

Stratigraphic Column for Southwestern Manitoba

AGE Millions of years before present	ERA	PERIOD	EPOCH	FORMATION	MEMBER	MAX. THICK (m)	BASIC LITHOLOGY						
0	CENOZOIC	QUATERNARY	RECENT				TOP SOIL AND DUNE SANDS.						
			PLEISTOCENE	GLACIAL DRIFT		140	CLAY, SAND, GRAVEL, BOULDERS AND PEAT.						
58		TERTIARY		PLIOCENE									
				MIOCENE									
				OLIGOCENE									
	EOCENE												
66		PALEOCENE	TURTLE MOUNTAIN	PEACE GARDEN GOODLANDS	120	SHALE, CLAY, SAND, LIGNITE BEDS. LOCATED ONLY IN TURTLE MOUNTAIN.							
145	MESOZOIC	CRETACEOUS	LATE CRETACEOUS	BOISSEVAIN		30	SAND AND SANDSTONE, GREENISH-GREY. LOCATED ONLY IN TURTLE MOUNTAIN.						
				PIERRE SHALE	COULTER		340	SHALES, GREY, NON-CALCAREOUS, LOCAL IRONSTONE, BENTONITE NEAR BASE, GAS SHOW. SHALE, DARK GREY, CALCAREOUS, NON-CALCAREOUS, BENTONIC BANDS.					
					ODANAH								
					MILLWOOD								
					PEMBINA								
				CARLILE	BOYNE	75	SHALE, GREY SPECKLED, CALCAREOUS, BENTONITIC, SLIGHTLY PETROLIFEROUS.						
			MORDEN		55	SHALE, DARK GREY, NON-CALCAREOUS, RARE IRONSTONE CONCRETIONS, LOCAL SAND AND SILT.							
			FAVEL	ASSINIBOINE	40	SHALE, GREY WITH HEAVY CALCAREOUS SPECKS, LIMESTONE BANDS AND BENTONITE.							
			EARLY CRETACEOUS	ASHVILLE	KELD	115	SHALE, DARK GREY, NON-CALCAREOUS, FINE-GRAINED QUARTZ SANDSTONE OR SAND "ZONE".						
					BELLE FOURCHE								
				WESTGATE									
			SWAN RIVER	NEWCASTLE	75	SANDSTONE AND SAND, FINE-GRAINED WITH SILTS AND GREY, NON-CALCAREOUS CLAYS, PYRITIC, GLAUCONITIC.							
201	JURASSIC	LATE JURASSIC	SUCCESS	S2	23	WEATHERED RED SHALE, SPHAEROSIDERITE CONCRETIONS, SANDY, KAOLINITIC.							
			WASKADA		200	BANDED, GREEN BENTONITIC SHALE AND CALCAREOUS, GLAUCONITIC SANDSTONE. BANDS OF SANDY LIMESTONE, VARI-COLOURED SHALE AND SANDSTONE.							
			MELITA	UPPER									
				LOWER									
RESTON		45	LIMESTONE, BUFF AND SHALES, GREY.										
251	TRIASSIC	MID TO LATE TRIASSIC	AMARANTH	UPPER: EVAPORITE	45	ANHYDRITE AND/OR GYPSUM, WHITE AND BANDED DOLOMITE AND SHALE.							
				LOWER: RED BEDS	40	SHALE, RED TO SILTSTONE, DOLOMITIC.							
323	PERMIAN		ST. MARTIN COMPLEX		300	CARBONATE BRECCIA AND TRACHYANDESITE (CRYPTO-EXPLOSION STRUCTURE).							
359	PALEOZOIC	MISSISSIPPIAN		MADISON GROUP	CHARLES	DANDY EVAP.	20	MASSIVE ANHYDRITE AND DOLOMITE.					
					MISSION CANYON	KISBEY	120	LIMESTONE, LIGHT BUFF, OOLITIC, FOSSILIFEROUS, FRAGMENTAL, CHERTY, BANDS OF SHALE AND ANHYDRITE.					
						MC-3							
						MC-3a							
						MC-2							
					LODGEPOLE	MC-1	185	LIMESTONE AND ARGILLACEOUS LIMESTONE, LIGHT BROWN AND REDDISH MOTTLED, SHALY ZONES, OOLITIC, CRINOIDAL AND CHERTY.					
						FLOSSIE LAKE							
						WHITEWATER LAKE							
						VIRDEN							
					SCALLION	ROULLEDGE	20	TWO BLACK SHALE ZONES SEPARATED BY SILTSTONE.					
					UPPER								
					MIDDLE								
					419	DEVONIAN			THREE FORKS GROUP	BAKKEN	LOWER	45	SILTSTONE AND SHALE, RED, DOLOMITIC.
										TORQUAY		40	LIMESTONE AND DOLOMITE, YELLOW-GREY, FOSSILIFEROUS, POROUS, SOME ANHYDRITE.
										BIRDBEAR		170	LIMESTONE AND DOLOMITE, ARGILLACEOUS AND ANHYDRITIC IN PLACES.
DUPEROW		120	CYCLICAL SHALE, LIMESTONE, DOLOMITE AND ANHYDRITE.										
SOURIS RIVER (FIRST RED)		65	LIMESTONE AND DOLOMITE, ANHYDRITIC. LOCAL RED AND GREEN SHALE.										
DAWSON BAY (SECOND RED)		120	HALITE, POTASH, ANHYDRITE AND DOLOMITE INTERBEDDED.										
ELM-POINT GROUP	WINNIPEGOSIS	UPPER (REEF)	75	DOLOMITE, LIGHT YELLOWISH-BROWN, REEFOID.									
		ELM POINT	LOWER (PLATFORM)	12						LIMESTONE, FOSSILIFEROUS, HIGH-CALCIUM.			
		ASHERN		135						DOLOMITE AND SHALE, BRICK RED TO VARIGATED GREEN.			
444	SILURIAN			INTERLAKE GROUP						UPPER	20	DOLOMITE, GREYISH-YELLOW, BEDDED.	
					LOWER	WILLIAMS	25	DOLOMITE, YELLOWISH-GREY, SHALY.					
485	ORDOVICIAN				GUNTON	20	DOLOMITE, DUSKY-YELLOW, FOSSILIFEROUS.						
					PENITENTIARY	20	SHALE, RED-GREEN, FOSSILIFEROUS LIMESTONE INTERBEDS.						
					GUNN	170	DOLOMITIC LIMESTONE, MOTTLED AND MOTTLED DOLOMITE.						
					FORT GARRY								
SELKIRK	RED RIVER	CAT HEAD	60	SHALE, GREEN, WAXY, AND INTERBEDDED SANDSTONE.									
		DOG HEAD											
485	WINNIPEG	UPPER SHALE	60	SAND AND SANDSTONE, QUARTZOSE.									
		LOWER SANDSTONE											
541	CAMBRIAN		DEADWOOD		60	SAND, BLACK TO GREEN-GREY, WAXY, GLAUCONITIC SILTSTONE AND SHALE, GREEN-GREY TO BLACK. LOCATED ONLY IN EXTREME SOUTHWEST CORNER OF MANITOBA.							
541	PRECAMBRIAN						ACID AND BASIC CRYSTALLINES AND METAMORPHICS.						

- oil shows
- gas shows
- productive intervals