

ERA	SYSTEM	SERIES	EUROPEAN STAGE	GROUP	FORMATION	DESCRIPTION											
CENOZOIC	QUATERNARY				RECENT AND QUBIK	Mantle, mostly marine, of unconsolidated olive gray sand, clay, and some gravel. Sand grains characteristically well rounded and composed of varicolored quartz, chert and hard rock fragments. Pelecypods, gastropods, Foraminifera, and Ostracoda. 0 - 75 feet.											
		MESOZOIC	CRETACEOUS	UPPER	CAMPANIAN	COLVILLE	FRINCK CREEK	SCHRADER BLUFF	MOOSURUK TONGUE Nonmarine light gray, olive gray, and dark gray clay shale and very fine to medium grained sandstone, volcanic glass light gray bentonitic siltstone and sandstone. Bentonite beds common. Coal and clay ironstones rare. 0 - 580 feet.								
									SARAWAKIAN	TULIYAK TONGUE Nonmarine light to medium light gray, very fine to coarse grained, "salt and pepper" sandstone and siltstone, rare conglomeratic layers, 12 percent medium to medium gray clay shale. Soft, light colored bentonite, thin coal beds, and brownish clay ironstone lenses common. Plant fossils. <i>Jumbreckensis</i> . 0 - 395 feet.							
										ROCKS CREEK MEMBER Medium light to medium gray marine clay shale, light colored buff abundant. Rare Foraminifera and Radiolaria. <i>Inoceramus</i> stone lenses common. Plant fossils. <i>Jumbreckensis</i> . 0 - 390 ft.							
					CANTACIAN	TUROHIAN	SEABEE	Predominantly medium to medium dark gray marine clay shale, some silty "dirty" light gray sandstone near top and bottom of formation. Light colored bentonite common, rare thin beds of limestone. Radiolaria, some Foraminifera, fish fragments, <i>Inoceramus labiatus</i> , <i>Borissiakoceras</i> . 0 - 1,200 to 1,500 feet.									
								CENOMANIAN	MARSHBANK	SIMALUK	Medium light gray clay shale 60 percent and light gray very fine to medium grained sandstone and siltstone 40 percent, small amount of coal and bentonite. Rare brackish water microfossils, <i>Inoceramus</i> . Oil in Seabee-Simaluk undifferentiated at Simpson Seeps. 0 - 550 feet.						
					LOWER	ALAYAN	UPPER				CHANDLER	KILLIK TONGUE Medium gray clay shale with interbeds of sandstone and siltstone, nonmarine; common thin to thick coal beds; clay ironstone common. Charophytes and plant fragments present. Gas in Chandler-Simaluk undifferentiated at Oubik. Siahogoo Tongue of Chandler not recognized in subsurface. 0 - 4,600 feet.					
								GRANDSTAND	Massive, medium light gray, medium to fine grained marine sandstone with interbedded clay shale and rare siltstone; thin coal beds very rare. Sand composed of white and clear subangular to subrounded quartz grains, some chert and dark rock fragments. Some fossil assemblage as in Topagoruk Formation. Oil at Uaiat, small amount of gas in several areas. 0 - 2,965 feet.								
								MIDDLE	TOPAGORUK	Medium to medium dark gray marine clay shale and siltstone. Thin sandstone beds in upper part. Fossils very rare at base, increasing to abundant <i>Verneuilinoides borealis</i> microfossils and common megafossils including <i>Inoceramus</i> and other pelecypods, <i>Ditrypa</i> , ammonites and crinoids. Oil at Fish Creek? 0 - 4,000 feet.							
								LOWER	OUMALIK	Upper section--beds of monotonous medium to dark gray clay shale with a very few thin beds of siltstone. Microfossils very rare. 0 - 4,400 ft. Lower section--medium to dark gray clay shale, up to 40 percent medium light to medium gray siltstone and very fine to fine grained sandstone. Some crossbedding and ripple marks. Shows of gas at Oumalik. Pyritic <i>Lithocampe?</i> sp. and a few arenaceous Foraminifera. 0 - 1,600 feet.							
					"PEBBLE SHALE"	Lithology as below. Thin, basal conglomerate in the Barrow area. <i>Astarte igneusensis</i> , Foraminifera. 310 - 850 feet.											
								APTIAN									
								BARRHEMIAN									
								BAUTERIVIAN									
								VALANGINIAN	"PEBBLE SHALE"	Lithology as below, plus a few very thin beds of medium dark olive gray siliceous siltstone. <i>Buchia sublaevis</i> . 0 - 500 feet plus or minus.							
										BERRIASIAN							
								JURASSIC	UPPER	PORTLANDIAN	KIMMURIDGIAN	OKFORDIAN	"PEBBLE SHALE"	Grayish black pyritic claystone, very well rounded clear quartz and dark chert grains of fine sand to granule size embedded individually or in small groups in the claystone. Abundant Foraminifera. 910 feet.			
														CALLOVIAN	BATHONIAN	BAJOCIAN	Medium dark gray pyritic micaceous clay shale. <i>Thalassites</i> sp.
																	TOARCIAN
										LOWER	PLEISTIBACHIAN	SINEMURIAN	KINGAKT	Medium to medium dark gray silty claystone, micaceous, slightly carbonaceous, abundant nodules and vermicular streaks of pyrite. <i>Amaltheus</i> sp., Foraminifera. 0 - 990 feet.			
HETTANGIAN	Olive gray, silty sandstone mottled by medium dark gray clay shale, glauconite common. "Arietites" sp.																
TRIASSIC	UPPER	RHAEATIC	NORIAN	KARNIAN	SIBELDKI	Glauconitic clay shale and siltstone with some limestones. Limonite colite beds and thin coquina at Barrow. <i>Halobia</i> , <i>Monotis</i> common. Foraminifera abundant except at Barrow. 189 - 550 (740?) feet.											
						MIDDLE	LOWER										
		PALEOZOIC	PERMIAN							Light gray siliceous sandstone, some siltstone and claystone, 15-foot chert conglomerate near middle of section. Rare <i>Lingula</i> and coelocanth fish teeth. 390 feet.							
				?			"RED BEDS"			Red claystone, siltstone, sandstone and rare conglomerate, unfossiliferous. 270 feet.							
DEVONIAN	MIDDLE OR LOWER					Alternating chert conglomerate and black shale. <i>Psilophyton</i> and other land plants. 300 feet penetrated.											
		?			"ARGILLITES"	Black argillite interbedded with siliceous dolomite in the Barrow area, fossiliferous (?), 1,000 feet penetrated. Green and red argillite in the Simpson area, unfossiliferous, 100 feet penetrated.											

Figure 3. Stratigraphic chart giving a brief description of all formations found in the subsurface of Naval Petroleum Reserve No. 4 and their European stage equivalents.

Note: Thicknesses are those found in test wells or core tests.