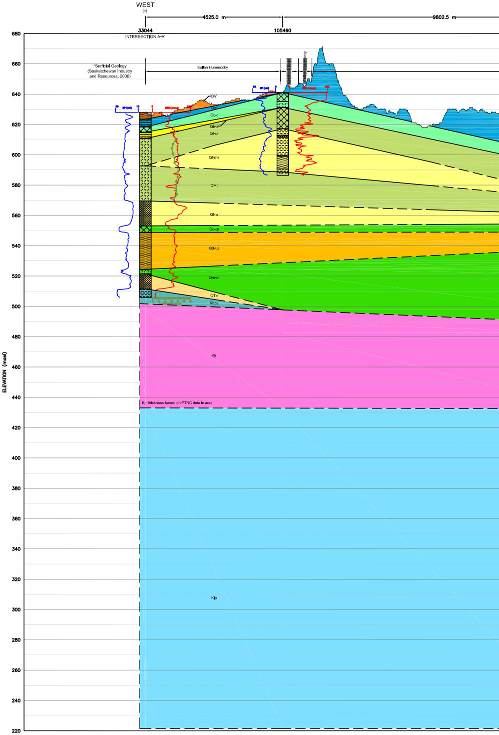
SASKATOON AREA

TIME				STRATIGRAPHY				LITHOLOGY		SYMBOL				
PERIOD	EPOCH	STAGE / AGE (Ma)		GROUP		FORMATION	UNIT OR MEMBER							
QUATERNARY	Holocene 0.01			Saskatoon		Surficial Stratified Deposits	Alluvium	Silt, Sand, Gravel	Clay, Silt, Sand	Qa^3	Qa^4	Qssd		Q
								Silt, Sand, Gravel	Clay, Silt, Sand	Qa^1	Qa^2			
							Haultain	Silt, Sand, Gravel	Clay, Silt, Sand	Qh^3	Qh^4			
								Silt, Sand, Gravel	Clay, Silt, Sand	Qh^1	Qh^2			
	PLEISTOCENE	Late Pleistocene	Late Wisconsin 0.023 to 0.034			Battleford		Till		Qb-t		Qb	Qsk	
								Gravel, Sand, Silt, Clay		Qb-s				
			Early Wisconsin 0.1			Floral	Upper	Till		Qf-ut		Qf		
			Sangamon 0.2				Riddell (Middle)	Gravel, Sand		Qf-ms				
			Illinoian 0.6				Lower	Till		Qf-lt				
								Gravel, Sand, Silt, Clay		Qf-ls				
								Till		Qf-bt				
		Middle Pleistocene	Pre-Illinoian	Sutherland		Warman		Till		Qw-t		Qw	Qsu	
							0.64	Gravel, Sand, Silt, Clay		Qw-s				
						Dundurn	Upper	Till		Qd-ut		Qd		
							0.70	Gravel, Sand, Silt, Clay		Qd-us				
							Lower	Till		Qd-lt				
								Gravel, Sand, Silt, Clay		Qd-ls				
							0.78	Till		Qd-bt				
		Early Pleistocene	1.8			Mennon	Upper	Till		Qm-ut		Qm		
								Gravel, Sand, Silt, Clay		Qm-s				
							Lower	Till		Qm-lt				
				Empress			Upper	Gravel, Sand, Silt, Clay (Proglacial)		Qe		QTe		
TERTIARY	Neogene	Pliocene					Lower	Chert and Quartzite Sand on Gravel (Proglacial)		Te				
CRETACEOUS	Upper Cretaceous	Maastrichtian 71		Montana		Bearpaw	Aquadell	Silt and Clay		Kbaq		Kb		
							Cruikshank	Sand and Silt		Kbc				
		Campanian 84					Snakebite	Silt and Clay		Kbs				
							Ardkenneth	Sand and Silt		Kba				
							Beechy	Silt and Clay		Kbby				
						Judith River	Oldman	Sand and Silt		Ko		Kjr		
							Foremost	Sand and Silt		Kfm				
						Lea Park	Grizzly Bear	Silt and Clay		Kgb		Klp		
							Ribstone Creek	Sand and Silt		Krc				
								Silt and Clay		Klp				
						Alderson (Milk River)		Silt and Clay		Kal				
		Santonian 86		Colorado	Upper	First White Speckled Shale		Silt and Clay (Speckled)		Kfws		Kc		
		Coniacian 89				Niobrara		Silt and Clay		Kn				
		Turonian 93				Carlile		Silt and Clay		Kcl				
						Second White Speckled Shale		Silt and Clay (Speckled)		Ksws				
		Cenomanian 99			Lower	Belle Fourche		Silt and Clay		Kbf				
						Fish Scales		Silt and Clay (Fish Debris)		Kfs				
	Lower Cretaceous	Albian				West Gate		Silt and Clay		Kwg				
						Viking		Sand and Silt		Kv				
						Joli Fou		Silt and Clay		Kjf				
				Mannville (Blairmore) (Swan Hills)						Km				

〰 Major unconformity

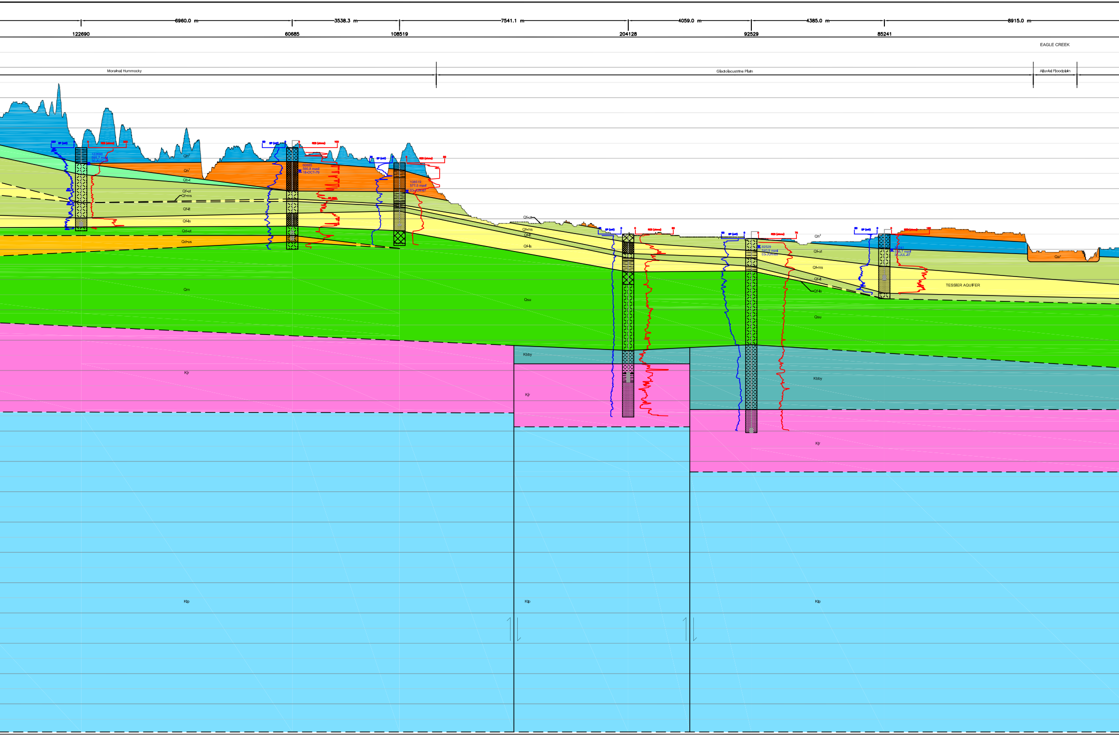
Lithology

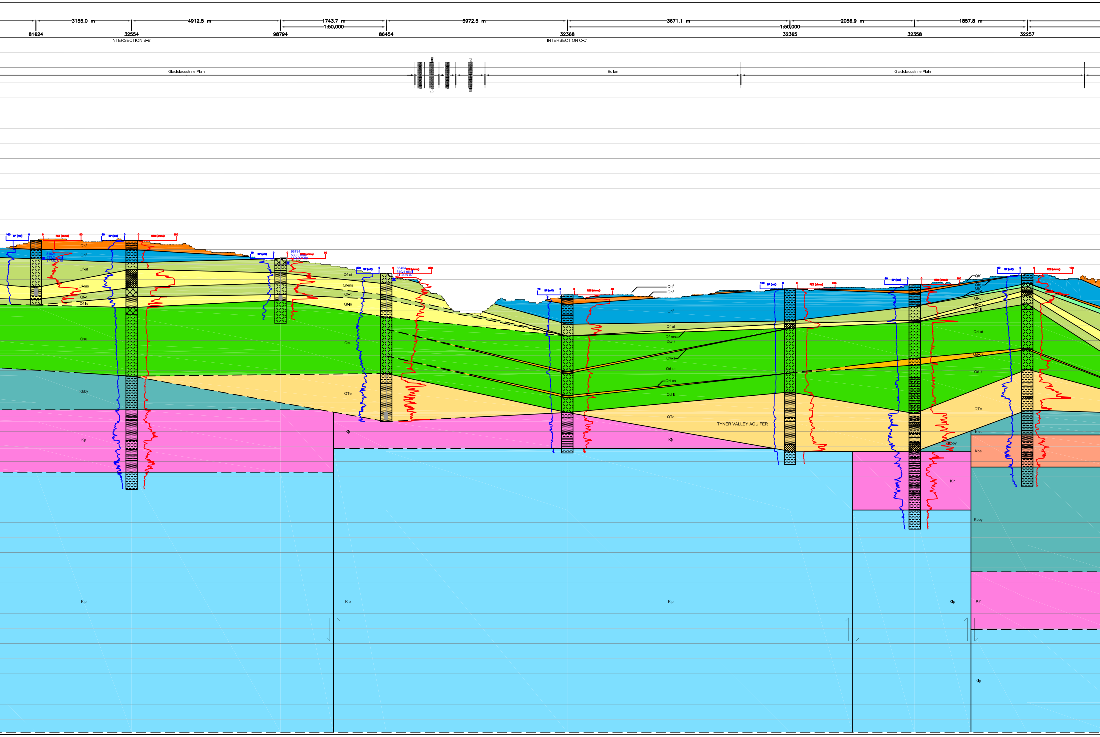
- ▥ Fill
- ▤ Topsoil
- ▤ Clay or Shale
- ▤ Silt
- ░ Sand
- ▩ Gravel
- ⊠ Oxidized Till
- ⊠ Unoxidized Till

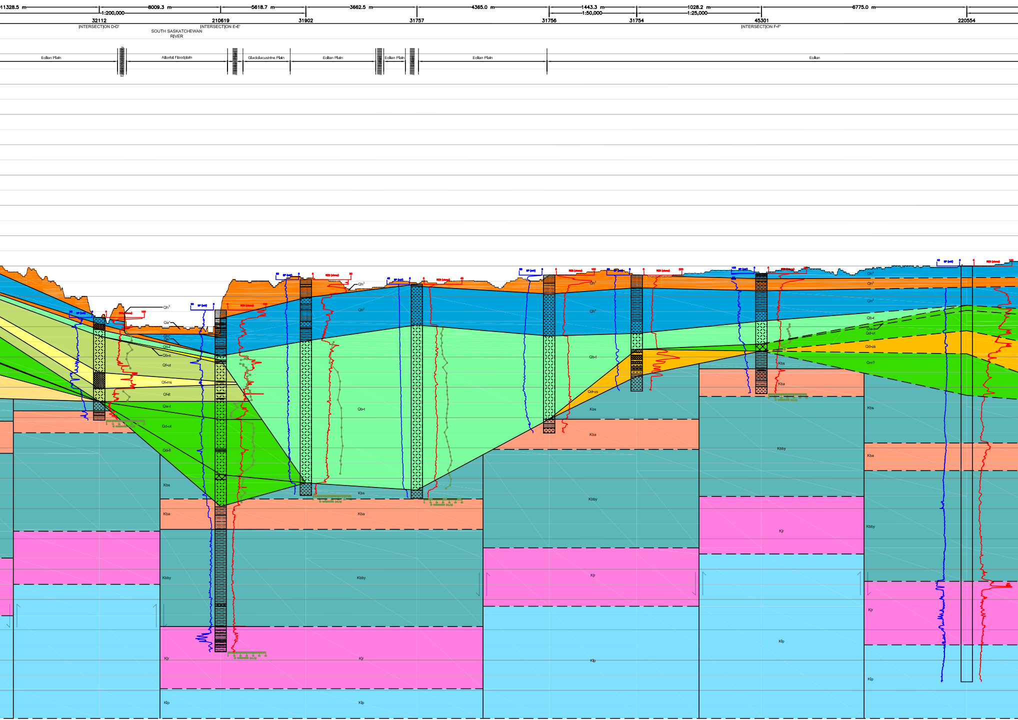

WEST
H
4525.0 m
9802.5 m
33044
105460
INTERSECTION A-A'
*Surficial Geology (Saskatchewan Industry and Resources, 2006)
Eolian Hummocky
Morainal Ridge
Eolian Hummocky
50
SP (mV)
10
0
RES (ohms)
22.5
100
W
Qh^3
Qh^2
Qb-t
Qb-s
Qf-ut
Qf-ms
Qf-lt
Qf-ls
Qd-ut
Qd-us
Qm-ut
QTe
Kbby
Kjr
Kjr thickness based on PTRC data in area
Klp
ELEVATION (masl)
680
660
640
620
600
580
560
540
520
500
480
460
440
420
400
380
360
340
320
300
280
260
240
220

LIMITATIONS

1) EXCEPT AT BOREHOLE SITES WHERE GEOLOGIC LOGS ARE AVAILABLE, GEOLOGIC CONTACTS ARE INFERRED AND REPRESENT GEOLOGIC MODELS THAT ARE BELIEVED TO BEST FIT THE INFORMATION.
2) INTERPRETATIONS BETWEEN HOLES ARE LINEAR AND MAY NOT EXACTLY MATCH INTERPOLATIONS FROM OTHER MAPS, PARTICULARLY WHERE BOREHOLES DO NOT INTERSECT ENTIRE STRATIGRAPHIC PROFILE.
3) NEITHER MDH ENGINEERED SOLUTIONS CORP. OR THE SASKATCHEWAN WATERSHED AUTHORITY WILL BE LIABLE FOR ANY DECISIONS BASED ON OR INFLUENCED BY DATA AND INTERPRETATIONS PROVIDED ON THIS CROSS-SECTION.
4) NO INTERPRETATIONS OF SEDIMENTS BELOW Klp MADE UNLESS ENCOUNTERED IN A BOREHOLE USED ON THE CROSS-SECTION.

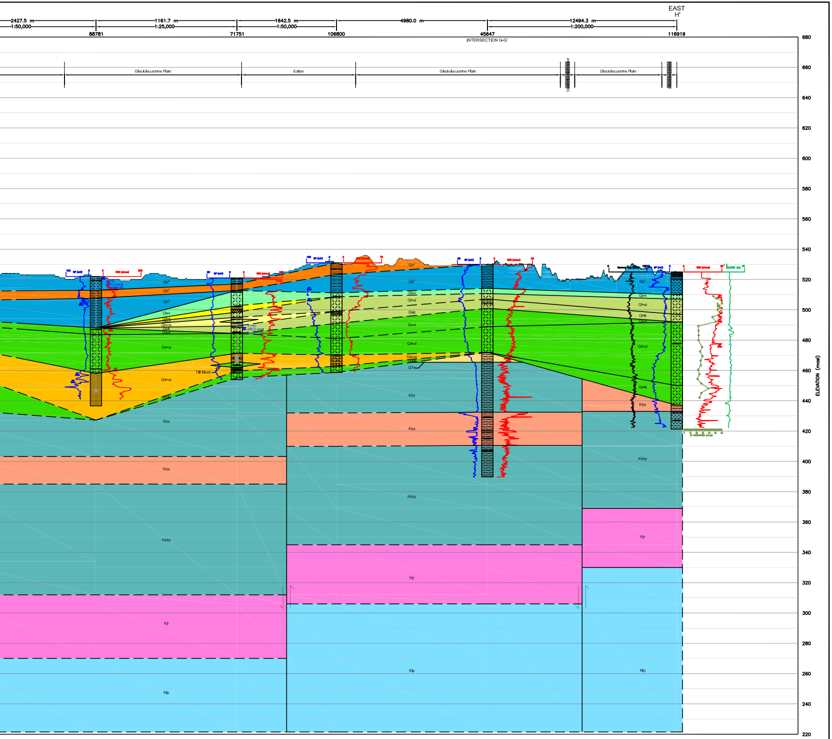

6960.0 m
3538.3 m
7541.1 m
4059.0 m
4385.0 m
8915.0 m
122690
60685
108519
204128
92529
85241
EAGLE CREEK
Morainal Hummocky
Glaciolacustrine Plain
Alluvial Floodplain
SP (mV)
RES (ohms)
122690
595.7 masl
30-AUG-02
60685
580.8 masl
18-OCT-79
108519
577.5 masl
03-JUN-97
92529
540.9 masl
03-JUN-88
85241
538.7 masl
07-JUL-87
Qh²
Qh¹
Qb-t
Qf-ut
Qf-ms
Qf-lt
Qf-ls
Qd-ut
Qd-us
Qm
Qsu
Qa¹
TESSIER AQUIFER
Kbby
Kjr
Klp


3155.0 m
4912.5 m
1743.7 m
1:50,000
5972.5 m
3671.1 m
1:50,000
2056.9 m
1857.8 m
81624
32554
INTERSECTION B-B'
98794
86454
32368
INTERSECTION C-C'
32365
32358
32257
Glaciolacustrine Plain
Glaciolacustrine
Glaciolacustrine Plain
Glaciolacustrine
Glaciofluvial Eroded
Eolian
Glaciolacustrine Plain
SP (mV)
RES (ohms)
81624
533.2 masl
17-OCT-85
98794
530.3 masl
15-MAY-90
86454
519.4 masl
19-JUN-87
Qh^3
Qh^2
Qf-ut
Qf-ms
Qf-lt
Qf-ls
Qsu
Kbby
Kjr
Klp
Qf-ut
Qf-ms
Qf-lt
Qf-ls
Qsu
QTe
Kjr
Klp
Qh^4
Qh^3
Qh^2
Qf-ut
Qf-ms
Qw-t
Qw-s
Qd-ut
Qd-us
Qd-lt
QTe
TYNER VALLEY AQUIFER
Kjr
Klp
Qh^4
Qh^3
Qh^2
Qh-l
Qf-ut
Qf-ms
Qf-lt
Qd-ut
Qd-us
Qd-lt
QTe
Kbs
Kbby
Kba
Kjr
Kbby
Kjr
Klp
Klp


11328.5 m
8009.3 m
5618.7 m
3662.5 m
4365.0 m
1443.3 m
1028.2 m
6775.0 m
1:200,000
1:50,000
1:25,000
32112
210619
31902
31757
31756
31754
45301
220554
INTERSECTION D-D'
INTERSECTION E-E'
INTERSECTION F-F'
SOUTH SASKATCHEWAN RIVER
Eolian Plain
Eolian Hummocky
Alluvial Floodplain
Eolian Plain
Glaciolacustrine Plain
Eolian Plain
Eolian
Eolian Plain
Eolian
Eolian Plain
Eolian
Qh3
Qa1
Qh1
Qb-l
Qb-s
Qf-ut
Qf-ms
Qf-lt
Qw-l
Qd-ut
Qd-lt
Qh2
Qb-t
Qd-us
Qm?
Kbs
Kba
Kbby
Kjr
Klp
SP (mV)
RES (ohms)

REVISIONS

No.	DATE	DESCRIPTION


EAST
H'
2427.5 m
1:50,000
1161.7 m
1:25,000
1642.5 m
1:50,000
4980.0 m
12494.3 m
1:200,000
88781
71751
106800
45647
116919
INTERSECTION G-G'
Glaciolacustrine Plain
Eolian
Glaciolacustrine Plain
Glaciofluvial Eroded
Glaciolacustrine Plain
Glaciolacustrine
Qh
Qh
Qh
Qb-t
Qf-ut
Qf-lt
Qw-t
Qd-ut
Qd-us
Till Block
Kbs
Kba
Kbby
Kjr
Klp
ELEVATION (masl)
680
660
640
620
600
580
560
540
520
500
480
460
440
420
400
380
360
340
320
300
280
260
240
220

				DRAWING STATUS	DATE			
				PRELIMINARY		SCALE:	H 1:200,000 V 1:4000	DATE
				DESIGN REPORT		GEOLOGY BY:	R. NORMAN / A. KARVONEN	13–SEP–10
				APPROVED FOR TENDER		DRAWN BY:	A. COLE / E. OVCINA	25–JAN–11
				APPROVED FOR CONSTRUCTION		CHECKED BY:	A. KARVONEN / G. POTTER	25–OCT–10
GEO.	DRN.	CHK.	APP.	RECORD OF CONSTRUCTION		APPROVED BY:	A. KARVONEN / G. POTTER	25–JAN–11

CLIENT

Saskatchewan
Watershed
Authority

PRODUCED BY

MDH
ENGINEERED SOLUTIONS

TITLE

CROSS SECTION H–H'

PROJECT No.	M1890–1030010	APPENDIX	C
DRAWING No.	M1890–62–8	REV.	△