

TABLE 2. - Stratigraphic units of the glacial drift and their water-bearing characteristics.

Mode of deposition	Geohydrologic units	Nature of occurrence	Surficial mapping units ^{2/}	Geohydrologic designations ^{3/}	Lithology	Position in drift, relation to adjacent materials, continuity, and extent.	Maximum known thickness (feet)	Probable head	Qualitative permeability	Water-supply potential			Major aquifers ^{3/}	
										Small supplies (domestic and stock uses)	Medium supplies (limited public supply or industrial uses)	Large supplies (large irrigation, public supply, or industrial uses)		
Colluvial, alluvial, and lacustrine	Not differentiated from Pleistocene drift	Surficial	Not mapped		Clay, silt, and fine sand with varying amounts of coarser materials.	Limited to present stream channels and lake basins. Extremely discontinuous and limited in areal extent.	Negligible	Generally, above water table	Low to very low	None	None	None		
Glacioaqueous	Glaciofluvial	Valley outwash deposit	Qvo Qto Qvop Qkt ^{1/}	Qvo	Clean to clayey sand and gravel and interbedded layers of clay and silt; cross bedding usual; abrupt and numerous facies changes.	Overlain locally by recent alluvium and colluvium; overlies till, bedrock, and in a few places only, older glacioaqueous deposits. Found only in valley land forms; linearly continuous.	124	Generally, water table; locally, artesian.	Generally, moderate to high; locally, low.	Excellent	Generally, good; locally, very good.	Generally, fair to poor; locally, very good.	Jamestown aquifer, Plainview aquifer, Seven-mile Coulee aquifer.	
		Unconfined outwash deposits	Qp Qpp	Qvo	Fairly well-washed sand and gravel, locally interbedded with limited clay and silt layers. Coarser and cleaner material predominates.	Generally overlies till; at a few places overlies bedrock or older glacioaqueous deposits. Locally extensive and continuous.	80	Generally, water table.	Generally, moderate to high; locally, high.	Generally, very good; locally, excellent.	Generally, fair; locally, excellent.	Generally, fair; locally, very good.	Marstonmoor Plain aquifer.	
		Ice-contact deposits	Extensive	Qso	Qice	Sand and gravel ranging from clayey to clean and extensively interbedded with silt and clay beds. Closely associated with till locally.	Overlie or in juxtaposition to till. Generally lie at higher elevation than adjacent till terrane. Continuous and extensive areally.	85	Generally, water table; locally, artesian.	Varies widely from low to high.	Generally, very good to fair.	Generally, fair to good; locally, poor.	Generally, fair to poor; locally, good.	Medina aquifer, Goldwin aquifer.
			Local	Qk Qe Qkc Qkk	Qicl	Clayey to silty sand and gravel interbedded with and intimately associated with masses of till. Bedding is disturbed and facies changes are erratic and abrupt.	Overlie till. Generally discontinuous and extremely limited in areal extent.		Generally, water table.	Generally, low; locally, moderate to high.	Generally, fair; locally, good.	Generally, poor; locally, good.	Generally, poor.	(Serve as recharge areas to Marstonmoor Plain aquifer)
		Undifferentiated outwash deposits	Qo	Qo	Sand and gravel to silty and sandy clay. Sandy clay, silt, sand, and gravel.	Overlie till. Generally discontinuous and limited in areal extent.	32	Generally, water table.	Generally, low to moderate; locally, moderate to high.	Generally, fair; locally, good.	Generally, none; locally, good.	None	(Serves as recharge area to Streeter aquifer)	
	Glaciolacustrine	Lacustrine plain deposits	Ql	Ql	Laminated clay and silt.	Overlie till; occupy positions below surrounding terrane. Discontinuous and extremely limited in areal extent.		Generally, water table.	Very low to low	None	None	None		
		Perched lacustrine plain deposits	Qel	Qel	Laminated clay, silty and fine sand.	Overlie till; occupy positions elevated above surrounding terrane. Discontinuous and limited in areal extent.	46	Generally, water table.	Very low to low.	Generally, none; locally, poor.	None	None		
	Glacioaqueous	Buried valley deposits	Subsurface	Qvb	1) Sand and gravel ranging from clayey and silty to clean. 2) Silt and clay ranging from smooth to sandy. Facies 1 and 2 grade into each other laterally and vertically.	Overlain by till and overlies till; overlain by till and overlies bedrock; at a few places overlain by surficial glacioaqueous deposits and overlies either till or bedrock. Associated with preglacial and proglacial valleys cut into either till or bedrock. Linearly continuous.	1) 115 2) 350	Artesian	1) Generally, moderate to high; at places low. 2) Very low to low.	1) Excellent to good. 2) None.	1) Very good to fair. 2) None	1) Very good to poor. 2) None	Spiritwood aquifer, Windsor aquifers, Midway aquifer, Mt. Moriah aquifer, Sydney aquifer.	
		Undifferentiated sand and gravel deposits	Subsurface	Qug	Sand and gravel of Qvb.	Same as buried valley deposits except not associated with recognizable buried landforms; generally of limited linear continuity and areal extent, but locally extensive.	100	Artesian	Varies widely from high to low.	Excellent to fair.	Good to poor or none.	Fair to poor or none.	Eric Lake aquifer, Upper Buffalo Creek aquifers, Homer aquifer, Klose aquifer, Courtenay aquifer, Deer Lake aquifer, Streeter aquifer.	
		Undifferentiated silt and clay deposits	Subsurface	Quc	Silt and clay of Qvb.	Undifferentiated sand and gravel deposits.	161		Very low to low.	None	None	None		
Glacial ice	Undifferentiated till deposits	Surficial and subsurface	Qbm Qem Qkm Qsm Qtm	Qut	Unstratified and unsorted silty to sandy clay containing varying amounts of gravel, cobbles and boulders.	Most areally extensive deposits of the glacial drift. Form a massive matrix containing or enclosing all other drift materials.	400	Water table and (or) artesian	Generally, very low; locally, low.	None	None	None		

^{1/} Kame terraces (Qkt) are included with valley outwash deposits because, although genetically distinct, they are physically and hydraulically connected with them.

^{2/} See Winters, 1963, pl. 1.

^{3/} See figure 3.

R. 62 W.

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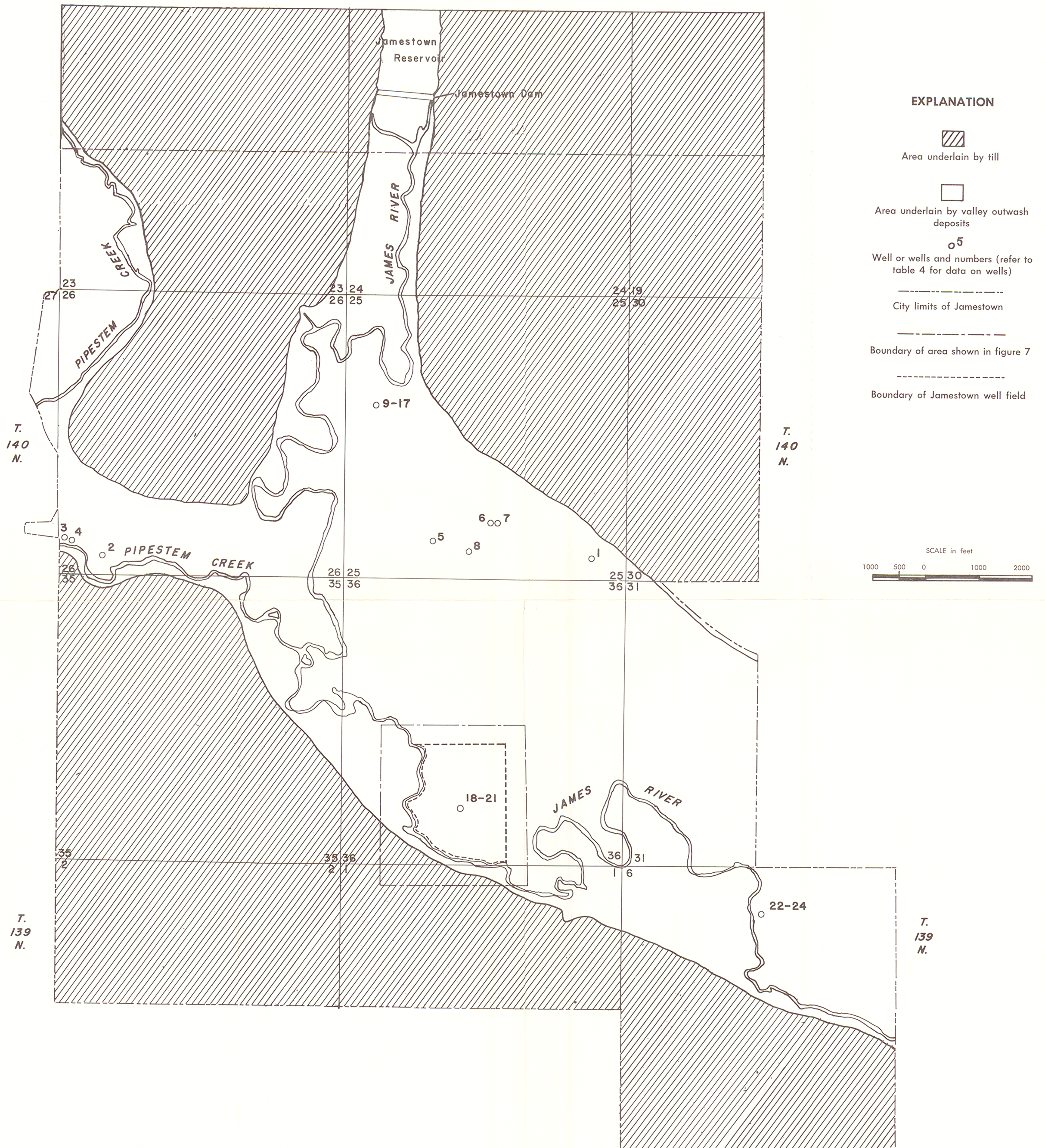


Figure 5 — Map showing the location of selected wells in part of the Jamestown aquifer

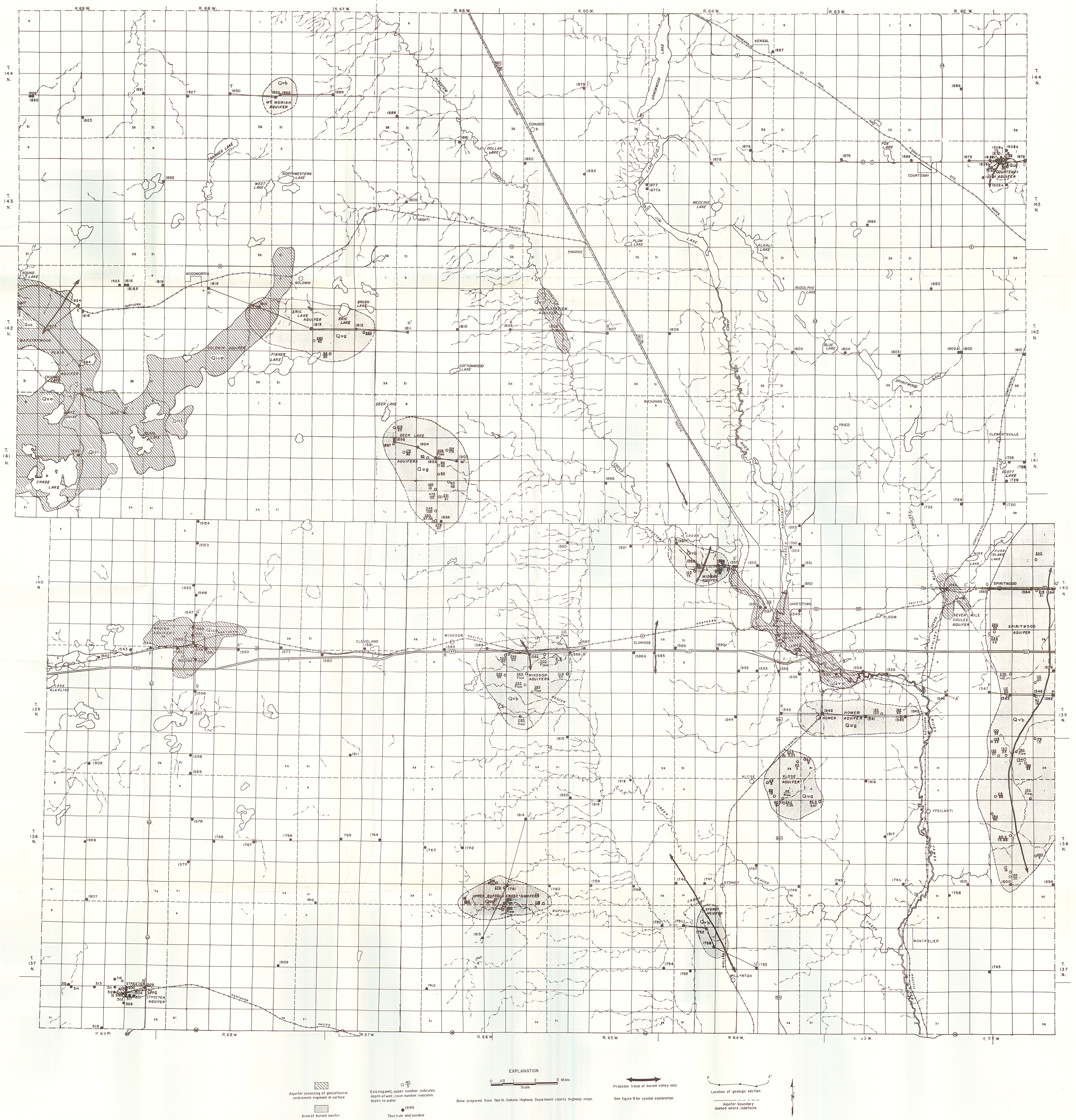
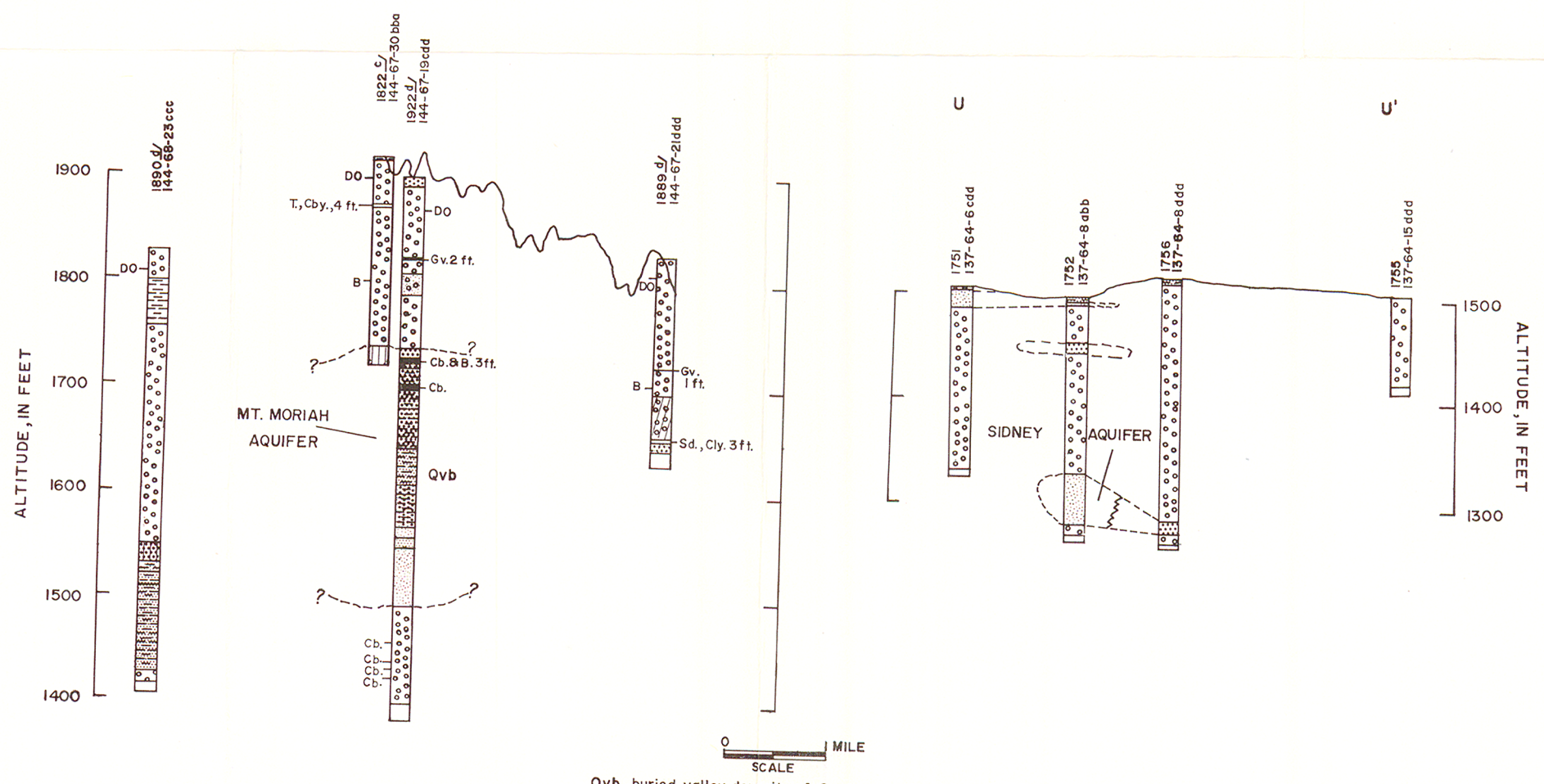
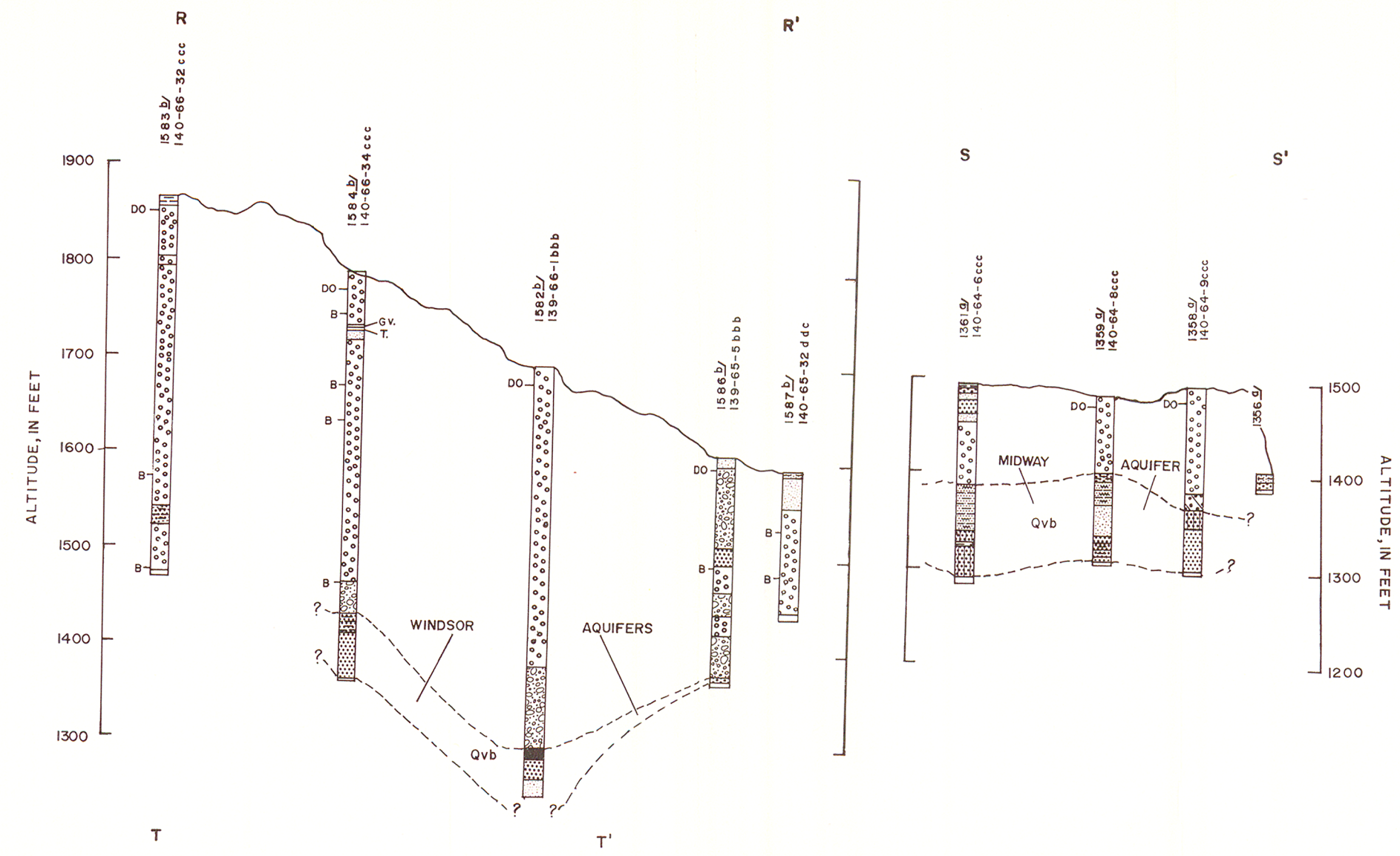


Figure 3— Map showing location of aquifers, wells and test holes, geologic sections, and trends of major buried valleys in Stutsman County, North Dakota



Qvb, buried valley deposits of Quaternary age
See figure 9 for symbol explanation

Figure 19 — Geologic sections R-R', S-S', T-T', and U-U', Windsor, Midway, Mount Moriah, and Sydney aquifers