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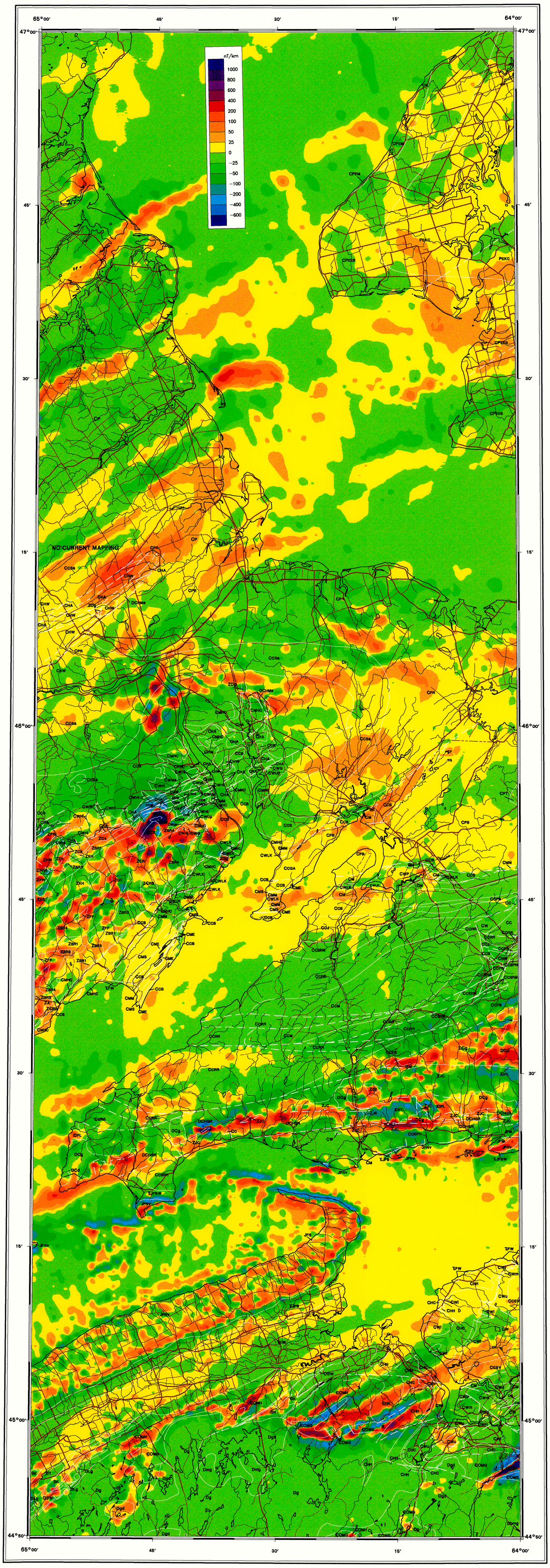

STRATIFIED ROCKS

JURASSIC

JFM | JFS | JFNv

NEWARK SUPERGROUP - FUNDY GROUP

(JFM) McCoy Brook Formation: thick unit of thickly bedded poorly sorted boulder conglomerate showing lenticular cross-stratification, channel stratification, and locally graded bedding with interbeds of coarse poorly sorted sandstone, may also include planar cross-stratified sandstone, local limestone and basalt agglomerate

(JFS) Scots Bay Formation: thin unit of medium-to thin-bedded siltstone and claystone, as well as fossiliferous limestone with chert and jasperoid nodules

(JFNv) North Mountain Formation: thick amygdaloidal tholeiitic basalt flows, overlying columnar-jointed glomeroporphyritic dolerite with micro-gabbroic layers

TRIASSIC - JURASSIC

TJFBW | TJFB | TFW

(TJFBW) Blomidon and Wolfville formations (undivided)

(TJFB) Blomidon Formation: interbedded poorly sorted medium-to fine-grained sandstone, thinly laminated claystone, and thin-to medium-bedded siltstone; sandstones may display cross-stratification and channelization, as well as ripple marks and graded bedding or convolute laminae; local beds with volcanic ash; conglomerate with volcanic clasts occurs as basal unit

(TFW) Wolfville Formation (Triassic): crudely bedded or channelized imbricate pebble to boulder conglomerate, locally with carbonate cement, as well as thickly bedded red-brown medium-to coarse-grained sandstone with large planar cross bedding

PERMIAN - UPPER CARBONIFEROUS

PEKC | CPEEB | CPEM

PRINCE EDWARD ISLAND GROUP

(PEKC) Kildare Capes Formation: fining-upward sequence marked by lowermost conglomerate with a high content of rhyolite clasts, progressing upwards to red mudstone and interbedded fine-grained sandstone containing dispersed plant fossils

(CPEEB) Egmont Bay Formation: fining-upwards sequence with relatively coarse locally pebbly, wacke at the base changing to red mudstone with interbeds of fine wacke at the top, as well as dispersed plant fossils.

(CPEM) Mimimegash Formation: orange-red mudstone with interbeds of fine-to very fine-grained wacke, minor limestone, plant fossil imprints include ferns

PICTOU GROUP

(CP) undivided, red-brown, micaceous, fine-to medium-grained cross-bedded arkosic sandstone and intraformational mud-clast conglomerate; brownish red to brick-red siltstone and mudstone; calcareous sandstone concretions are abundant

CP | CPT | CPR | CPB

(CPT) Tatamagouche Formation: red-brown mudrock, sandstone, calcareous mud-chip conglomerate; minor grey beds; rare pebbly sandstone; several thin, laterally persistent limestone beds; thick sandstones form sheet-like bodies that are laterally persistent

(CPR) Richibucto Formation: grey and minor brownish red, micaceous sandstone, pebbly sandstone, mud-chip conglomerate and limestone cobble conglomerate; brownish red to brick - red siltstone and mudstone; minor grey mudstone and thin coal seams

(CPB) Balfron Formation: red-brown sandstone, mudrock, minor pebbly sandstone, calcareous mud-chip conglomerate; minor grey beds; rare, thin, discontinuous limestone beds; thick sandstones form sheet-like bodies

WESTPHALIAN

CCM | CCRR | CCSa | CCShM | CC

CUMBERLAND GROUP

(CCM) Malagash Formation: green, coarse-grained feldspathic sandstone, red siltstone and mudstone, rare coal and limestone

(CCRR) Ragged Reef Formation: grey pebbly sandstone, conglomerate, fine grained sandstone; subordinate mudrock, grey and red; rare, thin coal seams and bituminous limestone beds; mudrock may locally predominate

(CCSa) Salisbury Formation: brownish red to brick-red mottled mudstone, siltstone and greyish maroon fine-grained sandstone; pinkish grey to grey, parallel and trough cross-bedded, quartzose sandstone and pebbly sandstone, mud-clast conglomerate and polymicitic conglomerate; silica-cemented paleosols; minor thin coal seams

(CCShM) Springhill Mines Formation: grey sandstone, locally sideritic, rarely red; significant coal seams; thin cone-in-cone limestone locally; MacCarrons River Member with poorly developed caol seams; red mudrock increases up section, numerous thin sandstones

(CC) Westphalian rocks: undivided, red, green, and grey conglomerate, sandstone and mudstone; likely equivalent to Salisbury Formation or Springhill Mines Formation

(CCGA) Grande Anse Formation: pinkish grey, medium-to coarse-grained, trough cross-bedded sandstone, pebbly sandstone and pebble conglomerate; brownish red to maroon mudstone and siltstone; maroon, commonly mottled, fine - to very fine - grained, calcareous sandstone; minor grey fine - grained sandstone with plant detritus; minor blue - grey silty mudstone

(CCPB) Polly Brook Formation: conglomerate; gray, feldspathic sandstone and siltstone; red mudstone. Conformable to unconformable on Boss Point Formation; Leamington Member: grey, feldspathic, poorly sorted granule to pebble conglomerate; thinly interbedded with feldspatic sandstone and siltstone; grey and minor red, pebbly mudstone, rare coal

(CCJ) Joggins Formation: grey and minor red mudrock; subordinate sandstone, grey; numerous, thin coal seams closely associated with bivalve-bearing, bituminous limestone and shale

(CCB) Boss Point Formation: grey and green, fine-grained to granular sandstone with plant debris; minor calcareous intraformational conglomerate; grey siltstone and mudstone, minor red-brown and lesser grey mudstone locally with carbonate nodules or calcrete; minor very thin coal seams and fossiliferous, petroliferous limestone Chignecto Bay Member: maroon to red-brown, very fine-to medium-grained, ripple-laminated and cross-bedded sandstone; red-brown mudstone and siltstone commonly with carbonate nodules; minor red-brown, medium-grained, rounded, quartz-pebble sandstone and conglomerate; red-brown and grey-green, calcareous and siliceous paleosols

CCGA | CCPB | CCJ

CCB

CCSPH

CCSV

(CCSPH) Boss Point, Parrsboro and Port Hood formations: sandstone, calcrete limestone, conglomerate, mudstone

(CCSV) Scotch Village Formation: sandstone, siltstone, shale. Unconformable on Viséan - Namurian Windsor and Mabou groups

NAMURIAN - LATE VISÉAN

CM | CMHC | CME | CMS | CMM

MABOU GROUP

(CM) undifferentiated Mabou Group, may contain Maringouin, Shepody, Enragé, Claremont, and West Bay formations; red to brown and minor grey, very fine-to coarse-grained, parallel-ripple and cross-bedded sandstone and polymictic conglomerate; brick-red and maroon siltstone and mudstone commonly with reduction spheroids; locally abundant bedded silcrete and calcrete

(CMHC) Hopewell Cape Formation: red-brown and locally grey-green polymictic, pebble, cobble, and minor boulder sandy-matrix conglomerate; red-brown and rarely grey-green, medium-grained to pebbly lithic sandstone; minor red, medium-to very fine-grained, parallel-and ripple-laminated sandstone; minor red and rarely grey siltstone and mudstone commonly with reduction spheroids; minor nodular and bedded calcretes; Dorchester Cape Member: red to maroon mudstone, siltstone and fine - to very fine-grained sandstone; nodular and bedded calcretes and banded silcretes with jasper, minor medium-to coarse-grained lithic sandstone

(CME) Enragé Formation: brick-red and buff varigated, friable, medium-grained to granular and pebbly arkosic sandstone and polymictic pebble conglomerate; red fine-to medium-grained, ripple-laminated or cross-bedded sandstone, brick-red mudstone, sandy mudstone and siltstone commonly with paleosols and carbonate nodules; rare banded silcrete with jasper and rare limestone-clast sandstone

(CMS) Shepody Formation: grey and red-brown, very fine-to medium-grained, cross-bedded and parallel-and ripple-laminated, plant-bearing, quartzose arenite; red and lesser grey siltstone and mudstone; grey and red, intraformational mudstone-clast pebbly sandstone and conglomerate; minor pink, medium-to coarse-grained quartzose arenite and quarz-pebble arenite

(CMM) Maringouin Formation: red, fine-to very fine-grained, parallel-and, ripple-laminated sandstone; red, parallel-laminated and massive mudstone with local carbonate nodules and mudcracks; minor red or grey, medium-grained, cross-bedded sandstone

VISÉAN

CW | CWu | CWLK | CWP | CWm | CWUp | CWI | CWG | CWMa | CWHl

WINDSOR GROUP

(CW) undifferentiated Windsor Group: limestone, evaporite, siltstone, locally conglomerate

(CWu) undivided upper Windsor Group: siltstone, minor gypsum and shallow marine limestone

(CWLK) Lime-kiln Brook Formation: biomicrite, oolitic grainstone and calcareous sandstone in places containing stromatolites, polymictic pebble to cobble conglomerate; siltstone and mudstone; minor wackestone containing algal patches and/or oncolites; also granular to massive gypsum and anhydrite

(CWP)Pugwash Mine Formation: halite, anhydrite, gypsum and mudstone

(CWm) undivided middle Windsor Group: gypsum, minor siltstone, marine limestone and dolostone

(CWUp) Upperton Formation: white chalky gypsum with acicular crystals of selenite or lenticular masses of grey anhydrite and porphyroblasts of selenite (unit may be largely ungypsified anhydrite in the subsurface); minor red mudstone and grey limestone

(CWI) undivided lower Windsor Group: marine anhydrite, salt, dolostone and limestone

(CWG) Gaya River Formation: grey, yellowish brown to black algal boundstone; minor bafflestone, wackestone and packstone; grey polymicitc pebble conglomerate; grey, calcareous, fine-grained to granular lithic sandstone; sandy to pebbly limestone; limestone breccia, and dark grey mudstone

(CWMa) Macumber Formation: grey to black, laminated to thinly bedded wackestone and packstone; minor floatstone and limestone breccia

(CWHl) Hillsborough Formation: red to locally grey, angular to subrounded clast, granule to boulder polymictic conglomerate; red to locally grey, fine-to coarse-grained lithic sandstone; minor red and grey mudstone with local carbonate nodules and calcrete

DEVONIAN - LOWER CARBONIFEROUS

FAMENNIAN-TOURNAISIAN

HORTON GROUP

(CHW) Weldon Formation: red to rarely grey mudstone with local mudcracks and rain prints; red to rarely grey, parallel-and cross-laminated, fine-to coarse-grained sandstone; red and minor grey granular to boulder polymictic conglomerate; minor calcrete and gycrete; Boyd Creek Tuff: light pink to purple and dark grey felsic crystal-lithic tuff

CHW | CHC

(CHC) Cheverie Formation: dominantly coarse-grained sandstone, and pebble to cobble conglomerate, with lesser siltstone as well as local paleosols including calcrete

(CHA) Albert Formation: red-brown to grey or green siltatone, mudstone and shale locally with carbonate nodules; brown-weathering, dark grey, calcareous and dolomitic, pyritic, laminated, slighlty kerogenous siltstone and mudstone; red-brown or grey, fine-to coarse-grained, commonly graded, quartzose feldspathic arenite; grey to green, granule to boulder polymictic conglomerate and lithic sandstone; minor brown-weathering, dark grey, kerogenous shale

CHA | CHH

(CHH) Horton Bluff Formation: basal Harding Brook Member is dominated by planar and trough cross-bedded sandstone, with varying amounts of pebble conglomerate, siltstone, and mudstone; top Hurd Creek Member consists of a lower unit of flaser-bedded sandstone, planar and lenticular bedded siltstone and clay shale, as well as interbedded ripple sandstone and clay shale, which are succeded upwards by coarse-grained well sorted quartzose sandstone with planar and trough cross-stratification; lower middle Curry Brook Member consists of 1 to 4 m thick coarsening upward cycles of mudstone, siltstone, and ripple cross-laminated or cross-bedded sandstone; upper middle Blue Beach Member consists of massive fossiliferous clay shale locally containing dolomitic concretions, with also thickly bedded sandstone locally with hummocky cross-stratification or wave ripples

DCHMe | DCHGR

(DCHMe) Memramcook Formation: red-brown and rarely grey to grey-green, angular to subrounded-clast, granule to boulder polymicitic conglomerate; red-brown to rarely grey-green, fine-to coarse-grained lithic and feldspathic wacke; minor red-brown or grey, fine-to medium-grained quartzose feldspathic sandstone; minor grey-green and red siltstone and mudstone rarely with carbonate nodules; trace grey limestone

(DCHGR) Greville River and Rapid Brook formations: conglomerate, wacke, sandstone, siltstone and argillite

UPPER DEVONIAN

IDFL

FOUNTAIN LAKE GROUP

basalt, rhyolite, tuff, sandstone, siltstone, conglomerate

ORDOVICIAN - DEVONIAN

DT — Torbrook Formation: silty mudstone, mudstone, shale, siltstone, sandstone, iron formation, and minor silty limestone

SN — New Canaan Formation: breccia, siltstone, slate, limestone, bimodal volcanic rocks

SK — Kentville Formation: slate, silty slate, sandstone and limestone

SW — Wilson Brook Formation: siltstone, shale, wacke, felsic volcanic rocks

OSW — White Rock Formation: quartzite, conglomerate, siltstone, slate; bimodal tholeiitic-alkalic lavas and volcaniclastic rocks

CAMBRIAN - ORDOVICIAN

MEGUMA GROUP

COMH — Halifax Formation: slate, siltstone, minor sandstone and iron-manganese nodules (in places metamorphosed to schist)

COMG — Goldenville Formation: sandstone turbidites and slate (in places metamorphosed to schist and gneiss)

NEOPROTEROZOIC - CAMBRIAN

ZCRB — Rose Brook beds: quartzose to feldspathic sandstone, siltstone, shale; micaceous sandstone, quartzite and quartzite - pebble to polymictic conglomerate; minor limestone

NEOPROTEROZOIC

JEFFERS GROUP

ZJc — Cranberry Lake, Humming Brook, and Gilbert Hills formations: Cranberry Lake Formation, metamorphosed arkosic turbidites; Humming Brook Formation: metamorphosed argillite, rare sandstone and siltstone; Gilbert Hills Formation: metamorphosed tholeiitic and calcalkaline, felsic-intermediate-mafic lavas and pyroclastics

NEOPROTEROZOIC

ZC1 | ZC2 | ZC3 | ZC4

COLDBROOK GROUP

(ZC1) feldspathic and lithic sandstone, siltstone, shale and conglomerate; calcareous sandstone and limestone; arkose; (ZC2) felsic volcanic and associated sedimentary rocks; (ZC3) mafic volcanic and associated sedimentary rocks
(ZC4) intercalated felsic and mafic volcanic and associated sedimentary rocks

ZBR1 | ZBR2 | ZBR3 | ZBR4

BROAD RIVER GROUP

(ZBR1) feldspathic and lithic sandstone, siltstone, shale and conglomerate; calcareous sandstone and limestone; arkose; (ZBR2) felsic volcanic and associated sedimentary rocks; (ZBR3) intermediate volcanic and associated sedimentary rocks;
(ZBR4) mafic volcanic and associated sedimentary rocks

PLUTONIC ROCKS

DEVONIAN - CARBONIFEROUS

DCd — diorite- gabbro

DCg — granite

DEVONIAN (ca. 369 - 380 Ma)

DLg | Dgd | Dbmg | Dg | Dmg

(DLg) granite; (Dgd) granodiorite; (Dbmg) muscovite - biotite monzogranite;
(Dg) fine-grained leuco-monzogranite; biotite monzogranite; leuco-monzogranite;
(Dmg) muscovite leucogranite

NEOPROTEROZOIC (ca. 555 Ma)

ZDg — undivided granitic and volcanic rocks

ZCM — Caledonia Mountain pluton: gabbro, diorite and ultramafic rocks; locally abundant granitoids

NEOPROTEROZOIC (ca. 600 - 640 Ma)

ZFF — Forty Five River pluton: composite intrusions: granodiorite, granite and diorite; minor gabbro and rhyolite

ZKH — Kent Hills pluton: granodiorite, quartz diorite and diorite; syenite and alkalic granitoids

Zd2 — diorite

ZPW — Point Wolfe River pluton: composite intrusions: granodiorite, granite and diorite; minor gabbro and rhyolite

ZCB — Caledonia Brook pluton: granodiorite, quartz diorite and diorite; syenite and alkalic granitoids

ZCR — Caledonia Road pluton: composite intrusions: granodiorite, granite and diorite; minor gabbro and rhyolite

ZA — Alma pluton: granodiorite, quartz diorite and diorite; syenite and alkalic granitoids

ZGC — Goose Creek Leucotonalite: granodiorite, quartz diorite and diorite; syenite and alkalic granitoids

Geological Boundary .....

Fault .....

Recommended Citation:

Dehler, S. A., 1998: Magnetic Vertical Derivative Map, West Central Nova Scotia, Southeastern New Brunswick and Western Prince Edward Island with geology overlay.
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LOCATION MAP - LOCALISATION DE LA CARTE

Canada

First vertical derivative of 200m gridded magnetic anomaly. Directional filtering was applied to reduce northward-directed flight line corrugations.

Digital base map assembled and modified by the Geological Survey of Canada from digital bases compiled by the Canada Center for Geomatics

Geology from Lynch et al., (1997); Geological Survey of Canada Open file 3521

Mean magnetic declination 1997, 20°30' West, at coordinates 46°0'N and 64°30'W

Copies of this map may be obtained from the Geological Survey of Canada (Atlantic) P.O. Box 1006, Dartmouth, Nova Scotia, B2Y 4A2

Aeromagnetic data may be obtained from the Geophysical Data Centre, Geological Survey of Canada 1 Observatory Crescent, Ottawa, Ontario, K1A 0Y3 (613) 995-5326

MAGNETIC VERTICAL DERIVATIVE MAP

WEST CENTRAL NOVA SCOTIA, SOUTHEASTERN NEW BRUNSWICK

AND WESTERN PRINCE EDWARD ISLAND

Scale 1:250 000 - Échelle 1/250 000

Kilometres 5 0 5 10 15 20 Kilometres

North American Datum 1927
Universal Transverse Mercator Projection

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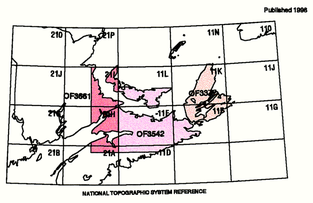
OTTAWA
1998

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