7	0.8402	1.5	0.9162	0.3852	0.67	3932	45	3852	10	-2.8
07SAB-03 (GSC lab number 29896) IP529; NAD83: 64.94533N,-63.68333W	ab numk	er z9896)	IP529; N	AD83: 6	4.94533N	-63.68333W	3	9	Ş	0	į	0107		0000	ŗ	0	1007	ŗ	000	i	100		,
390-41.2	2/	٥	90.0	Ξ.	<u> </u>	0.001238	G 8	2.18	Σ 5	0.012	0.7	4.372	4.0	0.2889	· .	0.3130	0.1097	2.0	0501	8 8	06/-	4 6	10.0
9896-19.1	4 8	01 0	0.15	2	p 7	0.000430	8 8	0.75	2 2	0.029	18.7	6.420	7.0	0.3567	ر د	0.7465	0.1307	OS:-	1964	53 15	2108	8 8	6.7
9896-57 1	80 2	οα	0.03	2 2	2 2	0.000339	24 60	0.02	2 8	0.023	5 7	7 272	0 (4	0.3669	t (*	0.77.31	0.1317	90	2015	3 8	2273	- 4	13.0
9896-76 1	2 22	o La	- 0	2	2 2	0.000233	2 8	1 27	1 9	0.020	121	7 163	- c:	0.3521	5 6	0.6429	0.1475	267	1945	3 %	2318	46	18.
9896-38.1	78	5	0.16	2 2	2 2	0.000544	8 8	0.94	24	0.064	13.0	7.481	2 0	0.3660	17	0.5945	0.1482	2.24	2010	3 8	2326	38 9	15.8
9896-40.3	67	÷	0.17	2	2	0.000316	45	0.55	24	0.044	00	9 023	25	0.4199	00	0.8287	0.1559	138	2260	68	2411	33	7.4
9896-84.2	134	137	1.06	2	2	0.000042	88	0.07	. 64	0.294	17	9.477	13	0.4249	1.2	0.9346	0.1618	0.46	2283	88	2474	000	9.2
9896-40.1	75	9	0.14	2	2	0.000028	26	0.05	28	0.045	5.2	9.845	8:	0.4375	. F.	0.7256	0.1632	1.23	2339	56	2489	21	7.2
9896-74.2	9/	4	0.19	рц	ы	0.000425	22	0.74	9	0.045	5.3	11.167	1.7	0.4766	4.1	0.8289	0.1699	0.95	2512	59	2557	16	2.1
9896-28.1	88	16	0.19	pu	pu	0.000203	59	0.35	34	0.071	3.8	10.997	5.	0.4530	1.3	0.8577	0.1761	0.77	2408	56	2616	13	9.5
9896-74.3	54	10	0.19	pu	pu	0.002817	18	4.88	21	0.077	9.1	11.545	4.8	0.4584	2.8	0.5695	0.1827	3.97	2433	99	2677	99	11.0
9896-22.1	74	15	0.21	pu	pu	0.000153	24	0.26	34	0.052	4.8	14.073	1.6	0.5442	1.5	9086.0	0.1876	0.58	2801	34	2721	10	-3.6
9896-61.1	184	6	0.05	pu	pu	0.000046	33	0.08	83	0.012	0.9	13.704	1.2	0.5290	1.2	0.9588	0.1879	0.34	2737	56	2724	9	-0.6
9896-53.1	173	14	80.0	ы	pu	0.000127	33	0.22	78	0.018	4.7	13.782	1.2	0.5282	1.2	0.9392	0.1892	0.42	2734	56	2736	7	0.1
9896-40.2	604	27	0.05	ы	Б	0.000007	23	0.01	566	0.011	0.9	13.366	77	0.5119	Ξ	0.9840	0.1894	0.19	2665	23	2737	က	3.2
9896-86.2	42	43	1.05	pu	pu	0.000238	32	0.41	19	0.272	2.7	13.970	1.7	0.5341	1.5	0.8702	0.1897	0.86	2759	34	2740	14	-0.9
9896-26.1	158	48	0.32	ы	Б	0.000023	255	0.04	F	0.086	2.4	13.785	1.3	0.5260	1.2	0.8981	0.1901	0.57	2725	56	2743	6	0.8
9896-65.1	248	40	0.16	pu	ы	0.000044	53	0.08	Ξ	0.043	5.9	13.650	7.	0.5206	1.2	0.9541	0.1902	0.36	2702	52	2744	9	1.9
9896-33.1	216	32	0.17	pu	pu	0.000031	61	0.05	86	0.045	3.3	13.939	4.5	0.5312	1.2	0.2569	0.1903	4.39	2747	56	2745	72	-0.1
9896-46.2	281	10	0.04	Б	Б	0.000010	62	0.02	125	0.010	5.4	13.690	Ξ	0.5186	Ξ.	0.9729	0.1915	0.26	2693	54	2755	4	2.7
9896-84.1 349 Notes (see Stern, 1997):	349	50	90.0	2	pu	0.000015	89	0.03	161	0.016	3.6	14.172	1.2	0.5356	1.2	0.9739	0.1919	0.27	2765	56	2758	4	-0.3
Spot name follows the convention x -y.z; where x = sample numbe Uncertainties reported at 1s and are calculated by using SQUID 2.	the convirted at 1s	ention x-y and are c	.z; where alculated	e x = sam. by using	ple number	er, y = grain number, and z = spot number. Multiple analyses in an individual spot are labelled as x-y.z.z .23.08.10.21, rev. 21 Oct 2008	number, ar rev. 21 O	id z = spot ni 3t 2008	umber. Mt	ultiple anal	lyses in a	individua r	l spot an	e labelled a	s x-y.z.z								
nd = nd defermined The and accessor of their size thus to common By calculated using the **Db.method* common By commonsition used is the surface blank UNE. 0 http://www.nb.common.by.com	ed ple perce	at of total	²⁰⁶ Dh that	. d	uo a a a a	Dh calculated	1 using the	. 204Dh-matho	- common	Dh comr	in delifion	od is the	rface h	Jank (4/6.	.05770	7/6: 0 895	00.8/6.01	3840)					
* refers to radio more porcent of road * refers to radio more percented for common Pb) Discordance relative to ordinin = 100 * (1907/2008 are -2008/238 are V)	nic Pb (co	prrected fo	r commoi	n Pb)	6/238 age	1. D, calculated usin	in Gillen i					2	200		5		5	(2)					
alibration standa	rd 6266;	U = 910 pt	pm; Age =	= 559 Ma		U = 0.09059	(1000																
Analytical details IP529: 35 um sno	s of analyse	s marked	with * an	alvend us	mir 9 puis	snot 6 scans	- H-Ph	ibration error	1% (includ	. (Pal													
Measured age of secondary standard $1242 = 2675 \pm 4$ Ma (n = 12); DEED: 16 mg on or 5 contact 11 Db onlineating page 4, 1999, finding and	secondar	standard	1242 = 2	675 ± 41	Ma (n = 12 " (include	;); no mass fr.	actionation	no mass fractionation correction.		Î													
ods ilid oi secul	i, o scam	secondary standard 1242 = 2677 + 8 Ma (n = 16)	1242 = 2	77 + 0 I	/o (II louds	(n)																	

Table 1. Continued.

Part																					Appar	Apparent ages (Ma)	s (Ma)	
1		>	드	두	Ϋ́	Ξ	²⁰⁴ Pb		f(206) ²⁰⁴	²⁰⁶ Pb*	^{208.Pb}		^{207. Pb}		²⁰⁶ Pb			207. Pb			4 206 Pb	²⁰⁷ Pb	± ²⁰⁷ Pb	Disc.
Columbia	Spot name ((mdd)	(mdd)	>	(mdd)	(mdd)		+ %		(mdd)	206 . Pb	%		+ %		+1		^{206.Pb}	+ %	O ⁸⁵²	O.852	²⁰⁶ Pb	²⁰⁶ Pb	(%)
102 4 0 0.04	07SAB-03 (GSC I	ab numk	er z9896) IP529; N	AD83: 64	1.94533N,	-63.68333W (cc	ontinued)																
356 24 0.07 nd nd 0.000044 22 0.08 162 0.06 41 14261 13 0.584 13 0.987 0.182 0.22 2843 2776 28 2776 44	9896-77.1	102	4	0.04	pu	pu	0.000067	41	0.12	44	0.012	11.9		1.4	0.5058		0.8869	0.1919	0.65	2639	27	2759	Ξ	5.3
306 37 0.13	9896-86.1	350	24	0.07	pu	pu	0.000044	23	90.0	162	0.016	4.1		1.3		H	0.9773	0.1922	0.27	2776	28	2761	4	9.0-
266 29 0.11 nd nd 0 0000020 25 0.00 112 0.00 11	9896-1.1	305	37	0.13	ри	pu	0.000003	87	0.01	145	0.034	5.6	14.727	17	0.5543		3.9808	0.1927	0.22	2843	52	2765	4	-3.5
251 33 0.14 nd nd 0.000038 49 0.07 115 0.035 27 14.152 1.1 0.5526 1.1 0.5526 1.1 0.5576 0.1928 0.33 2752 24 2766 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	9896-82.1	286	53	0.11	pu	pu	0.000020	25	0.03	129	0.028	3.3	13.979	-	0.5260		0.9733	0.1927	0.26	2725	54	2766	4	1.8
317 16 10 0.05	9896-8.1	251	33	0.14	pu	pu	0.000038	49	0.07	115	0.035	2.7		1.1			0.9576	0.1928	0.33	2752	54	2766	2	9.0
150 30 0.21 nd nd 0.000076 29 0.13 68 0.053 3.3 14,102 14 0.5296 1.13 0.9096 0.1933 0.51 2746 22 279 9 9 9 9 1 1 1 63 0.56 nd nd 0.000047 66 0.08 5.4 0.152 2.1 14,277 1.3 0.5369 1.2 0.9190 0.1933 0.51 2766 2.7 2770 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9896-46.1	317	16	0.05	pu	ы	0.000013	53	0.02	143	0.013	4.2	13.912	7	0.5233		3.9658	0.1928	0.29	2713	54	2766	2	2.3
117 63 0.56 nd nd 0.000047 66 0.08 54 0.152 2.1 14277 13 0.5358 12 0.9190 0.1933 0.51 2666 27 2770 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9896-74.1	150	30	0.21	pu	pu	0.000076	59	0.13	89	0.053	3.3	14.102	4.1			3.9095	0.1931	0.57	2740	58	2769	0	1.3
1370 16 0.06 nd nd 0.000024 53 0.04 147 0.013 47 13770 1.1 0.5167 1.1 0.9716 0.1933 0.27 2665 24 2770 4 9 9 1 1 1 1 1 1 1 1	9896-13.1	117	63	0.56	pu	pu	0.000047	99	90.0	54	0.152	2.1		1.3	H		0.9190	0.1933	0.51	2766	27	2770	80	0.2
127 60 0.49 nd nd 0.000072 14 0.13 59 0.127 22 14499 13 0.5436 12 0.9317 0.1934 0.46 2799 27 2772 8 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9896-28.2	330	16	0.05	pu	ы	0.000024	53	0.04	147	0.013	4.7	13.770	7	0.5167		3.9716	0.1933	0.27	2685	54	2770	4	3.8
455 30 0.07 nd nd 0.000012 28 0.02 206 0.019 32 14.033 1.3 0.5261 1.3 0.9674 0.1935 0.20 2775 29 2772 3 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9896-21.1	127	09	0.49	pu	pu	0.000072	14	0.13	29	0.127	2.2	14.499	1.3				0.1934	0.46	2799	27	2772	80	-1.2
193 25 0.13 nd nd 0.000013 70 0.02 88 0.034 36 14142 12 0.5299 1.1 0.9644 0.1936 0.31 2741 26 2773 5 5 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9896-32.1	455	30	0.07	ри	ы	0.000012	28	0.02	206	0.019	3.2		1.3			3.9878	0.1935	0.20	2725	53	2772	ო	2.1
184 57 0.32 nd nd 0.000070 25 0.12 87 0.087 2.1 14.538 1.4 0.5480 1.3 0.9584 0.1937 0.39 2817 30 2774 6 6 6 6 6 6 6 6 6	9896-54.1	193	25	0.13	pu	pu	0.000013	70	0.02	88	0.034	3.6	14.142	1.2	0.5299		7.9644	0.1936	0.31	2741	56	2773	വ	1.4
1 63 62 1.02 nd nd 0.000204 32 0.35 29 0.270 22 14.237 15 0.5329 14 0.1938 0.67 2754 31 2774 11 11 1	9896-10.1	184	22	0.32	pu	pu	0.000070	25	0.12	87	0.087	2.1	14.638	4.1		H	7.9584	0.1937	0.39	2817	30	2774	9	-1.9
1	9896-41.1	63	62	1.02	ъ	рu	0.000204	32	0.35	59	0.270	2.2		1.5	H		7.8974	0.1938	0.67	2754	31	2774	Ξ	6.0
1 68 15 0.22 nd nd nd 0.000380 75 0.66 27 0.091 105 12.544 2.7 0.4684 1.7 0.6266 0.1942 2.12 2476 35 2778 35 35 778 35 778 1.2 1 0.00037 27 0.10 16 0.212 3.2 13.118 2.0 0.4882 1.8 0.9068 0.1945 0.86 2867 39 2780 14 14 14 14 14 14 14 14 14 14 14 14 14	9896-48.1	74	82	1.18	pu	pu	0.000153	35	0.27	34	0.312	1.9	14.362	2.5			3.9695	0.1938	09.0	2772	54	2775	10	0.1
nd 0.0000057 27 0.10 16 0.212 3.2 13.118 2.0 0.4892 1.8 0.9058 0.1945 0.86 2567 39 2780 14 14 14 12 0.5050 10 0.000008 99 0.001 77 0.288 1.3 14.284 1.2 0.5591 1.1 0.9622 0.1951 0.33 2738 26 2786 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9896-50.1	89	5	0.22	ы	Б	0.000380	75	99.0	27	0.091	10.5		2.7			0.6266	0.1942	2.12	2476	32	2778	32	13.1
nd -0.000008 99 -0.01 77 0.288 1.3 14.234 1.2 0.5591 1.1 0.9652 0.1951 0.33 2738 26 2786 5 5 nd 0.000011 346 0.02 35 0.334 1.7 14.889 1.4 0.5531 1.3 0.8999 0.1951 0.61 2838 29 2786 10 10 10 10 10 10 10 10 10 10 10 10 10	9896-23.1	38	59	0.79	pu	pu	0.000057	27	0.10	16	0.212	3.2		5.0			0.9058	0.1945	98.0	2567	33	2780	14	9.3
nd 0.0000011 346 0.02 35 0.334 1.7 14.883 1.4 0.5531 1.3 0.8999 0.1951 0.61 2838 29 2796 10 10 10 10 10 10 10 10 10 10 10 10 10	9896-4.1	169	177	1.08	pu	pu	-0.000008	66	-0.01	11	0.288	1.3	14.234	1.2	0.5291		0.9622	0.1951	0.33	2738	56	2786	r2	2.1
nd -0.000073 59 -0.13 16 0.428 2.4 14.244 1.8 0.5259 1.6 0.9079 0.1964 0.74 2724 35 2797 12 number, y = grain number, and Z = spot number. Multiple analyses in an individual spot are labelled as x-y.z.z	9896-7.1	73	87	1.23	pu	ри	0.000011	346	0.02	32	0.334	1.7	14.883	1.4			-	0.1951	0.61	2838	53	2786	10	-2.3
Notes (see Stern, 1997): Spot name follows the convention x-y.z. where x = sample number, y = grain number, and z = spot number. Multiple analyses in an individual spot are labelled as x-y.z.z Uncertainter reported at 1s and are calculated by using SQUID 2.23.08.10.21, rav. 21 Oct 2008	9896-34.1	35	53	1.54	pu	pu	-0.000073	29	-0.13	16	0.428	2.4		1.8			0.9079	0.1964	0.74	2724	32	2797	12	3.2
Spot name follows the convention x-y.z; where x = sample number, y = grain number, and z = spot number. Multiple analyses in an individual spot are labelled as x-y.z.z Uncertaines reported at 1s and are calculated by using SQUID 2.23.08 10.21, rev. 21 Oct 2008	Notes (see Stern.	1997)																						
The remainder before dar 1's and are calculated by using SUCUID 2.2.5.5.08.10.21, feV. 21 Oct 2008	Spot name follows	the con	vention x-	y.z; where	e x = sam	ple numbe	er, y = grain nun	nber, and	z = spot nur	nper. Mul	Itiple anal}	/ses in ar	n individual	spot are	labelled as x	-y.z.z								
	Uncertainties repo	rred at 1	s and are	calculated	a by using	SCOIDS	23.08.10.21, re	V. 21 Oct	2002															

[206²⁴⁷ efers to mole percent of total ²⁰⁷ bb that is due to common Pb, calculated using the ²⁰⁷ Pb-method; common Pb composition used is the surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840)

* refers to radiogenic Pb (corrected for common Pb, calculated using the ²⁰⁷ Pb-method; common Pb composition used is the surface blank (4/6: 0.05770; 7/6: 0.89500; 8/6: 2.13840)

* refers to radiogenic Pb (corrected for common Pb, 206228 age)/(²⁰⁷ Pb-²⁰⁸ Pb age)

Calibration standard 6266; U = 910 ppm, Age = 559 Ma; ²⁰⁸ Pby²⁰⁸ U = 0.09059

Machine and feetils

Refer and standard 6266; U = 310 ppm, Age = 559 Ma; ²⁰⁸ Ppk, ²⁰⁸ Pb, calibration error 1% (included);

Measured age of secondary standard 1242 = 2675 ± 4 Ma (n = 12); no mass fractionation correction.

yielded an age within the older population. This nonreproducibility, both within and between grains, suggests that incomplete lead loss is the likely cause of the younger results.

09SRB-M106A (z10464)

The Canyon Wash locality is a spectacular glacial melt-water-washed exposure of plutonic rocks cut by a network of deformed sills and undeformed dykes (Fig. 3a) on central Cumberland Peninsula (Fig. 1). A sample of fine-grained, equigranular, biotite granodiorite was collected from compositionally-banded and -sheeted straight mylonite gneiss (Fig. 3b). Abundant, large, stubby prismatic zircon was recovered. Most grains are clear, colourless and faintly zoned in back-scattered electron images. Rare grains exhibit pale brown tips or overgrowths, which in back-scattered electron images show an enhanced response consistent with higher U content. Thirty-seven analyses were carried out on 28 separate zircon grains (Fig. 3c). Analyses of the clear, colourless zoned zircon yields dates ranging from



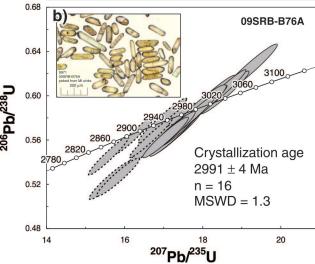


Figure 2. a) Sample 09SRB-B076A taken from the brownweathering layer at roughly knee-level of the geologist (height of geologist approximately 173 cm). 2012-054. **b)** Concordia diagram of SHRIMP U-Pb results. Analyses excluded from the calculation of the weighted mean are shown by dashed ellipses.

2954 Ma to 2891 Ma. These dates are clustered toward the older values, a pattern consistent with incomplete lead loss. The weighted mean $^{207}\text{Pb}/^{206}\text{Pb}$ age of the oldest 15 analyses, which includes replicates on single grains, is 2938 ± 4 Ma and is considered the best estimate for the age of crystallization of the granodiorite. Analyses of the high U rims range from 2738 Ma to 2430 Ma, and do not form a distinct grouping. This variability in the data does not allow timing constraints on the thermal and/or fluid event(s) responsible for these overgrowths, except to constrain the latest event to sometime after 2.43 Ga.

09SRB-M100A (z9979)

Throughout the southern part of the map sheet, the relationship between the dominant tonalite-granodiorite and the thin panels of metasedimentary rock is highly tectonized. Primary contacts such as unconformities or intrusive contacts are rare. An outcrop north of Kumlien Fiord (Fig. 1) is one such example where there is a demonstrable intrusive relationship by virtue of exposed contacts between monzogranite and a panel of garnet-biotite semipelite and the presence of garnet in monzogranite at the contact (Fig. 4a). The recovered zircon grains are characterized by faint concentric zoning in back-scattered electron images. Rare grains have thin, high U (bright in back-scattered electron images), unzoned rims. Twenty-six analyses were carried out on twenty-three separate zircon grains (Fig. 4b). The dominant zircon population is centred at ca. 2780 Ma, with several analyses both older and younger. The weighted mean $^{207}\text{Pb}/^{206}\text{Pb}$ age of 13 analyses is 2782 ± 4 Ma and is interpreted as the crystallization age. Older single phase zircon crystals and rare cores dated at 2.80 Ga, 2.87 Ga, and 2.89 Ga are interpreted as inherited. Analysis of high U rims yield concordant, but not reproducible results between 2.7 Ga and 2.46 Ga. The timing of growth and geological significance of these rims is not clear; however, they imply a recrystallization event sometime after 2.46 Ga. Intermediate ages between 2.76 Ga to 2.7 Ga, not included in the calculation of the weighted mean crystallization age, are interpreted to represent lead loss from the igneous population. This monzogranite provides evidence for an Archean sedimentary package older than 2.78 Ga.

10SRB-M197A (z10462)

A sample of medium-grained, equigranular, moderately foliated, light grey biotite monzogranite (Fig. 5a) was collected from a discrete, aeromagnetically defined pluton south of Kumlien Fiord (Fig. 1; see also Sanborn-Barrie (2011a, Fig. 2)). Abundant pale brown, prismatic zircon was recovered. Back-scattered electron imaging reveals concentric zoning and rare overgrowths. In some instances, overgrowths are perfectly concordant with the zoning in the 'core' and may simply reflect changing magma compositions. SHRIMP analysis of thirty-one zircon grains yield

ages ranging from 2881 Ma to 2640 Ma (Fig. 5b). Two primary groupings appear in these data, one centred at ca. 2.78 Ga and a second at 2.76 Ga (Fig. 5c). There is no clear morphological or chemical distinction between the two groups; however, as the oldest rim yields an age of 2768 Ma, the authors consider that it defines the upper age limit of the younger group. The weighted mean 207 Pb/ 206 Pb age of thirteen analyses between 2768 Ma and 2752 Ma is 2759 \pm 3 Ma and is interpreted as the crystallization age of the monzogranite.

The 2.88–2.77 Ga zircon grains are interpreted as inherited. The dominant 2.78 Ga inherited age is similar to the interpreted crystallization age of 09SRB-M100A, the host into which this discrete pluton was emplaced. Xenoliths of tonalite gneiss are observed at the margin of the pluton. Younger, nonreproducible dates between 2743 Ma and 2640 Ma, including the analysis of a number of rims, are interpreted to represent Pb loss from either of these older populations.

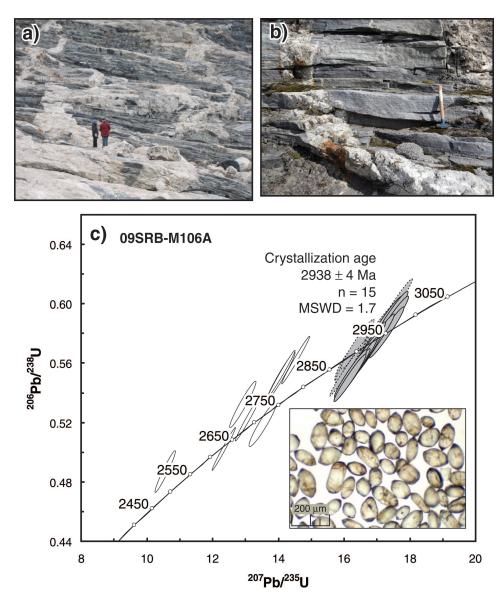


Figure 3. a) Overview photo of Canyon Wash locality where the Archean gneiss complex is cut by a network of undeformed pegmatite dykes. Height of people approximately 173 cm. 2012-045. **b)** Sample 09SRB-M106A was collected from the relatively homogeneous layer against which the hammer (45 cm) is resting. 2012-048. **c)** Concordia diagram of SHRIMP U-Pb results. Analyses from low U zircon cores are shown in grey, those excluded from the calculation of the weighted mean are outlined by dashed ellipses. White ellipses represent analyses from zircon overgrowths.

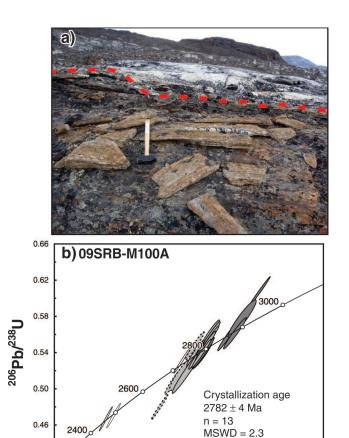


Figure 4. a) Sampling locality of 09SRB-M100A with monzogranite in the middle ground intruding into psammite (foreground). Dashed red line indicates approximate intrusive contact. Hammer (45 cm) for scale. 2012-057. b) Concordia diagram of SHRIMP U-Pb results. Dark grey ellipses represent inherited zircon, light grey ellipses are interpreted as igneous, with the analyses excluded from the calculation of the weighted mean outlined by dashed ellipses. White ellipses illustrate the results from rims.

²⁰⁷Pb/²³⁵U

18

20

0.42 L

10

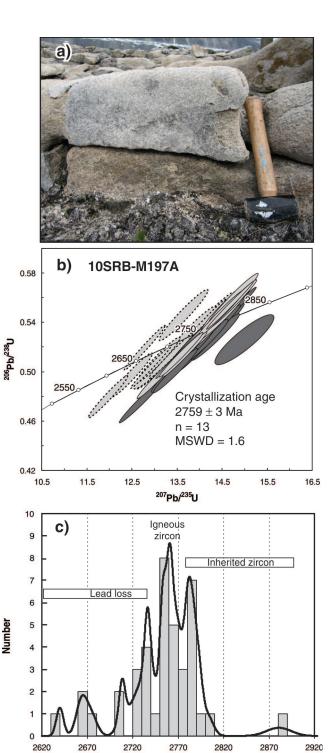


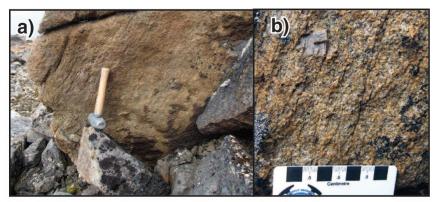
Figure 5. a) Photograph of monzogranite 09SRB-M197A. Hammer (30 cm) for scale. 2012-051. b) Concordia diagram of SHRIMP U-Pb results. Dark grey ellipses represent inherited zircon, light grey ellipses are interpreted as igneous, with the analyses excluded from the calculation of the weighted mean outlined by dashed ellipses. c) Probability density diagram illustrating distribution of zircon ages.

Zircon age (Ma)

09SRB-D042A (z9974)

The Exaluin stock is a composite pluton exposed on the southeast coast of Cumberland Peninsula (Fig. 1), characterized by a magnetic high (*see* Sanborn-Barrie (2011c, Fig. 2)). It comprises brown-weathering, orthopyroxene- and magnetite-bearing, K-feldspar megacrystic monzogranite (Fig. 6a), typically exposed as inclusions within a pink-weathering, equigranular granite (Fig. 7a). Both phases contain a single, variably oriented, moderately developed foliation. Sample 09SRB-D042A, from the brown-weathering, charnockitic

phase, yielded prismatic and well faceted to equant zircon. Careful examination of zoning patterns in back-scattered electron images allows discrimination of two zircon groups: a predominant group of faint concentric- to straight-zoned zircon, both as single phase grains and cores, and a second group of unzoned rims or tips. Forty-two analyses, carried out on 34 separate grains, yielded ages ranging from 2818 Ma to 2689 Ma. The weighted mean ²⁰⁷Pb/²⁰⁶Pb age of the 16 oldest zoned grains and cores is 2772 ± 6 Ma and is interpreted as the crystallization age of the charnockite.



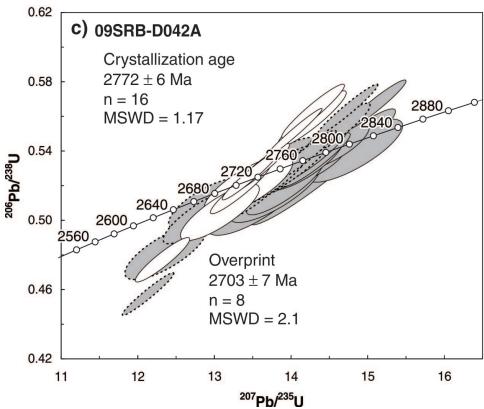


Figure 6. a) Brown-weathering, K-feldspar megacrystic granite 09SRB-D042A. Hammer (30 cm) for scale. 2012-050. **b)** Detail of megacrystic texture. 2012-053. **c)** Concordia diagram of SHRIMP U-Pb results. Light grey ellipses are interpreted as igneous, those excluded from the calculation of the weighted mean are outlined by dashed ellipses. White ellipses represent analyses from unzoned rims used to calculate the weighted mean age of the overprint.

Eight analyses of unzoned overgrowths yield a weighted mean $^{207}\text{Pb}/^{206}\text{Pb}$ age of 2703 ± 7 Ma. This overprint may be related to the emplacement of the equigranular granite that hosts the charnockitic enclaves. Some analyses of zoned zircon drift toward these younger ages, but do not form a distinct group. These are interpreted to have lost variable amounts of Pb during the overprinting event.

09SRB-D040B (z9973)

Pink-weathering equigranular monzogranite forms the dominant, younger phase of the Exaluin stock (Fig. 7a). A representative sample yielded abundant pale brown, prismatic zircon grains along with fewer clear, colourless crystals, occasionally preserved as cores. Archean ages were



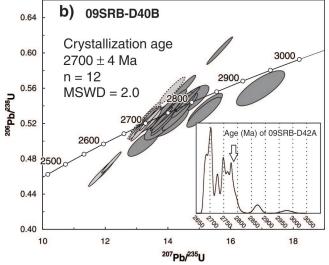


Figure 7. a) Photograph of the equigranular monzogranite 09SRB-D040B. 2012-055. **b)** Concordia diagram of SHRIMP U-Pb results. Light grey ellipses represent analyses of high-uranium, unzoned zircon that are used to calculate the weighted mean crystallization age. Dashed ellipses represent analyses that are excluded from the calculation. Dark grey ellipses are interpreted as inherited results. Inset probability density diagram illustrates the dominant 2.7 Ga population with skewness to older (inherited) ages.

derived from all 45 analyses of 35 different zircon grains (Fig. 7b). A distinct group composed of 12 analyses of high U, unzoned zircon yield a weighted mean ²⁰⁷Pb/²⁰⁶Pb age of 2700 ± 4 Ma, which is interpreted as the crystallization age of this equigranular monzogranite. Other chemically and morphologically similar grains skew to slightly younger ages (Fig. 7b, inset), attributed to Pb loss. Colourless, low U cores and single-phase zoned zircon yield an indistinct swath of ages broadly 2.78–2.72 Ga, with rare Mesoarchean zircon. These are interpreted as an inherited component that is consistent with the crystallization age of the charnockitic phase into which this monzogranite was emplaced.

07SAB-002 (z10151)

A sample of biotite-hornblende-magnetite±orthopyroxene monzogranite was collected from the eastern shore of Pangnirtung Fiord on Aulatsivik Point (Fig. 1), a locality thought to expose the eastern margin of the 1.865-1.845 Ga Cumberland Batholith (Whalen et al., 2010). This brown-weathering rock is strongly foliated (Fig. 8a, b) and inferred to have reached granulite facies. Zircon recovered from this monzogranite is colourless to medium brown, and is characterized by numerous inclusions and fractures (Fig. 8c inset). In plane light some grains appear to have light brown overgrowths. In back-scattered electron images, these grains are composed of single-phase, oscillatory zoned zircon or zoned zircon cores with unzoned back-scattered electron bright, high-uranium rims. There is extensive age and compositional (Th/U) overlap between the lowuranium cores and the high-uranium rims, with the cores only slightly older. The weighted mean ²⁰⁷Pb/²⁰⁶Pb age of the oldest 15 analyses (excluding the oldest analysis interpreted as inherited) yields an age of 1894 \pm 5 Ma. An additional seven analyses of the same morphology yields ages as young at 1847 Ma. Nine analyses of high-uranium rims give ages that range from 1886-1844 Ma, although most are younger than 1860 Ma. The weighted mean ²⁰⁷Pb/²⁰⁶Pb age of the six youngest rim analyses is 1852 ± 8 Ma. On the basis of core-rim relationships and differences in zoning, the authors interpret these results to indicate crystallization of the monzogranite at 1894 ± 5 Ma, followed by 1852 ± 8 Ma high-grade metamorphism. Anomalously young ages from cores and anomalously old ages from rims are likely the result of lead loss and/or incomplete recrystallization during metamorphism, respectively.

09SRB-M109A (z10150)

Medium-grained, weakly foliated, biotite-hornblende-garnet monzogranite was collected from a dramatic flat-topped tower (Fig. 9a) located southeast of the boundary of Auyuittuq National Park (Fig. 1). This sample, with its diagnostic clusters of deep-red garnet (Fig. 9a inset), is representative of the noncharnockitic component of this extensive plutonic belt. Large, fractured, prismatic zircon

has irregular outer surfaces suggesting partial resorption. Back-scattered electron images record faint, broad, concentric zoning, with no obvious core-rim relationships.

Thirty-two analyses of twenty-five zircon grains reveal a fairly simple zircon population. Twenty-four of the analyses yield a weighted mean 207 Pb/ 206 Pb age of 1889 ± 3 Ma, which is interpreted to represent the crystallization age of the monzogranite. Four analyses from three grains yield older ages between 1934 Ma and 2226 Ma, interpreted as inherited. Four zircon grains yield slightly younger ages, between 1868 Ma and 1853 Ma. As these results do not correspond to

distinct zircon zones and are not replicated by repeat analyses the authors interpret these younger ages as the result of small amounts of lead loss.

09SRB-D010C (z9972)

At this locality, the contact zone between tonalite gneiss and metasedimentary rocks is demarcated by two distinctive chert horizons (Fig. 10a) and by interlayering between similar looking tonalite and psammite (Fig. 10b). As such, it was uncertain whether an unconformable, intrusive or

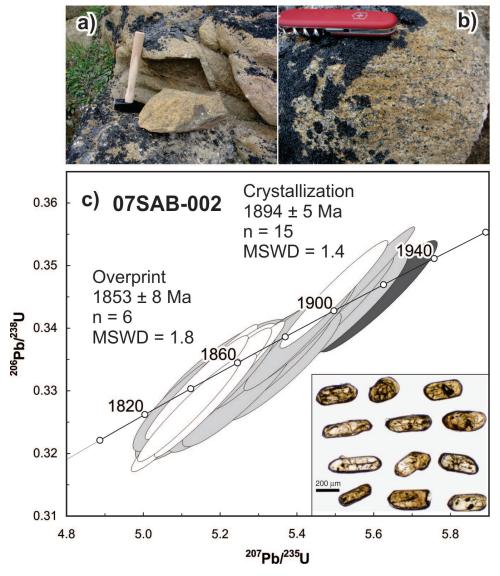


Figure 8. a) Brown-weathering, monzogranite 07SAB-002. Hammer (45 cm) for scale. 2012-043. **b)** Detail of foliation and weathering texture. Penknife (9 cm) for scale. 2012-041. **c)** Concordia diagram of SHRIMP U-Pb results. Single dark grey ellipses is interpreted as an inherited zircon. Light grey ellipses are from zoned zircon grains interpreted as igneous. White ellipses represent analyses from unzoned rims. Inset: plane-light image of zircon illustrating the internal structure of the grains. The two grains to the left in the upper row have light brown overgrowths.

tectonic contact relationship was preserved. Given that this was one of the few potential basement-cover contact zones in the map area, further insight was sought through dating of a homogeneous layer of medium-grained, equigranular, well foliated biotite tonalite. This layer is within a heterogeneous tonalite gneiss within 2 m of the first exposure of supracrustal-dominated outcrops.

The majority of the zircon grains are characterized by an elongate, prismatic morphology and fine-scale zoning in back-scattered electron images. These grains yield a wide range of variably discordant ²⁰⁷Pb/²⁰⁶Pb ages, from 2.97 Ga to 2.3 Ga (Fig. 10c). A subordinate population of large stubby zircon, typically characterized by faint, broad zoning in back-scattered electron images, yields a weighted mean ²⁰⁷Pb/²⁰⁶Pb age of 1882 ± 13 Ma, which may represent the crystallization age (Fig. 10c and inset). A Paleoproterozoic crystallization age is consistent with



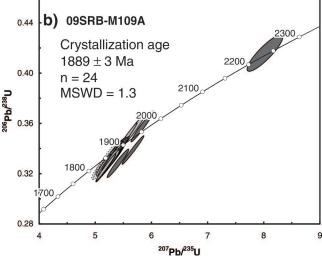


Figure 9. a) Flat-topped upland from which sample 09SRB-M109A was collected. Cliff is approximately 1000 m high. Inset shows detail of white-weathering surface and small clusters of dark red garnet. Field of view 12 cm. 2012-047. **b)** Concordia diagram of SHRIMP U-Pb results. Dark grey ellipses represent inherited zircon, light grey ellipses are interpreted as igneous, with the analyses excluded from the calculation of the weighted mean outlined by dashed ellipses.

later injection into the gneiss complex. In this scenario, the 2.97 Ga to 2.3 Ga zircon grains are inherited from the interleaved tonalite gneiss complex and/or metasedimentary rocks. Given the complexity of the outcrop and the diversity of ages, it is permissible that the data record exclusively detrital zircon from the adjacent psammite. In this instance, 1882 Ma is most conservatively considered a maximum age for the tonalite.

09SRB-M145A (z9983)

A sample of mylonitic aplite was collected within a high-strain zone that straddles the contact between the Archean plutonic complex and the Hoare Bay Group about 75 km along strike from sample 09SRB-D010C (Fig. 1). The sample was collected from a region where exposures of hinges of gently plunging, tightly folded mylonitic aplite are proximal to foliated, but less deformed metavolcanic rocks (Fig. 11a, b). Zircon recovered from the aplite is highly variable in size, colour, and morphology. It varies from small (50 µm), clear, colourless to pale orange prisms to moderately sized (100 µm) turbid orange-brown prisms to relatively large (150–200 µm) clear, fractured prisms. The smaller clear and turbid grains yield ²⁰⁷Pb/²⁰⁶Pb ages ranging from 3852 Ma to 2459 Ma (Fig. 11c). Amongst these analyses, a cluster of ages at 2.74 Ga is characterized by distinctly high Th/U (Table 1). Four of the large, fractured prisms yielded a mean 207Pb/206Pb age of 1873 ± 16 Ma (n = 7 including replicate analyses, Fig. 11c inset). These Paleoproterozoic zircon grains are interpreted to represent the crystallization age of the aplite, rather than in situ metamorphism, based on their relatively high Th/U (ca. 0.3), oscillatory zoning in back-scattered electron images and their relatively large size. The older grains, including one large fractured prism with an age of 1944 Ma, are interpreted as inherited. A ca. 1.87 Ga crystallization age is consistent with the field interpretation that this aplite was emplaced syntectonically.

07SAB-003A (z9896)

The southernmost tip of Cumberland Peninsula at Cape Mercy (Fig. 1) exposes a complex chaotic gneiss (Fig. 12a), the age and ancestry of which was investigated for comparison to gneissic rocks elsewhere. A grey-weathering, homogeneous foliated monzogranite layer (Fig. 12b) was selected for geochronology. Back-scattered electron imaging of the zircon grains indicate a dominant population of oscillatory-zoned zircon. Unzoned rims are observed on many of the grains. The majority of analyses of zoned zircon yield ²⁰⁷Pb/²⁰⁶Pb ages that cluster around ca. 2.77 Ga, whereas unzoned zircon rims yield younger discordant results as young as 1.8 Ga (Fig. 12c). Although an initial preliminary interpretation of these results pointed toward crystallization at ca. 2.77 Ga, subsequent Sm-Nd isotopic tracer analyses indicate a depleted mantle model

age of 2.42 Ga and an ε Nd value of 9.1 (at t = 2.77 Ga, J.B. Whalen, npub. data (2012)). This ε Nd value is higher than predicted from depleted mantle at ca. 2.77 Ga, revealing that the zircon population is more likely to be inherited. The combined zircon U-Pb and Nd isotopic results suggest mixing of a 2.77 Ga source with a younger juvenile magmatic component; however, given the available zircon data, the age of crystallization remains obscure. Nonetheless, this outcome does highlight the importance in utilization of several isotopic systems to ensure extraction of geologically meaningful information.

DISCUSSION AND CONCLUSIONS

Variably foliated to gneissic plutonic rocks are now recognized to dominate southern Cumberland Peninsula and these comprise a Mesoarchean component, including tonalite (09SRB-B76A), which yielded an age of 2991 \pm 4 Ma and granodiorite (09SRB-M106A), with a crystallization age of 2938 \pm 4 Ma. A third sample is represented by monzogranite north of Kumlien Fiord (09SRB-M100A) that yields a Neoarchean age of 2782 \pm 4 Ma. Its clear intrusive relationship with a panel of metasedimentary rocks, establishes the presence of Archean supracrustal rocks. Similar

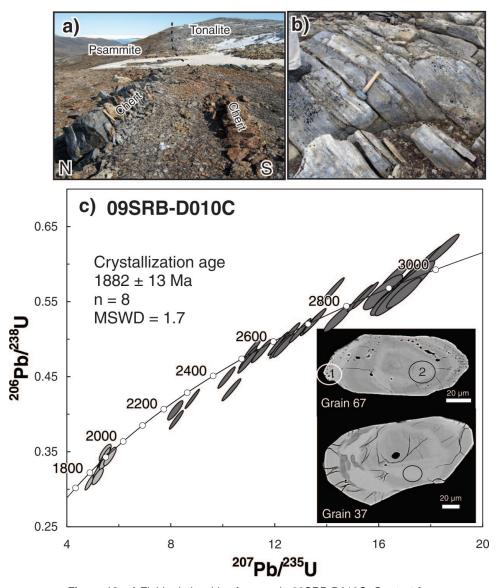


Figure 10. a) Field relationships for sample 09SRB-D010C. *See* text for discussion. Hammer on northern chert outcrop is 30 cm long. 2012-049. **b)** Detail of geochronology sampling location showing centimetre-scale banding. Hammer (30 cm) for scale. 2012-044 **c)** Concordia diagram of SHRIMP U-Pb results. Dark grey ellipses represent inherited zircon (i.e. grain 67). Light grey ellipses are analyses from large zoned grains (i.e. grain 37) that are interpreted as igneous. Ellipses correspond to analysis sites 9972-67.1, 9972-67.2, and 9972-37.1 in Table 1.

relationships between tonalite and thin supracrustal strands are observed across the southern half of the peninsula suggesting that supracrustal rocks of Archean age may be widespread (Sanborn-Barrie et al., 2011b). That this plutonic complex is structurally below the Hoare Bay Group establishes it as Meso- to Neoarchean structural basement complex.

Discrete Neoarchean plutons, reflected in the aeromagnetic data, are documented in both the eastern and southwestern parts of the peninsula. In the east, the Exaluin stock is

a composite body with 2772 \pm 6 Ma charnockite (09SRB-D042A) into which the more dominant noncharnockitic phase (09SRB-D040B) was emplaced at 2700 \pm 4 Ma. The Sm-Nd isotope systematics also support a Neoarchean age for the Exaluin stock. There is no evidence of a Paleoproterozoic origin or overprint in either of the samples. In the southwest, the Kumlien stock (10SRB-M197A) is interpreted to have crystallized at 2759 \pm 3 Ma. Further geochemical studies will evaluate if there is any petrogenetic link between these suites as well as the similarly aged monzogranite at Kumlien Fiord (09SRB-M100A).

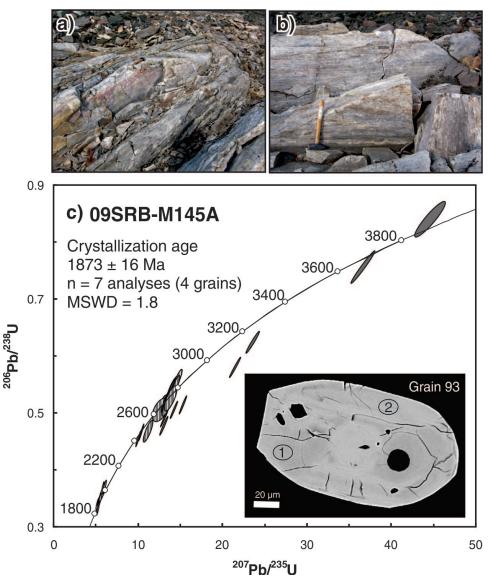
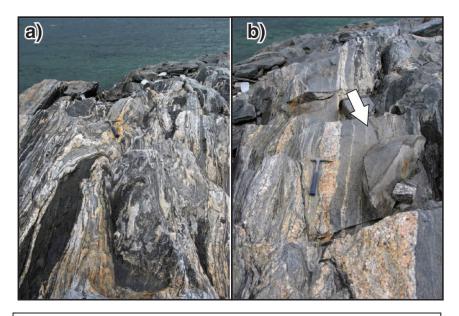


Figure 11. a) Exposed hinge of syntectonic aplite 09SRB-M145A. Enveloping mafic volcanic rocks are seen as rubble in the top left corner of the photograph. Hammer (30 cm) for scale. 2012-042. **b)** Detail of geochronology sample and mylonitic texture. Hammer (45 cm) for scale. 2012-056. **c)** Concordia diagram of SHRIMP U-Pb results. Dark grey ellipses represent inherited zircon, as do striped ellipses from a geochemically distinct 2.74 Ga population. Light grey ellipses are analyses from large zoned grains, interpreted as igneous (i.e. grain 93). Ellipses 1 and 2 correspond to analysis sites 9983-93.1 and 9983-93.2 in Table 1.



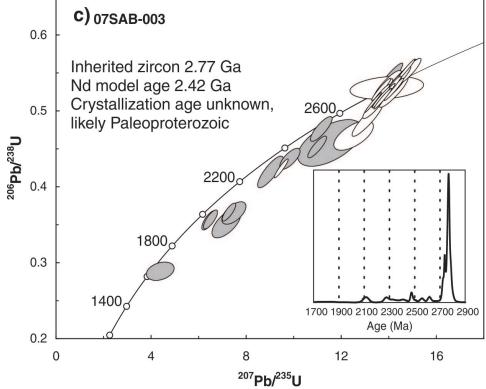


Figure 12. a) Heterogeneous nature of the gneiss complex at Cape Mercy. Hammer is approximately 30 cm. 2012-052. **b)** Homogeneous monzogranite layer (arrow) and block collected for geochronology. Hammer is approximately 30 cm. 2012-046. **c)** Concordia diagram of SHRIMP U-Pb results along with inset showing distribution of ²⁰⁷Pb/²⁰⁶Pb ages. Analyses of unzoned rims shown in grey, other analyses from inner parts of grains or zoned outer 'rims'.

The northwestern margin of the study area exposes a belt of plutonic rocks that extends over 200 km and forms the spectacular peaks of Auyuittuq National Park. Two samples from this belt yielded similar crystallization ages: biotitehornblende-magnetite monzogranite near Pangnirtung (07SAB-002) was dated at 1894 \pm 5 Ma, and biotite-hornblende-garnet granodiorite exposed 50 km northeast of Pangnirtung (09SRB-M109A) was dated at 1889 \pm 3 Ma. These two ca. 1.89 Ga samples are distinctly older than the 1.865-1.845 Ga Cumberland Batholith predicted to occur in this region. Accordingly, this plutonic belt is informally designated the Qikiqtarjuaq plutonic suite. Further study will investigate whether the eastern margin of the Cumberland Batholith comprises an older ca. 1.89 Ga marginal phase represented by the Qikiqtarjuaq suite or whether any genetic association between the two exists.

Lastly, a suite of syntectonic intrusive sheets are associated with a strongly deformed corridor separating the plutonic rock–dominated domain south of the peninsula from the supracrustal rock–dominated domain north. Dated candidates of this suite include tonalite (09SRB-D10C) from within a heterogeneous gneiss unit with a maximum age of 1882 ± 13 Ma, and mylonitic K-rich aplite (09SRB-M145A) dated at 1873 ± 16 Ma. These sheets display significantly higher strain than surrounding rocks, suggesting that ca. 1.88-1.87 Ga magmatic phases were emplaced syntectonically and preferentially accommodated strain.

Neo- and Mesoarchean basement ages from Cumberland Peninsula are comparable to ages from Rae crust on northern Baffin Island and western Greenland; as is the age of the Qikiqtarjuaq suite with the 1.92-1.87 Ga Sisimiut and Arfersiorfik suites in West Greenland (Jackson et al., 1990; Wodicka et al., 2002; Bethune and Scammell, 2003; Connelly et al., 2006; St-Onge et al., 2009 and references therein). Mesoarchean basement rocks assigned to the North Atlantic craton and 1.91-1.87 Ga plutonic suites have also been identified on Hall Peninsula (Scott, 1999) and from the Torngat Orogen (Burwell Domain) in northern Labrador (Schiøtte et al., 1989; Scott, 1995). Study of the Pb-isotopic signature of these Archean rocks, as well as detailed comparison of the Hoare Bay Group with other supracrustal sequences, will hopefully clarify the affinity of the initial building blocks of the Cumberland Peninsula.

In summary, recent geological mapping supported by new isotopic and SHRIMP U-Pb geochronological data for plutonic rocks on southern Cumberland Peninsula has highlighted the presence of Archean basement to the Paleoproterozoic Hoare Bay Group, established a 200 km long belt of ca. 1.89 Ga plutonic rocks, and identified syntectonic plutonic sheets that appear to have lubricated the basement-cover contact zone during regional deformation. Collectively, these results shed light on the assembly and evolution of the eastern segment of the Trans-Hudson Orogen.

ACKNOWLEDGMENTS

Enthusiatic and able field assistance during the 2009 field season was provided by B. Hamilton, R. Keim, C. Nagy, and J. Day. Logistical support in the field was provided by Polar Continental Shelf Program (PCSP002-09) and expert air support was ensured by pilot D. Towersey with Universal Helicopters Newfoundland Ltd. M. St-Onge, R. Berman, and N. Wodicka contributed to the authors' understanding of the area through fruitful discussions both in the field and in the office. The authors thank P. Hunt, T. Pestaj, and the staff of the Geochronology Laboratory for their expert laboratory assistance. The manuscript was improved by a careful review by N. Wodicka.

REFERENCES

- Bethune, K.M. and Scammell, R.J., 2003. Geology, U–Pb geochronology, and geochemistry of Archean rocks in the Eqe Bay area, north-central Baffin Island: constraints on the depositional and tectonic history of the Mary River Group of northeastern Rae Province; Canadian Journal of Earth Sciences, v. 40, p. 1137–1167. doi:10.1139/e03-028
- Connelly, J.N., Thrane, K., Krawiec, A.W., and Garde, A.A., 2006. Linking the Palaeoproterozoic Nagssugtoqidian and Rinkian orogens through the Disko Bugt region of West Greenland; Journal of the Geological Society, v. 163, p. 319–335. doi:10.1144/0016-764904-115
- Jackson, G.D., 1971. Operation Penny Highlands, South-Central Baffin Island; Report of Activities Part A; Geological Survey of Canada, Paper 71-1A, p. 138–140.
- Jackson, G.D., Hunt, P.A., Loveridge, W.D., and Parrish, R.R., 1990. Reconnaissance geochronology of Baffin Island, N.W.T.; in Radiogenic age and isotopic studies: Report 3; Geological Survey of Canada, Paper 89-2, p. 123–148.
- Ludwig, K.R., 2003. User's manual for Isoplot/Ex rev. 3.00: a Geochronological Toolkit for Microsoft Excel; Special Publication, 4, Berkeley Geochronology Center, Berkeley, California, 70 p.
- Sanborn-Barrie, M., Young, M., and Whalen, J., 2011a. Geology, Kingnait Fiord, Nunavut; Geological Survey of Canada, Canadian Geoscience Map 2 (2nd edition, preliminary), scale 1:100 000. doi:10.4095/289238
- Sanborn-Barrie, M., Young, M., Whalen, J., and James, D., 2011b. Geology, Ujuktuk Fiord, Nunavut; Geological Survey of Canada, Canadian Geoscience Map 1 (2nd edition, preliminary), scale 1:100 000. doi:10.4095/289237
- Sanborn-Barrie, M., Young, M., Whalen, J., James, D., and St-Onge, M.R., 2011c. Geology, Touak Fiord, Nunavut; Geological Survey of Canada, Canadian Geoscience Map 3 (2nd edition, preliminary), scale 1:100 000. doi:10.4095/289239
- Schiøtte, L., Compston, W., and Bridgwater, D., 1989. Ion probe U-Th-Pb zircon dating of polymetamorphic orthogneisses from northern Labrador, Canada; Canadian Journal of Earth Sciences, v. 26, p. 1533–1556. doi:10.1139/e89-131

- Scott, D.J., 1995. U-Pb geochronology of the Nain craton on the eastern margin of the Torngat Orogen, Labrador; Canadian Journal of Earth Sciences, v. 32, p. 1859–1869.
- Scott, D.J., 1999. U-Pb geochronology of the eastern Hall Peninsula, southern Baffin Island, Canada: a northern link between the Archean of West Greenland and the Paleoproterozoic Torngat Orogen of northern Labrador; Precambrian Research, v. 93, p. 5–26. doi:10.1016/S0301-9268(98)00095-3
- St-Onge, M.R., Jackson, G.D., and Henderson, I., 2006. Geology, Baffin Island (south of 70°N and east of 80°W), Nunavut; Geological Survey of Canada, Open File 4931, scale 1:500 000.
- St-Onge, M.R., Van Gool, J.A.M., Garde, A.A., and Scott, D.J., 2009. Correlation of Archaean and Palaeoproterozoic units between northeastern Canada and eastern Greenland: constraining the pre-collisional upper plate accretionary history of the Trans-Hudson orogen; Geological Society, London, Special Publication 2009, v. 318, p. 193–235. doi:10.1144/SP318.7
- Stern, R.A., 1997. The GSC Sensitive High Resolution Ion Microprobe (SHRIMP): analytical techniques of zircon U-Th-Pb age determinations and performance evaluation; *in* Radiogenic Age and Isotopic Studies: Report 10; Geological Survey of Canada, Current Research 1997-F, p. 1–31.

- Stern, R.A. and Amelin, Y., 2003. Assessment of errors in SIMS zircon U-Pb geochronology using a natural zircon standard and NIST SRM 610 glass; Chemical Geology, v. 197, p. 111–142. doi:10.1016/S0009-2541(02)00320-0
- Whalen, J.B., Wodicka, N., Taylor, B.E., and Jackson, G.D., 2010. Cumberland batholith, Trans-Hudson Orogen, Canada: Petrogenesis and implications for Paleoproterozoic crustal and orogenic processes; Lithos, v. 117; Issues (National Council of State Boards of Nursing (U.S.)), v. 1–4, no. June, p. 99–118.
- Wodicka, N., St-Onge, M.R., Scott, D.J., and Corrigan, D., 2002.
 Preliminary report on the U-Pb geochronology of the northern margin of the Trans-Hudson Orogen, central Baffin Island,
 Nunavut; in Radiogenic Age and Isotopic Studies: Report 15;
 Geological Survey of Canada, Current Research 2002-F7,
 12 p. doi:10.4095/213623

Geological Survey of Canada Project MGM 007