

Appendix A Stratigraphic Column

SOUTHERN SASKATCHEWAN						SASKATOON AREA							
TIME		STRATIGRAPHY		LITHOLOGY	SYMBOL								
PERIOD	EPOCH	STAGE / AGE (Ma)	GROUP	FORMATION	UNIT OR MEMBER								
QUATERNARY	PLEISTOCENE	Holocene	Saskatoon	Surficial Stratified Deposits	Alluvium	Silt, Sand, Gravel	Clay, Silt, Sand	Qa ¹ Qa ²	Qa ¹ Qa ²	Qsd			
					Haultain	Silt, Sand, Gravel	Clay, Silt, Sand	Qh ¹ Qh ²					
		Late Pleistocene	Battledford	Late Wisconsinan	Saskatoon	Upper	Riddell (Middle)	Gravel, Sand, Silt, Clay	Till	Ob-s	Ob		
				Early Wisconsinan			Riddell (Middle)	Gravel, Sand	Till	Of-ms	Of		
			Illinoian	Floral	Upper	Saskatoon	Lower	Warman	Gravel, Sand, Silt, Clay	Till	Of-4s	Of	
					Lower			Warman	Gravel, Sand, Silt, Clay	Till	Of-4s	Of	
				Middle Pleistocene	Dundum	Pre-Illinoian	Sutherland	Upper	Dundum	Gravel, Sand, Silt, Clay	Till	Od-us	Od
								Lower	Dundum	Gravel, Sand, Silt, Clay	Till	Od-4s	Od
		Early Pleistocene	Mennon	Empress	Sutherland	Upper	Mennon	Gravel, Sand, Silt, Clay	Till	Om-s	Om		
						Lower	Mennon	Gravel, Sand, Silt, Clay	Till	Om-s	Om		
		TERTIARY	CRETACEOUS	Neogene	Empress	Unnamed or Informally named	Lower	Chert and Quartzite Sand on Gravel (Proglacial)	Silt, Sand, Sandstone	Tu ¹	Te	OTe	
							Upper	Wood Mountain	Sand and Silt	Twm			
				Miocene	Empress	Cypress Hills	Sutherland	Upper	Cypress Hills	Silt, Sand, Gravel and Cobbles	Tch		
									Lower	Swift Current	Silt, Sand and Gravel	Tsc	
				Paleogene	Paleocene	Empress	Sutherland	Ravenscrag	Short Creek Zone	Sand, Clay, Silt, Sandstone, Siltstone, Mudstone	Tr ¹		
									Roche Perce Zone	Lignite Seams	Trp		
									Souris Zone	Lignite Seams	Trs		
									Estevan Zone	Lignite Seams	Trt		
									Boundary Zone	Lignite Seams	Trb		
									Willow Bunch Zone	Lignite Seams	Trwb		
Quaintock, Willowvale, Fernington Zone	Lignite Seams								Trq				
Rocky, Coronach Zone	Lignite								Trr				
Borderland, Hart Zone	Lignite								Trb; Trh				
Anxiety Butte, Stonehenge, Flis Lake Zone	Lignite								Trt; Trs; Trf				
Ferris, Red Deer, Landscape Zone	Lignite								Trf; Trk; Trl				
Lower Cretaceous	Albion								Mannville (Blairmore) (Swan Hills)	Sutherland	Upper	Joli Fou	Silt and Clay
				West Gate	Silt and Clay	Kw							

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					Haultain	Silt, Sand, Gravel	Clay, Silt, Sand	Qh ¹ Qh ²					
		Late Pleistocene	Battledford	Late Wisconsinan	Saskatoon	Upper	Riddell (Middle)	Gravel, Sand, Silt, Clay	Till	Ob-s	Ob		
				Early Wisconsinan			Riddell (Middle)	Gravel, Sand	Till	Of-ms	Of		
			Illinoian	Floral	Upper	Saskatoon	Lower	Warman	Gravel, Sand, Silt, Clay	Till	Of-4s	Of	
					Lower			Warman	Gravel, Sand, Silt, Clay	Till	Of-4s	Of	
				Middle Pleistocene	Dundum	Pre-Illinoian	Sutherland	Upper	Dundum	Gravel, Sand, Silt, Clay	Till	Od-us	Od
								Lower	Dundum	Gravel, Sand, Silt, Clay	Till	Od-4s	Od
		Early Pleistocene	Mennon	Empress	Sutherland	Upper	Mennon	Gravel, Sand, Silt, Clay	Till	Om-s	Om		
						Lower	Mennon	Gravel, Sand, Silt, Clay	Till	Om-s	Om		
		TERTIARY	CRETACEOUS	Neogene	Empress	Unnamed or Informally named	Lower	Chert and Quartzite Sand on Gravel (Proglacial)	Silt, Sand, Sandstone	Tu ¹	Te	OTe	
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									Lower	Swift Current	Silt, Sand and Gravel	Tsc	
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									Roche Perce Zone	Lignite Seams	Trp		
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Borderland, Hart Zone	Lignite								Trb; Trh				
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Ferris, Red Deer, Landscape Zone	Lignite								Trf; Trk; Trl				
Lower Cretaceous	Albion								Mannville (Blairmore) (Swan Hills)	Sutherland	Upper	Joli Fou	Silt and Clay
				West Gate	Silt and Clay	Kw							

Major unconformity



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LEGEND

Qf-ut : Q - Geological Period
f - Formation &/or Member
u - Stratigraphic descriptor (u-upper; m-middle; l-lower; b-basal)
t - Sediment descriptor (t-till; s-intertill stratified deposit)

- NOTES: 1. Quaternary aged intertill deposits have been grouped in the formation of the overlying till unit although the units actually straddle the formal divisions. (i.e. the formation break is within the intertill deposit)
2. Correlation of western to eastern stratigraphic units is not exact.
3. Tertiary and Cretaceous lithologies are written as silt and clay or silt and sand, actual sediments are combination of cemented, partially cemented, and highly overconsolidated uncemented sediments.

CLIENT	 Saskatchewan Watershed Authority	TITLE	POTENTIAL STRATIGRAPHIC UNITS TO THE TOP OF THE MANNVILLE GROUP IN SASKATCHEWAN	
PRODUCED BY	 MDH ENGINEERED SOLUTIONS	PROJECT No.	M1890-1030010	APPENDIX A
		DRAWING No.	M1890-68-1	REV.

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