

Table 0.1: Compiled geochronological data for the Wollaston Domain (part 1). After cited sources.

Lithology	Crystallization age (Ma)	Metamorphic age (Ma)	Area	Reference
U vein	1805 ± 11 (Urn)*	1774 ± 9 (Urn)*	Hook Lake	Mercadier et al. (2013)
Pegmatite	1766 ± 1 (Mnz) 1788 ± 4 (Ttn) 1819 ± 6 (Zrn) 1811 ± 1 (Zrn) 1812 ± 2 (Mnz) 1810 ± 3 (Mnz) 1822 ± 5 (Zrn) 1819 ± 6 (Zrn) 1830 ± 5 (Mnz) [†]	1788 ± 4 (Ttn) 1805 ± 5 (Mnz) 1182 ± 7 (Zrn) 1224 ± 6 (Zrn)	Dawn Lake Karpinka Lake Greenway Island Yalowega Lake P-Patch McClean Lake Close Lake Epp Lake Kulyk	Annesley et al. (1997) Annesley et al. (1997) Annesley and Madore (1997) Annesley et al. (1999b) Annesley et al. (1999a) Annesley and Madore (1997) Madore et al. (1999) Madore et al. (1999) McFarlane and McKeough (2013)
Granitic pegmatite	1816 ± 7 (Zrn) 1.8–1.85 Ga (Urn) [‡] 2.05–2.25 Ga (Mnz) ^{‡1} 1814.6 ± 1.4 (Mnz)	1792.4 ± 1.2 (Mnz)	Millenium Deposit Fraser Lake Zone B–Group A Fraser Lake Zone B–Group B McArthur River East of Black Island	Annesley et al. (2007) McKechnie et al. (2012) McKechnie et al. (2012) Annesley et al. (2007) Annesley and Madore (1997)
Metasomatized Pegmatite		1808 ± 4 (Zrn)		
Pelitic anatectites	1966–1858 (Urn) [‡]		Karin Lake	Parslow et al. (1985)
Peraluminos granite dike	1805 (Mnz)	1787 (Mnz)	Black Birch Lake	Orrell et al. (1999)
Granite pegmatitic dike	1805 ± 1 (Mnz)		Black Birch Lake	Orrell et al. (1999)
Calc-silicate vein		1789 ± 4 (Ttn)	Karpinka Lake	Annesley et al. (1992b)
Calc-silicate Gneiss		1796 ± 4 (Ttn) 1783 ± 4 (Ttn)	Karpinka Lake Karpinka Lake	Annesley et al. (1997) Annesley et al. (1997)
Foliated leucotonalite		1752 ± 2 (Ttn)	McClean Lake–Collins Creek	Annesley et al. (1996)
Grey Granite (sheared)		1719 ± 1 (Zrn)	Hidden Bay	Annesley et al. (1992b)
Porphyritic Granite	1815 ± 2 (Zrn) 1812 ± 3 (Zrn) 1824 ± 3 (Zrn)	1788 ± 2 (Ttn)	Hidden Bay Harrison Peninsula Wheeler River	Annesley et al. (1992b) Annesley et al. (1995) Annesley et al. (1999b)

Notes: Unless otherwise indicated, all ages were obtained by TIMS or ID–TIMS. * SIMS. † LA–ICP–MS. ‡ Chemical age. ¹ Inherited age.

Uncertainties are omitted where not reported in the original source. Blank cells indicate no reported value.

Mineral abbreviations: **Zrn** = zircon; **Mnz** = monazite; **Ttn** = titanite; **Urn** = uraninite.

Table 0.2: Geochronological data for selected rocks of the Wollaston Domain (part 2). After cited sources.

Lithology	Crystallization age (Ma)	Metamorphic age (Ma)	Area	Reference
Foliated Grey Granite	1840 ± 11 (Zrn)	1790 ± 1 (Mnz)	Greenway Island	Annesley et al. (1997)
Foliated Granite	1818 ± 1 (Zrn) 2593 ± 5 (Zrn) 2726 ± 3 (Zrn)	1783 ± 2 (Mnz) 1819 ± 2 (Mnz)	Wheeler River Moore – Tomblin Fife Island	Annesley et al. (1999b) Annesley et al. (1999b) Annesley et al. (1997)
Leucogranite	1804–1703 (Zrn)	1816 ± 1 (Mnz) 1819 ± 10 (Zrn) ¹	McArthur River McArthur River Black Birch Lake	Annesley et al. (2007) Annesley et al. (2007) Orrell et al. (1999)
Foliated meta-tonalite	2612 ± 22 (Zrn)	1803 ± 1 (Mnz)	Russel Lake	Annesley et al. (2007)
Meta-gabbro	1820 ± 5 (Zrn)		Hidden Bay	Annesley et al. (1992b)
Monzogabbro	1828 ± 3 (Ttn) 1828 ± 3 (Zrn)	1795 ± 3 (Ttn)	Karpinka Lake Sandy Islands	Annesley et al. (1993) Annesley et al. (1995)
Monzodiorite	1829 ± 1 (Zrn)		Kiteley Bay (Klemmer Lake)	Harper et al. (2006)
Grey Tonalitic Gneiss	1818 ± 1 (Zrn)	1801 ± 1 (Mnz)	Yalowega Lake	Annesley et al. (1998)
Migmatitic Pelitic Gneiss		1800 ± 2 (Mnz)	Wheeler River	Annesley et al. (1999b)
Migmatitic Tonalitic Gneiss		1814 ± 5 (Zrn)	Jeb	Annesley et al. (2007)
Metasomatized Orthogneiss		1803 ± 4 (Ttn)	Karpinka Lake	Annesley et al. (2007)
Pelitic Gneiss		1812 ± 2 (Mnz)	Hidden Bay	Annesley et al. (1992b)
Psammo pelitic gneiss		1730–1770 Urn 1880 Urn	Karpinka Lake Karpinka Lake	Williams-Jones and Sawiuk (1985) Williams-Jones and Sawiuk (1985)
Granodioritic Gneiss	2620 ± 10 (Zrn)	1792 ± 4 (Ttn) 1798 ± 14 (Zrn)	Karpinka Lake SE Rabbit Lake	Annesley et al. (1997) Annesley et al. (1992b)
Quartz Dioritic Gneiss	2638 ± 65 (Zrn)	1779 ± 2 (Ttn)	Ashley Peninsula	Annesley et al. (1992b)
Silicified granitic Gneiss	2594 ± 10 (Zrn)	1806 ± 2 (Mnz)	Karpinka Lake	Annesley et al. (1997)

Notes: Unless otherwise indicated, all ages were obtained by TIMS or ID–TIMS.

¹ Zircons display evidence of new growth as uraniferous tips formed during a 1680–1550 Ma thermal–hydrothermal event.

Uncertainties are omitted where not reported in the original source. Blank cells indicate no reported value.

Mineral abbreviations: **Zrn** = zircon; **Mnz** = monazite; **Ttn** = titanite; **Urn** = uraninite.

Table 0.3: Compiled geochronological data for the Wollaston Domain (part 3). After cited sources.

Lithology	Crystallization age (Ma)	Metamorphic age (Ma)	Area	Reference
Garnetiferous felsic rock	2565 ± 11 (Zrn)	1812 ± 7 (Zrn) 1776 ± 7 (Zrn)	Kendal Island Kendal Island	Harper et al. (2006)
Granitic Gneiss	2583 ± 14 (Zrn) 2592 ± 7 (Zrn) 2626 ± 15 (Zrn)	1821.9 ± 2 (Mnz) 1837 ± 34 (Zrn) ¹	Russel Lake McArthur River East of Black Island	Annesley et al. (2007) Annesley et al. (1999a) Annesley et al. (1997)
Tonalitic Gneiss	2689 ± 19 (Zrn) 2717 ± 12 (Zrn) 2706 ± 5 (Zrn) 2714 ± 12 (Zrn) 2780 Zrn	1778 ± 2 (Ttn) 1802 ± 2 (Mnz) 1804 ± 8 (Mnz) 1805.5 ± 1.4 (Mnz) 1806 ± 3 (Ttn) 1800 Zrn	Ashley Peninsula Collins Bay Collins Bay Close Lake Karpinka Lake Black Birch Lake	Annesley et al. (1992b) Annesley et al. (1997) Annesley et al. (1996) Annesley et al., 2003 Annesley et al. (1997) Orrell et al. (1999)
Mylonitic Tonalitic Gneiss	2733 ± 9 (Zrn)		Karpinka Lake	Annesley et al. (1992b)
Archean granitic gneiss	2731 ± 25 (Zrn)	1791.3 ± 8 (Mnz)	Millenium Deposit	Annesley et al. (2007)
Grey Orthogneiss	2786 ± 7 (Zrn)	1813 ± 6 (Zrn)	P-Patch	Annesley et al. (1999a)
Augen Gneiss	2660–2628 Zrn		Black Birch Lake	Orrell et al. (1999)
Qtz–Feldspar gneiss	2614–1977 Zrn	1804 Mnz	Black Birch Lake	Orrell et al. (1999)
Mafic gneiss	1802 ± 6 Zrn	1809 Zrn	Black Birch Lake	Orrell et al. (1999)

Notes: Unless otherwise indicated, all ages were obtained by TIMS or ID–TIMS.

¹ Hudsonian metamorphism. Blank cells indicate no reported value.

Uncertainties are omitted where not reported in the original source. Blank cells indicate no reported value.

Mineral abbreviations: **Zrn** = zircon; **Mnz** = monazite; **Ttn** = titanite; **Urn** = uraninite.

General Note: The correlation chart of the Trans-Hudson Orogen by [Ansdell et al. \(2005\)](#) provides an essential regional framework for interpreting the geochronological data compiled in Tables 0.3–0.5. It allows temporal and tectonic relationships among metamorphic, igneous, and detrital events within the Wollaston Domain to be understood in the broader context of the Manitoba–Saskatchewan segment of the Trans-Hudson Orogen. This chart serves as a key reference for integrating the evolution of the eastern Hearne Craton with the Paleoproterozoic history of the orogen.

Table 0.4: Compiled detrital zircon geochronological data for the Wollaston Domain. After cited sources.

Lithology	Zircon ages (Ma)	Metamorphic age (Ma)	Area	Reference
Biotite psammite	2686 – 2863	1816 ± 2	Wollaston Lake	Annesley et al. (1992b)
Cordierite–sillimanite pelite	2546 – 2792	1814 ± 2	Karpinka Lake	Annesley et al. (1992b)
Cordierite-Kfeldspar pelitic gneiss	2411 – 2612	1812 – 1764	Key Lake road – km 69	Annesley et al. (1992b)
Conglomerate	2830 – 2600 2600 – 2450 2100 – 2050 1920 – 1880	< 1880 (1840–1790 metamorphism)	Daly Lake	Tran (2001)
Arkose	2600 – 2450 1920 – 1880	< 1880 (1840–1790 metamorphism)	Daly Lake	Tran (2001)
Quartzite	2600 – 2450 1920 – 1880	< 1880 (1840–1790 metamorphism)	Daly Lake	Tran (2001)
Quartzite	2620 – 2367	< 2367	Compulsion River	Hamilton and Delaney (2000)
Quartzite	2533 – 2450	< 2450	Duddridge Lake	Hamilton and Delaney (2000)
Quartzite–metapelite	2134–2580 (Zrn)	1 880–1769 (Mnz)	Black Birch Lake	Orrell et al. (1999)

Note: Most analyses were conducted using SHRIMP U–Pb methods. Samples from [Annesley et al. \(1992a\)](#) were dated using ID–TIMS U–Pb. Ages from metasedimentary rocks are from detrital zircon crystals. Modified from [Yeo and Delaney \(2007\)](#)

Table 0.5: Compiled geochronological data for Archean basement rocks from the eastern Hearne Craton. After cited sources.

Lithology	Age (Ma)	Unit	Reference
Granite	2494 ± 38	Johnson River inlier	Ray and Wanless (1980)
Granite	2574 ± 3	Johnson River inlier	Hamilton and Delaney (2000)
Granodiorite	2566 ± 6	Duddridge Lake inlier	Hamilton and Delaney (2000)
Granite–syenogranite	$2574 \pm 8/7$	Anderson Lake inlier	Hamilton and Delaney (2000)
Biotite granite	2587 ± 3	Linn Island inlier	Rayner et al. (2005)
Granite	2593 ± 13	Fraser Lakes inlier	Hamilton and Delaney (2000)
Granite	2600 ± 18 2652 ± 20	Zimmer Lake inlier	Krogh and Clark (1987)
Tonalitic gneiss	2733^{+9}_{-8}	Karpinka Lake gneiss	Annesley et al. (1992a)

Note. Ages reported are from U–Pb zircon thermal ionization mass spectrometry (TIMS) analyses. Modified from [Yeo and Delaney \(2007\)](#)

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