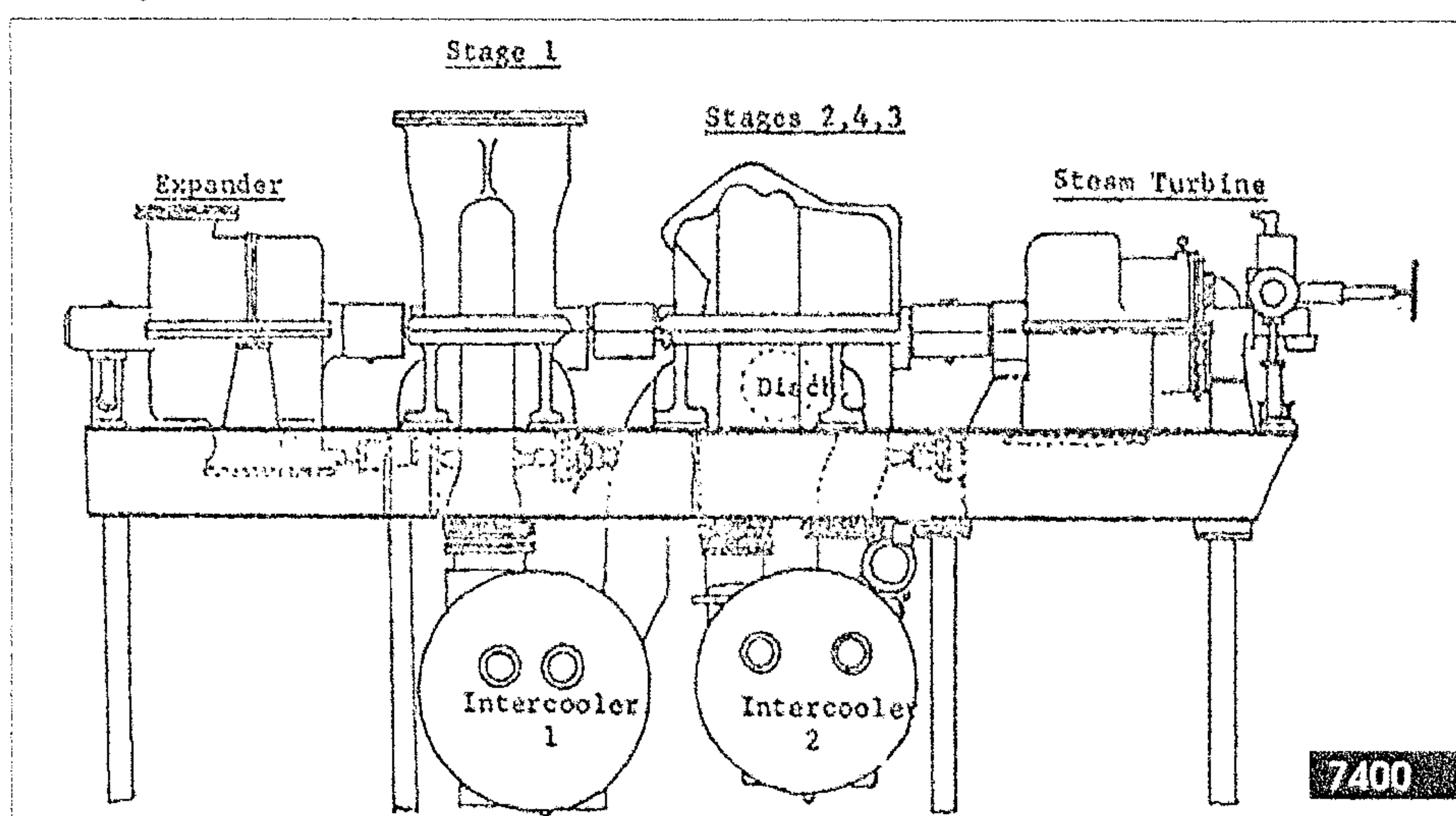


390 TPD Nitric Acid Plant Liquidation

Summary

Weatherly Designed Nitric Acid Plant, 390 TPD, Built in 1971, with minimal operating time. Equipment Includes: Compressor Train, Heat Exchanger Train, Absorber Tower and Related Area, and other parts.

Compressor Train



Compressor Train - #7400 44,450 CFM Ingersoll-Rand Steam Turbine Driven Compressor Train

7400A Air Compressor Base Skid

7400B Compressor Stage 1 with spare rotor and No. 1 Intercooler Condenser with spare tube bundle

7400C Compressor Stage 2, 4 and 3 with spare rotor and No. 2 Intercooler Condenser with spare tube bundle

7400D Steam Turbine: Terry Model GHF-45 with rotor and steam ejectors and steam condensers

7400E Surface Condenser

7400F Lube Oil System

Note: Expander is not available

Includes: Compressor Stage 1, 2, 4, 3; Steam Turbine; Intercooler 1 and 2 with spare bundles; Lube Oil System.

44,450 CFM @ 134 PSI Used Compressor Train Includes: Compressor - Speed 8200 rpm, Drive power 9020 HP, Disch. Press. 120 psig, Temp. Out 345 F, 4 Stages, Capacity to Process 36,739 SCFM (dry) (SCFM 14.7 psia & 60 F), Capacity (including air) 44,455 CFM.

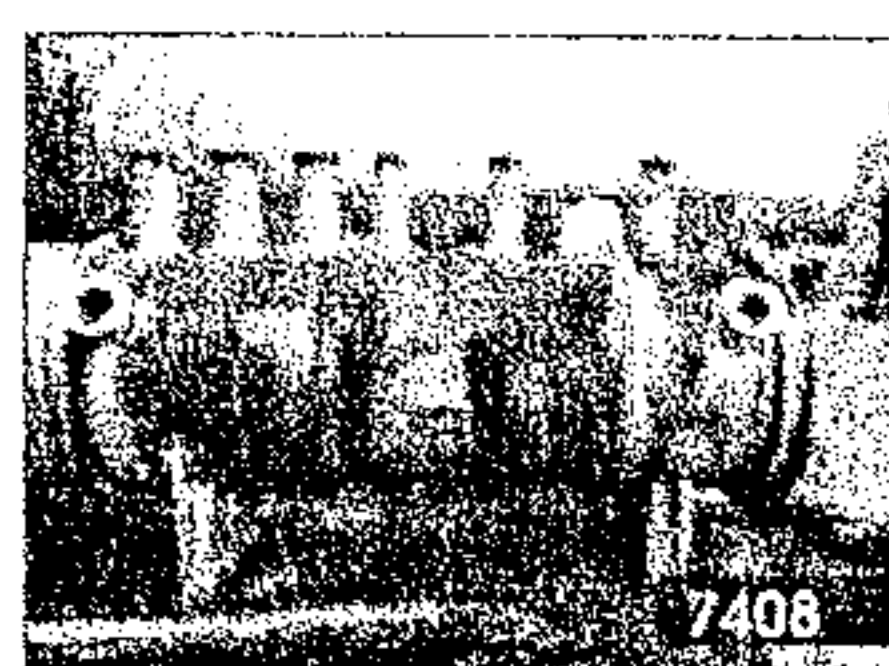
Stage 1 (with spare rotor): 1st critical speed 10,320 rpm, Max Temp 450 F, Max Oper. Press. 30 psig. Stage 2, 4, 3 (with spare rotor): 1st critical speed 5700 rpm, 2nd critical speed 12,900 rpm, Max Temp. 450 F, Max. Oper. Press. variable to 120 psig. Steam Turbine: Speed 8200 rpm, normal HP 1130 HP, Start-up HP 3000 HP, Steam In. 250 psig, Steam Temp. 406 F, Start-up steam 47,600 lbs/hr, Normal steam 12,700 lbs/hr, Start-up Ex. Press. 9" Hg absolute, Normal Ex. Press. 3" Hg abs., No. Stages 4 (with rotors, steam ejector, steam condenser). Cooling Water Data: Lube oil cooler 107 gpm, Surface condenser 1143 gpm, Start-up surface cond. 2350 gpm, No. 1 intercooler 610 gpm (with spare bundle), No. 2 intercooler 550 gpm (with spare bundle), Absorber 3120 gpm, Product cooler 205 gpm. Total Cooling Water: Normal 5735 gpm, Start-up 6942 gpm. Expander (Note: Missing Expander): Speed 8200 rpm, 8250 HP, Press. Inlet 85 psig, Temp. Inlet 1250 F, No. Stages 5, Disch. Temp. 640 F. Previous Use: Nitric Acid

Also Available:

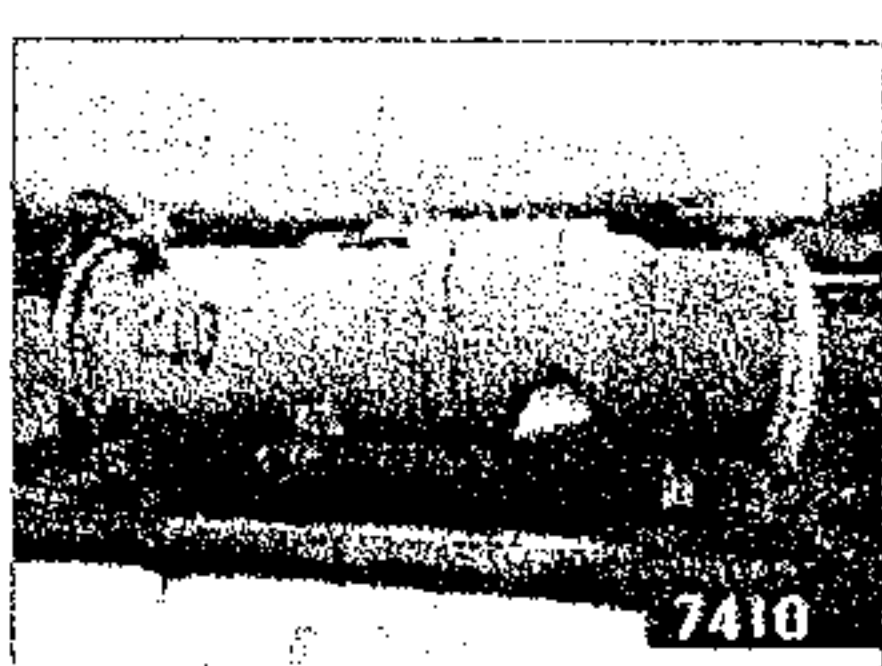
#7418 - Exhaust Stack

#7439 - Economizer - Used 2473 Sq. Ft. Kentube Company Fin Fan Heat Exchanger, 325#

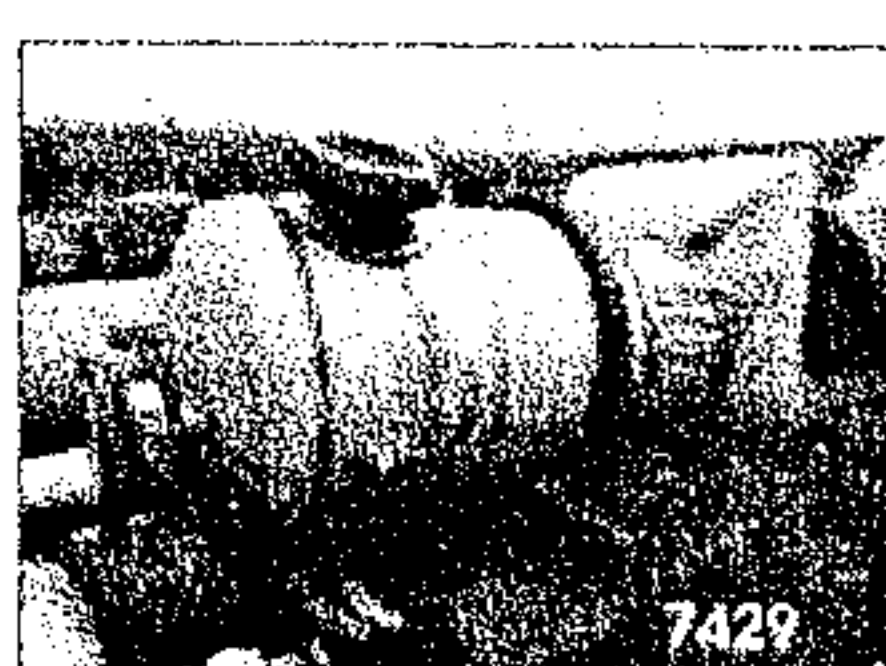
#7440 - Treated Water Heater - Used 604 Sq. Ft. Kentube Fin Fan Heat Exchanger, 55#



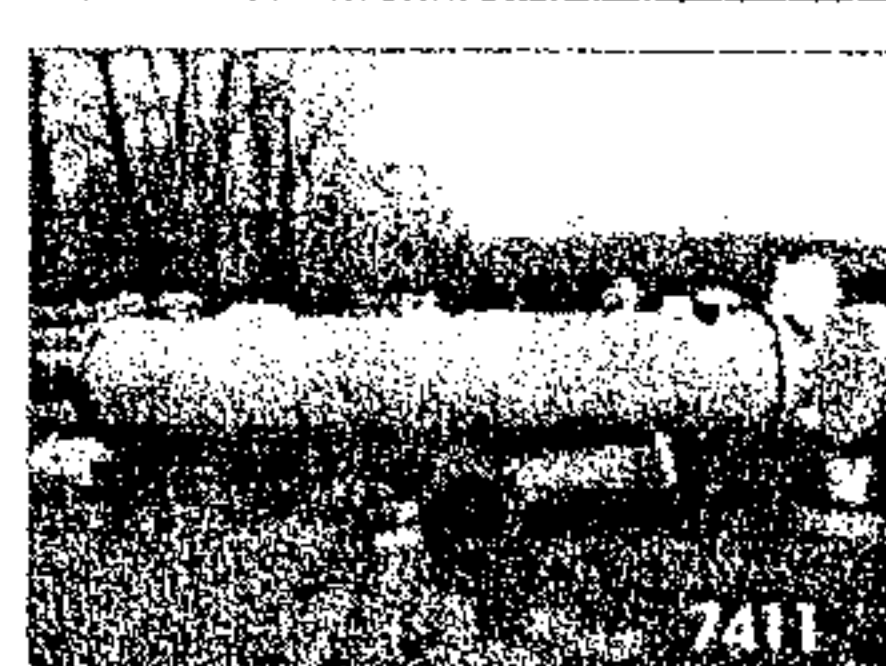
Unused Waste
Heat Boiler



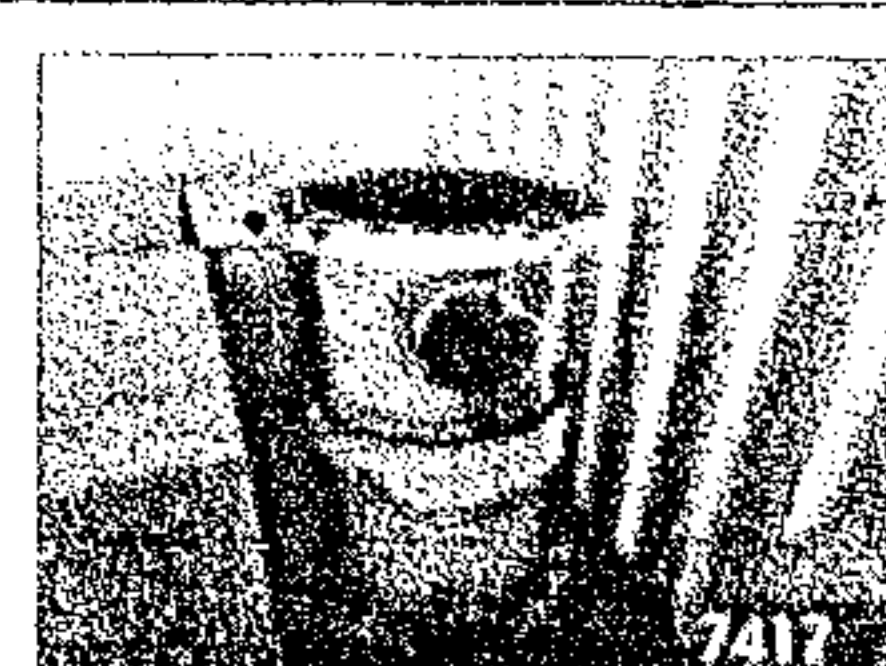
Air Heater



Tail Gas Interchanger



Unused Tail Gas Heater



Tall Gas Preheater



Used Nitric Acid Plant Ammonia Air Mixer (Converter Cone). Manufactured by Missouri Boiler and Tank Company, Stainless Steel. Rated 135 psi @ 650 F. Flg "A" 135 psi @ 550 F. Shell thickness 3/16" and 5/16". Head thickness 169 min, Head radius 211. Serial # H-5235, National Board # 3133, Built 1971. (Note: Converter and Converter Elbow not available but drawings are available)



Unused 1900 Sq. Ft. Reco Industries Horizontal Stainless Steel Shell & Tube Heat Exchanger, rated 285 psi @ 600 F. Serial # N6439.10, National Board # 81414, Built 1985.

Used 1900 Sq. Ft. Reco Industries Horizontal Stainless Steel Shell & Tube Heat Exchanger, rated 285 psi @ 600 F. Serial # N6439,20, National Board #P700, Built 1984. Estimated weight 24,000 lbs.



Used 991 Sq. Ft. Horizontal 304L Stainless Steel Shell & Tube Heat Exchanger. Rated 135 psi @ 775 F on the shell, and 135 psi @ 700 F on the tubes. Serial # H5239, National Board # 3136, Built 1971.



Used 1150 Sq. Ft. Shell & Tube Heat Exchanger. Shell rated 110 psi @ 1450 F, SA 249-304 Tubes rated 110 psi @ 1200 F. U-Tube design, Mfg by Missouri Boiler & Tank Company, Serial #L-1188, Built 1971.



Unused 3695 Sq. Ft. Horizontal Reco Industries Inconel Shell & Tube Heat Exchanger. Stainless steel shell rated 120 psi @ 550 F on the shell, and Inconel tubes rated 135 psi @ 650 F. Serial # N6439.30, National Board #81444, Built 1985.

Used 3695 Sq. Ft. Horizontal Reco Industries Inconel Shell & Tube Heat Exchanger. Stainless steel shell rated 120 psi @ 550 F on the shell, and Inconel tubes rated 135 psi @ 650 F. Serial # H-5240, National Board #3137, Built 1971. Repaired - 1984.



Used 350 Sq. Ft. Horizontal Missouri Boller & Tank Company Stainless Steel Shell & Tube Heat Exchanger. Steel shell rated 285 psi @ 475 F on the shell, and Stainless steel tubes rated 125 psi @ 475 F. Serial # H5240, National Board #3138, Built 1971.

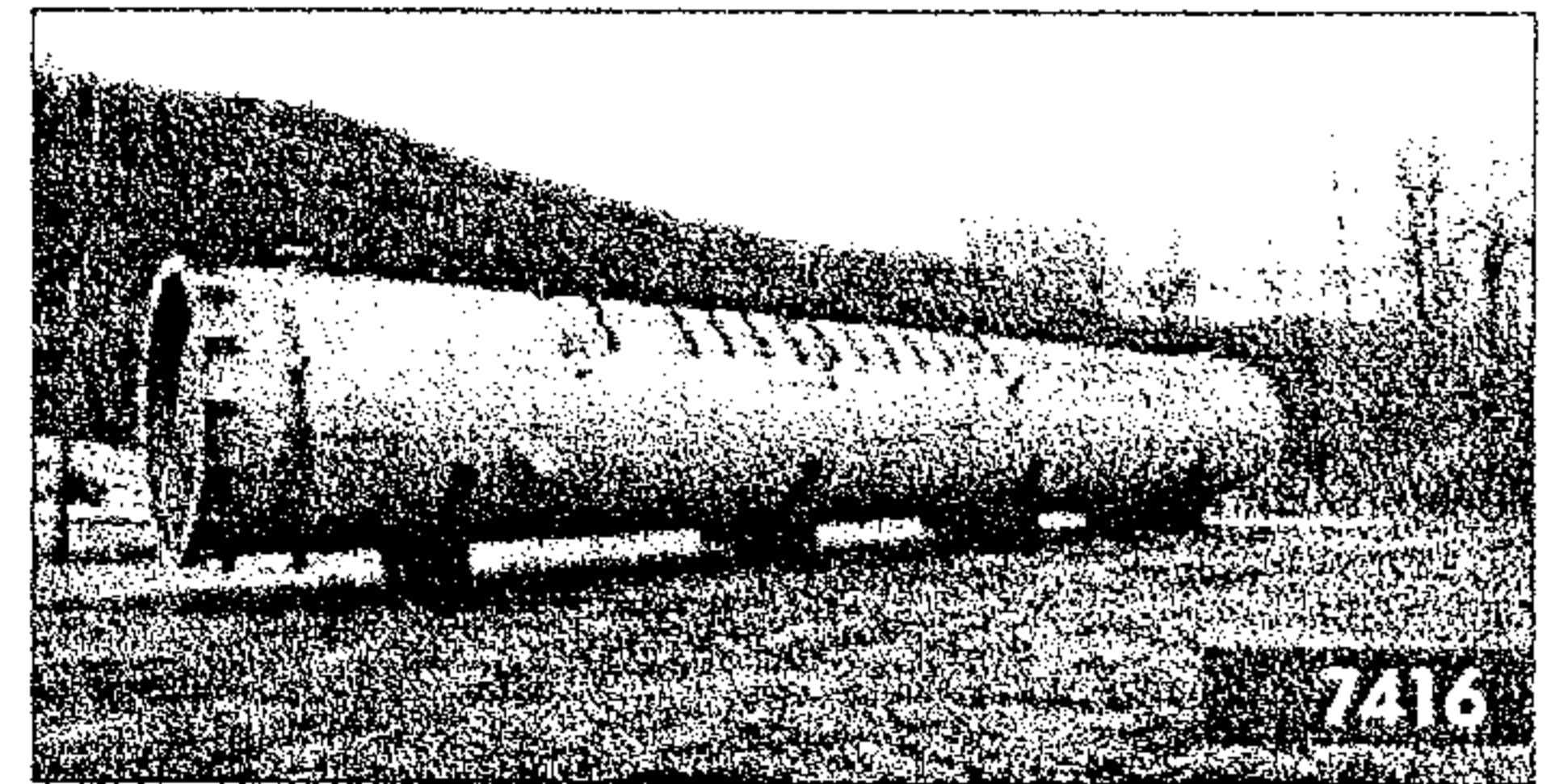
Used 46" Dia Brink System's Platinum Filter (Platinum Recovery). Dimensions: 46" ID x 1/4" thick x 7' 10" length, 110 psig @ 421 F operating. Outlet end provided with removeable coned-down spool with flanged outlet to match pipe to cooler condenser. Internal flange and support rack provided for holding cartridge type filter. Shell & internal fittings SA-240-304-L, Flanges SA-181-II, Gaskets 304 SS.

Absorber Area



Absorber - #7416

Used 304L Stainless Steel Absorber Tower, Mfg. by Metal Arts Company. Column: 11'0" ID x 78' Height, Design Press. 125 psig @ 200 F, No. of trays 27, bubble cap type. Built 1971.



Cooler Condenser - 1st Stage - #7413

Used 2444 Sq. Ft. Horizontal Missouri Boiler & Tank Company 304L Stainless Steel Shell & Tube Heat Exchanger. Shell rated 75 psi @ 475 F on the shell, and tubes rated 125 psi @ 475 F. Serial # H-5232, National Board #3125, Built 1971.

Cooler Condenser - 2nd Stage- #7414

Used 2781 Sq. Ft. Horizontal Missouri Boiler & Tank Company 304L Stainless Steel Shell & Tube Heat Exchanger. Shell rated 75 psi @ 475 F on the shell, and tubes rated 125 psi @ 475 F. Serial # H-5233, National Board #3131, Built 1971. Estimated weight - 15,000 lbs.

Cooler Condenser - 3rd Stage - #7415

Used 1600 Gallon Horizontal Missouri Boiler & Tank Company 304L Stainless Steel Tank. Tank rated 125 psi @ 475 F. Dimensions: 4'6" ID x 13'8" T./T. Serial # 5234, National Board #3135, Built 1971.

Bleach Air Cooler - #7423

Used 50.1 Sq. Ft. Bos-Hatten Inc. Horizontal Heat Exchanger. Steel shell rated 80 psi @ 400 F, Stainless steel tubes rated 135 psi @ 400 F. Serial # 11919, National Board # 692, Built 1971.

Product Acid Cooler - #7435

Used 194 Sq. Ft. Bos-Hatten Inc. Horizontal Shell & Tube Heat Exchanger. Carbon Steel shell rated 75 psi @ 200 F, Stainless Steel "U" tubes rated 125 psi @ 200 F. Serial # 11944-B, National Board # 711, Built 1971.

Product Acid Cooler - #7436

Used 194 Sq. Ft. Bos-Hatten Inc. Horizontal Shell & Tube Heat Exchanger. Carbon Steel shell rated 75 psi @ 200 F, Stainless Steel "U" tubes rated 125 psi @ 200 F. Serial # 11944-A, National Board # 710, Built 1971.

Miscellaneous

Butane Vaporizer-Superheater - #7449

Used 56.5 Sq. Ft. Richmond Engineering Vertical Carbon Steel Shell & Tube Heat Exchanger. Shell rated 250 psi @ 320 F, Tubes rated 300 psi @ 500 F. Serial # L-15072, National Board # 64094, Built 1971.

Boiler Feedwater Deaerator - #7428

Used 1,020 gallon Spray Deaerating Heater, ASC manufacturing Co, Model 60 M-10T HBS. Rated 35 psi / FV @ 650 F. Material of construction: Steel. Serial # K71-102, National Board # 6275, Built 1971. Shipping weight - 4,254 lbs.

Boiler Feedwater Pump - #7463

Used 135 GPM Johnston Pump Co Boiler Feedwater Pump at 773 Ft Total Head. 9 Stage vertical turbine pump, 3510 RPM, Graphite Bearings.

Boiler Feedwater Pump - #7464

Used 135 GPM Johnston Pump Co Boiler Feedwater Pump at 773 Ft Total Head. 9 Stage vertical turbine pump, 3510 RPM, Graphite Bearings.

Also Available: Pumps, Piping & Associated Parts of Nitric Acid Plant