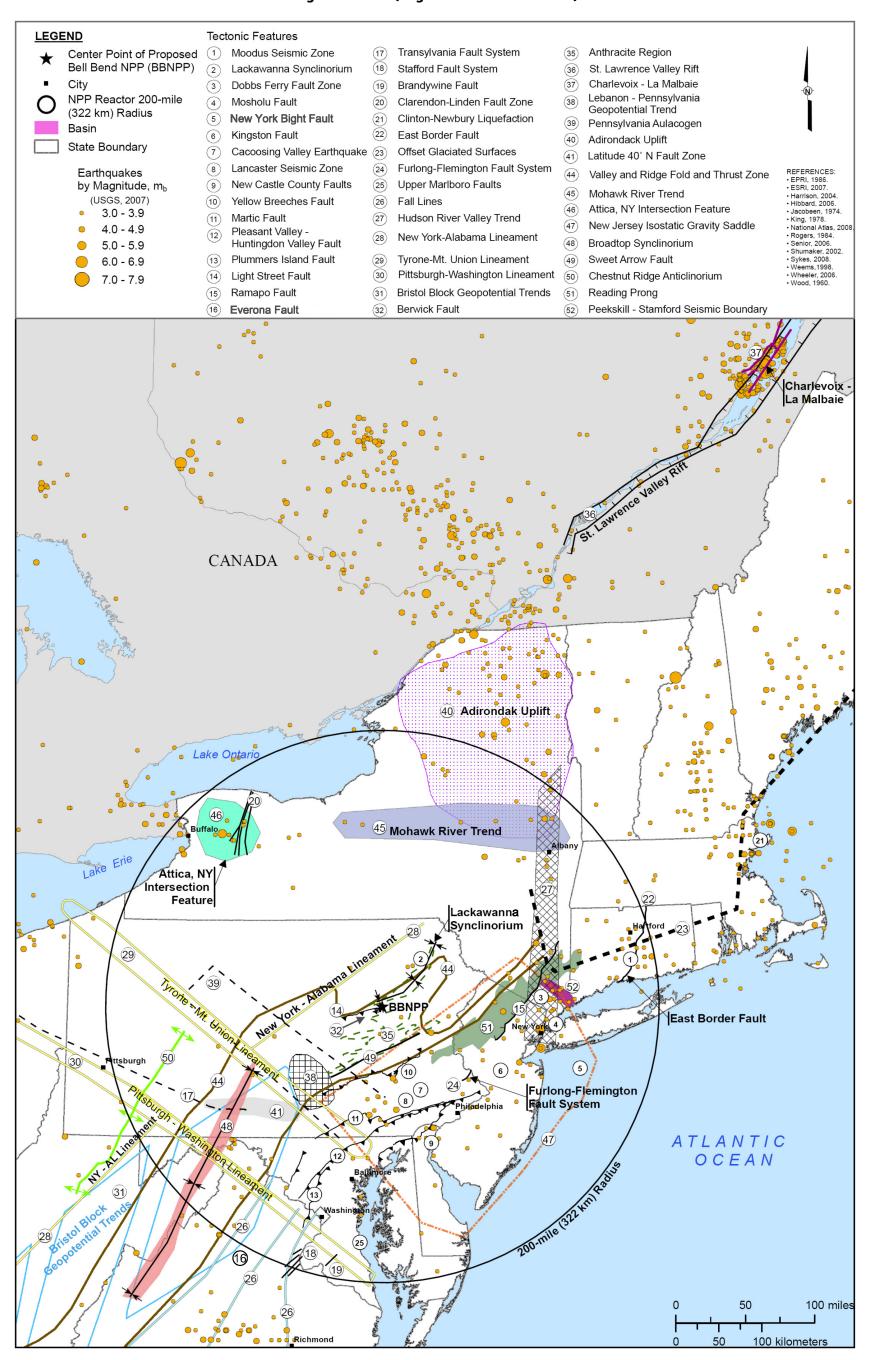
Figure 2.5-187 {Regional Tectonic Features}



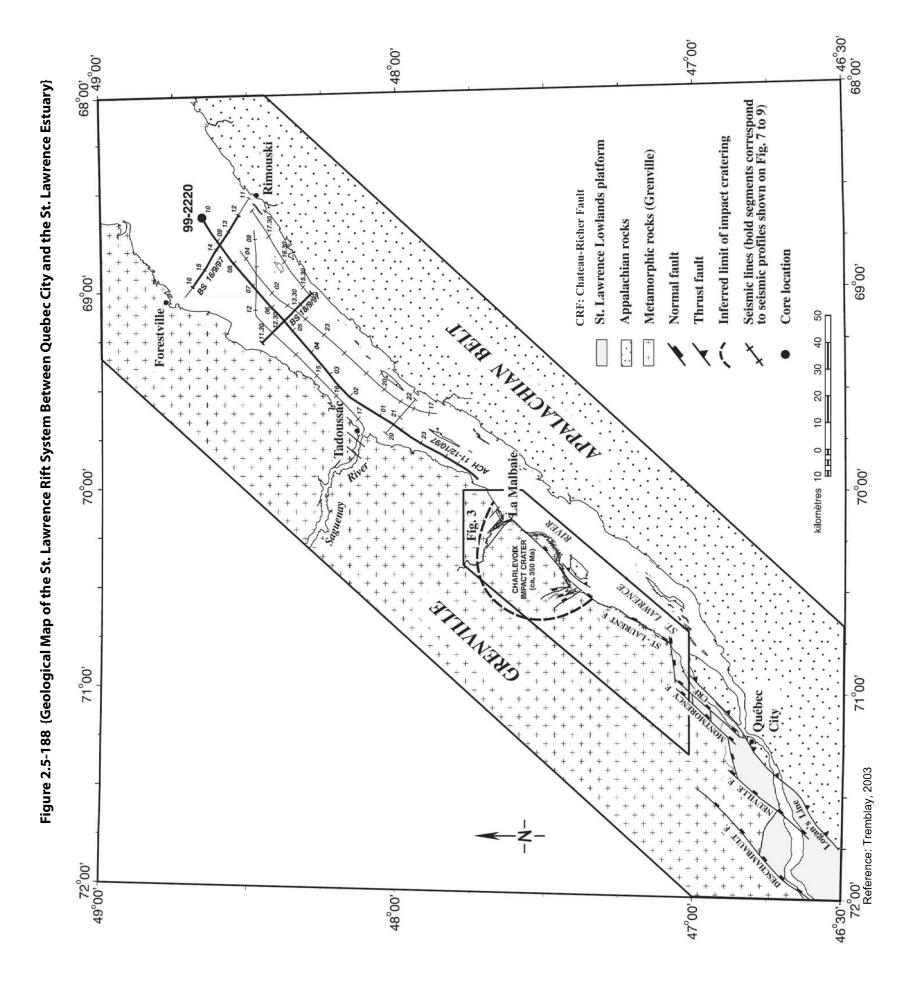


Figure 2.5-189 {Regional Tectonic Basins with Gravity and Magnetic Anomalies}

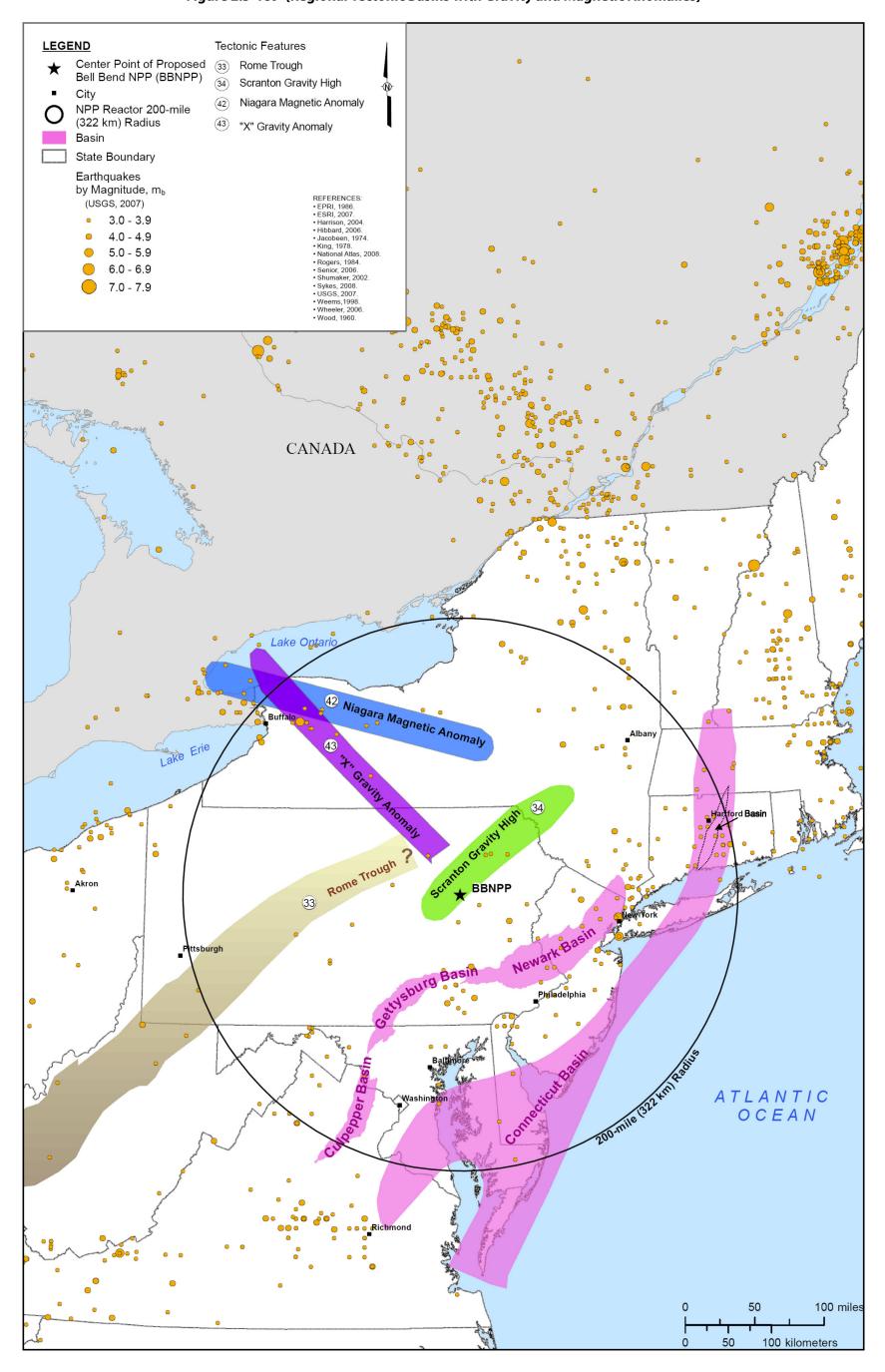


Figure 2.5-190 {Regional Cross Section}

Figure 2.5-191 {Stratigraphic Description for Regional Cross Section}

PRECAMBRIAN DEVONIAN TRIASSIC MIDDLE AND LOWER METAVOLCANIC ROCKS DIABASE TULLY LIMESTONE, HAMILTON GROUP, ONONDAGA FORMATION, BOIS BLANG FORMATION, ORISKANY SANDSTONE, AND MANLIUS FORMATION, UNDIVIDED (northwestern Pennsylvaia); HAMILTON GROUP, ONONDAGA FORMATION, OLD PORT FORMATION, AND UPPER PART OF KEYSER FORMATION, UNDIVIDED (western Pennsylvania; Valley and Ridge province); MAHANTANGO FORMATION, MARCELLUS FORMATION, BUTTERMILK FALLS LIMESTONE, PALMERTON SANDSTONE, SCHOHARIE FORMATION, ESOPUS FORMATION, RIDGELEY SANDSTONE, SHRIVER CHERT, AND HELDERBERG GROUP, UNDIVIDED (eastern Pennsylvania) Includes metabasalt, metarhyolite, and greenstone schist. LIMESTONE FANGLOMERATE QUARTZ MONZONITE AND QUARTZ MONZONITE GNEISS QUARTZ FANGLOMERATE GRANODIORITE AND GRANODIORITE GNEISS GETTYSBURG, HAMMER CREEK, AND BRUNSWICK FORMATIONS, UNDIVIDED ggd Agb SILURIAN GABBROIC GNEISS AND GABBRO BASS ISLANDS GROUP, SALINA GROUP, LOCKPORT DOLO-MITE, ROCHESTER SHALE, IRONDEOUOIT DOLOMITE, REYNALES DOLOMITE, AND MEDINA GROUP, UNDIVIDED (northwestern and western Pennsylviania); LOWER AND MIDDLE PARTS OF KEYSER FORMATION, TONOLOWAY FORMATION, WILLS CREEK FORMATION, BLOOMSBURG FORMATION, WILLS CREEK FORMATION, UNDIVIDED (Valley and Ridge province); DECKER FORMATION, UNDIVIDED (Valley and RIDGE POWINCE); DECKER FORMATION, BLOOMSBURG FORMATION, AND SHAWANGUNK FORMATION, BLOOMSBURG FORMATION, AND SHAWANGUNK FORMATION, UNDIVIDED (eastern Pennsylvania) gga HEIDLERSBURG MEMBER OF GETTYSBURG FORMATION Rgh **GRAPHITIC GNEISS** gg LOCKATONG FORMATION FELSIC GNEISS, HORNBLENDE-BEARING fgh HAMMER CREEK CONGLOMERATE Also includes some conglomerate in Gettysburg Formation. FELSIC GNEISS, PYROXENE-BEARING NEW OXFORD AND STOCKTON FORMATIONS, UNDIVIDED HORNBLENDE GNEISS hg **ORDOVICIAN** NEW OXFORD CONGLOMERATE MAFIC GNEISS, PYROXENE-BEARING mgp QUEENSTON SHALE, JUNIATA FORMATION, BALD EAGLE FORMATION, REEDSVILLE FORMATION, AND UTICA FORMATION OR ANTES SHALE, UNDIVIDED GRANITIC GNEISS Includes all Precambrian and undifferentiated basement crystalline rocks (igneous or metamorphic). JUNIATA FORMATION PERMIAN AND PENNSYLVANIAN 0 WAYNESBURG FORMATION, MONONGAHELA GROUP, CONEMAUGH GROUP, ALLEGHENY GROUP, AND POTTSYLLE GROUP, UNDIVIDED (WESTER PENNSYMAIA): LLEWELLYN FORMATION AND POTTSYLLE GROUP, UNDIVIDED (eastern Pennsydraid) BALD EAGLE FORMATION Obe REEDSVILLE FORMATION AND UTICA FORMATION OR ANTES PROBABLY LOWER PALEOZOIC SHALE, UNDIVIDED (western Pennsylvania; Valley and Ridge province); MARTINSBURG FORMATION (Great Valley) Orm MISSISSIPPIAN HAMBURG SEQUENCE ROCKS (phyllitic shale) Oh Includes some limestone. MAUCH CHUNK FORMATION **ANORTHOSITE** HAMBURG SEQUENCE ROCKS (shale and graywacke) Ohsg GRANITIC GNEISS AND GRANITE Xgr COBURN, SALONA, NEALMONT, BENNER, SNYDER, HATTER, AND LOYSBURG FORMATIONS, UNDIVIDED (western Pennsylvania; Valley and Ridge province); CHAMBERSBURG FORMATION, ST. PAUL GROUP, HERSHEY FORMATION, MYERSTOWN FORMATION, JACKSONBURG FORMATION, AND ANNVILLE FORMATION, UNDIVIDED (Great Valley) MISSISSIPPIAN AND DEVONIAN MAFIC GNEISS, HORNBLENDE-BEARING Oca Xmgh Same as MDss (described below), but also includes MAUCH CHUNK FORMATION MAFIC GNEISS, PYROXENE-BEARING Xmgp SHADOW LAKE, BELLEFONTE, AXEMANN, NITTANY, AND STONEHENGE/LARKE FORMATIONS, UNDIVIDED (western Pennsylvania; Valley and Ridge province); PINESBURG STATION, ROCKDALE RUN, STONEHENGE, AND STOUFFERSTOWN FORMATIONS (BEEKMANTOWN GROUP), UNDIVIDED (Cumberland Valley sequence); ONTELAUNEE, EPLER, RICHENBACH, AND STONEHENGE FORMATIONS (BEEKMANTOWN GROUP), UNDIVIDED (Lebanon and Lehigh Valley sequences; northern Piedmont) SHENANGO FORMATION, CUYAHOGA GROUP, BEREA OR CORRY SANDSTONE, BEDFORD SHALE, CUSSEWAGO SANDSTONE, AND RICEVILLE FORMATION OR OSWAYO FORMATION, UNDIVIDED (northwestern Pennsylvania); BURGOON SANDSTONE AND HUNTLEY MOUNTAIN FORMATION OR ROCKWELL FORMATION, UNDIVIDED (northern and western Pennsylvania); POCONO AND SPECHTY KOPF FORMATIONS, UNDIVIDED (eastern Pennsylvania) Xs PEACH BOTTOM SLATE AND CARDIFF CONGLOMERATE, UNDI-VIDED Xpb PETERS CREEK SCHIST Xpc WISSAHICKON FORMATION, ALBITE-CHLORITE SCHIST ORDOVICIAN AND CAMBRIAN DEVONIAN WISSAHICKON FORMATION, OLIGOCLASE-MICA SCHIST Xw CONESTOGA FORMATION CATSKILL FORMATION COCKEYSVILLE MARBLE Dck DUNCANNON MEMBER OF CATSKILL FORMATION SETTERS QUARTZITE Dcd CAMBRIAN CLARKS FERRY MEMBER OF CATSKILL FORMATION GATESBURG FORMATION AND UPPER PART OF WARRIOR FOR-MATION, UNDIVIDED (western Pennsylvania; Valley and Ridge province); SHADYGROVE FORMATION, ZULLINGER FORMA-TION, AND UPPER PART OF ELBROOK FORMATION, UNDIVIDED (Cumberland Valley sequence); RICHLAND, MILLBACH, SCHAEFFERSTOWN, AND SNITZ CREEK FORMATIONS, UNDI-VIDED (Lebanon Valley sequence); ALLENTOWN FORMATION (Lehigh Valley sequence) Doct SHERMAN CREEK MEMBER OF CATSKILL FORMATION Desc INSUFFICIENT DATA FOR INTERPRETATION IRISH VALLEY MEMBER OF CATSKILL FORMATION GATESBURG, WARRIOR, PLEASANT HILL, POTSDAM, ELBROOK, AND WAYNESBORO FORMATIONS, UNDIVIDED Dojv Also includes lateral equivalents of Tomstown Formation and Chilhowee Group (if present). BEAVERDAM RUN, WALCKSVILLE, AND TOWAMENSING MEM-*Note: Décollement surfaces may extend under the Penn-Dobt sylvania Piedmont, based on seismic research in the POTSDAM FORMATION (western Pennsylvania); MIDDLE AND LOWER PARTS OF ELBROOK FORMATION, LOWER PART OF WARRIOR FORMATION, AND PLEASANT HILL FORMATION, UNDIVIDED (Valley and Ridge province); BUFFALO SPRINGS AND ZOOKS CORNER FORMATIONS, UNDIVIDED (Lebanon Valley sequence); LEITHSVILLE FORMATION (Lehigh Valley sequence). southern Appalachians and in Quebec, but no data are presently available to extend this structural interpretation into Pennsylvania. TRIMMERS ROCK FORMATION Dtr Includes Harrell Formation in part of section A-A'. VENANGO GROUP, CHADAKOIN FORMATION, GIRARD SHALE, NORTHEAST SHALE, SHUMILA SILTSTONE, WESTFIELD SHALE, LADNA SILTSTONE, PERRYSBURG FORMATION, JAVA FORMATION, WEST FALLS FORMATION, SONYEA FORMATION, AND GENESEE FORMATION, UNDIVIDED (northwestern Pennsylvania); VENANGO GROUP, CHADAKOIN FORMATION, AND HARRELL FORMATION, AND HARRELL FORMATION, UNDIVIDED (western Pennsylvania); LOCK HAVEN, FOREKNOBS, SCHERR, BRALLIER, AND HARRELL FORMATIONS, UNDIVIDED (Walley and Ridge province; northern Pennsylvania) WAYNESBORO, TOMSTOWN, ANTIETAM, HARPERS, AND WEVERTON FORMATIONS, UNDIVIDED (south-central Pennsylvania); LEDGER, KINZERS, VINTAGE, ANTIETAM, HARPERS, CHICKIES, AND HARDYSTON FORMATIONS, UNDIVIDED (Lebanon Valley and Lehigh Valley sequences; northern Piedmont) Dvh Also includes equivalents of Ohio Shale, Chagrin Formation, and Huron Shale in parts of westernmost Pennsylvania.

Figure 2.5-192 {Bedrock Geologic Map Berwick Quadrangle}

