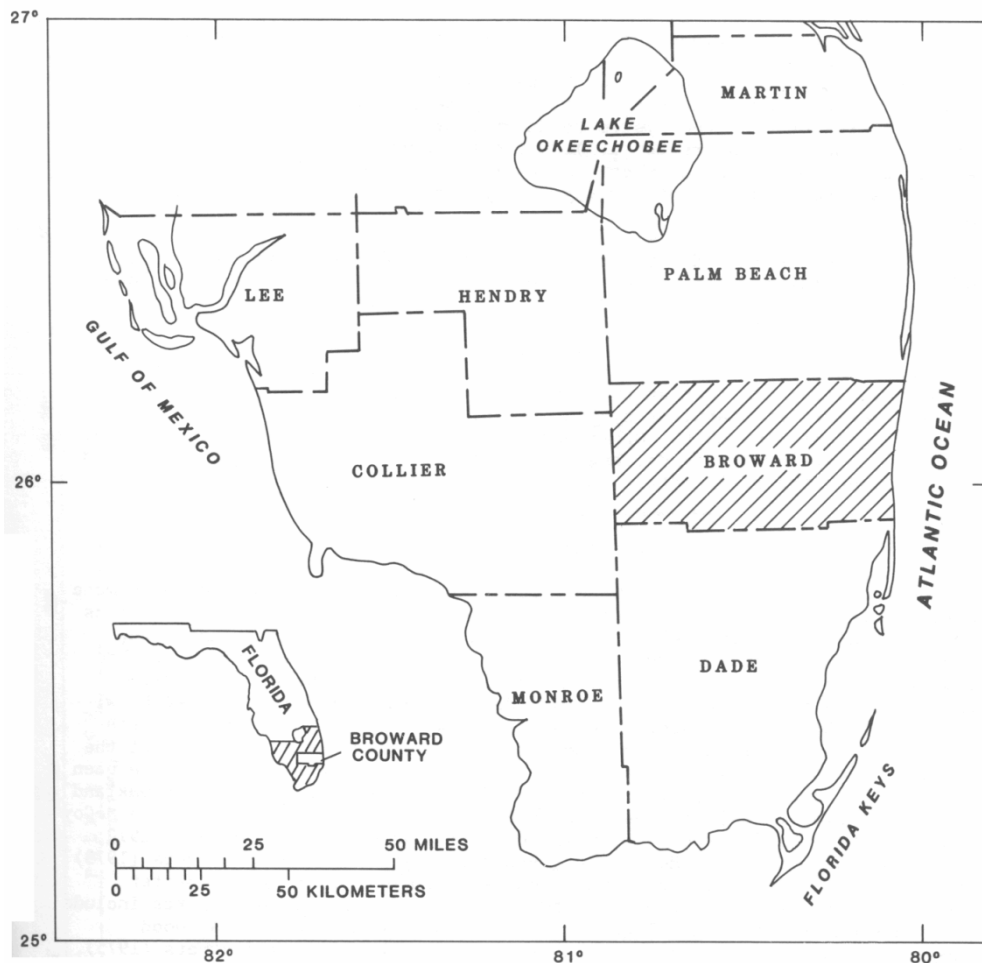


Hydrogeology, Aquifer Characteristics, and Ground-Water Flow of the Surficial Aquifer System Broward County, Florida

U.S. GEOLOGICAL SURVEY
Water-Resources Investigations Report 87-4034

Prepared in cooperation with the
SOUTH FLORIDA WATER MANAGEMENT DISTRICT



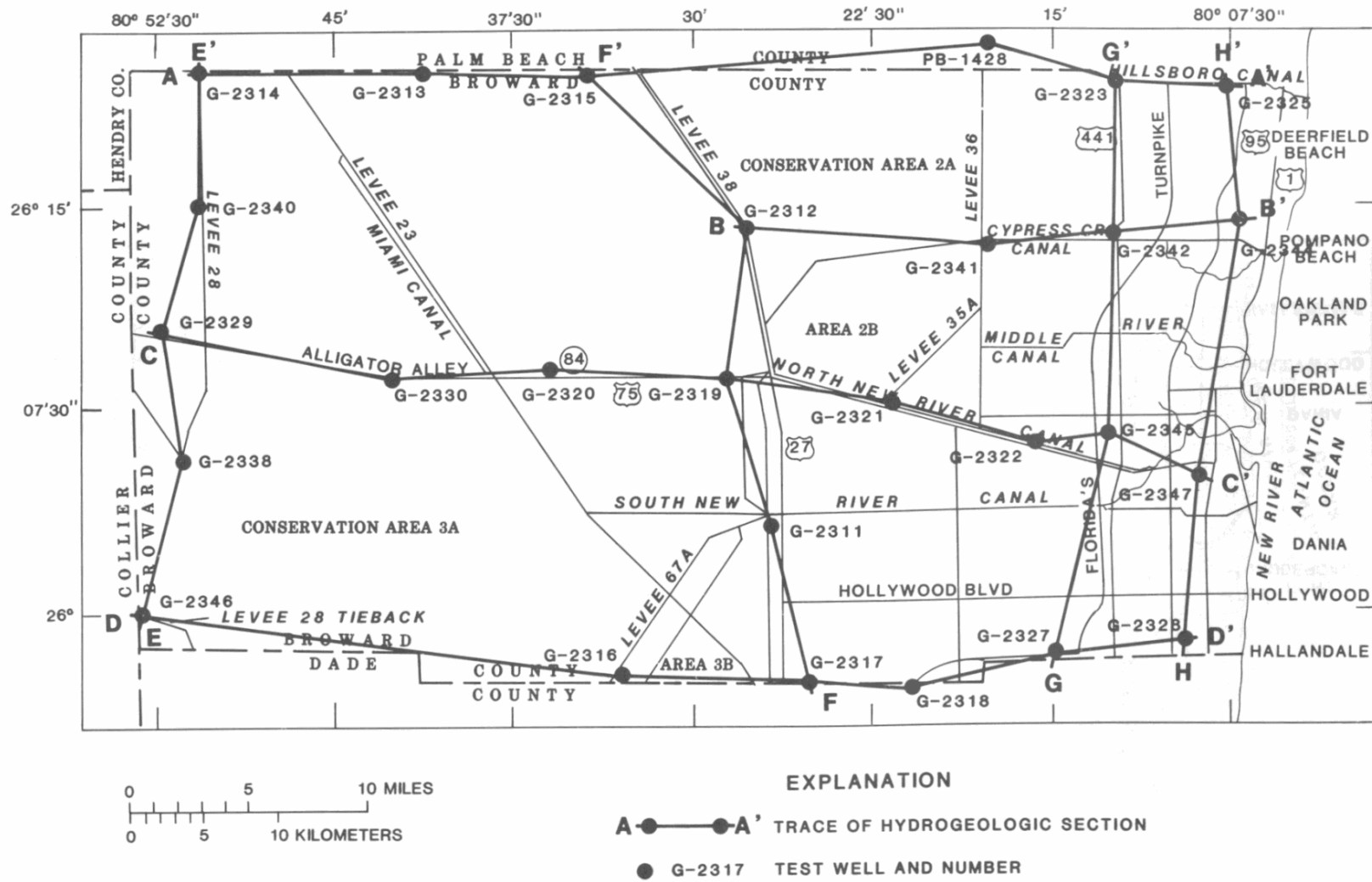
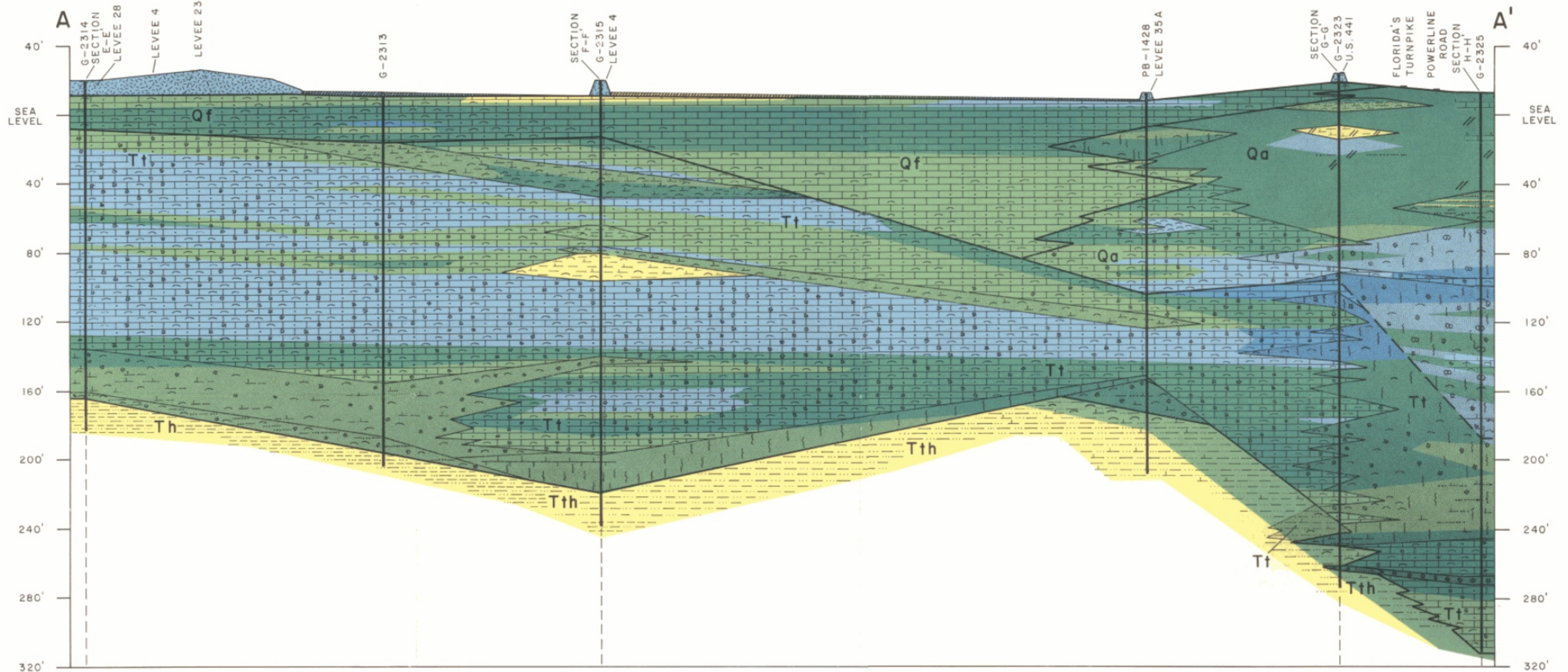


Figure 3. Location of test drilling sites and hydrogeologic sections (from Causaras, 1985). Well numbers and site names are listed in table 1



EXPLANATION

<table border="0"> <tr><td></td><td>Fill</td></tr> <tr><td></td><td>Peat or muck</td></tr> <tr><td></td><td>Sand</td></tr> <tr><td></td><td>Sandstone</td></tr> <tr><td></td><td>Detrital carbonate sand</td></tr> <tr><td></td><td>Concretions</td></tr> <tr><td></td><td>Shell</td></tr> </table>		Fill		Peat or muck		Sand		Sandstone		Detrital carbonate sand		Concretions		Shell	<table border="0"> <tr><td></td><td>Silt</td></tr> <tr><td></td><td>Clay</td></tr> <tr><td></td><td>Claystone or siltstone</td></tr> <tr><td></td><td>Micrite (Limemud)</td></tr> <tr><td></td><td>Limestone</td></tr> <tr><td></td><td>Oolitic limestone</td></tr> <tr><td></td><td>Coralline limestone or biolithite</td></tr> </table>		Silt		Clay		Claystone or siltstone		Micrite (Limemud)		Limestone		Oolitic limestone		Coralline limestone or biolithite	<p style="text-align: center;">GEOLOGIC FORMATIONS</p> <table border="0"> <tr><td rowspan="4" style="vertical-align: middle;">QUATERNARY</td><td>Qp</td><td>Pamlico Sand</td></tr> <tr><td>Qm</td><td>Miami Oolite</td></tr> <tr><td>Qa</td><td>Anastasia Formation</td></tr> <tr><td>Qk</td><td>Key Largo Limestone</td></tr> <tr><td rowspan="4" style="vertical-align: middle;">TERTIARY</td><td>Qf</td><td>Fort Thompson Formation</td></tr> <tr><td>Tt</td><td>Tamiami Formation</td></tr> <tr><td>Th</td><td>Hawthorn Formation</td></tr> <tr><td>Tth</td><td>Tamiami Formation and Hawthorn Formation undifferentiated</td></tr> </table>	QUATERNARY	Qp	Pamlico Sand	Qm	Miami Oolite	Qa	Anastasia Formation	Qk	Key Largo Limestone	TERTIARY	Qf	Fort Thompson Formation	Tt	Tamiami Formation	Th	Hawthorn Formation	Tth	Tamiami Formation and Hawthorn Formation undifferentiated	<p style="text-align: center;">— FORMATION BOUNDARY</p> <p style="text-align: center;"> G-2314 TEST WELL AND NUMBER</p>	<p style="text-align: center;">RANGE OF HYDRAULIC CONDUCTIVITY, IN FEET PER DAY</p> <table border="0"> <tr><td></td><td>Greater than or equal to 1,000</td></tr> <tr><td></td><td>100 to 1,000</td></tr> <tr><td></td><td>10 to 100</td></tr> <tr><td></td><td>0.1 to 10</td></tr> <tr><td></td><td>Less than or equal to 0.1</td></tr> </table>		Greater than or equal to 1,000		100 to 1,000		10 to 100		0.1 to 10		Less than or equal to 0.1
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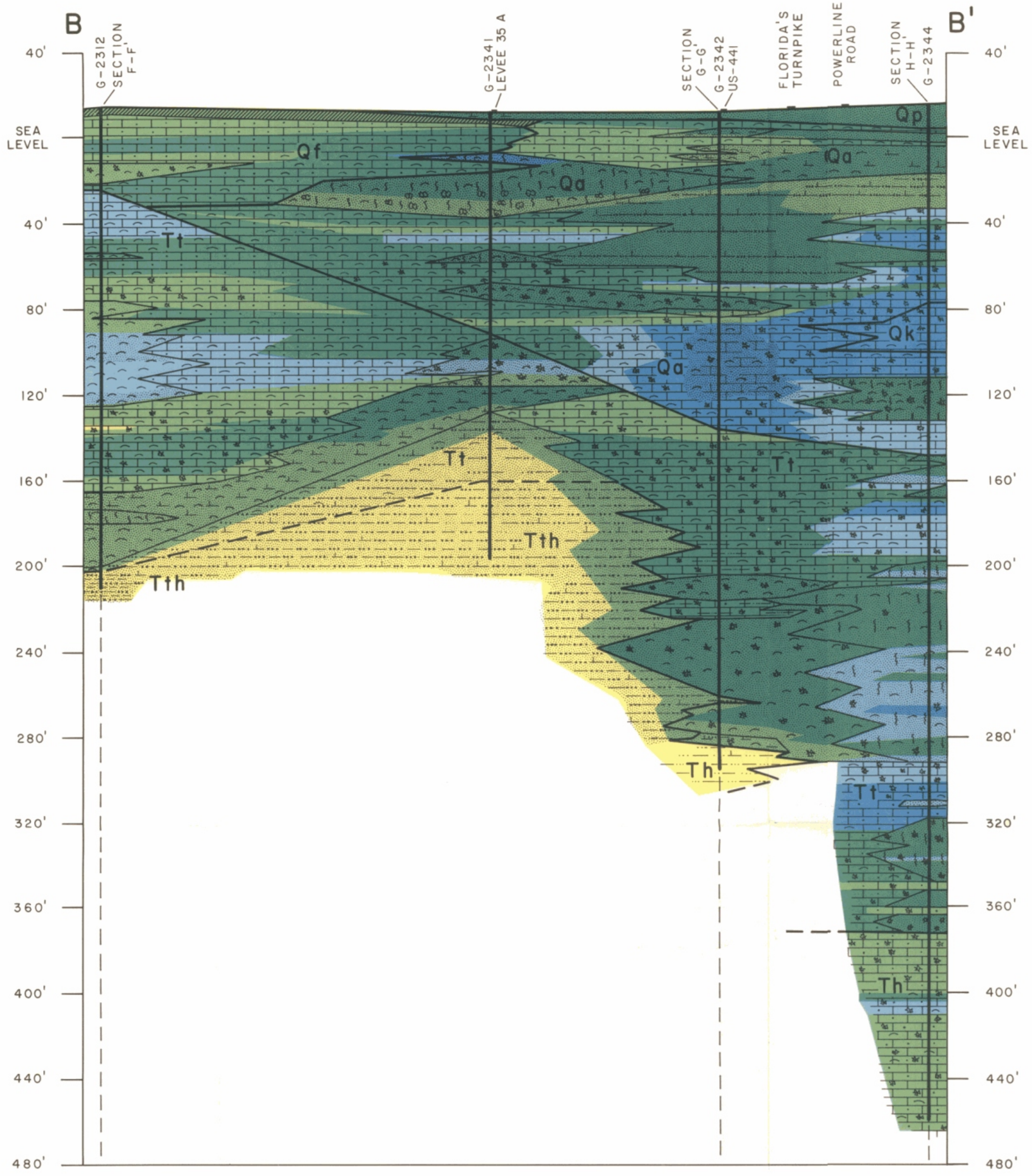
0 5 10 MILES

0 5 10 KILOMETERS

VERTICAL SCALE GREATLY EXAGGERATED

LINE OF SECTION ON FIGURE 3

Figure 15.--Hydrogeologic section A-A' showing ranges of hydraulic conductivity.



EXPLANATION

<p>Fill</p> <p>Peat or muck</p> <p>Sand</p> <p>Sandstone</p> <p>Detrital carbonate sand</p> <p>Concretions</p> <p>Shell</p>	<p>Silt</p> <p>Clay</p> <p>Claystone or siltstone</p> <p>Micrite (Limemud)</p> <p>Limestone</p> <p>Oolitic limestone</p> <p>Coralline limestone or biolithite</p>	<p style="text-align: center;">GEOLOGIC FORMATIONS</p> <p>QUATERNARY</p> <ul style="list-style-type: none"> Qp Pamlico Sand Qm Miami Oolite Qa Anastasia Formation Qk Key Largo Limestone Qf Fort Thompson Formation <p>TERTIARY</p> <ul style="list-style-type: none"> Tt Tamiami Formation Th Hawthorn Formation Tth Tamiami Formation and Hawthorn Formation undifferentiated 	<p>FORMATION BOUNDARY</p> <p>TEST WELL AND NUMBER</p> <p style="text-align: center;">G-2314</p>	<p style="text-align: center;">RANGE OF HYDRAULIC CONDUCTIVITY, IN FEET PER DAY</p> <ul style="list-style-type: none"> Greater than or equal to 1,000 100 to 1,000 10 to 100 0.1 to 10 Less than or equal to 0.1
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0 5 10 MILES

0 5 10 KILOMETERS

VERTICAL SCALE GREATLY EXAGGERATED

LINE OF SECTION ON FIGURE 3

Figure 16.--Hydrogeologic section B-B' showing ranges of hydraulic conductivity.

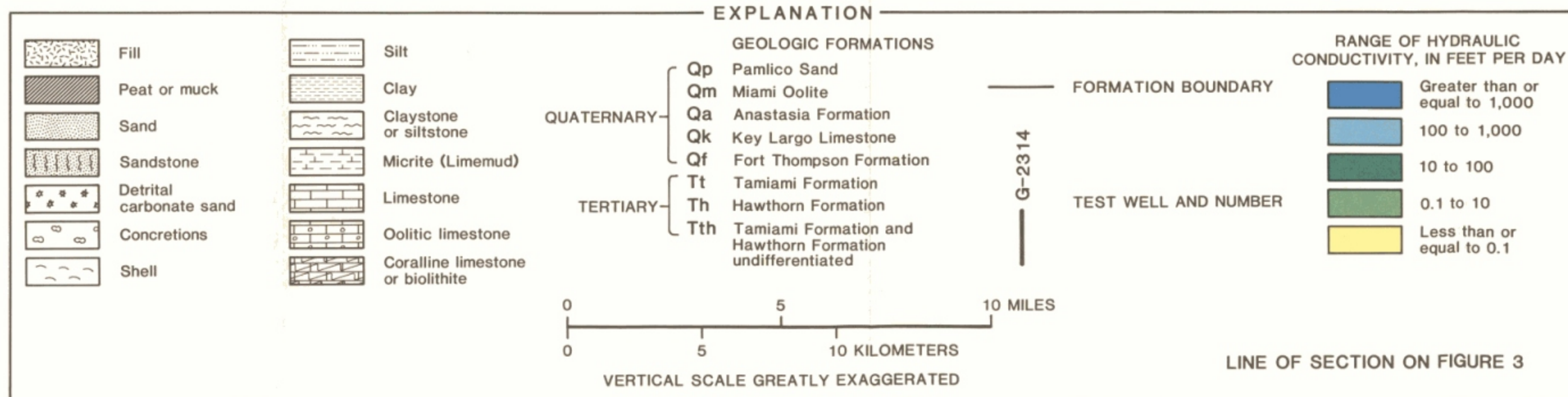
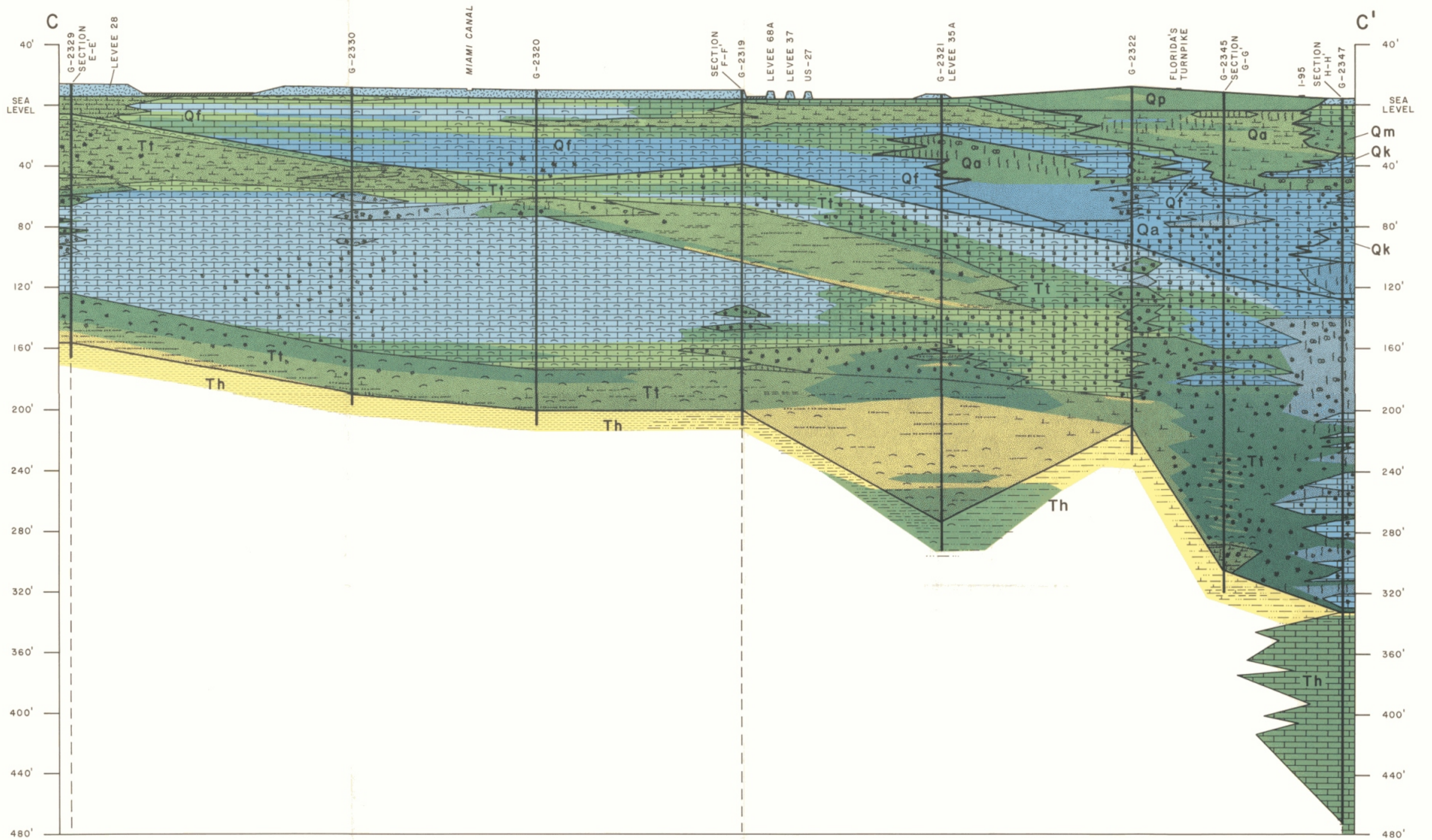
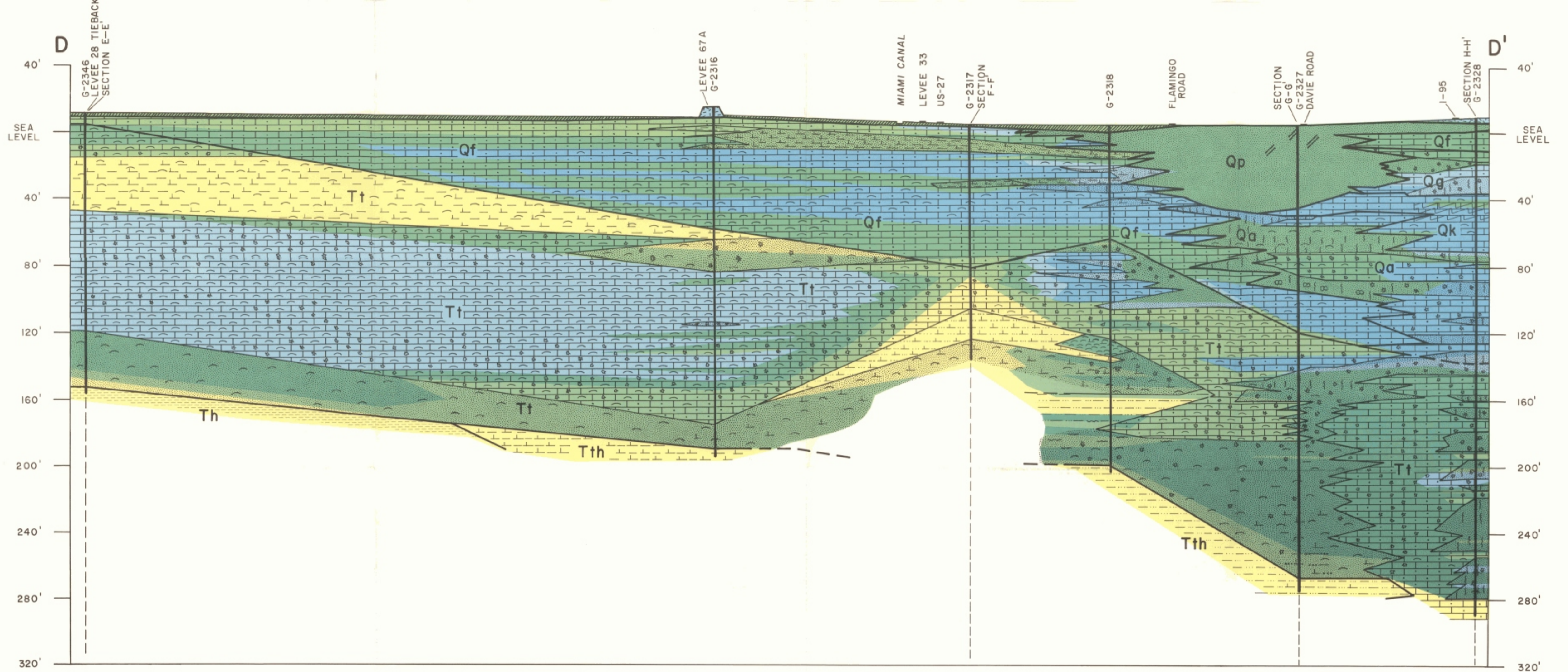


Figure 17.--Hydrogeologic section C-C' showing ranges of hydraulic conductivity.



EXPLANATION

<ul style="list-style-type: none"> Fill Peat or muck Sand Sandstone Detrital carbonate sand Concretions Shell 	<ul style="list-style-type: none"> Silt Clay Claystone or siltstone Micrite (Limemud) Limestone Oolitic limestone Coralline limestone or biolithite 	<p style="text-align: center;">GEOLOGIC FORMATIONS</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 10%; vertical-align: middle;">QUATERNARY</td> <td style="width: 5%; vertical-align: middle;">{</td> <td style="padding-left: 5px;"> <ul style="list-style-type: none"> Qp Pamlico Sand Qm Miami Oolite Qa Anastasia Formation Qk Key Largo Limestone Qf Fort Thompson Formation </td> </tr> <tr> <td style="vertical-align: middle;">TERTIARY</td> <td style="vertical-align: middle;">{</td> <td style="padding-left: 5px;"> <ul style="list-style-type: none"> Tt Tamiami Formation Th Hawthorn Formation Tth Tamiami Formation and Hawthorn Formation undifferentiated </td> </tr> </table>	QUATERNARY	{	<ul style="list-style-type: none"> Qp Pamlico Sand Qm Miami Oolite Qa Anastasia Formation Qk Key Largo Limestone Qf Fort Thompson Formation 	TERTIARY	{	<ul style="list-style-type: none"> Tt Tamiami Formation Th Hawthorn Formation Tth Tamiami Formation and Hawthorn Formation undifferentiated 	<p style="text-align: center;">RANGE OF HYDRAULIC CONDUCTIVITY, IN FEET PER DAY</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20px; height: 15px; background-color: #0070C0; border: 1px solid black;"></td> <td style="padding-left: 5px;">Greater than or equal to 1,000</td> </tr> <tr> <td style="width: 20px; height: 15px; background-color: #4682B4; border: 1px solid black;"></td> <td style="padding-left: 5px;">100 to 1,000</td> </tr> <tr> <td style="width: 20px; height: 15px; background-color: #2E8B57; border: 1px solid black;"></td> <td style="padding-left: 5px;">10 to 100</td> </tr> <tr> <td style="width: 20px; height: 15px; background-color: #3CB371; border: 1px solid black;"></td> <td style="padding-left: 5px;">0.1 to 10</td> </tr> <tr> <td style="width: 20px; height: 15px; background-color: #FFFF00; border: 1px solid black;"></td> <td style="padding-left: 5px;">Less than or equal to 0.1</td> </tr> </table>		Greater than or equal to 1,000		100 to 1,000		10 to 100		0.1 to 10		Less than or equal to 0.1
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0 5 10 MILES

0 5 10 KILOMETERS

VERTICAL SCALE GREATLY EXAGGERATED

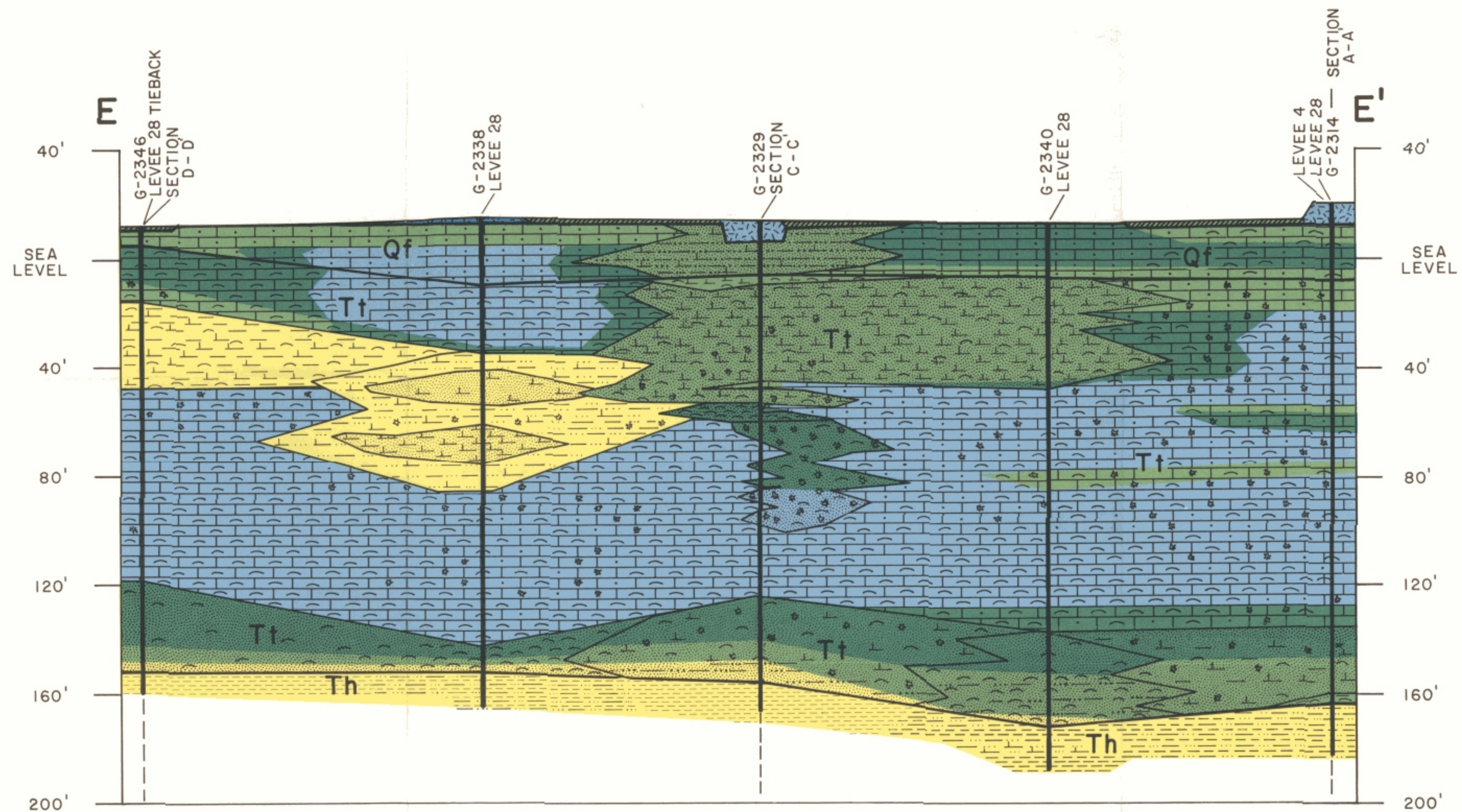
FORMATION BOUNDARY

TEST WELL AND NUMBER

G-2314

LINE OF SECTION ON FIGURE 3

Figure 18.--Hydrogeologic section D-D' showing ranges of hydraulic conductivity.



EXPLANATION

	GEOLOGIC FORMATIONS		RANGE OF HYDRAULIC CONDUCTIVITY, IN FEET PER DAY																																																														
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VERTICAL SCALE GREATLY EXAGGERATED

LINE OF SECTION ON FIGURE 3

Figure 19.--Hydrogeologic section E-E' showing ranges of hydraulic conductivity.

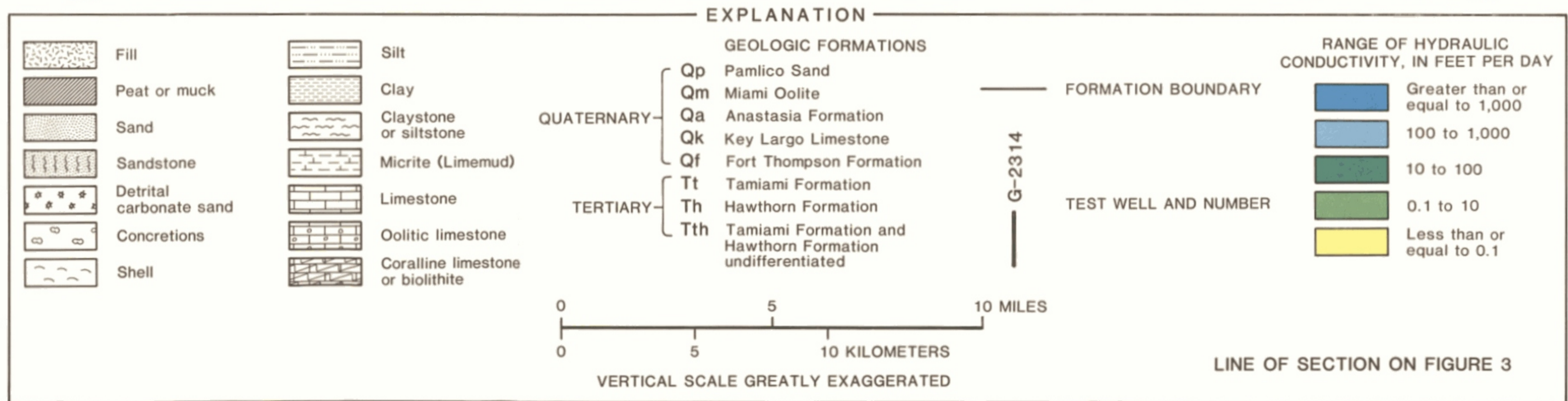
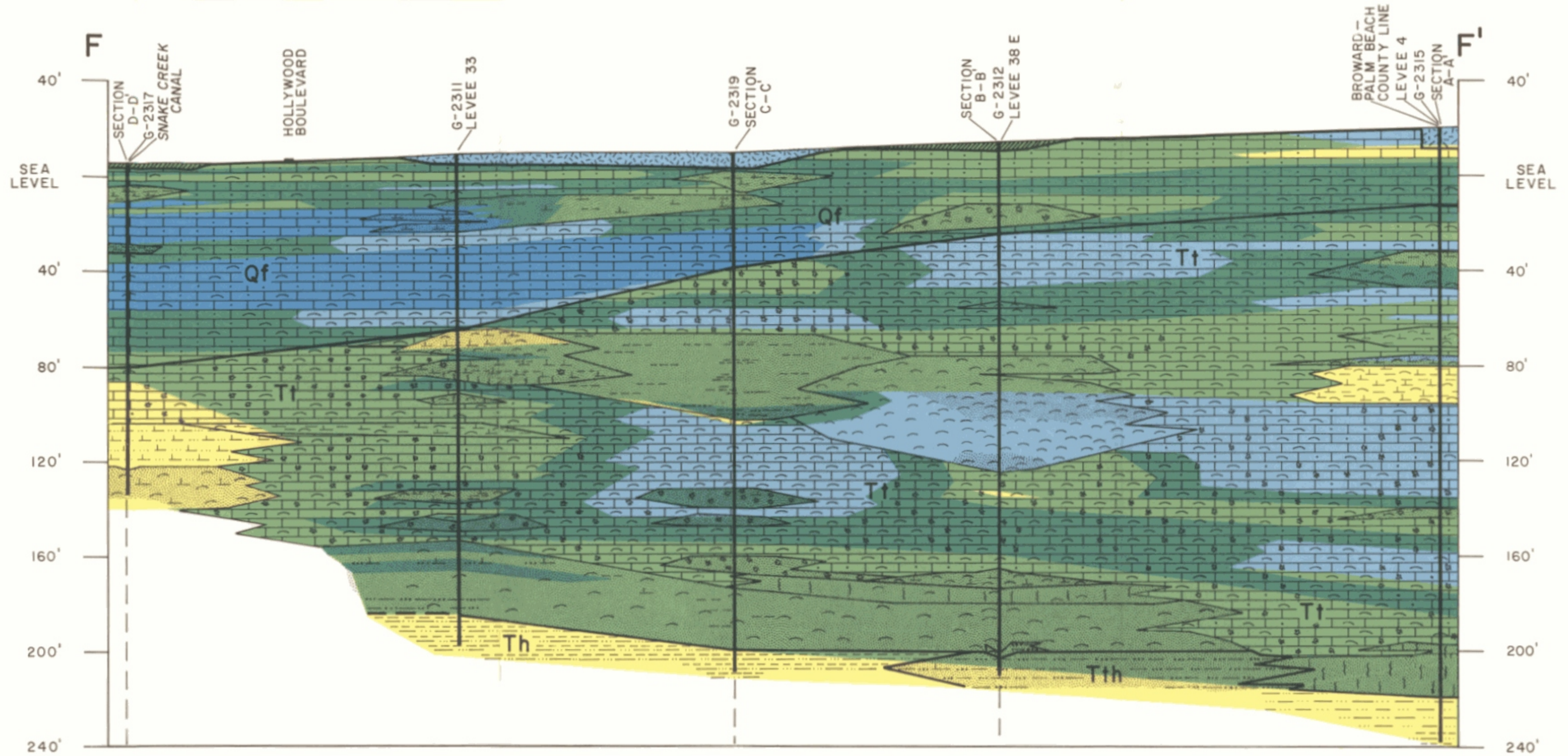


Figure 20.--Hydrogeologic section F-F' showing ranges of hydraulic conductivity.

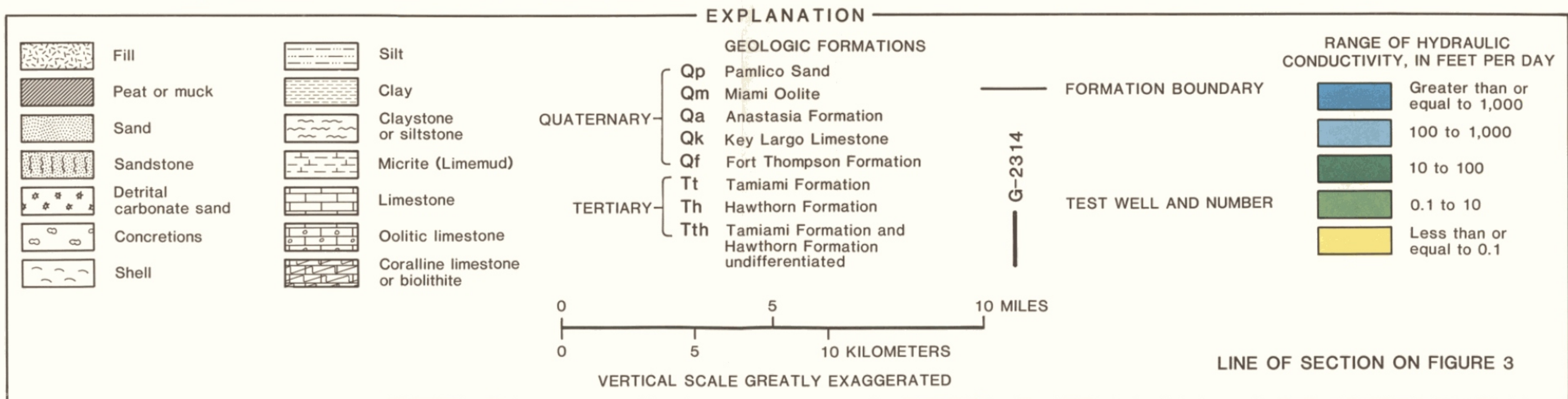
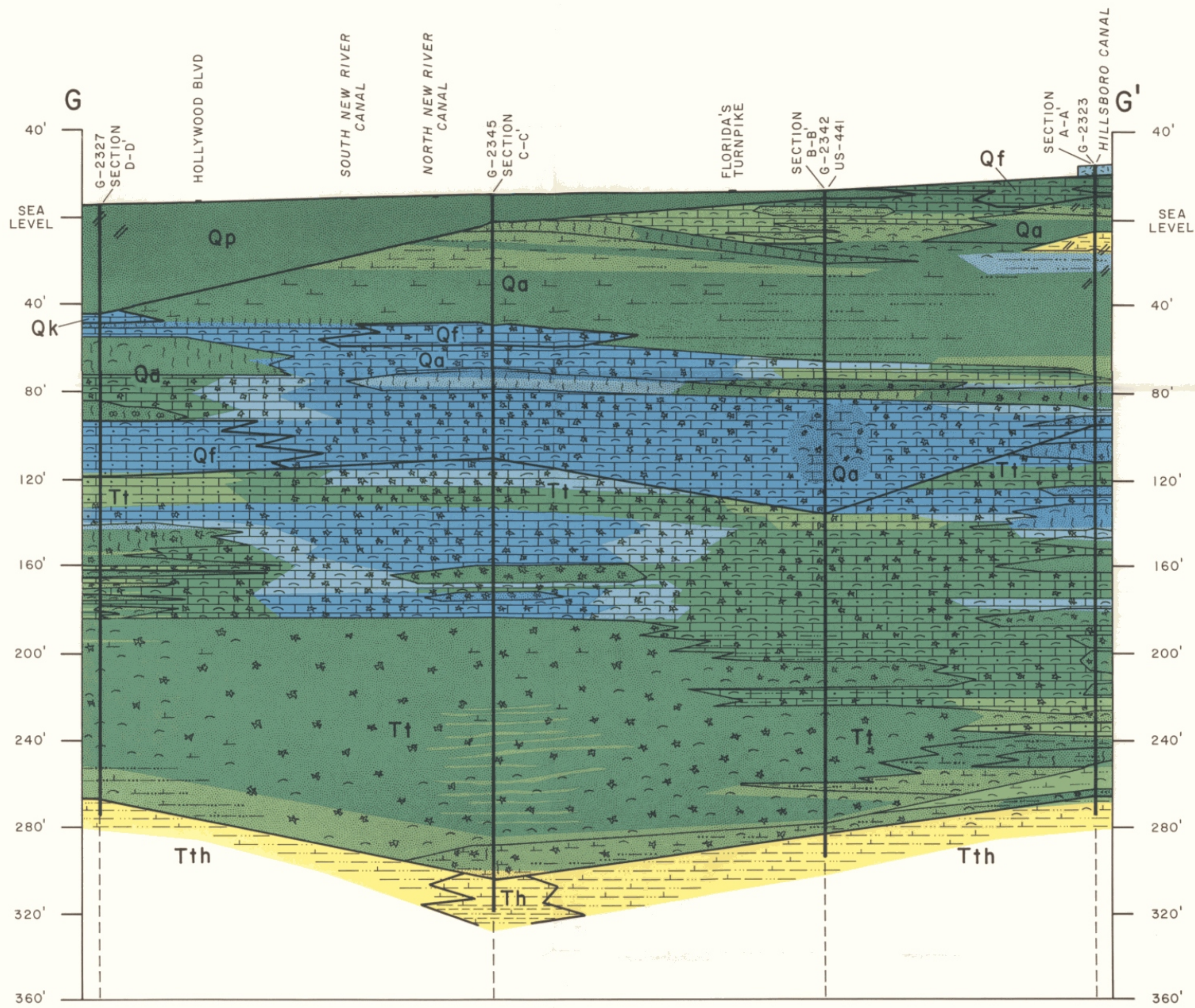
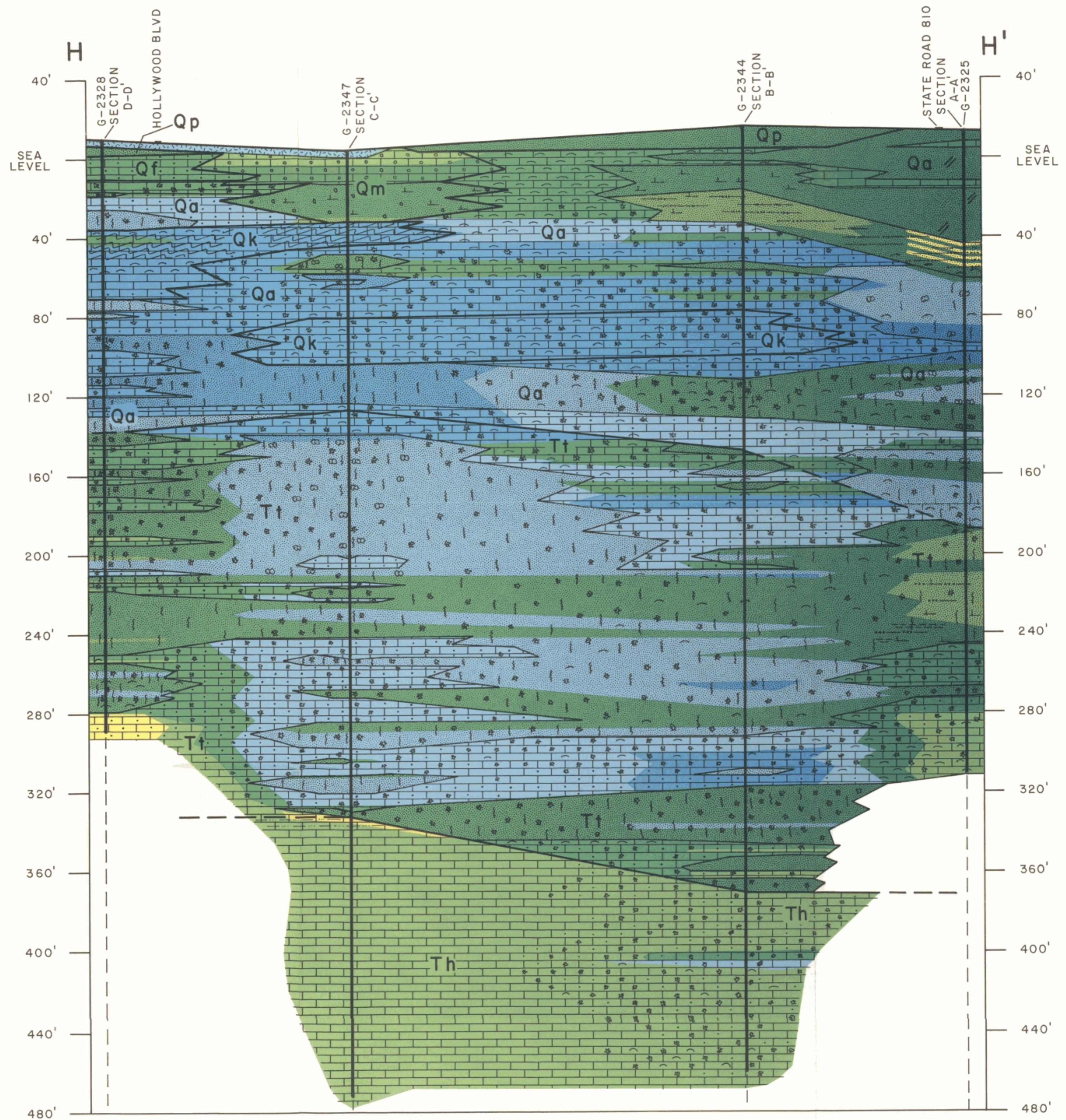


Figure 21.--Hydrogeologic section G-G' showing ranges of hydraulic conductivity.



EXPLANATION

<ul style="list-style-type: none"> Fill Peat or muck Sand Sandstone Detrital carbonate sand Concretions Shell 	<ul style="list-style-type: none"> Silt Clay Claystone or siltstone Micrite (Limemud) Limestone Oolitic limestone Coralline limestone or biolithite 	<p style="text-align: center;">GEOLOGIC FORMATIONS</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 10%; vertical-align: middle;">QUATERNARY</td> <td style="width: 10%; vertical-align: middle;">{</td> <td style="width: 10%; vertical-align: middle;">Qp</td> <td>Pamlico Sand</td> </tr> <tr> <td></td> <td></td> <td>Qm</td> <td>Miami Oolite</td> </tr> <tr> <td></td> <td></td> <td>Qa</td> <td>Anastasia Formation</td> </tr> <tr> <td></td> <td></td> <td>Qk</td> <td>Key Largo Limestone</td> </tr> <tr> <td></td> <td></td> <td>Qf</td> <td>Fort Thompson Formation</td> </tr> <tr> <td></td> <td></td> <td>Tt</td> <td>Tamiami Formation</td> </tr> <tr> <td style="vertical-align: middle;">TERTIARY</td> <td style="vertical-align: middle;">{</td> <td>Th</td> <td>Hawthorn Formation</td> </tr> <tr> <td></td> <td></td> <td>Tth</td> <td>Tamiami Formation and Hawthorn Formation undifferentiated</td> </tr> </table>	QUATERNARY	{	Qp	Pamlico Sand			Qm	Miami Oolite			Qa	Anastasia Formation			Qk	Key Largo Limestone			Qf	Fort Thompson Formation			Tt	Tamiami Formation	TERTIARY	{	Th	Hawthorn Formation			Tth	Tamiami Formation and Hawthorn Formation undifferentiated	<p style="text-align: center;">RANGE OF HYDRAULIC CONDUCTIVITY, IN FEET PER DAY</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;"></td> <td style="width: 80%;">Greater than or equal to 1,000</td> </tr> <tr> <td></td> <td>100 to 1,000</td> </tr> <tr> <td></td> <td>10 to 100</td> </tr> <tr> <td></td> <td>0.1 to 10</td> </tr> <tr> <td></td> <td>Less than or equal to 0.1</td> </tr> </table>		Greater than or equal to 1,000		100 to 1,000		10 to 100		0.1 to 10		Less than or equal to 0.1
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0 5 10 MILES

0 5 10 KILOMETERS

VERTICAL SCALE GREATLY EXAGGERATED

— FORMATION BOUNDARY

— G-2314 TEST WELL AND NUMBER

LINE OF SECTION ON FIGURE 3

Figure 22.--Hydrogeologic section H-H' showing ranges of hydraulic conductivity.

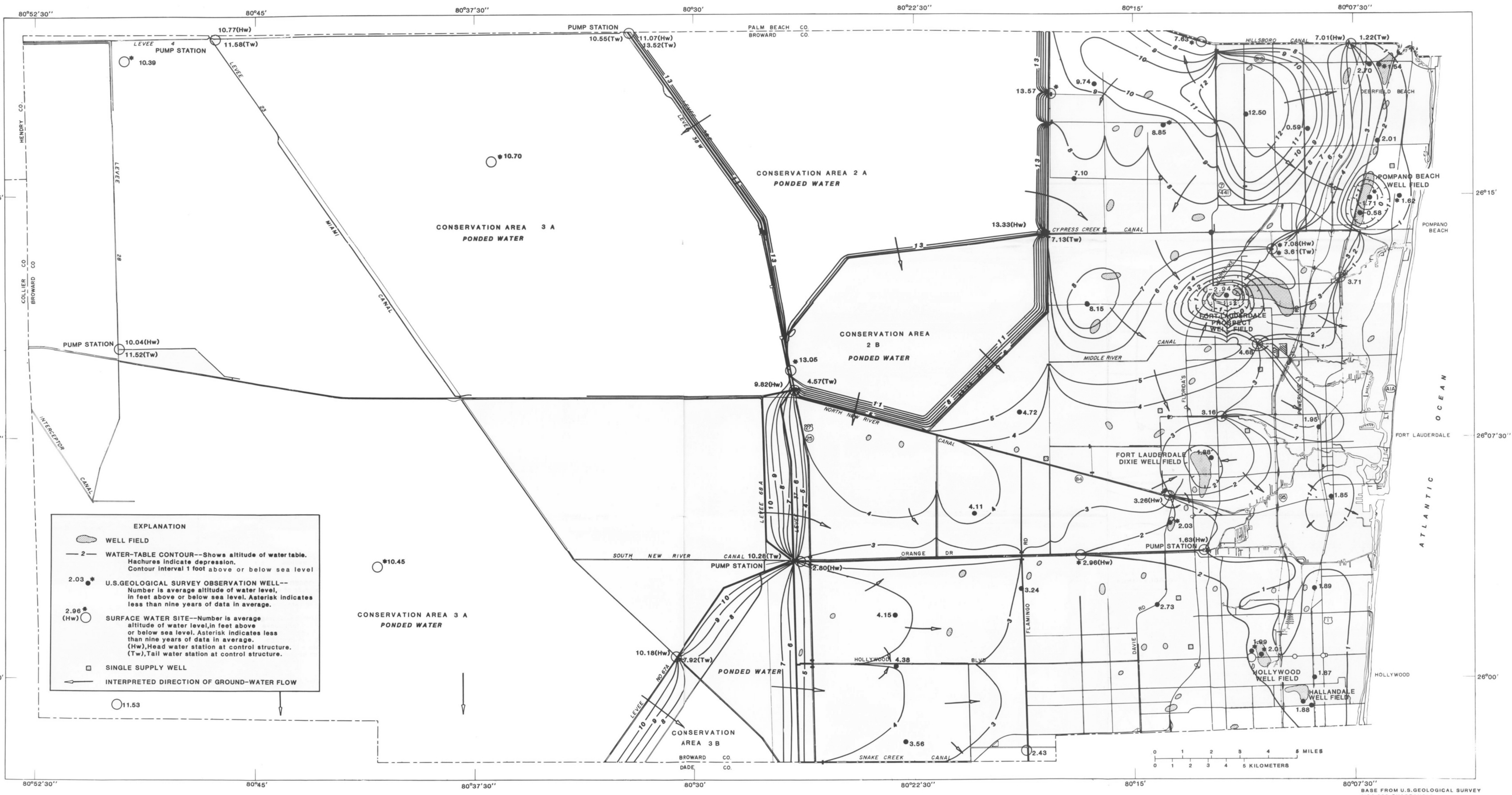
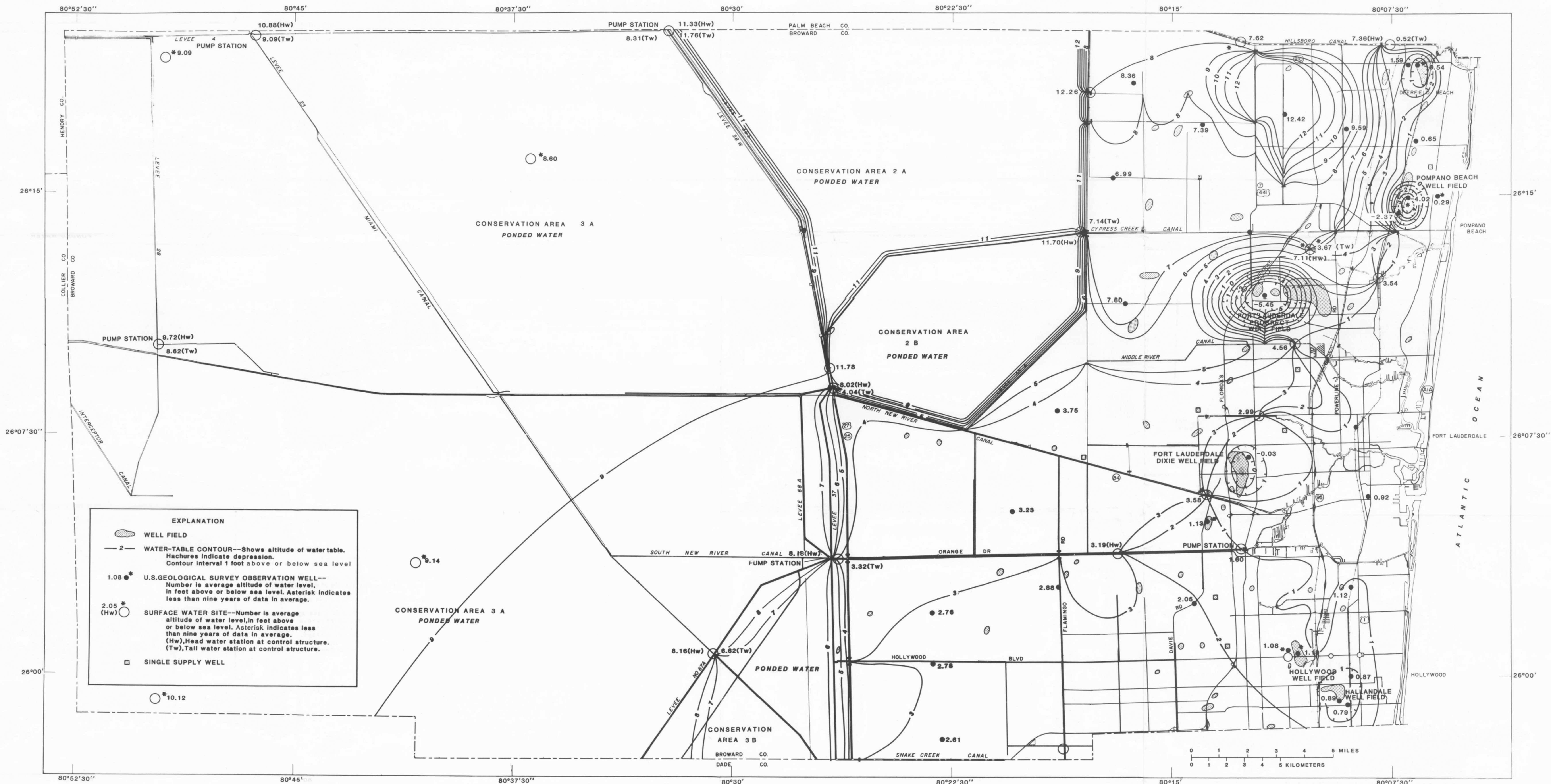


Figure 40.--Contours of average water table altitude in Broward County for September (wet season) 1974-82 and interpreted directions of ground-water movement.

BASE FROM U.S.GEOLOGICAL SURVEY 1:24,000 QUADRANGLE



EXPLANATION

- WELL FIELD
- WATER-TABLE CONTOUR--Shows altitude of water table. Hachures indicate depression. Contour interval 1 foot above or below sea level.
- U.S.GEOLOGICAL SURVEY OBSERVATION WELL--Number is average altitude of water level, in feet above or below sea level. Asterisk indicates less than nine years of data in average.
- SURFACE WATER SITE--Number is average altitude of water level, in feet above or below sea level. Asterisk indicates less than nine years of data in average. (Hw), Head water station at control structure. (Tw), Tail water station at control structure.
- SINGLE SUPPLY WELL

Figure 41.--Contours of average water table altitude in Broward County for April (dry season) 1974-82.

BASE FROM U.S.GEOLOGICAL SURVEY 1:24,000 QUADRANGLE