INTRODUCTION Torngat Orogen, where these rocks and a variety of Paleoproterozoic metaplutonic and supracrustal rocks are evidence of west-side-up, dextral shear (Van Kranendonk and Wardle, in press). deformed within the Komaktorvik shear zone (Van Kranendonk et al., 1993a). Map coverage of the Eclipse Harbour and Channel areas were accomplished by foot and inflatable boat traverses in 1991 from a campsite located at the southern end of Eclipse Harbour, where a natural shingle beach was used for landing by Twin Otter aircraft from Kuujjuaq, Québec. Coverage of the mountainous terrain was accomplished through helicopter-supported ground traverses in 1991-1993 from a basecamp located immediately north of the map area, at On this map, geological contacts between units were divided into those known and those interpreted. Constraints for the drawing of known contacts include observed contacts from field traverses, airborne flybys of cliff sections and other unvisited areas, and interpretation of black and white airphotos which, in this excellently exposed, unvegetated terrain, reveal contacts between rock units of highly contrasting mafic content (in particular, contacts between the Hutton anorthositic suite and adjacent units). All ages on the map are by the U-Pb method on zircon (Uz) or titanite

(Ut) (Scott et al., 1993; Scott and Machado, 1993, 1994). REGIONAL GEOLOGY AND TECTONIC SETTING

Torngat Orogen is a Paleoproterozoic belt of highly strained Archean and Paleoproterozoic rocks metamorphosed

The mylonite zones and areas with northeast-plunging folds and biotite and quartz lineations are inferred to to amphibolite- and granulite-facies grade, that is thought to represent the deeply exhumed roots of a represent a late phase of the D_{n+3} period of east-side-up shearing, as they overprint all previous fabric elements within southeast arm of the Archean Rae Province (former Churchill Province) in the west (cf. Wardle et al., 1990). The

assemblages to lower amphibolite facies assemblages. The orientation of the linear fabric elements sugge DTG suite of Paleoproterozoic calc-alkaline plutons [PiDTG] (Van Kranendonk et al., 1994) was emplaced into the zircon age of 1719 ± 1 Ma (Scott et al., 1993). Post-magmatic deformational events occurred in three distinct episodes (Van Kranendonk and Ermanovics, levels. The absolute age of this deformation is unknown. 1990; Ryan, 1990): D_{n+1} (1870-1860 Ma) continent-continent collision and the formation of a doubly-vergent thrust wedge; D_{n+2} (1845-1820 Ma) sinistral shear deformation, concentrated within the Abloviak shear zone; and D_{n+3} (1798-1770 Ma) uplift of the core of the orogen on east-verging reverse faults in the south, and folding of the Abloviak shear zone, and formation of the Komaktorvik shear zone in the north (Bertrand et al., 1993; Scott and Machado, 1994; Van Kranendonk et al., 1993b). The continental promontory on Nain Province margin is preserved in the Burwell domain, a low-strain structural lozenge bounded to the south and west by the Abloviak shear zone and to the east by the Komaktorvik shear zone (Van Kranendonk et al., 1993a).

GEOLOGY OF THE MAP AREA Archean orthogneisses derived from Archean Nain protoliths [AgI, Agn, Argn; reflecting different grades of Paleoproterozoic metamorphic overprinting] comprise the most voluminous map unit (≥80%), consisting predominantly of migmatitic tonalitic-dioritic orthogneiss intruded by volumetrically less significant veins and larger sheets of foliated to weakly gneissic, homogeneous tonalite (cf. Wardle et al., 1994). Archean orthogneisses contain inclusions and rafts of garnet-biotite±sillimanite paragneiss [Ams], mafic granulite gneiss derived from layered critical pieces of field evidence. The first is that undeformed Avayalik dykes clearly crosscut strongly deformed gabbros [Amg], white/grey to purple-weathering meta-anorthositic rocks [Aan], and metamorphosed ultramafic rocks

Archean granulite-facies gneisses which contain lineated orthopyroxene crystals. This indicates that the dykes were

These rocks are considered to be Archean in age because they all contain gneissic fabrics which, on the basis of textural and structural evidence, indicate a polycyclic history prior to intrusion by Paleoproterozoic mafic dykes of the Avayalik swarm (Wardle et al., 1992) and subsequent reworking within the Torngat Orogen (see below). One sample of tonalitic orthogneiss from immediately north of the present map area has been dated by U-Pb on zircon as 2834 \pm 4 Ma (Scott and Machado, 1994), but the local preservation of Saglek-type dykes of middle Archean age suggests an even longer history for at least some of the Archean gneisses (cf. Collerson and Bridgwater, 1979). The Hutton anorthositic suite [APan, APanI, APanm] of Late Archean or earliest Proterozoic age cuts north-south across the central part of the map area and is tightly folded. The suite ranges in composition from anorthosite to anorthositic gabbro and includes rare ultramafic pods, patches of solid magnetite (≤30 cm x 1 m), and rusty sulphide-rich horizons (Wardle et al., 1992). Textures vary from pristine, coarse-grained anorthosite with subophitic textures of blue igneous plagioclase feldspar (Labradorite) and igneous orthopyroxene (variably recrystallized to hornblende-biotite-epidote) [APan], to medium-grained, granoblastic gneisses and mylonitic rocks [APanl] (e.g. Van Kranendonk and Scott, 1992; Wardle et al., 1992). Locally, gabbroic rocks [APanm] are interlayered with more

Archean and Paleoproterozoic granulite-facies assemblages are overprinted by amphibolite-facies assemblages leucocratic compositions. Contact relationships between anorthositic rocks and Archean gneisses are sharp and within the KSZ. Here, titanite is commonly seen to replace magnetite, which may account for the sharp decrease in deformed, so that a relative age relationship between these units is unknown. However, the occurrence of a thin sheet magnetic anomaly values across the transition from granulite-facies rocks to the KSZ. Retrogressed gneisses and of gabbroic anorthosite and leucogabbro within Archean rocks just south of Telliaosilik Arm suggests the anorthositic

Paleoproterozoic rocks in the eastern part of the KSZ contain hornblende garnet-plagioclase-quartz assemblages suite may have been emplaced as a sill complex within the Archean host rocks (cf. Van Kranendonk, 1991). This

which have yielded equilibrium P-T conditions of ca. 9-11 kbars, 700-750°C (unpublished data; see also Mengel and interpretation is consistent with a much simpler set of structures within anorthositic rocks than in their migmatitic,

Rivers, 1994). In the western part of the map area, garnet is absent in hornblende-biotite-epidote bearing matic rocks, polycyclic host rocks (see below). A minimum age for the anorthosite suite is provided by a cross-cutting pegmatite indicating epidote- amphibolite facies. Fine-grained mylonite and ultramylonite zones contain biotite and muscovite. dyke, dated by U-Pb on zircon from just north of the map area, as 1804 ± 2 Ma (D. Scott, pers. comm.). On Murray Head and the Chance Rocks is the Murray Head igneous complex [APgb]. Primarily composed of titanite, observed in thin section to have grown during shearing, has yielded U-Pb titanite ages in the map area of from coarse- grained, 2-pyroxene gabbros, this complex also contains thin layers of leucogabbro, anorthosite and alkalic

1774 ± 4 Ma in the diorite body on Eclipse Island, through 1750-1710 Ma, to 1673 ± 4 Ma in the Henry granite. The syenite (Van Kranendonk and Scott, 1992). Igneous features and textures are commonly preserved, including titanite data, like the zircon data, suggests long-lived orogenic activity and cooling in this part of the Torngat Orogen. metre-scale layering, local cross-bedding, and cognate xenoliths of more mafic phases in mesocratic gabbro. The age of the complex is unknown, but its low strain state and lack of migmatitic textures are used to infer an age younger than the Late Archean deformation which strongly affects adjacent orthogneisses. A maximum age is provided by cross-cutting Avayalik dykes (see below), so that an age between the youngest Archean events and oldest

Bertrand, J.-M., Roddick, J.C., Van Kranendonk, M.J. and Ermanovics, I Paleoproterozoic events is inferred. Archean gneisses of the Nain Province, the Hutton anorthositic suite and the Murray Head igneous complex are cut by Paleoproterozoic diabasic Avayalik dykes [Pdb] (Wardle et al., 1992). These dykes, commonly feldspar Bridgwater, D. and Wardle, R.,

porphyritic, are a common feature of the granulite-facies Archean domain [AgI] and form dense swarms on the east shore of French Bight, in gneisses south of Odell Lake, and along the western edge of the map north of the Eclipse River. The dykes show sharp intrusive contacts and chilled margins in the eastern part of the map area where they are preserved at transitional amphibolite- to granulite facies metamorphic grade. Dykes within the Komaktorvik shear zone are folded, deformed and metamorphosed to upper-amphibolite facies grade (garnet-hornblende), but along the Collerson, K.D. and Bridgwater, D., western margin of the map, contain hornblende-epidote-plagioclase assemblages without garnet. Avayalik dykes do not occur within Paleoproterozoic units, so that an age ≥1910 Ma is inferred (oldest age of dated Paleoproterozoic units in the map area: Scott et al., 1993). A U-Pb zircon age of 1834 +7/-3 Ma from an Avayalik dyke north of the map area has been interpreted as either an igneous age of a younger suite (Scott and Machado, 1994), or a metamorphic age associated with D_{n+2} deformation (Van Kranendonk et al., 1994). A heterogeneous package of matic gneisses characterized by units with a centimetre- to decimetre-scale layering defined by modal variations between hornblende, epidote, plagioclase, titanite, ilmenite, quartz [Psmg] is in contact Mengel, F. and Rivers, T., with Archean gneisses across narrow zones of high strain (Van Kranendonk et al., 1993b). Interlayered with the mafic gneisses are homogeneous amphibolites [Pab] and rare paragneiss (not shown on map). The mafic rocks are interpreted to be derived from predominantly mafic volcanic and/or volcaniclastic protoliths with a N-MORB geochemical signature (unpublished data) and to be Paleoproterozoic in age because they do not contain evidence for a pre-Paleoproterozoic structural history, nor are they cut by Avayalik dykes. A minimum age for these units is

Ryan, B., suggested by the oldest metaplutonic rock which intrudes them, dated to the north of the map area by U-Pb on zircon as 1910 ± 2 Ma (Scott et al., 1993). Van Kranendonk and Wardle (1994) suggested that the mafic rocks may represent in which formed during the period of easterly subduction under the Nain Province. All previously described units are cut by a heterogeneous suite of Paleoproterozoic metaplutonic rocks [PiDTG] Scott, D.J. and Machado, N., which range from oldest diorite and gabbro, through tonalite and granodiorite, to youngest monzodiorite and granite (Van Kranendonk and Scott, 1992; Van Kranendonk et al., 1993b, 1994). Although commonly intermixed, the suite is dominated by tonalite. Small, distinct bodies of the suite are indicated on the map as diorite [Pid], and granite [Pigr]. U-Pb zircon geochronology on tonalitic rocks located outside the map area indicate an age of 1910-1888 Ma for this Scott, D.J. and Machado, N., suite (Scott et al., 1993; Scott and Machado, 1993, 1994), a range which includes a diorite body (C.I.= 35%) located

1994: U-Pb geochronology of the northern Torngat Orogen: Results from work in 1993; in Wardle, R.J. and Hall, Harbour and as inclusions throughout the Henry granite. The Henry granite [Pigr], named for the rocks on Henry Peninsula, is predominantly a light-pink weathering, medium-grained granite/syenogranite. Allanite is a diagnostic and ubiquitous mineral in this schlieric and migmatitic unit, which commonly contains numerous inclusions of mesocratic tonalite-diorite and schlieren of Archean gneisses.

1993: A preliminary report of U-Pb geochronology of the northern Torngat Orogen, Labrador; in Current Research, Locally, the Henry granite grades into grey-weathering, hornblende granodiorite, which is the unit dated by U-Pb on

zircon as 1885 ± 2 Ma (Scott and Machado, 1993). Sheets and small bodies of K-feldspar megacrystic, hornblende granite/granodiorite [Pigt], such as that located 1979: Reconnaissance geology of a part of the Precambrian Shield, northeastern Québec, northern Labrador and south of French Bight, are intrusive into the Henry granite and the Hutton anorthositic suite. Dykes and veins of pegmatitic, leucocratic pegmatite [Pipg] occur across the map sheet, but form particularly prominent units in the Van Kranendonk, M.J., layered mafic gneisses in the west and are common between Eclipse Harbour and Mt. Bache (too small to show on map). The belt of migmatitic rocks on North Aulatsivik Island [Pmig] is composed of Archean gneisses invaded by 20-50% by volume of discontinuous sheets of the Henry granite, and characterized by swirly, irregular folds. The ages of these younger granitoid rocks are unknown, but are interpreted to be younger than 1885 Ma. Metamorphic rocks of the map area are cut by two sets of fresh, undeformed dykes. One set [Cd] includes east-west striking, brown- weathering diabase dykes, the largest of which is a 50 m wide dyke that transects the map area. A K-Ar age of 524 ± 78 Ma has been obtained from this dyke immediately along strike to the west of the map

Van Kranendonk, M.J. and Scott, D.J., The other dyke set [Ud] consists of thin (<1 m), ENE-striking mica peridotites (O. ljewliw, pers. comm., 1994) of unknown age. These dykes contain ≤25% olivine phenocrysts in a fine-grained groundmass dominated by red pleochroic biotite, that in some dykes shows reverse zoning to tetraferriphlogopite rims. Other identified groundmass Van Kranendonk, M.J., and Wardle, R.J., minerals include perovskite/titanite clusters, carbonate, apatite, epidote (?), and a possible trace of plagioclase. Olivine is generally very fresh, but locally is partly altered to serpentine, chlorite, and carbonate. These dykes are related to the alkalic perovskite rocks described by Wardle et al. (1994) as potential exploration targets for diamonds.

Structural geology The map area contains Archean granulite-facies gneisses with Archean structures in the east (D_n), but is Van Kranendonk, M.J. and Wardle, R.J., dominated by the third set of regionally-developed Paleoproterozoic structures (D_{n+3}) related to the formation of the north-south striking Komaktorvik shear zone in the central part of the map area. Archean Nain gneisses contain evidence of a long-lived, polycyclic tectonic history (Bridgwater and Wardle, 1993) and contain Archean granulite-facies mineral assemblages [Agl] on Cape Kakkiviak, Lambert Island, between Odell Lake and Murray Head, and on Mt. Bache. Migmatitic, heterogeneous orthogneisses contain an early set of intrafolial isoclinal folds that affect a first generation of leucosome veins. Moderately northwest-plunging mineral elongation lineations may represent relics of this early deformation. These rocks and their complex structures are cut by homogeneous, leucocratic tonalite sheets of interpreted Archean age, which are themselves folded and foliated by a Van Kranendonk, M.J., Godin, L., Mengel, F.C., Scott, D.J., Wardle, R.J., Campbell, L.C. and Bridgwater, D., later generation of structures (Dn). The second foliation is axial planar to a set of upright, close to tight folds, whose south-plunging axes (Fn) are parallel to granulite-facies mineral lineations (Ln) defined by orthopyroxene, hornblende and quartz. The D, set of structures is considered to be Late Archean in age, related to the growth of metamorphic zircon overgrowths dated as 2769 ± 5 Ma (Scott and Machado, 1993). Archean deformation may have continued to

Van Kranendonk, M.J., Wardle, R.J., Mengel, F.C., Scott, D.J., Bridgwater, D., Godin, L., and Campbell, L.M., ca. 2560 Ma, under amphibolite-facies conditions (Van Kranendonk et al., 1994). Archean structures are cut by Avayalik dykes and subsequently affected by multiple sets of Paleoproterozoic structures, only some of which are present in the map area. An early set of Paleoproterozoic foliations (S_{n+1}) can be recognized in some outcrops; for example in the diorite body [Pid] west of Eclipse Harbour and within the Hutton anorthositic suite northwest of French Bight. D_{n+2} structures related to the formation of the Abloviak shear zone (subhorizontal NE-SW mineral elongation lineations and subvertical mylonitic foliations at granulite-facies) are not recognized in the map area. Fabric elements associated with the third generation of regionally-developed structures (D_{n+3}) are the most prominent across the central and western parts of the map area within the Komaktorvik shear zone (KSZ) and belts

is a 15 km wide, NNW-SSE striking zone of penetrative, amphibolite-facies shear characterized by steeply- dipping protomylonitic to mylonitic schistosities (S_{n+3}) , mineral elongation lineations (L_{n+3}) , and tight to open folds (F_{n+3}) . The KSZ has a sharply-defined eastern margin between Archean granulite- facies gneisses [AgI] and retrograde gneisses [Agn] deformed within a 1-5 km wide straight belt of porphyroclastic protomylonite and discontinuous mylonite (up to Wardle, R.J., Van Kranendonk, M.J., Mengel, F.C. and Scott, D.J., 1 km wide) which extends from Telliaosilik Arm to Scolt Lake. This belt represents the highest concentration of strain in the KSZ. It is characterized by a penetrative protomylonitic schistosity, which disrupts the pre-existing Archean gneissosity (S_n) and gives the rocks a discontinuous, "shredded" appearance. As well, the zone contains moderately SSE-plunging elongation lineations of Proterozoic amphibolite-facies minerals. Garnet-hornblende bearing meta-dykes are tightly folded or transposed into parallelism with the gneissosity. Fold axes are distributed about a NNW-SSE trending great circle and have both "S" and "Z" asymmetry. S_{n+3} foliations change across the KSZ from steeply east-dipping in the east, through the vertical, to steep westerly and northwesterly dips in the west. Lnus linear fabric elements also vary in orientation across the map area, from

steeply northeast- plunging in the east, through moderately south-plunging across the central part of the map area, to shallow southwest-plunging in the west. In the eastern straight gneiss belt, abundant kinematic indicators of oblique, sinistral, east-side-up displacement have been observed (Van Kranendonk and Scott, 1992), but none were seen in This map, previously included within a 1:250,000 scale reconnaissance mapping project (Taylor, 1977, 1979), the annealed straight gneisses in the western part of the map area. The western margin of the KSZ is a saw-toothed shows the geology of part of the Archean Nain Province in the east and the eastern margin of the Paleoproterozoic boundary that splays off into SW-striking belts of annealed, highly strained straight gneiss, some of which show The broad KSZ, with its irregular geometry and splayed margins, does not mark the site of a fundamental plate The map area is well-exposed, except in the south, where the Eclipse River lies within a broad, sandy valley.

boundary, as rocks of similar age and provenance occur on either side of it. Instead, the KSZ is interpreted to North Aulatsivik Island is separated from the mainland at high tide, but is connected to it at low tide across a sinuous represent the site of concentrated deformation on the limbs of a crustal-scale fold, centred on the Hutton anorthositic boulder train - the remnant of a glacial moraine - and an unnamed island. The highest topography occurs in the rugged

suite, that formed during late-stage flexure of the Abloviak shear zone. Upift of granulite-facies rocks (P = 12 kbars, T southeast corner (>3000') and in the western one/third of the map area (ca. 2800'), where the mountains are more = 800°C in the Four Peaks domain; P = 10 kbars, T = 800°C in the Killinek charnockitic suite: Mengel and Rivers, rounded. The high area on North Aulatsivik Island contains precipitous cirques with unstable valley walls and rock

1994) occurred across both the western and eastern margins of the zone, and thrust them over lower-grade rocks in the core of Burwell domain (Van Kranendonk and Wardle, 1994; Van Kranendonk et al., 1993c). The age of the main phase of Komaktorvik shear deformation in the map area occurred at ca. 1789 \pm 1 Ma (Scott et al., 1993), which is consistent with results on metamorphic zircons in samples collected from the zone and associated structures from

outside of the map area. A late phase of the D_{n+3} deformation is represented by biotite- muscovite bearing mylonite zones with north- to Iselin Harbour, from which boat traverses of the Noodleook Fiord and Saglarsuk Bay shorelines were accomplished.

northeast-plunging linear fabric elements. One of these zones, located along the west coast of Eclipse Harbour, contains steeply north-plunging mineral aggregate elongation lineations, tight, S-asymmetric folds of the mylonitic layering, and kinematic indicators (shear band asymmetry, rotation sense of winged feldspar porphyroclasts) of east-side-up displacement (Van Kranendonk and Scott, 1992). Late, east-side-up (reverse) mylonite zones also occur along the western contacts of narrow, retrogressed mafic granulite layers within the straight belt south of Odell Lake, where they cut through the more broadly- distributed fabric elements associated with the main phase of the D_{n+3} deformation. Northeast-plunging linear fabric elements also characterize another late mylonite zone which separates the Mount Bache and Murray Head granulite-facies blocks. These fabric elements pass eastward into less intense, but similarly oriented fabric elements throughout the Henry granite, where they appear to comprise the sole deformation fabric elements.

continent collision zone between the Archean Nain Province (North Atlantic Craton) in the east and the

the straight belt, fold previously developed mylonitic layering, and downgrade upper amphibolite-facies mineral high-grade core of the orogen is underlain by garnet paragneiss and mylonite known as the Tasiuyak gneiss, which deformation may contain a dextral component of horizontal displacement, although none was seen in the field. A reaches a maximum of 40 km in width across strike and is interpreted to represent a Paleoproterozoic accretionary syn-kinematic, biotite+muscovite bearing pegmatite from a narrow, east-side-up amphibolite-facies shear zone at Mt. complex built on the margin of the Rae Province (Van Kranendonk et al., 1994). In the northern part of the orogen, the

Bache Point, that contains subhorizontal fold axes and a steep northeast-plunging mineral lineation, gives a U-Pb western margin of the Nain Province at 1910-1885 Ma (Scott and Machado, 1993, 1994), signifying a period of

Narrow zones (≤10m) of steeply-dipping ultramylonite with down- dip mineral stretching lineations at amphibolite eastward subduction under Nain Province at this time. The DTG suite in the north produced a promontory on Nain to greenschist facies (D_{n+4}) were observed to cross-cut the east-side-up, amphibolite-facies shear fabrics (D_{n+3}) Province margin and intruded the remnants of mafic volcanic rocks (Van Kranendonk et al., 1994). In the southern described above. Kinematic indicators, such as rotated feldspar porphyroclasts, shear bands, and C-S fabrics indicate part of the orogen, however, Nain Province was not intruded by these magmas. Instead, a suite of tonalite-granodiorite west-side-up displacement in these zones. Along the eastern contact of the anorthosite body at Walker Lakes, up to plutons which occurs across the Tasiuyak gneiss-Rae Province contact zone has been interpreted as a

250 m of west-side-up, dip-lineated mylonite is developed within the anorthosite. This continuous belt splays into three Paleoproterozoic magmatic arc complex developed at ca. 1880 Ma during westerly subduction under Rae Province branches further south, marked by black ultramylonite with hornblende blasts. Veins of pseudotachylyte are common within and adjacent to these zones and suggest that this style of deformation continued to relatively shallow crustal

> Archean granulite-facies mineral assemblages are preserved in rocks along the eastern side of the map area. Buff-weathering orthogneisses [AgI] contain orthopyroxene, variably rimmed by hornblende and biotite. Mafic granulite inclusions [Amg] contain garnet-clinopyroxene ± orthopyroxene assemblages, variably retrogressed to hornblende, with hornblende-quartz intergrowths and plagioclase rims around garnet. Magnetite, present as individual grains or small grains along hornblende grain boundaries, accounts for the aeromagnetic high in this region of granulite-facies rocks. Brown-weathering Avayalik dykes on Lambert Island and Cape Kakkiviak have a groundmass with orthopyroxene-clinopyroxene- hornblende that is cross-cut by mm- to cm-wide garnetiferous veins. Garnet in these veins are porphyroblastic aggregates of small, euhedral grains intergrown with inclusions of clinopyroxene and quartz. On Mt. Bache and west of Murray Head, dykes may contain rare clino- or orthopyroxene relics in a recrystallized matrix of hornblende and plagioclase, in which garnet porphyroblasts contain hornblende and quartz inclusions. Deformed dykes contain foliated hornblende-biotite-calcite-quartz assemblages with either ilmenite or

> Two granulite-facies metamorphic events are interpreted for the eastern part of the map area, based on two emplaced after a granulite-facies deformation event in the host rocks. Second, as has been shown to the south of the present map area, the mineral assemblages within the dykes are different than, and rim the Archean granulite-facies assemblages in the host rocks, indicating that the granulite-facies mineral assemblages in the dykes are the result of a second high-grade event (Van Kranendonk et al., 1994). This in turn implies that the amphibolite-facies overprint in the host rocks and dykes is therefore a third event of Paleoproterozoic age related to deformation within the adjacent The age of the Archean granulite-facies event is indicated by metamorphic zircon overgrowths in Archean

granulite-facies gneiss from just north of the present map area, that have been dated as 2769 \pm 5 Ma (Scott and Machado, 1994). The P-T conditions of Paleoproterozoic granulite-facies metamorphism has not been determined from the map area, but immediately to the north, Mengel and Rivers (1994) obtained conditions of 10 kbars, 750°C from an Avayalik dyke. The age of this metamorphism is uncertain, but may be represented by 1834 +7/-3 Ma zircons in a granulite-facies Avayalik dyke located immediately north of the present map area (Scott and Machado, 1994; Van As described above, amphibolite-facies shear deformation occurred in the KSZ at ca. 1790 Ma. Metamorphic

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Contribution to Canada-Newfoundland Cooperation Agreement on

Contribution à l'Entente de coopération Canada-Terre-Neuve sur

Economic and Regional Development Agreement.

Mineral Development (1990-1994), a subsidiary agreement under the

l'exploitation minérale (1990-1994), entente auxillaire négociée en vertu

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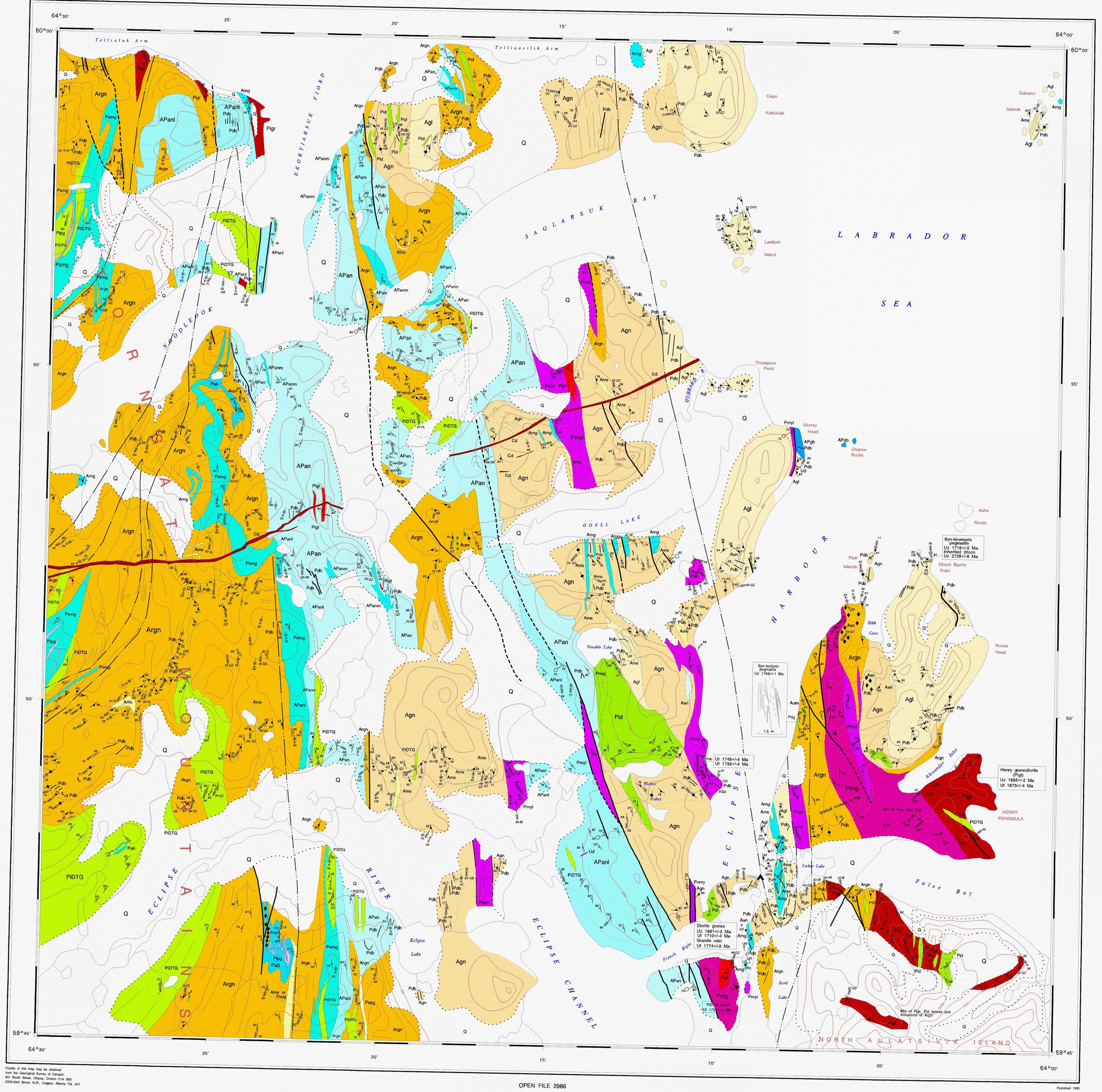
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LOCATION MAP



GEOLOGY

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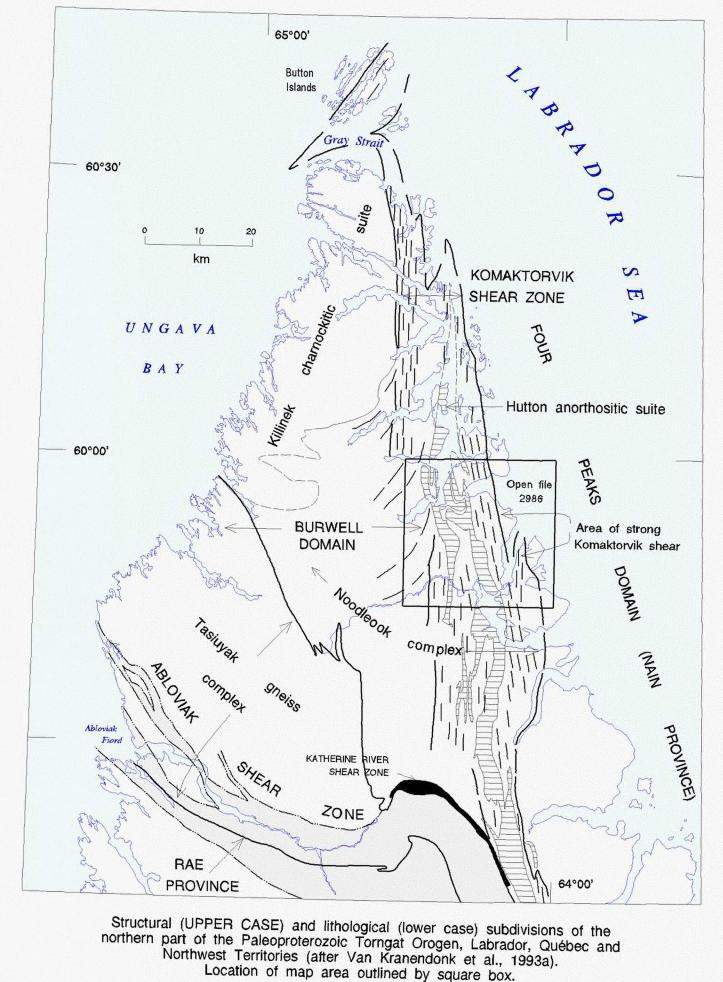
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