

Dresser LLC
12970 Normandy Blvd
Jacksonville, Florida 32221



10 CFR PART 21 COMMUNICATION

Dresser CAR: ATS 808

Date: June 3, 2020

To: Document Control Desk
US Nuclear Regulatory Commission
Washington DC 20555-0001

Subject: 10 CFR Part 21 Report for Dresser LLC (Masoneilan) Valves with Screwed
Baffle Design

☐ Reportable Condition [21.21 (d)] ☐ 60 Day Interim Report [21.21(a)(2)]
☒ Transfer of Information [21.21(b)] ☐ Safety Information Communication

Summary:

On May 14, 2020 the Exelon Limerick Nuclear Generating Station notified Dresser LLC that the baffle, a part of the main plug contained within a Masoneilan Globe Piloted Control Valve had separated from the plug and was found downstream within their water system.

The valve was furnished to Limerick through Bechtel Power Corporation on or about November 21, 1980 from the Masoneilan International, Inc. Company located in Norwood, Massachusetts, as tag number HV-C51-103A, and serial number N00207-8-1.

Discussion with the Limerick Generating Station shows that Limerick procured a replacement plug in 2011 for the valve originally supplied in 1980. The part number of the plug furnished by Masoneilan in 1980 under serial number N00207-8-1 was 011470-887-899, and the part number of the plug furnished by Dresser in 2011 as the replacement was 011490440-1X3U0000.

The original plug contained within N00207-8-1 had a screwed baffle plate design secured by four torqued and tack welded socket head screws, which was the Masoneilan standard offering until the end of 1980. After 1980 Masoneilan began to do a full 360 tack weld around the baffle screws. This practice continued until about 1987 when Dresser ceased all production of the screwed baffle design and replaced it with an integral design.

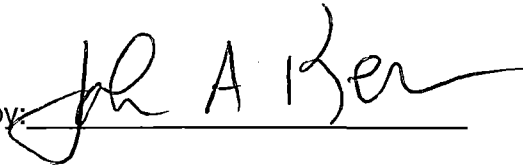
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From 1987 to present day, any request to Dresser for nuclear replacement parts that originally contained the screwed baffle design are quoted with the part number of the integral design.

While the notification by Limerick of the baffle becoming loose from the main plug on May 14, 2020 was the first such notification that the baffle had become disengaged in a nuclear facility, Dresser wants to make sure that all nuclear utilities are aware of the potential problem and take whatever actions they deem appropriate in accordance with their respective programs.

Issued by:



John Kerr Nuclear Quality Leader
Dresser LLC
12970 Normandy Blvd
Jacksonville, Florida 32221

Attachments:

Attachment 1: 10 CFR Part 21 Notification Process	2- Pages
Attachment 2: Original NPV-1 Form from Masoneilan International to Bechtel Power Corp	2- Pages
Picture 1: Typical picture of Masoneilan screwed baffle design plug	1- Page
Picture 2: Typical picture of Masoneilan screwed baffle design plug with tack welding	1- Page
Picture 3: Picture from Limerick Station showing baffle design failure	1- Page
Picture 4: Picture from Limerick Station showing baffle design failure (different view)	1- Page
Picture 5: Cut-away of a Masoneilan 40400 Series Pilot Balanced Valve internal	1- Page
Picture 6: Picture of the integral design baffle plug currently provided by Dresser	1- Page

(Total pages including this two page Communication:

12- Pages)

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Notice: This 10 CFR Part 21 Notification pertains only to the plants or facilities specifically indicated as being affected. Dresser LLC has not considered or evaluated the applicability, if any, of this information to any plants or facilities other than those specifically indicated as being affected and for which Dresser LLC supplied the equipment or services addressed in the Notification. Determination of applicability of this information to a particular plant or facility, and the decision of whether or not to take action based upon the Notification, are the responsibility of the Owner of that plant or facility.

ATTACHMENT 1

- (I) Name and address of the individual or individuals informing the Utility:

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- (II) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

Original notification of this issue was made by the Exelon Limerick facility on May 14, 2020. While the initial notification to Dresser LLC was made specifically to an 8" control valve, model number 38-40411 supplied to the Bechtel Power Corporation in support of the Limerick Generation Station under Serial Number N00207-8-1 as tag number HV-C51-103A, the use of a plug with a screwed in baffle design may be applicable to a number of nuclear utilities.

- (III) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

Dresser LLC, formerly identified as Masoneilan, or Dresser Masoneilan, or Masoneilan International, or Masoneilan Division, McGraw-Edison Company.

- (IV) Nature of the defect of failure to comply and the safety hazard which is created or could be Created by such defect of failure to comply.

The baffle was originally added due to instability caused during commercial applications in liquid service where the water had a straight line of contact. Due to logistics it was decided to add the baffle onto all pilot plug designs independent upon the service conditions or the application.

Around 1980 it was shown that we had some issues in vapor, gas, steam service where the baffle was coming undone due to vibration. It was determined by Dresser to remove the baffle from all service except for liquid application. If the customer didn't know the service you wouldn't get a baffle. Additionally, in water applications the tack weld around the baffle retaining screws was enhanced to a full 360 weld and the material was standardized to better stainless steel.

Between 1980 and 1984 the use of the screwed baffle was still in place. There was one possible case of a missing baffle in water service in June 1984 in a commercial application.

In 1987 it was decided to cease all production of the screwed baffle and go fully to the integral design. After which all the pilot trim design have the integral baffle.

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- (V) The date on which the information of such defect or failure to comply was obtained.

Initial notification that the baffle furnished as part of the valve main plug, part number 011470-887-899 had become disengaged from the plug was made on May 14, 2020 by Limerick to Dresser LLC.

- (VI) In the case of a basic component which contains a defect of failures to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

Because nuclear utilities procure material from each other and through secondary source manufactures, Dresser LLC does not have a definitive list of all utilities with an installed base containing a screwed baffle design, Dresser is providing this information to the Nuclear Regulatory Commission so that they may forward to all US utilities for review and action.

- (VII) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will take to complete the action.

This Transfer of Information, in accordance with 10CFR Part 21.21 (b) is being communicated to the US Nuclear Regulatory Commission to disseminate to all US Nuclear Facilities to determine the impact on their plant. Each Utility should review their records to determine if they still possess any 40K series plugs without the integral baffle and determine whatever actions are required under their program.

- (VIII) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers of licensees.

Affected plants should perform whatever actions are required under their program. A review of any potential release of foreign material should be conducted.

- (IX) In the case of an early site permit, the entities to whom an early site permit was transferred.

This is not an early site permit.

FORM NPV-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES*

As Required by the Provisions of the ASME Code, Section III, Div. 1

1. Manufactured by Masoneilan International, Inc., 63 Nahatan St., Norwood, MA 02062
(Name and Address of N Certificate Holder)
2. Manufactured for Bechtel Power Corp., P.O. Box 3965, San Francisco CA 94119
(Name and Address of Purchaser or Owner)
3. Location of Installation Limerick Generating Station, Units 1 & 2, Philadelphia PA
(Name and Address)
4. Pump or Valve Globe Control Valve Nominal Inlet Size 8" Outlet Size 8"
(inch) (inch)

	(a) Model No. Series No. or Type	(b) N Certificate Holder's Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Nat'l. Bd. No.	(g) Year Built
(1)	38-40411	N00207-8-1	N/A	A9100	2	N/A	1980
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

5. P.O. 8031-M-250A-AC Water Tag No. HV-C51-103A
(Brief description of service for which equipment was designed)

6. Design Conditions 485 psi 480 °F or Valve Pressure Class N/A (1)
(Pressure) (Temperature)
7. Cold Working Pressure 1100 psi at 100°F.

8. Pressure Retaining Pieces

Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
F-7679-3	ASME SA 216 GR WCB	Quaker Alloy	Body
F-7787-3	ASME SA 216 GR WCB	Quaker Alloy	Bonnet
(b) Forgings			
N/A			

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331

(1) For manually operated valves only.

* Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8-1/2" x 11", (2) information in items 1, 2 and 5 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

Mark No.	Material Spec. No.	Manufacturer	Remarks
(c) Bolting			
8898593 Code AS84	ASME SA 193 GR B7	Texas Bolt Company	Stud
6024521 Code JD2	ASME SA 194 GR 2H	Texas Bolt Company	Nut
(d) Other Parts			
4157-1	ASME SA 351 GR CF8M	Quaker Alloy	Plug
4194-3	ASME SA 351 GR CF8M	Quaker Alloy	Pilot

9. Hydrostatic test 1125 psi. Disk Differential test pressure 143 psi.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump, or valve, conforms to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Div. I, Edition 1977.

Addenda N/A, Code Case No. N/A, Date N/A.

Signed Masoneilan International, Inc. by B. B. Baker 11/21/80
(N Certificate Holder)

Our ASME Certificate of Authorization No. N-1836 to use the N symbol expires 8/19/83
(N) (Date)

CERTIFICATION OF DESIGN

Design information on file at Masoneilan International, Inc.

Stress analysis report (Class T only) on file at N/A

Design specifications certified by (1) Gilbert H. Brittain

PE State CA Reg. No. CS-26

Stress analysis certified by (1) N/A

PE State N/A Reg. No. N/A

(1) Signature not required. List name only.

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330

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Mass. and employed by H.S.B.I. & I. Co. of Hartford, CT have inspected the pump, or valve, described in this Data Report on December 30 1980, and state that to the best of my knowledge and belief, the N Certificate Holder has constructed this pump, or valve, in accordance with the ASME Code, Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

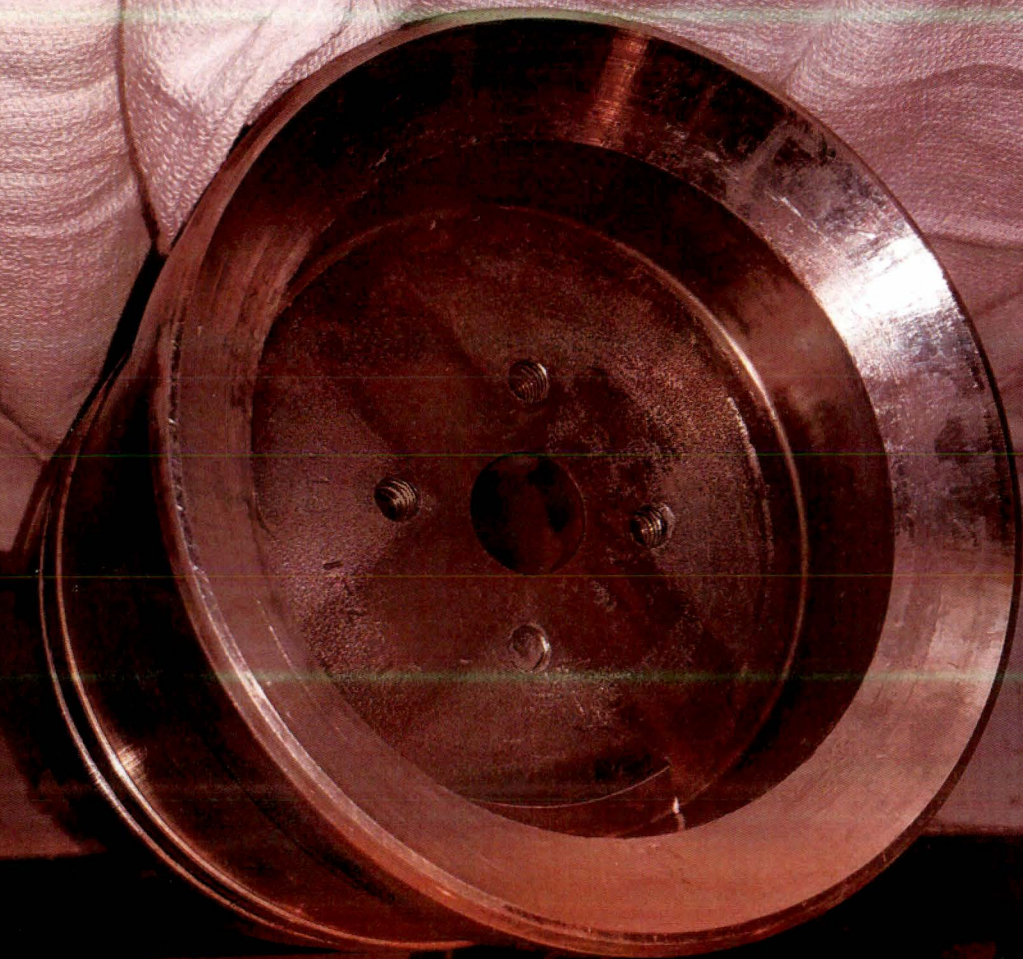
Date December 30 1980

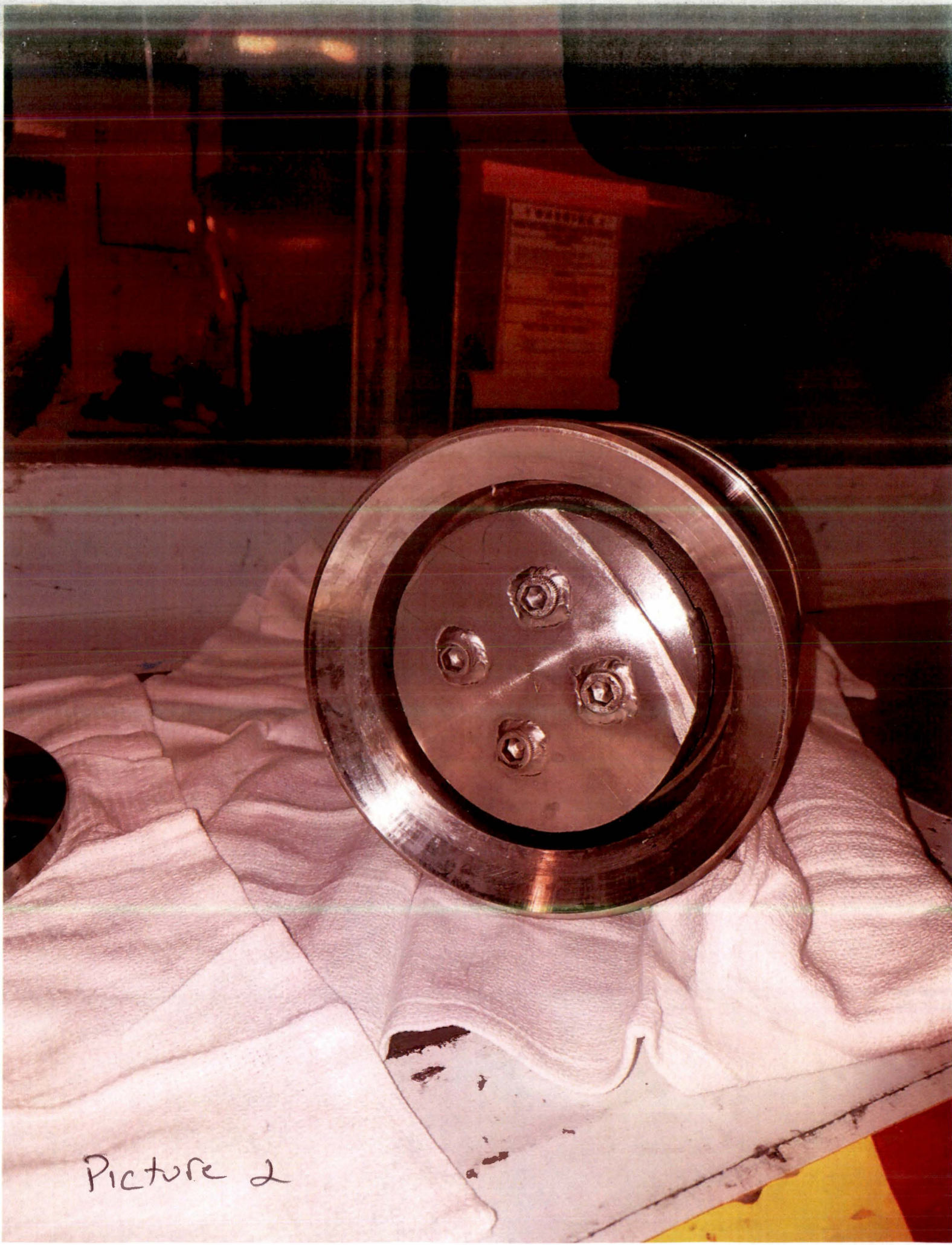
John B. Carson
(Inspector)

Commissions

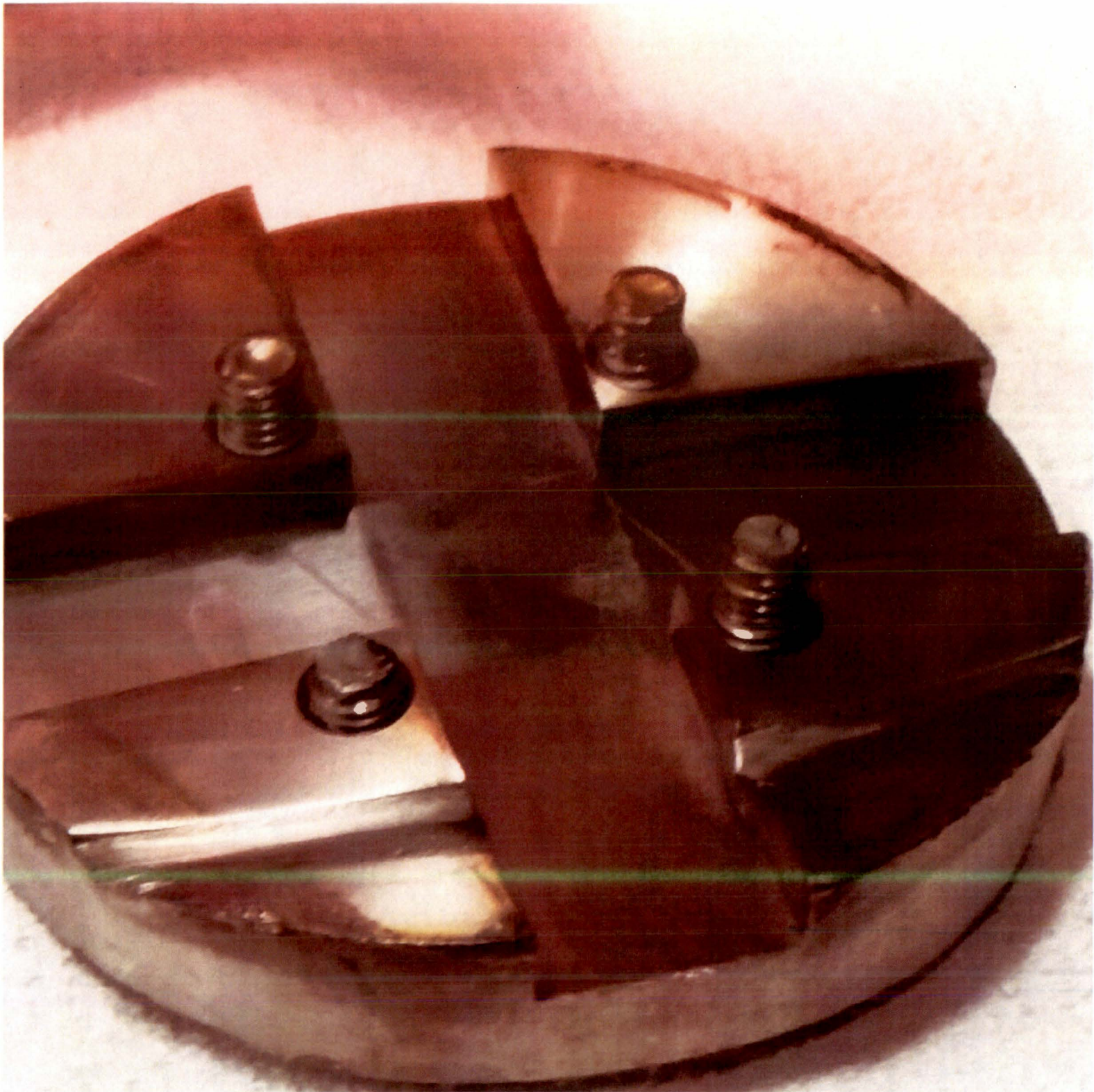
Mass 871, PA WC 2846
(Nat'l Bd., State, Prov. and No.)

Picture 1

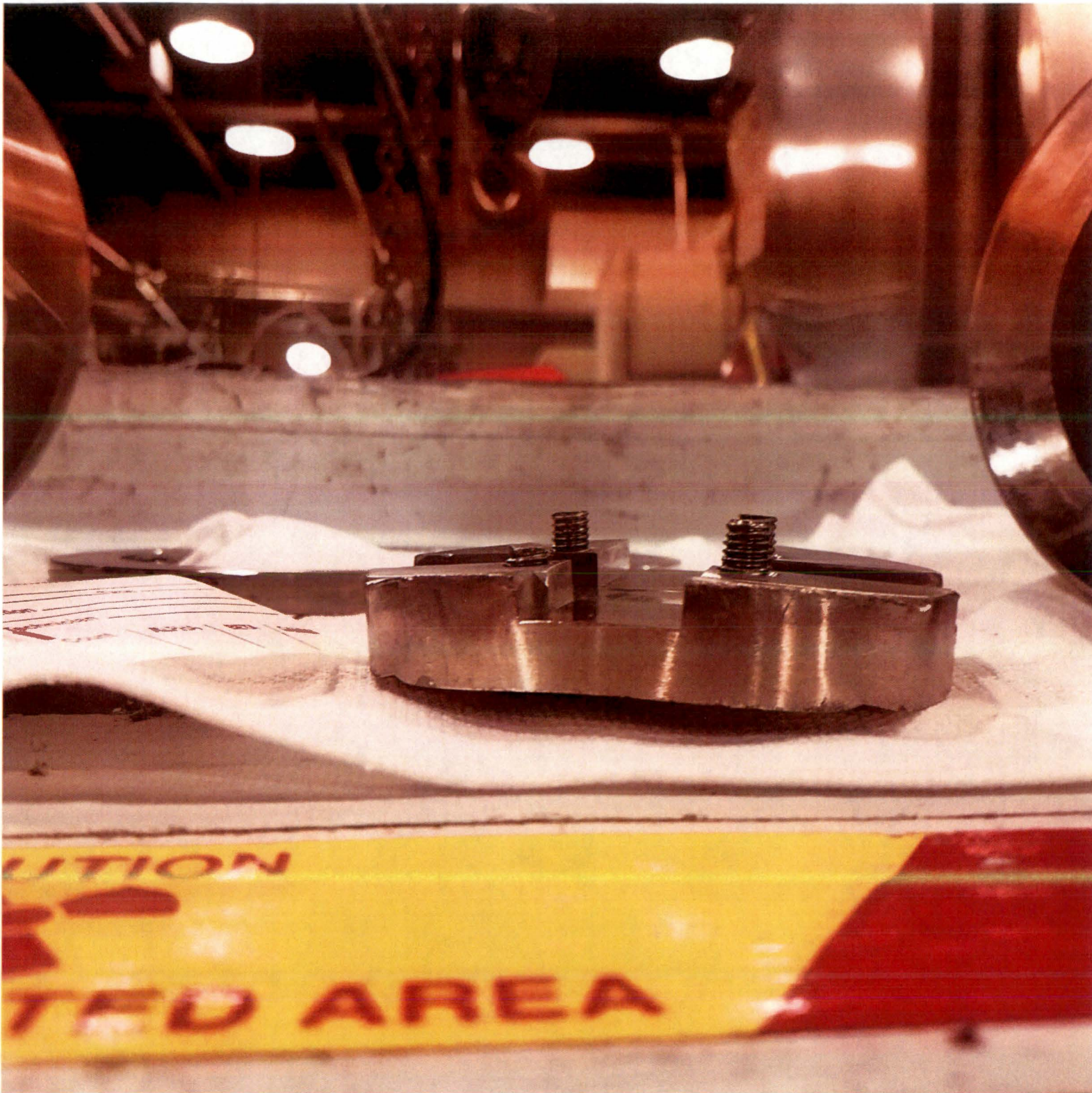




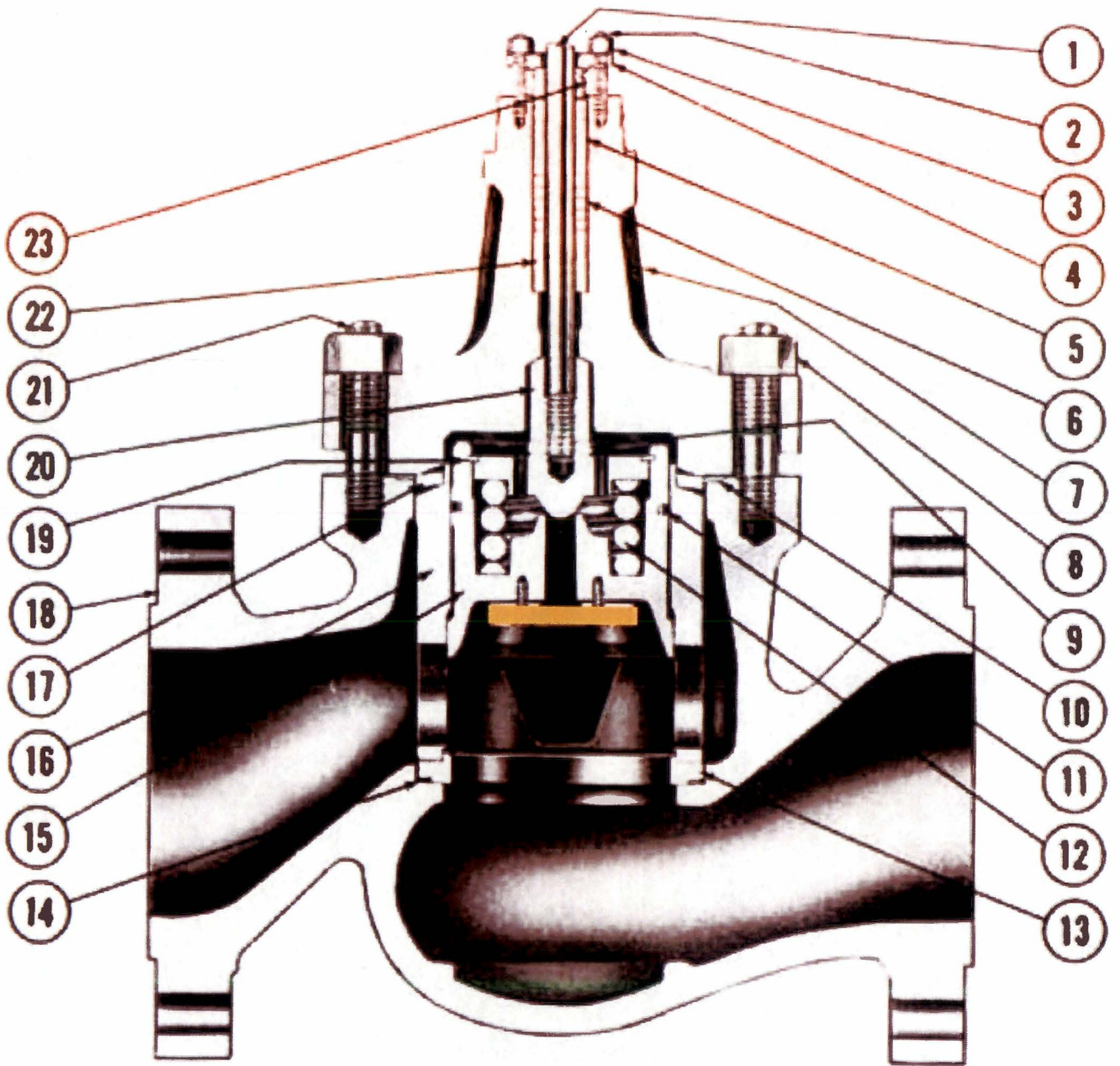
Picture 2



Picture 3



Picture 4



**40400 Series
Pilot Balanced**
Figure B

Picture 5



Picture 6