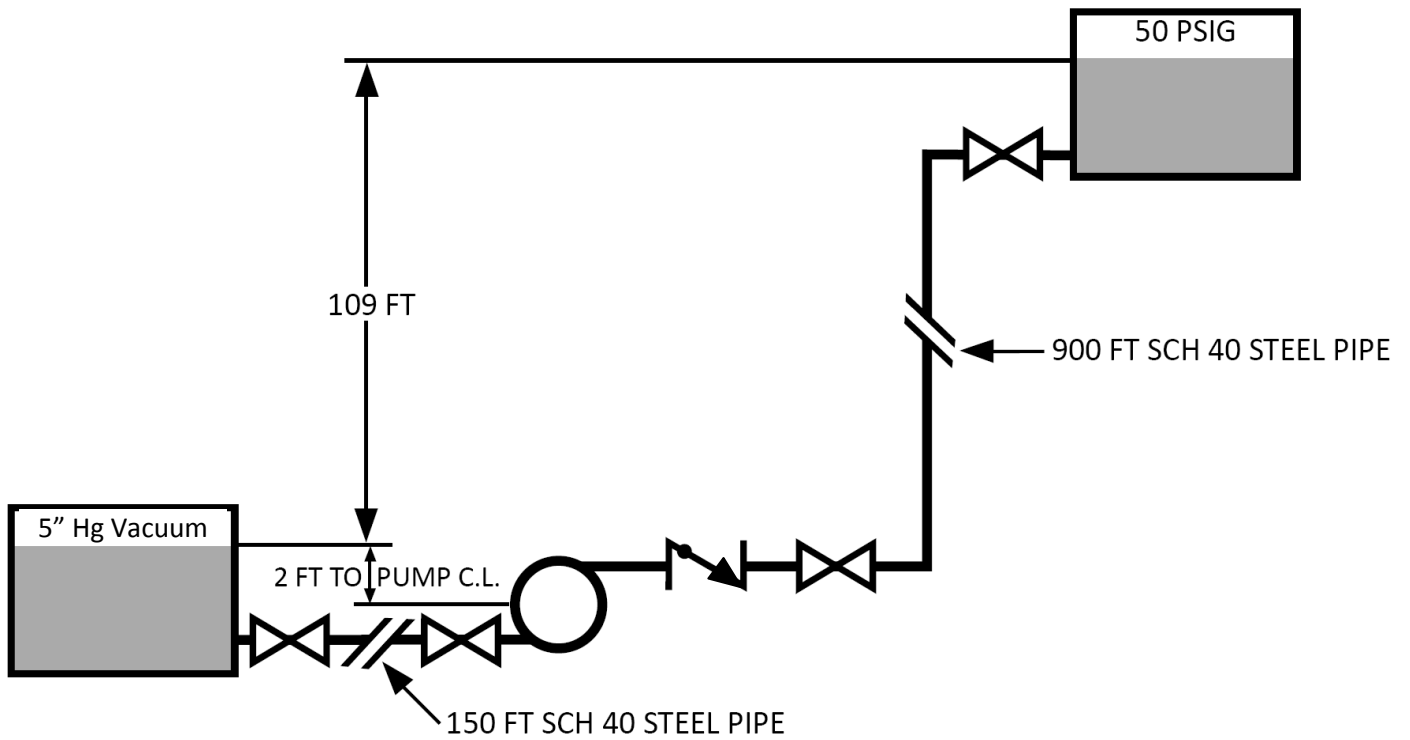
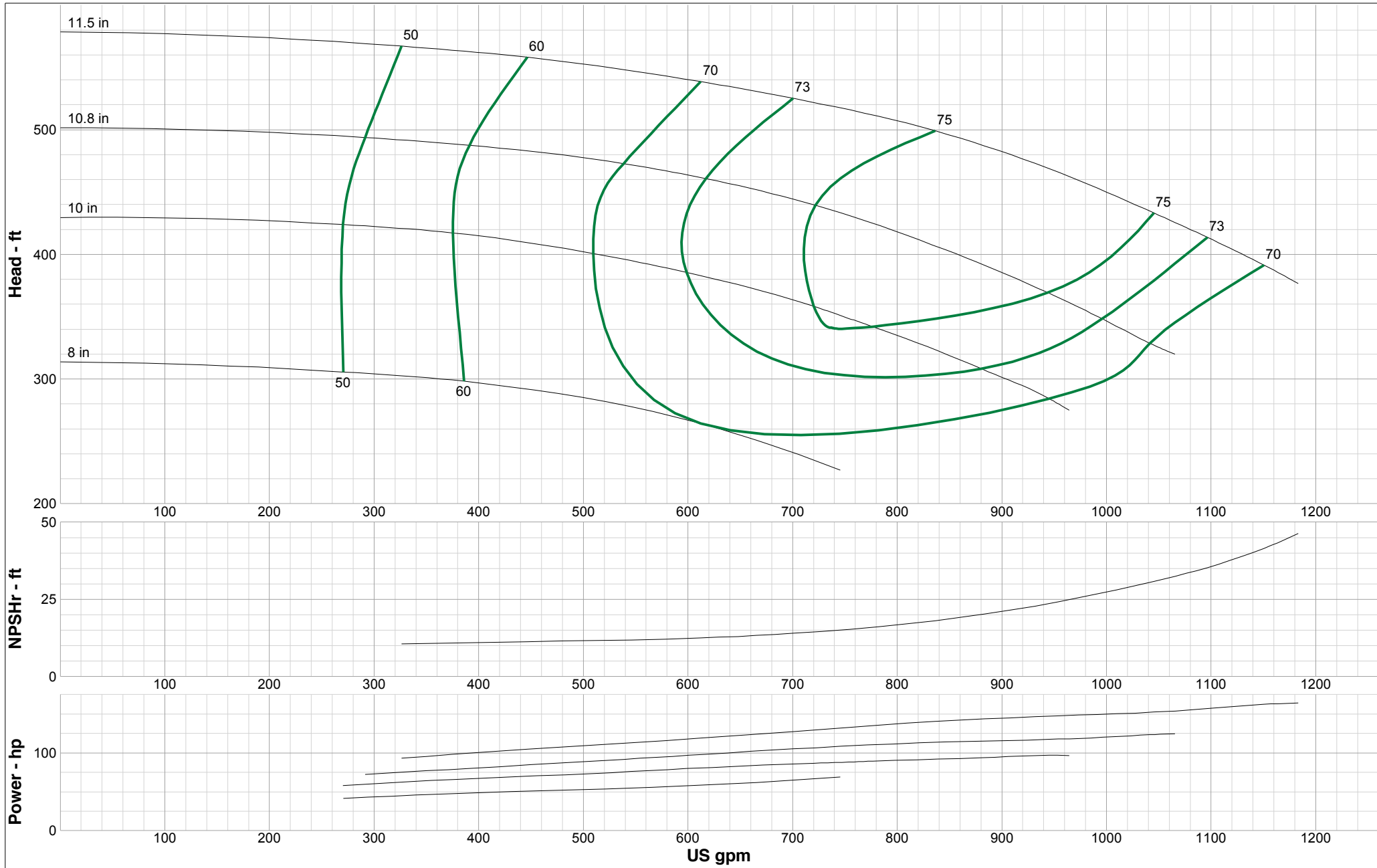


# PROBLEM 1 – CALCULATION OF PUMP TH

The piping for the system shown below must be sized, and the pump TH must be computed.

- GIVEN:
- Capacity = 1000 gpm
  - Fluid = Water at 150°F (s.g. = 0.98)
  - Pipes = Schedule 40 steel pipe
  - Atmospheric pressure = 14.7 psia = 29.9" Hg
  - Pump configuration = End Suction
  - Speeds to consider = 1800/3600 rpm
  - Design velocity = 5 to 7 ft/sec (suction),  
10 to 12 ft/sec (discharge)
  - All fittings and valves have flanged connections
  - Elbows are standard 90 degree elbows
  - O.K. to use the friction tables for water at 60°F





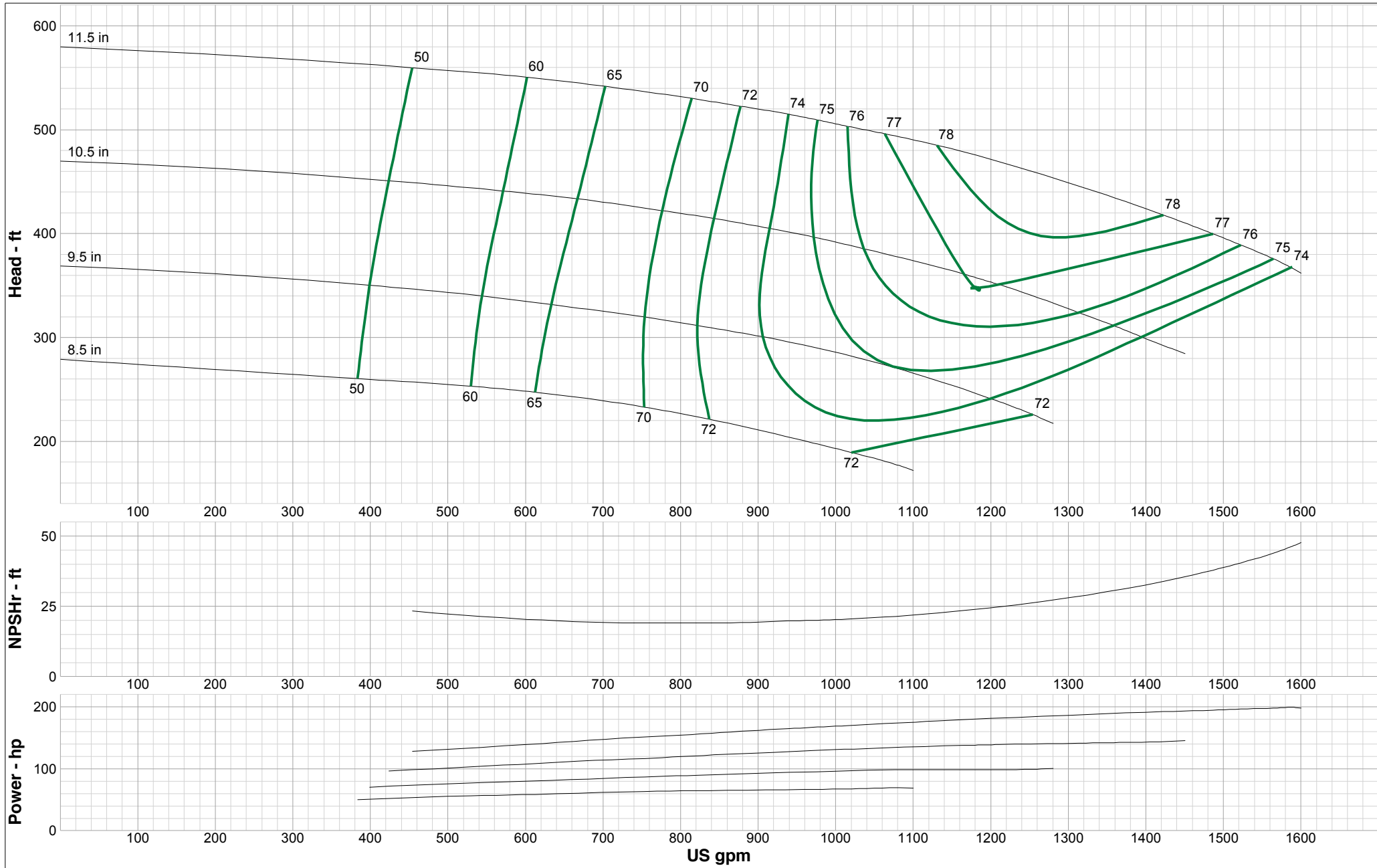
Pump effy must be corrected for spec'l seals, reduced pump speed.

Company: Total Pump Training  
 Name: Mike Volk  
 1/15/2010

API Pumps  
 Catalog: Sample API Pumps 60Hz, Vers 1  
 API-610 - 3600

Size: 3x6x12  
 Speed: 3560 rpm  
 Dia: 11.5 in  
 Curve: PS 536





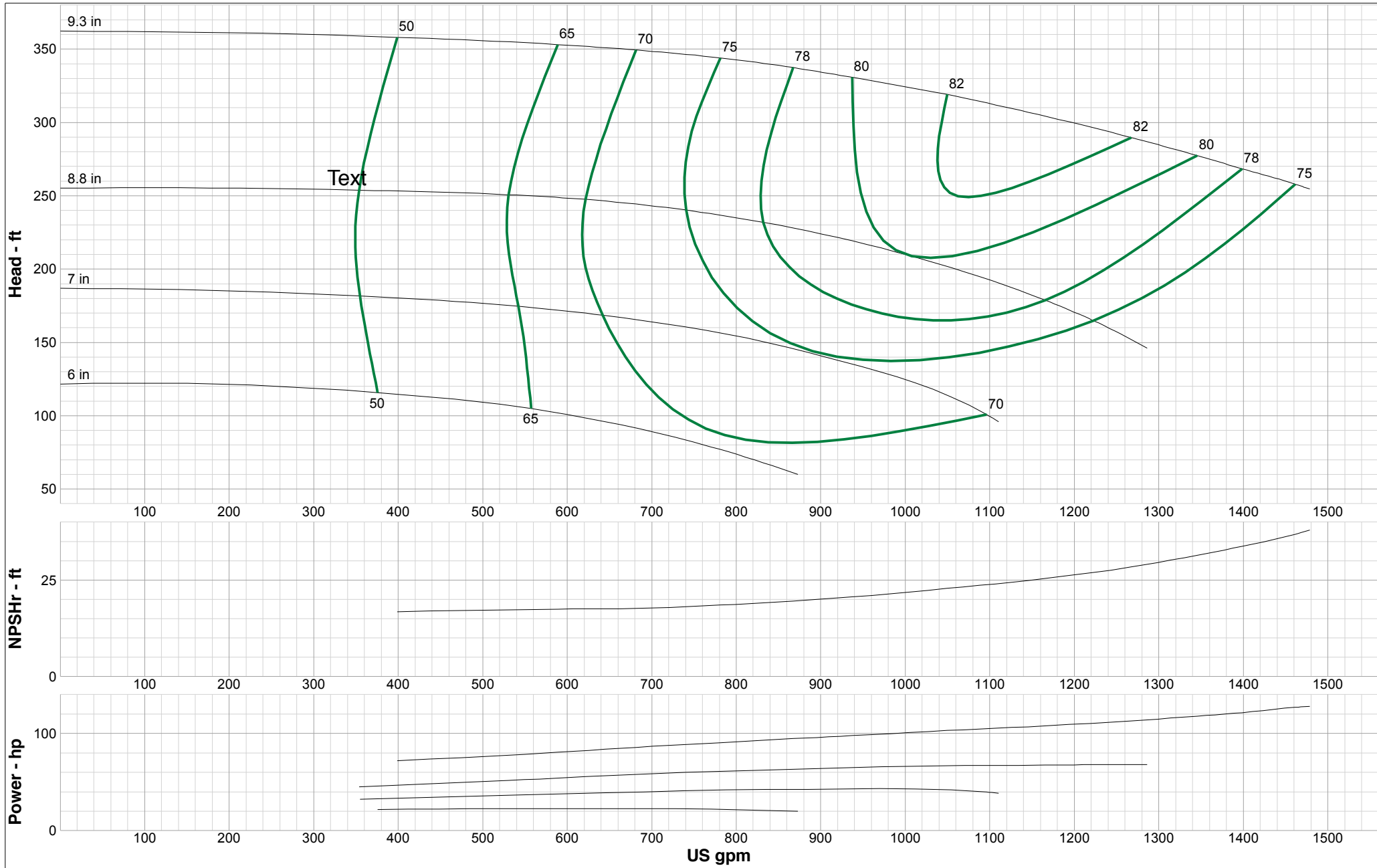
Pump effy must be corrected for spec'l seals, reduced pump speed.

Company: Total Pump Training  
 Name: Mike Volk  
 1/15/2010

API Pumps  
 Catalog: Sample API Pumps 60Hz, Vers 1  
 API-610 - 3600

Size: 4x6x12  
 Speed: 3560 rpm  
 Dia: 11.5 in  
 Curve: PS 500.1





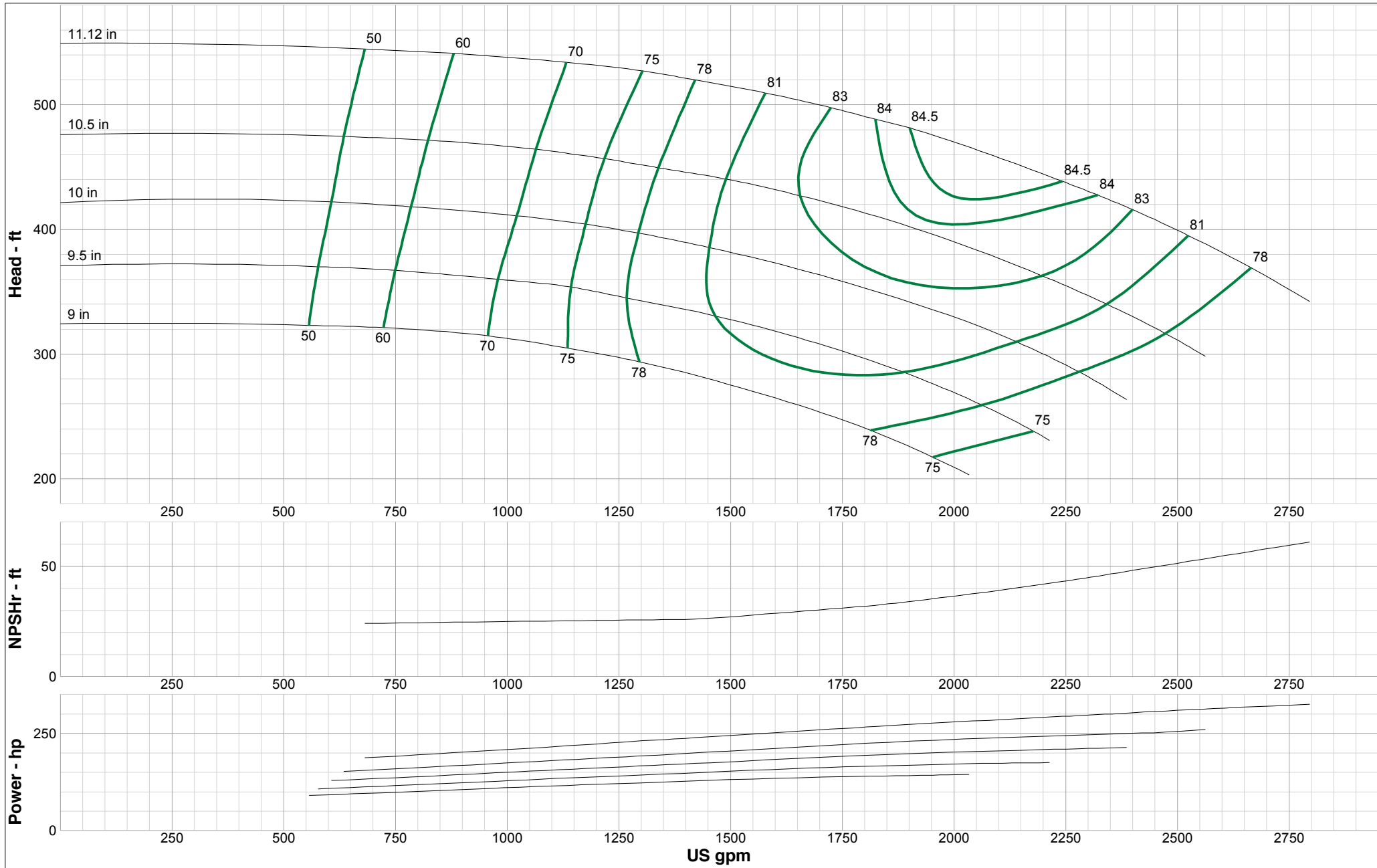
Pump effy must be corrected for spec'l seals, reduced pump speed.

Company: Total Pump Training  
 Name: Mike Volk  
 1/15/2010

API Pumps  
 Catalog: Sample API Pumps 60Hz, Vers 1  
 API-610 - 3600

Size: 4x6x9  
 Speed: 3560 rpm  
 Dia: 9.3 in  
 Curve: PS 503





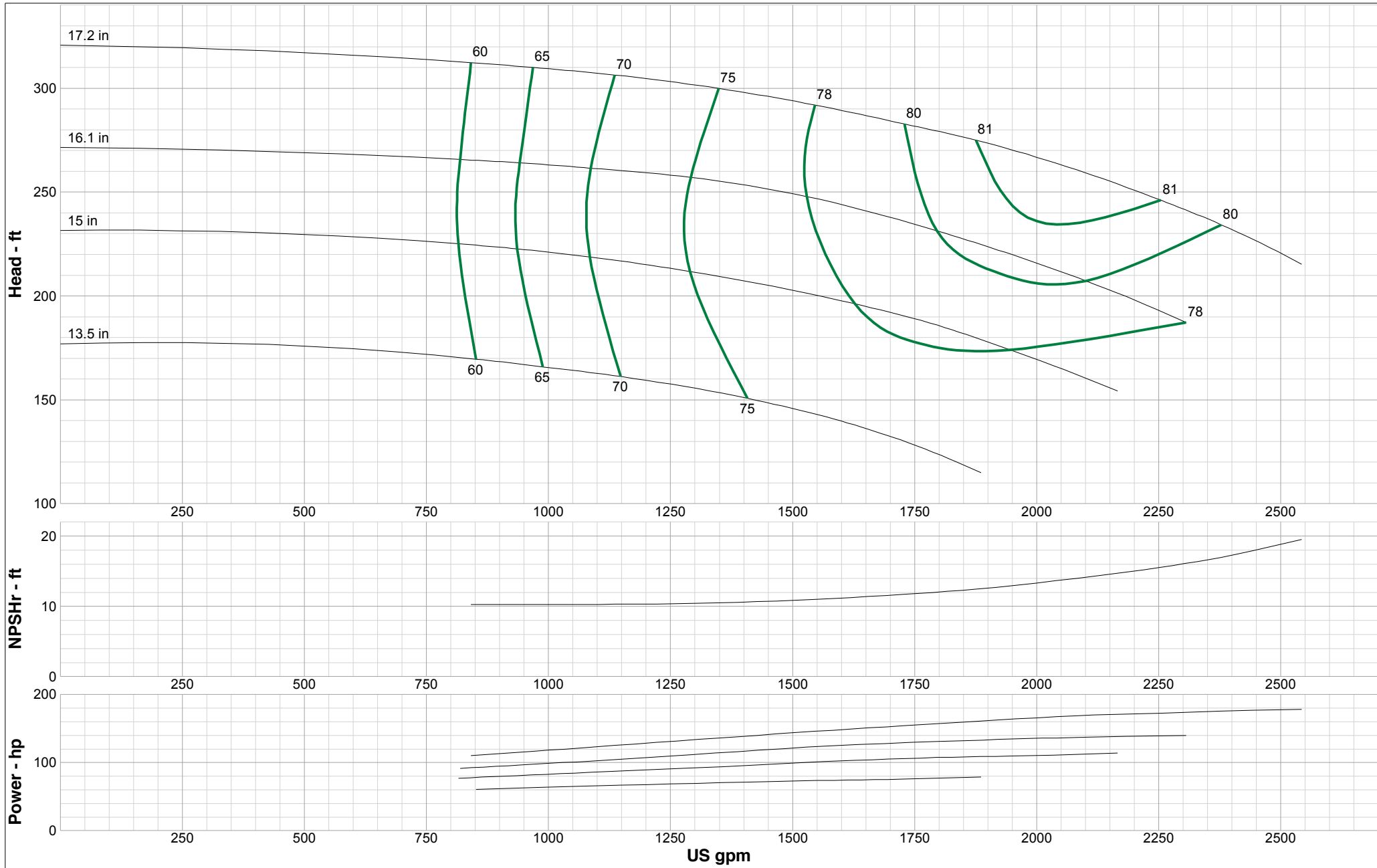
Pump effy must be corrected for spec'l seals, reduced pump speed.

Company: Total Pump Training  
 Name: Mike Volk  
 1/15/2010

API Pumps  
 Catalog: Sample API Pumps 60Hz, Vers 1  
 API-610 - 3600

Size: 6x8x11  
 Speed: 3560 rpm  
 Dia: 11.12 in  
 Curve: PS 501





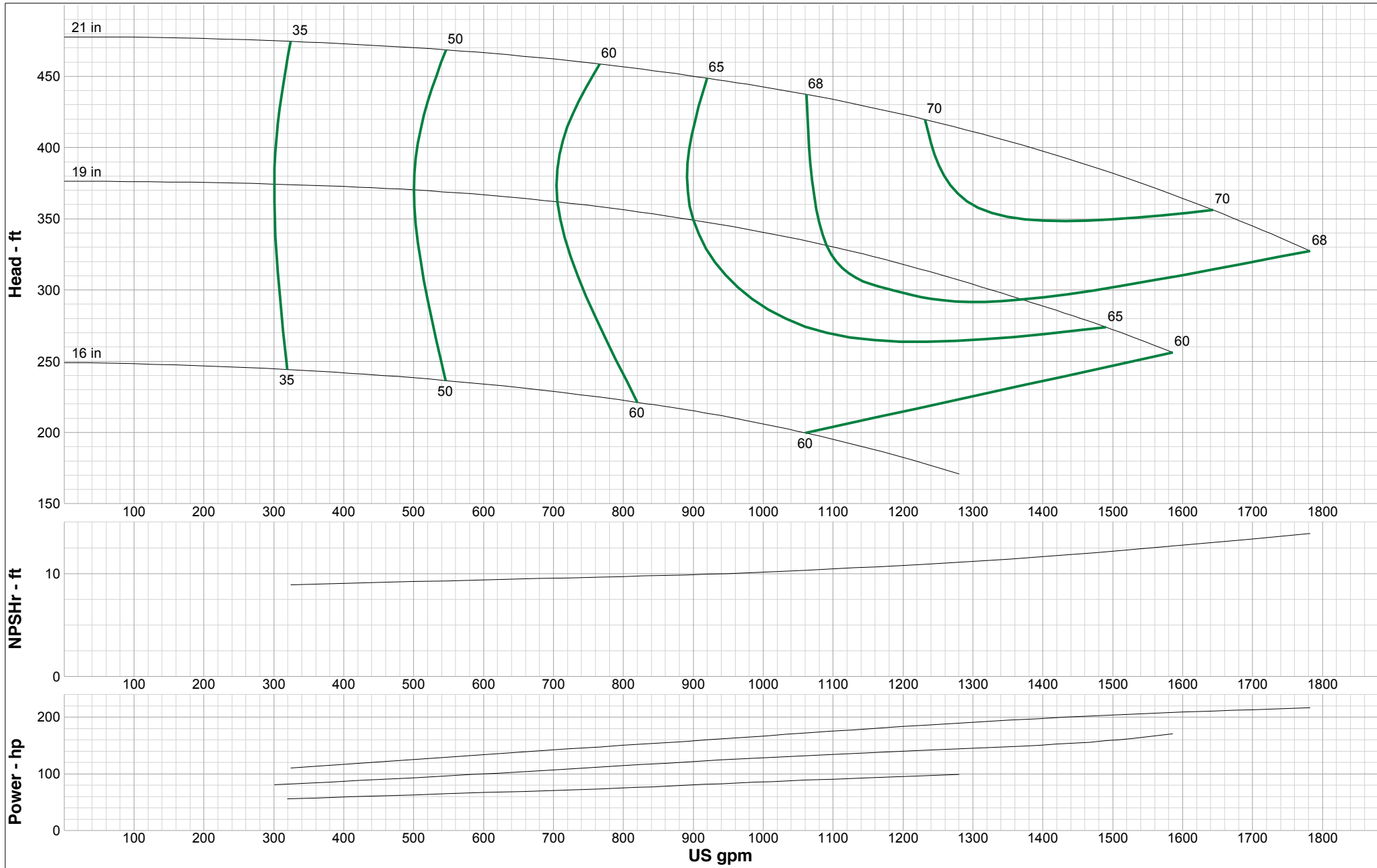
Pump effy must be corrected for spec'l seals, reduced pump speed.

Company: Total Pump Training  
 Name: Mike Volk  
 1/15/2010

API Pumps  
 Catalog: Sample API Pumps 60Hz, Vers 1  
 API-610 - 1800

Size: 6x8x17  
 Speed: 1760 rpm  
 Dia: 17.2 in  
 Curve: PS 514.1





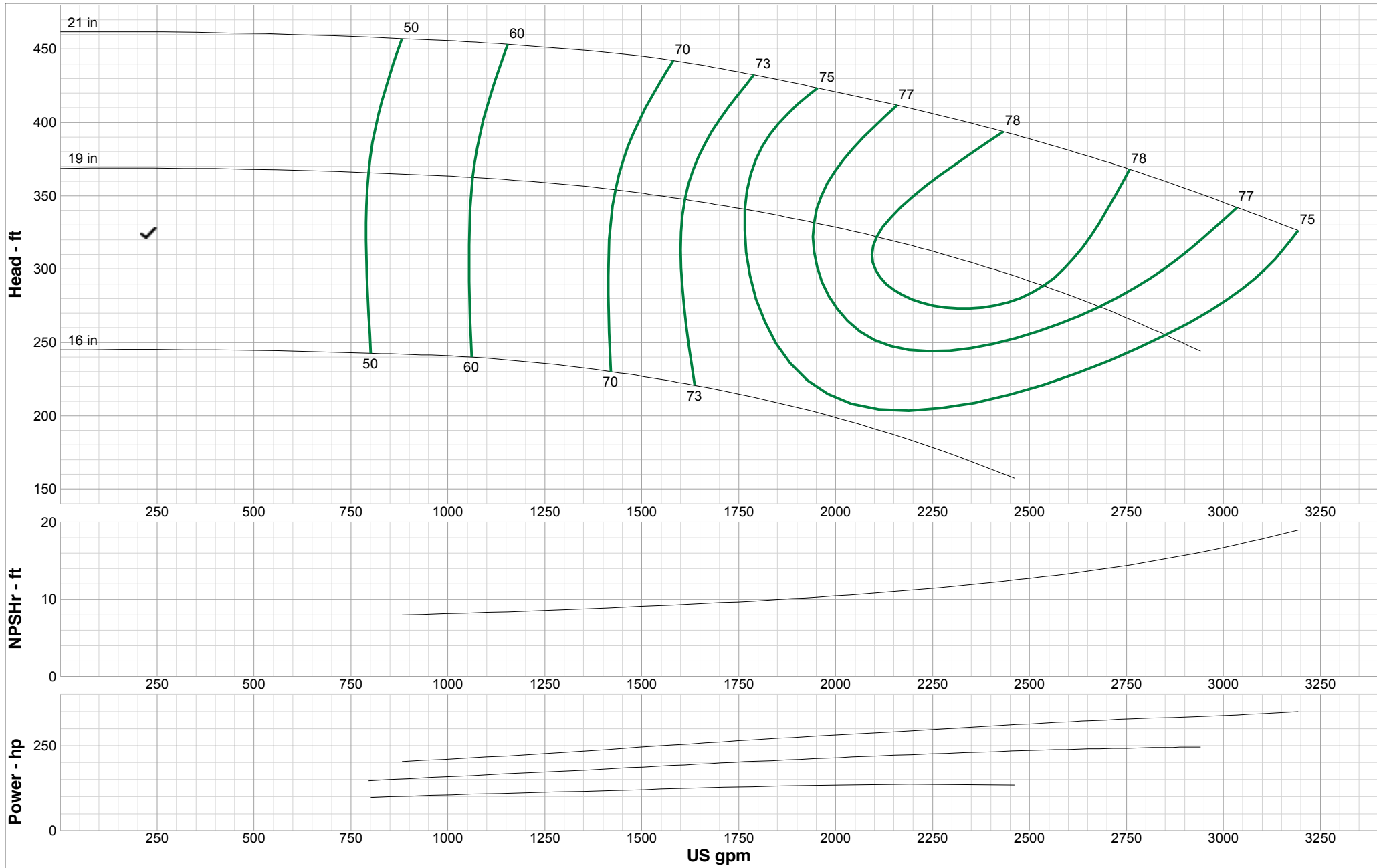
Pump effy must be corrected for spec'l seals, reduced pump speed.

Company: Total Pump Training  
 Name: Mike Volk  
 1/15/2010

API Pumps  
 Catalog: Sample API Pumps 60Hz, Vers 1  
 API-610 - 1800

Size: 6x8x21  
 Speed: 1760 rpm  
 Dia: 21 in  
 Curve: PS 551





Pump effy must be corrected for spec'l seals, reduced pump speed.

Company: Total Pump Training  
 Name: Mike Volk  
 1/15/2010

API Pumps  
 Catalog: Sample API Pumps 60Hz, Vers 1  
 API-610 - 1800

Size: 8x10x21  
 Speed: 1760 rpm  
 Dia: 21 in  
 Curve: PS 748

