

08-27-1998

FORM PTO-1594

U.S. DEPARTMENT OF COMMERCE

Patent and Trademark Office



100809234

To the Honorable Commissioner of Patents and Trademark:

MRD 8-21-98

1. Name of conveying party(ies):

McDONNELL DOUGLAS CORPORATION

- Individual(s)
- Association
- General Partnership
- Limited Partnership
- Corporation-Commonwealth of MARYLAND
- Other

Additional name(s) of conveying party(ies) attached? Yes No

2. Name and address of receiving party(ies):

Name: ABAR IPSEN INDUSTRIES

Internal Address:

Street Address: 3260 Tillman Drive

City: Bensalem State: Pennsylvania ZIP: 19020

- Individual(s) citizenship
- Association
- General Partnership
- Limited Partnership
- Corporation-State PENNSYLVANIA
- Other

If assignee is not domiciled in the United States, a domestic representative designation is attached: Yes No
 (Designations must be a separate document from Assignment)
 Additional name(s) & address(es) attached? Yes No

3. Nature of conveyance:

- Assignment
- Merger
- Security Agreement
- Change of Name
- Other GENERAL BILL OF SALE

Execution Date: 30 October 1987

4. Application number(s) or registration number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Trademark Application No.(s)

B. Trademark Registration No.(s)

1,107,047

Additional Application/Registration Numbers attached? Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: VINCENT T. PACE

Address: DANN, DORFMAN, HERRELL AND SKILLMAN, P.C.

1601 Market Street, Suite 720

Philadelphia, Pennsylvania 19103-2307

Telephone: (215) 563-4100

Facsimile: (215) 563-4044

6. Total number of applications and registrations involved:

1

7. Total Fee (37 CFR 3.41) \$ 40.00

Enclosed

Authorized to be charged to deposit account No. 04-1406

8. In the event a fee is required and is not enclosed, or the check enclosed is improper, or the fee calculation is in error, the Commissioner is authorized to charge any underpayment or credit any overpayment to the account of the undersigned attorneys.

Deposit Account Number: 04-1406

08/26/1998 JSHADAZZ 00000014 041406

1107047

01 FC:481

40.00 CH

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

VINCENT T. PACE

Name of Attorney Signing

Vincent T. Pace

Signature of Attorney

August 19, 1998

Date

Total number of pages including cover sheet, attachments and document: 48

Do not detach this portion

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks
Box Assignments
Washington, DC 20231

GENERAL
BILL OF SALE

MCDONNELL DOUGLAS CORPORATION ("MDC"), a Maryland corporation, in consideration of the sum of one dollar and other good and valuable consideration paid by Abar Ipsen Industries ("AII"), a Pennsylvania corporation, the receipt and sufficiency of which is hereby acknowledged, does hereby grant, bargain, sell, transfer, assign and set-over unto AII, its successors and assigns, the Ivadizer Assets described in Exhibit A attached hereto and made a part hereof, as defined in the Asset Purchase Agreement dated as of October 30, 1987 (the "Agreement") between AII and MDC.

To have and to hold all and singular the Ivadizer Assets hereby granted, bargained, sold, transferred, assigned and set-over, or intended so to be, unto AII, its successors and assigns, for its and their own use forever.

MDC hereby constitutes and appoints AII, and its successors and assigns, as the true and lawful attorneys-in-fact of MDC, with full power of substitution, on behalf of and for the benefit of AII, to institute and prosecute all proceedings which AII may deem proper in order to collect, assert, or enforce any claim, right, or title of any kind in or to the assets and properties sold, conveyed, transferred, or assigned as provided herein; to defend and compromise any and all actions, suits or proceedings in respect of any such assets and properties, and to do all such acts and things in relation to such actions, suits, or proceedings as AII shall deem advisable. MDC agrees that the foregoing powers are coupled with an interest and shall be irrevocable by MDC or by its dissolution in any manner or for any reason.

MDC agrees that, at any time and from time to time after the date hereof, it will, upon the request of AII, execute and deliver all such further documents and take all such further actions as may be required for the better conveyance, transfer and assignment of the Ivadizer Assets.

This instrument and the covenants and agreements contained herein shall be binding upon MDC, its successors and assigns, and shall inure to the benefit of AII, its successors and assigns.

IN WITNESS WHEREOF, MDC has caused this General Bill of Sale to be executed in its name by its officers thereunto duly authorized this 30 day of October, 1987.

MCDONNELL DOUGLAS CORPORATION

By

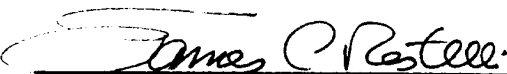

James C. Restelli
Vice President-Contracts and
Pricing

EXHIBIT A

"Ivadizer Assets" shall mean and be used to refer collectively to the Ivadizer Fixed Assets, and the Ivadizer Intellectual Property as described below:

1.1 "Ivadizer Fixed Assets" shall mean the machinery, equipment, and other fixed assets utilized by MDC in the Ivadizer Business specifically listed on Schedule 1.1.

1.2 "Ivadizer Intellectual Property" shall mean the patents, applications for patents, trademarks, trademark registrations, or applications for trademark registrations, trade names, copyrights, license rights and agreements and all data and information employed by MDC in the Ivadizer Business, including, but not limited to, marketing data, trade secrets, technical know-how, technical reports, drawings, inventions, discoveries, vendor lists and prospective customer files, and all other documents employed by MDC in the Ivadizer Business specifically listed on Schedule 1.2.

SCHEDULE 1.1 - IVADIZER FIXED ASSETS

| <u>I.</u> | <u>Leased Equipment</u> | <u>Quantity</u> |
|------------|--|-----------------|
| | 1. Rack Coaters | 2 |
| | 2. Standard Parts Racks and Transport Dollies | 2 |
| | 3. Rotary Parts Rack and Dolly | 1 |
| | 4. Barrel Coater | 1 |
| | | |
| <u>II.</u> | <u>Development Equipment and Spare Parts</u> | |
| | 1. Prototype Barrel Coater | 1 |
| | 2. Standard Rack and Dolly | 1 |
| | 3. Dual Barrel Accessory and Dolly | 1 |
| | 4. Barrel Fabrication Fixture | 1 |
| | 5. Barrel Ring Drill Template | 2 |
| | 6. Regular Mesh Screens | 12 |
| | 7. Fine Mesh Screens | 12 |
| | 8. Barrel Accessory Screens | 12 |
| | 9. Stock for Regular Mesh Screens (24" X 27 1/2" X .032 Stainless) | 25 |
| | 10. Stock for Fine Mesh Screens (24" X 27 1/2" X .024" Stainless) | 20 |
| | 11. Hyperlon Bellows | 4 |
| | 12. G.P. 280 Ion Gauge Controller | 1 |
| | 13. Boston Gear Box (F313-30-G1) | 1 |
| | 14. High Current Power Supply (6 Transformer - No Controls) | 1 |
| | 15. Printed Circuit Board Master (Pressure Control Circuit) | 1 |

/1302M

SCHEDULE 1.2 - IVADIZER INTELLECTUAL PROPERTY

I. Patents

1. Patent #4,233,937 18 Nov. 1980
VAPOR DEPOSITION COATING MACHINE
2. Patent #4,116,161 26 Sept. 1978
DUAL TUMBLING BARREL PLATING APPARATUS
3. Patent #3,926,147 16 Dec. 1975
GLOW DISCHARGE - TUMBLING VAPOR
DEPOSITION APPARATUS
4. Patent #3,750,623 7 Aug. 1973
GLOW DISCHARGE COATING APPARATUS

II. Trademark

1. IVADIZER[®] Registered Trademark

III. Files on Spares And Related Documents

1. Files on all spare parts purchased by Ivadizer Customers over the past two years.

Information is in the form of purchase orders and requisitions.

2. Files of shipping and billing documents for each Ivadizer Customer for the past 2 years.

Shipping and billing documents are attached to individual Ivadizer Customer spare part files.

3. Suggested list of frequently used spares for Ivadizer Customers.
4. Expanded spares list for those Ivadizer Customers that desire to be self supporting for a one year period.
5. List of customer and vendor contacts with addresses and telephone numbers.

IV. Masters For Manuals

1. Master for MAINTENANCE MANUAL

The Maintenance Manual consists of specific manuals which are supplied by vendors of purchase parts which comprise the Ivadizer system. Examples are: hydraulic pump manuals, mechanical pump manuals, computer manuals, etc.

2. Master for OPERATION MANUAL

The Operation Manual consists of written text, pages i thru viii, and pages 1 thru 94. The manual is in a form suitable for copying or reproducing.

3. Master for RACK COATER TROUBLESHOOTING MANUAL

The Troubleshooting Manual consists of written text, photos and drawings pages 1 thru 60. The manual is in a form suitable for copying or reproducing.

V. List Of MCAIR Purchased Equipment

1. Parts list, with vendors, for all items purchased by MCAIR for fabrication of both barrel and rack coaters.

This list of high cost, and long lead time parts are normally purchased by MCAIR and delivered to the subcontractor chosen for Ivadizer assembly.

The parts list is in the form of individual requisitions, to specific vendors, detailing each item procured from that vendor.

VI. Files of Companies Showing Interest In IVD Aluminum

1. Air Force (McClellan)
2. Air Force (Pram Office)
3. Air Force (AFML)
4. Air Force (Tyndall)
5. Air Force (U.S.)
6. Army (ARDEC)
7. Army (Corpus Christi)

8. Army Depot (Lexington, KY)
9. Army (ARRADCOM)
10. Army (Redstone Arsenal)
11. Army (AMCCOM)
12. Army (U.S.)
13. Atlantic Research
14. Aero Resources
15. Argonne National Lab
16. Allison
17. AMAX
18. Amphenol
19. Airco Timescal
20. Anchor
21. Arnold Industrial Supply
22. Aerojet Ordnance
23. Aerospatiale
22. Air Research
24. Anadite
25. Armco
26. AVCO-Lycoming
27. Battelle
28. Beech Aircraft
29. Baker Tubular
30. Bell Helicopter

31. Boeing

- 32. Bendix**
- 33. Borg-Warner**
- 34. Brunswick**
- 35. Cannon**
- 36. Curtis Wright**
- 37. Chromerics**
- 38. California Fine Wire**
- 39. Carter Carburetor**
- 40. Chamberlain**
- 41. Cherry Rivet**
- 42. China**
- 43. Chrysler**
- 44. Commercial Airlines**
- 45. Drake Mechanical Platers**
- 46. DHV, Inc.**
- 47. Data Products**
- 48. Draper Lab**
- 49. Department of Interior**
- 50. Diemakers**
- 51. Delco Products**
- 52. Deutsch**
- 53. Douglas**
- 54. Dowty Rotol**
- 55. Dynavac**

56. Erieview Metal Treatment
57. ESC
58. Eaton
59. Engleby & Others
60. Eliogrofica S.N.C.
61. Emerson Electric
62. Electro Adapter
63. Eastern Airlines
64. Fairchild
65. Factory Ltd.
66. Ford Aerospace
67. Fabricators International
68. Franz Aluminum Finishing
69. Ford
70. France
71. General Magnaplate
72. Gas Turbine
73. G & H Technology
74. GEC Avionics
75. Gates Rubber
76. Garret
77. G & D
78. Gulfstream Aerospace
79. General Electric
80. General Dynamics

81. General Engineering
82. General Motors
83. B. F. Goodrich
84. Glenair
85. Goodyear
86. Gould
87. Grumman
88. HR Textron
89. Harlow Aircraft
90. Hitachi Magnets
100. Hawker de Havilland
101. Hercules
102. Hi Shear
103. Honeywell
104. Huck
105. Hughes
106. HVEC
107. International Magnaproducts
108. ICORE International
109. Ingalls Shipbuilding
110. IBM
111. Israel Aircraft
112. ITT
113. Jay Plastic
114. Kenyon Marine

- 115. Korean Airline
- 116. Kobe Steel (Japan)
- 117. Kayner
- 118. Kaman Aerospace
- 119. Kaiser Aluminum
- 120. Kalgard
- 121. Kamatics
- 122. Kemco
- 123. Lansdowne Steel & Iron
- 124. LTV
- 125. Lindberg Heat-Treating
- 126. Lucus
- 127. Lea Mfg.
- 128. Lockheed
- 129. LCR Electronics
- 130. Litton
- 131. Los Alamos Lab
- 132. 3M
- 133. Marquardt
- 134. Menasco
- 135. Melco
- 136. Midland Ross
- 137. Matrix
- 138. Main Tool
- 139. McDonnell Douglas Astronautics (St. Louis, Huntington Beach, Titusville)

- 140. Microdot
- 141. Monogram
- 142. McDonnell Douglas Electronics Co. (Grand Rapids)
- 143. Memorex
- 144. Mercury Marine
- 145. Motorola
- 146. MBB (Germany)
- 147. MacDermid
- 148. Nagoya Screw
- 149. NASA
- 150. Navy (NADC)
- 151. Navy (Alameda)
- 152. Navy (NAVAIR)
- 153. Navy (China Lake)
- 154. Navy (NOSC)
- 155. Navy (NAVSSEC)
- 156. Navy (NAVSWSEC)
- 157. Navy (NAVMWEA)
- 158. Navy (NOC)
- 159. Navy (NSWC)
- 160. Navy (NAVSEA)
- 161. Nuclear Metals
- 162. National Waterlift
- 163. Olin
- 164. OPW

- 165. Omark
- 166. Outboard Marine
- 167. Osaka Vacuum
- 168. Pratt & Whitney
- 169. Parker Hanifan
- 170. Parsons & Association
- 171. Prestolite
- 172. Raytheon
- 173. Republic-Fairchild
- 174. Rockwell Int'l
- 175. RCA
- 176. Rosemount
- 177. Robertshaw Controls
- 178. Satra
- 179. Sikorsky
- 180. Solar
- 181. Specialized Plating
- 182. Swissair
- 183. Simpson Electric
- 184. Stanley Aviation
- 185. SECOA Technologies
- 186. S. California Edison
- 187. Sundstrand
- 188. Tiodize
- 189. Taiwan
- 190. Tohoku (Japan)

191. Turbine Components
192. Tracor Radcon
193. Teleflex
194. Thiokol
195. Texas Instruments
196. Timex
197. Titusville
198. TRW
199. United Technology
200. Union Carbide
201. U.S. Forgcrafft
202. Ultrasonic Research
203. United Airlines
204. Vactec Coatings
205. Vought
206. Waldes Kohinoor
207. Westinghouse
208. Zemco
209. 600 Pound Coater List

VII. Miscellaneous Files Of Technical And Marketing Data

1. AMRAAM
2. Aiseal 518
3. Aluminum Alloy Corrosion Properties
4. Advertising

5. Automation of IVD System
6. Article/Advertisement
7. Ancillary IVD Equipment
8. Airline Plating Forum
9. ASROC
10. Aluminum Paint
11. AN Fittings
12. Aluminum Finishing Conference
13. Acceptance
14. ASTM F16-03
15. Air Force Corrosion Managers
16. Adhesion, Effects on
17. Airbus Industries
18. Aircraft Carrier Tests
19. Barrel Accessory
20. Black Boxes
21. Coating Patterns & Fastener Migration - Barrel Coater
22. Class 3 Improvement
23. Circuit Breakers
24. Centrifuge
25. Contacts
26. Cost, Fasteners
27. Cryopump Evaluation
28. Cadmium
29. DC-9 Brake Bolts

30. Diffusion Technology
31. Depleted Uranium
32. Derivative Coatings
33. Equipment Description
34. Emissivity - Reflectance
35. Electrical Power Summary
36. Erosion
37. EMIC/Elect. Bonding
38. Fixturing - Large Fasteners
39. F-4, F-15, F-18 Fasteners
40. Fasteners
41. Fastener Position
42. F-4, F-15, F-18 Landing Gear
43. F-18 Corrosion Reports
44. Fastener Installation Data (open holes)
45. Fastener Installation Data (interference fit holes)
46. Grit Blast, Peen Data
47. Harm
48. IVD Alert
49. IVD Copper
50. IVD Copper-Aluminum
51. IVD Parts - Standard (MCAIR)
52. IVD Parts - Non-Standard (MCAIR)
53. IVD Specification
54. Marketing Activity

55. Milsons
56. Magnesium, IVD Coating of
57. Magnets
58. Missile Programs
59. NDT
60. NASC Fasteners
61. NACE
62. Newsletter
63. NARF Proposal
64. Outdoors Exposure
65. Objectives
65. Operating Costs
66. Presentation
67. Pump Fluids
68. Pumpdown
69. Patriot
70. Procurement Specs, etc.
71. Permaswage Fittings
72. Plating House Names (IVD Interest)
73. Repair
74. Salt Fog Data
75. Salt Fog Data - Voi Shan
76. SAE E-25
77. Surface Smoothness
78. SALGR (Navy 5")

79. Sample
80. SRAM II
81. Sermetal-W vs IVD
82. Sur/Fin
83. Springs
84. Titanium Fasteners Installed in Al. Alloy Structure
85. Thickness; Holes-Recesses
86. Thruput & Uniformity
87. Thread Design
88. Test Data - Hydrogen Embrittlement & SCC
89. Turbine Hot Section
90. Turbine Interest
91. Tin vs IVD Aluminum
92. Users
93. Vac Cad vs IVD Aluminum
94. Welding Studs
95. Weeklies
96. Xylar
97. Zinc-Nickel vs IVD Aluminum
98. Zinc vs IVD Aluminum
99. 600 pound Coater
100. Photographs of a typical rack coater
101. Photographs of a typical barrel coater
102. Photographs of typical IVD coated parts
103. Laboratory reports (Early 1970's to 1987)
104. Technical papers pertaining to coatings and vacuum technology

VIII. Marketing Aids

1. General Handout Data

IVD Acceptance List

EPA Position on Cad

Corrosion Control Specifications (Army, Navy, Air Force)

MCAIR Position on Substitution of IVD for Cad

IVD Cost Factors

IVD Brochures

IVD Military Specification

MCAIR Report 78-006

MCAIR Report 77-012

SAE Report 830691

Ivadizer One-Page Fliers (6 applications)

IVD Subcontract Coating Facility List

2. Technical Data Suitable For Handouts

Advantages Of IVD Aluminum On Aluminum Alloy Details

Advantages Of IVD Aluminum On Aluminum Alloy Castings

Advantages Of IVD Aluminum On Engine Details

Advantages Of IVD Aluminum On Alloy Steel Details

Advantages Of IVD Aluminum On Landing Gear Details

British Aerospace Report (substitute for Cad)

General Dynamics Report (IVD vs. Al. Paint)

TRW Report (IVD for Hill AFB)

MCAIR Report (Low Drag Coatings)

MCAIR Report (SCC Threshold)

MCAIR Report (IVD vs. L.E. Cad - 300M Steel)
EPRI (IVD on Stream Turbine Blades)
FMC Report (substitute for Cad)
Fairchild Report (IVD vs. Vac Cad)
IVD Aluminum vs. Vac Cad Fact Sheet
Pratt & Whitney Report (IVD on 410 St.)
Westinghouse Report (IVD on Steam Turbine Blades)
Air Force/Navy Report (IVD vs Cad on Fastener)
Navy Report (IVD vs. Tin)
 Chromalloy Report (Engine Details)
Chromalloy Article
ACF Report (substitute for Cad)
Rep-Tech 84
Pratt & Whitney Report (IVD on Ti Engine Details)
3. Presentation Materials
 Picture Portfolios
 35MM Slides
 IVD Coated Sample Parts
 IVD Displays (2)
 Assorted Loose Photographs

IX. Ivadizer Equipment Drawing List

1. Rack Ivadizer 3/4" Boats

| <u>DRAWING NO.</u> | <u>REVISION</u> | <u>TITLE</u> |
|--------------------|-----------------|--|
| D-4877 | B | 1" Dia. Rotary Seal |
| C-5824 | E | Sight Port - 6" & 12" |
| D-12551P-1 | E | 32" High Vac Valve |
| D-12551P-2 | D | 32" High Vac Valve Details |
| D-12551P-6 | D | Saddle Assembly |
| D-12767P-7 | F | 72" Chamber Door Hinge |
| D-12767P-15 | K | Wire Feeder Assembly |
| B-12551P-16 | B | Hub, Wire Feed Spool |
| B-12551P-26 | B | Stand Off, Powertrack |
| D-12551P-27 | C | Mount Plate, Wire Feed Spools |
| D-12551P-29 | B | Electrical Contact, Substrate Charge |
| C-12551P-34 | - | Motor Housing |
| C-12551P-35 | A | Motor Housing End Cap |
| C-12551P-36 | A | Motor Housing Extension |
| C-12551P-37 | D | 1/2" Rotary Seal |
| B-12551P-38 | - | Motor Housing Pivot |
| B-12551P-39 | B | Adjustment Assembly, Motor Housing |
| D-12551P-40 | E | Drive Motor Assembly, Wire Feeder |
| C-12551P-41 | A | Idler Sprocket Assembly |
| C-12551P-43 | B | Drive Shaft, Boat Rack Carriage |
| C-12551P-45 | - | Flat Wheel Assembly, Boat Rack Carriage |
| B-12551P-48 | A | Washer, Hub, Wire Feed Spool |
| C-12551P-51 | C | Chamber Door Clamp |
| C-12551P-57 | A | Water Manifold Boat #1 & #7 |

| <u>DRAWING NO.</u> | <u>REVISION</u> | <u>TITLE/SUBJECT</u> |
|--------------------|-----------------|---|
| C-12551P-58 | A | Water Manifold Boat #2, 3 & 5 |
| C-12551P-59 | A | Water Manifold Boat #4 & #6 |
| D-12551P-60 | D | Water Cooling System for Boat Electrode |
| E-12551P-61 | F | Boat Rack and Cable Assembly |
| C-12767P-62 | B | Wire Feed Guide Tube |
| E-12767P-64 | I | Nitrogen-Argon Diffuser Assembly |
| C-12551P-66 | A | Air Release Valve & Filter |
| C-12551P-67 | A | Cable Restraint 8 Cables |
| C-12551P-68 | A | Cable Restraint 6 Cables |
| B-12551P-69 | - | Insulator-Cable Junction |
| B-12551P-70 | B | Cable Junction Boat #1 & 3 |
| B-12551P-71 | A | Cable Junction Boat #2 |
| B-12551P-72 | B | Cable Junction Boat #4 & #7 |
| B-12551P-73 | A | Cable Junction Boat #5 |
| B-12551P-74 | B | Cable Junction Boat #6 |
| B-12551P-75 | A | Valve Support Stand |
| B-12551P-92 | A | 12" Sight Port Shield |
| C-12551P-93 | A | 6" Sight Port Shield |
| D-12551P-94 | A | Belt Guard |
| C-12551P-95 | D | Boat Shield - Lower Middle |
| D-12767P-98 | I | Boat Shield - Front |
| E-12551P-99 | F | Boat Shield - Wire Feed Spools |
| D-12551P-100 | C | Boat Shield - Translating Electrode |
| C-12767P-101 | G | Support Bracket - Front Boat Shield |
| C-12767P-102 | F | Support Bracket - Rear Boat Shield |
| C-12767P-105 | F | Support Angle, Boat Shield, Lower Middle |
| D-12551P-109 | G | Lead Shield, Boat Rack |

| <u>DRAWING NO.</u> | <u>REVISION</u> | <u>TITLE</u> |
|--------------------|-----------------|---|
| C-12551P-117 | C | Water Piping Schematic |
| B-12767P-118 | C | Air Piping Schematic |
| B-12767P-128 | C | Hinge Stiffener |
| E-12767P-129 | F | High Vac Valve - Hydraulic System |
| E-7677-K | C | Circuit Diagram - Control |
| E-7677-B/M | L | Bill of Material - Control |
| C-7696 | C | Water Manifold, Common Electrode |
| C-7751 | A | Flat Rail Track - Boat Carriage |
| C-7752 | - | V-Guide Rail |
| C-7753 | A | V-Guide Rail Track - Boat Carriage |
| C-7754 | - | Mounting Bracket-Idler Sprocket |
| E-7755 | C | Boat Rack Drive System |
| E-7757 | A | Warm-up Shield, 6' Vac Chamber |
| D-7772 | D | Chamber Shield - Front & Back, Upper L & R |
| D-7777 | B | Chamber Shield - Front Upper Middle L & R Side |
| D-7778 | A | Chamber Shield - Back Upper Middle L & R Side |
| D-7779 | - | Chamber Shield - Back Head Middle |
| D-7780 | A | Chamber Shield - Back Head Upper & Lower |
| D-7781 | - | Door Shield |
| B-7786 | - | Boat Carriage Front Stop |
| D-7902-SP-K | G | Pumping System (Stokes-Kinney) |
| E-7957 | D | Control Panel |
| E-7995 | E | Control Console |
| A-7998 | D | Connection Diagram - Type III |
| D-8012-K | G | Circuit Diagram - Power |
| D-8012-K-B/M | D | Bill of Material - Power |

| <u>DRAWING NO.</u> | <u>REVISION</u> | <u>TITLE/SUBJECT</u> |
|--------------------|-----------------|---|
| D-8017 | C | Component Arrangement, Internal, Control Console |
| A-8435 | A | Outline, Boat Power, (Saban) |
| B-0025A-1 | - | Control Connection Diagram (Saban) |
| B-44823-1 | - | Schematic, Main, 75-6 KVA (Saban) |
| A-18104 | 1 | Schematic, Garrison E-172 (Saban) |
| A-18346 | 1 | Model E-224 Common Pwr. Sup. (Saban) |
| T-055645 | B | Shaft Seal (Bellows) |
| T-055909 | D | Facility Interface Diagram |
| T-056262 | D | Electrical Schematic, Servo Controller |
| T-056263 | C | Circuit Card Assembly, Servo Controller |
| T-056264 | B | Chassis Assembly, Servo Controller |
| 257A00016-2001 | - | Printed Circuit Board |
| T-056270 | D | Junction Box Terminal Strip Configuration |
| T-056279 | A | Guard, Ion Tube |
| T-056280 | A | Guard, Hi Voltage Pass Thru |
| T-056284 | A | Electrical Wireway System |
| T-056364 | - | Cable Assembly - At Saban HCPS |
| T-056365 | E | Ivadizer System - Plan View |
| T-056366 | A | Boat Clamp 3/4" |
| T-056367 | N | Boat Electrode Assembly and Details |
| T-056368 | C | Boat Rack Platform Assembly |
| T-056369 | B | Boat Shield - Back Middle |
| T-056370 | A | Shield Assembly, Boat Rack |
| T-057011 | A | Boat Rack Carriage |

| <u>DRAWING NO.</u> | <u>REVISION</u> | <u>TITLE/SUBJECT</u> |
|--------------------|-----------------|--|
| T-057012 | A | Boat Rack Platform Detail |
| T-057013 | B | Boat Rack Transport Assembly |
| T-057014 | F | 6' x 12' Vacuum Chamber |
| T-057015 | D | Internal Support Rails - 72" x 144" Chamber |
| T-057016 | E | Power Track #45 Chain (24" Wide x 110 Lg.) |
| T-057017 | B | Cable Feed Thru Plate |
| T-057018 | C | Cable Feed Thru Assembly |
| T-057019 | - | Internal Arrangement, 6' x 12' Ivadizer |
| T-057020 | A | Chamber Shield Assembly |
| T-057021 | - | Chamber Shield - Power Feed Port |
| T-057022 | - | Guard, Hi Current Pass Thru |
| T-057023 | A | Chamber Shield - Front & Back Lower Left and Right & Back Lower Center |
| T-057024 | D | Cable Track Shield Assembly |
| T-057025 | F | Cable Track Shield Details |
| T-057026 | B | Chamber Shield - Back L & R Side |
| T-057027 | C | Chamber Shield - Front Left and Right Side |
| T-057269 | I | Boat Shield - Back Left & Right End |
| T-057270 | A | Assembly Flow Diagram - Ivadizer Type III |
| T-057271 | F | 1" Dia. Rotary Pass-Thru |
| (None) | E | Operating Program, Westinghouse, Controller 6' x 12' Ivadizer |

| <u>DRAWING NO.</u> | <u>REVISION</u> | <u>TITLE/SUBJECT</u> |
|--------------------|-----------------|------------------------------------|
| T-057273 | - | Drive System - Rotary Rack Drive |
| T-057282 | - | Pump Foreline Baffle |
| T-057832 | - | Safety Switches Foreline, Roughing |
| T-057833 | A | Radiation Heat Shield-Boat Rack |

2.

Rack Inadizer 1/2" Boats

| <u>Drawing No.</u> | <u>Revision</u> | <u>Title/Subject</u> |
|--------------------|-----------------|--------------------------------------|
| D-4877 | B | 1" Dia. Rotary Seal |
| C-5824 | E | Sight Port - 6" & 12" |
| D-12551P-1 | C | 32" High Vac Valve |
| D-12551P-2 | C | 32" High Vac Valve Details |
| D-12551P-6 | D | Saddle Assembly |
| D-12767P-7 | F | 72" Chamber Door hinge Assembly |
| D-12767P-14 | H | Boat Electrode Assembly and Details |
| D-12767P-15 | J | Wire Feeder Assembly |
| B-12551P-16 | B | Hub, Wire Feed Spool |
| B-12551P-26 | A | Stand Off, Powertrack |
| D-12551P-27 | C | Mount Plate, Wire Feed Spools |
| D-12551P-29 | B | Electrical Contact, Substrate Charge |
| C-12551P-34 | - | Motor Housing |
| C-12551P-35 | A | Motor Housing End Cap |

| <u>DRAWING NO.</u> | <u>REVISION</u> | <u>TITLE/SUBJECT</u> |
|--------------------|-----------------|--|
| C-12551P-36 | A | Motor Housing Extension |
| C-12551P-37 | D | 1/2" Rotary Seal |
| B-12551P-38 | - | Motor Housing Pivot |
| B-12551P-39 | B | Adjustment Assembly, Motor Housing |
| D-12551P-40 | E | Drive Motor Assembly, Wire Feed |
| C-12551P-41 | A | Idler Sprocket Assembly |
| C-12551P-43 | B | Drive Shaft, Boat Rack Carriage |
| C-12551P-45 | - | Flat Wheel Assembly, Boat Rack Carriage |
| B-12551P-48 | A | Washer, Hub, Wire Feed Spool |
| C-12551P-51 | B | Chamber Door Clamp |
| C-12767P-62 | B | Wire Feed Guide Tube |
| E-12767P-64 | H | Nitrogen-Argon Diffuser Assembly |
| C-12551P-66 | A | Air Release Valve & Filter |
| B-12551P-75 | A | Valve Support Stand |
| B-12551P-92 | A | 12" Sight Port Shield |
| C-12551P-93 | A | 6" Sight Port Shield |
| D-12551P-94 | A | Belt Guard |
| C-12551P-95 | B | Boat Shield - Lower Middle |
| D-12551P-96 | G | Boat Shield - Back Left & Right End |
| D-12767P-98 | H | Boat Shield - Front |
| E-12551P-99 | E | Boat Shield - Wire Feed Spools |
| D-12551P-100 | C | Boat Shield - Translating Electrode |
| C-12767P-101 | F | Support Bracket - Front Boat Shield |
| C-12767P-102 | E | Support bracket - Rear Boat Shield |
| C-12551P-105 | D | Support Angle, Boat Shield, Lower Middle |
| D-12551P-109 | F | Lead Shield, Boat Rack |
| C-12551P-117 | C | Water Piping Schematic |
| B-12767P-118 | C | Air Piping Schematic |

| <u>DRAWING NO.</u> | <u>REVISION</u> | <u>TITLE</u> |
|--------------------|-----------------|---|
| B-12767P-128 | C | Hinge Stiffener |
| E-12767P-129 | E | High Vac Valve - Hydraulic System |
| E-7676 | J | Circuit Diagram - Control |
| D-7676-B/M | F | Bill of Material - Control |
| D-7687 | - | Cable Assembly - At Saban HCPS |
| D-7688 | B | Cable Feed Thru Plate |
| D-7689 | D | Cable Feed Thru Assembly |
| C-7690 | A | Cable Restraint |
| C-7691 | A | Feed Thru Adapter Assembly |
| C-7693 | A | Water Manifold & Hose Conn. Tube |
| D-7694 | A | Boat Rack Cable Assembly |
| E-7695 | A | Water Cooling System for Boat Electrodes |
| C-7696 | A | Water Manifold, common Electrode |
| E-7697 | B | Boat Rack Platform Detail |
| E-7699 | C | 6' X 12' Vacuum Chamber |
| E-7700 | B | Internal Support Rails |
| C-7751 | A | Flat Rail Track-Boat Carriage |
| C-7752 | - | V-Guide Rail |
| C-7753 | A | V-Guide Rail Track-Boat Carriage |
| C-7754 | - | Mounting Bracket - Idler Sprocket |
| C-7755 | B | Boat Rack Drive System |
| C-7756 | - | Boat Rack Carriage |
| E-7757 | A | Warm-up Shield, 6' Vac Chamber |
| E-7764 | A | Boat Rack Platform Assembly |
| A-7766 | A | Power Track #35 - 18" W C 101" LG |
| D-7767 | A | Cable Track Shield Details |
| D-7768 | A | Cable Track Shield Assembly |
| E-7770 | B | Shield Assembly, Boat Rack |
| E-7771 | A | Chamber Shield Assembly |
| D-7772 | C | Chamber Shield- Front & Back, Upper L & R-7773 |
| E-7773 | B | Chamber Shield-Front Left and Right Side |

| <u>DRAWING NO.</u> | <u>REVISION</u> | <u>TITLE</u> |
|--------------------|-----------------|--|
| D-7774 | - | Chamber Shield-Back L & R Side |
| D-7775 | - | Chamber Shield-Front Lower Left and Right |
| D-7776 | - | Chamber Shield-Back Lower Left & Right |
| D-7777 | A | Chamber Shield-Front Upper Middle L & R Side |
| D-7778 | A | Chamber Shield-Back Upper Middle L & R Side |
| D-7779 | - | Chamber Shield-Back Head Middle |
| D-7780 | - | Chamber Shield-Back Head Upper & Lower |
| D-7781 | - | Door Shield |
| D-7782 | - | Chamber Shield-Power Feed Port |
| D-7784 | A | Boat Shield-Back Middle |
| E-7785 | A | Boat Rack Transport Assembly |
| B-7786 | - | Boat Carriage Front Stop |
| D-7902-K | C | Pumping System |
| E-7957 | B | Control Panel |
| B-7988 | - | Boat Clamp |
| E-7995 | D | Control Console |
| A-7998 | D | Connection Diagram-Type II |
| C-7999 | A | Isadizer Plan View-Type II |
| C-8008 | - | Lower Boat Rack Shield |
| D-8012 | D | Circuit Diagram - Power |
| D-8012-B/M | C | Bill Of Material - Power |
| D-8017 | C | Component Arrangement, Internal, Control Console |
| A-8435 | 3 | Outline, Boat Power, (Saban) |
| B-0025A | 1- | Control Connection Diagram (Saban) |
| B-44823 | 1- | Schematic, Main, 42 KVA (Saban) |
| A-18104 | 1 | Schematic, Garrison E-172 (Saban) |
| A-18346 | 1 | Model E-224 Common Pwr. Sup. (Saban) |
| T-055645 | B | Shaft Seal (Bellows) |
| T-055888 | C | Substrate Rack Assembly |
| T-055889 | C | Transport Dolly Assembly |
| T-056261 | A | Nameplate, Servo Controller |

| <u>DRAWING NO.</u> | <u>REVISION</u> | <u>TITLE</u> |
|--------------------|-----------------|--|
| T-056262 | D | Electrical Schematic, Servo Controller |
| T-056263 | C | Circuit Card Assembly, Servo Controller |
| T-056264 | B | Chassis Assembly, Servo Controller |
| 257A00016-2001 | - | Printed Circuit Board |
| T-056269 | A | Internal Arrangement, 6' X 12' Ivadizer (Reference) |
| T-056270 | C | Junction Box Terminal Strip Configuration |
| T-056271 | A | Assembly Flow Diagram - Ivadizer Type I |
| T-056279 | A | Guard, Ion Tube |
| T-056280 | A | Guard, Hi Voltage Pass Thru |
| T-056281 | - | Guard, Hi Current Pass Thru |
| T-056284 | - | Electrical Wireway System |
| T-055909 | D | Facility Interface Diagram |
| T-055985 | D | Ivadizer System - Plan View |
| (None) | E | Operating Program, 5T1 Controller, 6 X 12 Ivadizer |
| T-057004 | - | Rotary-Pass Through Port (Barrel Attachment) |

3. Rack Coater Fixtures & Accessories

| <u>Drawing No</u> | <u>Revision</u> | <u>Title</u> |
|-------------------|-----------------|-------------------------------------|
| T-055888 | C | Substrate Rack Assembly |
| T-055889 | D | Transport Dolly Assembly |
| T-056273 | - | Ante-Chamber Assy & Installation |
| T-057005 | D | Adjustable Rotary Rack |
| T-057006 | B | Rotary Rack Main Frame |
| T-057007 | A | Rotary Rack Screens |
| T-057008 | D | Rotary Rack Lift Mechanism |
| T-057274 | D | Barrel Plating Fixture Assy |

| <u>Drawing No</u> | <u>Revision</u> | <u>Title</u> |
|-------------------|-----------------|-----------------------------|
| T-057275 | A | Barrel Assembly |
| T-057276 | - | Barrel Fixture Details |
| T-057277 | A | Barrel Outer Shield |
| T-057278 | C | Barrel Support Structure |
| T-057279 | - | Transport Dolly |
| T-057280 | B | Shield Details |
| T-057281 | - | High Voltage Probe |
| T-057297 | - | Gear Drive Details |
| T-057274-1 | D | Barrel Plating Fixture Assy |
| T-057275 | A | Barrel Assembly |
| T-057276-1 | - | Barrel Fixture Details |
| T-057277-1 | A | Barrel Outer Shield |
| T-057278-1 | D | Barrel Support Structure |
| T-057279 | - | Transport Dolly |
| T-057280 | B | Shield Details |
| T-057281 | - | High Voltage Probe |
| T-057297-1 | A | Gear Drive Details |

4. 6 Boat Barrel Coater (Sumitomo #2)

| <u>DRAWING NO.</u> | <u>Revision.</u> | <u>TITLE</u> |
|----------------------|------------------|--------------------------------------|
| B-SK-4-1228-4 | A | Door Clamp |
| C-5824-B | A | 8" View Port |
| C-7684 | - | 20" Valve Shaft Seal |
| D-7685 | F | Control Console |
| 7686-LN ₂ | E | Control Panel/LN ₂ Switch |
| D-7985 | B | Electrode Tube Shield |
| D-7977 | D | Circuit Diagram (Power) |
| D-7977 | A | Bill of Materials |
| E-8032 | F | Circuit Diagram (Control) |
| | | 1. Stokes, ULVAC Pumping System |
| | | 2. Baratron Pressure Read-Out |
| | | 3. Westinghouse Controller |

| <u>Drawing No</u> | | <u>Revision</u> | <u>Title</u> |
|-------------------|-----|-----------------|-------------------------------------|
| E-8032 | B/M | - | <u>BILL OF MATERIALS</u> |
| D-25591 | | C | 20" Angle Valve Assembly |
| D-25732 | | F | Water Cooling System |
| D-25738 | | A | Baratron Installation Assembly |
| D-25739 | | F | Pump Throttle Assembly |
| B-25740 | | C | Argon Gas Inlet System |
| D-25749 | | I | Rear Head Fabrication |
| D-25750 | | F | Rear Door Carriage |
| D-25755 | | G | Door Carriage Tracks & Hardware |
| D-25761 | | H | Barrel Tilt Mechanism |
| A-25782 | | B | Dished Head |
| A-25835 | | B | Pump Support Stand |
| T-055388 | | J | Barrel Screens |
| T-055465 | | H | Front Door Carriage |
| T-055474 | | D | Electrode Flange |
| T-055602-J | | B | Tilt Beam Hinge & Beam Installation |
| T-055614 | | - | Chamber Coordinates |
| T-055615 | | A | Gate Valve Cover |
| T-055621 | | F | Access Ladder |
| T-055655 | | I | Boat and Supports |
| T-055657 | | H | Wire Feed System |
| T-055658 | | D | <u>General Assembly</u> |
| T-055659 | | G | Common Electrode |
| T-055660 | | D | Individual Electrode Installation |
| T-055661 | | C | Barrel Outer Shield |
| T-055662 | | G | Boat Support Carriage |
| T-055663 | | B | Common Electrode Support & Shield |
| T-055664 | | G | Boat Carriage Shields |
| T-055665 | | F | Common Electrode Pass-Thru Seal |
| T-055666 | | H | High Current Electrodes |
| T-055668 | | A | Boat Console Water Cooled Tray |
| T-055671-OPP. | | J | General Facilities Layout |
| T-055672 | | E | Barrel Drive Ring Shield |
| T-055674 | | A | Window Shield |

| <u>DRAWING NO.</u> | <u>Revision.</u> | <u>TITLE</u> |
|--------------------|------------------|---|
| T-055880 | A | Bellows Shield Assembly |
| T-055898 | A | 3/4" Wide Boat Clamp |
| T-055905 | C | Shield Installation |
| T-056250(ITW) | H | Barrel Tilt Pneumatic System |
| T-056253 | A | 8" View Port and Shield |
| T-056287 | A | Nitrogen Cooling System |
| T-056622 | A | Tilt Beam Assembly |
| T-056623 | A | Inlet Pass-Thru Assembly |
| T-056624 | G | Inlet Hopper Assembly |
| T-056629 | H | Wire Feed Guide Tubes |
| T-056633 | E | Hopper Inlet Liner |
| T-056635 | A | Inlet Tubes |
| T-057796 | A | Front Head Fabrication |
| T-057797(ITW) | - | Outlet Chute Assembly |
| T-057798 | - | Barrel Drive External Chain Guard |
| T-057800 | B | Barrel Drive Shaft & Insulator |
| T-057801 | C | Barrel Drive Mechanism |
| T-057802 | A | Barrel Support Details & Installation |
| T-057803 | - | Inlet Chutes |
| T-057806(ITW) | A | Chamber Shields |
| T-057809(ITW) | - | Rotary-Push Away End Closure |
| T-057812(ITW) | - | Pneumatic-Air Supply System |
| T-057813 | - | Shield-Barrel Beam |
| T-057815(ITW) | A | Shield-End Closure Support Beam |
| T-057817 | A | Drive Ring Installation (Drill Template) |
| T-057820 | A | Screen Barrel Assembly |
| T-057821 | A | Barrel Support Rings |
| T-057822 | A | Rotary Rack |
| T-057823 | A | Side Open Barrel Assembly |

| <u>DRAWING NO.</u> | <u>Revision.</u> | <u>TITLE</u> |
|--------------------|------------------|---|
| T-057825 | A | Canister Cooling System |
| T-057826 | B | Barrel Drive Ring |
| T-057827 | B | Barrel Beam Support (2 Roller) |
| T-057828 | - | Component Layout - Main Console |
| T-057834 | A | Safety Switches - 4" Gate Valves |
| T-057836 | - | Pumping System Assembly |
| T-057837 | - | Chamber Fabrication |
| T-057838 | - | Outlet Canister & Support System |
| T-057839 | - | Inlet Valve Liner |
| T-057840 | - | Rotary Vac Feed Through |
| T-057841 | - | Fabrication Flow Diagram |
| B0024A-1 | | Connecting Diagram (Saban) |
| A0024A-2 | | Model E-172-A Schematic (Saban) |
| A0024A-3 | | Mod E224 Common Power Supply (Saban) |
| A41838-2 | | Power Supply Outline (Saban) |
| B44901-2 | | 57.6 KYA Power Supply Schematic (Saban) Programmable Controller Program (Westinghouse) |

5. 6 Boat Barrel Coater (TDK)

| <u>DRAWING NO.</u> | <u>Revision.</u> | <u>TITLE</u> |
|----------------------|------------------|---|
| B-SK-4-1228-4 | A | Door Clamp |
| C-5824-B | A | 8" View Port |
| C-7684 | - | 20" Valve Shaft Seal |
| D-7685 | F | Control Console |
| 7686-LN ₂ | E | Control Panel/LN ₂ Switch |
| D-7985 | B | Electrode Tube Shield |
| D-7977 | D | Circuit Diagram (Power) |
| D-7977 B/M | A | Bill of Materials |
| E-8032 | F | Circuit Diagram (Control) 1. Stokes, ULVAC Pumping System 2. Baratron Pressure Read-Out 3. Westinghouse Controller |
| E-8032 | E | Circuit Diagram (Control) 1. Stokes Pumping System 2. Baratron Pressure Read-Out 3. Westinghouse Controller |
| E-8032 B/M | - | <u>Bill Of Materials</u> |
| D-25591 | C | 20" Angle Valve Assembly |
| D-25732 | F | Water Cooling System |
| D-25737 | N | Chamber Fabrication |
| D-25738 | A | Baratron Installation Assembly |
| B-25740 | C | Argon Gas Inlet System |
| D-25749 | F | Pump Throttle Assembly |
| D-25749 | I | Rear Head Fabrication |
| D-25750 | F | Rear Door Carriage |
| D-25755 | G | Door Carriage Tracks & Hardware |
| D-25761 | H | Barrel Tilt Mechanism |
| A-25782 | B | Dished Head |
| A-25835 | B | Pump Support Stand |

TRADEMARK

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| <u>DRAWING NO.</u> | <u>Revision.</u> | <u>TITLE</u> |
|--------------------|------------------|-----------------------------------|
| B-26000 | E | Chamber Shields |
| T-055388 | J | Barrel Screens |
| T-055465 | H | Front Door Carriage |
| T-055474 | D | Electrode Flange |
| T-055602-J | B | Tilt Beam Hinge & Beam Installati |
| T-055614 | - | Chamber Coordinates |
| T-055615 | - | Gate Valve Cover |
| T-055621 | E | Access Ladder |
| T-055655 | I | Boat and Supports |
| T-055657 | H | Wire Feed System |
| T-055658 | D | <u>General Assembly</u> |
| T-055659 | G | Common Electrode |
| T-055660 | D | Individual Electrode Installation |
| T-055661 | C | Barrel Outer Shield |
| T-055662 | G | Boat Support Carriage |
| T-055663 | B | Common Electrode Support & Shield |
| T-055664 | G | Boat Carriage Shields |
| T-055665 | G | Common Electrode Pass-Thru Seal |
| T-055666 | H | High Current Electrodes |
| T-055667 | D | Pneumatic-Air Supply System |
| T-055668 | A | Boat Console Water Cooled Tray |
| T-055671 | J | General Facilities Layout |
| T-055672 | E | Barrel Drive Ring Shield |
| T-055674 | A | Window Shield |
| T-055880 | A | Bellows Shield Assembly |
| T-055898 | A | 3/4" Wide Boat Clamp |
| T-055905 | C | Shield Installation |
| T-056250 | H | Barrel Tilt Pneumatic System |
| T-056253 | A | 8" View Port and Shield |
| T-056287 | A | Nitrogen Cooling System |
| T-056371 | G | Outlet Canister & Support System |

| <u>DRAWING NO.</u> | <u>Revision.</u> | <u>TITLE</u> |
|--------------------|------------------|---|
| T-056622 | A | Tilt Beam Assembly |
| T-056623 | A | Inlet Pass-Thru Assembly |
| T-056624 | F | Inlet Hopper Assembly |
| T-056625 | B | Inlet Valve Liner |
| T-056627 | D | Rotary End Closure |
| T-056629 | H | Wire Feed Guide Tubes |
| T-056633 | E | Hopper Inlet Liner |
| T-056635 | A | Inlet Tubes |
| T-057287 | A | Positive Lock-Translating Valve Liner |
| T-057796 | A | Front Head Fabrication |
| T-057798 | - | Barrel Drive External Chain Guard |
| T-057800 | B | Barrel Drive Shaft & Insulator |
| T-057801 | C | Barrel Drive Mechanism |
| T-057802 | A | Barrel Support Details & Installation |
| T-057803 | - | Inlet Chutes |
| T-057813 | - | Shield-Barrel Beam |
| T-057817 | A | Drive Ring Installation (Drill Template) |
| T-057820 | A | Screen Barrel Assembly |
| T-057821 | A | Barrel Support Rings |
| T-057822 | A | Rotary Rack |
| T-057823 | A | Side Open Barrel Assembly |
| T-057824 | - | Fabrication Flow Diagram |
| T-057825 | A | Canister Cooling System |
| T-057826 | B | Barrel Drive Ring |
| T-057827 | C | Barrel Beam Support (2 Roller) |
| T-057828 | - | Component Layout - Main Console |
| T-057834 | A | Safety Switches - 4" Gate Valves |
| B0024A-1 | | Connecting Diagram (Saban) |
| A0024A-2 | | Model E-172-A Schematic (Saban) |
| A0024A-3 | | Mod E224 Common Power Supply (Saban) |
| A41838-2 | | Power Supply Outline (Saban) |
| B44901-2 | | 57.6 KW Power Supply Schematic (Saba) |

6. 7 Boat Barrel Coater (ITW)

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|-------------------------------------|
| B-SK-4-1228-4 | A | Door Clamp |
| C-5824-B | A | 8" Vier Port |
| C-7684 | - | 20" Valve Shaft Seal |
| E-7783 (Stokes) | G | Pumping System Assembly |
| D-25591 | C | 20" Angle Valve Assembly |
| D-25738 | - | Baratron Installation Assembly |
| D-25739 | F | Pump Throttle Assembly |
| B-25740 | C | Argon Gas Inlet System |
| D-25750 | G | Rear Door Carriage |
| D-25755 | H | Door Carriage Tracks & Hardware |
| D-25761 | H | Barrel Tilt Mechanism |
| A-25782 | B | Dished Head |
| B-25835 | C | Pump Support Stand |
| T-055388 | I | Barrel Screens |
| T-055465 | I | Front Door Carriage |
| T-055602-J | B | Tilt Beam Hinge & Beam Installation |
| T-055614 | - | Chamber Coordinates |
| T-055615 | - | Gate Valve Cover |
| T-055621 | E | Access Ladder |
| T-055661 | D | Barrel Outer Shield |
| T-055672 | C | Barrel Drive Ring Shield |
| T-055674 | A | Window Shield |
| T-055880 | A | Bellows Shield Assembly |
| T-055905 | C | Shield Installation |
| T-056250 | H | Barrel Tilt Pneumatic System |
| T-056253 | A | 8" View Port and Shield |
| T-056287 | A | Nitrogen Cooling System |
| T-056622 | E | Tilt Beam Assembly |
| T-056623 | A | Inlet Pass-Through Assembly |

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|--|
| T-056624 | C | Inlet Hopper Assembly |
| T-056625 | A | Inlet Valve Liner |
| T-056630 | B | Rotary Vac Feed Through |
| T-056632 | - | Inlet Gate Valve Modification |
| T-056633 | C | Hopper Internal Liner |
| T-056635 | - | Inlet Tubes |
| T-057287 | - | Positive Lock-Translating Valve Liner |
| T-057289 | A | Boat Rack Assembly, 7-Station |
| T-057290 | - | Pass-Through Plate, 7-Station |
| T-057291 | - | Pass-Through Plate Assembly, 7-Station |
| T-057292 | - | Rear Head Fabrication, 7-Station |
| T-057293 | A | Boat Rack Installation, 7-Station |
| T-057294 | A | Boat Rack Shields & Installation, 7-Station |
| T-057295 | - | Wire Feeder Guide Tube |
| T-057793 | - | General Assembly |
| T-057794 | - | Outlet Canisters & Support System |
| T-057795 | - | Chamber Fabrication |
| T-057796 | A | Front Head Fabrication |
| T-057797 | - | Outlet Chute Assembly |
| T-057798 | - | Barrel Drive External Chain Guard |
| T-057799 | - | General Facilities Layout |
| T-057800 | - | Barrel Drive Shaft & Insulator |
| T-057801 | - | Barrel Drive Mechanism |
| T-057802 | - | Barrel Support Details & Installation |
| T-057803 | - | Inlet Chutes |
| T-057804 | - | Water Cooling System |
| T-057805 | - | Control Panel (7 Boats, Baratron, LN ₂) |
| T-057806 | - | Chamber Shields |
| T-057807 | - | Door Shields |

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|---|
| T-057808 | - | Barrel Beam Support |
| T-057809 | A | Rotary-Push Away End Closure |
| T-057810 | A | Assembly Flow Diagram |
| T-057811 | - | Pneumatic-Air Supply System |
| T-057812 | B | Control Console |
| T-057813 | - | Shield-Barrel Beam |
| T-057814 | - | Component Layout-Control Console |
| T-057815 | - | Shield-End Closure Support Beam |
| T-057816 | - | Barrel Drive Ring |
| T-057817 | A | Drive Ring Installation |
| T-057818 | A | Screen Barrel Assembly |
| T-057819 | A | Barrel Support Rings |
| | | <u>Electrical</u> |
| D-7986-C | A | Component Layout |
| E-8033 | A | Circuit Diagram (Power) |
| E-8033 B/M | A | Bill of Materials |
| E-8032 | | Circuit Diagram (Control) |
| | | 1. Stokes Pumping System |
| | | 2. Baratron Pressure Read-Out |
| | | 3. Westinghouse Controller |
| E-8032 B/M | | <u>Bill Of Materials</u> |
| | | Programmable Controller Program (Westinghouse) |

7. Barrel Coater Size Ivadizer (Caterpillar)

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|-----------------------------------|
| B-SK-4-1228-4 | A | Door Clamp |
| C-5824-B | A | 8" View Port |
| C-7684 | - | 20" Valve Shaft Seal |
| E-7783 | D | Pumping System Assembly |
| D-7985-C | B | Electrode Tube Shield |
| D-25591 | B | 20" Angle Valve Assembly |
| D-25732 | E | Water Cooling System |
| D-25737-C | L | Chambe Fabrication |
| D-25738 | - | Baratron Installation Assembly |
| D-25739 | F | Pump Throttle Assembly |
| B-25740 | C | Argon Gas Inlet System |
| D-25743-C | G | Front Head Fabrication |
| D-25749 | H | Rear Head Fabrication |
| D-25750 | F | Rear Door Carriage |
| D-25755 | G | Door Carriage Tracks & Hardware |
| A-25782 | A | Dished Head |
| B-25835 | A | Pump Support Stand |
| B-26000-C | C | Chamber Shields |
| T-055465-C | G | Front Door Carriage |
| T-055474-C | E | Electrode Flange |
| T-055607-C | B | Barrel Drive Mechanism |
| T-055614 | - | Chamber Coordinates |
| T-055655-C | G | Boat and Supports |
| T-055657-C | H | Wire Feed System |
| T-055658 | D | General Assembly/Cover Case |
| T-055659-C | F | Common Electrode |
| T-055660-C | C | Individual Electrode Installation |
| T-055662-C | G | Boat Support Carriage |
| T-055663 | B | Common Electrode Support & Shield |
| T-055664-C | G | Boat Carriage Shields |

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|---|
| T-055665 | F | Common Electrode Pass-Thru Seal |
| T-055666-C | H | High Current Electrodes |
| T-055667-C | C | Pneumatic-Air Supply System |
| T-055668-C | A | Boat Console Water Cooled Tray |
| T-055671 | E | General Facilities Layout |
| T-055672 | C | Barrel Drive Ring Shield |
| T-055674 | A | Window Shiled |
| T-055880 | A | Bellows Shiled Assembly |
| T-055898-C | A | 3/4" Wide Boat Clamp |
| T-055904 | C | Barrel Drive External Chain Guard |
| T-056253 | A | 8" View Port and Shield |
| T-056272 | C | Assembly Flow Diagram |
| *T-056276 | B | Rotary Fixture-Bearing |
| *T-056277 | A | Holder, Bearing |
| *T-056278 | B | Rotary Fixture Assembly and Installation |
| *T-056282 | A | Holder, Bearing-Spring Type |
| T-056283 | - | Drive Shield Assembly, Internal |
| T-056285 | - | High Voltage Wiper Assembly |
| T-056361-C | G | Rotary Parts Fixture |
| T-056362 | - | Barrel Ivadizer Process Flow Chart |
| T-056372-9-11 | C | Wire Feed Guide Tubes Tips |
| T-056629 | E | Guide Tube, Wirefeed |
| T-7685-C | E | Control Console |
| T-7686-C | D | Control Panel |
| D-7977-C | C | Circuit Diagram (Power) |
| D-7977-C-B/M | - | Bill Of Materials (Power) |
| D-7986 | A | Component Layout |
| E-8022-C | E | Circuit Diagram (Control) |
| | | 1. Stokes Pumping System |
| | | 2. Baratron Pressure Read-out |

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|---|
| E-8022-C-B/M | - | Bill Of Materials (Power) |
| A-8067 | 2 | Programmable Controller Program For T.I. Model No. STI-0131 |
| A-23988-115 | A | Connection Diagram |
| B 44902-3 | 1 | Schematic 75.6 KVA (SABAN) |
| B 0025A-1 | - | Connection Diagram, Control (SABAN) |
| A 0024A-2 | - | Board Schematic, E172A (SABAN) |
| A 0024A-3 | - | Board Schematic, E224 (SABAN) |

(* ADDITIONAL REFERENCE DRAWINGS)

8. Rack Coater Electrical (Active)

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|------------------------------------|
| E E-7677-K | C | Circuit Diagram Control (Kinney) * |
| D D-8012-K | G | Circuit Diagram Power (Kinney) * |
| E E-7677 | B | Circuit Diagram Control (Stokes) * |
| D D-8012 | H | Circuit Diagram Power (Stokes) * |
| E E-7676 | L | Circuit Diagram Control (STI) |

* Westinghouse

9. Boat Console-600#Barrel Coater

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|---|
| T-058399 | - | Carriage-Boat Rack |
| T-058400 | - | Boat Rack Platform Assy. |
| T-058402 | A | Platform Detail Boat Rack |
| T-058403 | - | Boat Electrode Assy. & Details |
| T-058404 | - | Mount Plate-Wire Feed Spools |
| T-058405 | - | Boat Shield Wire Feed Spools |
| T-058406 | - | Rear Radiation Heat Shield |
| T-058407 | - | Boat Shield-Lower Middle |
| T-058408 | - | Boat Shield-Wire Feeders |
| T-058409 | - | Boat Shield-POS. Electrode |
| T-058410 | - | Support Angles-Middle Shields-POS Electrode |
| T-058411 | - | Front Radiation Shield |

10. Misc. Fixtures & Designs (Rack Coater)

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|--|
| T-056637 | - | Adjustable Wire Feeder |
| T-057835 | - | 3/4" Rotary Vacuum Feed-thru |
| SKPM3686 | - | Coupler, Shaft-Rotary Rack |
| T-055911 | B | Sting Electrode Details |
| T-055915 | - | Sting Electrode Assy. (internal) |
| 72T050063 | A | Harpoon Flywheel Fixture |
| T-055688 | - | Shell Case Fixture & Installation |
| T-055878 | C | Cylindrical Parts Holder & Installation |
| T-057284 | - | 2 SHTS. Arradcom Transport Dolly (penetrators) |
| T-057283 | - | 4 SHTS. Arradcom Rotary Parts Rack (penetrators) |
| T-057003 | - | Rotary Parts Rack (Mich. Chrome) |

11. Misc. Electrical (Old Style Rack Coater)

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|-------------------------------------|
| E-12551P-9 | - | Circuit Diagram |
| E-12551P-9 | A | Circuit Diagram (MCAIR) |
| E-12551P-114 | A | Circuit Diagram (Northrop) |
| D-8012 | A | Circuit Diagram Power Type II |
| E-7676 | B | Circuit Diagram Control Type II |
| D-8012 | - | Circuit Diagram Power Type II |
| C-12551P-115 | | Connection Diagram Northrop |
| E-12551P-114 | D | Circuit Diagram Northrop |
| T-056274 | A | Baratron Gauge Installation Type II |
| E-7995 | B | Control Console (Baratron) Type II |
| E-7957 | A | Control Panel (Baratron) Type II |
| D-8017 | B | Component Layout Type II |
| D-8017 | C | Component Layout |
| T-056270 | C | Junction Box & Terminal Strip |

12. Misc. Fixtures & Designs (Barrel Coater)

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|-------------------------------------|-----------------|---|
| T-056267 | B | Circuit Modification for Nitrogen Cooling |
| T-057285 | A | Barrel Drive Shaft & Insulator |
| T-056361 | G | Rotary Parts Rack (4 sheets) |
| T-056626 | A | Barrel Beam Support |
| T-056638 | - | Spring-Clamp Rotary Fixture |
| T-056640 | - | Shutter Assembly (2 sheets) |
| 13. <u>Barrel Accessory (Embee)</u> | | |

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|------------------------------|
| T-057274-E | A | Barrel Plating Fixture Assy. |
| T-057278-E | A | Barrel Support Structure |
| T-057277-E | - | Barrel Outer Shield |
| T-057281-E | - | High Voltage Probe |
| T-057280-E | - | Shield Details |
| T-057279-E | - | Transport Dolly |
| T-057276-E | B | Barrel Fixture Details |

14. Misc Electrical & Mechanical Old Style Barrel Coater

| <u>DRAWING NO.</u> | <u>Revision</u> | <u>TITLE</u> |
|--------------------|-----------------|---|
| E-7978 | - | Circuit Diagram-Control o Stokes Pump o G.P. 275 o STI E-8022-M |
| E-8022-M | C | Circuit Diagram-Control o Stokes Pump o Baratron o STI |
| D-7986 | A | Component Layout |
| D-7685 | C | Control Console o G.P. 275 |
| D-7686 | D | Control Panel o G.P. 275 |
| D-7686-B | D | Control Panel o Baratron |
| D-8012-AUS. | E | Circuit Diagram - Power (Australia) |
| D-8024 | - | Circuit Diagram - Power (Tokyo Rashi) |
| D-25852 | B | Circuit Diagram - Control (Voi-Shan) |
| D-8023 | - | Circuit Diagram - Power (Blanc Aero) |
| T-056359 | A | Barrel Ring Details |
| T-055389 | H | Screen Barrel Assy. |
| T-055606 | F | Barrel Drive Ring |

1.2 OUT-DATED ORIGINAL DRAWING

| | | |
|---|-----|------------------------|
| 1 | Lot | Barrel Coater Drawings |
| | o | Voi Shan |
| | o | SPS |
| | o | AAA Plating |
| | o | Tokyo Rashi |
| | o | Blanc Aero |
| | o | JAE |

Use For Reference Only

| | | |
|---|-----|-------------------------------|
| 1 | Lot | FMC 24" Bell Jar Ivadizer |
| 1 | Lot | Ecko Drawing |
| 1 | Lot | Navy #1 Coater |
| 1 | Lot | Original Voi Shan System |
| 1 | Lot | Original Rack Coater Drawings |

Misc. Racks & Fixtures

| | | |
|----------|-------|--|
| | 1 Lot | Rotary Rack Drawings |
| | o | Embee |
| | o | Chromalloy |
| T-057286 | | Special Barrels for Rotary Rack (Blanc Aero) |

/1304M