Map Unit	Age	Formation	Rock Type	Petrography	Thickness	Genesis	Physical/Chemical/Structural Characteristics	Economic Value	Water Supply and Quality
	Paleozoic, Upper Ordovician	Queenston	Calcareous siltstone and shale, and silty limestone.	Red to light greenish grey, slightly calcareous siltstone and shale. Very thinly to thickly bedded. Interbeds of silty bioclastic limestone in the lower part of the formation.	Could exceed 50 metres.	Intra continental shelf, shallow marine environment.	Stratification horizontal to gently dipping, locally folded. Low resistance to erosion, parting along weakly bonded fissile bedding planes, giving low shear strength parallel to fissle planes. Principal throughgoing joint sets are nearly vertical and widely spaced.	Clay products, brick and tiles.	
	Paleozoic, Upper Ordovician	Carlsbad	Shale, calcareous siltstone and silty limestone.	Interbedded dark grey shale, thin to medium beds of medium grey to greenish grey, fossiliferous calcareous siltstone and silty bioclastic limestone.	187 metres thick east of Ottawa, thickening to the southeast.	Intra continental shelf, shallow marine environment.	Stratification horizontal to gently dipping, locally folded. Low resistance to erosion, parting along weakly bonded fissile bedding planes, giving low shear strength parallel to fissle planes. Principal throughgoing joint sets are nearly vertical and widely spaced.	Mineral springs.	Sufficient for domestic purposes. Some wells yield 90L/m. Commonly highly mineralized with saline and sulphureous water.
	Paleozoic, Upper Ordovician	Billings	Shale, limestone and siltstone.	Dark brown to black shale, non-calcareous to slightly calcareous, pyritiferous and fossiliferous in places. Laminae of finely crystalline dark grey limestone in the lower part, and calcareous siltstone interbeds, <2cm thick, in the upper part.	62 metres thick near Ottawa , thickening to the southeast.	Intra continental shelf marine environment, below storm wave base.	Stratification horizontal to gently dipping, locally folded. Principal throughgoing joint sets are nearly vertical and widely spaced. Low resistance to erosion. Lower part of formation is subject to sulphate alteration, which results in foundation heave. (Quigley and Vogen, 1970)	Noncommercial gas and oil pockets	Sufficient for domestic purposes. Some wells yield 90L/m. Commonly highly mineralized with saline and sulphureous water.
	Paleozoic, Upper Ordovician	Eastview Upper Lindsay (Williams, 1991)	Calcareous shale and limestone .	Interbedded dark grey to dark brown calcareous shale and sublithographic to finely crystalline petroliferous, fossiliferous, medium to dark grey limestone.	10 metres thick near Ottawa , thinning to the southeast.	Intra continental shelf, moderately deep marine environment.	Stratification horizontal to gently dipping, locally folded. Medium to low resistance to erosion.	Noncommercial gas and oil pockets	Sufficient quantity for most domestic wells from fractures near surface. Has thick sections with no water. Commonly yields saline and sulphureous water.
	Paleozoic, Middle-Upper Ordovician	Lindsay Lower Lindsay(Williams, 1991)	Limestone and calcareous shale.	Interbedded light to dark grey to brownish grey, sublithographic to coarsely crystalline fossiliferous limestone with shaly partings and interbeds, up to 5 cm thick, of dark grey calcareous shale.	19 metres thick near Ottawa , thickening to the southeast	Intra continental shelf, shallow marine environment.	Stratification flat to gently dipping, locally folded. High resistance to erosion.	Building stones, crushed stone, stone for cement, ornemental stones.	Sufficient quantity for most domestic wells from fractures near surface. Has thick sections with no water. Commonly yields saline and sulphureous water.
	Paleozoic, Middle Ordovician	Verulam	Limestone and calcareous shale	Interbedded light to dark grey to brownish grey, sublithographic to coarsely crystalline fossiliferous limestone with interbeds, up to 15 cm thick, of dark grey calcareous shale.	32 metres thick near Ottawa , thickening to 64 metres to the southeast.	Intra continental shelf, shallow to moderately deep marine environment.	Stratification flat to gently dipping, locally folded. Low resistance to erosion.	Stone for cement.	Sufficient quantity for most domestic wells from fractures near surface. Has thick sections with no water. Commonly yields saline and sulphureous water.
	Paleozoic, Middle Ordovician	Bobcaygeon	Limestone	Interbedded light to dark grey to brownish grey, lithographic to coarsely crystalline, fossiliferous limestone with shaly partings.	From 87 metres thick in the Ottawa area decreasing to 50 metres thick going east.	Intra continental shelf, shallow to moderately deep marine environment.	Stratification flat to gently dipping, locally folded. High resistance to erosion of the lower member, the middle and upper members are less resistant. Weathering by solution widens joint planes close to rock surface. Lower shear strength along shaly partings.	Building stones, crushed stone, stone for cement, ornemental stones, chemical lime.	Sufficient quantity for most domestic wells from fractures near surface. Has thick sections with no water.
	Paleozoic, Middle Ordovician	Gull River	Limestone and silty dolostone	Interbedded medium to dark grey to brownish grey, lithographic to finely crystalline limestone and light greenish grey to dark brownish grey silty dolostone with shaly partings. Occurrences of interbeds of quartz sandstone and shale in the lower member.	The upper member averages 9 metres thick whereas the lower member is 62 metres thick east of Ottawa and decreases east and west.	Periodically exposed nearshore to shallow marine (supratidal) environment.	Stratification horizontal to gently dipping locally folded. Principal joint planes are nearly vertical and widely spaced. High resistance to erosion, weathering by solution widens joint planes close to rock surface. Low shear strength along shaly partings.	Building stones, crushed stone, stone for cement, ornemental stones.	
	Paleozoic, Middle Ordovician	Rockliffe	Quartz sandstone and shale	Interbedded light grey to light greenish grey quartz sandstone and dark grey to dark green to maroon shale. Basal quartz-pebble conglomerate occurs locally.	Up to 124 metres thick in the eastern part of the area, decreasing to the west.	Shallow to moderately deep (supratidal to subtidal) intracontinental shelf marine environment.	Stratification horizontal to gently dipping, locally folded. Parting along weakly bonded fissile bedding planes, giving low shear strength parallel to fissle planes. Principal throughgoing joint sets are nearly vertical and widely spaced.	Building stones, crushed stone, ornemental stones.	Good supply coming from joints and fractures.
	Paleozoic, Lower Ordovician	Oxford	Dolostone	Light to medium brownish to greenish grey, sublithographic to medium crystalline, dolostone with occurrences of interbeds, up to 30 cm thick, of shaly dolostone and fine to medium grained sandstone.	Up to 197 metres thick in the eastern part of the area, decreasing to the west.	Shallow to medium deep (supratidal to intertidal) hypersaline marine environment.	Stratification horizontal to gently dipping locally folded. Principal joint planes are nearly vertical and widely spaced. High resistance to erosion, weathering by solution widens joint planes close to rock surface. Low shear strength along shaly partings	Rough building stones, crushed stone.	Good supply coming from joints and fractures.
	Paleozoic, Lower Ordovician	March	Quartz sandstone and dolostone.	Interbedded white to light grey, brown, reddish brown, and green quartz sandstone (up to 10 metres thick) and thinner beds of dolomitic quartz sandstone, sandy dolostone, and dolostone.	Ranging from 7 metres thick west of the region, increasing southeastward to 64 metres.	Shallow to moderately deep (supratidal to intertidal) marine environment. Hypersalinity conditions implied for the dolostone.	Stratification horizontal to gently dipping, locally folded. Principal joint planes are nearly vertical and widely spaced. Sandstone with quartz cement is more resistant to erosion than the sandstone with calcite cement. Generally high strength.	Aggregate and building stones.	Good supply coming from joints and fractures.
	Paleozoic, Cambro-Ordovician	Nepean	Quartz sandstone and conglomerate	White to light grey, brown, reddish brown and green quartz sandstone, with some conglomerate interbeds up to 3 metres thick. Calcareous at the top of the formation to non-calcareous at the bottom. Conglomerates contain pebble-to cobble-size, subangular to rounded clasts derived from Precambrian quartzite.	From 309 metres thick in the eastern part of the region, decreasing to nothing in the western part, in the vicinity of Precambrian highs.	Several facies ranging from terrestrial to shore, to moderately deep marine environment.	Stratification horizontal to gently dipping, locally folded. Principal joint planes are nearly vertical and widely spaced. Very slow rate of weathering. Few planes of weaknesses. Generally high strength.	Building stones, abrasives. Raw silicate for ferrosilicate alloys. Glass manufacturing.	Good supply from fractures, particularly from top and bottom beds.
	Paleozoic, Cambro-Ordovician	Covey Hill	Conglomerate and sandstone	Interbedded, light to dark grey to reddish brown, non-calcareous feldspathic conglomerate and sandstone ranging in colour from light grey to reddish brown to green. The predominating conglomerates are poorly stratified to massive, containing a variety of pebble-to boulder-size, subangular to rounded clasts.	Local distribution, up to 13 metres thick .	Fan-braided fluvial depositional environment.			
	Precambrian	Intrusive: felsic, granitic (quartz-rich).	Granite, quartz monzonite, granodiorite, tonalite.						
	Precambrian	Intrusive: felsic, syenitic (quartz-poor).	Syenite, monzonite.						
	Precambrian	Intrusive: mafic and ultramafic.	Diorite, gabbro, anorthosite, metagabbro.						
	Precambrian	Migmatic: basaltic.	Amphibolite, greenstone, associated migmatic.						
	Precambrian	Migmatic: granitic.	Paragneiss, peltic and psammopelitic shist and gneiss.						
	Precambrian	Metasedimentary: non-carbonate.	Quartzite, interlayered paragneiss, quartoze paragneiss.						
	Precambrian	Metasedimentary: carbonate.	Marble, lime silicate rocks, amphibolite,skarn.						
	Precambrian to Ordovician	Dykes.	Pegmatite, white pegmatite associated with marble.						