



GEOLOGICAL SURVEY OF CANADA

OPEN FILE 2972

A compilation of U-Pb age data from
the Slave Province, Northwest Territories

M.E. Villeneuve, O. van Breemen

1994

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A compilation of U-Pb age data from the Slave Province.

by

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This compilation lists previously published U-Pb ages from rocks in the Slave province, District of Mackenzie, N.W.T. Also included are a number of ages produced during the last three years under the auspices of the Slave Province NATMAP program. This information has been collected in a database format and is given in printed form, ordered first by increasing latitude, then by increasing longitude.

Each date is given under an often informal sample name, as well as a sample number that can be used for cross referencing with publications. Next, location information is provided, in the form of latitude and longitude as well as UTM coordinates, NTS sheet number and a verbal description of the sample's geographic location. This last item is given because the accuracy of the other coordinate systems depends on the original data source, and the verbal description provides a cross-check to locate the sample on a topographic map. Samples without reasonable location information are not included in the compilation.

Following the location is the age and its errors, in Ma, the method used to derive the age and a very brief interpretation of the age. Samples without errors, or with large errors, should be treated as rough estimates. In addition, detrital samples have not been screened to take into account the

degree of discordance, a strong factor in the degree of confidence that can be ascribed to the analysis.

Finally, a description of the sample and a reference containing the published data is given. Readers are cautioned about the use of unpublished dates and their interpretations. Many of these samples require a more detailed context than can be given here, and some of the ages and interpretations may change as new geochronological and geological information becomes available. Therefore, such ages should be treated as preliminary.

Eastern Defeat Tonalite

Sample #: E. Defeat Tonalite

Location of sample

62° 21.70' 113° 37.60' (UTM: Zone: 12 East: 364077 North: 6917031)

NTS: 85I/5

Description of Location: About 30 km SSE of Yellowknife

Age Interpretation:

2618_{-20}^{+7} U/Pb Zircon Crystallization

Sample Description: Equigranular, medium grained tonalite, consisting of stubby euhedral, zoned, moderately to weakly altered plagioclase and irregular masses of strained but not polygonized quartz. Biotite is only mafic.

Reference:

Henderson, J.B., Van Breemen, O. and Loveridge, W.D. 1987. Some U-Pb zircon ages from the Archean basement, supracrustal and intrusive rocks, Yellowknife-Hearne Lake area, District of Mackenzie, in Radiogenic Age and Isotope Studies: Report 1, Geological Survey of Canada Paper 87-2, 111-121

Kam Point Felsite

Sample #: Kam Point

Location of sample

62° 23.42' 114° 22.54' (UTM: Zone: 11 East: 635678 North: 6920212)

NTS: 85J/8

Description of Location: Not available

Age Interpretation:

2716_{-9}^{+9} U/Pb Zircon Crystallization

Sample Description: Not available

Reference:

Isachsen, C.E., Bowring, S.A. and Padgham, W.A. 1991. U-Pb geochronology of the Yellowknife volcanic belt, NWT, Canada: new constraints on timing and duration of greenstone belt magmatism, Journal of Geology, 99, 55-67

Townsite Volcanic

Sample #: Townsite Felsics

Location of sample

62° 27.40' 114° 23.00' (UTM: Zone: 11 East: 634976 North: 6927587)

NTS: 85J/8

Description of Location: Immediately north of Yellowknife

Age Interpretation:

2684_{-14}^{+16} U/Pb Zircon Crystallization-estimate

Sample Description: 400 m thick unit of porphyritic fragmental volcanics ranging from coarse breccias to tuffs, massive flows and intrusive gabbro sills. This sample was a massive flow with about 30% phenocrysts of euhedral to subhedral plagioclase.

Reference:

Henderson, J.B., Van Breemen, O. and Loveridge, W.D. 1987. Some U-Pb zircon ages from the Archean basement, supracrustal and intrusive rocks, Yellowknife-Hearne Lake area, District of Mackenzie, in Radiogenic Age and Isotope Studies: Report 1, Geological Survey of Canada Paper 87-2, 111-121

Western Defeat Tonalite

Sample #: W. Defeat Tonalite

Location of sample

62° 27.70' 114° 23.00' (UTM: Zone: 11 East: 634954 North: 6928144)

NTS: 85J/8

Description of Location: About 12 km west of Yellowknife on highway

Age Interpretation:

2620_{-8}^{+8} U/Pb Zircon Crystallization

Sample Description: Subhedral to anhedral weakly zoned plagioclase with patchy alteration, elongate polycrystalline aggregates of quartz, and ragged flakes of biotite. Moderate foliation.

Reference:

Henderson, J.B., Van Breemen, O. and Loveridge, W.D. 1987. Some U-Pb zircon ages from the Archean basement, supracrustal and intrusive rocks, Yellowknife-Hearne Lake area, District of Mackenzie, in Radiogenic Age and Isotope Studies: Report 1, Geological Survey of Canada Paper 87-2, 111-121

Cemetery Tuff

Sample #: Cemetery Tuff

Location of sample

62° 27.77' 114° 21.82' (UTM: Zone: 11 East: 635965 North: 6928309)

NTS: 85J/8

Description of Location: Not available

Age Interpretation:

2712_{-2}^{+2} U/Pb Zircon Crystallization

Sample Description: Not available

Reference:

Isachsen, C.E., Bowring, S.A. and Padgham, W.A. 1991. U-Pb geochronology of the Yellowknife volcanic belt, NWT, Canada: new constraints on timing and duration of greenstone belt magmatism, Journal of Geology, 99, 55-67

Rhyodacite boulder - Bode Tuff

Sample #: Bode Tuff Boulder

Location of sample

62° 29.74' 114° 20.10' (UTM: Zone: 11 East: 637290 North: 6932019)

NTS: 85J/8

Description of Location: Not available

Age Interpretation:

2688_{-3}^{+3} U/Pb Zircon Crystallization

Sample Description: Rhyodacite Boulder

Reference:

Isachsen, C.E., Bowring, S.A. and Padgham, W.A. 1991. U-Pb geochronology of the Yellowknife volcanic belt, NWT, Canada: new constraints on timing and duration of greenstone belt magmatism, Journal of Geology, 99, 55-67

Brock Lenticle

Sample #: Brock Lenticle

Location of sample

62° 30.60' 114° 21.82' (UTM: Zone: 11 East: 635751 North: 6933567)

NTS: 85J/9

Description of Location: Not available

Age Interpretation:

2703_{-2}^{+2} U/Pb Zircon Crystallization

Sample Description: Not available

Reference:

Isachsen, C.E., Bowring, S.A. and Padgham, W.A. 1991. U-Pb geochronology of the Yellowknife volcanic belt, NWT, Canada: new constraints on timing and duration of greenstone belt magmatism, *Journal of Geology*, 99, 55-67

Defeat Granite

Sample #: Defeat Granite

Location of sample

62° 31.30' 114° 51.20' (UTM: Zone: 11 East: 610499 North: 6933932)

NTS: 85J/10

Description of Location: Not available

Age Interpretation:

2621_{-8}^{+5} U/Pb Zircon Crystallization

Sample Description: Granite - D.J. Atkinson and O. van Breemen, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, *Canadian Journal of Earth Sciences*, 29, 2186-2199

Trapper Lake Tuff

Sample #: Trapper Lake

Location of sample

62° 32.00' 114° 21.70' (UTM: Zone: 11 East: 635744 North: 6936169)

NTS: 85J/9

Description of Location: Not available

Age Interpretation:

2707_{-2}^{+2} U/Pb Zircon Crystallization

Sample Description: Not available

Reference:

Isachsen, C.E., Bowring, S.A. and Padgham, W.A. 1991. U-Pb geochronology of the Yellowknife volcanic belt, NWT, Canada: new constraints on timing and duration of greenstone belt magmatism, *Journal of Geology*, 99, 55-67

Vee Lake Lenticle

Sample #: Vee Lake

Location of sample

62° 32.90' 114° 21.25' (UTM: Zone: 11 East: 636062 North: 6937855)

NTS: 85J/9

Description of Location: Not available

Age Interpretation:

2705_{-3}^{+3} U/Pb Zircon Crystallization

Sample Description: Not available

Reference:

Isachsen, C.E., Bowring, S.A. and Padgham, W.A. 1991. U-Pb geochronology of the Yellowknife volcanic belt, NWT, Canada: new constraints on timing and duration of greenstone belt magmatism, *Journal of Geology*, 99, 55-67

Stagg Granite

Sample #: Stagg Granite

Location of sample

62° 34.20' 115° 9.30' (UTM: Zone: 11 East: 594820 North: 6938836)

NTS: 85J/11

Description of Location: Not available

Age Interpretation:

2588_{-7}^{+7} U/Pb Zircon Crystallization

Sample Description: Granite - D.J. Atkinson and O. van Breemen, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, *Canadian Journal of Earth Sciences*, 29, 2186-2199

Yava Rhyolite

Sample #: Yava

Location of sample

62° 36.65' 107° 56.20' (UTM: Zone: 13 East: 349305 North: 6945460)

NTS: 75J/12

Description of Location: North Shore of Friday (Aitch) Lk., about 2.5 km along strike from Yava Massive Sulphide deposit

Age Interpretation:

$2687.4_{-1.2}^{+1.2}$ U/Pb Zircon Minimum Age Estimate

$2695.8_{-2.0}^{+2.0}$ U/Pb Zircon Maximum Age Estimate

Sample Description: Not available

Reference:

Mortensen, J.K., Thorpe, R.I., Padgham, W.A., King, J.E. and Davis, W.J. 1988. U-Pb zircon ages for felsic volcanism in the Slave Province, N.W.T., *Radiogenic Age and Isotopic Studies: Report 2, Geological Survey of Canada, Paper 88-2*, 85-95

Toad Lake Granodiorite

Sample #: Toad Lk Granod.

Location of sample

62° 39.10' 111° 42.60' (UTM: Zone: 12 East: 463607 North: 6946780)

NTS: 75L/12

Description of Location: Not available

Age Interpretation:

2698⁺²₋₂ U/Pb Zircon Crystallization

Sample Description: Granodiorite, R.A. Frith and O. van Breemen, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

Duckfish Granite

Sample #: Duckfish Granite

Location of sample

62° 40.00' 114° 25.00' (UTM: Zone: 11 East: 632321 North: 6950901)

NTS: 85J/9

Description of Location: Not available

Age Interpretation:

2608⁺³₋₃ U/Pb Titanite Crystallization

Sample Description: Granite - D.J. Atkinson and O. van Breemen, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

Turnback Rhyolite

Sample #: Turnback Rhyolite

Location of sample

62° 42.60' 112° 38.20' (UTM: Zone: 12 East: 416280 North: 6954141)

NTS: 85I/10

Description of Location: Southeast shore of Turnback Lake

Age Interpretation:

2663⁺⁷₋₅ U/Pb Zircon Crystallization

Sample Description: Fine granoblastic quartzofeldspathic matrix with strong foliation defined by well-oriented muscovite and biotite laths. Lenses to roughly square or rectangular areas of coarsely recrystallized quartz and plag. Metamorphosed to amphibolite grade.

Reference:

Henderson, J.B., Van Breemen, O. and Loveridge, W.D. 1987. Some U-Pb zircon ages from the Archean basement, supracrustal and intrusive rocks, Yellowknife-Hearne Lake area, District of Mackenzie, in Radiogenic Age and Isotope Studies: Report 1, Geological Survey of Canada Paper 87-2, 111-121

Awry Granite

Sample #: Awry Granite

Location of sample

62° 42.70' 115° 35.70' (UTM: Zone: 11 East: 571866 North: 6954047)

NTS: 85J/12

Description of Location: West of Yellowknife

Age Interpretation:

2550	U/Pb Zircon	Minimum Age Estimate
2630	U/Pb Zircon	Maximum Age Estimate

Sample Description: Intrudes Defeat Suite and Stagg Suite plutons. Massive medium to medium coarse grained, biotite poor, consisting mostly of unzoned plagioclase. Rare laths of microcline, minor biotite.

Reference:

Henderson, J.B., Van Breemen, O. and Loveridge, W.D. 1987. Some U-Pb zircon ages from the Archean basement, supracrustal and intrusive rocks, Yellowknife-Hearne Lake area, District of Mackenzie, in Radiogenic Age and Isotope Studies: Report 1, Geological Survey of Canada Paper 87-2, 111-121

Stagg Granite

Sample #: Stagg Granite

Location of sample

62° 45.60' 115° 49.20' (UTM: Zone: 11 East: 560260 North: 6959201)

NTS: 85J/13

Description of Location: 82 km west-northwest of Yellowknife on highway

Age Interpretation:

2581 ⁺²⁹ ₋₂₄	U/Pb Zircon	Crystallization-estimate
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Sample Description: Granitic phase, coarse grained quartz rich rock, large continuous masses of polycrystalline quartz. Anhedral to subhedral unzoned plagioclase, coarse subhedral megacrysts of microcline, chlorite replaces biotite

Reference:

Henderson, J.B., Van Breemen, O. and Loveridge, W.D. 1987. Some U-Pb zircon ages from the Archean basement, supracrustal and intrusive rocks, Yellowknife-Hearne Lake area, District of Mackenzie, in Radiogenic Age and Isotope Studies: Report 1, Geological Survey of Canada Paper 87-2, 111-121

Remobilized Anton Complex

Sample #: MLB-88-12

Location of sample

62° 50.40' 114° 40.00' (UTM: Zone: 11 East: 618821 North: 6969716)

NTS: 85J/15

Description of Location: About 40 km north of Yellowknife

Age Interpretation:

2641 ⁺⁵ ₋₄	U/Pb Zircon	Crystallization
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Sample Description: Qtz-Plag-Hb-Bio metatonalite. Mafics=30%, Plag=10-50%. About half of mafics altered to chlorite. Gneissic, from heterogenous areas of outcrop

Reference:

Dudas, F.O., Henderson, J.B. and Mortensen, J.K. 1990. U-Pb ages of zircons from the Anton Complex, southern Slave Province, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 39-44

Sleepy Dragon Gneiss

Sample #: 86L 212 LQ2

Location of sample

62° 54.92' 112° 28.75' (UTM: Zone: 12 East: 424861 North: 6976814)

NTS: 85I/16

Description of Location: About 500 m NW of Amacher Lake

Age Interpretation:

2936⁺¹⁷₋₁₄ U/Pb Zircon Crystallization

Sample Description: Dark grey cataclastic, fine grained biotite granodiorite containing quartz veins. Texture is varied due to differing degrees of shearing and cataclasis.

Reference:

Lambert, M.L. and Van Breemen, O. 1991. U-Pb zircon ages from the Sleepy Dragon Complex and a new occurrence of basement rocks within the Meander Lake Plutonic Suite, Slave Province, N.W.T., in Radiogenic Age and Isotopic Studies: Report 4, Geological Survey of Canada, Paper 90-2, 79-84

Sleepy Dragon Granodiorite

Sample #: Sleepy D. Granite

Location of sample

62° 55.00' 112° 38.20' (UTM: Zone: 12 East: 416865 North: 6977162)

NTS: 85I/15

Description of Location: West-central Sleepy Dragon Lake

Age Interpretation:

2683⁺²₋₂ U/Pb Zircon Crystallization

Sample Description: Irregularly banded, truncating the Cataclastic Gneiss, weakly foliated, grey medium grained equigranular granodiorite. Anhedral to subhedral weakly altered plagioclase, with irregular to weakly granulated margins, minor microcline and polycrystalline quartz.

Reference:

Henderson, J.B., Van Breemen, O. and Loveridge, W.D. 1987. Some U-Pb zircon ages from the Archean basement, supracrustal and intrusive rocks, Yellowknife-Hearne Lake area, District of Mackenzie, in Radiogenic Age and Isotope Studies: Report 1, Geological Survey of Canada Paper 87-2, 111-121

Cataclastic Granite Gneiss

Sample #: Cataclastic gneiss

Location of sample

62° 55.50' 112° 56.00' (UTM: Zone: 12 East: 401827 North: 6978508)

NTS: 85I/15

Description of Location: West end of Sleepy Dragon Lake between Cameron River volcanics and Lake

Age Interpretation:

2819⁺⁴⁰₋₃₁ U/Pb Zircon Crystallization

Sample Description: Cataclastic to strongly foliated to mylonitic granitoid. Heterogeneous, unit includes megacrystic rocks, mylonitic granite and deformed pegmatite. Layers of recrystallized amphibolite are present locally

Reference:

Henderson, J.B., Van Breemen, O. and Loveridge, W.D. 1987. Some U-Pb zircon ages from the Archean basement, supracrustal and intrusive rocks, Yellowknife-Hearne Lake area, District of Mackenzie, in Radiogenic Age and Isotope Studies: Report 1, Geological Survey of Canada Paper 87-2, 111-121

Meander Lake Granitoid

Sample #: 86L 110 LQ2

Location of sample

62° 56.17' 112° 21.53' (UTM: Zone: 12 East: 431019 North: 6979000)

NTS: 85I/16

Description of Location: From north Stepn'duck Lake. Near conjunction of SW pointing and NW pointing arms.

Age Interpretation:

2757 U/Pb Zircon Minimum Age Estimate

Sample Description: Granitoid gneiss, pale grey medium grained biotite granodiorite with shallow dipping foliation, taken from a large screen within the Stepn'duck amphibolite dyke swarm.

Reference:

Lambert, M.L. and Van Breemen, O. 1991. U-Pb zircon ages from the Sleepy Dragon Complex and a new occurrence of basement rocks within the Meander Lake Plutonic Suite, Slave Province, N.W.T., in Radiogenic Age and Isotopic Studies: Report 4, Geological Survey of Canada, Paper 90-2, 79-84

Clan Lake Volcanic

Sample #: MLB-88-010

Location of sample

62° 56.90' 114° 15.00' (UTM: Zone: 11 East: 639514 North: 6982616)

NTS: 85J/16

Description of Location: Near fault on northeast shore of Clan Lake.

Age Interpretation:

2661.3^{+1.2}_{-1.1} U/Pb Zircon Crystallization

Sample Description: Well foliated, thinly bedded sequence of felsic Qtz-feldspar crystal and lapilli tuffs. Along with other associated volcanic rocks, these are nterlayered and gradational into overlying and underlying metaturbidites.

Reference:

Mortensen, J.K., Henderson, J.B., Jackson, V.A. and Padgham, W.A. 1992. U-Pb geochronology of the Yellowknife Supergroup felsic volcanic rocks in the Russell Lake and Clan Lake areas, southwestern Slave Province, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 5, Geological Survey of Canada, Paper 91-2, 1-7

Mountain River Granite

Sample #: Mountain R. Granite

Location of sample

62° 59.00' 111° 17.60' (UTM: Zone: 12 East: 485132 North: 6983567)

NTS: 75L/14

Description of Location: Not available

Age Interpretation:

2590⁺⁵₋₃ U/Pb Monazite Crystallization

Sample Description: Granite - R.A. Frith and O. van Breemen, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

Russell Lake Volcanic

Sample #: MLB-88-006

Location of sample

63° 0.70' 115° 43.10' (UTM: Zone: 11 East: 564893 North: 6987336)

NTS: 85O/4

Description of Location: On eastern shore of long bay protruding southwards from eastern side of Russell Lake

Age Interpretation:

2658⁺¹₋₁ U/Pb Zircon Crystallization

Sample Description: From near top of vertically dipping sequence of dacite to rhyolitic volcanoclastic rocks, stratigraphically below turbidites. 1 m thick layer of feldspar-phyric rhyolitic tuff with fine rare Qtz eyes. Moderately foliated.

Reference:

Mortensen, J.K., Henderson, J.B., Jackson, V.A. and Padgham, W.A. 1992. U-Pb geochronology of the Yellowknife Supergroup felsic volcanic rocks in the Russell Lake and Clan Lake areas, southwestern Slave Province, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 5, Geological Survey of Canada, Paper 91-2, 1-7

Brislane Lake Tuff

Sample #: FY-88-TUFF

Location of sample

63° 8.00' 110° 55.00' (UTM: Zone: 12 East: 504201 North: 7000249)

NTS: 75M/2

Description of Location: On west shore of Brislane Lake, just north of SW pointing bay where northern part of lake widens.

Age Interpretation:

2678⁺¹³₋₁₃ U/Pb Zircon Crystallization

Sample Description: Faintly foliated, fine grained grey massiv flinty rock. Qtz grains are the only recognizable crystals in hand specimen. In thin section contains Qtz-Plag-Chlorite-Bi+ small amounts of garnet, muscovite and K-spar.

Reference:

Frith, R.A., Van Breemen, O. and Mortensen, J.K. 1991. U-Pb dates from tonalite and felsic volcanic rocks in the Brislane Lake area of the southern Slave Province, in Radiogenic Age and Isotopic Studies: Report 4, Geological Survey of Canada, Paper 90-2, 85-90

Suse Lake Granite

Sample #: Suse LK Granite

Location of sample

63° 8.75' 112° 57.50' (UTM: Zone: 12 East: 401307 North: 7003144)

NTS: 85P/2

Description of Location: On mid-east side of Suse Lake

Age Interpretation:

2641⁺⁴₋₄ U/Pb Zircon Crystallization
2638⁺³₋₃ U/Pb Titanite Crystallization

Sample Description: Foliated and metamorphosed K-feldspar megacrystic granite

Reference:

James, D.T. and Mortensen, J.K. 1992. An Archean metamorphic core complex in the southern Slave Province: basement-cover structural relations between the Sleepy Dragon Complex and the Yellowknife Supergroup, Canadian Journal of Earth Sciences, 29, 2133-2145

Sleepy Dragon Granitoid Gneiss

Sample #: SD Granite Gneiss

Location of sample

63° 9.55' 112° 47.42' (UTM: Zone: 12 East: 409816 North: 7004382)

NTS: 85P/2

Description of Location: About 1 km south of short, wide bay on mid-south side of Aggasiz Lake.

Age Interpretation:

2588⁺¹₋₁ U/Pb Monazite Cooling (ca 700 C)

3000 U/Pb Zircon Minimum Age Estimate

Sample Description: Tonalitic gneiss, upper amphibolite facies, intruded by mafic and ultramafic dykes.

Reference:

James, D.T. and Mortensen, J.K. 1992. An Archean metamorphic core complex in the southern Slave Province: basement-cover structural relations between the Sleepy Dragon Complex and the Yellowknife Supergroup, Canadian Journal of Earth Sciences, 29, 2133-2145

Morose Granite

Sample #: Morose Granite

Location of sample

63° 10.67' 112° 46.00' (UTM: Zone: 12 East: 411063 North: 7006422)

NTS: 85P/2

Description of Location: On island in middle of Agassiz Lake, due north of short, wide bay on southern side of lake

Age Interpretation:

2583.5^{+1.0}_{-1.0} U/Pb Monazite Crystallization

Sample Description: Composite pluton consisting of porphyritic to isotropic biotite and biotite-muscovite phases. Unmetamorphosed and contains xenoliths of foliated mafic volcanic rocks.

Reference:

James, D.T. and Mortensen, J.K. 1992. An Archean metamorphic core complex in the southern Slave Province: basement-cover structural relations between the Sleepy Dragon Complex and the Yellowknife Supergroup, Canadian Journal of Earth Sciences, 29, 2133-2145

Artillery Granite

Sample #: VK-86-ART100

Location of sample

63° 21.30' 107° 53.30' (UTM: Zone: 13 East: 355508 North: 7028201)

NTS: 75O/5

Description of Location: Just west and north of Artillery Lake

Age Interpretation:

2596⁺³₋₆ U/Pb Monazite Crystallization

Sample Description: Massive homogenous pink megacrystic pink granite containing biotite

Reference:

Van Breemen, O. and Henderson, J.B. 1988. U-Pb zircon and monazite ages from the eastern Slave Province and the Thelon Tectonic Zone, Artillery Lake area, N.W.T., Radiogenic Age and Isotope Studies: Report 2, Geological Survey of Canada, Paper 88-2, 73-83

Smart Gneiss

Sample #: VK-86-142

Location of sample

63° 30.50' 106° 50.30' (UTM: Zone: 13 East: 408512 North: 7043344)

NTS: 750/10

Description of Location: Near eastern boundary of central domain, at and north of Smart Lake

Age Interpretation:

2602⁺²₋₂ U/Pb Zircon Crystallization

Sample Description: Grey medium grained to sparsely megacrystic moderate biotite, massive to well foliated granodiorite to tonalite

Reference:

Van Breemen, O. and Henderson, J.B. 1988. U-Pb zircon and monazite ages from the eastern Slave Province and the Thelon Tectonic Zone, Artillery Lake area, N.W.T., Radiogenic Age and Isotope Studies: Report 2, Geological Survey of Canada, Paper 88-2, 73-83

Smart Lake Granitoid Gneiss

Sample #: MLB-88-18

Location of sample

63° 32.80' 106° 40.00' (UTM: Zone: 13 East: 417165 North: 7047380)

NTS: 750/10

Description of Location: At very end of central east arm of Smart Lake

Age Interpretation:

2589⁺⁶₋₆ U/Pb Zircon Crystallization

Sample Description: Strongly deformed. pink and grey, megascopically sparsely porphyroclastic, granitic gneiss with fine straight layering. Foliation defined by narrow Qtz ribbons and wispy discontinuous aggregates of Bio.

Reference:

Henderson, J.B. and Van Breemen, O. 1992. U-Pb zircon ages from an Archean orthogneiss and a Proterozoic metasedimentary gneiss of the Thelon Tectonic Zone, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 5, Geological Survey of Canada, Paper 91-2, 25-33

Ptarmigan Granite

Sample #: VK-86-ART25

Location of sample

63° 34.60' 107° 43.10' (UTM: Zone: 13 East: 365057 North: 7052512)

NTS: 750/12

Description of Location: Half way between Clinton-Colden and Artillery Lakes

Age Interpretation:

2606⁺⁵₋₅ U/Pb Monazite Crystallization

Sample Description: 2-mica granite, buff to white to pale yellow, massive, medium grained, equigranular.

Reference:

Van Breemen, O. and Henderson, J.B. 1988. U-Pb zircon and monazite ages from the eastern Slave Province and the Thelon Tectonic Zone, Artillery Lake area, N.W.T., Radiogenic Age and Isotope Studies: Report 2, Geological Survey of Canada, Paper 88-2, 73-83

UNDEFORMED GRANITE

Sample #: J-0400

Location of sample

63° 45.33' 115° 15.51' (UTM: Zone: 11 East: 585921 North: 7070741)

NTS: 85O/14

Description of Location: CENTRAL GHOST LAKE

Age Interpretation:

2593⁺⁶₋₄ U/Pb Zircon Crystallization

Sample Description: UNDEFORMED GRANITE

Reference:

Unpublished

Granulite pluton

Sample #: HBA-H-0505-93

Location of sample

63° 45.98' 114° 54.25' (UTM: Zone: 11 East: 603359 North: 7072480)

NTS: 85O/15

Description of Location: Unnamed lake in Dauphinee Lk. map area

Age Interpretation:

2589⁺¹₋₁ U/Pb Zircon Crystallization

Sample Description: Pinkish-weathering, brownish-green medium-coarse grained qtz-feldspar-biotite-pyroxenite meta-granitoid

Reference:

Unpublished

GHOST LAKE TONALITE

Sample #: J-0391

Location of sample

63° 46.30' 115° 24.36' (UTM: Zone: 11 East: 578601 North: 7072366)

NTS: 85O/14

Description of Location: NORTH SHORE SOUTHWESTERN GHOST LAKE

Age Interpretation:

2605⁺³₋₃ U/Pb Zircon Crystallization

Sample Description: TONALITE

Reference:

Unpublished

Clinton-Colden Anorthosite-Gabbro

Sample #: C-C Anorthosite

Location of sample

63° 47.30' 107° 11.30' (UTM: Zone: 13 East: 392166 North: 7075078)

NTS: 750/14

Description of Location: Near southeastern margin of intrusion, about 2 km east of southeast part of Clinton Colden Lake

Age Interpretation:

2686⁺³₋₃ U/Pb Zircon Crystallization

Sample Description: Coarse grained gabbro with euhedral to subhedral, well preserved calcic Plag grains enclosed in coarse grained Ca-amphibole pseudomorphs of oikocrystic clinopyroxene.

Reference:

Macfie, R.I., Van Breemen, O. and Loveridge, W.D. 1990. Late Archean U-Pb zircon age for the Clinton-Colden gabbro-anorthosite intrusion, eastern Slave Province, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 45-48

Charloit granodiorite

Sample #: VK-86-ART23

Location of sample

63° 47.30' 107° 37.30' (UTM: Zone: 13 East: 370821 North: 7075883)

NTS: 750/13

Description of Location: East of Lac de CCharloit

Age Interpretation:

2613⁺³₋₃ U/Pb Titanite Minimum Age Estimate

2624 U/Pb Zircon Maximum Age Estimate

Sample Description: Massive, inequigranular rock with abundant coarse quartz and plag up to 5-6 mm across.

Reference:

Van Breemen, O. and Henderson, J.B. 1988. U-Pb zircon and monazite ages from the eastern Slave Province and the Thelon Tectonic Zone, Artillery Lake area, N.W.T., Radiogenic Age and Isotope Studies: Report 2, Geological Survey of Canada, Paper 88-2, 73-83

Megacrystic Syeno-granite

Sample #: J-0397

Location of sample

63° 47.83' 115° 15.04' (UTM: Zone: 11 East: 586181 North: 7075387)

NTS: 850/14

Description of Location: South shore central Ghost Lake

Age Interpretation:

2598⁺³₋₂ U/Pb Zircon Crystallization

Sample Description: Large, massive homogenous granite with dense concentrations of extremely coarse K-spar

Reference:

Unpublished

Musclow Granite

Sample #: VK-86-ART82

Location of sample

63° 48.20' 106° 51.70' (UTM: Zone: 13 East: 408308 North: 7076239)

NTS: 75O/15

Description of Location: Not available

Age Interpretation:

2603⁺⁵₋₄ U/Pb Zircon Crystallization

Sample Description: Homogenous to moderately foliated augen granite. Contains pink to red feldspar megacrysts up to several centimeters long in a sparse, dark grey to black biotite rich matrix

Reference:

Van Breemen, O. and Henderson, J.B. 1988. U-Pb zircon and monazite ages from the eastern Slave Province and the Thelon Tectonic Zone, Artillery Lake area, N.W.T., Radiogenic Age and Isotope Studies: Report 2, Geological Survey of Canada, Paper 88-2, 73-83

Tarantula Tonalite

Sample #: VK-86-ART21

Location of sample

63° 49.70' 107° 30.00' (UTM: Zone: 13 East: 376988 North: 7080097)

NTS: 75O/13

Description of Location: Near contact with meta-seds on Clinton-Colden Lake

Age Interpretation:

2622⁺¹₋₁ U/Pb Zircon Crystallization

Sample Description: Buff to grey, massive tonalite that locally contains angular inclusions of metasediment

Reference:

Van Breemen, O. and Henderson, J.B. 1988. U-Pb zircon and monazite ages from the eastern Slave Province and the Thelon Tectonic Zone, Artillery Lake area, N.W.T., Radiogenic Age and Isotope Studies: Report 2, Geological Survey of Canada, Paper 88-2, 73-83

Brislane Tonalite

Sample #: FY-88-5001

Location of sample

63° 53.50' 110° 56.00' (UTM: Zone: 12 East: 503273 North: 7084747)

NTS: 75M/15

Description of Location: On west shore of Brislane Lake, about midway on the N-S part of lake

Age Interpretation:

2673⁺⁶₋₄ U/Pb Zircon Crystallization

Sample Description: Fine grained, medium grey biotite tonalite with faint foliation defined by biotite and stretched Plag and Qtz. Rock shows grain size reduction by brittle deformation and partial recrystallization.

Reference:

Frith, R.A., Van Breemen, O. and Mortensen, J.K. 1991. U-Pb dates from tonalite and felsic volcanic rocks in the Brislane Lake area of the southern Slave Province, in Radiogenic Age and Isotopic Studies: Report 4, Geological Survey of Canada, Paper 90-2, 85-90

Hinscliffe gneiss

Sample #: J-0542

Location of sample

63° 53.89' 115° 29.72' (UTM: Zone: 11 East: 573864 North: 7086335)

NTS: 85O/14

Description of Location: S. shore of Hinscliffe lake

Age Interpretation:

2610 ⁺⁵ ₋₅	U/Pb Titanite	Cooling (ca 500 C)
2654 ⁺⁴ ₋₄	U/Pb Zircon	Crystallization

Sample Description: Hinscliffe gneiss- leucocratic pink, white-grey

Reference:

Unpublished

Squalus Lake Alkaline Intrusion

Sample #: VN-92-XX

Location of sample

63° 54.45' 113° 11.42' (UTM: Zone: 12 East: 392520 North: 7088360)

NTS: 85P/14

Description of Location: North end of Squalus Lake

Age Interpretation:

2180 ⁺¹ ₋₁	U/Pb Zircon	Crystallization
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Sample Description: Saturated to slightly undersaturated alkali syenite- consists of zoned perthite, biotite and hornblende.

Reference:

Unpublished

Clinton-Colden Rhyolite

Sample #: VK-86-ART130

Location of sample

63° 56.20' 107° 19.60' (UTM: Zone: 13 East: 385954 North: 7091840)

NTS: 75O/14

Description of Location: Northeast shore of Clinton-Colden Lake

Age Interpretation:

2671 ⁺² ₋₄	U/Pb Zircon	Crystallization
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Sample Description: Massive, structureless, medium grained rhyolite porphyry

Reference:

Van Breemen, O. and Henderson, J.B. 1988. U-Pb zircon and monazite ages from the eastern Slave Province and the Thelon Tectonic Zone, Artillery Lake area, N.W.T., Radiogenic Age and Isotope Studies: Report 2, Geological Survey of Canada, Paper 88-2, 73-83

Wijinnedi Domain

Sample #: J-0691

Location of sample

63° 58.50' 115° 22.00' (UTM: Zone: 11 East: 579958 North: 7095056)

NTS: 85O/14

Description of Location: S. shore of Wijinnedi Lake

Age Interpretation:

2673.3^{+1.4}_{-1.4} U/Pb Zircon Crystallization

Sample Description: metadacite-grey to greenish grey metadacite-andesitic-dacite

Reference:

Unpublished

MATTHEWS LK RHYOLITE

Sample #: TZ-91-P450A

Location of sample

64° 3.32' 111° 13.52' (UTM: Zone: 12 East: 489000 North: 7103000)

NTS: 76D/3

Description of Location: WEST SIDE OF MATHEWS LAKE JUSAT WHERE IT NARROWS THE MOST

Age Interpretation:

2671⁺⁵₋₄ U/Pb Zircon Crystallization

Sample Description: QUARTZ PORPHYRY RHYOLITE

Reference:

Villeneuve, M.E. 1993. Preliminary geochronological results from the Winter Lake-Lac de Gras Slave Province NATMAP project, Northwest Territories, Radiogenic Age and Isotopic Studies: Report 7; Geological Survey of Canada, Paper 93-2, 29-38

Megacrystic Granodiorite

Sample #: Megacrystic Granod.

Location of sample

64° 3.40' 107° 11.00' (UTM: Zone: 13 East: 393436 North: 7104958)

NTS: 76B/3

Description of Location: About 5 km north of east end of mid-east part of Clinton-Colden Lake

Age Interpretation:

2595⁺¹⁰₋₁₀ U/Pb Monazite Crystallization

2594⁺³⁶₋₃₁ U/Pb Zircon Crystallization-estimate

Sample Description: Massive, Homogenous, medium grained, equigranular granodiorite with scattered abundant megacrysts up to 2 cm in length. Quartz is strained but not polygonized, biotite is slightly chloritized and accounts for 10-15% of the rock.

Reference:

Van Breemen, O., Henderson, J.B., Sullivan, R.W. and Thompson, P.H. 1987. U-Pb, zircon and monazite ages from the eastern Slave Province, Healy Lake area, N.W.T., in Radiogenic Age and Isotopic Studies: Report 1, Geological Survey of Canada, Paper 87-2, 101-110

COURAGEOUS LAKE PLUTON

Sample #: TZ-91-P711

Location of sample

64° 8.35' 111° 11.68' (UTM: Zone: 12 East: 490530 North: 7112350)

NTS: 76D/3

Description of Location: LARGE PLUTON OUTCROPING ON SOUTHERN SHORE OF NARROWEST PART OF EAST WEST PORTION OF COURAGEOUS LAKE

Age Interpretation:

2613⁺⁶₋₅ U/Pb Zircon Crystallization

Sample Description: WEAKLY FOLIATED, MAFIC, K-SPAR MEGACRYSTIC, BIOTITE SYENOGRANITE

Reference:

Villeneuve, M.E. 1993. Preliminary geochronological results from the Winter Lake-Lac de Gras Slave Province NATMAP project, Northwest Territories, Radiogenic Age and Isotopic Studies: Report 7; Geological Survey of Canada, Paper 93-2, 29-38

COURAGEOUS LAKE RHYOLITE

Sample #: TZ-91-P70B

Location of sample

64° 8.56' 111° 20.65' (UTM: Zone: 12 East: 483250 North: 7112750)

NTS: 76D/3

Description of Location: AT SOUTH END OF ISLAND WHERE COURAGEOUS LAKE NARROWS, JUST SOUTH OF SANDY BEACH WHERE ISLAND NARROWS

Age Interpretation:

2729⁺⁸₋₇ U/Pb Zircon Crystallization

Sample Description: FINE GRAINED, BUFF WEATHERING RHYOLITE WITH PHENOCRYSTS OF ROUNDED QUARTZ AND BIOTITE LATHS.

Reference:

Villeneuve, M.E. 1993. Preliminary geochronological results from the Winter Lake-Lac de Gras Slave Province NATMAP project, Northwest Territories, Radiogenic Age and Isotopic Studies: Report 7; Geological Survey of Canada, Paper 93-2, 29-38

Eastern Gneiss Leucosome

Sample #: HLB-92-B0021A

Location of sample

64° 15.23' 112° 38.42' (UTM: Zone: 12 East: 420499 North: 7126133)

NTS: 86A/7

Description of Location: From east of Winter Lake Belt

Age Interpretation:

2665⁺⁸₋₇ U/Pb Zircon Maximum Age Estimate

Sample Description: Leucosome from high grade gneisses east of the Winter Lake belt. Finely banded, biotite-bearing, fine grained

Reference:

Unpublished

Healy Meta-quartz Diorite

Sample #: Healy Qtz Diorite

Location of sample

64° 21.30' 106° 52.20' (UTM: Zone: 13 East: 409702 North: 7137707)

NTS: 76B/7

Description of Location: North shore Healy Lake, near conjunction of east and north-trending arms

Age Interpretation:

2679⁺³₋₃ U/Pb Zircon Crystallization

Sample Description: Poorly layered, medium-fine grained, weakly and diffusely migmatitic, Hb-Bi-Qtz-Plag quartz diorite

Reference:

Van Breemen, O., Henderson, J.B., Sullivan, R.W. and Thompson, P.H. 1987. U-Pb, zircon and monazite ages from the eastern Slave Province, Healy Lake area, N.W.T., in Radiogenic Age and Isotopic Studies: Report 1, Geological Survey of Canada, Paper 87-2, 101-110

WINTER LAKE CONGLOMERATE CLAST

Sample #: HLB-92-P0205A

Location of sample

64° 21.87' 112° 27.05' (UTM: Zone: 12 East: 429967 North: 7138237)

NTS: 86A/8

Description of Location: WINTER LAKE BELT

Age Interpretation:

2689⁺⁹₋₉ U/Pb Zircon Crystallization

Sample Description: SYENOGRANITE CLAST FROM CONGLOMERATE

Reference:

Unpublished

Winter Lake conglomerate

Sample #: VN-93-02

Location of sample

64° 22.01' 112° 26.65' (UTM: Zone: 12 East: 430289 North: 7138494)

NTS: 86A/8

Description of Location: 500m west of Sherpa Lake

Age Interpretation:

3075⁺²₋₂ U/Pb Zircon Detrital

2948⁺⁶₋₆ U/Pb Zircon Detrital

2945⁺²₋₂ U/Pb Zircon Detrital

3260⁺²₋₂ U/Pb Zircon Detrital

2941⁺⁵₋₅ U/Pb Zircon Detrital

2941⁺⁵₋₅ U/Pb Zircon Detrital

2992⁺²₋₂ U/Pb Zircon Detrital

Sample Description: Foliated, fine-grained matrix and small clasts from polymictic conglomerate. Bulk sample treated as a coarse detrital sample.

Reference:

Unpublished

WINTER LAKE QUARTZITE

Sample #: VN-92-11

Location of sample

64° 22.61' 112° 24.83' (UTM: Zone: 12 East: 431779 North: 7139572)

NTS: 86A/8

Description of Location: UNKNOWN

Age Interpretation:

3156 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3157 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3159 ⁺⁴ ₋₄	U/Pb Zircon	Detrital
3150 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3134 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3154 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3156 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3143 ⁺¹ ₋₁	U/Pb Zircon	Detrital

Sample Description: QUARTZITE, STILL DISPLAYING PRIMARY CROSS LAYERING

Reference:

Unpublished

NEWBIGGING LAKE RHYOLITE

Sample #: VN-92-12

Location of sample

64° 24.97' 112° 17.05' (UTM: Zone: 12 East: 438130 North: 7143812)

NTS: 86A/8

Description of Location: SOUTH END OF NEWBIGGING LAKE

Age Interpretation:

3118 ⁺¹¹ ₋₈	U/Pb Zircon	Crystallization
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Sample Description: HEMATIZED MASSIVE RHYOLITE

Reference:

Unpublished

Tarantula Granodiorite

Sample #: Tarantula Granod.

Location of sample

64° 28.60' 107° 43.70' (UTM: Zone: 13 East: 368855 North: 7152755)

NTS: 76B/5

Description of Location: Not given

Age Interpretation:

2616_{-6}^{+7}

U/Pb Zircon

Crystallization

Sample Description: Granodiorite, with subhedral laths of Plag and variable proportions of anhedral interstitial microcline and polygonized Qtz. Blue green Hb and chloritized biotite together make up 10-15%.

Reference:

Van Breemen, O., Henderson, J.B., Sullivan, R.W. and Thompson, P.H. 1987. U-Pb, zircon and monazite ages from the eastern Slave Province, Healy Lake area, N.W.T., in Radiogenic Age and Isotopic Studies: Report 1, Geological Survey of Canada, Paper 87-2, 101-110

Western felsic volcanoclastic

Sample #: HLB-93-B0070A

Location of sample

64° 30.02' 112° 25.93' (UTM: Zone: 12 East: 431206 North: 7153364)

NTS: 86A/9

Description of Location: West margin of belt, south of Big Bear lake

Age Interpretation:

3305_{-2}^{+2}

U/Pb Zircon

Crystallization

Sample Description: Foliated, altered, lapilli tuff to volcanic breccia/breccia tuff at tectonostratigraphic base of supracrustal rocks

Reference:

Unpublished

Sinclair Granodiorite

Sample #: Sinclair Granod.

Location of sample

64° 40.50' 107° 18.10' (UTM: Zone: 13 East: 390158 North: 7174035)

NTS: 76B/11

Description of Location: Near middle of long NW-SE trending lake that forks splits into two long bays at both ends

Age Interpretation:

2589_{-10}^{+13}

U/Pb Zircon

Crystallization

Sample Description: Equidimensional to slightly elongate Plag laths, interstitial anhedral microcline, polygonized quartz and 15% reddish brown, partly chloritized biotite. Rock has strained aspect.

Reference:

Van Breemen, O., Henderson, J.B., Sullivan, R.W. and Thompson, P.H. 1987. U-Pb, zircon and monazite ages from the eastern Slave Province, Healy Lake area, N.W.T., in Radiogenic Age and Isotopic Studies: Report 1, Geological Survey of Canada, Paper 87-2, 101-110

Crosscutting Dyke

Sample #: TZ-91-P41

Location of sample

64° 41.18' 112° 3.38' (UTM: Zone: 12 East: 449600 North: 7173735)

NTS: 86A/9

Description of Location: ABOUT 10 KM WEST OF LAKE PROVIDENCE, ON EDGE OF LARGE FOLD STRUCTURE IN THE AMPHIBOLITE UNITS

Age Interpretation:

2589⁺¹₋₁ U/Pb Monazite Crystallization

Sample Description: PEGMATITE/GRANITE DYKE THAT INTRUDES AMPHIBOLITES AND CROSS-CUTS THE FOLIATION IN THEM

Reference:

Villeneuve, M.E. 1993. Preliminary geochronological results from the Winter Lake-Lac de Gras Slave Province NATMAP project, Northwest Territories, Radiogenic Age and Isotopic Studies: Report 7; Geological Survey of Canada, Paper 93-2, 29-38

STRAINED GRANITE

Sample #: TZ-92-P436A

Location of sample

64° 42.39' 112° 5.45' (UTM: Zone: 12 East: 448000 North: 7176000)

NTS: 86A/9

Description of Location: ON TOP OF HILL, JUST NORTH OF CROSSCUTTING DYKE SAMPLE TZ-91-P41A

Age Interpretation:

2720⁺⁸₋₇ U/Pb Zircon Crystallization

2695⁺⁵₋₅ U/Pb Titanite Cooling (ca 500 C)

Sample Description: STRONGLY FOLIATED BIOTITE GRANITE

Reference:

Villeneuve, M.E. 1993. Preliminary geochronological results from the Winter Lake-Lac de Gras Slave Province NATMAP project, Northwest Territories, Radiogenic Age and Isotopic Studies: Report 7; Geological Survey of Canada, Paper 93-2, 29-38

Back River Felsic Dome

Sample #: Felsic Dome

Location of sample

64° 44.50' 107° 58.30' (UTM: Zone: 13 East: 358548 North: 7182788)

NTS: 76B/12

Description of Location: Along west shore of Back river

Age Interpretation:

2692⁺²₋₂ U/Pb Zircon Crystallization

Sample Description: White to Pink weathering, pale greenish to bluish grey, sparsely porphyritic with phenocrysts of 2-5 mm Plag and Qtz in aphanitic matrix.

Reference:

Van Breemen, O., Henderson, J.B., Sullivan, R.W. and Thompson, P.H. 1987. U-Pb, zircon and monazite ages from the eastern Slave Province, Healy Lake area, N.W.T., in Radiogenic Age and Isotopic Studies: Report 1, Geological Survey of Canada, Paper 87-2, 101-110

Providence granite

Sample #: VN-93-03

Location of sample

64° 46.00' 112° 14.00' (UTM: Zone: 12 East: 441333 North: 7182827)

NTS: 86A/16

Description of Location: From west-side, north end of Lake Providence

Age Interpretation:

2645_{-5}^{+5} U/Pb Zircon Crystallization

Sample Description: Coarse Biotite-Hornblende mafic monzogranite. Layered with minor segregation zones. Has a highly deformed margin.

Reference:

Unpublished

Taylor Tonalite

Sample #: Taylor Tonalite

Location of sample

64° 51.00' 106° 54.50' (UTM: Zone: 13 East: 409511 North: 7192908)

NTS: 76B/15

Description of Location: On island in northern part of large part of lake

Age Interpretation:

2627_{-33}^{+46} U/Pb Zircon Crystallization-estimate

Sample Description: Foliated, medium grained biotite meta tonalite, composed of Plag-Qtz-Bio, minor K-Spar. Plag is anhedral, zoned and twinned, fine grained quartz aggregates are polygonized after existing grains. Reflects strain under moderate metamorphism.

Reference:

Van Breemen, O., Henderson, J.B., Sullivan, R.W. and Thompson, P.H. 1987. U-Pb, zircon and monazite ages from the eastern Slave Province, Healy Lake area, N.W.T., in Radiogenic Age and Isotopic Studies: Report 1, Geological Survey of Canada, Paper 87-2, 101-110

CONGLOMERATE-CUTTING GRANITE

Sample #: HLB-93-0420A

Location of sample

64° 51.91' 112° 23.64' (UTM: Zone: 12 East: 433933 North: 7193949)

NTS: 86A/16

Description of Location: WEST OF NORTH END OF LAKE PROVIDENCE AND SOUTH OF POINT LAKE

Age Interpretation:

2548_{-2}^{+2} U/Pb Monazite Crystallization

Sample Description: COARSE GRAINED 2-MICA GRANITE, VERGING ON PEGMATITE THAT INTRUDES THE CONGLOMERATES

Reference:

Unpublished

Grenville Lake Granitoid Gneiss

Sample #: FYT-905

Location of sample

64° 54.75' 114° 58.10' (UTM: Zone: 11 East: 596110 North: 7200053)

NTS: 86B/15

Description of Location: On southern shore at far western end of Grenville Lake

Age Interpretation:

2989_{-5}^{+6} U/Pb Zircon Crystallization

Sample Description: Tonalite gneiss, medium grained, biotite, plagioclase, quartz, cut by numerous aplite stringers and undeformed muscovite pegmatites.. Metasomatized by potassic richmigmatite.

Reference:

Frith, R.A., Loveridge, W.D. and Van Breemen, O. 1986. U-Pb ages on zircon from basement granitoids of the western Slave Structural Province, northwestern Canadian Shield, in Current Research, Part A, Geological Survey of Canada, Paper 86-1A, 113-119

Grenville Lake Granitoid Gneiss

Sample #: FYT-274

Location of sample

64° 56.25' 115° 2.10' (UTM: Zone: 11 East: 592871 North: 7202738)

NTS: 86B/14

Description of Location: NW of west end of Grenville Lake - see map in reference for location.

Age Interpretation:

2596_{-3}^{+3} U/Pb Monazite Cooling (ca 700 C)

Sample Description: Medium grained, grey gneiss with foliation defined by biotite. Some replacement of plagioclase by microcline. Cut by pink aplite stringers and large muscovite pegmatite dykes.

Reference:

Frith, R.A., Loveridge, W.D. and Van Breemen, O. 1986. U-Pb ages on zircon from basement granitoids of the western Slave Structural Province, northwestern Canadian Shield, in Current Research, Part A, Geological Survey of Canada, Paper 86-1A, 113-119

INC No 10 Rhyolite

Sample #: INC No 10

Location of sample

65° 5.50' 112° 15.00' (UTM: Zone: 12 East: 441256 North: 7219059)

NTS: 86H/1

Description of Location: On the Coppermine River near the eastern end of Point Lake, 2.2 km north of the INC No 10 massive sulphide deposit

Age Interpretation:

$2668.4_{-12.8}^{+21.4}$ U/Pb Zircon Crystallization

Sample Description: Fine grained, thinly banded qtz-K-feldspar-plag-biotite gneiss interlayered with hb-plag orthogneiss and pelitic schist

Reference:

Mortensen, J.K., Thorpe, R.I., Padgham, W.A., King, J.E. and Davis, W.J. 1988. U-Pb zircon ages for felsic volcanism in the Slave Province, N.W.T., Radiogenic Age and Isotopic Studies: Report 2, Geological Survey of Canada, Paper 88-2, 85-95

Augustus granite

Sample #: HBA-H-350-76

Location of sample

65° 8.70' 112° 48.70' (UTM: Zone: 12 East: 415037 North: 7225640)

NTS: 86H/2

Description of Location: Point Lake

Age Interpretation:

3225 ⁺³ ₋₃	U/Pb Zircon	Inheritance
3155 ⁺³ ₋₃	U/Pb Zircon	Crystallization

Sample Description: Hypersolvus granite; light greenish grey, medium grained, altered, metamorphosed, slightly crushed granite. Consists of plagioclase, quartz, microcline, and completely chloritized mafic minerals.

Reference:

Unpublished

Acasta Banded Gneiss

Sample #: BGXM

Location of sample

65° 10.16' 115° 33.56' (UTM: Zone: 11 East: 567500 North: 7227900)

NTS: 86G/4

Description of Location: On island in southern Acasta River, just north of first set of rapids. On cliff face on NE lobe of island.

Age Interpretation:

3964 ⁺⁴ ₋₄	U/Pb Ion Probe (zir)	Crystallization
3621 ⁺⁶ ₋₆	U/Pb Ion Probe (zir)	Episodic Pb-loss

Sample Description: Layered amphibolitic-tonalitic gneiss, foliated on centimetre scale. Tonalite layers have granoblastic Plag, Qtz with relict Plag porphyroblasts. Amphibolite consists of Hb and Bio with variable amounts of Plag.

Reference:

Bowring, S.A., Williams, I.S. and Compston, W. 1989. 3.96 Ga gneisses from the Slave Province, Northwest Territories, Canada, *Geology*, 11, 971-975

Acasta Tonalitic Gneiss

Sample #: BG-83-A

Location of sample

65° 10.16' 115° 33.89' (UTM: Zone: 11 East: 567250 North: 7227750)

NTS: 86G/4

Description of Location: On large island in southern part of Acasta River, just north of first set of rapids.

Age Interpretation:

3480 ⁺⁸ ₋₈	U/Pb Zircon	Crystallization
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Sample Description: Tonalitic gneiss

Reference:

Bowring, S.A., King, J.E., Housh, T.B., Isachsen, C.E. and Podosek, F.A. 1989. Neodymium and lead isotope evidence for enriched early Archaean crust in North America, *Nature*, 340, 222-225

Acasta Leucocratic Granitic Gneiss

Sample #: SP-405

Location of sample

65° 10.63' 115° 35.46' (UTM: Zone: 11 East: 566000 North: 7228750)

NTS: 86G/4

Description of Location: On an island in southern Acasta river, NE of first set of rapids, in narrows where river jogs to W before heading N again.

Age Interpretation:

3958⁺⁸₋₈ U/Pb Ion Probe (zir) Crystallization

Sample Description: Leucocratic granitic gneiss, dominated by granoblastic plagioclase, K-feldspar and quartz with larger (10 mm) K-feldspar porphyroclasts. Biotite and hornblende make up 5% of rock and anhedral poikilitic garnets are common

Reference:

Bowring, S.A., Williams, I.S. and Compston, W. 1989. 3.96 Ga gneisses from the Slave Province, Northwest Territories, Canada, *Geology*, 11, 971-975

Contwoyto Tonalite Orthogneiss

Sample #: Tonalite Orthogneiss

Location of sample

65° 11.10' 109° 2.90' (UTM: Zone: 12 East: 591389 North: 7230293)

NTS: 76F/3

Description of Location: Not available

Age Interpretation:

2681⁺³₋₂ U/Pb Zircon Crystallization

Sample Description: Tonalite orthogneiss, O. van Breemen, J.E. King and W.J. Davis unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, *Canadian Journal of Earth Sciences*, 29, 2186-2199

C6 - Wolverine Monzogranite

Sample #: KGA-D78-88

Location of sample

65° 12.00' 111° 37.00' (UTM: Zone: 12 East: 471136 North: 7230693)

NTS: 76E/4

Description of Location: See map in reference

Age Interpretation:

2582⁺⁴₋₄ U/Pb Monazite Crystallization

Sample Description: Pre-post-D3. Fine to coarse grained Bi-Mu monzogranite.

Reference:

Van Breemen, O., King, J.E. and Davis, W.J. 1990. U-Pb zircon and monazite ages from plutonic rocks in the Contwoyto-Nose lakes map area, central Slave Province, District of Mackenzie, Northwest Territories, in *Radiogenic Age and Isotopic Studies: Report 3*, Geological Survey of Canada, Paper 89-2, 29-37

Point Lake rhyolite

Sample #: Point Lk

Location of sample

65° 13.50' 112° 52.25' (UTM: Zone: 12 East: 412526 North: 7234635)

NTS: 86H/2

Description of Location: Small island near the south shore of lake, 3 km east of Keskarrah Bay

Age Interpretation:

2827 U/Pb Zircon Minimum Age Estimate

Sample Description: Massive to weakly foliated qtz-feldspar porphyry with strongly strained phenocrysts in a weakly sericitized groundmass

Reference:

Mortensen, J.K., Thorpe, R.I., Padgham, W.A., King, J.E. and Davis, W.J. 1988. U-Pb zircon ages for felsic volcanism in the Slave Province, N.W.T., Radiogenic Age and Isotopic Studies: Report 2, Geological Survey of Canada, Paper 88-2, 85-95

C4 - Chunky Tonalite

Sample #: KGA-D110-88

Location of sample

65° 13.73' 111° 40.63' (UTM: Zone: 12 East: 468337 North: 7233941)

NTS: 76E/4

Description of Location: See map in reference

Age Interpretation:

2608⁺⁵₋₃ U/Pb Zircon Crystallization

Sample Description: Syn-D2. Medium grained Bi-Hb tonalite with accessory magnetite.

Reference:

Van Breemen, O., King, J.E. and Davis, W.J. 1990. U-Pb zircon and monazite ages from plutonic rocks in the Contwoyto-Nose lakes map area, central Slave Province, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 29-37

Augustus Granite

Sample #: Augustus Granite

Location of sample

65° 14.00' 113° 4.50' (UTM: Zone: 12 East: 403014 North: 7235862)

NTS: 86H/3

Description of Location: In shore from SE side of large bay immediately NW of Keskarrah Bay

Age Interpretation:

3152 U/Pb Zircon Crystallization-estimate

Sample Description: Grey to buff, massive, equigranular, medium to coarse grained rock with opalescent quartz. The rock is extensively fractured, but contains no discernible fabric.

Reference:

Henderson, J.B., Loveridge, W.D. and Sullivan, R.W. 1982. U-Pb study of zircon from granitic basement beneath the Yellowknife Supergroup, Point Lake, District of Mackenzie, in Rb-Sr and U-Pb Isotopic Age Studies, Report 5, in Current Research, Part C, Geological Survey of Canada, Paper 82-1C, 173-178

Musk Rhyolite

Sample #: Musk

Location of sample

65° 19.33' 107° 36.00' (UTM: Zone: 13 East: 378893 North: 7246671)

NTS: 76G/5

Description of Location: Immediately south of southeast shore of small horseshoe lake located 5.5 km west of Musk massive sulphide deposit

Age Interpretation:

$2689.3_{-1.8}^{+2.4}$ U/Pb Zircon Crystallization

Sample Description: Recrystallized intermediate to felsic volcanic containing rare preserved fine quartz phenocrysts

Reference:

Mortensen, J.K., Thorpe, R.I., Padgham, W.A., King, J.E. and Davis, W.J. 1988. U-Pb zircon ages for felsic volcanism in the Slave Province, N.W.T., Radiogenic Age and Isotopic Studies: Report 2, Geological Survey of Canada, Paper 88-2, 85-95

C5 - Siege Leucotonalite

Sample #: KGA-D217-87

Location of sample

65° 22.00' 111° 40.00' (UTM: Zone: 12 East: 468992 North: 7249291)

NTS: 76E/5

Description of Location: See map in reference

Age Interpretation:

2620 U/Pb Zircon Maximum Age Estimate

Sample Description: Late-D2. Fine to medium grained biotite leucotonalite to granodiorite with accessory apatite, magnetite, muscovite. Contains abundant xenoliths of host rocks and is ubiquitously intruded by leucocratic veins

Reference:

Van Breemen, O., King, J.E. and Davis, W.J. 1990. U-Pb zircon and monazite ages from plutonic rocks in the Contwoyto-Nose lakes map area, central Slave Province, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 29-37

C4 - Southern Diorite

Sample #: KGA-D218-87

Location of sample

65° 27.00' 111° 53.00' (UTM: Zone: 12 East: 459046 North: 7258703)

NTS: 76E/5

Description of Location: See map in reference

Age Interpretation:

2608_{-1}^{+1} U/Pb Zircon Crystallization

Sample Description: Syn-D2. Medium grained, Bi-Hb gabbro to quartz diorite with accessory magnetite

Reference:

Van Breemen, O., King, J.E. and Davis, W.J. 1990. U-Pb zircon and monazite ages from plutonic rocks in the Contwoyto-Nose lakes map area, central Slave Province, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 29-37

C6 - Pegmatitic Granitic Dyke

Sample #: KGA-K308

Location of sample

65° 27.50' 111° 0.00' (UTM: Zone: 12 East: 500000 North: 7259344)

NTS: 76E/6

Description of Location: See map in reference

Age Interpretation:

2584_{-2}^{+2} U/Pb Monazite Crystallization

Sample Description: Pegmatite intimately associated with 2 mica granites.

Reference:

Van Breemen, O., King, J.E. and Davis, W.J. 1990. U-Pb zircon and monazite ages from plutonic rocks in the Contwoyto-Nose lakes map area, central Slave Province, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 29-37

C3 - Melanocratic Olga Biotite Tonalite

Sample #: KGA-D72b-87

Location of sample

65° 27.50' 111° 46.00' (UTM: Zone: 12 East: 464466 North: 7259561)

NTS: 76E/5

Description of Location: See map in reference

Age Interpretation:

2649_{-2}^{+2} U/Pb Zircon Crystallization

Sample Description: Melanocratic phase of Olga tonalite. Pre-dates D2. Composite body of biotite-quartz diorite to tonalite that forms numerous texturally and mineralogically distinct tabular intrusive units

Reference:

Van Breemen, O., King, J.E. and Davis, W.J. 1990. U-Pb zircon and monazite ages from plutonic rocks in the Contwoyto-Nose lakes map area, central Slave Province, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 29-37

C3 - Olga Biotite Tonalite

Sample #: KGA-D72a

Location of sample

65° 27.50' 111° 46.00' (UTM: Zone: 12 East: 464466 North: 7259561)

NTS: 76E/5

Description of Location: See map in reference

Age Interpretation:

2650_{-5}^{+5} U/Pb Zircon Crystallization

Sample Description: Composite body of biotite quartz diorite to tonalite that forms numerous texturally and mineralogically distinct tabular intrusive units

Reference:

Van Breemen, O., King, J.E. and Davis, W.J. 1990. U-Pb zircon and monazite ages from plutonic rocks in the Contwoyto-Nose lakes map area, central Slave Province, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 29-37

C6 - Biotite-muscovite Monzogranite

Sample #: KGA-D216-87

Location of sample

65° 28.50' 111° 40.00' (UTM: Zone: 12 East: 469120 North: 7261365)

NTS: 76E/5

Description of Location: See map in reference

Age Interpretation:

2585⁺⁴₋₄ U/Pb Monazite Crystallization

Sample Description: Biotite-muscovite monzogranite

Reference:

Van Breemen, O., King, J.E. and Davis, W.J. 1990. U-Pb zircon and monazite ages from plutonic rocks in the Contwoyto-Nose lakes map area, central Slave Province, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 29-37

Bimore Granite

Sample #: Bimore Granite

Location of sample

65° 30.30' 109° 29.00' (UTM: Zone: 12 East: 570165 North: 7265391)

NTS: 76F/11

Description of Location: Not available

Age Interpretation:

2604.5^{+3.0}_{-2.0} U/Pb Zircon Crystallization

Sample Description: Granite - O. van Breemen, J.E. King and W.J. Davis, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

C2 - Quartz Porphyritic Granodiorite

Sample #: KGA-D221-87

Location of sample

65° 34.00' 111° 47.00' (UTM: Zone: 12 East: 463844 North: 7271644)

NTS: 76E/12

Description of Location: See map in reference

Age Interpretation:

2660.4^{+0.9}_{-0.5} U/Pb Zircon Crystallization

Sample Description: Quartz porphyritic biotite granodiorite that forms veins and irregular plutons within the Central Volcanic Belt

Reference:

Van Breemen, O., King, J.E. and Davis, W.J. 1990. U-Pb zircon and monazite ages from plutonic rocks in the Contwoyto-Nose lakes map area, central Slave Province, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 29-37

Gondor Lk Rhyolite

Sample #: Gondor Lk

Location of sample

65° 34.00' 111° 48.00' (UTM: Zone: 12 East: 463074 North: 7271654)

NTS: 76E/12

Description of Location: 1 Km west of the Gondor Massive sulphide deposit, 300 m northwest of Gondor Lk

Age Interpretation:

2667.6^{+3.0}_{-1.6} U/Pb Zircon Crystallization

Sample Description: Schistose, plag porphyritic rhyolite, interbedded with aphyric and hb-plag mafic volcanics, intermediate plag porphyries, autoclastic rhyolite

Reference:

Mortensen, J.K., Thorpe, R.I., Padgham, W.A., King, J.E. and Davis, W.J. 1988. U-Pb zircon ages for felsic volcanism in the Slave Province, N.W.T., Radiogenic Age and Isotopic Studies: Report 2, Geological Survey of Canada, Paper 88-2, 85-95

Izok Lk. Rhyolite

Sample #: Izok Lk

Location of sample

65° 37.69' 112° 40.20' (UTM: Zone: 12 East: 423106 North: 7279282)

NTS: 86H/10

Description of Location: South shore of Izok Lk, app. 0.6 km west-southwest from Izok Lk. Massive sulphide deposit

Age Interpretation:

2623⁺²⁰₋₂₀ U/Pb Zircon Crystallization

Sample Description: Thinly layered schist, consisting of fine grained qtz-feldspar, minor biotite, muscovite.

Reference:

Mortensen, J.K., Thorpe, R.I., Padgham, W.A., King, J.E. and Davis, W.J. 1988. U-Pb zircon ages for felsic volcanism in the Slave Province, N.W.T., Radiogenic Age and Isotopic Studies: Report 2, Geological Survey of Canada, Paper 88-2, 85-95

Butterfly Granodiorite

Sample #: Butterfly Granod.

Location of sample

65° 39.80' 110° 42.30' (UTM: Zone: 12 East: 513565 North: 7282225)

NTS: 76E/10

Description of Location: Not available

Age Interpretation:

2588⁺⁵₋₃ U/Pb Monazite Crystallization

Sample Description: Granodiorite - O. van Breemen, J.E. King and W.J. Davis, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

Blue K-feldspar Monzogranite

Sample #: Blue K-spar Monzog.

Location of sample

65° 41.80' 109° 58.30' (UTM: Zone: 12 East: 547226 North: 7286295)

NTS: 76F/12

Description of Location: Not available

Age Interpretation:

2592⁺³₋₃ U/Pb Xenotime Crystallization

2592⁺³₋₃ U/Pb Monazite Crystallization

Sample Description: Monzogranite - O. van Breemen, J.E. King and W.J. Davis, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

Concession Lake tuff

Sample #: Concession Lk

Location of sample

65° 42.00' 111° 34.00' (UTM: Zone: 12 East: 473978 North: 7286398)

NTS: 76E/12

Description of Location: 500 m south of southwest shore of lake

Age Interpretation:

2603.9^{+0.9}_{-0.8} U/Pb Zircon Crystallization

Sample Description: 1 m thick unit with fine siliceous matrix and 5% plagioclase phenocrysts, with grading of phenocrysts - interpreted as a sill because of age and amount of deformation

Reference:

Mortensen, J.K., Thorpe, R.I., Padgham, W.A., King, J.E. and Davis, W.J. 1988. U-Pb zircon ages for felsic volcanism in the Slave Province, N.W.T., Radiogenic Age and Isotopic Studies: Report 2, Geological Survey of Canada, Paper 88-2, 85-95

Shallow Bay Volcaniclastic

Sample #: KGA-D175-88

Location of sample

65° 42.30' 111° 13.00' (UTM: Zone: 12 East: 490052 North: 7286855)

NTS: 76E/11

Description of Location: About 1 km west of NW corner of Fingers Lake

Age Interpretation:

3006⁺⁵₋₅ U/Pb Zircon Inheritance

2661 U/Pb Zircon Maximum Age Estimate

Sample Description: Massive volcaniclastic rock of intermediate composition. Contains <5% white feldspar phenocrysts from 2-10 mm. Area has been multiply folded, but conformable contacts indicate that the Shallow Bay volcaniclastics are in depositional contact with metased

Reference:

Mortensen, J.K., Relf, C., Davis, W.J. and King, J.E. 1992. U-Pb zircon ages from the Shallow Bay volcanoclastic belt, Contwoyto Lake area, Northwest Territories: age constraints for Luin-type iron-formation, in Radiogenic and Isotopic studies: Report 5, Geological Survey of Canada, Paper 91-2, 9-15

C6a - Biotite-muscovite Monzogranite

Sample #: KGA-K193-88

Location of sample

65° 49.50' 111° 25.00' (UTM: Zone: 12 East: 480958 North: 7300276)

NTS: 76E/14

Description of Location: See map in reference

Age Interpretation:

2581⁺⁹₋₅ U/Pb Monazite Crystallization

Sample Description: Pre-post-D3. Fine to coarse grained Bi-Mu monzogranite with accessory apatite, tourmaline and magnetite. Intimately associated with pegmatites and contains abundant xenoliths of host rocks

Reference:

Van Breemen, O., King, J.E. and Davis, W.J. 1990. U-Pb zircon and monazite ages from plutonic rocks in the Contwoyto-Nose lakes map area, central Slave Province, District of Mackenzie, Northwest Territories, in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, 29-37

Hanimore Granodiorite

Sample #: Hanimore Granod.

Location of sample

65° 54.30' 108° 3.50' (UTM: Zone: 12 East: 633974 North: 7312271)

NTS: 76F/16

Description of Location: Not available

Age Interpretation:

2681⁺³₋₂ U/Pb Zircon Crystallization

Sample Description: Granodiorite, O. van Breemen, J.E. King and W.J. Davis, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

George Lake Granulestone

Sample #: 89-JP-244

Location of sample

65° 55.58' 107° 28.85' (UTM: Zone: 13 East: 387100 North: 7313750)

NTS: 76G/14

Description of Location: About 1 km west of peninsula that sticks out on west side of George Lake

Age Interpretation:

2715⁺⁶₋₆ U/Pb Zircon Detrital

2690⁺³₋₃ U/Pb Zircon Detrital

2694⁺¹₋₁ U/Pb Zircon Detrital

2683⁺²₋₂ U/Pb Zircon Detrital

2697 ⁺² ₋₂	U/Pb Zircon	Detrital
2688 ⁺² ₋₂	U/Pb Zircon	Detrital
2698 ⁺⁵ ₋₅	U/Pb Zircon	Detrital
2722 ⁺² ₋₂	U/Pb Zircon	Detrital
2735 ⁺²⁸ ₋₂₈	U/Pb Zircon	Detrital
2677 ⁺⁴ ₋₄	U/Pb Zircon	Detrital

Sample Description: Thick bedded granulestone and quartz wacke turbidite unit. Interbedded and overlying lowermost iron formation. Eastward thickening of granulestone suggests a proximal source to the east.

Reference:

Van Breemen, O., Jefferson, C.W. and Bursey, T. 1992. Age of rhyolite and provenance of detrital zircons in a granulestone from George Lake area, Slave Province, Northwest Territories, in Radiogenic Age and Isotope Studies: Report 6, Geological Survey of Canada, Paper 92-2, 41-47

George Lake Rhyolite

Sample #: 89-JP-249

Location of sample

65° 55.80' 107° 28.20' (UTM: Zone: 13 East: 387606 North: 7314130)

NTS: 76G/14

Description of Location: Not available

Age Interpretation:

2682.5 ^{+1.5} _{-1.5}	U/Pb Zircon	Crystallization
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Sample Description: Rhyolite sill that discordantly intrudes iron-formation bearing turbidites

Reference:

Van Breemen, O., Jefferson, C.W. and Bursey, T. 1992. Age of rhyolite and provenance of detrital zircons in a granulestone from George Lake area, Slave Province, Northwest Territories, in Radiogenic Age and Isotope Studies: Report 6, Geological Survey of Canada, Paper 92-2, 41-47

Amoogabooga Lk. Rhyolite

Sample #: Amoogabooga Lk

Location of sample

66° 4.30' 112° 42.41' (UTM: Zone: 12 East: 422749 North: 7328760)

NTS: 86I/2

Description of Location: East shore of a southward projecting arm of the lake, about 2.5 km from Hood River #10 massive sulphide deposit

Age Interpretation:

2694.4 ^{+7.0} _{-4.5}	U/Pb Zircon	Crystallization
1946	U/Pb Zircon	Episodic Pb-loss

Sample Description: Weakly deformed qtz-feldspar porphyry

Reference:

Mortensen, J.K., Thorpe, R.I., Padgham, W.A., King, J.E. and Davis, W.J. 1988. U-Pb zircon ages for felsic volcanism in the Slave Province, N.W.T., Radiogenic Age and Isotopic Studies: Report 2, Geological Survey of Canada, Paper 88-2, 85-95

LONG GOSSAN RHYOLITE

Sample #: VN-92-08

Location of sample

66° 31.76' 112° 20.27' (UTM: Zone: 12 East: 440546 North: 7379357)

NTS: 86I/9

Description of Location: ON WEST SHORE NEAR SOUTH END OF LONG GROSSAN LAKE

Age Interpretation:

3134⁺¹₋₁ U/Pb Zircon Crystallization

2700 U/Pb Zircon Episodic Pb-loss

Sample Description: MICA-RICH, SHEARED META-RHYOLITE

Reference:

Unpublished

Hood River granite

Sample #: 91-VJ-4401

Location of sample

66° 36.57' 112° 17.47' (UTM: Zone: 12 East: 442800 North: 7388250)

NTS: 86I/9

Description of Location: Near Hood River

Age Interpretation:

2582⁺⁵₋₄ U/Pb Zircon Crystallization

Sample Description: Biotite granite: buff weathering, white fresh surface, medium to coarse grained, contains irregular K-spar phenocrysts up 1.5 cm long with microperthitic texture, plagioclase is sericitized and commonly zoned, rare myrm

Reference:

Unpublished

Booth River Alkaline Granite

Sample #: 85RF185

Location of sample

66° 37.00' 109° 40.30' (UTM: Zone: 12 East: 558828 North: 7389086)

NTS: 76K/12

Description of Location: At NW base of hill located between lake and inlet of Booth River.

Age Interpretation:

2023⁺⁴₋₂ U/Pb Zircon Crystallization

Sample Description: Homogenous biotite-alkaline amphibole-perthite granite. Coarse grained, 50% subhedral microperthite orthoclase up to 12 mm long, 35% quartz, 5% albite as small grains.

Reference:

Roscoe, S.M., Henderson, M.N., Hunt, P.A. and Van Breemen, O. 1987. U-Pb zircon age of an alkaline granite body in the Booth River Intrusive Suite, N.W.T., in Radiogenic Age and Isotopic Studies: Report 1, Geological Survey of Canada, Paper 87-2, 95-100

Hood River Felsic volcanic

Sample #: 91-VJ-4402

Location of sample

66° 38.30' 112° 19.73' (UTM: Zone: 12 East: 441200 North: 7391500)

NTS: 86I/9

Description of Location: Near Hood River

Age Interpretation:

3142_{-1}^{+1} U/Pb Zircon Crystallization

Sample Description: Rhyolite to dacite, white to pale green-grey weathering, light grey fresh surface, fine grained, contains round and locally embayed quartz phenocrysts that are either mono- or polycrystalline

Reference:

Unpublished

Western Tinney 2-mica granite

Sample #: Tinney Granite #1

Location of sample

66° 38.90' 107° 10.80' (UTM: Zone: 13 East: 403587 North: 7393674)

NTS: 76J/11

Description of Location: About 10 km west of Gordon River, just north of banana-shaped lake

Age Interpretation:

2597_{-5}^{+5} U/Pb Monazite Crystallization

Sample Description: Unfoliated to poorly foliated, Bi-Mu granite forming m scale sills and several large plutons in sillimanite schists

Reference:

Culshaw, N. and Van Breemen, O. 1990. A zoned low P-highT complex at the levels of anatexis-structural and plutonic patterns in metasediments of the Archean Yellowknife Supergroup, near Bathurst Inlet, N.W.T., Canada, Precambrian Research, 48, 1-20

Football Granite

Sample #: tbm-122

Location of sample

66° 39.52' 112° 15.32' (UTM: Zone: 12 East: 444500 North: 7393700)

NTS: 86I/9

Description of Location: On shore of Hood River at base of large hill

Age Interpretation:

2616_{-2}^{+2} U/Pb Zircon Crystallization

2614_{-5}^{+5} U/Pb Titanite Crystallization

Sample Description: Tonalite, pluton has a football shape and is a doubly plunging antiformal structure.

Reference:

Unpublished

Hood River Grit

Sample #: VN-93-09

Location of sample

66° 40.30' 112° 15.77' (UTM: Zone: 12 East: 444195 North: 7395145)

NTS: 86I/9

Description of Location: Just north of Hood R., in sequence with old rhyolites

Age Interpretation:

2740 ⁺⁵ ₋₅	U/Pb Zircon	Detrital
2707 ⁺²⁰ ₋₂₀	U/Pb Zircon	Detrital
2702 ⁺⁴ ₋₄	U/Pb Zircon	Detrital
2680 ⁺²⁰ ₋₂₀	U/Pb Zircon	Detrital
2695 ⁺⁴ ₋₄	U/Pb Zircon	Detrital
2816 ⁺³ ₋₃	U/Pb Zircon	Detrital
3254 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3096 ⁺⁵ ₋₅	U/Pb Zircon	Detrital

Sample Description: Cordierite to Sillimanite grade, coarse greywacke

Reference:

Unpublished

Eastern granite

Sample #: 91-VJ-4403

Location of sample

66° 41.00' 112° 3.50' (UTM: Zone: 12 East: 453250 North: 7396300)

NTS: 86I/9

Description of Location: Near Hood River

Age Interpretation:

2599 ⁺¹ ₋₁	U/Pb Zircon	Crystallization
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Sample Description: Biotite granite, medium to coarse grained, sparse (5-10%) 1-2 cm long rectangular K-spar phenocrysts, set in an equigranular ground mass of k-spar, zoned and sericitized plagioclase, clear quartz has undulose extinction,

Reference:

Unpublished

RHYOLITE VOLCANIC

Sample #: 92-HSA-727

Location of sample

66° 53.21' 110° 17.06' (UTM: Zone: 12 East: 531354 North: 7418757)

NTS: 76L/16

Description of Location: NORTH OF HOOD RIVER, SOUTH OF JAMES

Age Interpretation:

2671_{-3}^{+3} U/Pb Zircon Crystallization

Sample Description: FINE GRAINED RHYOLITE VOLCANIC

Reference:

Unpublished

Ulu Granite

Sample #: 92-HSA-728

Location of sample

66° 53.74' 110° 54.74' (UTM: Zone: 12 East: 503837 North: 7419557)

NTS: 76L/15

Description of Location: BEHIND CROWN CAMP ON CROWN LAKE

Age Interpretation:

2588_{-5}^{+5} U/Pb Zircon Crystallization

Sample Description: GRANITE

Reference:

Unpublished

Gordon Bay 2-mica Granite

Sample #: Tinney Granite #2

Location of sample

66° 54.80' 107° 8.50' (UTM: Zone: 13 East: 406296 North: 7423143)

NTS: 76J/14

Description of Location: On eastern shore of Gordon Bay, just north of where bay narrows significantly

Age Interpretation:

2585_{-2}^{+2} U/Pb Monazite Crystallization

Sample Description: Small pluton of 2-mica granite, displays small shear band structures, associated with syntectonic pegmatite

Reference:

Culshaw, N. and Van Breemen, O. 1990. A zoned low P-highT complex at the levels of anatexis-structural and plutonic patterns in metasediments of the Archean Yellowknife Supergroup, near Bathurst Inlet, N.W.T., Canada, Precambrian Research, 48, 1-20

James River Rhyolite

Sample #: 92-HSA-729

Location of sample

67° 1.80' 110° 55.05' (UTM: Zone: 12 East: 503592 North: 7434536)

NTS: 76M/2

Description of Location: NORTH OF JAMES RIVER, NEAR FLYBIRD LAKE

Age Interpretation:

2616 ⁺³ ₋₃	U/Pb Zircon	Crystallization
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Sample Description: FINE GRAINED, DEFORMED RHYOLITE

Reference:

Unpublished

Frayed Knots Greywacke

Sample #: 93-HSA-J394

Location of sample

67° 2.81' 110° 57.10' (UTM: Zone: 12 East: 502102 North: 7436438)

NTS: 76M/2

Description of Location: Details Unknown

Age Interpretation:

2714 ⁺⁷ ₋₇	U/Pb Zircon	Detrital
2664 ⁺² ₋₂	U/Pb Zircon	Detrital
2676 ⁺⁹ ₋₉	U/Pb Zircon	Detrital
2689 ⁺³ ₋₃	U/Pb Zircon	Detrital
2688 ⁺⁵ ₋₅	U/Pb Zircon	Detrital
2795 ⁺² ₋₂	U/Pb Zircon	Detrital
2717 ⁺⁷ ₋₇	U/Pb Zircon	Detrital
2686 ⁺¹¹ ₋₁₁	U/Pb Zircon	Detrital
2718 ⁺⁷ ₋₇	U/Pb Zircon	Detrital

Sample Description: Turbiditic greywacke interlayered in sequence correlative with young rhyolite, fine grained

Reference:

Unpublished

Pistol Lake Tonalite

Sample #: Pistol Lk. Tonalite

Location of sample

67° 7.50' 108° 59.10' (UTM: Zone: 12 East: 587398 North: 7446544)

NTS: 76N/2

Description of Location: Not available

Age Interpretation:

2600 ⁺² ₋₂	U/Pb Zircon	Crystallization
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Sample Description: Tonalite - O. van Breemen and C.W. Jefferson, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

Tree River Greywacke

Sample #: VN-93-10

Location of sample

67° 8.40' 112° 18.89' (UTM: Zone: 12 East: 443000 North: 7447401)

NTS: 86P/1

Description of Location: Just west of Tree River and south of Inulik Lake

Age Interpretation:

3131 ⁺⁴ ₋₄	U/Pb Zircon	Detrital
2953 ⁺¹ ₋₁	U/Pb Zircon	Detrital
2950 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3158 ⁺² ₋₂	U/Pb Zircon	Detrital
3057 ⁺⁵ ₋₅	U/Pb Zircon	Detrital
3142 ⁺³ ₋₃	U/Pb Zircon	Detrital
3579 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3098 ⁺² ₋₂	U/Pb Zircon	Detrital
2944 ⁺³ ₋₃	U/Pb Zircon	Detrital

Sample Description: Coarse grained graded Greywackes, qtz and plag grains up to 5mm diameter, qtz-feldspar aggregates, chlorite-muscovite aggregates, tourmaline, polycrystalline qtz. Metamorphic grade is low greenschist.

Reference:

Unpublished

Canoe Lake Rhyolite

Sample #: Canoe Lk.

Location of sample

67° 8.55' 111° 36.00' (UTM: Zone: 12 East: 473990 North: 7447205)

NTS: 76M/4

Description of Location: About 2.6 km northeast of east end of Canoe Lake, about 4.1 km from massive sulphide mineralization

Age Interpretation:

2696_{-3}^{+4} U/Pb Zircon Crystallization

Sample Description: Unfoliated, fine grained mass of quartz feldspar, biotite, trace muscovite, with rare strained and partially recrystallized quartz phenocrysts.

Reference:

Unpublished

Hood River Tonalite

Sample #: Hood R. Tonalite

Location of sample

67° 9.40' 109° 0.50' (UTM: Zone: 12 East: 586273 North: 7450041)

NTS: 76N/3

Description of Location: Not available

Age Interpretation:

2607_{-2}^{+2} U/Pb Zircon Crystallization

Sample Description: Tonalite - O. van Breemen and C.W. Jefferson, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

JAMES RIVER RHYOLITE

Sample #: R-40-91

Location of sample

67° 10.28' 110° 57.92' (UTM: Zone: 12 East: 501500 North: 7450300)

NTS: 76M/2

Description of Location: OUTCROP ABOUT 500M TO 1KM NE OF SHORE OF JAMES RIVER AND CA. 500 SE OF EASTERN TERMINATION OF LARGE ESKER

Age Interpretation:

2695_{-3}^{+3} U/Pb Zircon Crystallization

Sample Description: QUARTZ-FELDSPAR RHYOLITE PORPHYRY

Reference:

Unpublished

Torp Lake Tonalite

Sample #: Torp Tonalite

Location of sample

67° 18.10' 109° 31.70' (UTM: Zone: 12 East: 563370 North: 7465575)

NTS: 76N/5

Description of Location: Not available

Age Interpretation:

2610⁺³₅ U/Pb Titanite Crystallization

2610⁺³₅ U/Pb Zircon Crystallization

Sample Description: Tonalite - O. van Breemen and R.M. Johnstone, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

Torp Quartz Diorite

Sample #: Torp Qtz Diorite

Location of sample

67° 18.10' 109° 35.50' (UTM: Zone: 12 East: 560643 North: 7465511)

NTS: 76N/5

Description of Location: Not available

Age Interpretation:

2604⁺⁴₄ U/Pb Zircon Crystallization

Sample Description: Quartz Diorite - O. van Breemen and R.M. Johnstone, unpublished data

Reference:

Van Breemen, O., Davis, W.J. and King, J.E. 1992. Temporal distribution of granitoid plutonic rocks in the Archean Slave Province, northwest Canadian Shield, Canadian Journal of Earth Sciences, 29, 2186-2199

HIGH LAKE GRANITE

Sample #: R-30-91

Location of sample

67° 23.30' 110° 51.19' (UTM: Zone: 12 East: 506300 North: 7474500)

NTS: 76M/7

Description of Location: IMMEDIATELY WEST OF HIGH LAKE ADJACENT TO THE MASSIVE SULPHIDE DEPOSIT

Age Interpretation:

2613⁺⁵₅ U/Pb Zircon Crystallization

Sample Description: UNDEFORMED MED. GRAINED HORNBLLENDE TONALITE/MONZODIORITE

Reference:

Unpublished

Rush Rhyolite

Sample #: 93-HSA-J389

Location of sample

67° 23.68' 110° 57.90' (UTM: Zone: 12 East: 501506 North: 7475189)

NTS: 76M/7

Description of Location: Near Rush Lake, east of High Lake

Age Interpretation:

2705⁺¹₋₁ U/Pb Zircon Crystallization

Sample Description: Quartz eye rhyolite porphyry, weakly to un- foliated

Reference:

Unpublished

Niven Lake Lenticle

Sample #: Niven Lake

Location of sample

67° 27.37' 114° 22.50' (UTM: Zone: 11 East: 612285 North: 7484418)

NTS: 86O/8

Description of Location: Not available

Age Interpretation:

2683⁺⁵₋₅ U/Pb Zircon Crystallization

Sample Description: Not available

Reference:

Isachsen, C.E., Bowring, S.A. and Padgham, W.A. 1991. U-Pb geochronology of the Yellowknife volcanic belt, NWT, Canada: new constraints on timing and duration of greenstone belt magmatism, *Journal of Geology*, 99, 55-67

K-C CONGLOMERATE

Sample #: VN-92-02

Location of sample

67° 33.26' 111° 20.78' (UTM: Zone: 12 East: 485246 North: 7493045)

NTS: 76M/11

Description of Location: NEAR SOUTH END OF LONG LAKE JUST EAST OF TURTLE LK

Age Interpretation:

2701⁺²₋₂ U/Pb Zircon Detrital

2680⁺¹²₋₁₂ U/Pb Zircon Detrital

2682⁺¹₋₁ U/Pb Zircon Detrital

2688⁺¹⁰₋₁₀ U/Pb Zircon Detrital

2697⁺¹₋₁ U/Pb Zircon Detrital

2600⁺³₋₃ U/Pb Zircon Detrital

2956⁺¹₋₁ U/Pb Zircon Detrital

2701⁺²₋₂ U/Pb Zircon Detrital

2775⁺⁴₋₄

U/Pb Zircon

Detrital

Sample Description: META-CONGLOMERATE WITH STRETCHED GRANITIC COBBLES

Reference:

Unpublished

STRING LAKE CONGLOMERATE BOULDER

Sample #: R-39-91

Location of sample

67° 36.32' 111° 13.40' (UTM: Zone: 12 East: 490500 North: 7498700)

NTS: 76M/11

Description of Location: JUST WEST OF ANIALIK RIVER GORGE, NEAR STRING LAKE

Age Interpretation:

2590⁺¹⁰₋₁₀

U/Pb Zircon

Crystallization-estimate

Sample Description: LARGE BOULDER (BIOTITE SYENITE) SHOWING LITTLE TO WEAK FOLIATION FROM MATRIX SUPPORTED CONGLOMERATE, WHICH SHOWS FOLIATION IN FINE GRAINED MATRIX

Reference:

Unpublished

15a GRANITE OF JACKSON 1989

Sample #: R-33-91

Location of sample

67° 37.62' 110° 50.26' (UTM: Zone: 12 East: 506900 North: 7501100)

NTS: 76M/10

Description of Location: JUST EAST OF HIGH LAKE BELT, NEAR TRIPLE JUNCTION OF VOLCANICS, AND R-32-91 AND THIS GRANITE, AT BASE OF STEEP HILL

Age Interpretation:

2605⁺⁵₋₃

U/Pb Zircon

Crystallization

Sample Description: STRAINED BIOTITE MONZOGRANITE

Reference:

Unpublished

17b GRANITE OF JACKSON 1989

Sample #: R-32-91

Location of sample

67° 37.67' 110° 49.83' (UTM: Zone: 12 East: 507200 North: 7501200)

NTS: 76M/10

Description of Location: JUST EAST OF HIGH LAKE BELT, NEAR TRIPLE JUNCTION OF VOLCANICS, AND R-33-91 AND THIS GRANITE, AT TOP OF STEEP HILL

Age Interpretation:

2580⁺⁸₋₈

U/Pb Zircon

Crystallization

Sample Description: UNSTRAINED, COARSE GRAINED 2 MICA GRANITE

Reference:

Unpublished

Typical Chin Lake Stock

Sample #: Chin Lk Stock #1

Location of sample

67° 40.47' 111° 24.90' (UTM: Zone: 12 East: 482406 North: 7506449)

NTS: 76M/11

Description of Location: Northern end of Chin Lake Stock

Age Interpretation:

2601⁺³₋₃ U/Pb Monazite Crystallization

2601⁺⁶₋₄ U/Pb Zircon Crystallization

Sample Description: Quartz (25-30%) and 5% mafics. K-spar (15-20%), Plag (45-50%). Coarse grained, inequigranular, unfoliated. Chlorite replaces biotite, minor undulose extinction in Qtz.

Reference:

Abraham, A.P.G., Davis, D.W., Kamo, S.L. and Spooner, E.T.C. 1994. Geochronological constraints on Late Archean magmatism, deformation and gold-quartz vein mineralization in the northwestern Anialik River greenstone belt and igneous complex, Slave Province, NWT, Canadian Journal of Earth Sciences, 31, 0-0

Chin Lake Stock Sample #2

Sample #: Chin Lk Stock #2

Location of sample

67° 40.53' 111° 25.95' (UTM: Zone: 12 East: 481665 North: 7506566)

NTS: 76M/11

Description of Location: From NW edge of exposed Chin Lake Stock.

Age Interpretation:

2602⁺²₋₂ U/Pb Titanite Crystallization

Sample Description: Dark grey-green to pink altered Biotite-rich porphyritic tonalite which forms a small plug-like area within the Chin Lake stock. Biotite 10-15%, Qtz=15-20%, Kspar is minor phase

Reference:

Abraham, A.P.G., Davis, D.W., Kamo, S.L. and Spooner, E.T.C. 1994. Geochronological constraints on Late Archean magmatism, deformation and gold-quartz vein mineralization in the northwestern Anialik River greenstone belt and igneous complex, Slave Province, NWT, Canadian Journal of Earth Sciences, 31, 0-0

MMP Diorite

Sample #: MMP Diorite

Location of sample

67° 41.28' 111° 24.90' (UTM: Zone: 12 East: 482417 North: 7507954)

NTS: 76M/11

Description of Location: Close to contact between MMP Tonalite and eastern MMP diorite, about 1.25 km southeast of Sidewalk Vein

Age Interpretation:

2703⁺¹₋₁ U/Pb Zircon Crystallization

Sample Description: Medium to coarse grained, inequigranular diorite. Exhibits a moderate to intense foliation defined by Hb, Bi and Qtz aggregates. Plag (An10) also occurs as phenocrysts.

Reference:

Abraham, A.P.G., Davis, D.W., Kamo, S.L. and Spooner, E.T.C. 1994. Geochronological constraints on Late Archean magmatism, deformation and gold-quartz vein mineralization in the northwestern Anialik River greenstone belt and igneous complex, Slave Province, NWT, Canadian Journal of Earth Sciences, 31, 0-0

Foliated Quartz-eye Porphyry

Sample #: JG-89-5245

Location of sample

67° 41.80' 106° 23.90' (UTM: Zone: 13 East: 440780 North: 7509530)

NTS: 760/9

Description of Location: Near Lake 211 in Hope Bay belt

Age Interpretation:

2702 ⁺⁴ ₋₄	U/Pb Zircon	Inheritance
2685 ⁺⁴ ₋₂	U/Pb Zircon	Crystallization

Sample Description: Foliated quartz-eye porphyry

Reference:

Bevier, M.L. and Gebert, J.S. 1992. U-Pb geochronology of the Hope Bay - Elu Inlet area, Bathurst Block, northeastern Slave Structural Province, Northwest Territories, Canadian Journal of Earth Sciences, 28, 1925-1930

Sidewalk Vein

Sample #: Sidewalk Vein

Location of sample

67° 42.01' 111° 25.19' (UTM: Zone: 12 East: 482220 North: 7509300)

NTS: 76M/11

Description of Location: From dyke lying subparallel to and crosscut by Sidewalk Vein within eastern margin of Sheeted Zone

Age Interpretation:

2705 ⁺² ₋₂	U/Pb Zircon	Crystallization
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Sample Description: Leucocratic, medium to fine grained, mylonitized dyke. Original rock type is tonalite to trondjemite but is now intensely silicified adjacent to quartz stringers. Quartz constitutes 40-45% of rock and is ribboned, recrystallised aggregates.

Reference:

Abraham, A.P.G., Davis, D.W., Kamo, S.L. and Spooner, E.T.C. 1994. Geochronological constraints on Late Archean magmatism, deformation and gold-quartz vein mineralization in the northwestern Anialik River greenstone belt and igneous complex, Slave Province, NWT, Canadian Journal of Earth Sciences, 31, 0-0

MMP Tonalite

Sample #: Main Phase Tonalite

Location of sample

67° 42.69' 111° 22.63' (UTM: Zone: 12 East: 484035 North: 7510564)

NTS: 76M/11

Description of Location: Forms wall rock to Au mineralized North Central Vein Shear zone and is representative of the bulk of the Main Phase Tonalite

Age Interpretation:

2694⁺¹₋₁ U/Pb Zircon Crystallization

Sample Description: Coarse grained, intensely chloritized and exhibits protomylonitic fabric. Plg phenocrysts up to 5x4 mm comprise 60% of rock. Bi and Hb comprise 15% together and are almost completely replaced by Chlorite+Carb+Qtz+Epidote+Titanite

Reference:

Abraham, A.P.G., Davis, D.W., Kamo, S.L. and Spooner, E.T.C. 1994. Geochronological constraints on Late Archean magmatism, deformation and gold-quartz vein mineralization in the northwestern Anialik River greenstone belt and igneous complex, Slave Province, NWT, Canadian Journal of Earth Sciences, 31, 0-0

Central Diorite

Sample #: Central Diorite

Location of sample

67° 42.93' 111° 21.97' (UTM: Zone: 12 East: 484504 North: 7511007)

NTS: 76M/11

Description of Location: From within the mapped area of Central Diorite east-northeast of the North Central Vein location

Age Interpretation:

2682⁺²₋₂ U/Pb Zircon Crystallization

Sample Description: Grey weathering, mesocratic, massive coarse grained with Hb and Bi comprising 25% of the rock. Hb occurs as anhedral laths and subhedral crystals from 2-7 mm. Subhedral Plag (An 41-48) comprises 45-55% of sample.

Reference:

Abraham, A.P.G., Davis, D.W., Kamo, S.L. and Spooner, E.T.C. 1994. Geochronological constraints on Late Archean magmatism, deformation and gold-quartz vein mineralization in the northwestern Anialik River greenstone belt and igneous complex, Slave Province, NWT, Canadian Journal of Earth Sciences, 31, 0-0

Kanguyyak Gneiss #1

Sample #: R-38-91

Location of sample

67° 43.75' 111° 34.76' (UTM: Zone: 12 East: 475500 North: 7512600)

NTS: 76M/12

Description of Location: ALONG SHORE OF GRAY'S BAY ON CORONATION GULF, ON EAST-FACING SHORE OF BROAD PENINSULA

Age Interpretation:

1988⁺¹⁶₋₁₆ U/Pb Zircon Episodic Pb-loss

Sample Description: ORTHOGNEISS. LEUCOCRATIC WITH DIFFUSE MAFIC BANDS AND A FOLIATION DEFINED BY QUARTZ AND BIOTITE. FOLDED INTO OPEN FOLDS AND INTRUDED BY COARSE DIKES OF R-37-91, WHICH ARE ALSO PARTLY DEFORMED.

Reference:

Relf, C., Jackson, V.A., Lambert, M.B., Stubley, M., Villeneuve, M.E. and King, J.E. 1992. Reconnaissance studies in the Hepburn Island map area, northern Slave Province, Northwest Territories, in Current Research, Part C; Geological Survey of Canada, Paper 92-1C, 201-208

Kanguyyak Gneiss Pegmatite Dyke

Sample #: R-37-91

Location of sample

67° 43.75' 111° 34.76' (UTM: Zone: 12 East: 475500 North: 7512600)

NTS: 76M/12

Description of Location: NORTHEAST SHORE OF EAST SIDE OF LONG BAY IMMEDIATELY WEST OF GRAY'S BAY ON THE CORONATION GULF

Age Interpretation:

2610 ⁺⁵ ₋₅	U/Pb Titanite	Minimum Age Estimate
2650 ⁺⁵ ₋₅	U/Pb Titanite	Maximum Age Estimate

Sample Description: COARSE GRAINED BIOTITE LEUCOGRANITE DYKE THAT CROSSCUTS AND IS PARTIALLY DEFORMED ALONG WITH R-38-91, THE MAIN ORTHOGNEISS BODY

Reference:

Unpublished

Felsic Tuff

Sample #: Felsic Tuff

Location of sample

67° 43.78' 111° 23.12' (UTM: Zone: 12 East: 483700 North: 7512600)

NTS: 76M/11

Description of Location: From an area centrally located in the NW Anialik River Volcanic Belt, south of subvolcanic QF porphyry

Age Interpretation:

2677 ⁺³ ₋₃	U/Pb Zircon	Crystallization
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Sample Description: Very fine grained, moderately to strongly foliated with <5% plag phenocrysts up to 1 mm across. Biotite comprises 10-15% as narrow laths or decussate aggregates parallel to and defining foliation.

Reference:

Abraham, A.P.G., Davis, D.W., Kamo, S.L. and Spooner, E.T.C. 1994. Geochronological constraints on Late Archean magmatism, deformation and gold-quartz vein mineralization in the northwestern Anialik River greenstone belt and igneous complex, Slave Province, NWT, Canadian Journal of Earth Sciences, 31, 0-0

Kanguyyak Quartzite

Sample #: VN-93-20A

Location of sample

67° 43.79' 111° 37.34' (UTM: Zone: 12 East: 473675 North: 7512688)

NTS: 76M/12

Description of Location: On coast, in Coronation Gulf, west of Anialik River volcanic belt

Age Interpretation:

3151 ⁺³ ₋₃	U/Pb Zircon	Detrital
3301 ⁺³ ₋₃	U/Pb Zircon	Detrital

3230 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3272 ⁺⁴ ₋₄	U/Pb Zircon	Detrital
3200 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3131 ⁺⁹ ₋₉	U/Pb Zircon	Detrital
2640	U/Pb Titanite	Metamorphic
3243 ⁺² ₋₂	U/Pb Zircon	Detrital
3218 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3204 ⁺¹ ₋₁	U/Pb Zircon	Detrital

Sample Description: Quartzite, well banded with mafic layers and some feldspar, forms as a competent unit in ductily deformed gneisses (mostly paragneiss). At or near granulite grade

Reference:

Relf, C., Chouinard, A., Sandeman, H. and Villeneuve, M. 1994. Contact relationships between the Anialik River volcanic belt and the Kangguyak gneiss belt, northwestern Slave Province, Northwest Territories, in Current Research 1994-C; Geological Survey of Canada, 49-59

COAST CONGLOMERATE

Sample #: VN-93-04

Location of sample

67° 43.90' 111° 39.16' (UTM: Zone: 12 East: 472400 North: 7512900)

NTS: 76M/12

Description of Location: ON COAST OF CORONATION GULF, JUST WEST OF BAY FORMED BY RIVER FLOWING ALONG TOKHOKOTAK FAULT

Age Interpretation:

2881 ⁺² ₋₂	U/Pb Zircon	Detrital
3051 ⁺¹ ₋₁	U/Pb Zircon	Detrital
2887 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3213 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3085 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3018 ⁺¹ ₋₁	U/Pb Zircon	Detrital
3259 ⁺³ ₋₃	U/Pb Zircon	Detrital
3452 ⁺² ₋₂	U/Pb Zircon	Detrital

Sample Description: UPPER AMPHIBOLITE GRADE BIOTITE-RICH DEFORMED CONGLOMERATE WITH QUARTZITE CLASTS. INTERLAYERED WITH BIOTITE SCHISTS ON A 20 cm SCALE

Reference:

Unpublished

QFP-subvolcanic Intrusion

Sample #: QF Porphyry

Location of sample

67° 44.14' 111° 23.00' (UTM: Zone: 12 East: 483791 North: 7513260)

NTS: 76M/11

Description of Location: From relatively undeformed area of subvolcanic QFP south of Salt Lake

Age Interpretation:

2678_{-2}^{+2} U/Pb Zircon Crystallization

Sample Description: Grey, pale pink and beige weathering, relatively undeformed. Plag phenocrysts up to 1 cm across, occurs as laths and rounded subhedra exhibiting primary zoning and moderate sericitization. Also subrounded Quartz phenocrysts up to 1 cm size.

Reference:

Abraham, A.P.G., Davis, D.W., Kamo, S.L. and Spooner, E.T.C. 1994. Geochronological constraints on Late Archean magmatism, deformation and gold-quartz vein mineralization in the northwestern Anialik River greenstone belt and igneous complex, Slave Province, NWT, Canadian Journal of Earth Sciences, 31, 0-0

Salt Lake Stock

Sample #: Salt Lk. Stock

Location of sample

67° 44.38' 111° 22.33' (UTM: Zone: 12 East: 484270 North: 7513700)

NTS: 76M/11

Description of Location: From the south side of Salt Lake inlet

Age Interpretation:

2678_{-4}^{+8} U/Pb Zircon Crystallization

Sample Description: Coarse grained, Qtz-rich (45%) and has Plag+K-spar=50%. Chlorite replaces Biotite. Poor foliation defined.

Reference:

Abraham, A.P.G., Davis, D.W., Kamo, S.L. and Spooner, E.T.C. 1994. Geochronological constraints on Late Archean magmatism, deformation and gold-quartz vein mineralization in the northwestern Anialik River greenstone belt and igneous complex, Slave Province, NWT, Canadian Journal of Earth Sciences, 31, 0-0

ANIALIK RIVER VOLCANIC BELT

Sample #: R-36-91

Location of sample

67° 45.70' 110° 56.73' (UTM: Zone: 12 East: 502300 North: 7516100)

NTS: 76M/15

Description of Location: INLAND TO THE SOUTH BY ABOUT 500 METRES ABOUT MIDWAY BETWEEN THE ANIALIK R. AND TECHNICOLOUR POINT ON GRAY'S BAY

Age Interpretation:

2689_{-3}^{+3} U/Pb Zircon Crystallization

Sample Description: RHYOLITE WITH PHENOCRYSTS OF QUARTZ AND K-FELDSPAR, SOME PLAGIOCLASE, WEATHERS RED

Reference:

Unpublished

ANIALIK TONALITE

Sample #: CR-99-0558

Location of sample

67° 47.72' 110° 51.96' (UTM: Zone: 12 East: 505651 North: 7519875)

NTS: 76M/15

Description of Location: TECHNICOLOUR POINT

Age Interpretation:

2613 $_{-3}^{+4}$ U/Pb Zircon Crystallization

Sample Description: TONALITE - OCCURS IN VEINS UP TO 30 cm WIDE THAT INTRUDE VOLCANICS PARALLEL TO S(main) AND IS FOLDED ABOUT WITH THEM.

Reference:

Unpublished

Weakly foliated feldspar porphyry

Sample #: JG-89-5106

Location of sample

68° 2.20' 106° 39.40' (UTM: Zone: 13 East: 430856 North: 7547696)

NTS: 77A/3

Description of Location: About 5 km south of Hope Bay

Age Interpretation:

2677 $_{-1}^{+3}$ U/Pb Zircon Crystallization

Sample Description: Weakly foliated feldspar porphyry, coarsly crystalline, intercalated within a series of felsic and mafic volcanic rocks. Possibly a sill.

Reference:

Bevier, M.L. and Gebert, J.S. 1992. U-Pb geochronology of the Hope Bay - Elu Inlet area, Bathurst Block, northeastern Slave Structural Province, Northwest Territories, Canadian Journal of Earth Sciences, 28, 1925-1930

Hornblende Granodiorite

Sample #: JG-89-5056

Location of sample

68° 12.10' 106° 29.00' (UTM: Zone: 13 East: 438531 North: 7565905)

NTS: 77A/3

Description of Location: Mid-west side of second long bay north of Hope Bay

Age Interpretation:

2672 $_{-1}^{+4}$ U/Pb Zircon Crystallization

Sample Description: Medium to coarse grained hornblende granodiorite that intrudes the east side of the Hope Bay belt

Reference:

Bevier, M.L. and Gebert, J.S. 1992. U-Pb geochronology of the Hope Bay - Elu Inlet area, Bathurst Block, northeastern Slave Structural Province, Northwest Territories, Canadian Journal of Earth Sciences, 28, 1925-1930

Biotite Granodiorite, east side of Elu Inlet belt

Sample #: JG-89-5257

Location of sample

68° 12.12' 106° 13.00' (UTM: Zone: 13 East: 449581 North: 7565700)

NTS: 77A/3

Description of Location: On island in middle of Lake 105, south of Elu Inlet

Age Interpretation:

2610 ⁺³⁰ ₋₃₀	U/Pb Titanite	Cooling (ca 500 C)
2653 ⁺²⁵ ₋₁₆	U/Pb Zircon	Crystallization

Sample Description: Fine grained biotite granodiorite, intruding east side of Elu Inlet belt, contains mafic metavolcanic xenoliths.

Reference:

Bevier, M.L. and Gebert, J.S. 1992. U-Pb geochronology of the Hope Bay - Elu Inlet area, Bathurst Block, northeastern Slave Structural Province, Northwest Territories, Canadian Journal of Earth Sciences, 28, 1925-1930

Pegmatite

Sample #: JG-89-5123

Location of sample

68° 15.00' 106° 31.20' (UTM: Zone: 13 East: 437145 North: 7571329)

NTS: 77A/3

Description of Location: Just north of JG-89-5056, with north-east corner of Hope Bay belt

Age Interpretation:

1880	U/Pb Zircon	Crystallization-estimate
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Sample Description: 1 m wide granitic pegmatite, composed of K-feldspar up to 5 cm long with minor quartz and muscovite

Reference:

Bevier, M.L. and Gebert, J.S. 1992. U-Pb geochronology of the Hope Bay - Elu Inlet area, Bathurst Block, northeastern Slave Structural Province, Northwest Territories, Canadian Journal of Earth Sciences, 28, 1925-1930

Hornblende-biotite Granite

Sample #: JG-89-5037

Location of sample

68° 20.10' 106° 52.10' (UTM: Zone: 13 East: 423031 North: 7581199)

NTS: 77A/6

Description of Location: West side of Hope Bay belt, west side of Hope Bay

Age Interpretation:

2608 ⁺⁵ ₋₅	U/Pb Zircon	Crystallization
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Sample Description: Hornblende-biotite granite, medium grained, intrudes west side of Hope Bay belt.

Reference:

Bevier, M.L. and Gebert, J.S. 1992. U-Pb geochronology of the Hope Bay - Elu Inlet area, Bathurst Block, northeastern Slave Structural Province, Northwest Territories, Canadian Journal of Earth Sciences, 28, 1925-1930