

Figure 4 Hydrogeologic section A-A'

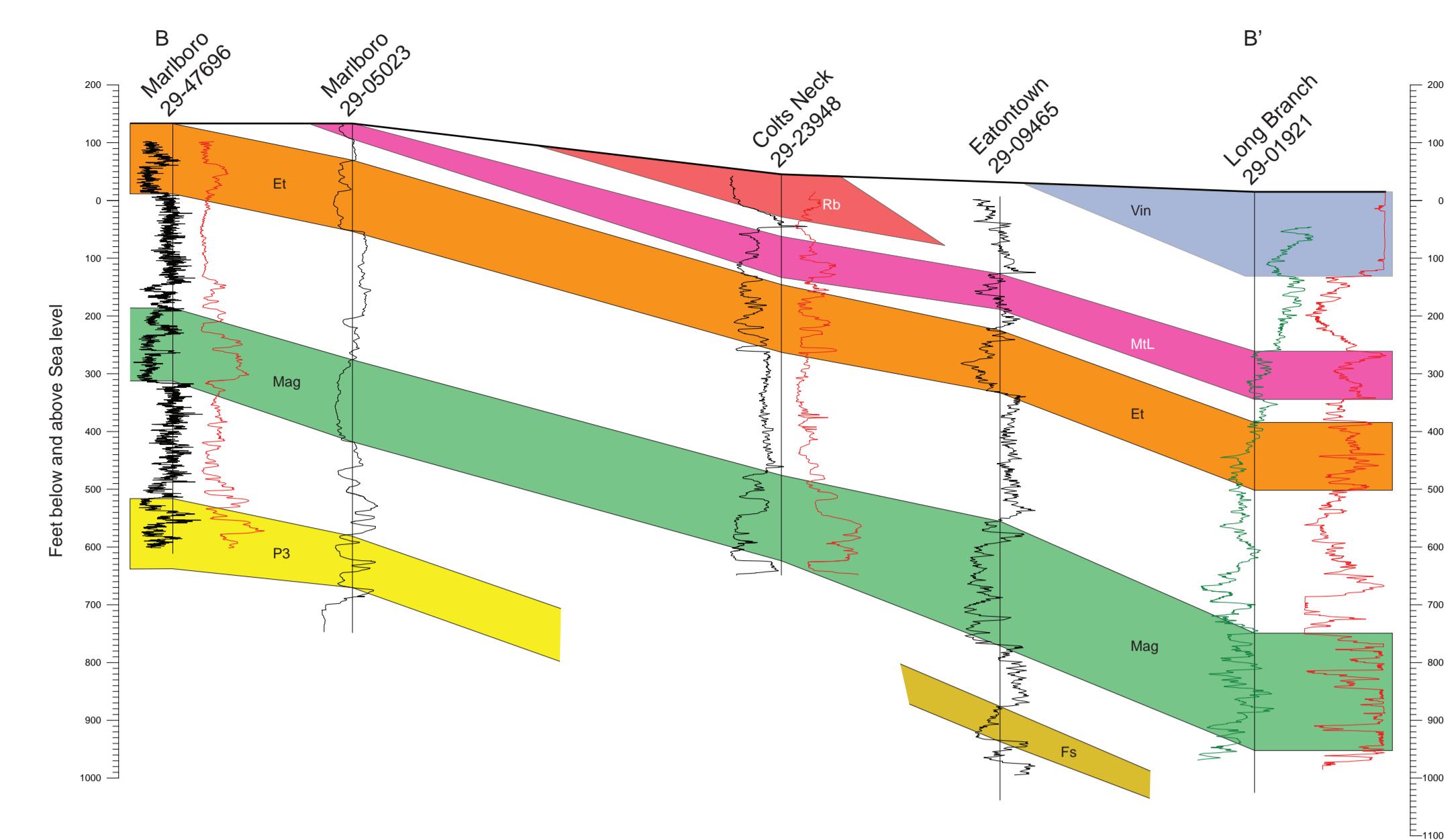


Figure 5 Hydrogeologic section B-B'

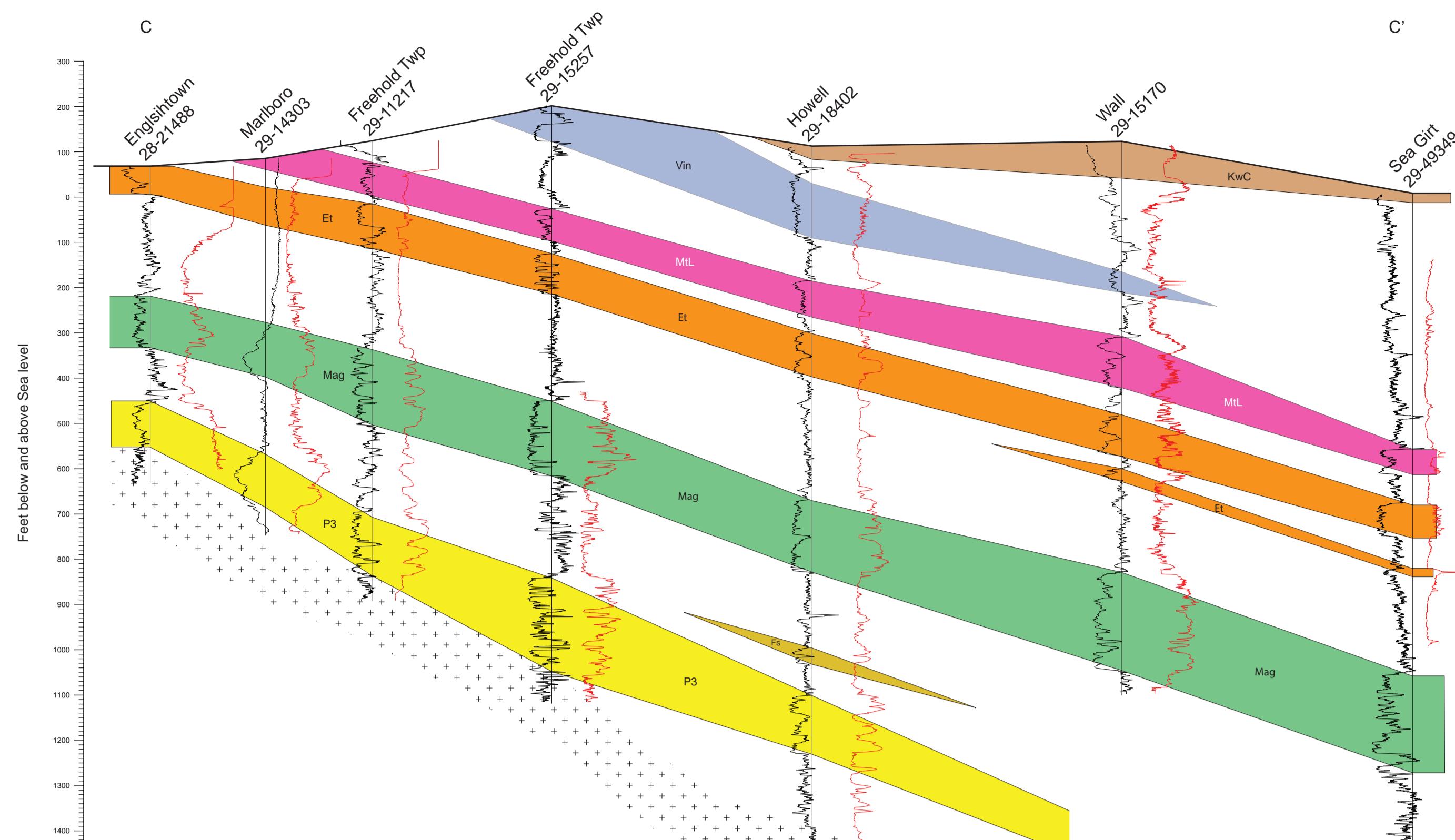


Figure 6 Hydrogeologic section C-C'

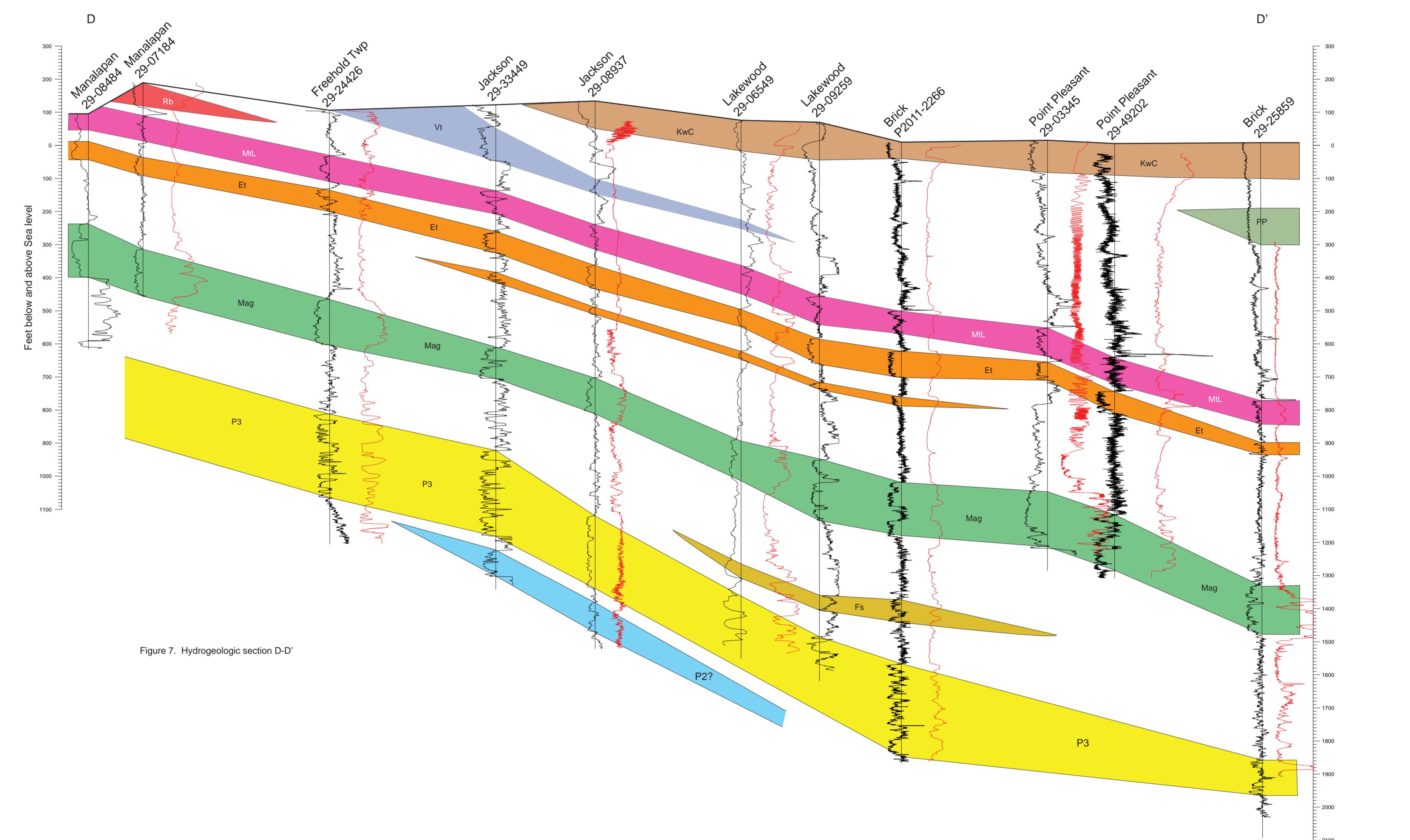


Figure 7 Hydrogeologic section D-D'

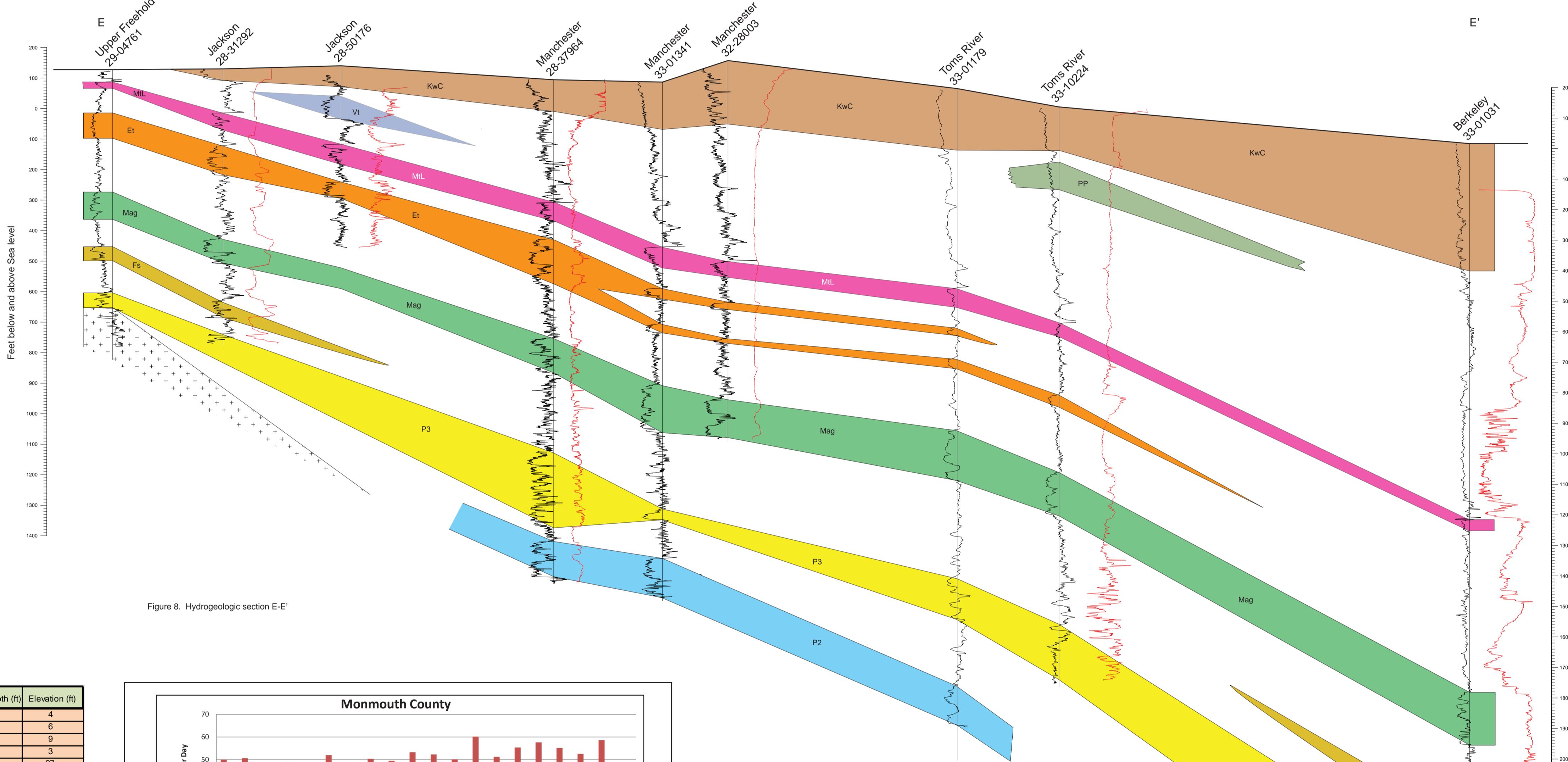


Figure 8. Hydrogeologic section E-E'

Table 1. New Jersey permit number, well location and total depth of wells used in this study (continued).

NJ Permit	County	Municipality	Quadrangle Name	Latitude (ddmms)	Longitude (ddmms)	Total Depth (ft)	Elevation (ft)
28-32175	Monmouth	Bradley Beach Boro	Astbury Park NJ	40°22'6"	74°05'26"	298	17
28-33449	Ocean	Jackson Twp	Adelphia NJ	40°05'15"	74°17'36"	1463	122
28-33501	Ocean	Jackson Twp	Adelphia NJ	40°05'15"	74°17'36"	295	126
28-36217	Monmouth	Sea Bright Boro	Sandy Hook NJ	40°25'52"	74°08'35"	307	7
28-39111	Monmouth	Cotts Neck Twp	Marlboro NJ	39°51'00"	74°10'00"	294	102
28-39113	Monmouth	Farmington Boro	Farmington NJ	40°11'13"	74°09'38"	123	59
28-40257	Monmouth	Wall Twp	Point Pleasant NJ	40°07'08"	74°04'46"	197	83
28-41238	Monmouth	Wall Twp	Farmington NJ	40°11'29"	74°01'17"	178	161
28-41799	Ocean	Toms River Twp	Lakewood NJ	40°02'27"	74°14'36"	226	90
28-42094	Monmouth	Wall Twp	Farmington NJ	40°11'30"	74°09'37"	209	119
28-42098	Monmouth	Cotts Neck Twp	Marlboro NJ	40°05'04"	74°02'09"	714	86
28-42955	Ocean	Lakehurst Boro	Lakehurst NJ	40°00'37"	74°01'51"	1470	696
28-44061	Ocean	Deal Boro	Astbury Park NJ	40°04'38"	74°03'22"	192	8
28-44063	Ocean	Jackson Twp	Adelphia NJ	40°05'33"	74°17'37"	140	143
28-45035	Ocean	Jackson Twp	Adelphia NJ	40°05'33"	74°17'33"	725	140
28-45777	Monmouth	Cotts Neck Twp	Marlboro NJ	40°15'35"	74°07'47"	602	88
28-47462	Monmouth	Cotts Neck Twp	Marlboro NJ	40°18'00"	74°12'23"	289	108
28-47557	Monmouth	Marlboro Twp	Freehold Twp	40°10'06"	74°16'58"	725	123
28-47559	Monmouth	Marlboro Twp	Freehold Twp	40°10'06"	74°16'58"	502	132
28-47906	Monmouth	Marlboro Twp	Freehold Twp	40°10'22"	74°16'57"	497	133
28-48307	Monmouth	Cotts Neck Twp	Marlboro NJ	40°04'03"	74°07'13"	389	73
28-48781	Ocean	Manchester Twp	Lakehurst NJ	40°01'43"	74°19'29"	1041	75
28-49022	Ocean	Point Pleasant Boro	Point Pleasant NJ	40°02'00"	74°17'45"	1040	75
28-49349	Monmouth	Marlboro Twp	Point Pleasant NJ	40°04'09"	74°04'05"	1309	7
28-49576	Monmouth	Marlboro Twp	Adelphia NJ	40°14'36"	74°14'47"	265	187
28-50505	Monmouth	Jackson Twp	Lakehurst NJ	40°07'07"	74°17'47"	114	111
28-52270	Ocean	Jackson Twp	Lakehurst NJ	40°02'29"	74°19'45"	1161	104
28-52272	Ocean	Jackson Twp	Lakehurst NJ	40°02'29"	74°19'45"	1775	103
28-52273	Ocean	Jackson Twp	Lakehurst NJ	40°06'54"	74°17'18"	643	137
28-52275	Monmouth	Howell Twp	Farmington NJ	40°06'59"	74°04'33"	697	57
28-52276	Ocean	Lakehurst Boro	Lakehurst NJ	40°02'23"	74°19'39"	598	70
32-00049	Ocean	Barnegat Twp	Brookville NJ	39°54'47"	74°02'05"	1741	164
32-00054	Ocean	Lacey Twp	Whiting NJ	39°52'22"	74°25'29"	399	129
32-00047	Ocean	Little Egg Harbor Twp	Tuckerton NJ	39°54'28"	74°20'26"	654	21
32-00049	Ocean	Toms River Twp	Toms River NJ	39°50'10"	74°00'00"	295	7
32-00059	Ocean	Little Egg Harbor Twp	New Gretna NJ	39°52'52"	74°29'08"	607	6
32-07892	Ocean	Little Egg Harbor Twp	New Gretna NJ	39°31'10"	74°23'28"	352	7
32-08457	Ocean	Stafford Twp	Brookville NJ	39°45'55"	74°13'39"	3340	112
32-12329	Ocean	Little Egg Harbor Twp	New Gretna NJ	39°52'52"	74°23'08"	593	71
32-22550	Ocean	Toms River Twp	Toms River NJ	39°52'52"	74°19'39"	529	6
32-23972	Ocean	Little Egg Harbor Twp	Tuckerton NJ	39°53'33"	74°02'29"	546	4
32-25614	Ocean	Little Egg Harbor Twp	West Creek NJ	39°57'29"	74°00'01"	543	83
32-26070	Ocean	Little Egg Harbor Twp	Wreckill Boro	39°53'18"	74°23'00"	505	31
32-28903	Ocean	Manchester Twp	Keweenaw Grove NJ	39°57'39"	74°12'17"	1245	158
33-00043	Ocean	Barnegat Twp	Brookville NJ	39°49'17"	74°15'59"	1759	151
33-00046	Ocean	Berkley Twp	Toms River NJ	39°54'33"	74°14'20"	1805	39
33-00049	Ocean	Berkley Twp	Seaside Park NJ	39°57'01"	74°09'41"	1044	7
33-00054	Ocean	Berkley Twp	Barnegat Light Twp	39°54'24"	74°09'32"	675	5
33-00074	Ocean	Berkley Twp	Barnegat Light Twp	39°54'24"	74°09'32"	708	5
33-00074	Ocean	Harvey Cedars Boro	Ship Bottom NJ	39°54'18"	74°08'00"	704	5
33-00074	Ocean	Toms River Twp	Toms River NJ	39°56'04"	74°08'00"	95604	400
33-00076	Ocean	Toms River Twp	Toms River NJ	39°56'04"	74°08'00"	741024	25
33-00087	Ocean	Barnegat Light Twp	Ship Bottom NJ	39°54'22"	74°09'32"	685	5
33-00097	Ocean	Stafford Twp	Ship Bottom NJ	39°54'20"	74°12'17"	460	1
33-01038	Ocean	Barnegat Twp	Forked River NJ	39°54'42"	74°11'45"	580	16
33-01068	Ocean	Pine Beach Boro	Toms River NJ	39°55'58"	74°10'13"	415	32
33-01091	Ocean	Ship Bottom Boro	Toms River NJ	39°53'08"	74°10'07"	557	5
33-01171	Ocean	South Beach Boro	Toms River NJ	39°55'00"	74°09'40"	1220	16
33-01174	Ocean	Berkley Twp	Barnegat Light Twp	39°51'25"	74°05'12"	410	6
33-01159	Ocean	Toms River Twp	Seaside Park NJ	39°55'08"	74°09'35"	1511	5
33-01179	Ocean	Toms River Twp	Toms River NJ	39°55'08"	74°09'35"	95629	225
33-01206	Ocean	Barnegat Light Twp	Ship Bottom NJ	39°54'42"	74°09'32"	685	5
33-01225	Ocean	South Beach Boro	Ship Bottom NJ	39°55'00"	74°09'32"	567	6
33-01275	Ocean	Long Beach Twp	Beach Haven NJ	39°53'09"	74°13'28"	697	4
33-01341	Ocean	Manchester Twp	Keswick Grove NJ	39°50'11"	74°02'05"	1701	88
33-01342	Ocean	Manchester Twp	Keswick Grove NJ	39°50'11"	74°13'28"	1621	101
33-01403	Ocean	Monmouth Beach Boro	Seaside Park NJ	39°50'07"	74°01'37"	165	80
33-01429	Ocean	Barnegat Twp	Forked River NJ	39°54'27"	74°14'43"	300	123
33-02356	Ocean	Barnegat Twp	Forked River NJ	39°54'20"	74°13'15"	193	28
33-02451	Ocean	Beach Haven Boro	Beach Haven NJ	39°53'43"	74°13'43"	751	4
33-02866	Ocean	Stafford Twp	West Creek NJ	39°49'39"	74°15'51"	151	12
33-06878	Ocean	Barnegat Light Twp	Long Beach NJ	39°45'44"	74°05'55"	676	6

NJ Permit	County	Municipality	Quadrangle Name	Latitude (ddmms)	Longitude (ddmms)	Total Depth (ft)	Elevation (ft)
33-07896	Ocean	Barnegat Light Boro	Long Beach NJ	39°45'44"	74°05'25"	702	4
33-10224	Ocean	Toms River Twp	Ship Bottom NJ	39°57'21"	74°11'51"	521	9
33-10547	Ocean	Long Beach Twp	Ship Bottom NJ	39°57'24"	74°11'51"	616	3
33-13836	Ocean	West Creek Twp	West Creek NJ	39°51'11"	74°11'51"	1	

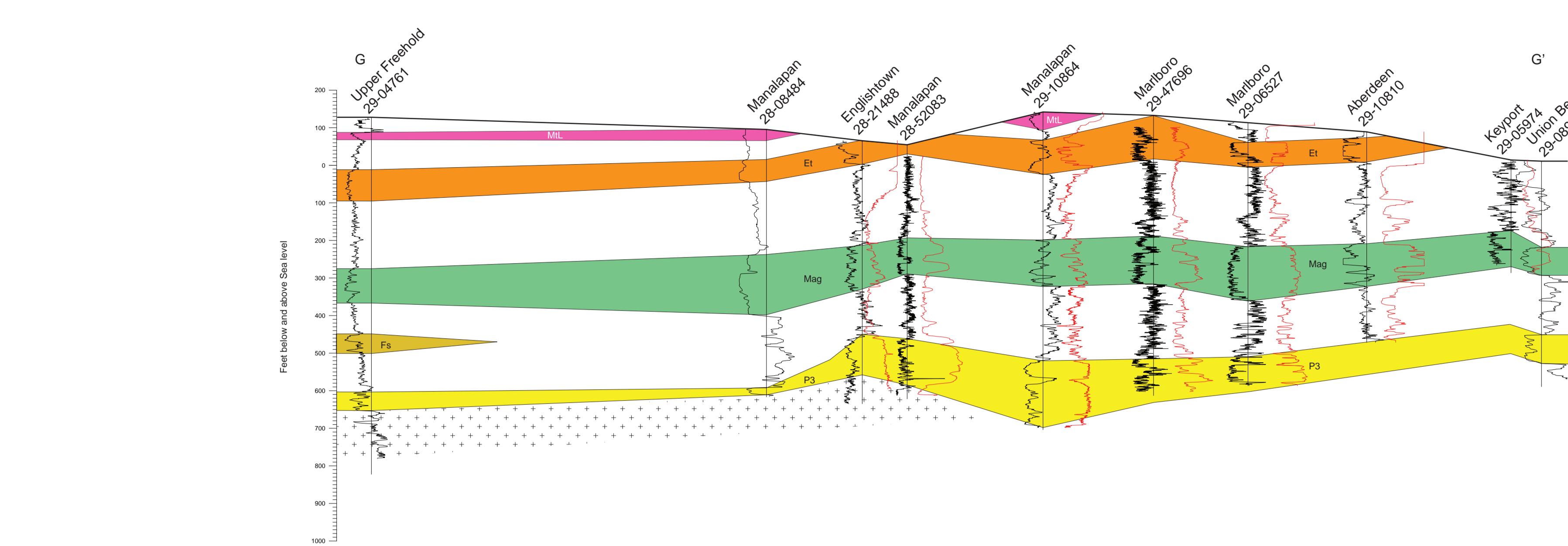


Figure 10. Hydrogeologic section G-G'

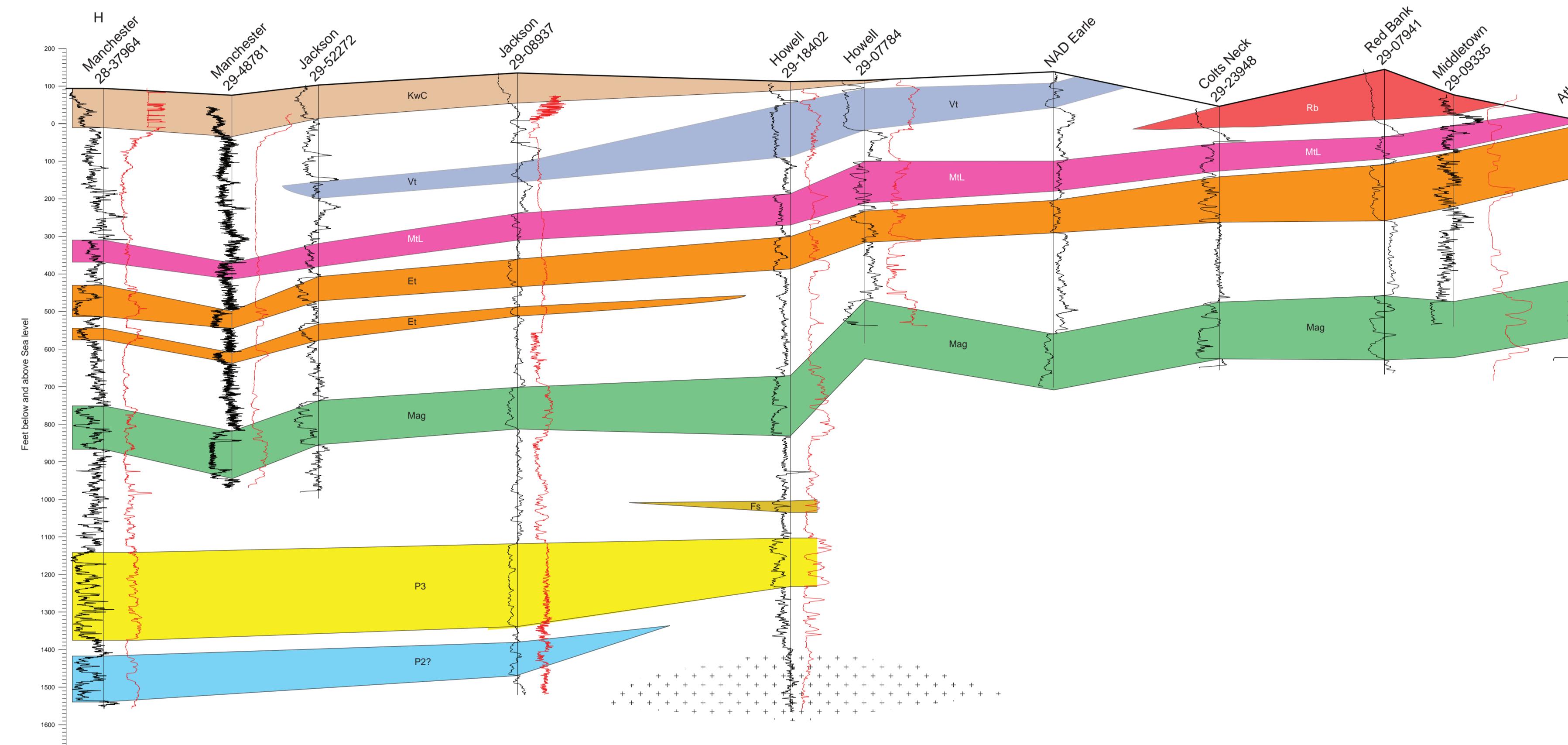


Figure 11. Hydrogeologic section H-H'

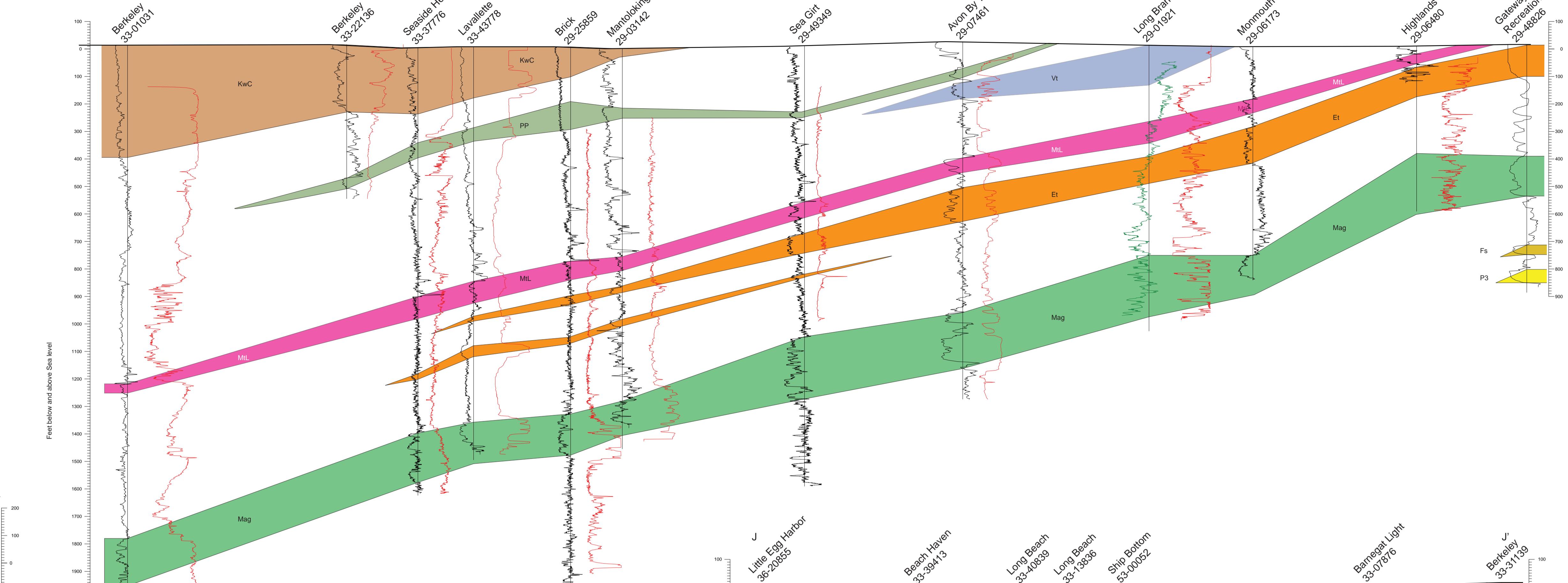


Figure 12. Hydrogeologic section I-I'

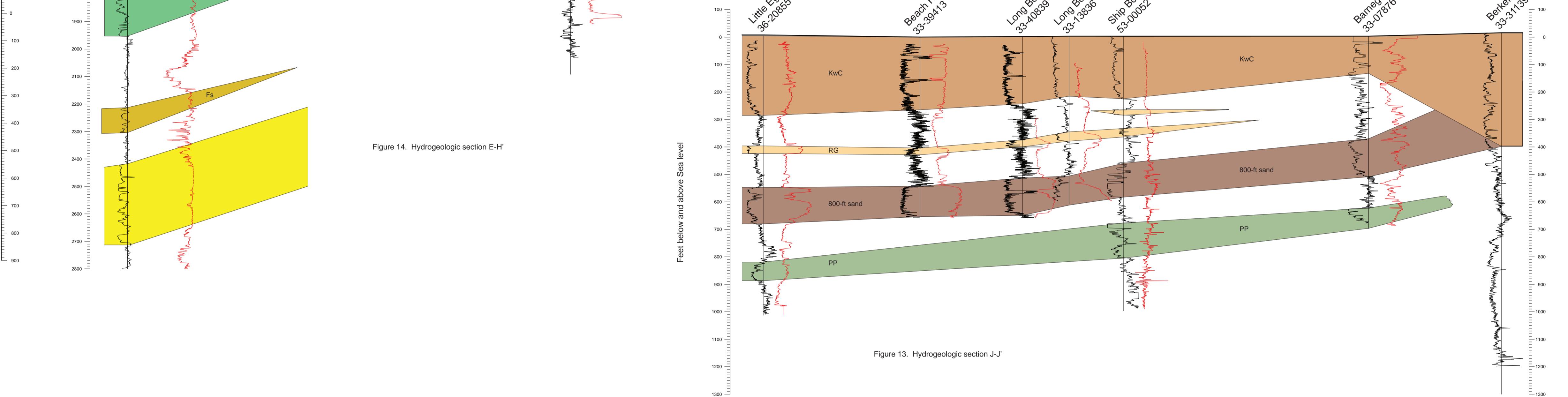


Figure 13. Hydrogeologic section J-J'

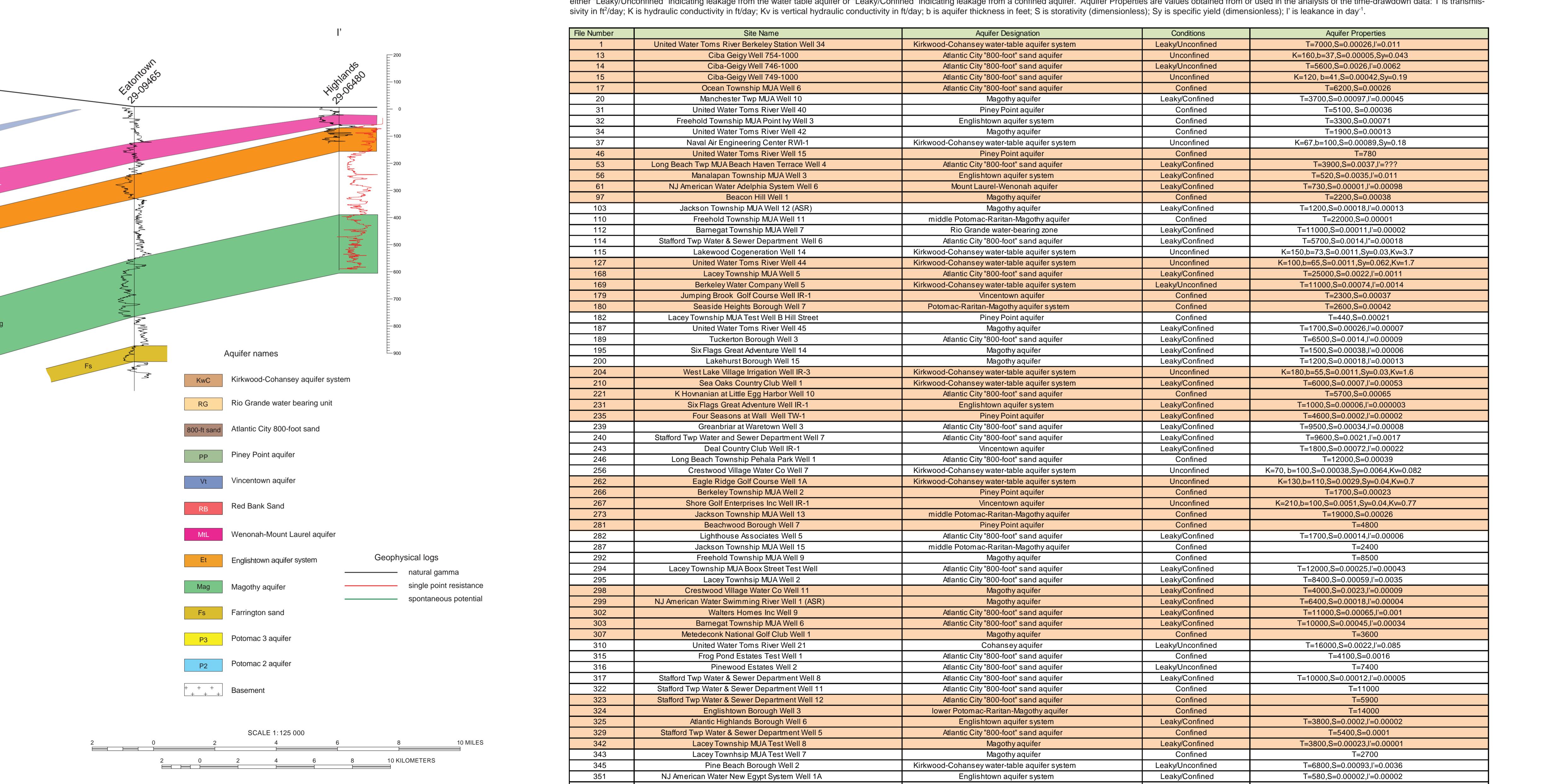


Table 2. Summary of aquifer tests on file at the New Jersey Geological and Water Survey. File Number identifies a particular aquifer test in the NJGWS paper files and in the Hydro database. Site Name identifies the test well and owner. Aquifer Designation is the name of the aquifer in which the test well is completed. Conditions "Unconfined", "Leaky", and "Confined" indicates the hydraulic behavior observed in the time-drawdown data; the modifier conveys the source of the leakage, either "Leaky/Unconfined" indicating leakage from the water table aquifer or "Leaky/Confined" indicating leakage from a confined aquifer. Aquifer Properties are values obtained from or used in the analysis of the time-drawdown data. T is transmissivity in ft/day; K is hydraulic conductivity in today; Kv is vertical hydraulic conductivity in ft/day; b is aquifer thickness in feet; S is storage (dimensionless); Sy is specific yield (dimensionless); L is leakage in day⁻¹.

File Number	Site Name	Aquifer Designation	Conditions	Aquifer Properties
1	United Water Toms River Beach Station Well 34	Kirkwood-Cohansey water-table aquifer system	Leaky/Unconfined	T=7000.0,S=0.0028,T=0.011
13	Ciba Geigy Well 754-1009	Atlantic City '800-foot' sand aquifer	Unconfined	K=160,b=3.7,S=0.0008,Sy=0.043
14	Ciba Geigy Well 746-1009	Atlantic City '800-foot' sand aquifer	Leaky/Unconfined	T=5600,S=0.0026,T=0.0055
15	Ciba-Geigy Well 1000	Atlantic City '800-foot' sand aquifer	Unconfined	K=120,b=3.7,S=0.0008,Kv=0.019
17	Ocean Township MJA Well 6	Atlantic City '800-foot' sand aquifer	Confined	T=6200,S=0.0026
20	Manchester Two MJA Well 10	Magothy aquifer	Leaky/Confined	T=3700,S=0.0097,T=0.0045
31	Piney Point aquifer	Confined	T=5100,S=0.0003	
32	Freeport Township MJA Well 3	Englewood aquifer	Unconfined	T=3000,S=0.0013
34	United Water Toms River Well 42	Magothy aquifer	Confined	T=1900,S=0.0013
37	Naval Engineering Center RW-1	Kirkwood-Cohansey water-table aquifer system	Unconfined	K=67,b=3.0,S=0.0008,Sy=0.18
46	United Water Toms River Well 15	Piney Point aquifer	Confined	T=780
53	Long Beach Twp MJA Beach House Service Well 4	Atlantic City '800-foot' sand aquifer	Leaky/Unconfined	T=3500,S=0.0017,T=0.0077
55	Manasquan MJA Well 1	Englewood aquifer	Leaky/Confined	T=520,S=0.0038,T=0.011
61	NJ American Adelphia System Well 6	Mount Laurel-Wenonah aquifer	Leaky/Confined	T=730,S=0.0001,T=0.0098
97	Benson Hill Well 1	Magothy aquifer	Confined	T=2200,S=0.00038
103	Jackson Township MJA Well 12 (ASK)	Magothy aquifer	Leaky/Confined	T=1200,S=0.0018,T=0.0013
105	Freeport Township MJA Well 14	middle Potomac-Raritan-Magothy aquifer	Unconfined	T=2000,S=0.0013
112	Barnegat Township MJA Well 7	Rio Grande water-bearing zone	Leaky/Confined	T=11000,S=0.0011,T=0.0002
114	Stafford Two Water & Sewer Department Well 6	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=7470,S=0.0014,T=0.0018
115	Lakewood Cogenration Well 10	Kirkwood-Cohansey water-table aquifer system	Unconfined	K=150,b=7.3,S=0.011,Sy=0.03,Kv=3.7
127	Union Township MJA Well 14	Kirkwood-Cohansey water-table aquifer system	Unconfined	K=1000,b=10.5,S=0.008,Kv=2.7
168	Lacey Township MJA Well 5	Agawam '800-foot' sand aquifer	Leaky/Confined	T=2500,S=0.0022,T=0.0017
169	Berkley Water Company Well 5	Kirkwood-Cohansey water-table aquifer system	Leaky/Unconfined	T=11000,S=0.0074,T=0.0014
179	Jumping Brook Golf Course Well IR-1	Vincentown aquifer	Confined	T=2300,S=0.0003
180	Seaside Twp MJA Test Well 17	Potomac-Raritan-Magothy aquifer system	Unconfined	T=2000,S=0.0021
182	Lacey Township MJA Test Well 17	Piney Point aquifer	Confined	T=440,S=0.0021
187	United Water Toms River Well 14	Magothy aquifer	Leaky/Confined	T=17000,S=0.0028,T=0.0007
189	Tuckerton Borough Well 3	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=15000,S=0.0038,T=0.0008
195	Six Flags Great Adventure Well 14	Magothy aquifer	Leaky/Confined	T=14000,S=0.0017,T=0.0008
200	Atlantic City '800-foot' sand aquifer	Magothy aquifer	Leaky/Confined	T=13000,S=0.0017,T=0.0008
204	West Lake Village Irrigation Well IR-3	Kirkwood-Cohansey water-table aquifer system	Unconfined	K=180,b=55.0,S=0.0011,Sy=0.01,Kv=1.6
210	Sea Oaks Country Club Well 1	Kirkwood-Cohansey water-table aquifer system	Leaky/Confined	T=6000,S=0.0071,T=0.0053
221	K Howanian & Little Egg Harbor Well 10	Atlantic City '800-foot' sand aquifer	Confined	T=5700,S=0.0003,T=0.0003
231	Six Flags Great Adventure Well IR-1	Englewood aquifer	Leaky/Confined	T=10000,S=0.0034,T=0.0003
235	Point Pleasant Well TW-1	Piney Point aquifer	Leaky/Confined	T=4600,S=0.0032,T=0.0002
239	Greenbank at Waretown Well 3	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=9500,S=0.0034,T=0.0008
240	Stafford Two Water and Sewer Department Well 7	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=9600,S=0.021,T=0.0017
246	Long Beach Twp MJA Beach House Well 1	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=10000,S=0.0022,T=0.0002
256	Crestwood Village Co Well 7	Kirkwood-Cohansey water-table aquifer system	Unconfined	K=70,b=100.0,S=0.0003,Sy=0.006,Kv=0.082
262	Eagle Ridge Golf Course Well 1A	Kirkwood-Cohansey water-table aquifer system	Unconfined	K=130,b=110.0,S=0.0028,Sy=0.01,Kv=0.7
266	Berkley Township MJA Well 2	Piney Point aquifer	Confined	T=17000,S=0.0003
267	Shoreline Apartments MJA Well 12	Vincentown aquifer	Unconfined	K=210,b=10.5,S=0.008,Sy=0.0077
273	Jackson Township MJA Well 13	middle Potomac-Raritan-Magothy aquifer	Confined	T=19000,S=0.00038,T=0.0008
281	Beachwood Borough Well 7	Piney Point aquifer	Confined	T=4800
282	Lighthouse Associates Well 5	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=17000,S=0.0014,T=0.0006
287	Jackson Township MJA Well 15	middle Potomac-Raritan-Magothy aquifer	Confined	T=2400
293	Fairfield Township MJA Well 9	Magothy aquifer	Leaky/Confined	T=2000
294	Lacey Township MJA Box Street Test Well	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=12000,S=0.0025,T=0.00043
295	Lacey Township MJA Well 2	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=4400,S=0.0059,T=0.0035
298	Crestwood Village Water Co Well 11	Magothy aquifer	Leaky/Confined	T=4000,S=0.0023,T=0.0003
301	NJ American Water Co Well 10 (ASR)	Magothy aquifer	Leaky/Confined	T=10000,S=0.00065,T=0.001
302	Waters Homes Inc Well 9	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=11000,S=0.00065,T=0.001
303	Barnegat Township MJA Well 6	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=10000,S=0.00045,T=0.00034
307	Metedeconk National Golf Club Well 1	Magothy aquifer	Confined	T=3600
310	Underwater Toms River Well 21	Colony aquifer	Leaky/Confined	T=16000,S=0.0025,T=0.0006
315	Frigidaire Test Well 1	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=4100,S=0.0016
316	Pinewood Estates Well 2	Atlantic City '800-foot' sand aquifer	Leaky/Unconfined	T=7400
317	Stafford Two Water & Sewer Department Well 8	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=10000,S=0.0012,T=0.00005
322	Stafford Two Water & Sewer Department Well 11	Atlantic City '800-foot' sand aquifer	Confined	T=11000
323	Stafford Two Water & Sewer Department Well 12	Atlantic City '800-foot' sand aquifer	Confined	T=12000
324	Englewood Borough Well 3	lower Potomac-Raritan-Magothy aquifer	Confined	T=14000
325	Atlantic Highlands Borough Well 6	Englewood aquifer system	Leaky/Confined	T=3800,S=0.0021,T=0.0002
329	Stafford Two Water & Sewer Department Well 5	Atlantic City '800-foot' sand aquifer	Leaky/Confined	T=5400,S=0.001
342	Lakehurst Borough Well 8	Magothy aquifer	Leaky/Confined	T=36000,S=0.0001,T=0.0001
343	Lacey Township MJA Test Well 7	Magothy aquifer	Leaky/Confined	T=2700
345	Pine Beach Borough Well 2	Kirkwood-Cohansey water-table aquifer system	Leaky/Unconfined	T=8800,S=0.0093,T=0.0038
351	NJ American Water New Egypt System Well 1A	Englewood aquifer system	Leaky/Confined	T=8800,S=0.0092,T=0.0002
357	Shorelands Water Co Inc Well 7	Magothy aquifer	Leaky/Confined	T=2100

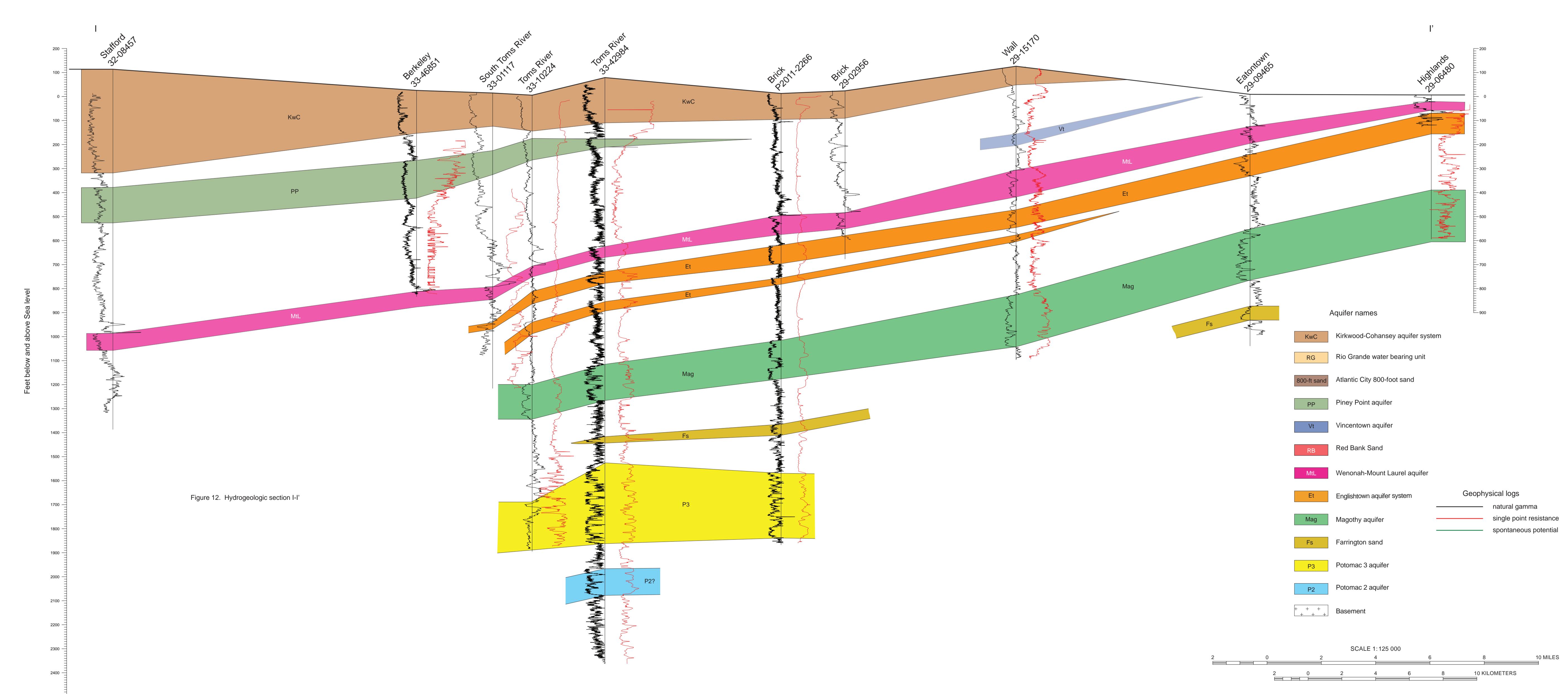


Figure 12. Hydrogeologic section I-I'

SCALE 1:125 000
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