



Target Rock Corporation, 1966E Broadhollow Rd., P.O. Box V, Farmingdale, N.Y. 11735-0917

P21 91077
Publicly Available

SUBSIDIARY, CURTISS-WRIGHT CORPORATION

C11398

July 9, 1991

Director, Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. Carl Berlinger

Subject: 10CFR - Part 21

Reference: Telecon, Carl Berlinger (NRC) and V. Liantonio (TRC) on 07/09/91

Dear Sir:

Accompanying herewith are copies of Target Rock Service Bulletins #9107 through and including #9123 alerting recipients of the revised classification of certain parts within previously shipped pressure regulators. Upon reviewing its records, Target Rock has determined which orders may have been affected and thus notified all recipients. Each utility was advised of the documentation flaw and notified that some corrective action may be necessary to remain in compliance with ASME Section III requirements.

Target Rock is ready to answer questions thus raised and to supply hardware, drawings, etc. as may be needed by each utility. Please call if further clarification is needed.

Very truly yours,


M. R. Benante
General Manager
Target Rock Corporation


Vito Liantonio
Marketing Manager
Commercial Group

Enclosures

cc: Messrs:
K. Wenzel
R. Langseder
S. Karidas
J. Sefcik
E. Bajada
File

VL:hk

2-1MTCB-CW-V-3MS

S. B. 9107

TARGET ROCK PRESSURE REGULATING VALVES

Date: 6/18/91

CLASSIFICATION OF PRESSURE RETAINING PARTS PENNSYLVANIA POWER AND LIGHT COMPANY

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY: J. Sefcik, Project Engineer

REVIEWED BY: R. Glazier, Quality Engineering Manager

APPROVED BY: S. Karidas, Engineering Manager



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 4
DATE _____		REPORT SB 9107
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

- J. Sefcik, Project Engineer (516)293-3800, Ext. 562
- S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Pennsylvania Power and Light Company. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

TABLE I
 TARGET ROC., PRESSURE REGULATING VALVES
 PENNSYLVANIA POWER AND LIGHT COMPANY
 Susquehanna Steam Electric Station
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM		MATERIAL DESIGNATION & CERT. NO.	REMARKS
		Name	Part No.		
<u>75KK</u>					
75KK-401C Qty 4	Bechtel 8856-J-70-AC	Spring Housing	200738-3	ASME SA-479(316) 72-1010	Condition 1
75KK-403C Qty 2	Bechtel 8856-J-70-AC	Spring Housing	202223-1	ASME SA-479(316) 72-1010	Condition 1
75KK-404D Qty 2	Bechtel 8856-J-70-AC	Bolt	5/16 x 18 UNC x 1 1/2	ASTM-A-193 GR 78-2732	Condition 2 (Contact TRC)
		Flange	102421-1	MIL-S-23195A 70-1921	Condition 2 (Contact TRC)
75KK-405B Qty 1	Bechtel 8856-J-70-AC	Spring Housing	202471-1	ASME SA-479(316) 82-2872	Condition 1
75KK-406B Qty 2	Bechtel 8856-J-70-AC	Bolt	001-0004	ASTM A-193GR B8 80-4414	Condition 2 (Contact TRC)
		Flange	102708-1	ASME SA-479(316L) 80-3496	Condition 1
		Sleeve	202470-1	ASME SA-479(316) 80-0595	Condition 1

TABLE I (Cont'd)
TARGET ROCK PRESSURE REGULATING VALVES
PENNSYLVANIA POWER AND LIGHT COMPANY
Susquehanna Steam Electric Station
Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM		MATERIAL DESIGNATION & CERT. NO.	REMARKS
		Name	Part No.		
<u>83AA</u>					
75KK-401D Qty 1	PP&L 2-15989-1	Spring Housing	200738-3	ASME SA-479(316) 72-1010	Condition 1
<u>88Z-552</u>					
75KK-401H Qty 1	PP&L 8-48454-1	Spring Housing	200738-3	ASME SA-479(316) 72-1010	Condition 1
<u>86S-146</u>					
75KK-406B Spare Part Qty 2	PP&L 6-15261-1	Sleeve	202470-1	ASME SA-479(316) 85-5469	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
PENNSYLVANIA POWER AND LIGHT COMPANY



U. N. ALLOY STEEL

DIVISION OF U. N. CORPORATION

150-150000 STREET • CLEVELAND, OHIO 44115
TELEPHONE 291-2817 • TELETYPE 15-2000
U. N. CORPORATION

TR CERT. # 2-40-10
10/3

CERTIFIED MATERIAL TEST REPORT

For Target Rock Corp.
1966 E. Broadhollow Road
East Farmingdale, New York

Date June 14, 1972
Your Order Number 1308 - 1
Our Invoice Number _____

	Grade	Description and Specification	Size	Qr.
1	<u>316-rd</u>	Stainless Steel Bars H.R. as per ASMESA-479-63	<u>2 3/4</u>	<u>50</u>
2	" "	" " "H.R. as per ASME SA479-63	<u>1 7/8</u>	<u>224</u>
3	" "	" " "H.R. as per ASMESA479-63	<u>1 5/8</u>	<u>34</u>
4	" "	" " "H.R. as per ASMESA479-63	<u>1 1/2</u>	<u>50</u>

CHEMICAL ANALYSIS

Heat No.	Car.	Mang.	Phos.	Sul.	CU.	Sil.	Nichel	Chromo	Niely.
1 <u>FX139</u>	<u>.06</u>	<u>1.37</u>	<u>.032</u>	<u>.020</u>	-	<u>.42</u>	<u>10.31</u>	<u>16.10</u>	<u>2.17</u>
2 <u>XC485</u>	<u>.05</u>	<u>1.37</u>	<u>.032</u>	<u>.027</u>	-	<u>.33</u>	<u>10.31</u>	<u>16.86</u>	<u>2.15</u>
3 <u>N847C</u>	<u>.03</u>	<u>.94</u>	<u>.039</u>	<u>.022</u>	-	<u>.33</u>	<u>10.40</u>	<u>17.22</u>	<u>2.14</u>
4 <u>4E172</u>	<u>.05</u>	<u>1.44</u>	<u>.029</u>	<u>.022</u>	-	<u>.45</u>	<u>11.05</u>	<u>16.38</u>	<u>2.07</u>
<u>E5706</u>	<u>.025</u>	<u>1.34</u>	<u>.030</u>	<u>.018</u>	-	<u>.39</u>	<u>12.95</u>	<u>16.00</u>	<u>2.30</u>

PHYSICAL PROPERTIES

Heat No.	Tensile Strength Lbs. Per Sq. In.	Yield Strength Lbs. Per Sq. In.	% Elong.	% Red. of Area	Brinell
1 <u>FX139</u>	<u>85,000</u>	<u>43,000</u>	<u>63</u>	<u>67</u>	<u>131</u>
2 <u>XC485</u>	<u>84,000</u>	<u>40,000</u>	<u>64</u>	<u>69</u>	<u>164</u>
3 <u>N847C</u>	<u>84,000</u>	<u>43,000</u>	<u>61</u>	<u>72</u>	<u>131</u>
4 <u>4E172</u>	<u>81,600</u>	<u>35,000</u>	<u>60</u>	<u>72</u>	<u>140</u>
<u>E5706</u>	<u>105,000</u>	<u>95,000</u>	<u>35</u>	<u>64</u>	

REMARKS: Above Listed Material is in Compliance with the Below List Specification.
Equipment containing mercury or mercury compounds has not been used for fabrication, assembly, packaging, installation examination or testing of parts or assemblies on this order. **REVIEWED**

This certifies that shipment against our Invoice No. _____
and against Customer's Order No. _____ is in accordance with data herein described.

DATE _____ SIGNED _____
Duly noted and sworn before me.

Notary Public

JUL 18 1972

TO P. O. REQTS.
TRC Q. C. DEPT.



I hereby certify that the above data is correct as contained in the records of U. N. ALLOY STEEL

Signed: [Signature]
Harry Redington

RB

Consolidated Testing Laboratories, Inc.

79 HERRICKS ROAD, NEW HYDE PARK, NEW YORK 11040
516-746-3785

No. C 38084

TO: TARGET ROCK CORP.
1956 E. BROADWELL ROAD
E. FARMINGDALE, NY 11735
ATTN: MR. D. WREN, QC

*Add to
Cost # 2-101*

TR CERT. # 79-1127

Page(s) 1-1 *20/3*

DATE 5/2/79 P. O. NUMBER 4062/5887

QUANTITY IN LOT _____

MATERIAL 316SS SPEC NO ASME SA 479 (316)

IDENTIFICATION SEE BELOW

RESULTS OF TEST:

ASME SA 479, SUMMER 1976 (TYPE 316)

C	<0.08
Mn	<2.00
P	<0.045
S	<0.030
Si	<1.00
Mo	2.00-3.00
Ni	10.00-14.00
Cr	16.00-18.00

SIZE
P.O. #
HEAT #
CERT. #

2-101
3/8" RD
1308-1
FX139
72-1010
0.08
1.47
0.008
0.017
0.55
2.10
12.75
16.40

1 1/4" RD
1453-8
G-9876
77-2552
0.05
1.66
0.009
0.018
0.56
2.40
12.97
18.00

MATERIAL CONFORMS TO ASME SA 479, SUMMER 1976 (TYPE 316) AS LISTED ABOVE.

REVIEWED

MAY 3 1979

TO P. O. REQTS.
TRC Q. C. DEPT.

TRC
QCC
2

Carol Mastere
CAROL MASTERE
Notary Public, State of New York
No. 63-4810126
Qualified in Suffolk County
Commission Expires March 30, 1981

STATE OF NEW YORK
COUNTY OF NASSAU
Subscribed and sworn to before me
this 2 day of MAY 19 79

The foregoing is a true and accurate
report of results obtained from our tests
of this material

Frank J. ...

SAMPLES WILL BE RETAINED ONLY FOR 30 DAYS AFTER THIS REPORT DATE. NO RESPONSIBILITY IS ASSUMED FOR LOSSES DUE TO INTERPRETATION
RELATIVE TO OUR IMPARTIAL REPORTS. LIABILITY OTHERWISE IS LIMITED TO VALUE OF SERVICES RENDERED.

GARRON AIRCRAFT SUPPLY, INC.

STANDARD AND PRECISION FASTENERS



SOLD TO TARGET ROCK CORP.
1966-E BROADHOLLOW ROAD
E. FARMINGDALE, N.Y. 11735

3254-2

TR CERT. # 78-273

8 UNION SQUARE, NEW YORK, N. Y. 10008
Page(s) 9 (978 of 24)
(212) 675-8700

TRC
OCE
4A

Reviewed by: _____
EQUIPMENT CONTAINING MERCURY OR
MERCURY COMPOUNDS HAS NOT BEEN
USED FOR FABRICATION, ASSEMBLY
PACKING, INSTALLATION, ASSEMBLY
OR TESTING OF PARTS OR ASSEMBLIES
ON THIS ORDER.

CUST. ORDER NO.		DATE SHIPPED	F.O.B. OUR PLANT	TERMS	SHIPPED VIA	INVOICE DATE	INVOICE NO.
3254-2		8/6/79		15 10 DAYS NET 30		8/6/79	N 17122
ITEM	QUANTITY		DESCRIPTION	[REDACTED]			
	ORDERED	BACK OR'D SHIPPED					
	100	100	SCREW LONGLOK, P/N LP6U040J16, SAME AS NYLOCK P/N SL60CR420-16E	[REDACTED]			
7	50	50	BOLT, HEX HEAD, 5/16-18 UNC x 1 1/2				
	100	100	SCREW, PAN HD., 8-32 x 1/4	[REDACTED]			
	100	100	SCREW, HEX SOCKET, M60CR1032-12				
	25	25	NUT, LOCK ESNA, P/N 79NE066	[REDACTED]			
	100	100	5/16" NOM. ID SPLIT LOCKWASHER				
	100	100	SCREW, PAN HEAD, 6-32 x 1/4	[REDACTED]			
			ALL PARTS SUPPLIED IN 18-8 STAIN-LESS STEEL.				

SUBSCRIBED AND SWORN BEFORE ME

THIS 6TH DAY OF AUG. 1978

BEN GOLDMAN
NOTARY PUBLIC, State of New York
No. 24 - 1483240
Qualified in Kings County
Commission Expires March 30, 1980

Ben Goldman
NOTARY PUBLIC

It is hereby certified that all materials used in the manufacture of parts in the quantity called for on the subject purchase order conform to the material and/or manufacturing specifications indicated in drawings or specifications as called for on said purchase order.

Physical, Electrical, and/or Chemical test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

GARRON AIRCRAFT SUPPLY, INC.

J. Arce, Jr.
AUTHORIZED SIGNATURE

N 17122

CERTIFICATE OF CONFORMANCE

DATA
INPUT

Consolidated Testing Laboratories, Inc.

79 HERRICKS ROAD, NEW HYDE PARK, NEW YORK 11040
516 - 746-3705

No. C 38504

TO TARGET ROCK CORP.
1966 E BROADHOLLOW ROAD
E. FARMINGDALE, NY 11735
ATTN: MR. DAN WREN

add to cert #

78-2732 TR CERT. # *79-2372*

2 of 4

Page(s) 1 of 1

DATE 8/28/79 P. O. NUMBER 4062/58862 QUANTITY IN LOT 1

MATERIAL 300 SERIES 18-8 STAINLESS SPEC NO. ASTM-A193-77A

BOLT HEX HEAD 5/16-18UNC x 1 1/2

IDENTIFICATION TRC CERT #78-2732; P03254-2, WOT#40492

RESULTS OF TEST:

TYPE 304 D J Wren 9/11/79

ASTM A193-77A (B8, B8A)

C	<0.08	0.080 ✓
MN	<2.00	1.25 ✓
P	<0.045	0.02 ✓
S	<0.030	0.013
SI	<1.00	0.61
NI	8.00-10.50	9.30
CR	18.00-20.00	19.00

C E R T I F I C A T I O N

MATERIAL CONFORMS TO ASTM A193-77A (B8, B8A) AS LISTED ABOVE.

REVIEWED

SEP 11 1979

TO P. O. REQ'TS.
TRC Q. C. DEPT.

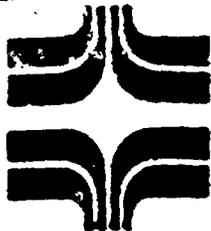


STATE OF NEW YORK
COUNTY OF NASSAU
Subscribed and sworn to before me
this day of 19

The foregoing is a true and accurate report of results obtained from our tests of this material.

[Signature]

SAMPLES WILL BE RETAINED ONLY FOR 30 DAYS AFTER THIS REPORT DATE. NO RESPONSIBILITY IS ASSUMED FOR LOSSES DUE TO INTERPRETATION RELATIVE TO OUR IMPARTIAL REPORTS. LIABILITY OTHERWISE IS LIMITED TO VALUE OF SERVICES RENDERED.



TARGET ROCK CORPORATION

FARMINGDALE, N.Y.

TRC CERT. # 79237

METALLURGICAL TEST REPORT

Page(s) 1 of 2

Page 1 of 2 NO. 969

DATE	9/11/79	PROJECT	77BB	PART NO.	5/16" x 18UNC x 1 1/2"L		
MATERIAL	304 SST	CONDITION		W.O.T.	40492	FORM	Hex Head Bolt
SPECIFICATION (BASE METAL)	ASTM-A-193-77A, Type 304, B8, B8A						
SPECIFICATION (FILLER ALLOY)	N/A					WEKBER VENDOR	Garron
TEST DESCRIPTION	Intergranular Corrosion Test of Austenitic Stainless Steel						
per Practice A of ASTM A-262.							

OBSERVATIONS & TEST RESULTS

One stainless steel hex head bolt, identified below, was submitted to the Metallurgy Laboratory to perform the intergranular corrosion resistance test per ASTM A-262.

MATERIAL	W.O.T.	SIZE	P.O.	CERT.	VENDOR
ASTM-A-193-77A Type 304 B8, B8A	40492	5/16"x 18UNC	3254-2	78-2732	Garron

Add to COR
344

The hex head was cut from the bolt with a wet abrasive cut-off wheel and a metallographic specimen was prepared in accordance with ASTM E3.

The full hex head cross section was polished and etched in accordance with Practice A of ASTM A-262. The etched structure was examined at 250x to 500x magnification. The classification of the etched structure is requested by Figure 6, End Grain Pitting I. (See attached photomicrograph). This is an acceptable etch structure and per Paragraph 2.2.1 of Practice A, ASTM A-262, no hot acid test necessary.

REVIEWED

SEP 20 1979

TO P. O. REQ'TS.
TRC Q. C. DEPT.

TRC
QCE
2

SIGNED BY J. ZAREH BA

APPROVED BY [Signature]

ORIGINAL



TO P. O. REQ'TS.
TRC Q. C. DEPT.

SEP 20 1979

DATA
REVIEW
INPUT

4 of 4
add to cut
BOLT. 79-2375

TRC CERT # FOR
5/16" X 1/2" UNF
(BOLT)

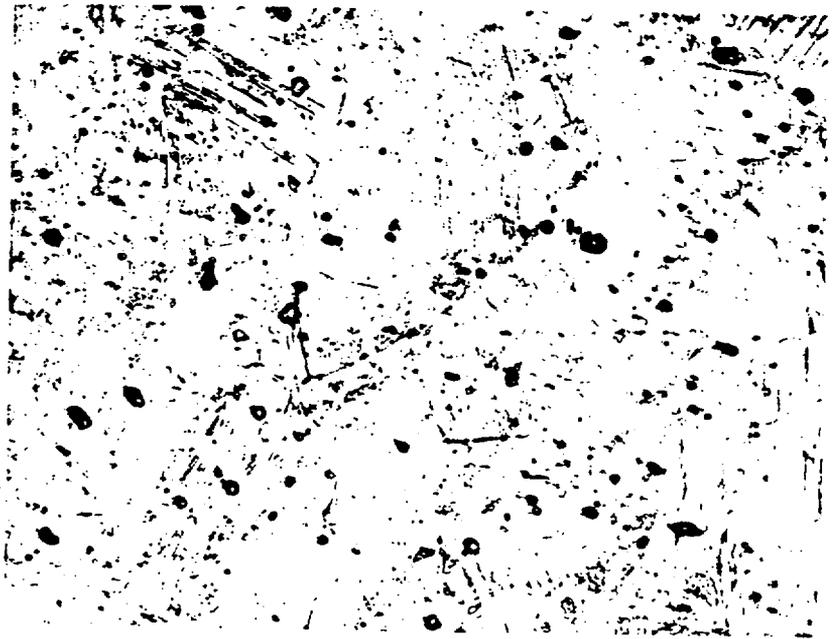
FIG. 6. END GRANULITIES
(ASTM A262, PRACTICE A)

ETCH STRUCTURE

10% OXALIC ACID ETCH

500X

304SS HEX BOLT



Page(s) 2 of 2

TR CERT. # 79-2375

Page 2

TRM 969

8 22 BY TARGET ROCK

Armco Steel Corporation
Advanced Materials Division
P.O. Box 1597, Baltimore, Maryland 21203

PACKING SLIP &
CERTIFICATE OF CHEMICAL ANALYSES AND TESTS

002034055*8001A 05/16/70 5711 -17
8004675 07/14/70 ?

SOLD TO TARGET ROCK CORPORATION
PUR DEPT 108 MADISON AVE
KEMPSTEAD N Y 11150

SHIPPED TO SAME
99 TAFT AVE
SAME

TR U.S. # 0-1921

ROUTING
BALTO NEW YORK

CAR INITIAL AND NO.

SHIPPED FROM
BALTIMORE, MD.

FOB
WELL

40 LEG	DUNNAGE		GROSS WEIGHT	NET WEIGHT	TARE WEIGHT	CARRIER	PREPARED	SHIP TO AND FROM CHARGES	SHIP TO AND FROM NO.	SHIP DATE	SHIP TO	
	FREE	TOTAL										

E. I. S. #5 Rev. A

ITEM	CODE	HEAT	QTY	SIZE	C/P	WEIGHT	
						NET	GROSS
320150	300235	1	2	2-1/4 RD X 10/12 FT R/L	16	270	
320160	56032	1	5	5 RD X 6/8 FT R/L	17	528	

BURLAPPED

SHEET 3 CONT CD

PRODUCT TYPE 345 STAINLESS BAR CR MIL-S-25195A APPENDIX A COMP 348 IC #2 6/6/59
COND A OK ULTRASONIC TESTED COBALT .10 MAX EX ALLOY IDENTITY WVD EX CONT
MKG WVD TARGET ROCK EIS-5A

ITEM	HEAT	C	S	CU	NI	TA	CO	OTHER ELEMENTS
901	300235	.057	1.75	.020	.011	.68	.07	
902	300235	MO	.18	.03	.06	.68	.089	
903	56032	.061	1.59	.018	.005	.65	.076	
904	56032	MO	.28	.03	.06	.68	.07	

July 10, 1970
PQA of listed items has been made by me or under my supervision and they conform to contract.

J. R. Darr
J. R. DARR, DSACR-3620-
Balto., Md.

REVIEWED

JUL 24 1970

TO P.O. REQTS.
TRCO. C. DEPT.

HEAT NO	AS SHIPPED HARDNESS	ULT TEN STR PSI	Y.D STR 0.2% SET PSI	% ELONG IN 2" OR EQUIV	% RED OF AREA	COND	HARDNESS
---------	---------------------	-----------------	----------------------	------------------------	---------------	------	----------

SEE ATTACHED SHEETS

SIGNED AND SWORN TO BEFORE ME THIS 14TH DAY OF JULY 1970

[Signature]
NOTARY PUBLIC

THE CHEMICAL ANALYSES AND PHYSICAL OR MECHANICAL TESTS REPORTED ARE CORRECT AS CONTAINED IN THE RECEIPTS OF THE CORPORATION

THIS CERTIFIED TEST REPORT HAS BEEN DELIVERED TO A CONSIGNEE OF MATERIAL PURCHASED FROM THIS STEEL CORPORATION. TO AVOID THE POSSIBILITY OF THIS REPORT BEING USED BY THE CONSIGNEE TO REPORT TO A THIRD PARTY IT MUST BE RECEIVED BY AND UNDER THE NAME OF SUCH CONSIGNEE

Mill Order: 002034055-8001A

Customer Order: 5711

Heat: 56032

293

Heat No.	As-Shipped Hardness	Ult. Ten. Str. PSI	Yld. Str. 0.2% Set PSI	% Elong. in 2" or Equiv.	% Red. of Area
56032	BHN 143	79,000 ✓	37,000 ✓	53.0 ✓	71.3 ✓

✓ Macro etch tests 100% one end each bar satisfactory.

✓ Carbide test okay, intergranular corrosion capability ok.

Armed Steel Corporation hereby certifies that in the production or testing of the above material by Armed Steel Corporation, no alpha emitting radiation devices, direct connected mercury manometers, mercury vacuum pumps, mercury seals or mercury-in-glass thermometers have been used, nor in such production or testing has (a) mercury been handled in the immediate vicinity of such material or (b) radioactive material been applied to its surface.

✓ This material was immersion ultrasonic tested per UTP-2 Rev. 5 dated Oct. 1, 1968 according to Mil-S-23195A using a 3/4 lithium sulphate crystal at 2.25 mc and found to be satisfactory.

✓ Inspection and process records on file for 3 years.

✓ This material was subjected to Defense Supply Agency inspection at our plant before shipping.

REVIEWED

JUL 22 1970

TO P. O. REQ'TS.
TRC Q. C. DEPT.



T.R.CERT# 82-2872

JUN 16 1982

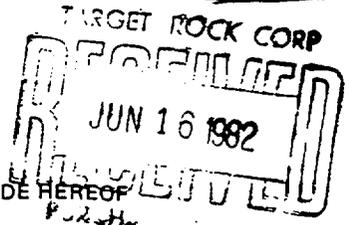


JUN 17 1982

PAGE(C)

1 OF 2

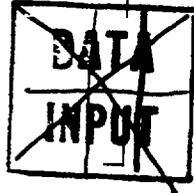
ANALYSIS AND TEST CERTIFICATE



REVIEWED BY _____ SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

TO

TARGET ROCK CORP.
P.O. BOX V
E. FARMINGDALE, NY 11735



YOUR ORDER NO. 1911	
OUR INVOICE NO. 130532	DATE 5/26/82
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
316 CG ANN	2-1/4 RD X 10-12 FT RDM ASME-SA 479-80 THE MATERIAL SUPPLIED IS IN ACCORDANCE WITH P.A. FRASSE Q.A. MANUAL DATED 1/1/78 REV#3	924 LBS	BROWN

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
1G3723	.041	1.60	.027	.023	.40	12.22	17.34		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.08	.40			.14					.049

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVER- ITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
77700	33400	55	78.1	143-152						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH		COND. H-900	COND. H-925			

JOMINY HARDENABILITY - ROCKWELL "C" IN 16^{THS} OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTELEMENT	FERRITE	MACRO ETCH
-----------	----------------	---------	------------

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed _____
for PETER A. FRASSE & CO., INC.



UNIVERSAL CYPLOS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

REVISED

S-584

GRADE AND DESCRIPTION: **UNILOY 316 CENTERLESS GROUND BAR**

SPECIFICATION: **AMS5648E QQS763D AMD1 COND A ASTM A276-81A ASTM A479-81L ASME SA479 612-03 REV 10 CHEM & PHYS ASTM A182-31A ASME SA182 ASME 1980 EDITION**

SIZE: **2.250" RD. X 11/13 FT.** ASTM-A-484-80, ASTM-A-193-81A GR 68
 ASTM-A-194-80A, CHEM. ONLY, ASME 1981 ADDENDA

SHIP TO: *J. H. [unclear]*

PETER A. FRASSE 612-673640
 LYNDBURST, N. J.

CUST. ORDER NO. XS-18757
 MILL ORDER NO. 51048 75094
 DATE SHIPPED _____
 QUANTITY & WEIGHT 4417

T. R. CERT# 82-2872

JUN 17 1982
~~2~~ ~~78910~~

HEAT NO	C	CHEMICAL ANALYSIS						CHEMICAL ANALYSIS					
		Mn	Si	S	P	Cr	W	V	Ni	Mo	Co	Cu	
1G3723	.041	1.60	.40	.023	.027	17.34			12.22	2.08	.14	.40	

CODE	IDENTIFICATION	TENSILE PROPERTIES					STRESS RUPTURE PROPERTIES					IMPACT KIC V/N CHARPY
		KSI TENSILE	KSI 2 YIELD	KSI 0.2 YIELD	% EL	% RA	TEMP. °F	KSI STRESS	TIME HR	% EL		
		77.7	33.4		55.0	78.1						

Target Customer
 P.O. # 1911
 INVOICE 130 532
 DATE 5-28-82
 QUANTITY 924

CODE	HEAT TREATMENT	HARDENABILITY	GRAIN SIZE
	ANNEALED 1925F 20 MIN. WATER <i>Brown</i>	<i>OK</i>	DATA INPUT

HARDNESS. 143/152 BHN
 REMARKS. ***FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION***

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY CONTAMINATION
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG. 1 STEP STRUCTURE
 FREE FROM CONTINUOUS CARBIDE NETWORK
 EMBRITTLEMENT 180 BEND: OK
 MATERIAL MANUFACTURED TO QUALITY CONTROL PROGRAM DATED 12/5/80

TEST REPORT

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

4/6/82

THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.

By *Peter A. Frasse*
 Quality Control Representative

GARRON AIRCRAFT SUPPLY, INC.

NOV 24 1980

STANDARD AND PRECISION FASTENERS

5 UNION SQUARE - NEW YORK, N. Y. 10008

(212) 675-8230



SOLD TO TARGET ROCK CORP.
1966-E BROADHOLLOW ROAD
E. FARMINGDALE, N.Y. 11735

DATA INPUT

I R CERT. # 80-4414

DEC 19 1980

Page(s) 1 of 1

Reviewed by _____

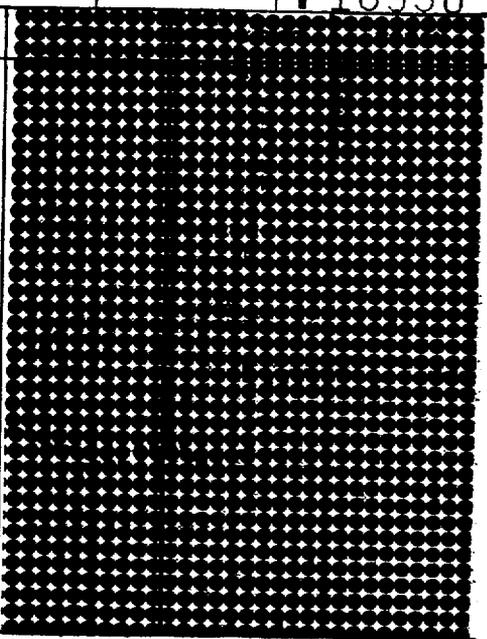


7380 - 1

CUST. ORDER NO. 7380-1	DATE SHIPPED 11/5/80	F.O.B. OUR PLANT	TERMS 1% 10 DAYS NET 30	SHIPPED VIA UPS	INVOICE DATE 11/5/80	INVOICE NO. P10950
---------------------------	-------------------------	------------------	----------------------------	--------------------	-------------------------	-----------------------

ITEM	QUANTITY			DESCRIPTION
	ORDERED	BACK OR'D	SHIPPED	
7 1	200	0	200	5/16-18 1 1/2 HEX BOLT ASTM-A 193 GR B8 CLASS 1 OR 2
2	150		150	5/16-18 1 HEX BOLT ASTM-A 193 GR B8 CLASS 1 OR 2
3	150	139	11	1/4-28 x 1 1/2 HEX BOLT ASTM-A 193 GR B8 CLASS 1 OR 2

EQUIPMENT CONTAINING MERCURY OR MERCURY COMPOUNDS HAS NOT BEEN USED FOR FABRICATION, ASSEMBLY PACKING, INSTALLATION, ASSEMBLY OR TESTING OF PARTS OR ASSEMBLIES ON THIS ORDER.



SUBSCRIBED AND SWORN BEFORE ME

THIS 5 DAY OF Nov. 1980

BEN GOLDMAN
NOTARY PUBLIC, State of New York
No. 24 - 1483248
Qualified in Kings County
Commission Expires March 19 81

Ben Goldman
NOTARY PUBLIC

It is hereby certified that all materials used in the manufacture of parts in the quantity called for on the subject purchase order conform to the material and/or manufacturing specifications indicated in drawings or specifications as called for on said purchase order.

Physical, Electrical, and/or Chemical test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

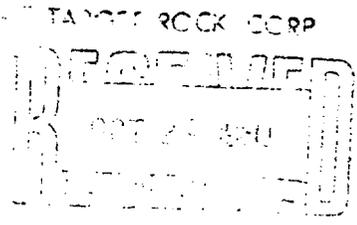
GARRON AIRCRAFT SUPPLY, INC.

J. Turner - inspector
AUTHORIZED SIGNATURE

P10950

CERTIFICATE OF CONFORMANCE

SALES 36 REV. 4-78



OCT 29
T. R. CERT. # 80-3496

ANALYSIS AND TEST CERTIFICATE

OCT 30 1980
Page(s) 1 of 23456

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

Reviewed by _____



TO TARGET ROCK CORP
1966 E. BROADHOLLOW RD
E. FARMINGDALE, N.Y. 11735

YOUR ORDER NO. 6576-1
OUR INVOICE NO. 190002
DISTRICT: LYND
DATE: 10/6/80

GRADE	SIZE, DESCRIPTION AND SPECIFICATION(S)	QUANTITY FT. LBS.	HEAT PAINT
TYPE 316 L	BAR HOT ROLLED ANNEALED AND ROUGH TURNED PER ASME SA 479 (1977 EDITION THRU WINTER 1979)	1741 LBS	
	ADDENDA) INTERGRANULAR COROSION TESTED PER ASTM A262 PRACTICE E ON A SENSITIZED SPECIMEN PRODUCED IN ACCORDANCE WITH NCA 3800		

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI	CR	MO	CU	TI	PB	CO	CB/TA	AL	SN	N
306054	0.23	1.56	0.22	0.14	.69	11.07	17.13	212	.56							0.64

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS./SQ. INCH	YIELD LBS./SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN-ABILITY	DECARB
				BRINELL	ROCKWELL					
					"B"						"C"
78000	44000	60	754	156						

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION 17-4 PH OR 15 COND. H-900 H-925 T-410

DATA INPUT

JOMINY HARDENABILITY - ROCKWELL "C" IN 16ths OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST _____ EMBRITTLEMENT _____ FERRITE _____ MACRO ETCH OK

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.
Signed Peter A. Frasse for PETER A. FRASSE & CO., INC.

EAS2 S-57 W
FRASSE

ARMCO INC.
Advanced Material's Division
P.O. Box 1697, Baltimore, Maryland 21203

PACKING SLIP &
CERTIFICATE OF CHEMICAL ANALYSES AND TESTS
OCT 6 1980

BILL ORDER NO. **2 C00035534-9950		BUYER'S DATE 4/8/80	BUYER'S ORDER NO. ND-75193		SHIP REF. NO. 2004270	SHIP DATE 09/30/80	C. PLANT P	E 86331	
SOLD TO PETER A FRASSE & CO INC PUR DEPT: - BRISBIN AVE LYNDHURST, NJ 07071					SHIPPED TO TARGET ROCK CORP 1555 E. BROADHOLLOW RD E. FARMINGDALE, LI, NY				
ROUTING ATLAS					TR CERT # 80-3496 CAR INITIAL AND NO. 23456		TARGET ROCK CORP. SHIPPED FROM BALTIMORE MD		
*40 LEG.		DUNNAGE		GROSS WEIGHT		NET WEIGHT		TARE	
2		FREE TOTAL		ACTUAL BILL AS		COLLECT PREPAID		OCT 29 1980	
*40 21				1,741		4.4900			
ITEM		HEAT #		PIECES		SIZE		C/P	
310010		306054		2		5-1/8RD X 12 FT R/L		P	
230		HEAT #		PIECES		TEST CHARGE		P	
320020		306054		1				P	
		TARGET ROCK #5516							

PRODUCT
HFIN BAR STNLS TYPE 31SL HFRT SOL ANN WQ ASME BPVC 1977 ED THRU W7S ADD
ASME SA479-77 ED THRU W7S ADD TYPE 31SL-A MCA 3800 SENSITIZED COPPER
SULFATE/STRAUSS TEST PER ASIM A262-77A PRACTICE E

LINE	HEAT	C	MN	P	S	SI	CR	NI	OTHER ELEMENTS
901	306054	0.023	1.56	0.22	0.14	0.69	17.15	11.07	
902	306054	0.020	2.12	0.10	0.11	0.11	0.064		

RECAP
Target Rock Corp
CUST # 6516-1
P.O. # 1900001
INVOICE
DATE 10-6-80
QUANTITY 1741 lbs

HEAT NO.	AS-SHIPED HARDNESS	ULT. TEN STR. P.S.I.	YLD. STR. 0.2% SET P.S.I.	% ELONG IN 2" OR EQUIV	% RED OF AREA	COND.	HARDNESS
306054	BHN 156	78,000	44,000	60.0	75.4		

MATERIAL ANNEALED 2050°F - 1 HOUR - WATER QUENCHED
FREE FROM CONTINUOUS CARBIDE NETWORK
INTERGRANULAR CORROSION TEST PER ASIM A262-77A PRACTICE E SATISFACTORY
TARGET ROCK #6516

09/30/80 1134 EP 12
SIGNED AND SWORN TO BEFORE ME THIS 30TH DAY OF SEPT 19 80

[Signature]
NOTARY PUBLIC

THE CHEMICAL ANALYSES AND PHYSICAL OR MECHANICAL TESTS REPORTED ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.

M.F. SMITH
[Signature]

THIS CERTIFIED TEST REPORT HAS BEEN DELIVERED TO A CONSIGNEE OF ARMCO INC. PURCHASED FROM ARMCO INC. TO AVOID THE POSSIBILITY OF THE REPORT BEING REDELIVERED TO A THIRD PARTY IT MUST BE RE-CERTIFIED BY ARMCO UNDER THE NAME OF SUCH CONSIGNEE.



I R CERT.

FEB 15 1980

ANALYSIS AND TEST CERTIFICATE

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF



TO []
 TARGET ROCK CORP
 1966 E. BROADHOLLOW RD.
 E. FARMINGDALE, N.Y. 11735

YOUR ORDER NO. 5937	
OUR INVOICE NO. 105122	DATE 2-4-80
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS							QTY FT/LBS.	HEAT TREAT
316 BAR ANNEAL WATER QUENCH 3-1/2 RD X 10/12 FT RDM	PER ASME SA 472 (SUMMER 78) INTERGRANULAR CORROSION TESTED PER PRACTICE A OF ASTM A262 THE PRODUCER AL TECH SPECIALTY STEEL HAS BEEN AUDITED BY PETER FRASSE APPROVED AS A QUALIFIED SUPPLIER IN ACCORDANCE WITH OUR Q.A. MANUAL & CHEMICAL ANALYSIS OUR SYSTEMS COMPLY WITH NCA 3800							851LBS.	RED
HEAT NO	C	MN.	PHOS.	SUL.	SI	NI	CR		
05256	056	1.39	0.023	0.01	.41	12.63	17.20		
MO	CU	TI	PB	CO	AL	CS	TA	SN	N
203	30			17					061

MECHANICAL PROPERTIES

TENSILE STRENGTH LBS/SQ INCH	YIELD LBS/SQ INCH	ELONG % IN IN.	RED OF AREA %	HARDNESS		FREQUENCY	SEVER- ITY	GRAIN SIZE	HARLEN ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL C					
84500	39000	56	78	152						

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION

COND. H-275

JOMINY HARDENABILITY - ROCKWELL "C" IN 18" OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION
 MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

NOTES	EMBRIEMENT	FERRITE	MARCOV
-------	------------	---------	--------

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer of data resulting from tests performed in the laboratory or by approved laboratories.

Signed:
 for PETER FRASSE & CO. INC.

RE ISSUED COPY

ALTECH

INQUIRY ORDER NO AND DATE	NOT BEFORE	INQUIRY NO AND DATE	ACCEPTING MILL	MILL ORDER NO	DATE SHIPPED	INVOICE NO.
05/01/79			DUNKIRK	6-2-29528	JUN 27 1979	
P. A. FRASER & CO. INC. THREE WYOMING DRIVE LAKE SUCCESS NY 11042			P. A. FRASER AND CO., INC. BRISBANY A. NYE LYNDHURST N J 07071			

MATERIAL SPECIFICATIONS

AL TECH STAINLESS STEEL TYPE 316

CG TO A78-5642E 22S-7630 ASTM-A-276-77 ASTM-A-479-77

SME-SA-479-77-S-78 (ASTM-A-182-77A & ASME-SA-182 CHEM & MECH PROPS ONLY)

REL CLM (612-03-7) COND A

DESCRIPTION	QUANTITY	POUNDS	TEST PCS	COPIES SOLD TO	C	P	COPIES SHIP TO	C	P
R 3.5000 CUST-ID COMM 612-075074	10-14 F 5 BARS	2225						3	3

CHEMICAL ANALYSIS

STANDARD ELEMENTS & PERCENTAGES

ADDITIONAL ELEMENTS

BAT NO	C	MN	P	S	SI	CR	NI	AL	MO	CU	CO	N2	.061
05756	.061	1.39	.023	.021	.41	17.20	12.63		2.03	.30	Co	.17	N2 .061

MECHANICAL PROPERTIES

BAT NO	TENSILE PSI	YIELD PSI	ELONG %	RED AREA %	BRINELL	ROCKWELL	TEST NO
05756	84,500	39,000	56	78	137		

SOLUTION ANNEALED AT 1900 DEG. F. MIN. AND WATER QUENCHED

I.D.P. OK

A.D.P. OK

MATERIAL FREE FROM MERCURY CONTAMINATION

MATERIAL FREE FROM CONTINUOUS CARBIDE NETWORK

S-58718

Target Rockwell	
#	5937
TEST NO	105124
	2-4-80
	85111
<i>J. E. Carroll</i>	

ANALYSES AND RESULTS CERTIFIED AS ABOVE

AL TECH SPECIALTY STEEL CORPORATION

72 HENCO ROAD, NEW HAVEN, NEW YORK 11600
914-766-7000

TO: **Target Rock Corporation**
Attn: A. Fraum & Co., Inc.
8155th Avenue
Lyndhurst, New Jersey 07071

FEB 15 1980
34

DATE 1/31/80

P. O. NUMBER 55074

Insured by Target Rock
QUANTITY BY LOT 34

MATERIAL 316 BAR, GRD., COND. A SPEC NO. SAL79-78

IDENTIFICATION 1/2" Rod, Heat #05756

REPORT OF TEST

SAL79-78 (Type 316)

C <0.08
Mn <2.00
P <0.015
S <0.030
SI <1.00
Mo 2.00-3.00
Ni 10.00-14.00
Cr 16.00-18.00

0.08
1.75
0.03
0.028
0.43
2.70
12.20
16.50

AREA (SQ. IN.)
TENSILE
TENSILE PSI > 75,000
YIELD
YIELD PSI > 30,000
ELONGATION > 30%
RED. OF AREA > 10%

0.1956
16.000
81.800
8.750
14.750
61.05
76.0%

ASTM A262, PRACTICE A:
INTERGRANULAR CORROSION:

MICROSTRUCTURE OF SAMPLE INDICATES THAT MATERIAL IS SOLUTION HEAT TREATED AND FREE FROM INTERGRANULAR CORROSION.

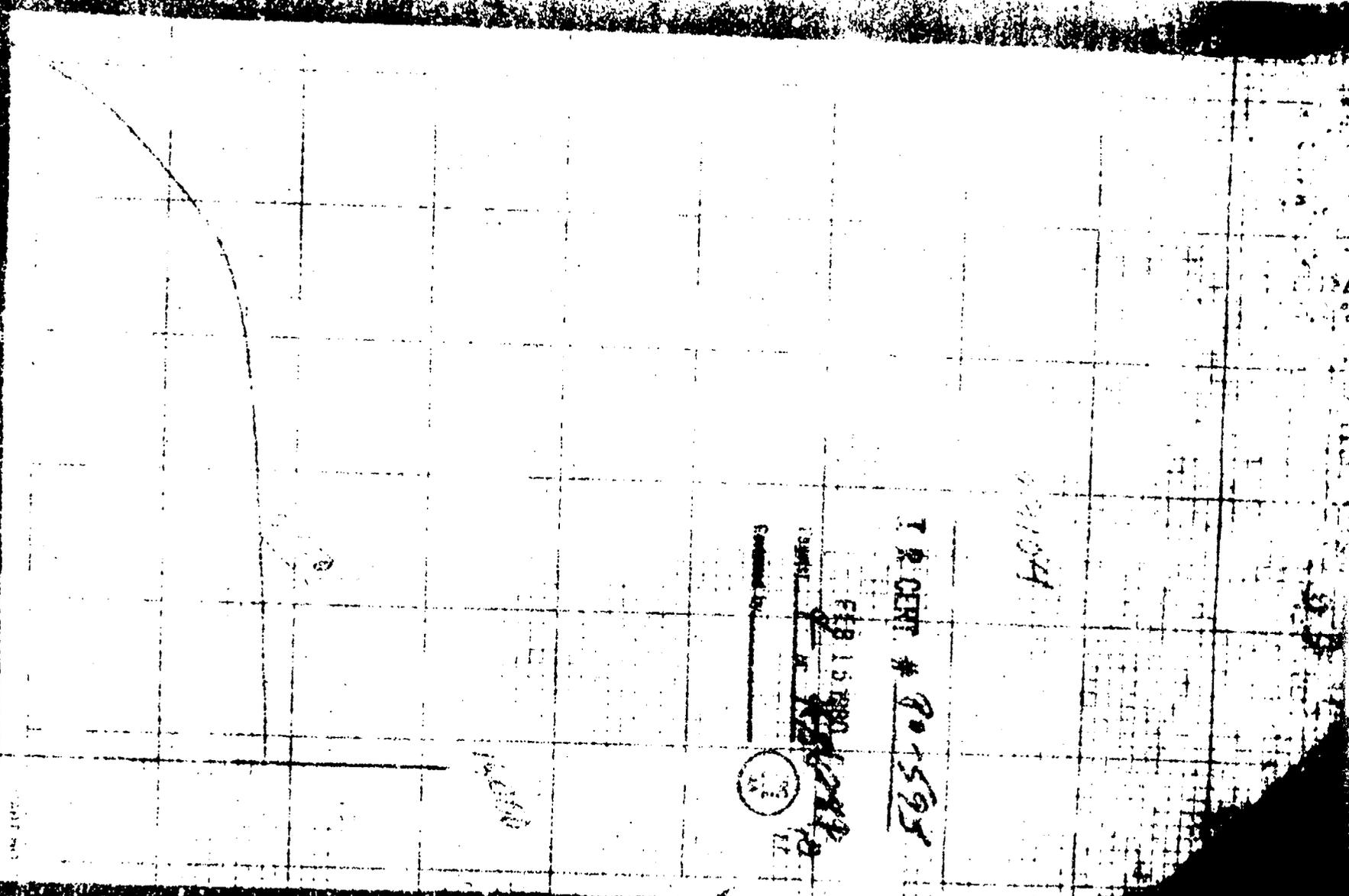
Target Rock Corp
5937
105122
2420
15/16

MATERIAL CONFORMS TO SAL79-78 (Type 316) AS LISTED ABOVE.

TARGET ROCK CORPORATION HEREBY CERTIFIES
THROUGH THIS INTERDEPENDENT ANALYSIS THAT THE MATERIAL
CONTAINED HEREIN MEETS THE APPLICABLE MATERIAL
REQUIREMENTS IN ACCORDANCE WITH

STATE OF NEW YORK
COUNTY OF NASSAU
Subscribed and sworn to before me
this _____ day of _____ 19 _____

The foregoing is a true and accurate copy of this material as presented from our tests
Joseph J. Brown
ANALYST WILL BE RETAINED ONLY FOR 30 DAYS AFTER THIS DATE AND NO RESPONSIBILITY IS ASSUMED FOR RESULTS OF TESTS OR TO INTERPRETATION RELATIVE TO OUR LABORATORY REPORTS. LIABILITY OTHERWISE IS LIMITED TO VALUE OF SERVICES RENDERED.



001024

7 1/2 CENT # 80-595

FEB 15 1960

RECEIVED

Exempt by



1000

1000

ANALYSIS AND TEST CERTIFICATE

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

TO

Target Rock Corp
30 Box V
E. Farmingdale, NY 11735

YOUR ORDER NO. *9099*

OUR INVOICE NO. *152881*

DISTRICT: *Dayton NJ*

DATE:

11-12-85

ITEM NO	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY FT (LBS)	HEATPAINT
1	<i>316 CG Ann 3-1/8 Ld 12 Yt Ldm.</i>	<i>676</i>	<i>Blue</i>
2	<i>ASME-SA479, Ed Surv. 85</i>		
3			

CHEMICAL ANALYSIS

	HEAT NO.	C	MN.	PHOS	SUL.	SIL.	NI	CR	MO	CU	TI	PB	CB/TA	AL	Co	N
1	<i>1G5040</i>	<i>.040</i>	<i>1.66</i>	<i>.029</i>	<i>.022</i>	<i>.50</i>	<i>10.78</i>	<i>16.50</i>	<i>2.09</i>	<i>.26</i>					<i>.15</i>	<i>.059</i>
2																
3																

T. R. CERT # *85-5469*

MECHANICAL PROPERTIES

17-4 or 15-5 PH COND. H-900 H-925

MAR 19 1986

	TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG IN. 2 IN. %	RED. of AREA %	HARDNESS	FREQUENCY SEVERITY	GRAIN SIZE	HARDENABILITY	AS SHIPPED HARDNESS
1	<i>81.7</i>	<i>44.1</i>	<i>58.0</i>	<i>78.4</i>	<i>BHN 143/156</i>				<i>12</i>
2									
3									

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS. OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
 MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

DE CARB _____ EMBRITTLEMENT _____ FERRITE _____ MACRO ETCH *OK*

OTHER: _____

We hereby certify that the above data is a true copy of data furnished by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed *Joan Borgese*
 for Peter A Frasse & Co Inc

MATERIAL CERTIFICATION

P.O. NUMBER: XS 31779 FROM 50690-90
 DESCRIPTION: UNILOY 316 CENTERLESS GROUND BAR
 SPECIFICATION: 612-03 REV 15 AMS5648F QQS763D AM2 ASTM A276-84 ASTM A479-84A ASTM A484-90
 ASME SA479 CHEM ASTM A193-83A ASTM A194-83 CHEM & PHY ASTM A182-82A ASME SA182 SUM 84 ADD PWA300AG .
 SIZE: 3.125" RD X 11/13 FT
 SHIP TO:

PAGE: 1 OF 1
 MILL ORDER NO. 72246-5
 05/07/85

FRASSE-BASSETT
 169 DOCKS CORNER ROAD
 DAYTON, NJ 08810

DATE SHIPPED 5-14-85
 QTY. & WGT. 3025 #

Blue

HEAT ID.	CHEMICAL COMPOSITION								
	C	MN	SI	S	P	CR	NI	MO	CO
165040	.040	1.66	.50	.022	.029	16.50	10.78	2.03	.15
	CU	N							
	.26	.059							

MECHANICAL PROPERTIES

CONDITION AS SHIPPED: ANNEALED 1925F 20 MIN. WATER QUENCHED

IDENTIFICATION HARDNESS, BHN
 143/156

IDENTIFICATION UTS, KSI .2% YLD, KSI % EL % R/A
 81.7 44.1 58.0 78.4

REMARKS

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY AND DETRIMENTAL LOW
 MELTING ALLOY CONTAMINATION
 INTERGRANULAR CORROSION ACCEPTABLE PER ASTM A262 PRACTICE E
 THIS MATERIAL WAS PRODUCED IN ACCORDANCE WITH QC MANUAL
 DATED 4/30/84 REV 8 AND CONFORMS TO NCA3800.
 PRODUCED UNDER PWA REQUIREMENTS FOR LABORATORY CONTROL
 AT SOURCE PER PWA-MCL MANUAL SECTION F17
 VENDOR HEAT
 CODE
 5411 KSIF
 FREE FROM CONTINUOUS CARBIDE NETWORK.
 612-674747

DATA INPUT

85-5469
T. R. CERT #

Target Rock Corp
 CUSTOMER
 P. O. # 9099
 INVOICE 152881
 DATE 11-8-85
 QUANTITY 676 # ASME-SA479

NOV 21 1985
 PAGE(S) 2 of 3



REVIEWED BY

All testing procedures are in accordance with ASTM standards or applicable specifications.

The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under federal statutes including Federal Law, Title 18, Chapter 47.

The above are true and correct results of tests or samples of the material. Said results meet the specification(s) applicable and are on record.

By Mary Lou Carpenter
 Quality Control Representative

Handwritten notes at bottom left.

PREPARED BY _____
DATE _____
APPROVED BY _____
DATE _____

TARGET ROCK CORPORATION
EAST FARMINGDALE LONG ISLAND, N. Y.

PAGE 2 OF 3
REPORT SB 9108
PROJECT

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Arizona Public Service Company. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9108

TABLE I
 TARGET ROCK PRESSURE REGULATING VALVES
 ARIZONA PUBLIC SERVICE COMPANY
 Palo Verde Nuclear Generating Station Units 1, 2 & 3
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name	PRESSURE RETAINING ITEM Part No.	MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>76Q</u> 76Q-010D Qty 12	Bechtel 10407-13-JM-691	Spring Housing	202471-1	SA-479(316) 80-2867	Condition 1
<u>89Z</u> 76Q-010/ 89Z530-001A Qty 3	APS 60189916	Spring Housing	202471-1	SA-479(316) 85-0422	Condition 1

PREPARED BY _____
DATE _____
APPROVED BY _____
DATE _____

TARGET ROCK CORPORATION
EAST FARMINGDALE LONG ISLAND, N. Y.

PAGE OF
REPORT
PROJECT

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
ARIZONA PUBLIC SERVICE COMPANY



I R CERT. # 80-2967

SEP 05 1980

SEP 5 1980

ANALYSIS AND TEST CERTIFICATE Page(s) 1 of 2

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF



TO TARGET ROCK CORP
1966 E BROADHOLLOW RD
E FARMINGDALE NY 11735

YOUR ORDER NO. 6514-2	
OUR INVOICE NO. 132245	DATE 9-2-80
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT./LBS.	HEAT PAINT
316 BAR GRD	2-1/4 RD X 12 FT RDM	342 LBS	BLACK

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
1G317	.032	1.70	.027	.020	.52	12.20	17.49		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.12	.19			.18					.028

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
75000	31300	58.5	78.6	140						

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION
 ASME SA 479 (1977 ED. THRU WINTER 1979 ADD.) INTERGRANULAR CORROSION TESTED PER ASTM A 262 PRACTISE E PRODUCES IN SCORDANCE WITH NCA 3800 CARBON CONTENT NO TO EXCEES .055 MAX.

JOMINY HARDENABILITY - ROCKWELL "C" IN 16^{THS} OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTELEMENT	FERRITE	MACRO ETCH
			OK

OTHER:

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed [Signature]
for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

MID-ATLANTIC

8-11-80

GRADE AND DESCRIPTION: **UNILOY 316 ANNEALED CENTERLESS GROUND**

SPECIFICATION: **612-03 REV 7 AMS5648E QQS763D COND A ASTM A276-78 ASTM A479-78
 ASME SA479 ASME SA479 77 ED CHEM&PHY ASTM A182-78 ASME SA182**

SIZE: **2.250" RD X 11/13 FT. 612-673640** WINTER ADDEN THRU WINTER 79 ADDEN

SHIP TO:

PETER A. FRASSE CO., INC.
 BRISBIN AVENUE
 LYNDHURST, N. J. 07071
 ATTN: GEORGE GRAY

CUST. ORDER NO. XS-09611
 MILL ORDER NO. 70424
 DATE SHIPPED 8-5-80
 QUANTITY & WEIGHT 8 BARS 1354#

MELTED IN THE U.S.A.								CHEMICAL ANALYSIS					
HEAT NO	C	Mn	Si	S	P	Cr	W	V	Ni	Mo	Co	Cu	
1G3137	.032	1.70	.52	.020	.027	17.49			12.20	2.12	.18	.19	
HEAT NO.	Sn	Pb (P.P.M.)	Al	Ti	Fe	B	Zr.	Cb /Ta	La	Bi (P.P.M.)	N		
											.028		

TENSILE PROPERTIES							STRESS RUPTURE PROPERTIES				IMPACT K _{IC} V ₅₀ CHAPPY
CODE	IDENTIFICATION	KSI TENSILE	KSI 2 YIELD	KSI 02 YIELD	% EL	% RA	TEMP. °F	KSI STRESS	TIME HR	% EL	
		75.0	31.3		58.5	78.6					

T. R CERT. # 20-2867

SEP 5 1980

Page(s) 2 of 2

Reviewed by _____



CODE	HEAT TREATMENT	HARDENABILITY	GRAIN SIZE
	ANNEALED 1925F 20 MIN WATER <i>Black</i>	<i>Target Rock</i> 65.4-2 1.32245 9-2-80 34266	

HARDNESS: 140 BHN

REMARKS: MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY CONTAMINATION
 EMBRITTLEMENT 180 BEND: OK
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG 1 STEP STRUCTURE
 FREE FROM CONTINUOUS CARBIDE NETWORK
 PRODUCED IN ACCORDANCE WITH NCA 3800.

TEST REPORT

THE RECORDING OF FALSE, FICTITIOUS OR
 FRAUDULENT STATEMENTS OR ENTRIES ON
 THIS DOCUMENT MAY BE PUNISHED AS A
 FELONY UNDER FEDERAL STATUTES INCLUDING
 FEDERAL LAW, TITLE 18, CHAPTER 47.

The above are true and correct results of tests on
 samples of the material. Said results meet the
 specification(s) applicable and are on record.

By *P. J. Williams*
 Quality Control Representative

Approved by Target Rock Corp.
to NCA 5103

ANALYSIS AND TEST CERTIFICATE

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

JAN 23 1985

TO *Target Rock Corp* YOUR ORDER NO. *11347*
11347 OUR INVOICE NO. *261198*
 11347 DISTRICT: *Dayton* DATE: _____

ITEM NO	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT. (CBS)	HEATPAINT
1	<i>2 1/4" dia 2 1/4" dia 1.2 F Edm</i>	<i>312</i>	<i>None</i>
2	<i>11347 H 477-283</i>		
3			

CHEMICAL ANALYSIS

	HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI	CR	MO	CU	TI	PB	CB/TA	AL	CO	Fe
1	<i>1C5410</i>	<i>0.21</i>	<i>1.17</i>	<i>0.028</i>	<i>0.28</i>	<i>0.39</i>	<i>10.89</i>	<i>16.60</i>	<i>2.06</i>	<i>.19</i>					<i>0.14</i>	<i>0.05</i>
2																
3																

MECHANICAL PROPERTIES

17-4 or 15-5 PH COND. H-900 H-920

	TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG IN. 2 IN. %	RED. of AREA %	HARDNESS	FREQUENCY SEVERITY	GRAIN	HARDENABILITY	AS SHIPPED HARDNESS
1	<i>85.1</i>	<i>39.5</i>	<i>62.5</i>	<i>79.2</i>	<i>BH V 143/159</i>				
2									
3									

85-422

JAN 25 1985

PAGE(S) *1* OF *1*



JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
 MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

DE CARB _____ EMBRITTLEMENT _____ FERRITE _____ MACRO ETCH *CR*

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed *John Boyer*
 for Peter A Frasse & Co Inc

MATERIAL CERTIFICATION7547

PAGE:

P.O. NUMBER
DESCRIPTION
SPECIFICATIONXS 26559 FROM 51094-94
UNILOY 316 ANNEAL CENT GRD
612-03 REV15 AMS5648F QQ5763D AM2 ASTM A276-83 ASTM A479-83 ASTM A48
ASME SA479 CHEM ASTM A193-83A ASTM A194-83 CHEM&PHY ASTM A182-82A ASME

MILL ORDER NO. 74750-

SIZE
SHIP TO

2.25" RD X 11/13 FT

PETER A FRASSE CO 612-673640
SYRACUSE N YDATE SHIPPED
QTY. & WGT.

CHEMICAL COMPOSITION

HEAT ID.	C	MN	SI	S	P	CR	NI	MO	CU
165410	.031	1.74	.39	.028	.028	16.60	10.89	2.06	.19
	CU	N							
	.19	.069							

MECHANICAL PROPERTIES

CONDITION AS SHIPPED: ANNEALED 1925F 20 MIN. WATER QUENCHED

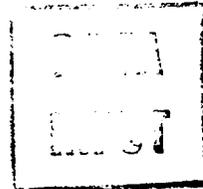
IDENTIFICATION HARDNESS, BHN
143/159

IDENTIFICATION	UTS, KSI	.2% YLD, KSI	% EL	% RA
	83.1	39.5	62.5	79.2

REMARKS

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY AND DETRIMENTAL LOW
 MELTING ALLOY CONTAMINATION
 INTERGRANULAR CORROSION ACCEPTABLE PER ASTM A262 PRACTICE E
 MATERIAL MANUFACTURED TO QUALITY CONTROL PROGRAM
 DTD 4/30/84 AND CONFORMS TO NCA3800
 PRODUCED UNDER PWA REQUIREMENTS FOR LABORATORY CONTROL
 AT SOURCE PER PWA-MCL MANUAL SECTION F17
 FREE FROM CONTINUOUS CARBIDE NETWORK

VENDOR HEAT
 CODE CODE
 5411 KSSG

T.R. CERT# 85-422JAN 25 1985 167PAGE(S) 2 OF 25
REVIEWED BY _____

All testing procedures are in accordance with ASTM standards or applicable specifications.

The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under federal statutes including Federal Law, Title 18, Chapter 47.

The above are true and correct results of tests samples of the material. Said results meet the specification(s) applicable and are on record.

By [Signature]
Quality Control Representative

0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N

S. B. 9109

TARGET ROCK PRESSURE
REGULATING VALVES
CINCINNATI GAS & ELECTRIC COMPANY
CLASSIFICATION OF PRESSURE RETAINING PARTS

Date: 6/21/91

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY: J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY: R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY: S. Karidas
S. Karidas, Engineering Manager



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT 9109
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Cincinnati Gas and Electric Company. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9109

TABLE I
TARGET ROCK PRESSURE REGULATING VALVES
CINCINNATI GAS & ELECTRIC COMPANY
ZIMMER NUCLEAR POWER PLANT
Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name	PRESSURE RETAINING ITEM Part No.	MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>76F</u> 76F-401D Quantity 2	CG & E 2398	Spring Housing	200738-1	SA-479(316) 72-1010	Condition 1
76F-402C Quantity 1	CG & E 2398	Spring HOusing	202223-1	SA-479(316) 72-1010	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
CINCINNATI GAS AND ELECTRIC COMPANY



U. N. ALLOY STEEL
DIVISION OF U. N. CORPORATION

700 TRUMBULL STREET • ELIZABETH, N. J. 07208
TELEPHONE 301-328-7777 • TELETYPE 124-8770
N. Y. C. 212-744-4676

TR CERT. # 2-1010
10/23

CERTIFIED MATERIAL TEST REPORT

For Target Rock Corp.
1966 E. Broadhollow Road
East Farmingdale, New York

Date: June 14, 1972
Order Number: 1308 - 1
Invoice Number:

Grade	Description and Specification	Size	Wt.
316cd	Stainless Steel Pipe H.R. as per ASME SA-479-63	2 3/8" x 3/4"	540
"	" " " " " H.R. as per ASME SA-479-63	1 7/8"	225
"	" " " " " H.R. as per ASME SA-479-63	1 5/8"	84
"	" " " " " H.R. as per ASME SA-479-63	1 1/2"	50

H.R. as per ASME SA-479-63
CHEMICAL ANALYSIS

Heat No.	Car.	Mang.	Phos.	Sul.	CU	Sil.	Nickel	Chromo	Moly.
FX139	.05	1.37	.022	.022	-	.42	10.3	15.0	2.17
XC435	.05	1.37	.022	.022	-	.33	10.7	15.86	2.13
Y847C	.03	.44	.039	.022	-	.33	10.45	17.22	2.14
4E172	.05	1.44	.029	.022	-	.45	11.05	16.33	2.07
E5706	.025	1.34	.036	.018	-	.39	12.95	16.00	2.30

PHYSICAL PROPERTIES

Heat No.	Tensile Strength Lbs. Per Sq. In.	Yield Strength Lbs. Per Sq. In.	% Elong.	% Red. of Area	Brinell
FX139	85,000	43,000	63	67	131
XC435	84,000	40,000	64	69	164
Y847C	84,000	43,000	61	72	131
4E172	81,600	35,000	60	72	140
E5706	105,000	95,000	35	64	

REMARKS: Above Listed Material is in Compliance with the Below List Specification.
Equipment containing mercury or mercury compounds has not been used for fabrication, assembly, packaging, installation examination or testing of parts or assemblies on this order.

REVIEWED

This certifies that shipment against our Invoice No. _____
and against Customer's Order No. _____ is in accordance with data herein described.
DATE _____ SIGNED _____
Duly noted and sworn before me

Notary Public

JUL 18 1972

TO P. O. REQTS.
TRC Q. C. DEPT.



I hereby certify that the above data is correct as contained in the records of U. N. ALLOY STEEL

Signed: [Signature]
Mary Redington

23

Consolidated Testing Laboratories, Inc.

79 HERRICKS ROAD, NEW HYDE PARK, NEW YORK 11040
516 - 746-3705

No. C 38084

TO: TARGET ROCK CORP.
1966 E. BROADHOLLOW ROAD
E. FARMINGDALE, NY 11735
ATTN: MR. D. WREN, QC

Add to Cert # 2-1010

TR CERT. # 79-1127

Page(s) 1 of 1 *2 of 3*

DATE 5/2/79 P. O. NUMBER 4062/58854

QUANTITY IN LOT _____

MATERIAL 316SS SPEC NO ASME SA 479 (316)

IDENTIFICATION SEE BELOW

RESULTS OF TEST:

ASME SA 479, SUMMER 1976 (TYPE 316)

	SIZE		
C	0.08	2.7	1 1/4" RD
MN	<2.00	3/8" RD	1453-8
P	<0.045	1308-1	G-9876
S	<0.030	FX139	77-2552
SI	<1.00	72-1010	0.03
Mo	2.00-3.00	0.08	1.66
Ni	10.00-14.00	1.47	0.009
CR	16.00-18.00	0.008	0.018
		0.017	0.56
		0.55	2.40
		2.10	12.57
		12.35	18.00
		16.40	

MATERIAL CONFORMS TO ASME SA 479, SUMMER 1976 (TYPE 316) AS LISTED ABOVE.

REVIEWED

MAY 3 1979

TO P. O. REQ'TS. QCC
TRC Q. C. DEPT. 2

Carol MacIntyre
CAROL MacINTYRE
Notary Public, State of New York
No. 52-481028
Qualified in Suffolk County
Commission Expires March 30, 1981

STATE OF NEW YORK
COUNTY OF NASSAU
Subscribed and sworn to before me
this 2 day of May 1979

The foregoing is a true and accurate report of results obtained from our tests of this material

Frank J. ...

SAMPLES WILL BE RETAINED ONLY FOR 30 DAYS AFTER THIS REPORT DATE. NO RESPONSIBILITY FOR A JURY VERDICT OR OTHER INTERPRETATION RELATIVE TO OUR IMPARTIAL RESULTS. LIABILITY OTHERWISE IS LIMITED TO VALUE OF SERVICE RENDERED.

2-1MTCB MC-VPMO

S. B. 9110

TARGET ROCK PRESSURE
REGULATING VALVES
PHILADELPHIA ELECTRIC COMPANY
CLASSIFICATION OF PRESSURE RETAINING PARTS

Date: 6/20/91

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY: J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY: John E. J.
R. Glazier, Quality Engineering Manager

APPROVED BY: S. Karidas
S. Karidas, Engineering Manager



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 4
DATE _____		REPORT SB 9110
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

- J. Sefcik, Project Engineer (516)293-3800, Ext. 562
- S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Philadelphia Electric Company. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9110

TABLE I
 TARGET ROCK PRESSURE REGULATING VALVES
 PHILADELPHIA ELECTRIC COMPANY
 Limerick Generating Station Units 1 & 2
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name	Part No.	MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>77BB</u>					
77BB-401D Quantity 2	Bechtel 8031-M-241-AC	Spring Housing	202223-1	SA-479(316) 72-1010	Condition 1
77BB-402B Quantity 2	Bechtel 8031-M-241-AC	Bolt	5/16-18UNC X 1 1/2	MS 35307-336 79-2674	Condition 2 (Contact TRC)
		Flange	102421-1	MIL-S-23195A 70-1921	Condition 2 (Contact TRC)
		Sleeve	202005-1	SA-479(316) 73-1777	Condition 1
				SA-479(316) 73-1586	Condition 1

SB 9110

TABLE I (Cont'd)
TARGET ROCK PRESSURE REGULATING VALVES
PHILADELPHIA ELECTRIC COMPANY
Peach Bottom Atomic Power Station Units 2 & 3
Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name	PRESSURE RETAINING ITEM Part No.	MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>87Z506</u> 87Z506-001A Quantity 2	PECO ME266133-NO	Spring Housing	202471-1	SA-479(316) 83-4595	Condition 1*

* NPV-1 Form not applicable to ANSI Valve

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE	LONG ISLAND, N. Y.	PAGE	OF
DATE _____			REPORT	
APPROVED BY _____			PROJECT	
DATE _____				

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
PHILADELPHIA ELECTRIC COMPANY



U. N. ALLOY STEEL

DIVISION OF U.N.A. CORPORATION

700 TRUMBULL STREET • ELIZABETH, N.J. 07208
 TELEPHONE 861-388/777 • TELEX 18-8278
 N. Y. C. 212-744-0078

TR CERT. # 2-1010
 10/3

CERTIFIED MATERIAL TEST REPORT

For Targor Pack Corp.
1966 E. Broadhollow Road
East Farmingdale, New York

Date June 14, 1972
 Order Number 1208 - 1
 Invoice Number _____

Grade	Description and Specification	Size	Wt.
1 <u>316cd</u>	Stainless Steel Plate H.R. as per ASME SA479-63	<u>2 3/8</u>	<u>540</u>
2 " "	" " " H.R. as per ASME SA479-63	<u>1 7/8</u>	<u>225</u>
3 " "	" " " H.R. as per ASME SA479-63	<u>1 5/8</u>	<u>84</u>
4 " "	" " " H.R. as per ASME SA479-63	<u>1 1/2</u>	<u>50</u>

H.R. as per ASME SA479-63
CHEMICAL ANALYSIS

Heat No.	C.	Mang.	Phos.	Sul.	CU	Sil.	Nickel	Chrome	Moly.
1 <u>FX139</u>	<u>.06</u>	<u>1.37</u>	<u>.022</u>	<u>.022</u>	-	<u>.42</u>	<u>10.33</u>	<u>16.00</u>	<u>2.17</u>
2 <u>XC433</u>	<u>.05</u>	<u>1.37</u>	<u>.022</u>	<u>.022</u>	-	<u>.33</u>	<u>10.17</u>	<u>16.86</u>	<u>2.13</u>
3 <u>N847C</u>	<u>.03</u>	<u>.64</u>	<u>.039</u>	<u>.022</u>	-	<u>.33</u>	<u>10.45</u>	<u>17.22</u>	<u>2.14</u>
4 <u>4E172</u>	<u>.05</u>	<u>1.34</u>	<u>.022</u>	<u>.022</u>	-	<u>.45</u>	<u>11.03</u>	<u>16.33</u>	<u>2.07</u>
<u>E5706</u>	<u>.025</u>	<u>1.34</u>	<u>.030</u>	<u>.018</u>	-	<u>.39</u>	<u>12.95</u>	<u>16.00</u>	<u>2.30</u>

PHYSICAL PROPERTIES

Heat No.	Tensile Strength Lbs. Per Sq. In.	Yield Strength Lbs. Per Sq. In.	% Elong.	% Red. of Area	Brinell
1 <u>FX139</u>	<u>85,000</u>	<u>43,000</u>	<u>63</u>	<u>67</u>	<u>131</u>
2 <u>XC433</u>	<u>84,000</u>	<u>40,000</u>	<u>64</u>	<u>69</u>	<u>164</u>
3 <u>N847C</u>	<u>84,000</u>	<u>43,000</u>	<u>61</u>	<u>72</u>	<u>131</u>
4 <u>4E172</u>	<u>81,000</u>	<u>35,000</u>	<u>60</u>	<u>72</u>	<u>140</u>
<u>E5706</u>	<u>105,000</u>	<u>95,000</u>	<u>35</u>	<u>64</u>	

REMARKS: Above Listed Material is in Compliance with the Below List Specification.
 Equipment containing mercury or mercury compounds has not been used for
 fabrication, assembly, packaging, installation examination or testing of
 parts or assemblies on this order. **REVIEWED**

This certifies that shipment against our Invoice No. _____
 and against Customer's Order No. _____ is in accord-
 ance with data herein described.
 DATE _____ SIGNED _____
 Duly noted and sworn before me

Notary Public

JUL 18 1972

TO P. O. REQ'TS.
 TRC Q. C. DEPT.



I hereby certify that the above data is correct as contained
 in the records of U. N. ALLOY STEEL

Signed: [Signature]
 Gary Redington

RB

Consolidated Testing Laboratories, Inc.

79 HERRICKS ROAD, NEW HYDE PARK, NEW YORK 11040
516 - 746-3705

No. C 38084

TO: TARGET ROCK CORP.
1906 E. BROADHOLLOW ROAD
E. FARMINGDALE, NY 11735
ATTN: MR. D. WREN, QC

*Add'l
CERT # 2-1010*

T R CERT. # 79-1127

Page(s) 1 of 1 *2/3*

DATE 5/2/79 P O NUMBER 4062/58854

QUANTITY IN LOT _____

MATERIAL 316SS SPEC NO ASME SA 479 (316)

IDENTIFICATION SEE BELOW

RESULTS OF TEST:

ASME SA 479, SUMMER 1976 (TYPE 316)

	SIZE		
C	<0.08	<i>3 3/8" RD</i>	1 1/4" RD
MN	<2.00	1308-1	1453-8
P	<0.045	FX139	G-9876
S	<0.030	72-1010	77-2552
Si	<1.00	0.08	0.03
Mo	2.00-3.00	1.47	1.66
Ni	10.00-14.00	0.008	0.009
CR	16.00-18.00	0.017	0.018
		0.55	0.56
		2.10	2.40
		12.35	12.57
		16.40	18.00

MATERIAL CONFORMS TO ASME SA 479, SUMMER 1976 (TYPE 316) AS LISTED ABOVE.

REVIEWED

MAY 3 1979

TO P. O. REQ'TS. QCC
2
TRC Q. C. DEPT.

Carol MacIntyre
CAROL MacINTYRE
Notary Public, State of New York
No. 52-4810126
Qualified in Suffolk County
Commission Expires March 30, 1981

STATE OF NEW YORK
COUNTY OF NASSAU
Subscribed and sworn to before me
this 2 day of May 19 79

The foregoing is a true and accurate
report of results obtained from our tests
of this material
Frank J. ...

SAMPLES WILL BE RETAINED ONLY FOR 30 DAYS AFTER THIS REPORT DATE AND RESPONSIBILITY FOR A SAMPLE FOR RE-EVALUATION OR RE-TESTING IS LIMITED TO VALUE OF SAMPLES OBTAINED

GARRON AIRCRAFT SUPPLY, INC.

STANDARD AND PRECISION FASTENERS

UNION SQUARE - NEW YORK, N. Y. 10088

(212) 675-8700



RECEIVED
OCT 1 1979 Page(s)

CERT. # 79-2674
Lot 1

SOLD TO: TARGET ROCK CORPORATION
1066-E BROADHOLLOW ROAD
EAST FARMINGDALE, N.Y. 11735
ATT: Jerry ZWIERN
3254

SHIP TO



3254

CUST. ORDER NO. 3254-2	DATE SHIPPED 9/28/79	F.O.B. OUR PLANT	TERMS 1% 10 DAYS NET 30	SHIPPED VIA UPS	INVOICE DATE 9/28/79	INVT N
---------------------------	-------------------------	------------------	----------------------------	--------------------	-------------------------	-----------

ITEM	QUANTITY			DESCRIPTION
	ORDERED	BACK OR'D	SHIPPED	
	50		50	BOLT, HEX HEAD, 5/16-18 UNC X 1 1/2 LONG 18-8 SS MS 35307-336 <div style="border: 1px solid black; padding: 5px; display: inline-block;"> DATA TEST </div> EQUIPMENT CONTAINING MERCURY OR MERCURY COMPOUNDS HAS NOT BEEN USED FOR FABRICATION, ASSEMBLY PACKING, INSTALLATION, ASSEMBLY OR TESTING OF PARTS OR ASSEMBLIES ON THIS ORDER. REVIEWED OCT 20 1979

SUBSCRIBED AND SWORN BEFORE ME, REQUISITE OF THESE ORDER CONFORM TO THE MATERIAL AND/OR MANUFACTURING SPECIFICATIONS INDICATED IN THIS ORDER OR SPECIFICATIONS AS CALLED FOR ON SAID PURCHASE ORDER.

THIS 28 DAY OF Sept. 1979

BEN GOLDMAN
NOTARY PUBLIC, State of New York
No. 24 - 1483240
Qualified in Kings County
Commission Expires March 30, 1979

Ben Goldman
NOTARY PUBLIC

Physical, Electrical, and/or Chemical test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

GARRON AIRCRAFT SUPPLY, INC.
Rivera
AUTHORIZED SIGNATURE

CERTIFICATE OF CONFORMANCE

B151 S 22 NY
TARGET ROCK

Armco Steel Corporation
Advanced Products Division
P.O. Box 1597, Baltimore, Maryland 21203

PACKING SLIP &
CERTIFICATE OF CHEMICAL ANALYSES AND TESTS

SHIP REF NO: 8004675 SHIP DATE: 07/14/70
BUYER'S ORDER NO: 5711-17

SOLD TO TARGET ROCK CORPORATION
PUR DEPT 108 MADISON AVE
KEMPSTEAD N Y 11150

SHIPPED TO SAME
99 TAFT AVE
SAME

TR GEN. # 0-1921

ROUTING: BALTO NEW YORK

SHIPPED FROM BALTIMORE, MD
FOB MILL

E. I. S. #5 Rev. A

ITEM	QTY	HEAT	SIZE	C/P	NET	GROSS
320150	300235	1	2-1/4 RD X 10/12 FT R/L	16	270	
320160	56032	1	5 RD X 6/8 FT R/L	17	528	

BURLAPPED
SHEET 3 CONT CD

PRODUCT: TYPE 348 STAINLESS BAR CO YLD-S-23195A APPENDIX A COMP 348 IC #2 6/6/59
COND A OR ULTRA-SONIC TESTED COBALT .10 MAX EX ALLOY IDENTITY WVD EX CONT
MKG WVD TARGET ROCK EIS-9A

ITEM	QTY	CL	CS	TA	CO	OTHER ELEMENTS
301	300235	0.07	1.75	0.20	0.01	0.54
302	300235	NO	.18	CL	.16	CS .69 TA .03 CO .089
303	56032	0.08	1.59	0.18	0.01	0.45
304	56032	NO	.28	CL	.16	CS .68 TA .01 CO .07

July 10, 1970
POA of listed items has been made by me or under my supervision and they conform to contract.

REVIEWED

JUL 22 1970

TO P.O. REQTS.
TRC Q. C. DEPT.

J. R. DARR
J. R. DARR, DSACR-DCASD-
Balto., Md.

HEAT NO	AS SHIPPED HARDNESS	ULT TEN STR PSI	YLD STR 0.2% SET PSI	% ELONG IN 2" OR EQUIV	% RED OF AREA	COND	HARDNESS
---------	---------------------	-----------------	----------------------	------------------------	---------------	------	----------

SEE ATTACHED SHEETS

THE CHEMICAL ANALYSES AND PHYSICAL OR MECHANICAL TESTS REPORTED ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION

SIGNED AND SWORN TO before me this 14th DAY OF JULY 1970

Notary Public

THIS CERTIFIED TEST REPORT HAS BEEN OBTAINED BY A CONSULTANT OR MATERIAL PURCHASED FROM THE ISSUING CORPORATION TO A THIRD PARTY. IT IS VALID ON THE BASIS OF THE REPORT TO A THIRD PARTY. IT MUST BE RECEIVED BY AND UNDER THE NAME OF SUCH CONSULTANT.

Mill Order: 002034056-8001A

Customer Order: 5711

Heat: 56032

2 of 3

Heat No.	As-Shipped Hardness	Ult. Ten. Str. PSI	Yld. Str. 0.2% Set PSI	% Elong. in 2" or Equiv.	% Red. of Area
56032	BHN 143	79,000 ✓	37,000 ✓	53.0 ✓	71.3 ✓

Macro etch tests 100% one end each bar satisfactory.

Carbide test okay, intergranular corrosion capability ok.

Armco Steel Corporation hereby certifies that in the production or testing of the above material by Armco Steel Corporation, no alpha emitting radiation devices, direct connected mercury manometers, mercury vacuum pumps, mercury seals or mercury-in-glass thermometers have been used, nor in such production or testing has (a) mercury been handled in the immediate vicinity of such material or (b) radioactive material been applied to its surface.

This material was immersion ultrasonic tested per UTP-2 Rev. 5 dated Oct. 1, 1968 according to Mil-S-23195A using a 3/4 lithium sulphate crystal at 2.25 mc and found to be satisfactory.

Inspection and process records on file for 3 years.

This material was subjected to Defense Supply Agency inspection at our plant before shipping.

REVIEWED

JUL 22 1970

TO P. O. REQ'TS.
TRC Q. C. DEPT.



Peter A. FRASSE & Co., Inc.

ANALYSIS AND TESTS CERTIFICATE TARGET ROCK CORP.

RECEIVED
NOV 14 1973

FOR

- TARGET ROCK CORP.
- 1966 E. BROADHOLLOW RD.
- E. FARMINGDALE, N.Y. 11735

145

CUST ORDER NO 3576-7 OUR ORDER NO 148122 DATE 11-5-73 BRANCH LYND

ITEM #	Description of Material and Specifications		
	COLD FINISHED TYPE 316 TO ASME A 479 TYPE 316		
5	5/8 RD X 12 FT RDM	25 LB	BLACK PT
6	1-1/2 RBHEX X 12 FT RDM	77 LB	RED PT
7	3-1/8 RD X 12 FT RDM	681 LB	WHITE PT
8	3/4 RD X 12 FT RDM	39 LB	BLUE PT

Chemical Analysis

Heat Number	Carbon	Mang.	Phos.	Sulphur	Silicon	Nickel	Chromium	Moly	CU	Ti	CO	CB
546885	.05	1.80	.030	.030	.41	13.13	17.71	2.47	.31		.13	
646889	.03	1.75	.032	.028	.45	12.70	17.73	2.18	.27			
708265	.058	1.42	.030	.036	.41	12.80	17.06	2.35	.45			
846879	.05	1.75	.033	.027	.46	12.94	17.89	2.17	.31			

DATA INPUT

Mechanical Properties

Tensile Strength lbs./sq. in.	Yield lbs./sq. in.	Elong. % in	Reduction Area %	HARDNESS		Bend Test	Grain Size	Harden- ability	Jominy
				Brinell	Rockwell				
96,000	80,000	41	70	207					
91,000	76,000	40	68	203					
81,500	39,500	64	75	156					
95,200	80,300	40	70	203					

To the best of our knowledge and belief, material supplied against this order is free from mercury contamination.

Special Tests

The above tests conform to the requirements of the specifications listed

Madeline M Ruvere

a Notary Public, do hereby certify that this affidavit was subscribed and sworn to before me by a duly authorized agent of Peter A. Frasse & Co., Inc.

this 12 TH day of NOV 1973

MADLINE M. RUVERE, Notary Public, State of New Jersey No. B2172 Qualified in Bergen County, Commission Expires March 21, 1976.

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or in approved laboratories.
PETER A. FRASSE & CO., Inc.

BY *Joseph M Cummings*
For PETER A. FRASSE & CO., INC.

NOV 27 1973

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF
TO P. O. BOX 1000
TRC Q. C. DEPT. 2

ALLEGHENY LUDLUM STEEL CORPORATION
 DIVISION OF ALLEGHENY LUDLUM INDUSTRIES, INC.
CERTIFICATE OF TEST

P/S 3 - 5
6

CHEMICAL ANALYSIS

TRC P.O. 3576-7

ITEM	HEAT NO.	C	MN	P	S	SI	CR	NI	Mo	Cu	Co			
	08265	.058	3.42	.030	.026	.41	17.06	12.80	2.25	.45	.27			

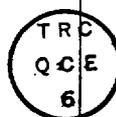
3 of 5

PHYSICAL PROPERTIES

ITEM	HEAT	TEST	YIELD STRENGTH	TENSILE STRENGTH	ELONG %	ROCKWELL	COLD BEND	Red. Area	Brinell
			39,500 psi	81,500 psi	64%			75%	156

OXALIC ACID TEST O. K.

ENHANCED FOR CLARITY


A. Bianchi
8/31/76

MATERIAL FREE FROM MERCURY CONTAMINATION
 MATERIAL FREE FROM CRYSTALLINE CALCAIRE INCLUSION

CORE LOSS TEST

10000 B - 15000 B

60 CYCLES

ITEM	LOT NUMBER	WATTS PER POUND	ITEM	LOT NUMBER	WATTS PER POUND

REVIEWED

NOV 27 1973

TO P. O. REQ'TS.
 TRC Q. C. DEPT.



CORE LOSS IN ACCORDANCE WITH THE AMERICAN SOCIETY FOR TESTING MATERIALS SPECIFICATION A-34

RESULT AS ABOVE CERTIFIED
ALLEGHENY LUDLUM STEEL CORPORATION
 DIVISION OF ALLEGHENY LUDLUM INDUSTRIES, INC.

1000 B/W
121

[Handwritten signature]

Peter A. FRASSE & Co., Inc. RECEIVED
ANALYSIS AND TESTS CERTIFICATE TARGET ROCK CORP.

FOR

TARGET ROCK CORP.
 1966 EAST BROAD HOLLOW ROAD
 EAST FARMINGDALE, NEW YORK 11737 ATTN: DON WRE
 3158

105

77 JUL 11 A 9: 31

TR CERT. # 3-1586

Page(s) 1 of 6

CUST. ORDER NO. _____ OUR ORDER NO. 642716 X DATE 8/8/73 BRANCH LYNDHURST

Description of Material and Specifications

T316 GRD ASME SA 479 CONDITION A
 3-1/8 ROUND X 10/12 FT RDM 653 LBS ORANGE PT

Corrected Copy
 7-13-77

1. _____
2. _____
3. _____
4. _____

**DATA
 INPUT**

Chemical Analysis

Heat Number	Carbon	Mang.	Phos.	Sulphur	Silicon	Nickel	Chromium	Moly.	CU.	Ti.	CO.	CR.
05437	.079	1.73	.029	.022	.73	13.14	17.10	2.20	.17		.45	
2.												
3.												
4.												

REVIEWED

Mechanical Properties

Tensile Strength lbs./sq. in.	Yield Strength lbs./sq. in.	Elong. % in.	Reduction Area %	HARDNESS		Bend Test	Grain Size	Harden- ability	Jominy
				Brinell	Rockwell				
85,500	37,000	60	75	163					

TO P. O. REQTS.
 TRC C. C. DEPT.
 1877

"We have analyzed the above materials no direct connected mercury manometers, mercury, vacuum pump, mercury seals or mercury in glass thermometers have been used nor in such production or testing Special Tests of such material."

The above tests conform to the requirements of the specifications listed

Madeline M Ruvere

a Notary Public, do hereby certify that this affidavit was subscribed and sworn to before me by a duly authorized agent of Peter A. Frasse & Co., Inc.
 7TH JULY 1977 1

this _____ day of _____
 MADELINE M. RUVERE, Notary Public, State of New Jersey No. D2112 Qualified in Bergen County, Commission Expires March 8, 1981.

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or in approved laboratories:
 PETER A. FRASSE & CO., Inc.

BY *Joseph M Cummings*
 For PETER A. FRASSE & CO., INC.

SALES 10-5M 5/76

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

Peter A. FRASSE & CO., INC.
ANALYSIS AND TESTS CERTIFICATE

RECEIVED
TARGET ROCK CORP.

FOR

- TARGET ROCK CORP
- 1966 EAST BROAD HOLLOW RD
- E. FARMINGDALE, N.Y. 11737

77 JUL 6 AIO: 07

TR CERT. # 3-1586

Page(s) _____ of _____

CUST. ORDER NO. 3158 OUR ORDER NO. 642716 X DATE 8/8/73 BRANCH LYND

Description of Material and Specifications
T 316 ELE GRD ASME SA 479 COND A Corrected Copy 7-7-77
1-3/4 RD X 12 FT RDM 230 LBS YELLOW PT

Chemical Analysis

Heat Number	Carbon	Mang.	Phos.	Sulphur	Silicon	Nickel	Chromium	Moly.	CU.	Ti.	CO.	CB.
<u>8.05437</u>	<u>0.079</u>	<u>1.73</u>	<u>0.09</u>	<u>0.022</u>	<u>0.23</u>	<u>13.14</u>	<u>17.10</u>	<u>2.00</u>	<u>17</u>		<u>45</u>	
2												
3												
4												

Mechanical Properties

Tensile Strength Lbs./Sq. in.	Yield Lbs./Sq. in.	Elong. % In.	Reduction Area %	HARDNESS		Bend Test	Jominy
				Brinell	Rockwell		
<u>85500</u>	<u>37000</u>	<u>10</u>	<u>75</u>	<u>163</u>			

We hereby certify that in the production or testing of the above material, no direct contact with mercury in any form, mercury vapor, mercury seals or mercury in any form, have been used or in such production or testing has mercury been handled in the immediate vicinity of such material.

Special Tests

NOT A G. RIGHTS
TRUST DEPT.

R C
OCE
2

The above tests conform to the requirements of the specifications listed.

Madeline M. Ruvere

a Notary Public, do hereby certify that this affidavit was subscribed and sworn to before me by a duly authorized agent of Peter A. Frasse & Co., Inc.

this 1ST day of JULY 1977 CS

MADLINE M. RUVERE, Notary Public, State of New Jersey No. D2112 Qualified in Bergen County, Commission Expires March 8, 1981.

We hereby certify that the above data furnished us by the producer or data furnished from tests performed by the producer or in approved laboratories.
 PETER A. FRASSE & CO., Inc.

BY *Joseph M. Cummings*
 For PETER A. FRASSE & CO., INC.

SALES 10-5M 5/76

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

ALLEGHENY LUDLUM STEEL CORPORATION

DIVISION OF ALLEGHENY LUDLUM INDUSTRIES, INC.

CERTIFICATE OF TEST

T 316
3 1/8 orange

2 of 5

T-316 GRD ASME SA 479 COND. A CHEMICAL ANALYSIS

ITEM	HEAT NO.	C	MN	P	S	SI	CR	NI	MO	CU	CO			
	05437	.079	1.73	.029	.022	.73	17.10	13.14	2.26	.17	.45			

PHYSICAL PROPERTIES

ITEM	HEAT	TEST	YIELD STRENGTH	TENSILE STRENGTH	ELONG %	ROCKWELL	COLD BEND	Red. Area	BRINELL
			37,000 psi	85,500 psi	60%			75%	163
OXALIC ACID TEST O. K.									

We hereby certify that in the production or testing of the above materials no direct connected mercury manometers, thermometers or mercury testing has been used nor in the production or of such material. been handled in the immediate vicinity.

10000 B - 15000 B

60 CYCLES

ITEM	LOT NUMBER	WATTS PER POUND	LOT NUMBER	WATTS PER POUND

REVIEWED

OCT 19 1973

**TO P. O. REQ'TS.
TRC Q. C. DEPT.**

TRC
QCE
2

CORE LOSS IN ACCORDANCE WITH THE AMERICAN SOCIETY FOR TESTING MATERIALS SPECIFICATION A-34

RESULT AS ABOVE CERTIFIED
ALLEGHENY LUDLUM STEEL CORPORATION
DIVISION OF ALLEGHENY LUDLUM INDUSTRIES, INC.

INVOICE

Peter A. **FRASSE** & Co., Inc.

SELLING
BRANCH

SHIPPING
BRANCH

WHEN REMITTING PLEASE
REFER TO THIS
INVOICE NUMBER

RESHIP VENDOR P.O. NO.

SHIPPED TO
(IF DIFFERENT
FROM SOLD TO)

same

TERMS: NET 30 DAYS
CASH DISCOUNT ON
MERCHANDISE ONLY

65 642716 X

ALUMINUM PRODUCTS NONE
STEEL PRODUCTS 1/2% 10 DAYS

B/L EXPRESS OR TAG NUMBER

DISCOUNT ON

THIS INVOICE \$ 458 10 DAYS

SHIPPED FROM

(P.O. IF DIFFERENT FROM SHIPPED FROM)

INVOICE & SHIPPING DATE

dest

8/8/73

VIA

auto

XX
Prepaid Coll.

SOLD
TO

Target Rock Corp

1966 East Broad Hollow Road

E. Farmingdale, N. Y. 11737

DATE OF ORDER

8/3/73

CUST. CODE NO. DEST. TAX

8594186

SALESMAN

22

72

ENTERED BY

03

TAKEN FROM

CUSTOMER ORDER NO.

3158

CUSTOMER REQUISITION NO.

ITEM NO.

QUAN ORDERED
BARS PILES
FEET LBS

SIZE AND DESCRIPTION

QUANTITY SHIPPED

BARS PILES
(LBS) (LBS)

FEET

IN.

POUNDS

C

B C=COMPLETE

P=PARTIAL

B=BACK ORDER

UNIT PRICE

AMOUNT

FROM

FROM

TO

WHSE.

T 316 grd ASME - SA479

2 lgths. 3-1/8 rd x 10-12 ft rdm

✓

653 C

101.99 C

665.99

T 316 ^{orange} grd ASME - SA479

2 lgths. 1-3/4 rd x 12 ft rdm

2

230 C

108.49 C

249.53

TARGET ROCK CORP.

OCT 17 1973

REVIEWED

OCT 19 1973

TO P.O. REQTS.
TRC Q. C. DEPT.

QCE
-2

PIECES BUNDLES BOXES CRATES PACKAGES SKIDS TUBES CARTONS

PLEASE REMIT TO:
P.O. BOX
5387

SALES TAX

C. H STREET
STATION

INVOICE TOTAL

915.52

TEST REPORTS

NO. OF COPIES yes

PRICED BY

CHECKED BY CREDIT

NO. INV.

NOTES TO WHSE.

L 8 2 77

mercury contamination
stamp on brand cust.
item no. see certs.

2) D-35,

RECEIVED

B-4

"WE HEREBY CERTIFY THAT THE GOODS WERE PRODUCED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF SECTIONS 6 AND 12 OF THE FAIR LABOR STANDARDS ACT, AS AMENDED, AND ALL REGULATIONS AND ORDERS OF THE UNITED STATES DEPARTMENT OF LABOR ISSUED UNDER SECTION 14 THEREOF. SUBJECT TO SEVERAL OTHER PROVISIONS."

ORIGINAL MISSING

83-4595

10



JLR CERT. 3# 4595

OCT 5 1983

ANALYSIS AND TEST CERTIFICATE

Page (S)

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE, HEREOF



TO Target Rock Corp
PO Box V
LE Farmingdale NY 11735

YOUR ORDER NO. 5047-4	
OUR INVOICE NO. 171421	DATE 8-26-83
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
316- CG ANN	2 1/4" dia 12 FPM. ASME - SA 479 '82A	1211	Black

CHEMICAL ANALYSIS

HEAT NO	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
104591	.037	1.74	.030	.028	.48	10-F2	16.47		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
207	.27			16					054

MECHANICAL PROPERTIES

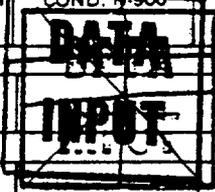
TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
77500	33500	52.5	76.3	143-149						

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION

17-4PH or 16-5PH

COND. H-900

COND. H-925



Handwritten notes: The material supplied is in... Frassé... C.O. listed... Target Rock Corp... 2000.

MINIMUM HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

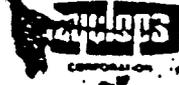
TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION. MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTLEMENT	FERRITE	MACRO ETCH
			OK

OTHER:

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

51212-12

77-83

GRADE AND DESCRIPTION: **UNILOY 316 CENTERLESS GROUND BARS**

SPECIFICATION: **AMS5648F QCS7E3D AM 1 CD A ASTM A276-82A ASTM A479-82A ASME SA479**
ASTM A484-82 CHEM&PHYS ASTM A182-82A ASME SA182 ASME WIN 82 AC
 SIZE: **2.250" RD. X 11/16" FT. 612-03 REV 14, CHEM ASTM A193-82, GR 8M**
CHEM ASTM A194-82 GR 8M

SHIP TO: **PETERA. FRASSE 612-673640**
LYNDHURST, N.J.

CUST. ORDER NO. **XS-22629**
 MILL ORDER NO. **75802**
 DATE SHIPPED _____
 QUANTITY & WEIGHT **83 - 4595**
L.R. CERT. #

CCT 5 1983

MELTED IN THE U.S.A.										CHEMICAL ANALYSIS			
HEAT NO	C	Mn	Si	S	P	Cr	W	V	Fe	Mo	Co	Cu	Ni
<i>Black</i> 104592	.037	1.74	.48	.028	.030	16.47							
										Revised by <i>2.07</i> <i>10</i>			
HEAT NO.	Sn	Pb (ppm)	Al	Ti	Fe	B	Zr	Cb	Ta	La	Bi (ppm)	N	
												.054	

TENSILE PROPERTIES							STRESS RUPTURE PROPERTIES						
CODE	IDENTIFICATION	YIELD	TENSILE	ELONG	% EL	% RA	TEMP °F	TIME	STRESS	ELONG	TIME	STRESS	ELONG
		77.5	83.5		57.5	76.3							

Target Rock Corp
507-114-21
8-26-83
12/11

CODE	HEAT TREATMENT	HARDENABILITY	GRAN SIZE
	ANNEALED 1925F 20 MIN. WATER QUENCH		

UNIVERSAL-CYCLOPS
STEEL

HARDNESS: **140/149 BHN**
 REMARKS:

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
FREE OF MERCURY AND DETRIMENTAL LOW MELTING ALLOY CONTAMINATION
EMBRIITLEMENT 180 BEND: OK
OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE 2 FIG. 1 STEP STRUCTURE
FREE FROM CONTINUOUS CARBIDE NETWORK
MATERIAL MFG. TO QUALITY CONTROL PROGRAM DTD 2/10/82 & CONFORMS TO NCA3600

TEST REPORT

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

7/19/82

THE RECORDING OF FALSE FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW TITLE 18 CHAPTER 47.

By: *P. K. Williams*
 Quality Control Representative

2-1MTRCD MC-VPMO

S. B. 9111

Date: 6/20/91

TARGET ROCK PRESSURE
REGULATING VALVES
CONSUMERS POWER COMPANY
CLASSIFICATION OF PRESSURE RETAINING PARTS

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY:

J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY:

R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY:

S. Karidas
S. Karidas, Engineer



Target Rock

TRPUB - 0038 (3/83)

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT 9111
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Consumers Power Company. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9111

TABLE I
 TARGET ROCK PRESSURE REGULATING VALVES
 CONSUMERS POWER COMPANY
 Midland Plant Units 1 & 2
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name	PART No.	MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>76B</u>					
76B-401D Quantity 16	Bechtel 7220-J-256-AC	Spring Housing	202406-1	SA-479(316) 80-2867	Condition 1
76B-402C Quantity 4	Bechtel 7220-J-256-AC	Bolt	5/16-18UNC x 1 3/4	SA-193 Gr B7 80-1531	Condition 2 Contact TRC
		Bolt	5/16-18UNC x 1 1/2	SA-193 Gr B7 80-2014	Condition 2 Contact TRC
		Flange	102421-1	ASTM A-479(316) 77-1664	Condition 1
		Sleeve	202005-1	SA-479(316) 79-1610	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
CONSUMERS POWER COMPANY



I R CERT. # 82-2967

SEP 05 1980

SEP 5 1980

ANALYSIS AND TEST CERTIFICATE Page(s) 1 of 2

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF



TO TARGET ROCK CORP
1966 E BROADHOLLOW RD
L E FARMINGDALE NY 11735

YOUR ORDER NO. 6514-2	
OUR INVOICE NO. 132245	DATE 9-2-80
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT./LBS.	HEAT PAINT
316 BAR GRD	2-1/4 RD X 12 FT RDM	342 LBS	BLACK

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
1G317	032	1.70	027	020	52	12.20	17.49		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.12	19			18					028

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVER- ITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
75000	31300	58.5	78.6	140						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH		COND. H-900	COND. H-925			
ASME SA 479 (1977 ED. THRU WINTER 1979 ADD.) INTERGRANULAR COROSION TESTED PER ASTM A 262 PRACTISE E PRODUCES IN SCORDANCE WITH NCA 3800 CARBON CONTENT NO TO EXCEES .055 MAX.										

JOMINY HARDENABILITY - ROCKWELL "C" IN 16^{THS} OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTELEMENT	FERRITE	MACRO ETCH
			OK

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed [Signature]
for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
MATERIAL CERTIFICATION REPORT

MID-ATLANTIC

8-11-80

GRADE AND DESCRIPTION: **UNILOY 316 ANNEALED CENTERLESS GROUND**

SPECIFICATION: **612-03 REV 7 AMS5648E QQS763D COND A ASTM A276-78 ASTM A479-78
 ASME SA479 ASME SA479 77 ED CHEM&PHY ASTM A182-78 ASME SA182**

SIZE: **2.250" RD X 11/13 FT. 612-673640** WINTER ADDEN THRU WINTER 79 ADDEN

SHIP TO:

PETER A. FRASSE CO., INC.
 BRISBIN AVENUE
 LYNDBURST, N. J. 07071
 ATTN: GEORGE GRAY

CUST. ORDER NO. XS-09611
 MILL ORDER NO. 70424
 DATE SHIPPED 8-5-80
 QUANTITY & WEIGHT 8 BARS 1354#

MELTED IN THE U.S.A.							CHEMICAL ANALYSIS					
HEAT NO	C	Mn	Si	S	P	Cr	W	V	Ni	Mo	Co	Cu
1G3137	.032	1.70	.52	.020	.027	17.49			12.20	2.12	.18	.19
HEAT NO.	Sn	Pb (P.P.M.)	Al	Ti	Fe	B	Zr.	Cb /Ta	La	Bi (P.P.M.)	N	
											.028	

TENSILE PROPERTIES							STRESS RUPTURE PROPERTIES				IMPACT H. INC. V. N. CHARPY
CODE	IDENTIFICATION	KSI TENSILE	KSI 2 YIELD	KSI 02 YIELD	% EL	% RA	TEMP. °F	KSI STRESS	TIME HR	% EL	
		75.0	31.3		58.5	78.6					

T. R CERT. # 80-2867

SEP 5 1980

Page(s) 2 of 2



CODE	HEAT TREATMENT	WELDABILITY	GRAIN SIZE
	ANNEALED 1925F 20 MIN WATER		

Black

CUSTOMER	<i>Target Steel</i>
ORDER NO.	<i>65142</i>
PRICE	<i>132245</i>
DATE	<i>9-2-80</i>
QUANTITY	<i>34266</i>

HARDNESS. 140 BHN

REMARKS. MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY CONTAMINATION
 EMBRITTLEMENT 180 BEND: OK
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG 1 STEP STRUCTURE
 FREE FROM CONTINUOUS CARBIDE NETWORK
 PRODUCED IN ACCORDANCE WITH NCA 3800.

TEST REPORT

THE RECORDING OF FALSE, FICTITIOUS OR
 FRAUDULENT STATEMENTS OR ENTRIES ON
 THIS DOCUMENT MAY BE PUNISHED AS A
 FELONY UNDER FEDERAL STATUTES INCLUDING
 FEDERAL LAW, TITLE 18, CHAPTER 47.

The above are true and correct results of tests on
 samples of the material. Said results meet the
 specification(s) applicable and are on record.

By *L. J. Williams*
 Quality Control Representative

GARRON AIRCRAFT SUPPLY, INC.

MAY 23 1980

STANDARD AND PRECISION FASTENERS

5 UNION SQUARE - NEW YORK, N. Y. 10008

(212) 675-8700



SOLD TO TARGET ROCK CORP.
1966-E BROADHOLLOW RD
E. FARMINGDALE N.Y. 11735

SHIP TO

TR CERT. # 80-1531
Page(s) 1 of 1 CP

6515

CUST. ORDER NO. 6515	DATE SHIPPED 5/21/80	F.O.B. OUR PLANT	TERMS 1% 10 DAYS NET 30	SHIPPED VIA UPS	INVOICE DATE 5/21/80	INVOICE NO. P 6963
-------------------------	-------------------------	------------------	----------------------------	--------------------	-------------------------	-----------------------

ITEM	QUANTITY			DESCRIPTION
	ORDERED	BACK OR'D	SHIPPED	
9	100	100		5/16-18 x 1 1/2 HEX HD. BOLT C.S. ASME-SA-193-B7
10	100		100	5/16-18 x 1 3/4 HEX HD. BOLT C.S. ASME-SA-193-B7
11	100	100		5/16-18 x 1 1/4 HEX. HD BOLT C.S. ASME-SA-193-B7

REVIEWED
JUN 12 1980

EQUIPMENT CONTAINING MERCURY OR MERCURY COMPOUNDS HAS NOT BEEN USED FOR FABRICATION, ASSEMBLY, PACKING, INSTALLATION, ASSEMBLY OR TESTING OF PARTS OR ASSEMBLIES ON THIS ORDER.

TO P. O. REQTS. TRC Q. C. DEPT.

DATA INPUT

SUBSCRIBED AND SWORN BEFORE ME

THIS 21st DAY OF May 19 80

BEN GOLDMAN
NOTARY PUBLIC, State of New York
No. 24 - 1483240
Qualified in Kings County
Commission Expires March 30, 1981

Ben Goldman
NOTARY PUBLIC

It is hereby certified that all materials used in the manufacture of parts in the quantity called for on the subject purchase order conform to the material and/or manufacturing specifications indicated in drawings or specifications as called for on said purchase order.

Physical, Electrical, and/or Chemical test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

GARRON AIRCRAFT SUPPLY, INC.

J. Turner - Inspector
AUTHORIZED SIGNATURE

P 6963

CERTIFICATE OF CONFORMANCE

GARRON AIRCRAFT SUPPLY, INC.

JUN 10 1980

STANDARD AND PRECISION FASTENERS

5 UNION SQUARE - NEW YORK, N. Y. 10003



(212) 675-8700

TR CERT. # 80-2014

SOLD TO **XXX TARGET ROCK CORP.**
 1966-E BROADHOLLOW ROAD
 E. FARMINGDALE, N.Y. 11735

SHIP TO Page(s) 1 of 1 S

CUST. ORDER NO.		DATE SHIPPED	F.O.B. OUR PLANT	TERMS	SHIPPED VIA	INVOICE DATE	INVOICE NO.
6515		6.3.80		1% 10 DAYS NET 30	UPS	6/3/80	P 7274
ITEM	QUANTITY		DESCRIPTION				
	ORDERED	BACK OR'D SHIPPED					
9	100	100	5/16-18 X 1 1/2 HEX HB. BOLT C.S. ASME-SA-193-B7				
11	100	100	5/16-18 X 1 1/4 HEX. HD. BOLT C.S. ASME-SA-193-B7				
REVIEWED JUN 15 1980 TO P. O. REQ'TS. TRC Q. C. DEPT.			EQUIPMENT CONTAINING MERCURY OR MERCURY COMPOUNDS HAS NOT BEEN USED FOR FABRICATION, ASSEMBLY PACKING, INSTALLATION, ASSEMBLY OR TESTING OF PARTS OR ASSEMBLIES ON THIS ORDER.				

SUBSCRIBED AND SWORN BEFORE ME
 THIS 3 DAY OF June 1980
 BEN GOLDMAN
 NOTARY PUBLIC, State of New York
 No. 24 - 1483240
 Qualified in Kings County
 Commission Expires March 30, 1981
Ben Goldman
 NOTARY PUBLIC

It is hereby certified that all materials used in the manufacture of parts in the quantity called for on the subject purchase order conform to the material and/or manufacturing specifications indicated in drawings or specifications as called for on said purchase order.

Physical, Electrical, and/or Chemical test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

GARRON AIRCRAFT SUPPLY, INC.
J. Gonzalez - Inspector
 AUTHORIZED SIGNATURE

P 7274

CERTIFICATE OF CONFORMANCE

Peter A. FRASSE & Co., Inc.
ANALYSIS AND TESTS CERTIFICATE

CERT. # **77-1664**

FOR OT G. Hall
TARGET ROCK CORP.
1966 E. BROADHOLLOW RD.
E. FARMINGDALE, N.Y. 11735

TARGET ROCK CORP.
Page(s) 2 of 2
Reviewed by JUL 22 1977
REGULATED

CUST. ORDER NO. 9766-1 OUR ORDER NO. 163163 DATE 5/16/77 BRANCH LYND

Description of Material and Specifications

1. 316 BAR GRD CENTERLESS GROUND ANN TEMP ASTM-A-479 -76 & ULTRASONIC
TESTED PER N B 2532 4-3/4 RD X 12 FT RDM 5977 LBS BLACK B740
HT 02896 WHITE 2237 HT 02896

2 of 12
10 of 12

Chemical Analysis

Heat Number	Carbon	Mang.	Phos.	Sulphur	Silicon	Nickel	Chromium	Moly.	CU.	Ti.	CO.	CB.	N
<u>Black</u> <u>1. 02896</u>	<u>0.050</u>	<u>1.49</u>	<u>0.029</u>	<u>0.030</u>	<u>0.38</u>	<u>12.61</u>	<u>17.30</u>	<u>2.14</u>	<u>32</u>		<u>32</u>		<u>0.057</u>
<u>White 99</u> <u>2. 02896</u>	<u>0.050</u>	<u>1.49</u>	<u>0.029</u>	<u>0.030</u>	<u>0.38</u>	<u>12.61</u>	<u>17.30</u>	<u>2.14</u>	<u>32</u>		<u>32</u>		<u>0.057</u>
<u>See per 1A</u>													

Mechanical Properties

Tensile Strength Lbs./Sq. in.	Yield Lbs./Sq. in.	Elong. % In.	Reduction Area %	HARDNESS		Harden- ability	Jominy
				Brinell	Rockwell		
<u>79,700</u>	<u>33,100</u>	<u>74</u>	<u>76.6</u>	<u>143</u>			
<u>79,700</u>	<u>33,100</u>	<u>74</u>	<u>76.6</u>	<u>143</u>			

Checked by
Cert. # 77-1664
Reviewed By: J. S. Dyson
General Electric Corp. Targets Dept.

Special Tests

The above tests conform to the requirements of the specifications listed

Madeline M Ruvere

a Notary Public, do hereby certify that this affidavit was subscribed and sworn to before me by a duly authorized agent of Peter A. Frasse & Co., Inc.

this 21 ST day of JULY-1977-LD

MADELINE M. RUVERE, Notary Public, State of New Jersey No. D2112 Qualified in Bergen County, Commission Expires March 8, 1981.

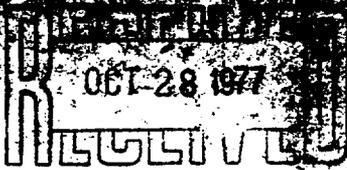
SALES 10-5M 5/76

We hereby certify that the above data furnished us by the producer or data furnished by the producer or in approved laboratories performed by the producer or in approved laboratories PETER A. FRASSE & CO., Inc.

BY Joseph M. Cummings
For PETER A. FRASSE & CO., INC.

We hereby certify that the above data furnished us by the producer or data furnished by the producer or in approved laboratories performed by the producer or in approved laboratories PETER A. FRASSE & CO., Inc.

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF



ANALYSIS AND CERTIFICATION

SUBJECT TO SEELEY'S TERMS OF WARRANTY STATED ON THE BACK OF THIS CERTIFICATE

TO TARGET ROCK CORP
1966 E. BARNHOLLOW RD
E. FARMINGDALE NY 11735

YOUR ORDER NO. 2766
OUR INVOICE NO. 18316

Handwritten notes and signatures

GRADE	SIZE DESCRIPTION AND SPECIFICATIONS
T316 A304	4-3/4 BEND 2 11-1/2 12-1/2
CENTERLESS GROUND ANN. TEMP. ASTM A-304-70	
TESTED PER N. B. 2532	

white

HEAT NO.	C	MM	PROD.	...	...	...	...	...	...
02896	.050	1.48	028	...	...	...	...	...	...

TENSILE STRENGTH LBS./SQ. INCH	YIELD LBS./SQ. INCH
79,700	33,800

MECHANICAL CAPABILITIES FOR...

1	2	3	4	5	6	7	8	9	10

TO THE BEST OF OUR KNOWLEDGE AND BELIEF THE ABOVE DESCRIBED MATERIAL IS CONFORMANT WITH THE REQUIREMENTS OF THE FOLLOWING SPECIFICATION:

BEND TEST

OTHER:

Handwritten signature

AL TECH

Willowbrook Avenue, Dunkirk, N.Y. 14048

SUN 28 1977

PURCHASE ORDER NO. AND DATE XS-84419 | 05/19/77		NOT BEFORE	INQUIRY NO. AND DATE	ACCEPTING MILL DUNKIRK	MILL ORDER NO. 6-0-77275	DATE SHIPPED
S O L D T O P. A. FRASSE & CO., INC. THREE DAKOTA DRIVE P. O. BOX 115 LAKE SUCCESS N Y 11040				S H I P T O P. A. FRASSE AND CO., INC. BRISBIN AVENUE LYNDHURST N J 07071		

PRODUCT SPECIFICATIONS

AL TECH STAINLESS STEEL TYPE 316
 ACC TO AMS-5648E QQ-S-763D ASTM-A-276-76a ASTM-A-479-76
 ASME-SA-479 ASTM-A-182-76a ASME-SA-182 COND A WAIVE CLM
 (612-03 REV 4)
 SONIC TO NB 2542

ITEM	DESCRIPTION	QUANTITY	POUNDS	C/P	TEST PCS.	COPIES SOLD TO	C	P	COPIE SHIP 1
------	-------------	----------	--------	-----	-----------	----------------	---	---	--------------

01 R 4.7500 11 1/2 - 12 1/2 FT 2237

CHEMICAL ANALYSIS CUST COMM. 612-675959 STANDARD ELEMENTS & PERCENTAGES ADDITIONAL ELEMEN

HEAT NO.	C	MN	P	S	SI	CR	NI	AL	MO	CU	/	N2	Co
02896	.050	1.49	.029	.030	.38	17.30	12.61		2.14	.32		.057	.32

PHYSICAL PROPERTIES

HEAT NO.	TENSILE PSI	YIELD PSI	ELONG %	RED. AREA %	BRINELL/ROCKWELL	TEST NO.
02896	79,700	33,100	74	76		

MATERIAL FREE FROM MERCURY CONTAMINATION
 MICRO TEST: O.K.
 MACRO ETCH TEST: O.K.
 MATERIAL FREE FROM CONTINUOUS CARBIDE NETWORK

Chemical & Physical
 Reviewed By: *[Signature]* Date: 03 8 77
 J. S. Dyson, Quality Control Representative
 General Electric Co. - BWR Projects Dept.

Reviewed by: *[Signature]*
 Pages: *[Signature]*
 AUG. 9 1977
 T R CERT. # 77-1664
 TNC
 OCE
 4A

TARGET ROCK CORP.
 RECEIVED
 JUL 22 1977
 RECEIVED

[Signature]
 ANALYSES AND RESULTS CERTIFIED AS ABOVE
 AL TECH SPECIALTY STEEL CORPORATION



Willowbrook Ave., Dunkirk, N. Y. 14048

CERTIFICATE OF TITLE

163163

PURCHASE ORDER NO. AND DATE XS-81119 05/19/77		NOT BEFORE	INQUIRY NO. AND DATE		ACCEPTING MILL DUNKIRK	MILL ORDER NO. 6-0-77275	DATE SHIPPED JUN 21 1977	INVOICE
S O L D T O	P. A. FRASSE & CO., INC. THREE DAKOTA DRIVE P. O. BOX 115 LAKE SUCCESS N Y 11040				S H I P T O	P. A. FRASSE AND CO., INC. BRISHIN AVENUE LYNCHURST N J 07071		

PRODUCT SPECIFICATIONS

AL TECH STAINLESS STEEL TYPE 316
 ACG TO AMS-5648E QQ-S-763D ASTM-A-276-76a ASTM-A-479-76
 ASME-SA-479 ASTM-A-182-76a ASME-SA-182 COND A WAIVE CLM
 (612-03 REV 4) SONIC TO NB 2542

ITEM	DESCRIPTION	QUANTITY	POUNDS	C/P	TEST PCS.	COPIES SOLD TO	C	P	COPIES SHIP TO
------	-------------	----------	--------	-----	-----------	----------------	---	---	----------------

01 R 4.7500 12 - 13 FT 5 B 3740

CHEMICAL ANALYSIS

STANDARD ELEMENTS & PERCENTAGES

ADDITIONAL ELEMENTS

HEAT NO.	C	MN	P	S	SI	CR	NI	AL	MO	CU	N2	Co
02896	.050	1.49	.029	.030	.38	17.30	12.61		2.14	.32	.057	.32

PHYSICAL PROPERTIES

HEAT NO.	TENSILE PSI	YIELD PSI	ELONG %	RED. AREA %	BRINELL/ROCKWELL	TEST NO.
02896	79,700	33,100	74	76.6	143	

Reviewed by: *[Signature]*
 J. S. Dyson, Quality Control Representative
 General Electric Co. - BWR Projects Dept.
 Date: 07 16 77

MATERIAL FREE FROM MERCURY CONTAMINATION
 MICRO TEST: O.K.
 MACRO ETCH TEST: O.K.
 MATERIAL FREE FROM CONTINUOUS CARBIDE NETWORK
 SONIC TESTED TO NB 2542- SONIC - O.K.

3 of 12
 12

Reviewed by: *[Signature]*
 Page(s) 1
 AUG 29 1977
 TRC
 OCE
 4A

TR CERT. # 77-1654

TARGET ROCK CORP.
 RECEIVED
 JUL 22 1977

[Signature]
 ANALYSES AND RESULTS CERTIFIED AS ABOVE
 AL TECH SPECIALTY STEEL CORPORATION

SALES 20



TR CERT. # ~~3~~ 3
Page(s) 1 of 2
L.S.R.

ANALYSIS AND TEST CERTIFICATE

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF
ATTN: MR. PHIL DELROCCA
TARGET ROCK CORP
1966 E BROADHOLLOW RD
E FARMINGDALE NY 11735

YOUR ORDER NO. 4851
OUR INVOICE NO. 172580
DISTRICT: LYND
DATE: 5/29

3
JUN 01 1979

GRADE	SIZE DESCRIPTION AND SPECIFICATIONS	QUANTITY FT LBS	HEAT TREAT
T 316 BAR	3 RD X 12 FT RDM ✓	1235 LBS	ORANGE
GRD COND A PER ASME SA 479 (1976 SUMMER ADDENDA OR LATER) PRODUCED IN ACCORDANCE W/NCA 3800 AND CAPABLE OF PASSING INTERGRANULAR CORROSION TEST PER ASTM A 262 PRACTICE E			

CHEMICAL ANALYSIS														
HEAT NO	MIN	PHOS	SUL	SIL	NI	CR	MO	CU	TI	PB	CO	CB/TA	AL	SN
78494	.064	.067	.036	.024	.53	10.05	16.84	207	.35		.19			.07

MECHANICAL PROPERTIES											
TENSILE STRENGTH KSI 5/8 INCH	YIELD KSI 5/8 INCH	ELONG % IN	RED OF AREA	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN ABILITY	DECARS	
				BRINELL	ROCKWELL B" C"						
80,400	53,600	52	725	170							

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION

We hereby certify that in the above material, no detectable amount of mercury has been used in the production of such material.

JOMINY HARDENABILITY - ROCKWELL "C" IN 16 INCHES OF ANGLE											
3	4	5	6	7	8	9	10	12	14	16	20

DATA INPUT

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST _____ EMBRITTLEMENT **REVIEWED** _____ FERRITE _____ MACRO ETCH OK

OTHER: _____ JUN 5 1979

We hereby certify that the above data is a true copy of data furnished by the producer or data resulting from tests performed by the producer or by approved laboratories.

TO P. O. REQ'TS. DEPT.
JRC G. C. DEPT.

Signed Peter A. Frasse for PETER A. FRASSE & CO. INC.



DIVISION OF JOSLYN
MFG. AND SUPPLY CO.

JOSLYN STAINLESS STEELS

2400 TAYLOR ST. WEST FORT WAYNE, IND. 46804

F.O.B. FORT WAYNE, INDIANA

TR CERT. # 79-1610
Page(s) 2 of 2
2257

34576 JOSLYN F.W. NO.	ORDER DATE 01/30/79	PPYCL P	W/B OR BL 08249	SHIP VIA JAYNES	INVOICE NO 05 0596	CUSTOMER'S ORDER NO. XS 04321
	SHIPPED DATE 05/17/79	SHIP NO 1	PARTIAL/COMP COMPL	FREIGHT EQUALIZED WITH BRIDGEP			INVOICE DATE 05/17/79

SOLD TO

**PETER A FRASSE & CO
THREE DAKOTA DRIVE
P O BOX 115
LAKE SUCCESS NEW YORK 11042
ATTN: GEORGE GRAY**

SHIP TO

**PETER A FRASSE & CO INC
BRISBIN AVENUE
LYNGHURST NEW JERSEY 07071**

CUSTOMER NO 06803	PRIORITY
SALESMAN 15	A I S I STATE TAX 160 30 04

MECHANICAL AND CHEMICAL TEST REPORT

HEAT 78494	SIZE 3.000	SHAPE-FINISH -RD--CG-	LBS. ORD. 2000	LBS. SHIP 2132	HARDNESS BHN170	TENSILE STR., PSI 80400	YIELD STR., PSI 53600	% ELONG. 52.0	% R.A. 72.5					
TYPE 316	C 064	Mn 167	P 036	S 024	Si 053	Cr 1684	Ni 1005	Mo 207	Cu 035	Co 019	OTHER N .074	OTHER	OTHER	HARDENABLE

SPECIFICATIONS:

**612 03 AMS 5648 E QQS 763 D ASTM 276 77 ASTMA 479 77
ASME SA 479 77 ED ASTMA 182 77A ASME SA 182 77 ED**

HEAT	SIZE	SHAPE-FINISH	LBS. ORD.	LBS. SHIP	HARDNESS	TENSILE STR., PSI	YIELD STR., PSI	% ELONG.	% R.A.					
TYPE	C	Mn	P	S	Si	Cr	Ni	Mo	Cu	Co	OTHER	OTHER	OTHER	HARDENABLE

SPECIFICATIONS:

**NCA 3800 CAPABLE OF INTERGRANULAR CORROSION ASTM 262 PRACTICE E
ITEM CODE 674630 PROD CODE 612**

THIS MATERIAL MEETS THE SPECIFICATIONS CHECKED BELOW:

- ULTRASONIC TEST - OK
- FREE OF MERCURY CONTAMINATION
- FREQ./SEV. _____
- FERRITE _____ MAX.
- IMPACTS _____
- MACRO ETCH - OK
- EMBRITTLEMENT TEST - OK
- CONTINUOUS CARBIDE AND INTERGRANULAR CORROSION TEST-OK
- NITRIC ACID TEST - OK
- BEND TEST - OK
- FORGE - OK
- SOLUTION ANNEALED AT 1950 °F. FOR 3 HOURS AND WATER QUENCH
- ALLOY I.D. - OK
- LIQUID PENETRANT TEST-OK

JUN 01 1979
REVIEWED

I HEREBY CERTIFY THAT THE REPORTED FIGURES ARE CORRECT,
AS CONTAINED IN THE RECORDS OF THE CORPORATION

C. BRICKER

CERTIFICATION CLERK

C. Bricker

Faint Block
CUSTOMER
P.O. # 4851
INVOICE # 172580
DATE 5-29-79
QUANTITY 1235
NOTARY PUBLIC

JUN 5 1979

TO P. O. REQ'TS.
TRC Q. C. DEPT.





DIVISION OF JOSLYN
MFG. AND SUPPLY CO.

JOSLYN STAINLESS STEELS

2400 TAYLOR ST. WEST FORT WAYNE, IND. 46804

F.O.B. FORT WAYNE, INDIANA

TR CERT. # 79-1611
Page(s) 2 of 2
INVOICE NO. 2057
XS 04521

34576 JOSLYN F.W. NO.	ORDER DATE 01/30/79	PP/COL P	W/B OR B/L 08249	SHIP VIA JAYNES	INVOICE DATE 05/17/79	CUSTOMER'S ORDER NO.
	SHIPPED DATE 05/17/79	SHIP NO. 2	PARTIAL/COMP. COMPL	FREIGHT EQUALIZED WITH BRIDGEP		

SOLD TO

PETER A FRASSE & CO
THREE DAKOTA DRIVE
P O BOX 115
LAKE SUCCESS NEW YORK 11042
ATTN: GEORGE GRAY
PETER A FRASSE & CO INC
BRISBIN AVENUE

CUSTOMER NO 06803	PRIORITY
SALESMAN 151	A I S I STATE TAX 160 30 04

SHIP TO

LYNDHURST NEW JERSEY 07071

MECHANICAL AND CHEMICAL TEST REPORT

HEAT	SIZE					SHAPE-FINISH	LBS. ORD.	LBS. SHIP	HARDNESS	TENSILE STR., PSI	YIELD STR., PSI	% ELONG.	% R.A.
78494	3.000					-RD--CG-	2000	2132	BHN170	80400	53600	52.0	72.5
TYPE	C	Mn	P	S	Si	Cr	Ni	Mo	Cu	Co	OTHER	OTHER	HARDENABLE
316	0.064	1.67	0.36	0.24	0.53	16.84	10.05	2.07	0.35	0.19		N .074	

SPECIFICATIONS:

612 03
ASME SA 479 77 ED
AMS 5648 E
QCS 763 D
ASTMA 182 77A
ASTMA 276 77
ASTMA 479 77
ASME SA 182 77 ED

HEAT	SIZE					SHAPE-FINISH	LBS. ORD.	LBS. SHIP	HARDNESS	TENSILE STR., PSI	YIELD STR., PSI	% ELONG.	% R.A.
TYPE	C	Mn	P	S	Si	Cr	Ni	Mo	Cu	Co	OTHER	OTHER	HARDENABLE

SPECIFICATIONS:

NCA 3800 CAPABLE OF INTERGRANULAR CORROSION ASTMA 262 PRACTICE E
ITEM CODE 674630 PROD CODE 612

THIS MATERIAL MEETS THE SPECIFICATIONS CHECKED BELOW:

- | | | |
|---|---|--|
| <input type="checkbox"/> ULTRASONIC TEST - OK | <input checked="" type="checkbox"/> MACRO ETCH - OK | <input type="checkbox"/> FORGE - OK |
| <input checked="" type="checkbox"/> FREE OF MERCURY CONTAMINATION | <input checked="" type="checkbox"/> EMBRITTLEMENT TEST - OK | <input checked="" type="checkbox"/> SOLUTION ANNEALED AT 1950 ° F.
FOR 3 HOURS AND WATER QUENCH |
| <input type="checkbox"/> FREQ./SEV. _____ | <input checked="" type="checkbox"/> CONTINUOUS CARBIDE AND
INTERGRANULAR CORROSION TEST-OK | <input type="checkbox"/> ALLOY I.D. - OK |
| <input type="checkbox"/> FERRITE _____ MAX. | <input type="checkbox"/> NITRIC ACID TEST - OK | <input type="checkbox"/> LIQUID PENETRANT TEST-OK |
| <input type="checkbox"/> IMPACTS _____ | <input type="checkbox"/> BEND TEST - OK | |

JUN 01 1979
REVIEWED

JUN 5 1979

I HEREBY CERTIFY THAT THE REPORTED FIGURES ARE CORRECT,
AS CONTAINED IN THE RECORDS OF THE CORPORATION

C. BRICKER

CERTIFICATION CLERK

C. Bricker

Target Block

CUSTOMER	<i>Target Block</i>
P.O. #	<i>4851</i>
INVOICE	<i>172580</i>
DATE	<i>5-29-79</i>
QUANTITY	<i>1235</i>

NOTARY PUBLIC

TO P. O. REQ'TS.
TRC Q. C. DEPT.



0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

S. B. 9112

TARGET ROCK PRESSURE
REGULATING VALVES

Date: 6/20/91

CLASSIFICATION OF PRESSURE RETAINING PARTS
COMMONWEALTH EDISON

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY: J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY: R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY: S. Karidas
S. Karidas, Engineering Manager

TRPUB - 0038 (3/83)



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 4
DATE _____		REPORT SB 9112
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Commonwealth Edison. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9112

TABLE I
 TARGET ROCK PRESSURE REGULATING VALVES
 COMMONWEALTH EDISON
 LaSalle County Station Units 1 & 2
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM		MATERIAL DESIGNATION & CERT. NO.	REMARKS
		Name	Part No.		
<u>77U</u>					
77U-401B Quantity 4	Com. Ed. 212625	Spring Housing	200738-1	SA-479(316) 72-1010	Condition 1
77U-402C Quantity 2	Com. Ed. 212625	Spring Housing	202223-1	SA-479(316) 72-1010	Condition 1

SB 9112

TABLE I (Cont'd)
TARGET ROCK PRESSURE REGULATING VALVES
COMMONWEALTH EDISON
Byron Station Units 1 & 2
Braidwood Station Units 1 & 2
Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name Part No.		MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>81GG</u> 81GG-003A Quantity 8	Com. Ed. 254137	Spring Housing	202471-1	SA-479(316) 81-1173	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE	LONG ISLAND, N. Y.	PAGE	OF
DATE _____			REPORT	
APPROVED BY _____			PROJECT	
DATE _____				

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
COMMONWEALTH EDISON



U. N. ALLOY STEEL
DIVISION OF U.N.A. CORPORATION

700 THURSDAY STREET • ELIZABETH, NEW JERSEY 07208
TELEPHONE 281-3337/777 • TELEX 134470
N.Y.C. 212-242-0776

TR CERT. # 2-1010

CERTIFIED MATERIAL TEST REPORT

10/3

For Targat Rock Corp.
1966 E. Broadhollow Road
East Ferrisburgh, New York

Date June 14, 1972
Order Number 1208 - 1
Drawing Number _____

Grade	Description and Specification	Size	Wt.
<u>316cd</u>	Stainless Steel Pipe H.R. as per ASME SA-479-63	<u>2 3/8"</u>	<u>500</u>
"	" " " H.R. as per ASME SA-479-63	<u>1 7/8"</u>	<u>225</u>
"	" " " H.R. as per ASME SA-479-63	<u>1 5/8"</u>	<u>84</u>
"	" " " H.R. as per ASME SA-479-63	<u>1 1/2"</u>	<u>50</u>

H.R. as per ASME SA-479-63
CHEMICAL ANALYSIS

Heat No.	C.	Mang.	Phos.	Sul.	CU	Sil.	Nickel	Chrome	Moly.
<u>FX139</u>	<u>.06</u>	<u>1.37</u>	<u>.022</u>	<u>.020</u>	-	<u>.42</u>	<u>10.3</u>	<u>16.00</u>	<u>2.17</u>
<u>XC435</u>	<u>.05</u>	<u>1.37</u>	<u>.022</u>	<u>.027</u>	-	<u>.33</u>	<u>10.1</u>	<u>16.86</u>	<u>2.13</u>
<u>NR47C</u>	<u>.03</u>	<u>.94</u>	<u>.039</u>	<u>.022</u>	-	<u>.33</u>	<u>10.4</u>	<u>17.22</u>	<u>2.14</u>
<u>4E172</u>	<u>.05</u>	<u>1.44</u>	<u>.020</u>	<u>.022</u>	-	<u>.45</u>	<u>11.03</u>	<u>16.33</u>	<u>2.07</u>
<u>E5706</u>	<u>.045</u>	<u>1.34</u>	<u>.030</u>	<u>.018</u>	-	<u>.39</u>	<u>12.95</u>	<u>16.00</u>	<u>2.30</u>

PHYSICAL PROPERTIES

Heat No.	Tensile Strength Lbs. Per Sq. In.	Yield Strength Lbs. Per Sq. In.	% Elong.	% Red. of Area	Brimell
<u>FX139</u>	<u>85,000</u>	<u>43,000</u>	<u>63</u>	<u>67</u>	<u>131</u>
<u>XC435</u>	<u>84,000</u>	<u>40,000</u>	<u>64</u>	<u>69</u>	<u>154</u>
<u>NR47C</u>	<u>84,000</u>	<u>43,000</u>	<u>61</u>	<u>72</u>	<u>131</u>
<u>4E172</u>	<u>81,600</u>	<u>35,000</u>	<u>60</u>	<u>72</u>	<u>140</u>
<u>E5706</u>	<u>105,000</u>	<u>95,000</u>	<u>35</u>	<u>64</u>	

REMARKS: Above Listed Material is in Compliance with the Below List Specification.
Equipment containing mercury or mercury compounds has not been used for fabrication, assembly, packaging, installation examination or testing of parts or assemblies on this order. **REVIEWED**

This certifies that shipment against our Invoice No. _____
and against Customer's Order No. _____ is in accordance with data herein described.
DATE _____ SIGNED _____
Duly noted and sworn before me

Notary Public

JUL 18 1972

TO P. O. REQ'TS. QCE
TRC Q. C. DEPT. 2

I hereby certify that the above data is correct as contained in the records of U. N. ALLOY STEEL

Signed: Mary Redington

MB

Consolidated Testing Laboratories, Inc.

79 HERRICKS ROAD, NEW HYDE PARK, NEW YORK 11040
516 - 746-3705

No. C 38084

TO: TARGET ROCK CORP.
1966 E. BROADHOLLOW ROAD
E. FARMINGDALE, NY 11735
ATTN: MR. D. WREN, QC

Add to Cert # 2-1010

TR CERT. # 79-1127

Page(s) 1 of 1 *2 of 3*

DATE 5/2/79 P. O. NUMBER 4062/58854

QUANTITY IN LOT _____

MATERIAL 316SS SPEC NO. ASME SA 479 (316)

IDENTIFICATION SEE BELOW

RESULTS OF TEST:

ASME SA 479, SUMMER 1976 (TYPE 316)

	SIZE		
C	<0.08	2 3/8" RD	1 1/4" RD
MN	<2.00	1308-1	1453-8
P	<0.045	FX139	G-9876
S	<0.030	72-1010	77-2552
SI	<1.00	0.08	0.03
Mo	2.00-3.00	1.47	1.66
Ni	10.00-14.00	0.008	0.009
CR	16.00-18.00	0.017	0.018
		0.55	0.56
		2.10	2.40
		12.35	12.57
		16.40	18.00

MATERIAL CONFORMS TO ASME SA 479, SUMMER 1976 (TYPE 316) AS LISTED ABOVE.

REVIEWED

MAY 3 1979

TO P. O. REQ'TS. DEPT.
TRC Q. C. DEPT.



Carol McIntire
CAROL MCINTIRE
Notary Public, State of New York
No. 82-4810128
Qualified in Suffolk County
Commission Expires March 30, 1981

STATE OF NEW YORK
COUNTY OF NASSAU

Subscribed and sworn to before me
this 2 day of MAY 19 79

The foregoing is a true and accurate
report of results obtained from our tests
of this material

Frank J. ...

SAMPLES WILL BE RETAINED ONLY FOR 30 DAYS AFTER THIS REPORT DATE. NO RESPONSIBILITY IS ASSUMED FOR ANY INTERPRETATION
RELATIVE TO OUR IMPARTIAL REPORTS. LIABILITY OTHERWISE IS LIMITED TO VALUE OF SERVICE RENDERED.



T. R. CERT. # 81-1173

APR 22 1981

OK P.5 1 OF

ANALYSIS AND TEST CERTIFICATE

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

Page(s) 7

Reviewed by



TO [Frasse]
TARGET ROCK CORP
1966-E BROADHOLLOW ROAD
E FARMINGDALE NY 11735

YOUR ORDER NO. 8053	
OUR INVOICE NO. 167317	DATE 4/3/81
DISTRICT LYND	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
PO NUMBER 8053 316 CG ANN	2-1/4 RD 10F-12F RDM ASME SA 479-S80	7751	GREEN

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
1G3317	.040	1.67	.027	.025	40	12.24	17.47		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.05	17			30					046

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDENABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
78000	33800	57.5	78	143						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH		COND. H-900	COND. H-925			

PRODUCED IN ACCORDANCE WITH NCA 3800 SUPPLIED IN ACCORDANCE WITH PETER A. FRASSE A. MANUAL REVISION 3 DATED 1/1/78-I G TESTED PER ASTM-A262 PRACTISE E-TARGET ROCK SPEC FOS-45-S-80A.

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTLEMENT	FERRITE	MACRO ETCH
			<input checked="" type="checkbox"/>

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed _____ for PETER A. FRASSE & CO., INC.

• TERMS: 30 DAYS NET = 5% DISCOUNT ON \$ IF PAID ON OR BEFORE B/L NO. *R-100*

CUSTOMER ORDER NUMBER XS 13998 CUST. ORDER DATE 3/25/81 STR. CTL. NO. S.T.C. MILL ENTRY DATE DIST. 99! 644 SHPG. & INV. DATE 3/27

INDEL. NO. T23221 CUST. CODE NO. 6083024 DUNS CODE 1141072 STATE/CNTY. 59094 GOVT. RATING MARKETING PROD. OFF. 119 INVOICE NUMBER DS7-5125

SOLD TO: PETER A. FRASSE COMPANY, INC. BRISBIN AVENUE LYNDHURST, NEW JERSEY 07071

SHIPPED TO: PETER A. FRASSE COMPANY, JINC, BRISBIN AVENUE LYNDHURST, NEW JERSEY 07071 *3-27-81*

ROUTING OPEN TOP TRUCK BLOCKED FOR OVERHEAD CRANE
COLL. PPD. F.O.B. BRIDGEVILLE F/E READING

PACKING AND MARKING INSTRUCTIONS B/L REC HRS 7:30 AM - 11:30 AM CARDBOARD WRAP 4000# MAX
LIFTS METAL TAG WITH CUST NO SIZE HEAT TYPE FIN COND AND WGT STAMP HT NO
BOTH ENDS BARS 1 T/R WITH SHIPMENT 3 ATTN: G. GRAY

INVOICE NO. 3 PRICE B/D OTHER INVOICES: 3 DAKOTA DRIVE LAKE SUCCESS NEW YORK 11042 TEST REPORT INSTR. ANAL. PHYSICALS NO. T/R 4 CERT. NOTARIZED

STOCK CONTROL NO. QUAN. ORDERED PCS. OR WT. SIZE AND DESCRIPTION HEAT NO. QUAN. SHIPPED NET WEIGHT PRICE AMOUNT

14802 37 PCS. EST 6000# 2.250"RD. X 11/13 FT. 1G3319
UNILLOY 316 CENTERLESS GROUND BAR TO 612-03 REV. 7 AND TARGET ROCK 45-S-80A EXCEPT WATER QUENCH
612-673640

T. R. CERT. # 81-1173

SPEC: AMS-5648E, QQS-763D Amend 1 Cond. A ASTM A276-79A, ASTM A479-79, ASME SA-479 612-03 Rev. 7
Chem & Phys ASTM A182-79A, ASME SA182 ASME 1980 Edition 06-358
Target Rock Spec. 45-S-80A Page(s) 2 of 4

APR 3 1981

CHEMICAL ANALYSIS											Reviewed by	
HEAT NO./CODE	ITEM	C	Mn	Si	S	P	Cr	W	V		Ni	Mo
1G-3319		.040	1.67	.40	.025	.027	17.47				12.24	2.05
HEAT NO./CODE	ITEM	Co	Cu	Al	Ti	FE	B	N				
		.30	.17							.046		

TENSILE PROPERTIES						STRESS RUPTURE PROPERTIES						Hardness
Item	Identification	Tensile KSI	.2% Yield KSI	.02% Yield KSI	% EL	% RA	Temp. °F	Stress KSI	Time Hrs.	% EL		
		78.0	33.8		57.5	78.0						BHN 143

Item	HEAT TREATMENT	HARDENABILITY	Grain Size	IMPACT
	Anneal 1925°F 20 min Water	OK		

Item	INCLUSIONS	Item	OTHER PROPERTIES AND/OR COMMENTS
			MACRO ETCH TEST-ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION FREE OF MERCURY CONTAMINATION OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRAC. E FIG. 1 STEP STRUCTURE FREE FROM CONTINUOUS CARBIDE NETWORK IMPACT 180 BEND: OK MATERIAL MANUFACTURED TO QUALITY CONTROL PROGRAM DATED 12/5/80 PRODUCED IN ACCORDANCE WITH NCA 3800

The recording of False, Fictitious, or Fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

All testing procedures conform to ASTM standards or applicable specifications.

By *D. J. Moore*
Quality Control Representative

Target Rock
CUSTOMER # 8053
DATE 4-2-81
QUANTITY 72546



2-4MFCB MC-VJMS

S. B. 9113

TARGET ROCK PRESSURE REGULATING VALVES
ENERGY OPERATIONS, INC. Date: 6/20/91
CLASSIFICATION OF PRESSURE RETAINING PARTS
(Gulf States Utilities)

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY: J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY: R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY: S. Karidas
S. Karidas, Engineering Manager



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT 9113
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

- J. Sefcik, Project Engineer (516)293-3800, Ext. 562
- S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Gulf States Utilities. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9113

TABLE I
 TARGET ROCK PRESSURE REGULATING VALVES
 GULF STATES UTILITIES
 River Bend Station, Unit 1
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM		MATERIAL DESIGNATION & CERT. NO.	REMARKS
		Name	Part No.		
<u>77KK</u>					
77KK-007 Quantity 2	Stone & Webster Engineering RBS-247.501-240	Spring Housing	202471-1	SA-479(316) 82-2872	Condition 1
77KK-015 Quantity 1	Stone & Webster Engineering RBS-247.501-240	Bolt	001-0004	ASTM A-193 Gr 8 80-4414	Condition 2 (Contact TRC)
		Flange	202477-1	SA-479(316) 80-0595	Condition 1
		Sleeve	202476-1	SA-479(316L) 80-1180	Condition 1
88Z-538 <u>77KK-015/</u> 88Z538-005A Quantity 1	GSU 88-4-76064	Bolt	001-0004	ASTM A-193 Gr 8 80-4414	Condition 2 (Contact TRC)
		Flange	202477-1	SA-479(316) 80-0595	Condition 1
		Sleeve	202476-1	SA-479(316L) 80-1180	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
GULF STATES UTILITIES

12504

T. R. CERT# 82-2872

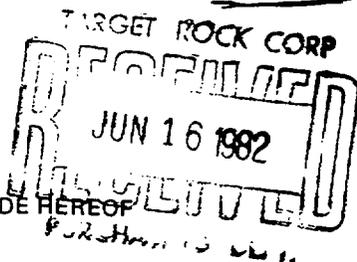
JUN 16 1982



JUN 17 1982

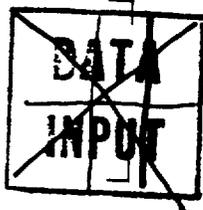
PAGE (C) 1 OF 2 TRC QCE

ANALYSIS AND TEST CERTIFICATE



REVIEWED BY _____ SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

TO TARGET ROCK CORP. P.O. BOX V E. FARMINGDALE, NY 11735



YOUR ORDER NO. 1911 OUR INVOICE NO. 130532 DATE 5/26/82 DISTRICT LYNDDHURST

Table with columns: GRADE, SIZE, DESCRIPTION AND SPECIFICATIONS, QTY. FT/LBS., HEAT PAINT. Row 1: 316 CG ANN, 2-1/4 RD X 10-12 FT RDM, 924 LBS, BROWN. Includes note: ASME-SA 479-80 THE MATERIAL SUPPLIED IS IN ACCORDANCE WITH P.A. FRASSE Q.A. MANUAL DATED 1/1/78 REV#3

CHEMICAL ANALYSIS

Table for chemical analysis with columns: HEAT NO., C, MN., PHOS., SUL., SIL., NI., CR., MO, CU, TI, PB, CO, AL, CB, TA, SN, N. Values: 1G3723, .041, 1.60, .027, .023, .40, 12.22, 17.34, 2.08, .40, .14, .049

MECHANICAL PROPERTIES

Table for mechanical properties with columns: TENSIL STRENGTH, YIELD, ELONG, RED. OF AREA, HARDNESS (BRINELL, ROCKWELL B, C), FREQUENCY, SEVERITY, GRAIN SIZE, HARDENABILITY, AS SHIPPED HARDNESS. Values: 72700, 33400, 55, 78.1, 143-152, 17-4PH or 15-5PH, COND. H-900, COND. H-925

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

Table for Jominy Hardenability with columns 1-40 and DECARB. All cells are empty.

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION. MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

Table with columns: BEND TEST, EMBRITTLEMENT, FERRITE, MACRO ETCH. Includes handwritten 'OK' mark.

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed for PETER A. FRASSE & CO., INC. (with signature)



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

REVISED
 5-582

GRADE AND DESCRIPTION: **UNILOY 316 CENTERLESS GROUND BAR**

SPECIFICATION: **AMS5648E QQS763D AMD1 COND A ASTM A276-81A ASTM A479-81L ASME SA479 612-03 REV 10 CHEM & PHYS ASTM A182-81A ASME SA182 ASME 1980 EDITION**
 SIZE: **2.250" RD. X 11/13 FT.** ASTM-A-484-80, ASTM-A-193-81A GR 56
 SHIP TO: **ASTM-A-194-80A, CHEM. ONLY, ASME 1981 ADDENDA**

PETER A. FRASSE 612-673640
 LYNDHURST, N. J.

CUST. ORDER NO. **XS-18757**
 MILL ORDER NO. **51048 75094**
 DATE SHIPPED _____
 QUANTITY & WEIGHT **4417**

T. R. CERT # 82-2872

JUN 17 1982

Handwritten: 78910

CHEMICAL ANALYSIS							CHEMICAL ANALYSIS						
HEAT NO	C	Mn	Si	S	P	Q	Cr	W	V	Ni	Mo	Co	Cu
163723	.041	1.60	.40	.023	.027		17.34			12.22	2.08	.14	.40
HEAT NO.	Sn	Pb (PPM)	Al	Ti	Fe	B	Zr.	Cb /Ta	.La	Bi (PPM)	N		
												.049	

TENSILE PROPERTIES							STRESS RUPTURE PROPERTIES				IMPACT
CODE	IDENTIFICATION	KSI TENSILE	KSI 2 YIELD	KSI 0.2 YIELD	% EL	% RA	TEMP. °F	KSI STRESS	TIME HR	% EL	N. lbs V. CHIPPY
		77.7	33.4		55.0	78.1					

Target Customer
 P. O. # **1911**
 INVOICE **130 532**
 DATE **5-28-82**
 QUANTITY **924**

CODE	HEAT TREATMENT	HARDENABILITY	GRAIN SIZE
	ANNEALED 1925° 20 MIN. WATER	<i>OK</i>	DATA INPUT

HARDNESS. **143/152 BHN**
 REMARKS. ***FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION***

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY CONTAMINATION
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG. 1 STEP STRUCTURE
 FREE FROM CONTINUOUS CARBIDE NETWORK
 EMBRITTLEMENT 180 BEND: OK
 MATERIAL MANUFACTURED TO QUALITY CONTROL PROGRAM DATED 12/5/80

TEST REPORT

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

4/6/82

THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.

By *[Signature]*
 Quality Control Representative

GARRON AIRCRAFT SUPPLY, INC.

NOV 24 1980

STANDARD AND PRECISION FASTENERS

5 UNION SQUARE - NEW YORK, N. Y. 10003

(212) 675-8220



SOLD TO TARGET ROCK CORP.
1966-E BROADHOLLOW ROAD
E. FARMINGDALE, N.Y. 11735

DATA INPUT

I R CERT. # 80-4414

DEC 19 1980

Page(s) 1 of 1

FRC
QCE
4A

7380 - 1

CUST. ORDER NO.		DATE SHIPPED		F.O.B. OUR PLANT		TERMS	SHIPPED VIA	INVOICE DATE	INVOICE NO.
7380-1		11/5/80				1% 10 DAYS NET 30	UPS	11/5/80	P10950
ITEM	QUANTITY			DESCRIPTION					
	ORDERED	BACK OR'D	SHIPPED						
1	200	0	200	5/16-18 1 1/2 HEX BOLT ASTM-A 193 GR B8 CLASS 1 OR 2					
2	150		150	5/16-18 1 HEX BOLT ASTM-A 193 GR B8 CLASS 1 OR 2					
3	150	139	11	1/4-28 x 1 1/2 HEX BOLT ASTM-A 193 GR B8 CLASS 1 OR 2					
EQUIPMENT CONTAINING MERCURY OR MERCURY COMPOUNDS HAS NOT BEEN USED FOR FABRICATION, ASSEMBLY PACKING, INSTALLATION, ASSEMBLY OR TESTING OF PARTS OR ASSEMBLIES ON THIS ORDER.									

SUBSCRIBED AND SWORN BEFORE ME
THIS 5 DAY OF Nov. 19 80

BEN GOLDMAN
NOTARY PUBLIC, State of New York
No. 24 - 1483240
Qualified in Kings County
Commission Expires March 30, 1981
Ben Goldman
NOTARY PUBLIC

It is hereby certified that all materials used in the manufacture of parts in the quantity called for on the subject purchase order conform to the material and/or manufacturing specifications indicated in drawings or specifications as called for on said purchase order.

Physical, Electrical, and/or Chemical test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

GARRON AIRCRAFT SUPPLY, INC.
J. Turner-inspector
AUTHORIZED SIGNATURE

P10950

CERTIFICATE OF CONFORMANCE



I R CERT. 58-595

FEB 15 1980

ANALYSIS AND TEST CERTIFICATE

Page(s) 1

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF



TO []

TARGET ROCK CORP
 1966 E. BROADHOLLOW RD.
 E. FARMINGDALE, N.Y. 11735

YOUR ORDER NO. 5937	
OUR INVOICE NO. 105122	DATE 2-4-80
DISTRICT LYNDHURST	

GRADE	SIZE DESCRIPTION AND SPECIFICATIONS							WT. FT/LBS.	HEAT TREAT
515 PAR	WATER QUENCH 3-1/2 RD X 10 1/2 FT RDM							85 LBS.	RED
PER ASME SA 479 (SUMMER 78) INTERGRANULAR PROSION TESTED PER PRACTICE A OF ASTM A262 THE PRODUCER AL TECH SPECIALTY STEEL HAS BEEN AUDITED BY PETER FRASSE APPROVED AS A QUALIFIED SUPPLIER IN ACCORDANCE WITH OUR Q.A. MANUAL & CHEMICAL ANALYSIS OUR SYSTEMS COMPLY WITH AIA 3800									
0.006	0.008	0.010	0.015	0.020	0.030	0.040	0.050	0.060	0.070
0.003	0.004	0.005	0.007	0.009	0.012	0.015	0.018	0.022	0.025

MECHANICAL PROPERTIES

TENSILE STRENGTH (MIN 50 INCH)	YIELD (MIN 50 INCH)	NO. OF TESTS	AREA	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	MARLBAN ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL					
82000	32000	56	78	153	B	COND. H 003	COND. H 025			

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION

JOMINY HARDENABILITY - ROCKWELL 'C' IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	36	40
																		DECARB

TO THE BEST OF OUR KNOWLEDGE MATERIAL IS FREE OF MERCURY CONTAMINATION.

MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

RENDIT	EMERITMENT	FERRITE	MARLBAN
--------	------------	---------	---------

We hereby certify that the above data is a true record of data furnished by the producer or its authorized representative.

Signed: *[Signature]*
 PETER FRASSE & CO

AL Tech Specialty Steels Corporation

Willowbrook Avenue, Dunkirk, N.Y. 14048

CERTIFICATE OF TEST

RE ISSUED COPY

AL TECH

T-R CERT # 80-595
 FEB 15 1979
 2
 (Pages)
 Reviewed by:

PURCH ORDER NO AND DATE	NOT BEFORE	INQUIRY NO. AND DATE	ACCEPTING MILL	MILL ORDER NO.	DATE SHIPPED	INVOICE NO.
05/01/79			DUNKIRK	80-29528	JUN 27 1979	

H. A. FRASSE & CO. INC. THREE SAKOTA DRIVE P.O. BOX 111 LAKESUCCESS NY 11042	S T I P T O	P. A. FRASSE AND CO., INC. BRISBURY A. WDE LYNDHURST N J 07071
---	----------------------------	--

PRODUCT SPECIFICATIONS

AL TECH STAINLESS STEEL TYPE 316
 CG TO AMS-5642E GDS-7630 ASTM-A-276-77 ASTM-A-479-77
 SME-SA-479-77-S-78 (ASTM-A-182-77A & ASME-SA-182 CHEM & MECH PROPS ONLY)
 SEL CLM (612-03-7) COND A

DESCRIPTION	QUANTITY	POUNDS	TEST PCE	COPIES SOLD TO	C	P	COPIES SHIPPED TO	C	P
R 3.5000 COST-10 COMM 612-075074	5 BARS	2225						3	3

CHEMICAL ANALYSIS

HEAT NO	STANDARD ELEMENTS & PERCENTAGES											ADDITIONAL ELEMENTS		
	C	MN	P	S	SI	CR	NI	AL	MO	CU				
05756	.061	1.39	.023	.021	.41	17.20	12.63		2.03	.30	Co	.17	N2	.061

PHYSICAL PROPERTIES

HEAT NO	TENSILE PSI	YIELD PSI	ELONG %	RED AREA %	BRAKE ROCKWELL	TEST FILE
05756	84,500	39,000	56	78	1	

SOLUTION ANNEALED AT 1900 DEG. F. MIN. AND WATER QUENCHED

MICRO. OK
 MICRO. OK
 MATERIAL FREE FROM MERCURY CONTAMINATION
 MATERIAL FREE FROM CONTINUOUS CARBIDE NETWORK

S-58718

Wangseth Tech Corp
 5937
 105122
 105122
 85116
W. E. Carroll

ANALYSES AND RESULTS IDENTICAL AS ABOVE

Consolidated Testing Laboratories, Inc.

79 HERRICKS ROAD, ELY HYDE PARK, NEW YORK 10040
516 - 746-3705

I. R. CERT. # 8890625

TO: **PETER A. FRASSE & Co., INC.**
BRISBAIN AVENUE
LYNDHURST, NEW JERSEY 07071

FEB 15 1980

Page(s) 3 of 4



DATE 1/31/80

ORDER NUMBER 53074

Reviewed by _____
QUANTITY IN LOT _____

MATERIAL 316 BAR, GRD. COND. A

TEST NO. SA479-78

IDENTIFICATION A 1/2" ROD, HEAT #09756

RESULTS OF TEST

SA479-78 (Type 316)

- 0 40.08
- 10 42.00
- 20 40.045
- 30 40.030
- 40 41.00
- 50 2.00-3.00
- 60 10.00-12.00
- 70 16.00-18.00

- 0.08
- 1.35
- 1.03
- 0.028
- 0.43
- 2.30
- 12.20
- 16.50

AREA (SQ. IN.)
TENSILE
TENSILE PSI > 75,000
YIELD
YIELD PSI > 50,000
ELONGATION > 30%
RED. OF AREA > 40%

0.1956
16.000
81,900
8,750
44.734
61.0%
76.0%

Target Rock Corp
3937
105122
24-80
K5116

THIS IS A TYPE 316 COMMERCE GRADE MATERIAL
 WHICH IS NOT A TYPE 316 L OR 316 Ti MATERIAL
 AND THEREFORE IS NOT COVERED BY THE REQUIREMENTS
 OF ASTM A262-78 IN PARAGRAPH 4.1.1 (REQUIREMENT 4.1)

ASTM- A262, PRACTICE A:
INTERGRANULAR CORROSION:

MICROSTRUCTURE OF SAMPLE INDICATES THAT MATERIAL IS SOLUTION HEAT TREATED AND FREE FROM INTERGRANULAR CORROSION.

MATERIAL CONFORMS TO SA479-78 (TYPE 316) AS LISTED ABOVE.

TARGET ROCK CORPORATION HEREBY CERTIFIES

THROUGH THE RESULTS OF ANALYSIS THAT THE MATERIAL

CONFORMS TO THE REQUIREMENTS OF SA479-78 (TYPE 316)

AND THAT THE MATERIAL IS AVAILABLE MATERIAL

ACCORDANCE WITH THE REQUIREMENTS OF SA479-78

STATE OF NEW YORK
COUNTY OF HALEM
I, _____, County Clerk, do hereby certify that the foregoing is a true and accurate copy of the original as filed for record.

[Handwritten Signature]

19104

7 1/2 CENT. # P-1595

FEB 15 1980

POSTAL SERVICE



Received by _____

16110

10

ON LINE



I R CERT # 80-1190

APR 7 1980 GP

ANALYSIS AND TEST CERTIFICATE

Page(s) 1 of 2
Reviewed by [Signature]



SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

TO TARGET ROCK CORP
1966 E BROADHOLLOW ROAD
E FARMINGDALE, N.Y. 11735

YOUR ORDER NO. 5709-1	
OUR INVOICE NO. 17 113522	DATE 3-17-80
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
316 L	ELC BAR GROUND SOLUTION ANNEALED AND WATER QUENCHED PER ASME SA 479 77 EDITION THRU SUMMER 1979 ADDENDA INTERGRANULAR COROSION TESTED PER ASTM-A262		

* PRACTICE A ON A SENSITIZED SPECIMEN PRODUCED IN ACCORDANCE WITH NCA 3800

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
80103	.015	1.72	.031	.003	.50	12.41	16.59		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.02	.39			.24					.056

MECHANICAL PROPERTIES

TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		SEVERITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B"				
89400	59800	466	70.8	197					

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION

17-4PH or 15-5PH

COND. H-925

* See page 3 for intergranular test report
5/4/80

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	36	40	DE
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTELEMENT	FERRITE	MACRO ETCH
			OK

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed [Signature] for PETER A. FRASSE & CO., INC.



DIVISION OF JOSLYN
MFG. AND SUPPLY CO.

JOSLYN STAINLESS STEELS

2400 TAYLOR ST. WEST

FORT WAYNE, IND. 46804

F.O.B. FORT WAYNE, INDIANA

89351 JOSLYN F.W. NO.	ORDER DATE 05/26/79	PROF. CO. P	W/B OR BL 12018	SHIP VIA ALL STATES	INVOICE NO. 02 0128	XS 06575 CUSTOMER'S ORDER NO.
	SHIPPED DATE 02 08 80	SHIP NO. 1	PARTIAL/COMP COMPL	FREIGHT EQUALIZED WITH CANTON	INVOICE DATE 02 08 80	

SOLD TO

PETER A FRASSE * CO
THREE DAKOTA DRIVE
P O BOX 115
LAKE SUCCESS NEW YORK

IR CERT. # 70-1180

CUSTOMER NO. 06807	PRIORITY
SALESMAN 15/13	A I S I STATE TAX 160 35 04

11042

APR 7 1980

SHIP TO

PETER A FRASSE * CO INC
2060 ENTERPRISE PARKWAY
TWINSBURG OHIO

Page(s) 2 of 2
44087

Revised by _____



MECHANICAL AND CHEMICAL TEST REPORT

HEAT	SIZE	SHAPE-FINISH	LBS. ORD.	LBS. SHIP	HARDNESS	TENSILE STR., PSI	YIELD STR., PSI	% ELONG	% R.A.
80103	3.500	RD-CG	5000	4332	BHN197	89400	59800	46.6	70.8
TYPE	C Mn P S Si	Cr Ni Mo Cu Co	OTHER		OTHER	OTHER	HARDENABLE		
316LC	015 172 031 003 050	1659 1241	202 039 024	N		056			

SPECIFICATIONS:

612 13

AMS 5653 A

QQS 763 D

ASTMA276 78

ASTMA 479 78

*PRODUCED IN ACCORDANCE WITH NCA 3800

ASME SA 479 77 ED W'79

HEAT	SIZE	SHAPE-FINISH	LBS. ORD.	LBS. SHIP	HARDNESS	TENSILE STR., PSI	YIELD STR., PSI	% ELONG	% R.A.
TYPE	C Mn P S Si	Cr Ni Mo Cu Co	OTHER		OTHER	OTHER	HARDENABLE		

SPECIFICATIONS:

ASTMA 182 78

*INTERGRANULAR CORROSION TESTED PER ASTM 262 PRACTICE A ON A SENSITIZED SPECIMENT.

ASME SA 182 77 ED S'79

ITEM CODE 061762

PROD CODE 612

THIS MATERIAL MEETS THE SPECIFICATIONS CHECKED BELOW:

*THIS CERTIFICATION REVISED AT JOSLYN 3/7/80 - C. BRICKER

- | | | |
|---|--|--|
| <input type="checkbox"/> ULTRASONIC TEST - OK | <input checked="" type="checkbox"/> MACRO ETCH - OK | <input type="checkbox"/> FORGE - OK |
| <input checked="" type="checkbox"/> FREE OF MERCURY CONTAMINATION | <input checked="" type="checkbox"/> EMBRITTLEMENT TEST - OK | <input checked="" type="checkbox"/> SOLUTION ANNEALED AT 1950 ° F. |
| <input type="checkbox"/> FREQ./SEV. _____ | <input checked="" type="checkbox"/> CONTINUOUS CARBIDE AND INTERGRANULAR CORROSION TEST-OK | FOR 3-1/2 HOURS AND WATER QUENCHED |
| <input type="checkbox"/> FERRITE _____ MAX. | <input type="checkbox"/> NITRIC ACID TEST - OK | <input type="checkbox"/> ALLOY I.D. - OK |
| <input type="checkbox"/> IMPACTS _____ | <input type="checkbox"/> BEND TEST - OK | <input type="checkbox"/> LIQUID PENETRANT TEST-OK |

Target Rock

CUSTOMER	_____
P.O. NO.	5709
INVOICE	113522
DATE	3-17-80
QUANTITY	2140 lbs

I HEREBY CERTIFY THAT THE REPORTED FIGURES ARE CORRECT, AS CONTAINED IN THE RECORDS OF THE CORPORATION

C. BRICKER

CERTIFICATION CLERK

C. Bricker

NOTARY PUBLIC _____

NON-CONFIDENTIAL

S. B. 9114

TARGET ROCK PRESSURE
REGULATING VALVES
LA COMISION FEDERAL DE ELECTRICIDAD
CLASSIFICATION OF PRESSURE RETAINING PARTS

Date: 6/20/91

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the PV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY: J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY: R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY: S. Karidas
S. Karidas, Engineering Manager

TRPUB - 0038 (3/83)



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT SB 9114
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

- J. Sefcik, Project Engineer (516)293-3800, Ext. 562
- S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to La Comision Federal de Electricidad. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

TABLE I
 TARGET ROCK PRESSURE REGULATING VALVES
 LA COMISION FEDERAL DE ELECTRICIDAD
 Laguna Verde Project, Nuclear Units 1 & 2
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name Part No.		MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>79B</u>					
79B-011C Quantity 4	La Comision Federal de Electricidad LV13106	Spring Housing	202471-1	SA-479(316) 81-1173	Condition 1
79B-012B Quantity 4	La Comision Federal de Electricidad LV13106	Spring Housing	202471-1	SA-479(316) 81-1173	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
LA COMISION FEDERAL DE ELECTRICIDAD



T. R. CERT. # 81-1173

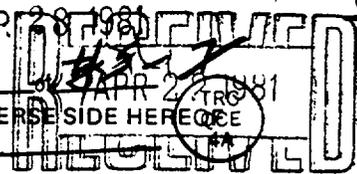
APR 22 1981

P. 5 OF 8

ANALYSIS AND TEST CERTIFICATE

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

Page(s) 1
Reviewed by [Signature]



TO [Signature]
TARGET ROCK CORP
1966-E BROADHOLLOW ROAD
E FARMINGDALE NY 11735

YOUR ORDER NO. 8053	
OUR INVOICE NO. 167317	DATE 4/3/81
DISTRICT LYND	

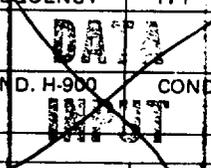
GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
PO NUMBER 8053 316 CG ANN	2-1/4 RD 10F-12F RDM ASME SA 479-S80	7751	GREEN

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
1G3319	.040	1.67	.027	.125	40	12.24	17.47		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.05	17			30					046

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDENABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
78000	33800	57.5	78	143						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH		COND. H-900	COND. H-925			



PRODUCED IN ACCORDANCE WITH NCA 3800 SUPPLIED IN ACCORDANCE WITH PETER A. FRASSE A. MANUAL REVISION 3 DATED 1/1/78-I G TESTED PER ASTM-A262 PRACTISE E-TARGET ROCK SPEC FOS-45-S-80A.

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION. MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTLMENT	FERRITE	MACRO ETCH
			[Signature]

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed [Signature] for PETER A. FRASSE & CO., INC.

• TERMS: 20 DAYS NET = 1% DISCOUNT ON \$

CUSTOMER ORDER NUMBER: XS 13998
CUST. ORDER DATE: 3/25/81
STK. CTL. NO.:
S.T.C.:
MILL ENTRY DATE:
DIST. SLIP NO.: 991644
SHIP. & INV. DATE: 3/27

INDEX NO.: T23221
CUST. CODE NO.: 6083024
DUNS CODE: 1141072
STATE/CNTY.: 59094
GOVT. RATING:
MARKETING:
PROD. OFF.: 119
INVOICE NUMBER: DS7-5125

SOLD TO: PETER A. FRASSE COMPANY, INC.
BRISBIN AVENUE
LYNDHURST, NEW JERSEY 07071

SHIPPED TO: PETER A. FRASSE COMPANY, JINC,
BRISBIN AVENUE
LYNDHURST, NEW JERSEY 07071

3-27-81

ROUTING: OPEN TOP TRUCK BLOCKED FOR OVERHEAD CRANE

COLL. PPD. F.O.B. BRIDGEVILLE F/E READING

PACKING AND MARKING INSTRUCTIONS: B/L REC HRS 7:30 AM - 11:30 AM CARDBOARD WRAP 4000# MAX
LIFTS METAL TAG WITH CUST NO SIZE HEAT TYPE FIN COND AND WGT STAMP HT NO
BOTH ENDS BARS 1 T/R WITH SHIPMENT 3 ATTN: G. GRAY

INVOICE NO. INV. PRICE B/D OTHER INVOICES: 3 DAKOTA DRIVE
INSTR. 3 LAKE SUCCESS NEW YORK 11042

TEST REPORT INSTR. ANAL. PHYSICALS NO. T/R CERT. NOTARIZED
4

STOCK CONTROL NO.	QUAN. ORDERED PCS. OR WT.	SIZE AND DESCRIPTION	HEAT NO.	QUAN. SHIPPED NET WEIGHT	PRICE	AMOUNT
-------------------	---------------------------	----------------------	----------	--------------------------	-------	--------

14802 37 PCS. EST 6000# 2.250"RD. X 11/13 FT. 1G3319
UNILLOY 316 CENTERLESS GROUND BAR TO 612-03 REV. 7
AND TARGET ROCK 45-S-80A EXCEPT WATER QUENCH

T. R CERT. # 81-1173

SPEC: AMS-5648E, QQS-763D Amend 1 Cond. A ASTM A276-79A, ASTM A479-79, ASME SA-479 612-03 Rev. 7
Chem & Phys ASTM A182-79A, ASME SA182 ASME 1980 Edition 06-358 Page(s) 2 of 4
Target Rock Spec. 45-S-80A

APR 3 1981

CHEMICAL ANALYSIS										Reviewed by	
HEAT NO./CODE	ITEM	C	Mn	Si	S	P	Cr	W	V	N	MO
1G-3319		.040	1.67	.40	.025	.027	17.47			12.24	2.05
HEAT NO./CODE	ITEM	Co	Cu	Al	Ti	FE	B	N			
		.30	.17						.046		

TENSILE PROPERTIES					STRESS RUPTURE PROPERTIES					Hardness	
Item	Identification	Tensile KSI	.2% Yield KSI	.02% Yield KSI	% EL	% RA	Temp. °F	Stress KSI	Time Hrs.		% EL
		78.0	33.8		57.5	78.0					BHN 143

Item	HEAT TREATMENT	HARDENABILITY	Grain Size	IMPACT
	Anneal 1925°F 20 min Water	OK		

Item	INCLUSIONS	Item	OTHER PROPERTIES AND/OR COMMENTS
			MACRO ETCH TEST-ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION FREE OF MERCURY CONTAMINATION OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRAC. E FIG. 1 STEP STRUCTURE FREE FROM CONTINUOUS CARBIDE NETWORK IMBRITTEMENT 180 BEND: OK MATERIAL MANUFACTURED TO QUALITY CONTROL PROGRAM DATED 12/5/80 PRODUCED IN ACCORDANCE WITH NCA 3800

The recording of False, Fictitious, or Fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

All testing procedures conform to ASTM standards or applicable specifications.

By *D.J. Moore*
Quality Control Representative

Target Rock
CUSTOMER # 8053
DATE 4-2-81
QUANTITY 72546

TRC QCE 4A

2-1M7CB MC-VJMS

S. B. 9115

TARGET ROCK PRESSURE
REGULATING VALVES
WASHINGTON PUBLIC POWER SYSTEM
CLASSIFICATION OF PRESSURE RETAINING PARTS

Date: 6/20/91

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY:

J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY:

R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY:

S. Karidas
S. Karidas, Engineering Manager



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 5
DATE _____		REPORT SB 9115
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Washington Public Power System. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9115

TABLE I
 TARGET ROCK PRESSURE REGULATING VALVES
 WASHINGTON PUBLIC POWER SYSTEM
 Washington Public Power System Units 3 & 5
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM		MATERIAL DESIGNATION & CERT. NO.	REMARKS
		Name	Part No.		
<u>79M</u>					
79M-001B Quantity 4	Valtek 0020	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1*
79M-002B Quantity 18	Valtek 0020	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1*
79M-003B Quantity 2	Valtek 0020	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1*
79M-004C Quantity 2	Valtek N-747	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1
79M-005C Quantity 4	Valtek 0020 & 1059	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1*
79M-006C Quantity 2	Valtek 0020	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1*

* NPV-1 Form is not applicable when valve is not 'N' stamped.

TABLE I (Cont'd)
 TARGET ROCK PRESSURE REGULATING VALVES
 WASHINGTON PUBLIC POWER SYSTEM
 Washington Public Power System Units 3 & 5
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM		MATERIAL DESIGNATION & CERT. NO.	REMARKS
		Name	Part No.		
79M-007C Quantity 6	Valtek 0020	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1*
79M-008C Quantity 2	Valtek 0020	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1*
79M-009C Quantity 2	Valtek N-747	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1
79M-010A Quantity 12	Valtek 0020 & N-747	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1*
79M-011A Quantity 4	Valtek N-747	Bolt	001-0004	ASTM A-193 Gr B8 80-4414	Condition 2* (Contact TRC)
		Flange	102708-1	SA-479(316) 80-1357	Condition 1*
		Sleeve	202470-1	SA-479(316L) 80-2751	Condition 1*

* NPV-1 Form is not applicable when valve is not 'N' stamped.

TABLE I (Cont'd)
 TARGET ROCK PRESSURE REGULATING VALVES
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name	ITEM Part No.	MATERIAL DESIGNATION & CERT. NO.	REMARKS
79M-012B Quantity 2	Valtek N-747	Bolt	001-0004	ASTM A-193 Gr B8 80-4414	Condition 2 (Contact TRC)
		Flange	102708-1	SA-479(316) 80-1357	Condition 1
		Sleeve	202470-1	SA-479(316L) 80-2751	Condition 1
79M-013B Quantity 2	Valtek 0020	Bolt	001-0004	ASTM A-193 Gr B8 80-4414	Condition 2* (Contact TRC)
		Flange	102708-1	SA-479(316) 80-1357	Condition 1*
		Sleeve	202470-1	SA-479(316L) 80-2751	Condition 1*
79M-014C Quantity 2	Valtek 0020	Bolt	001-0004	ASTM A-193 Gr B8 80-4414	Condition 2* (Contact TRC)
		Flange	102708-1	SA-479(316) 80-1357	Condition 1*
		Sleeve	202470-1	SA-479(316L) 80-2751	Condition 1*
79M-015A Quantity 2	Valtek 1059	Spring Housing	202471-1	SA-479(316) 81-1172	Condition 1*

* NPV-1 Form is not applicable when valve is not 'N' stamped.

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
WASHINGTON PUBLIC POWER SYSTEM



I R CERT. # 8 Apr 11 1981

APR 14 1981

ANALYSIS AND TEST CERTIFICATE Page(s) 1 of 234

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE OF HEREOF



TO TARGET ROCK CORP
166 E. BROADHOLLOW RD
E. FARMINGDALE NY 11735

John Betz

YOUR ORDER NO. 7273 - 5	
OUR INVOICE NO. 191185	DATE 10/17/81
DISTRICT LYND	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
316 BAR	2-1/4 RD X 10/12F RDM	2217	

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
616014	.055	1.64	.022	.025	.51	10.97	17.20		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.17	.48			.14					.063

MECHANICAL PROPERTIES

TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEYER- IDITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
82,000	49,000	55	75.2	170						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH		COND. H-900	COND. H-925			
CENTERLESS GROUND PER ASME SA479 WINTER 1979-.055 MAX CARBON-WATER QUENCHED TO BELOW 800 DEGREES F AFTER SOLUTION TREATMENT IN LESS THAN 3 MINUTES INTER- GRANULAR COROSION TESTER PER ASTM A262 PRACTICE F. PRODUCED IN ACCORDANCE WITH NCA 3800.										

JOMINY HARDENABILITY - ROCKWELL "C" IN 16^{THS} OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTLMENT	FERRITE	MACRO ETCH
TARGET ROCK CORP	X		

OTHER **RECEIVED**
APR 8 1981
RECEIVED

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed *[Signature]*
for PETER A. FRASSE & CO., INC.

* * 2	MIL. ORDER NO.	BUYER'S DATE	BUYER'S ORDER NO.	SHIP. REF. NO.	SHIP DATE	C/P/T/A/F/E
**2	000035534 6963	10/17/70	ND-75321	8001190	03/27/81	C T 78171

SOLD TO PETER A FRA SSE AND CO INC
PUR DEPT - BRISBIN AVE
LYNDHURST, NJ 07071

SHIPPED TO TARGET ROCK
1966 E. BROADHOLLOW RD
E FARMINGDALE, NY 11735

TR CERT. # 81-1172

22 ROUTING ① CAR INITIAL AND NO.

* 3 1 ATLAS

Page(s) 2 SHIPPED FROM BALTIMORE, MD. 4 F.O.B. MILL

Corrected Copy of 1/11/81

* 4 0	LEG.	DUNNAGE		GROSS WEIGHT		FREIGHT RATE		STOP OFF AND MISC. CHARGES	JUST STOP OFF AND MISC. CHARGES	CORRECTED CERT. 7/22/81
		FREE	TOTAL	ACTUAL	BILL AS	COLLECT	PREPAID			
* 40	21			2,217		4.6000				

* 0 0	FIN CODE	HEAT #	BDL	SIZE	C/P	NET	GROSS
200		61 601 4	2	② 2-1/4 RD X 10'0" TO 12'0" R/L	C *	2,217	
32 0020		PAPER WRAP CUST # 7273					

PRODUCT

CP BAR STNLS T31 6 CG .055 MAX C SOLTN TRT + WATER QUENCH BELOW 800 F ASME
BPVC 1977 ED THRU W79 SECT III NCA-3800 SECT II SA 479 T316A REQMT S-2
INTERGRANULAR CORR PER ASTM A262-79 PRACT E

LINE	HEAT	C	MN	P	S	SI	CR	NI	OTHER ELEMENTS
901	61 601 4	0.55	1.64	0.22	0.25	.51	7.20	0.97	
902	61 601 4	M0	2.17	CU	.48	CO	.14	N .063	

REVIEWED

Aug 10 1981
JUL 24 1981

TO P.O. REQ'TS. DEPT.
TRC Q.C. DEPT.

ARMCO INC. HEREBY CERTIFIES THAT IN THE PRODUCTION OR TESTING OF THE ABOVE MATERIAL BY ARMCO INC., NO ALPHA EMITTING RADIATION DEVICES, DIRECT CONNECTED MERCURY MANOMETERS, MERCURY VACUUM PUMPS, MERCURY SEALS OR MERCURY-IN-GLASS THERMOMETERS HAVE BEEN USED, NOR IN SUCH PRODUCTION OR TESTING HAS (A) MERCURY BEEN HANDLED IN THE IMMEDIATE VICINITY OF SUCH MATERIAL OR (B) RADIOACTIVE MATERIAL BEEN APPLIED TO ITS SURFACE.

HEAT NO.	AS-SHIPED HARDNESS	ULT. TEN. STR. P.S.I.	YLD STR. 0.2% SET P.S.I.	% ELONG. IN 2" OR EQUIV	% RED. OF AREA	COND.	HARDNESS
61 601 4	2HN 170	82,000	49,000	55.0	75.2		

MATERIAL ANNEALED 2050° F - 1 HOUR - WATER QUENCHED BELOW 800° F
INTERGRANULAR CORROSION/EMBRITTEMENT OK PER ASTM A262-79 PRACTICE E

"THIS MATERIAL WAS PRODUCED IN ACCORDANCE WITH ARMCO'S QUALITY CONTROL PROGRAM AS OUTLINED IN OUR QUALITY CONTROL MANUAL, ISSUE 2, WITH REVISIONS"

03/27/81 1317 BP 10

SIGNED AND SWORN TO BEFORE ME THIS 27TH DAY OF MARCH, 81

[Signature]

NOTARY PUBLIC

FORM 773 REV. 4-68

THE CHEMICAL ANALYSES AND PHYSICAL OR MECHANICAL TESTS REPORTED ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.

M.E. SMITH

[Signature]

THIS CERTIFIED TEST REPORT HAS BEEN DELIVERED TO A CONSIGNEE OF ARMCO INC. TO AVOID THE POSSIBILITY OF ITS MISUSE, ON REDELIVERY OF THIS REPORT TO A THIRD PARTY IT MUST BE RECERTIFIED BY UNDER THE NAME OF SUCH CONSIGNEE.

GARRON AIRCRAFT SUPPLY, INC.

NOV 24 1980

STANDARD AND PRECISION FASTENERS

5 UNION SQUARE - NEW YORK, N. Y. 10013

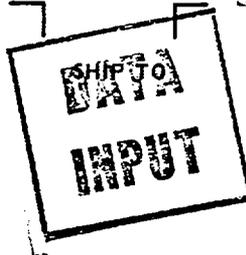
(212) 675-8200



TARGET ROCK CORP.

SOLD TO 1966-E BROADHOLLOW ROAD
E. FARMINGDALE, N.Y. 11735

7380 - 1



I. R. CERT. # 80-4414

DEC 19 1980

Page(s) 1 of 1

Reviewed by _____



CUST. ORDER NO.		DATE SHIPPED		F.O.B. OUR PLANT		TERMS	SHIPPED VIA	INVOICE DATE	INVOICE NO.
7380 - 1		11/5/80				1% 10 DAYS NET 30	UPS	11/5/80	P10950
ITEM	QUANTITY			DESCRIPTION					
	ORDERED	BACK OR'D	SHIPPED						
1	200	0	200	5/16-18 1 1/2 HEX BOLT ASTM-A 193 GR B8 CLASS 1 OR 2					
2	150		150	5/16-18 1 HEX BOLT ASTM-A 193 GR B8 CLASS 1 OR 2					
3	130	139	11	1/4-28 X 1 1/2 HEX BOLT ASTM-A 193 GR B8 CLASS 1 OR 2					
EQUIPMENT CONTAINING MERCURY OR MERCURY COMPOUNDS HAS NOT BEEN USED FOR FABRICATION, ASSEMBLY PACKING, INSTALLATION, ASSEMBLY OR TESTING OF PARTS OR ASSEMBLIES ON THIS ORDER.									

SUBSCRIBED AND SWORN BEFORE ME
THIS 5 DAY OF NOV. 19 80
BEN GOLDMAN
NOTARY PUBLIC, State of New York
No. 24 - 1483240
Qualified in Kings County
Commission Expires March 30, 19 81
Ben Goldman
NOTARY PUBLIC

It is hereby certified that all materials used in the manufacture of parts in the quantity called for on the subject purchase order conform to the material and/or manufacturing specifications indicated in drawings or specifications as called for on said purchase order.

Physical, Electrical, and/or Chemical test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

GARRON AIRCRAFT SUPPLY, INC.
J. Turner-inspector
AUTHORIZED SIGNATURE

P10950

CERTIFICATE OF CONFORMANCE



I R CERT. # 80-1357

APR 23 1980

ANALYSIS AND TEST CERTIFICATE Page(s) 1 of 1

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

RC QCE 4A 8

TO TARGET ROCK CORP
1966 E. BROADHOLLOW ROAD
E. FARMINGDALE, NY

YOUR ORDER NO. 6386
OUR INVOICE NO. 17 115580 DATE 4-14-80
DISTRICT LYNDBURST

Table with 4 columns: GRADE, SIZE, DESCRIPTION AND SPECIFICATIONS, QTY. FT./LBS., HEAT P.
316 BAR GROUND ASME SA 5 RD X 12 FT RDM 1565 WHIT.
479 SUMMER 1970 OR LATER ANN & WATER QUENCHED

INTERGRANULAR COROSION TESTED PER ASTM A 262 PRACTICE E PRODUCED IN ACCORDANCE WITH NCA CHEMICAL ANALYSIS

Table for CHEMICAL ANALYSIS with columns: HEAT NO., C, MN, PHOS, SUL, SIL, NI, CR, MO, CU, TI, PB, CO, AL, CB, TA, SN, N.
162853 .040 1.78 .028 .015 .46 11.90 17.2
2.08 .16 .18 .06

MECHANICAL PROPERTIES

Table for MECHANICAL PROPERTIES with columns: TENSIL STRENGTH, YIELD, ELONG, RED. OF AREA, HARDNESS (BRINELL, ROCKWELL), FREQUENCY, SEVERITY, GRAIN SIZE, HARDENABILITY, AS SHIPPEL HARDNE.
75600 31200 55.5 79.5 146/149 17-4PH or 15-5PH COND. H-900 COND. H-925

Table for MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION with columns: TENSIL STRENGTH, YIELD, ELONG, RED. OF AREA, HARDNESS, FREQUENCY, SEVERITY, GRAIN SIZE, HARDENABILITY, AS SHIPPEL HARDNE.

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

Table for JOMINY HARDENABILITY with columns: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 20, 24, 28, 32, 40, DECARB.

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION. MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

Table with 4 columns: BEND TEST, EMBRITTLEMENT, FERRITE, MACRO ETCH

OTHER:

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
MATERIAL CERTIFICATION REPORT

MID-ATLANTIC

C/1632

GRADE AND DESCRIPTION: **UNIL0Y 316 ANNEALED CENTERLESS GROUND**

SPECIFICATION: **612-03 REV. 7 AMS5648E QQS763D COND A ASTM A276-79 ASTM A479-79 ASME SA479 WAIVE CLM CHEM & PHYS ASTM A182-78 ASME SA182 ASME 79 WINTER ADDENDA**

SIZE: **5" RD. X 12/14 FT., 612-676171**

SHIP TO: _____

PETER A. FRASSE CO. **I.R. CERT. # 80-1357**

BRISBIN AVENUE

LYNDHURST, NEW JERSEY 07094

APR 23 1980

TRC OCE 4A

Page(s) **2** of **4**

QUANTITY & WEIGHT: **3 Bars 2223#**

Reviewed by _____ MELTED IN THE U.S.A. CHEMICAL ANALYSIS

HEAT NO	C	Mn	Si	S	P	Cr	W	V	Ni	Mo	Co	Cu
1G2853	.040	1.73	.45	.015	.028	17.27			11.90	2.08	.13	.16
HEAT NO.	Sn	Pb (P.P.M.)	Al	Ti	Fe	B	Zr.	Cb /Ta	La	Bi (P.P.M.)	N	
											.060	

CODE	IDENTIFICATION	TENSILE PROPERTIES					STRESS RUPTURE PROPERTIES				IMPACT ft. lbs. V N CHARPY	
		KSI TENSILE	KSI 2 YIELD	KSI 0.2 YIELD	% EL	% RA	TEMP. °F	KSI STRESS	TIME HR.	% EL		
		75.6	31.2		55.5	79.5						

CODE: _____ HEAT TREATMENT: _____ HARDENABILITY: _____ GRAIN SIZE: _____

ANNEALED 1950F 1 HR. WATER

OK

CUSTOMER	Target Rock
P.O. NO.	6386
INVOICE	115500
DATE	4-14-80
QUANTITY	156516

HARDNESS: 146/149 BHN

REMARKS:

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY CONTAMINATION
 FREE FROM CONTINUOUS CARBIDE NETWORK
 EMBRITTLEMENT 180 BEND: OK
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG. 1 STEP STRUCTURE
 PRODUCED IN ACCORDANCE WITH NCA-3800

TEST REPORT

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

4/1/80

THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.

By P. J. Russo
 Quality Control Representative

SOLD TO

CONTRACTORS LIABILITY ASSOCIATION
TO

JUN 10 1980

CUST. ORDER NO. 6687 3	DATE RECEIVED 6.28.80	CONTROL ORDER NO. 6686-2103	SHIPPED VIA FIELD	DATE COMPLETED 6.28.80
----------------------------------	---------------------------------	---------------------------------------	-----------------------------	----------------------------------

QUANTITY	PART NUMBER	DESCRIPTION
2	5" Dia. X 10-12" Random Length (Total 211") Round Bars P/N 200569-2, Rev. 6 Ref: 0512007120 Material Sp. P.O. 0512007120 M.S. 7102053 QTY. 200-1301 PROJECT #1000 W.S. 052540	

METHODS:

- A. MAGNETIC
- B. PENETRANT
- C. X-RAY
- D. GAMMA
- E. ULTRASONIC
- F. VISUAL

MISCELLANEOUS

APPLICABLE SPECIFICATIONS OR PROCESSES

METALLURGICAL OR OTHER EXAMINATION

PARTS WITH NO INDICATIONS WERE

- CERTIFIED
- REWORKED

PHOTOS ENCLOSED

PARTS WITH INDICATIONS WERE

- ACCEPTED

NO. PARTS ACCEPTED

REMARKS:

Parts during test did NOT come in contact with any other parts or materials.

Quality Testing Services
A DIVISION OF METAL-LIX CORPORATION

Inspected in accordance with terms and conditions on the reverse side of this document.

Parts inspected in accordance with applicable MX process standards unless otherwise specified.

DUPLICATE INSPECTION REPORT

W. J. [Signature] 11/14/80

Peabody Testing Services
A DIVISION OF MAGNAFLUX CORPORATION

MAIL ONLY TO: P.O. BOX 96690, CHICAGO, IL 60693
MAKE CHECKS PAYABLE TO MAGNAFLUX CORPORATION

DIRECT ALL CORRESPONDENCE TO:

230 Murphy Road
Hartford, Ct. 06114

I R CERT. # 101995046

SEARCH	INDEX
07	10
CUSTOMER NO.	LAB. NO.
	046

SOLD TO

Target Rock Corporation
1966-B Broadhollow Road
East Farmingdale, New York 11735

SHIPPED TO

JUN 16 1980

CUST. ORDER NO. 6637	DATE RECEIVED 5/23/80	CONTROL ORDER NO. 6046-2103	SHIPPED VIA <input type="checkbox"/> FIELD <input checked="" type="checkbox"/> LAB	Page(s) <u>1</u> of <u>2</u>	SHIPMENT COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/>	DATE COMPLETED 6/10/80	ISSUE DATE 6/10/80
QUANTITY 2	PART NUMBER 5" Dia. X	DESCRIPTION 10-12' Random Length (Total-277") Round Bars P/N 200569-2, Rev.6 Ref: QC1100#2120 Material ID: P.O.#6386-1 Ht.#162853 Ct.#80-1357 Project #7600 W.O.#42548					

**UT per ASME Section III & Section V by
TRP Procedure TRP-1893, Rev.B**

METHODS:

- A. MAGNETIC
- B. PENETRANT
- C. X-RAY
- D. GAMMA RAY
- E. ULTRASONIC
- F. EDDY CURRENT
- G. VISUAL
- H. NUCLEAR NDE
- I. NUCLEAR VISUAL
- Z. MISCELLANEOUS

APPLICABLE SPECIFICATIONS OR PROCESS STANDARDS **UT see above**

METALLURGICAL OR OTHER EXAMINATION PERFORMED

PARTS WITH NO INDICATIONS WERE CERTIFIED STEEL STAMPED CERTIFIED RUBBER STAMPED GREEN DYED

PARTS WITH INDICATIONS WERE MARKED WITH CRAYON TAGGED OTHER _____

NO. PARTS ACCEPTABLE **2222** GRIND _____ REINSPECT _____

REMARKS:

Parts during test did NOT come in contact with MERCURY or RADIOACTIVE materials.

Peabody Testing Services
A DIVISION OF MAGNAFLUX CORPORATION

Certified and in Accordance with terms and conditions on the reverse side of this document.

W. Greene #U6 Level III 11/14/80

William F. Greene

Parts inspected in accordance with applicable MX process standards unless otherwise specified.

DUPLICATE INSPECTION REPORT

Deabody Testing

NDE TECHNIQUE RECORD/ULTRASONIC

FORM 22-A1 QC Manual-Section 9: Documentation

Facility QC Control No. 6046-2103 Technique No. 343-0

Client Target Rock P.O.# 6687-1 Project No. N/A

Item Description Bar Stock - Round, HT# 16-2853, CT# 80-1257

Part No. For # 200569-2 Rev. G Drawing No. N/A

Specification ASME Acceptance Class Para 9.1.1 of Procedure

Procedure TRP-1893 Rev. B

WELDS	OTHER TEST ITEMS
Weld Joint <u>J. R. CERT. # 80-1995</u>	Type of Item <u>Bar - Round</u>
Weld Process <u>JULY 16 1980</u>	Processing <u>Before machining</u>
Base Material <u>JULY 16 1980</u>	Material <u>316 S/S</u>
Material Thickness <u>JULY 16 1980</u>	Dimensions <u>5" dia X 10' + 12' Lg.</u>
Weld Length/OD <u>Page(s) 2 of 2</u>	Additional Info <u>2 pcs</u>
Surface Condition <u>TRC OCE 4A</u>	Surface Condition <u>250 RMS or Better</u>
Reviewed by _____	

PRECLEAN: Method Wipe Material Perclor Batch No. N/A

EQUIPMENT: Make Magnaflex Model P5 710 S/N 792708

PRESENTATION: A-SCAN B-SCAN C-SCAN

TRANSDUCERS:

Make Hannsonic Model CM0212 S/N N/A Sound Beam Angle (Material) 0°

Crystal Size 3/4" dia Crystal Material ceramic Frequency 2.25 MHz

Make N/A Model — S/N — Sound Beam Angle (Material) —

Crystal Size — Crystal Material — Frequency —

COUPLANT: Material # 30 oil Manufacturer OS Batch No. N/A

CALIBRATION BLOCK: Type See Below Material Same S/N N/A

METHOD: Contact Immersion Water Column

Pulse Echo Resonance Through Transmission

SCANNING: Manual Automatic

Pattern Helical Scanning Speed 16"/sec %Overlap 25%

POSTCLEAN: Method Wipe Material N/A Batch No. N/A

OTHER INFORMATION:

Calibration - Same piece Being Tested using first Back Reflection Technique

Sensitivity - 75% CRT signal from first Back Reflection for reference level

Scanning - 100% of radial surface and Both end surface at 3x (10DB) scan level

Acceptance - Any discontinuities accompanied by a complete loss of Back reflection at reference level is unacceptable

Prepared By: <u>Bill Creech</u> <u>7/14/80</u>	Approved By: <u>Bill Creech</u>	Date: <u>7/19/80</u>	Other side may be used for sketch or additional information.
---	------------------------------------	-------------------------	--



I. R. CERT. # 89-2751
 AUG 25 1980
 Page(s) 1 of 59
 Reviewed by [Signature]
 TRC QCE 4A

ANALYSIS AND TEST CERTIFICATE

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

TO TARGET ROCK CORP
 1966 E BROADHOLLOW ROAD
 E FARMINGDALE NY 11735

YOUR ORDER NO. 6510	
OUR INVOICE NO. 118015	DATE 5-14-80
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT./LBS.	HEAT PAINT
TYPE 316 LBAR GRD	3 RD X RDM PER ASME SA 479	375LBS.	BROWN

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
06464	.016	1.57	.026	.025	.53	1333	17.09		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
205	.26			.21					074

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
82000	39000	53	78	149						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH		COND. H-900	COND. H-925			

1977 EDITION THRU SUMMER 78 ADDENDA INTERGRANULAR COROSION TESTED PER A 262 PRACTICE E ON A SENSITIZED SPECIMEN THE PRODUCER OF THIS MATL AL TECH HAS BEEN AUDITED BY PETER A FRASSE CO AND APPROVED AS A QUALIFIED SUPPLIER IN ACCORDANCE WITH OUR QA MANUAL AND OUR SYSTEMS COMPLY WITH NCA 3800. NOTE THE BILLING WGT INCLUDES A 1 FT PC SEND TO CONSOLIDATED TESTING.

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
 MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTELEMENT	FERRITE	MACRO ETCH
			OK

OTHER: 5-14-80

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed [Signature]
 for PETER A. FRASSE & CO., INC.



PURCHASE ORDER NO. AND DATE XS 06817 | 06/01/79		NOT BEFORE	INQUIRY NO. AND DATE	ACCEPTING MILL DUNKIRK	MILL ORDER NO. 6-2-31641	DATE SHIPPED DEC 11 1979	INVOICE NO.
--	--	------------	----------------------	---------------------------	-----------------------------	-----------------------------	-------------

S
O
L
D
T
O
P
A. FRASSE AND CO., INC.
THREE DAKOTA DRIVE
PO BOX 115
LAKE SUCCESS NY 11042

S
H
I
P
T
O
P.A. FRASSE AND CO., INC.
BRISBIN AVE.
LYNDHURST NJ 07071

T
R
C
E
R
T

10225

Reviewed by
Page(s) 2
AUG 25 1980
58 x 1 1/2
TRC
OCE
4

PRODUCT SPECIFICATIONS
AL TECH STAINLESS STEEL TYPE 316-L
ACG TO AMS-5653A QQS-763D ASTM-A-276-77 ASTM-A-479-77
(ASTM-A-182-77A ASME-SA-182 CHM & MCH PRPS ONLY)
COND A EX ELONG 45% MIN DEL CLM (612-11 REV. 8) ASME-SA-479 1977 Edition thru S78

EM	DESCRIPTION	QUANTITY	POUNDS	C/P	TEST PCS.	COPIES SOLD TO	C	COPIES SHIP TO	C	P
----	-------------	----------	--------	-----	-----------	----------------	---	----------------	---	---

02 R 3.000 11'-13' lg. 7 B 2080
CUST COMM: 612-690917

CHEMICAL ANALYSIS				STANDARD ELEMENTS & PERCENTAGES							ADDITIONAL ELEMENTS		
HEAT NO.	C	MN	P	S	SI	CR	NI	AL	MO	CU			
06464	.016	1.57	.026	.025	.53	17.09	13.33		2.05	.26	N2	.074 Co .21	

PHYSICAL PROPERTIES						
HEAT NO.	TENSILE PSI	YIELD PSI	ELONG %	RED. AREA %	BRINELL/ROCKWELL	TEST NO.
06464	82,000	39,000	53	78	149	

MICRO TEST: OK
MACRO ETCH TEST: OK
MATERIAL FREE FROM MERCURY CONTAMINATION
MATERIAL FREE FROM CONTINUOUS CARBIDE NETWORK
SOLUTION ANNEALED AT 1900 DEG. F. MIN. AND WATER QUENCHED

S-62114

(5-14-80)

Target Pack
CUSTOMER
P. O. # 6510
INVOICE 118015
DATE 5-14-80
QUANTITY 375 lbs

K. Haslam

Consolidated Testing Laboratories, Inc.

79 HERRICKS ROAD, NEW HYDE PARK, NEW YORK 11040
516 - 746-3705

No. C 39562

TO
PETER A. FRASSE & Co., Inc.
BRISBIN AVENUE
LYNDHURST, NEW JERSEY 07071
ATT: GEORGE GRAY

DATE 5/12/80

P. O. NUMBER N 53531

QUANTITY IN LOT 1
1977 EDIT. THRU SUMMER
SPEC NO. ASME SA 479 1978 ADDENDUM

MATERIAL TYPE 316L BAR, COND. A

IDENTIFICATION 3 ROUND HEAT #06464

RESULTS OF TEST:

ASME SA 479-78 :

C <0.030
Mn <2.00
P <0.045
S <0.030
Si <1.00
Mo 2.00-3.00
Ni 10.00-14.00
CR 16.00-18.00

I R CERT. # 80-2751

AUG 25 1980

Page(s) 3 of 5 10/17

Reviewed by _____



TARGET ROCK CORPORATION HEREBY CERTIFIES

AREA (Sq. In.)

TENSILE

TENSILE PSI >70,000

YIELD

YIELD PSI >25,000

ELONGATION >30%

RED. OF AREA >40%

THROUGH THIS INDEPENDENT ANALYSIS THAT THE MATERIAL
CONTAINED HEREIN MEETS THE APPLICABLE MATERIAL
REQUIREMENTS IN ACCORDANCE WITH (NCA3867.4).

0.030
1.55
0.015
0.012
0.46
2.20
12.75
16.60

0.1948
16,200
83,162
8,200
42,094
55%
79%

MATERIAL CONFORMS TO ASME SA 479-78 AS LISTED ABOVE.

ASTM A262, PRACT. E :

THE SUBMITTED SAMPLE WAS SENSITIZED AT 1225° FOR 1 HOUR. THE SENSITIZED SAMPLE WAS SUBJECTED TO THE COPPER-COPPER SULFATE-SULPHURIC ACID TEST OF ASTM A262, PRACT. E, FOR A 24 HOUR BOILING PERIOD. METALLOGRAPHIC EXAMINATION OF THE SAMPLE TESTED INDICATES THAT THE MATERIAL IS FREE FROM INTERGRANULAR ATTACK.

TARGET ROCK CORPORATION HEREBY CERTIFIES

THROUGH THIS INDEPENDENT ANALYSIS THAT THE MATERIAL

CONTAINED HEREIN MEETS THE APPLICABLE MATERIAL

REQUIREMENTS IN ACCORDANCE WITH (NCA3867.4).

STATE OF NEW YORK

COUNTY OF NASSAU

Subscribed and sworn to before me

this _____ day of _____ 19 _____

The foregoing is a true and accurate report of results obtained from our tests of this material.

I. R. CERT. # 80-2751

AUG 25 1980

Page(s) 4 of 59

16,200

Reviewed by _____



2002

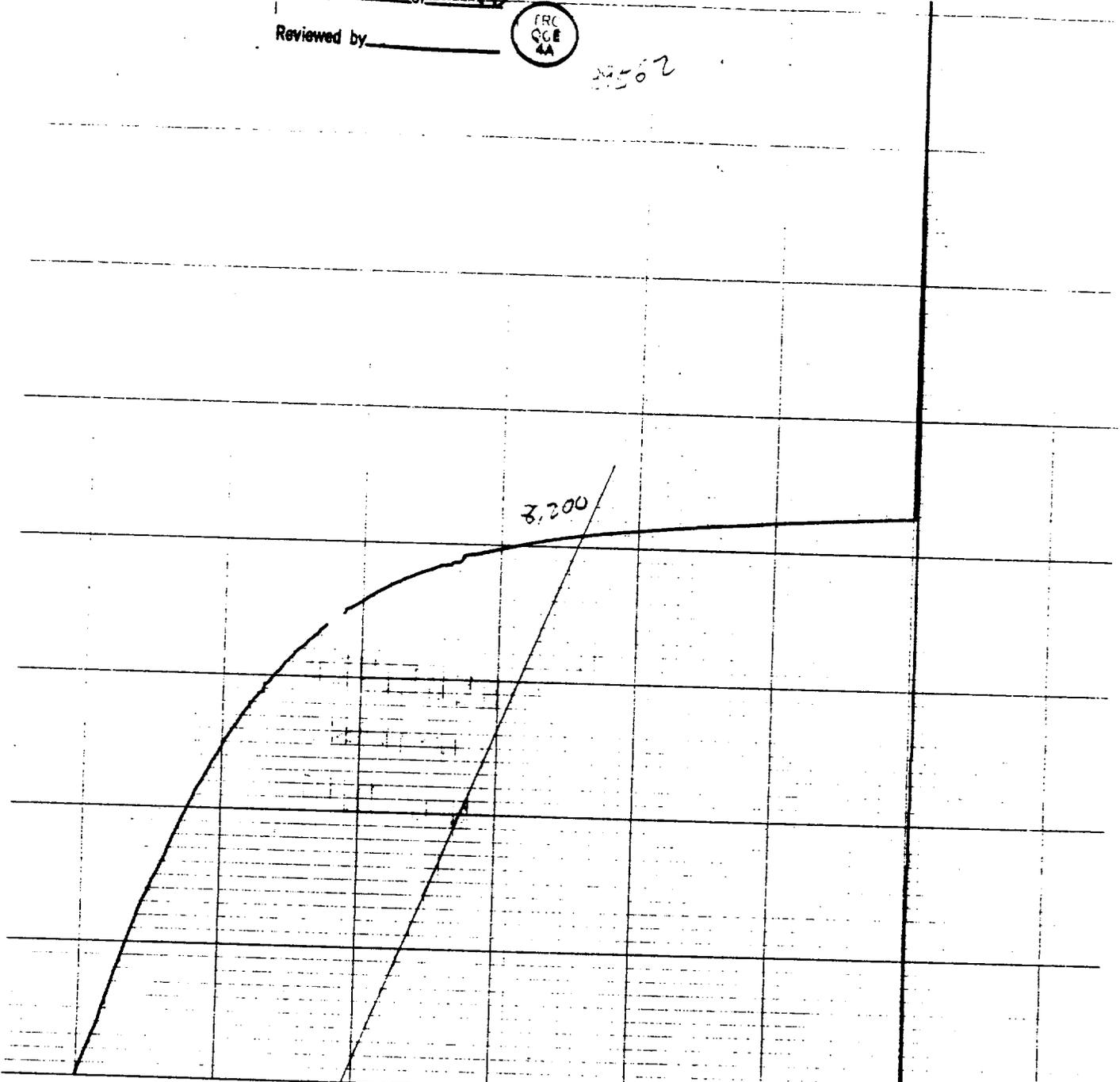


CHART NO. 1010

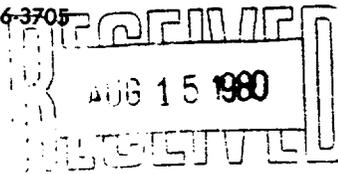
SATEC Systems, Inc., Grove City, Pa. 16127

Printed in

Consolidated Testing Laboratories, Inc.

79 HERRICKS ROAD, NEW HYDE PARK, NEW YORK 10440

516-746-3705



No. C 40022

AUG 15 1980

TO

PETER A. FRASSE & Co., Inc.
BRISBIN AVENUE
LYDDHURST, NEW JERSEY 07071

ATTENTION: GEORGE GRAY

DATE 8/12/80

P. O. NUMBER N53531/LTR. DT7-24-80

QUANTITY IN LOT 1

MATERIAL

SPEC NO. ASME, SA479

IDENTIFICATION 3" x 6", MATERIAL 316L, HEAT #06464

RESULTS OF TEST:

ASME SA479-78, (TYPE 316L):

N < 0.10

0.0741

MATERIAL CONFORMS ASME SA 479-78, (TYPE 316L) AS LISTED ABOVE.

I R CERT. # P-2751

AUG 25 1980

Page(s) 5 of 5A + B

Reviewed by



STATE OF NEW YORK
COUNTY OF NASSAU
Subscribed and sworn to before me
this day of 19

The foregoing is a true and accurate report of results obtained from our tests of this material.

[Handwritten signature]

SAMPLES WILL BE RETAINED ONLY FOR 30 DAYS AFTER THIS REPORT DATE. NO RESPONSIBILITY IS ASSUMED FOR LOSSES DUE TO INTERPRETATION RELATIVE TO OUR IMPARTIAL REPORTS. LIABILITY OTHERWISE IS LIMITED TO VALUE OF SERVICES RENDERED.

2-1MTRCD MC-VDMOS

S. B. 9116

TARGET ROCK PRESSURE
REGULATING VALVES
CLEVELAND ELECTRIC ILLUMINATING CO.
CLASSIFICATION OF PRESSURE RETAINING PARTS

Date: 6/20/91

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY:

J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY:

R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY:

S. Karidas
S. Karidas, Engineering Manager

TRPUB - 0038 (3/83)



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT SB 9116
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Cleveland Electric Illuminating Company. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

TABLE I
TARGET ROCK PRESSURE REGULATING VALVES
CLEVELAND ELECTRIC ILLUMINATING COMPANY
Perry Nuclear Power Plant Units 1 & 2
Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM		MATERIAL DESIGNATION & CERT. NO.	REMARKS
		Name	Part No.		
<u>80M</u>					
80M-001B Quantity 2	Cleveland Electric P-2864-U	Spring Housing	202471-2	SA-479(316) 81-1173	Condition 1
80M-002C Quantity 2	Cleveland Electric P-2864-U	Spring Housing	202471-1	SA-479(316) 80-2867	Condition 1
<u>85Z544-001</u>					
80M-002D Quantity 2	Cleveland Electric Q-8647-44	Spring Housing	202471-1	SA-479(316) 85-0422	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
CLEVELAND ELECTRIC ILLUMINATING COMPANY



I. R. CERT. # 81-1173

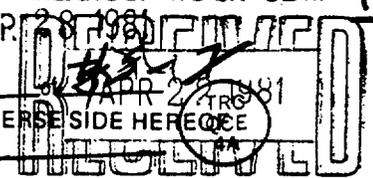
APR 22 1981

ANALYSIS AND TEST CERTIFICATE

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

Page(s) 7

Reviewed by



TO [] *Target Rock*
TARGET ROCK CORP
1966-E BROADHOLLOW ROAD
L E FARMINGDALE NY 11735]

YOUR ORDER PURCHASING DEPT. 8053	
OUR INVOICE NO. 167317	DATE 4/3/81
DISTRICT LYND	

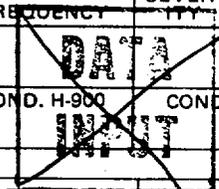
GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
PO NUMBER 8053 316 CG ANN	2-1/4 RD 10F-12F RDM ASME SA 479-S80	7751	GREEN

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
163319	.040	1.67	.027	.025	40	12.24	17.47		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.05	1.17			30					046

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNES
				BRINELL	ROCKWELL "B" "C"					
78000	33800	57.5	78	143						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH		COND. H-900 COND. H-925				



PRODUCED IN ACCORDANCE WITH NCA 3800 SUPPLIED IN ACCORDANCE WITH PETER A. FRASSE
A. MANUAL REVISION 3 DATED 1/1/78-I G TESTED PER ASTM-A262 PRACTISE E-TARGET ROCK
SPEC FOS-45-S-80A.

JOMINY HARDENABILITY - ROCKWELL "C" IN 16^{THS} OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTLEMENT	FERRITE	MACRO ETCH
			<i>JK</i>

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed *[Signature]*
for PETER A. FRASSE & CO., INC.

TERMS: 20 DAYS NET = 1% DISCOUNT ON \$

IF PAID ON OR BEFORE

CUSTOMER ORDER NUMBER XS 13998	CUST. ORDER DATE 3/25/81	STR. CTL. NO.	S.T.C.	MILL ENTRY DATE	DIST. SLKMM. 99:644	SHPS. & INV. DATE : : 7
INDEX NO. T23221	CUST. CODE NO. 6083024	DUNS CODE 1141072	STATE/CNTY. 59094	GOVT. RATING	MARKETING	PROD. OFF. 119
INVOICE NUMBER DS7-5125						

SOLD TO
PETER A. FRASSE COMPANY, INC.
BRISBIN AVENUE
LYNDHURST, NEW JERSEY 07071

SHIPPED TO
PETER A. FRASSE COMPANY, JINC,
BRISBIN AVENUE
LYNDHURST, NEW JERSEY 07071

3-27-81

ROUTING OPEN TOP TRUCK BLOCKED FOR OVERHEAD CRANE
 COLL. PPD. F.O.B. BRIDGEVILLE F/E READING

PACKING AND MARKING INSTRUCTIONS B/L REC HRS 7:30 AM - 11:30 AM CARDBOARD WRAP 4000# MAX
 LIFTS METAL TAG WITH CUST NO SIZE HEAT TYPE FIN COND AND WGT STAMP HT NO
 BOTH ENDS BARS 1 T/R WITH SHIPMENT 3 ATTN: G. GRAY

INVOICE NO. INV. INSTR. 3	PRICE B/D	OTHER INVOICES: 3 DAKOTA DRIVE LAKE SUCCESS NEW YORK 11042	TEST REPORT INSTR.	ANAL.	PHYSICALS NO. T/R 4	CERT.	NOTARIZED
STOCK CONTROL NO.	QUAN. ORDERED PCS. OR WT.	SIZE AND DESCRIPTION	HEAT NO.	QUAN. SHIPPED NET WEIGHT	PRICE	AMOUNT	

14802 37 PCS. EST 6000# 2.250"RD. X 11/13 FT. 1G3319
 UNILOY 316 CENTERLESS GROUND BAR TO 612-03 REV. 7
 AND TARGET ROCK 45-S-80A EXCEPT WATER QUENCH

T. R CERT. # 81-1173

SPEC: AMS-5648E, QQS-763D Amend 1 Cond. A ASTM A276-79A, ASTM A479-79, ASME SA-479 612-03 Rev. 7
 Chem & Phys ASTM A182-79A, ASME SA182 ASME 1980 Edition 06-358 Page(s) 2 of 4
 Target Rock Spec. 45-S-80A

APR 3 1981

CHEMICAL ANALYSIS											Reviewed by	
HEAT NO./CODE	ITEM	C	Mn	Si	S	P	Cr	W	V	Ni	Mo	
1G-3319		.040	1.67	.40	.025	.027	17.47			12.24	2.05	
HEAT NO./CODE	ITEM	Co	Cu	Al	Ti	FE	B	N				
		.30	.17						.046			

TENSILE PROPERTIES							STRESS RUPTURE PROPERTIES				Hardness
Item	Identification	Tensile KSI	.2% Yield KSI	0.2% Yield KSI	% EL	% RA	Temp. °F	Stress KSI	Time Hrs.	% EL	
		78.0	33.8		57.5	78.0					BHN 143

Item	HEAT TREATMENT	HARDENABILITY	Grain Size	IMPACT
	Anneal 1925°F 20 min Water	OK		

Item	INCLUSIONS	Item	OTHER PROPERTIES AND/OR COMMENTS
			MACRO ETCH TEST-ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION FREE OF MERCURY CONTAMINATION OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRAC. E FIG. 1 STEP STRUCTURE FREE FROM CONTINUOUS CARBIDE NETWORK IMPRITTLEMENT 180 BEND: OK MATERIAL MANUFACTURED TO QUALITY CONTROL PROGRAM DATED 12/5/80 PRODUCED IN ACCORDANCE WITH NCA 3800

The recording of False, Fictitious, or Fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

All testing procedures conform to ASTM standards or applicable specifications.

By *L. J. Moore*
Quality Control Representative

TRC
QCE
4A

Target Rock
CUSTOMER POOL
R. D. # 8453
DATE 4-2-81
QUANTITY 72546



I R CERT. # 80-2967

SEP 05 1980

SEP 5 1980

ANALYSIS AND TEST CERTIFICATE Page(s) 1 of 2

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF



TO TARGET ROCK CORP
1966 E BROADHOLLOW RD
E FARMINGDALE NY 11735

YOUR ORDER NO. 6514-2	
OUR INVOICE NO. 132245	DATE 9-2-80
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT./LBS.	HEAT PAINT
316 BAR GRD	2-1/4 RD X 12 FT RDM	342 LBS	BLACK

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
IG 3137	.032	1.70	.027	.020	.52	12.20	17.49		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.12	.19			.18					.028

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
75000	31300	58.5	78.6	140						

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION

17-4PH or 15-5PH

COND. H-900

COND. H-925

ASME SA 479 (1977 ED. THRU WINTER 1979 ADD.) INTERGRANULAR COROSION TESTED PER ASTM A 262 PRACTISE E PRODUCES IN SCCORDANCE WITH NCA 3800 CARBON CONTENT NO TO EXCEEDS .055 MAX.

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION. MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTELEMENT	FERRITE	MACRO ETCH
			OK

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed [Signature]
for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

MID-ATLANTIC

8-11-80

GRADE AND DESCRIPTION: **UNILOY 316 ANNEALED CENTERLESS GROUND**

SPECIFICATION: **612-03 REV 7 AMS5648E QQS763D COND A ASTM A276-78 ASTM A479-78
 aSME SA479 ASME SA479 77 ED CHEM&PHY ASTM A182-78 ASME SA182**

SIZE: **2.250" RD X 11/13 FT. 612-673640** WINTER ADDEN THRU WINTER 79 ADDEN

SHIP TO:

PETER A. FRASSE CO., INC.
 BRISBIN AVENUE
 LYNTHURST, N. J. 07071
 ATTN: GEORGE GRAY

CUST. ORDER NO. XS-09611
 MILL ORDER NO. 70424
 DATE SHIPPED 8-5-80
 QUANTITY & WEIGHT 8 BARS 1354#

MELTED IN THE U.S.A.							CHEMICAL ANALYSIS					
HEAT NO	C	Mn	Si	S	P	Cr	W	V	Ni	Mo	Co	Cu
1G3137	.032	1.70	.52	.020	.027	17.49			12.20	2.12	.18	.19
HEAT NO.	Sn	Pb (P.P.M)	Al	Ti	Fe	B	Zr	Cb /Ta	La	Bi (P.P.M)	N	
											.028	

TENSILE PROPERTIES							STRESS RUPTURE PROPERTIES				IMPACT ft. lbs V N CHARPY	
CODE	IDENTIFICATION	KSI TENSILE	KSI 2 YIELD	KSI 0.2 YIELD	% EL	% RA	TEMP. °F	KSI STRESS	TIME HR	% EL		
		75.0	31.3		58.5	78.6						

T. R CERT. # 80-2967

SEP 5 1980

Page(s) 2 of 2

Reviewed by

TRC
QCE
4A

CODE	HEAT TREATMENT	HARDENABILITY	GRAIN SIZE
	ANNEALED 1925F 20 MIN WATER		

Black

CUSTOMER Target Rock

DATE 6-5-80

PRICE 132245

QTY 9-2-80

QUANTITY 342 lb

HARDNESS: 140 BHN

REMARKS: **MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION**
 FREE OF MERCURY CONTAMINATION
 EMBRITTLEMENT 180 BEND: OK
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG 1 STEP STRUCTURE
 FREE FROM CONTINUOUS CARBIDE NETWORK
 PRODUCED IN ACCORDANCE WITH NCA 3800.

TEST REPORT

THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

By P. J. Williams
 Quality Control Representative

ANALYSIS AND TEST CERTIFICATE

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

JAN 23 1985

TO *Target Rock Corp*
10000
10000
etc. clean joint

YOUR ORDER NO. *17547*

OUR INVOICE NO. *501178*

DISTRICT: *Aspen*

DATE: *1/23/85*

ITEM NO	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/CS	HEATPAINT
1	<i>316 CG-6mm 2 1/2 x 1 1/2 x 1/8</i>	<i>310</i>	<i>None</i>
2	<i>Aspen 10000 H 4 7/8 x 3</i>		
3			

CHEMICAL ANALYSIS

	HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI	CR	MO	CU	TI	PB	CB/TA	AL	CE	...
1	<i>105410</i>	<i>0.01</i>	<i>1.74</i>	<i>0.028</i>	<i>0.028</i>	<i>0.01</i>	<i>10.84</i>	<i>16.60</i>	<i>2.06</i>	<i>.19</i>					<i>.14</i>	<i>0.01</i>
2																
3																

MECHANICAL PROPERTIES

17-4 or 15-5 PH COND. H-900 H-900

	TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG IN. 2 IN. %	RED. of AREA %	HARDNESS	FREQUENCY SEVERITY	GRAIN SIZE	HARDENABILITY	SHIPPED HARDNESS
1	<i>83.1</i>	<i>39.5</i>	<i>62.5</i>	<i>79.2</i>	<i>BH V 143/159</i>				
2									
3									

85-422

JAN 25 1985

PAGE(S) *1* OF *2*

TRC
QCE

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
 MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

DE CARB _____ EMBRITTLEMENT _____ FERRITE _____ MACRO ETCH *CR*

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed *Jean Berger*
 for Peter A Frasse & Co Inc

MATERIAL CERTIFICATION

7547

PAGE:

P.O. NUMBER XS 26559 FROM 51094-94
 DESCRIPTION UNILOY 316 ANNEAL CENT GRD
 SPECIFICATION 612-03 REV15 AMS5648F QQ5763D AM2 ASTM A276-83 ASTM A479-83 ASTM A48
 ASME SA479 CHEM ASTM A193-83A ASTM A194-83 CHEM&PHY ASTM A182-82A ASME
 182 WIN 83 ADD PWA300AG
 SIZE 2.25" RD X 11/13 FT
 SHIP TO

MILL ORDER NO. 74750-

PETER A FRASSE CO 612-673640
 SYRACUSE N Y

DATE SHIPPED
 QTY. & WGT.

CHEMICAL COMPOSITION

HEAT ID.	C	MN	SI	S	P	CR	NI	MO	CU
165410	.031	1.74	.39	.028	.028	16.60	10.89	2.06	.19
	CU	N							
	.19	.069							

MECHANICAL PROPERTIES

CONDITION AS SHIPPED: ANNEALED 1925F 20 MIN. WATER QUENCHED

IDENTIFICATION HARDNESS, BHN
 143/159

IDENTIFICATION UTS, KSI .2% YLD, KSI % EL % R/A
 83.1 39.5 62.5 79.2

REMARKS

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY AND DETRIMENTAL LOW
 MELTING ALLOY CONTAMINATION
 INTERGRANULAR CORROSION ACCEPTABLE PER ASTM A262 PRACTICE E
 MATERIAL MANUFACTURED TO QUALITY CONTROL PROGRAM
 DTD 4/30/84 AND CONFORMS TO NCA3800
 PRODUCED UNDER PWA REQUIREMENTS FOR LABORATORY CONTROL
 AT SOURCE PER PWA-MCL MANUAL SECTION F17
 FREE FROM CONTINUOUS CARBIDE NETWORK

VENDOR HEAT
 CODE CODE
 5411 KSSG

T.R. CERT# 85-422

JAN 25 1985 67

PAGE(S) 2 OF 2
 REVIEWED BY
 TRC
 QCE
 12



All testing procedures are in accordance with ASTM standards or applicable specifications.

The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under federal statutes including Federal Law, Title 18, Chapter 47.

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

By *[Signature]*
 Quality Control Representative

0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

S. B. 9117

TARGET ROCK PRESSURE
REGULATING VALVES
ENERGY OPERATIONS, INC.
(LOUISIANA POWER AND LIGHT COMPANY)
CLASSIFICATION OF PRESSURE RETAINING PARTS

Date: 6/20/91

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY:

J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY:

R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY:

S. Karidas
S. Karidas, Engineering Manager

TRPUB - 0038 (3/83)



Target Rock Corporation, 1966E Broadhollow Road, East Farmingdale, New York 11735

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT SB 9117
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Louisiana Power and Light Company. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9117

TABLE I
TARGET ROCK PRESSURE REGULATING VALVES
LOUISIANA POWER AND LIGHT COMPANY
Waterford S.P.S. Unit 3
Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM		MATERIAL DESIGNATION & CERT. NO.	REMARKS
		Name	Part No.		
<u>81C</u> 81C-001C Quantity 8	EBASCO NY-403676	Spring Housing	202471-1	SA-479(316) 80-2867	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
LOUISIANA POWER AND LIGHT COMPANY

12511

SEP 05 1980



I R CERT. # 80-2967

SEP 5 1980

ANALYSIS AND TEST CERTIFICATE Page(s) 1 of 2

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF



TO TARGET ROCK CORP
1966 E BROADHOLLOW RD
E FARMINGDALE NY 11735

YOUR ORDER NO. 6514-2	
OUR INVOICE NO. 132245	DATE 9-2-80
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
316 BAR GRD	2-1/4 RD X 12 FT RDM	342 LBS	BLACK

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
LG 3137	032	1.70	027	020	52	12.20	17.49		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.12	19			18					028

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVER- ITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
75000	31300	58.5	78.6	140						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH		COND. H-900	COND. H-925			

ASME SA 479 (1977 ED. THRU WINTER 1979 ADD.) INTERGRANULAR COROSION TESTED PER ASTM A 262 PRACTISE E PRODUCES IN SCCORDANCE WITH NCA 3800 CARBON CONTENT NO TO EXCEES .055 MAX.

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION. MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTELEMENT	FERRITE	MACRO ETCH
			OK

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed [Signature]
for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

MID-ATLANTIC

8-11-80

GRADE AND DESCRIPTION: **UNILOY 316 ANNEALED CENTERLESS GROUND**

SPECIFICATION: **612-03 REV 7 AMS5648E QQS763D COND A ASTM A276-78 ASTM A479-78
 aSME SA479 ASME SA479 77 ED CHEM&PHY ASTM A182-78 ASME SA182**

SIZE: **2.250" RD X 11/13 FT. 612-673640** WINTER ADDEN THRU WINTER 79 ADDEN

SHIP TO:

PETER A. FRASSE CO., INC.
 BRISBIN AVENUE
 LYNDHURST, N. J. 07071
 ATTN: GEORGE GRAY

CUST. ORDER NO. XS-09611
 MILL ORDER NO. 70424
 DATE SHIPPED 8-5-80
 QUANTITY & WEIGHT 8 BARS 1354#

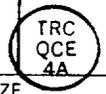
MELTED IN THE U.S.A.							CHEMICAL ANALYSIS					
HEAT NO	C	Mn	Si	S	P	Cr	W	V	Ni	Mo	Co	Cu
1G3137	.032	1.70	.52	.020	.027	17.49			12.20	2.12	.18	.19
HEAT NO.	Sn	Pb (PPM)	Al	Ti	Fe	B	Zr.	Cb /Ta	La	Bi (PPM)	N	
											.028	

TENSILE PROPERTIES							STRESS RUPTURE PROPERTIES				IMPACT		
CODE	IDENTIFICATION	KSI TENSILE	KSI 2 YIELD	KSI 02 YIELD	% EL	% RA	TEMP. °F	KSI STRESS	TIME HR	% EL	KSI	V	CHAPPY
		75.0	31.3		58.5	78.6							

T. R CERT. # 80-4867

SEP 5 1980

Page(s) 2 of 2



CODE	HEAT TREATMENT	HARDENABILITY	GRAIN SIZE
	ANNEALED 1925F 20 MIN WATER		

Black

CUSTOMER Target Stock
 PRICE 65.42
 DATE 9-2-80
 QUANTITY 34266

HARDNESS. 140 BHN

REMARKS: MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY CONTAMINATION
 EMBRITTLEMENT 180 BEND: OK
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG 1 STEP STRUCTURE
 FREE FROM CONTINUOUS CARBIDE NETWORK
 PRODUCED IN ACCORDANCE WITH NCA 3800.

TEST REPORT

THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

By P. H. Williams
 Quality Control Representative

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT SB 9118
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Detroit Edison Company. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9118

TABLE I
TARGET ROCK PRESSURE REGULATING VALVES
DETROIT EDISON COMPANY
Enrico Fermi Atomic Power Plant
Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name Part No.		MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>81M</u> 81M-005 Quantity 4	Detroit Edison Co. 1A-53416	Spring Housing	202471-1	SA-479(316) 82-2872	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
DETROIT EDISON COMPANY

T. R. CERT# 82-2872

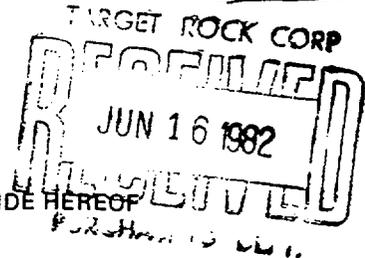
JUN 16 1982



JUN 17 1982

PAGE (C) 1 OF 2

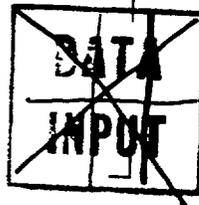
ANALYSIS AND TEST CERTIFICATE



REVIEWED BY _____ SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

TO

TARGET ROCK CORP.
P.O. BOX V
E. FARMINGDALE, NY 11735



YOUR ORDER NO.	
1911	
OUR INVOICE NO.	DATE
130532	5/26/82
DISTRICT	
LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT./LBS.	HEAT PAINT
316 CG ANN	2-1/4 RD X 10-12 FT RDM ASME-SA 479-80 THE MATERIAL SUPPLIED IS IN ACCORDANCE WITH P.A. FRASSE Q.A. MANUAL DATED 1/1/78	924 LBS	BROWN
REV#3			

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
1G3723	.041	1.60	.027	.023	.40	12.22	17.34		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.08	.40			.14					.049

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVER- ITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
72700	33400	55	78.1	143-152						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH	COND. H-900	COND. H-925				

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTLEMENT	FERRITE	MACRO ETCH
-----------	---------------	---------	------------

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed _____ for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

T24101
 REVISED

S-582

GRADE AND DESCRIPTION: **UNILOY 316 CENTERLESS GROUND BAR**

SPECIFICATION: **AMS5648E QQS763D AMD1 COND A ASTM A276-81A ASTM A479-RL ASME SA479 612-03 REV 10 CHEM & PHYS ASTM A182-31A ASME SA182 ASME 1980 EDITION**
 SIZE: **2.250" RD. X 11/13 FT. ASTM-A-484-80, ASTM-A-193-81A GR 68**
 SHIP TO: **ASTM-A-194-80A, CHEM. ONLY, ASME 1981 ADDENDA**

PETER A. FRASSE 612-673640
 LYNDHURST, N. J.

CUST. ORDER NO. **XS-10757**
 MILL ORDER NO. **51048 75094**
 DATE SHIPPED _____
 QUANTITY & WEIGHT **4417**

T. R. CERT# 82-2872

JUN 17 1982
~~2 28 11 78 9 10~~

PAC MELTED IN THE USA						CHEMICAL ANALYSIS							
HEAT NO	C	Mn	Si	S	P	Q	Cr	W	V	Ni	Mo	Co	Cu
1G3723	.041	1.60	.40	.023	.027	17.34				12.22	2.03	.14	.40
HEAT NO.	Sn	Pb (PPM)	Al	Ti	Fe	B	Zr	Cb /Ta	La	Bi (PPM)	N		
												.049	

TENSILE PROPERTIES						STRESS RUPTURE PROPERTIES				IMPACT	
CODE	IDENTIFICATION	KSI TENSILE	KSI 2 YIELD	KSI 02 YIELD	% EL	% RA	TEMP. °F	KSI STRESS	TIME HR	% EL	FT LBS V-N CHARPY
		77.7	33.4		55.0	78.1					

Tony
 CUSTOMER *Pool*
 P. O. # *1911*
 INVOICE *130 532*
 DATE *5-28-82*
 QUANTITY *924*

CODE	HEAT TREATMENT	HARDENABILITY	GRAIN SIZE
	<i>Brown</i> ANNEALED 1925F 20 MIN. WATER	<i>OK</i>	DATA INPUT

HARDNESS. 143/152 BHN
 REMARKS. ***FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION***

MACRO ITCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY CONTAMINATION
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG. 1 STEP STRUCTURE
 FREE FROM CONTINUOUS CARBIDE NETWORK
 EMBRITTLEMENT 180 BEND: OK
 MATERIAL MANUFACTURED TO QUALITY CONTROL PROGRAM DATED 12/5/80

TEST REPORT

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

4/6/82

THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.

By *Pages, a/ha*
 Quality Control Representative

0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

S. B. 9119

TARGET ROCK PRESSURE
REGULATING VALVES
NORTHEAST NUCLEAR ENERGY COMPANY
CLASSIFICATION OF PRESSURE RETAINING PARTS

Date: 6/20/91

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY: J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY: R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY: S. Karidas
S. Karidas, Engineering Manager



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT 9119
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Northeast Nuclear Energy Company. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9119

TABLE I
TARGET ROCK PRESSURE REGULATING VALVES
NORTHEAST NUCLEAR ENERGY COMPANY
Millstone Nuclear Power Station Unit 3
Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name Part No.		MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>81V</u> 81V-022C Quantity 2	Stone & Webster Engineering 2472.110-654	Spring Housing	202471-1	SA-479(316) 83-4595	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE _____ OF _____
DATE _____		REPORT _____
APPROVED BY _____		PROJECT _____
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
NORTHEAST NUCLEAR ENERGY COMPANY

ORIGINAL MISSING

83-4595



J.R. CERT. 3# 4595

OCT 5 1983

ANALYSIS AND TEST CERTIFICATE

Page (S)

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF



TO Target Rock Corp
PO Box V
E Farmingdale NY 11735

YOUR ORDER NO. 5047-4	
OUR INVOICE NO. 171421	DATE 8-26-83
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT./LBS.	HEAT PAINT
316- GG ANN	2 1/4 in 12 FPM. ASME - SA 479 '82A	1211	Black

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
1C4592	.037	1.74	.030	.028	.48	10-F2	16.47		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
207	.27			16					054

MECHANICAL PROPERTIES

TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
77500	33500	57.5	76.3	143-149						

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION

17-4PH or 16-5PH

COND. H-900

COND. H-925



Handwritten notes: 1 is in... REV #3... approved by Target Rock Corp... NOMINALLY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION. MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTLMENT	FERRITE	MACRO ETCH
			OK

OTHER:

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

51212-12
 77-83

GRADE AND DESCRIPTION: **UNILOY 316 CENTERLESS GROUND BARS**

SPECIFICATION: **AMS 5648F QCS 763D AM 1 CD A ASTM A276-82A ASTM A479-82A ASME SA479**
ASTM A484-82 CHEM&PHYS ASTM A182-82A ASME SA182 ASME WIN 82 AC
 SIZE: **2.250" RD. X 11/16" FT. 612-03 REV 14, CHEM ASTM A193-82, GR 8M**
CHEM ASTM A194-82 GR 8M

SHIP TO: **PETERA. FRASSE 612-673640**
LYNDHURST, N.J.

CUST. ORDER NO: **XS-22629**
 MILL ORDER NO: **75802**
 DATE SHIPPED: _____
 QUANTITY & WEIGHT: **89 - 4595**
I. R. CERT. #

CCT 5 1983

MELTED IN THE U.S.A.								CHEMICAL ANALYSIS				
HEAT NO	C	Mn	Si	S	P	Cr	W	V	Fe	Ni	Co	Cu
<i>Black</i> 104592	.037	1.74	.48	.028	.030	15.47						
HEAT NO.	Sn	Pb, ppm	Al	Ti	Fe	B	Zr	Cb	Ta	La	Bi, ppm	N
												.054

TENSILE PROPERTIES						STRESS RUPTURE PROPERTIES			
CODE	IDENTIFICATION	TENSILE	YIELD	ELONG	% EL	% RA	TEMP	TIME	SEC
		77.5	33.5		57.5	76.3			

Target Part CAP
507
1-7-82
8-76-B
12A

CODE	HEAT TREATMENT	HARDENABILITY	GRAIN SIZE
	ANNEALED 1925F 20 MIN. WATER QUENCH		



HARDNESS: **140/149 BHN**
 REMARKS:

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
FREE OF MERCURY AND DETRIMENTAL LOW MELTING ALLOY CONTAMINATION
EMBRIILEMENT 180 BEND: OK
OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG. 1 STEP STRUCTURE
FREE FROM CONTINUOUS CARBIDE NETWORK
MATERIAL MFG. TO QUALITY CONTROL PROGRAM DTD 2/10/82 & CONFORMS TO NCA3500

TEST REPORT

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

7/19/82

THE RECORDING OF FALSE FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW TITLE 18 CHAPTER 47

By: *P. K. Williams*

Quality Control Representative

0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

S. B. 9120

TARGET ROCK PRESSURE
REGULATING VALVES
ILLINOIS POWER CORPORATION
CLASSIFICATION OF PRESSURE RETAINING PARTS

Date: 6/20/91

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY: J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY: R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY: S. Karidas
S. Karidas, Engineering Manager



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT SB 9120
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Illinois Power Corporation. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9120

TABLE I
 TARGET ROCK PRESSURE REGULATING VALVES
 ILLINOIS POWER CORPORATION
 Clinton Power Station Unit 1
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name	PART No.	MATERIAL DESIGNATION & CERT. NO.	REMARKS
81DD-001A Quantity 1	Baldwin Associates C29924	Bolt	001-0001	Alloy Steel(GRB7) 82-1459	Condition 2 (Contact TRC)
		Flange	202477-2	SA-479(316) 79-1271	Condition 1
		Sleeve	202720-1	SA-479(316) 77-2264	Condition 1
81DD-002 Quantity 2	Baldwin Associates C29924	Spring Housing	202471-1	SA-479(316) 80-2867	Condition 1
82DD-003 Quantity 2	Baldwin Associates C29924	Spring Housing	202471-1	SA-479(316) 80-2867	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
ILLINOIS POWER CORPORATION

DATA
TRC

GARRON AIRCRAFT SUPPLY, INC.

STANDARD AND PRECISION FASTENERS

5 UNION SQUARE - NEW YORK, N. Y. 10003

(212) 675-8700



TR CERT. # 82-1459

SOLD TO

TARGET ROCK CORPORATION
P.O. BOX V
1966-E BROADHOLLOW RD
FARMINGDALE, N.Y. 11735

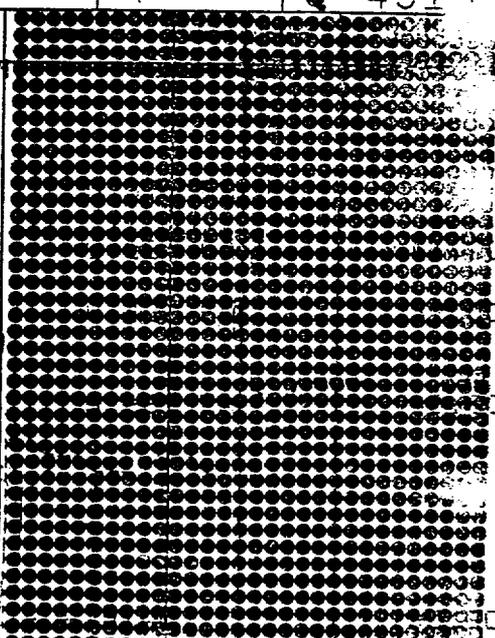
Page(s) 1 of 1
SHIP TO TRC
Reviewed by OCE
MAR 25 1982
TARGET ROCK CORPORATION
P.O. BOX V
1966-E BROADHOLLOW RD
FARMINGDALE, N.Y. 11735

CUST. ORDER NO. 1074	DATE SHIPPED	F.O.B. OUR PLANT	TERMS 15 10 DAYS NET 30	SHIPPED VIA 1074	INVOICE DATE	INVOICE NO. 0 4914
-------------------------	--------------	------------------	----------------------------	---------------------	--------------	-----------------------

ITEM	QUANTITY			DESCRIPTION
	ORDERED	BACK OR'D	SHIPPED	
1074			2.24.82	MID-ISLAND
1	100	0	100	DOWEL PINS-.062 DIA. X .56 LONG MATERIAL-ST. ST.
2	100	50	50	FLEX LOC NUT 50 FK (1/2-20) MATERIAL-18-8 ST. ST.
3	100	0	100	WASHER 5710-58-30 SEASTROM MATERIAL-ST. ST. 300 SERIES
4	100	0	100	HEX HEAD BOLT - 1/4"-20 1 1/4" LONG LONG MATERIAL - ALLOY STEEL ASTM -A-GRB7

To the best of our knowledge and belief, material supplied against this order is free from mercury contamination.

TARGET ROCK CORP
RECEIVED
MAR 1 1982
INDUSTRIAL



SUBSCRIBED AND SWORN BEFORE ME

THIS _____ DAY OF _____ 19__

ESTELA R. SANTALO
NOTARY PUBLIC, State of New York
No. 31 - 4730316
Qualified in Kings County
Commission Expires March 30, 19__

Estela R. Santalo
NOTARY PUBLIC

It is hereby certified that all materials used in the manufacture of parts in the quantity called for in the subject purchase order conform to the material and/or manufacturing specifications indicated in the drawings or specifications as called for on said purchase order.

Physical, Electrical, and/or Chemical test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

GARRON AIRCRAFT SUPPLY, INC.

Q 4914

AUTHORIZED SIGNATURE

CERTIFICATE OF CONFORMANCE

SALES 36 REV. 3-77



I R CERT. # 19-1271

ANALYSIS AND TEST CERTIFICATE

DEC 30 1981

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

Page(s) 1 of 5



TO TARGET ROCK CORP
1966 E. BROADHOLLOW ROAD
E FARMINGDALE, NY 11735

YOUR ORDER NO. 4574

OUR INVOICE NO. 164282

DISTRICT: LYND.

DATE: 3/27/79

Dick Goldhardt

GRADE	SIZE, DESCRIPTION AND SPECIFICATION(S)	QUANTITY FT. LBS.	HEAT PAINT
316 BAR	3-1/2 INCH ROUND	1775 LB	<i>White</i>
COND A GROUND PER ASME-SA479 WINTER 1977 EDITION-CAPABLE OF PASSING INTERGRANULAR CORROSION TEST PER ASTM-A262 PRACTICE E-PRODUCED IN ACCORDANCE WITH NCA 3800			

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI	CR	MO	CU	TI	PB	CO	CB/TA	AL	SN	N
04192	.065	1.71	.029	.023	.36	12.71	17.27	2.33	.42			.19				.07

MECHANICAL PROPERTIES

TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS./SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN- ABILITY	DECARB
				BRINELL	ROCKWELL "B"					
83,500	40,500	57	77	156						

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION 17-18% PH OR 15% CO H-900 H-925 T-410

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION. MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST _____ EMBRITTLEMENT _____ FERRITE _____ MACRO ETCH ok

OTHER: 1900 deg f min and water quenched

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed *Peter A. Frasse*
for PETER A. FRASSE & CO., INC.

APR 12 1979



AL Tech Specialty Steel Corporation

Willowbrook Avenue, Dunkirk, N. Y. 14048

Corrected Copy

CERTIFICATE OF TEST

PURCHASE ORDER NO. AND DATE XS05335	NOT BEFORE 03/07/79	INQUIRY NO. AND DATE	ACCEPTING MILL DUNKIRK	MILL ORDER NO. 6-2-25155	DATE SHIPPED MAR 15 1979	INVOICE NO.
--	------------------------	----------------------	---------------------------	-----------------------------	-----------------------------	-------------

S O L D T O	P.A. FRASSE AND CO., INC. THREE DAKOTA DRIVE PO BOX 115 LAKE SUCCESS NY 11042	S H I P T O	P.A. FRASSE AND CO., INC. BRISBIN AVENUE LYNDHURST NJ 07071
----------------------------	--	----------------------------	---

PRODUCT SPECIFICATIONS AL TECH STAINLESS STEEL TYPE 316
 ACG AMS-5648E QQS-763D ASTM-A-276-77 ASTM-A-479-77 ASME-SA-479 through Winter 77 addenda
 (ASTM-A-182-77A ASME-SA-182 CHEM &
 MECH PROPS ONLY) COND A DEL CLM & ASME CODE SEC III
 SUBSECTION NA3700 & NCA3800 (612-03 REV. 7)

ITEM	DESCRIPTION	QUANTITY	POUNDS	C/P	TEST PCS.	COPIES SOLD TO	C	P	COPIES SHIP TO	C
------	-------------	----------	--------	-----	-----------	----------------	---	---	----------------	---

01 R 3.500 13'-14' lg. 4 BARS 1775
 CUST COMM: 612-675074

CHEMICAL ANALYSIS				STANDARD ELEMENTS & PERCENTAGES							ADDITIONAL ELEMENTS			
HEAT NO.	C	MN	P	S	SI	CR	NI	AL	MO	CU	/			
04192	.065	1.71	.029	.023	.36	17.27	12.71		2.33	.42	Co	.19	N2	.076

PHYSICAL PROPERTIES							
HEAT NO.	TENSILE PSI	YIELD PSI	ELONG %	RED. AREA %	BRINELL/ROCKWELL	TEST	NO.
04192	83,500	40,500	57	77	156		

MICRO TEST: OK
 MACRO ETCH TEST: OK
 MATERIAL FREE FROM MERCURY CONTAMINATION
 MATERIAL FREE FROM CONTINUOUS CARBIDE NETWORK
 SOLUTION ANNEALED AT 1900 DEG. F. MIN. AND WATER QUENCHED

Capable of passing ASTM-A-262 Practice E

S-54615
(6-1-91994-3-1)

Target Fresh
 4514
 164082
 3-28-79
 1775

Reviewed by: [Signature]
 Page(s) of 2 of 2
 MAY 1 1979
 PRC 4A

[Signature]

I R CERT. # 79-1221

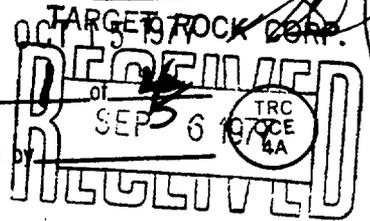
Peter A. FRASSE & Co., Inc. CERT. # 77-2264
ANALYSIS AND TESTS CERTIFICATE

FOR

TARGET ROCK & CORP.
 1966 E. BROADHOLLOW RD.
 E. GARMINGDALE, N.Y. 11735

Page(s)

Reviewed by



CUST. ORDER NO. 1253-3 OUR ORDER NO. 177802 DATE 3/24/77 BRANCH LYND

Description of Material and Specifications

- 316 BAR GRD ASME-SA479 WINTER 1975 OR LATER
- 1. 3-1 2 RD X 12 FT RDM 873 LBS GREEN PT Annealed
- 2. 5/8 RD X 12 FT RDM 27 LBS RED PT
- 3.
- 4.

Chemical Analysis

Heat Number	Carbon	Mang.	Phos.	Sulphur	Silicon	Nickel	Chromium	Moly.	CU.	Ti.	CO.	CB.	
99274	.058	1.67	.024	.028	.48	12.39	17.57	2.84	.12		.21		.043
9673	.049	1.61	.028	.026	.48	12.52	17.40	2.75	.12		.30		.043
3.													
4.													

Mechanical Properties

Tensile Strength Lbs./Sq. in.	Yield Lbs./Sq. in.	Elong. % in.	Reduction Area %	HARDNESS		Bend Test	Grain Size	Hardness Index	Impact
				Brinell	Rockwell				
77000	33300	57	75.6	199					
95400	69200	39	69.7	195					
				205					

Special Tests

The above tests conform to the requirements of the specifications listed

Madelaine M Ruvere

a Notary Public, do hereby certify that this affidavit was subscribed and sworn to before me by a duly authorized agent of Peter A. Frasse & Co., Inc.

this 2ND day of ALG 1977-LD

MADLEINE M. RUVERE, Notary Public, State of New Jersey No. D2112 Qualified in Bergen County, Commission Expires March 8, 1981.

SALES 10-SM 5/76

We hereby certify that the above data is true and correct. If data furnished us by the producer or data resulting from tests performed by the producer or in approved laboratories is not PETER A. FRASSE & CO., Inc.

BY *Joseph M Cu*
 For PETER A. FRASSE & CO., INC.

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION

TR CERT. # 71-2664

TERMS: 30 DAYS NET - 1/2% DISCOUNT ON \$ IF PAID BY
INTEREST PAYABLE MONTHLY ON BALANCES UNPAID AFTER 30 DAYS AT 1 1/2% PER MONTH.

OCT 15 1977
R-02962

STOMER ORDER NUMBER S-81400X	CUST. ORDER DATE 12-14-76	STK. CTL. NO.	S.T.C.	MILL ENTRY DATE 12-15-76	Page(s) 70 of 632	QTY. BLN. 12	INPG. & INV. DATE 12-18-76
EX NO. T17503	CUST. CODE NO. 6083024	DUNS CODE 1141072	STATE/CNTY. 59094	GOVT. RATING	MARKETING	Reviewed by 119	INVOICE NUMBER DS7-4244

LD TO PEER A. FRASSE CO., INC. BRISBIN AVE. LYNDHURST, N.J. 07071	SHIPPED TO PETER A. FRASSE CO., INC. BRISBIN AVE. LYNDHURST, N.J. 07071
---	---

ROUTING: **OPEN TOP TRUCK - BLOCKED FOR OVERHEAD CRANE**
 COLL. P.P.O. **BRIDGEVILLE** P/R **READING** B & P

MARK AB/E REC. HRS: **7:30 TO 11:30 AM** CARDBOARD WRAP-4000# MAX. LIFTS METAL, TAG W/CUST NO., SIZE, HEAT, TYPE, FIN., COND. STAMP HT. NO. BOTH ENDS BARS 1" DIA. AND OVER PAINT BOT ENDS BARS GREEN INVOICES 3 DAKOTA DRIVE

STOCK CONTROL NO. 3	QUAN. ORDERED PCS. OR WT.	SIZE AND DESCRIPTION PO BOX 115 LAKE SUCCESS, N.Y. 11040	HEAT NO.	QUAN. SHIPPED NET WEIGHT	PRICE	AMOUNT
----------------------------	---------------------------	--	----------	--------------------------	-------	--------

UNILOY 316 CENTERLESS GROUND BAR TO 612-03 REV 2 TARGET ROCK CORP.

14818 1000# 3-1/2" RD. X 12/14 FT. G9294 1298
612-675074

RECEIVED
SEP 6 1977

316 AMS-5640, QQS 763D AMEND 1 CONL. A, 3.500" RD. T-17503
 PHY of MILS 7720 ASTMA-182-75, 2
 ASTMA-276, ASTM-A-479, -78, ASME-SA-182, ASME-SA-479 JULY 1, 1977 EDITION

NO. & FINISH	Centerless Ground Bars													
HEAT NO.	C	MN	SI	S	P	CR	W	V	N	MO	CO	CU	N	
G9294	.058	1.67	.48	.028	.024	17.57				12.39	2.84	.21	.12	.043

TEST COND	HARDNESS	YIELD	TENSILE	% EL.	% R.A.	BLNDS	OTHER PROPERTIES
	BHN 149/153	.2% 33,300	77,000	57.0	75.6		Resistance to intergranular Corrosion: Satisfactory Free from Continuous Carbide Network. QAR #1

R. SIZE	HARDENABILITY	TREATMENT	STRESS RPTURE
		1950° 1 HR WATER	STRESS PSI TEMP. °F. TIME-HRS.

MARKS: **Free of Mercury Contamination.**

CUSTOMER	<u>Target Rock</u>
P. O. #	<u>1253</u>
INVOICE	<u>177802</u>
DATE	<u>9-2-77</u>
QUANTITY	<u>873</u>

I CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF THE TESTS SHOWN ON OUR LABORATORY RECORDS.

[Signature]
 AUTHORIZED SIGNATURE

TEST REPORT QUALITY CONTROL REPRESENTATIVE



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION

BRIDGEVILLE PLANT | BRIDGEVILLE, PENNSYLVANIA 15017 | (412) 221-8000

I. R. CERT. # 77-2264

MAY 12 1980

Page(s) 3 of 345

Reviewed by _____



May 5, 1980

Mr. Geldart
Target Rock Co.
1966 Broad Hollow Road
East Farmingdale
Long Island, N. Y. 11735

Dear Mr. Geldart:

This is to advise you that the nitrogen content of
heat G9294 is 0.043%.

Yours truly,

F. F. Liberato
Supervisor of Laboratories

mk



I R CERT. # 80-2867

SEP 05 1980

SEP 5 1980

ANALYSIS AND TEST CERTIFICATE Page(s) 1 of 2

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF



TO TARGET ROCK CORP
1966 E BROADHOLLOW RD
E FARMINGDALE NY 11735

YOUR ORDER NO. 6514-2	
OUR INVOICE NO. 132245	DATE 9-2-80
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
316 BAR GRD	2-1/4 RD X 12 FT RDM	342 LBS	BLACK

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.	MO	CU	TI	PB	CO	AL	CB	TA	SN	N
LG 3137	032	1.70	027	020	52	12.20	1749	2-12	19			18					028

MECHANICAL PROPERTIES

TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
75000	31300	58.5	78.6	140						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH	COND. H-900	COND. H-925				

ASME SA 479 (1977 ED. THRU WINTER 1979 ADD.) INTERGRANULAR CORROSION TESTED PER ASTM A 262 PRACTISE E PRODUCES IN ACCORDANCE WITH NCA 3800 CARBON CONTENT NO TO EXCEEDS .055 MAX.

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTELEMENT	FERRITE	MACRO ETCH
			OK

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.
Signed [Signature]
for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

MID-ATLANTIC

8-11-80

GRADE AND DESCRIPTION: **UNILOY 316 ANNEALED CENTERLESS GROUND**

SPECIFICATION: **612-03 REV 7 AMS5648E QQS763D COND A ASTM A276-78 ASTM A479-78
 aSME SA479 ASME SA479 77 ED CHEM&PHY ASTM A182-78 ASME SA182**

SIZE: **2.250" RD X 11/13 FT. 612-673640** WINTER ADDEN THRU WINTER 79 ADDEN

SHIP TO:

PETER A. FRASSE CO., INC.
 BRISBIN AVENUE
 LYNDHURST, N. J. 07071
 ATTN: GEORGE GRAY

CUST. ORDER NO. XS-09611
 MILL ORDER NO. 70424
 DATE SHIPPED 8-5-80
 QUANTITY & WEIGHT 8 BARS 1354#

MELTED IN THE U.S.A.							CHEMICAL ANALYSIS					
HEAT NO	C	Mn	Si	S	P	Cr	W	V	Ni	Mo	Co	Cu
1G3137	.032	1.70	.52	.020	.027	17.49			12.20	2.12	.18	.19
HEAT NO.	Sn	Pb (P.P.M.)	Al	Ti	Fe	B	Zr.	Cb /Ta	La	Bi (PPM)	N	
											.028	

TENSILE PROPERTIES						STRESS RUPTURE PROPERTIES				IMPACT	
CODE	IDENTIFICATION	KSI TENSILE	KSI 2 YIELD	KSI 02 YIELD	% EL	% RA	TEMP. °F	KSI STRESS	TIME HR	% EL	H 180 V N CHAPPY
		75.0	31.3		58.5	78.6					

T. R. CERT. # 20-2867

SEP 5 1980

Page(s) 2 of 2

Reviewed by _____

TRC QCE 4A

CODE	HEAT TREATMENT	HARDENABILITY	GRAIN SIZE
	ANNEALED 1925F 20 MIN WATER		

Black

CUSTOMER Target Stock
 ORDER NO. 65142
 QUANTITY 132245
 DATE 9-2-80
 QUANTITY 34266

HARDNESS: 140 BHN

REMARKS: **MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION**
FREE OF MERCURY CONTAMINATION
EMBRITTLMENT 180 BEND: OK
OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG 1 STEP STRUCTURE
FREE FROM CONTINUOUS CARBIDE NETWORK
PRODUCED IN ACCORDANCE WITH NCA 3800.

TEST REPORT

THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

By P. J. Williams
 Quality Control Representative

2-1MTCB MC-V-DMSS

S. B. 9121

TARGET ROCK PRESSURE
REGULATING VALVES
NORTHERN STATES POWER COMPANY
CLASSIFICATION OF PRESSURE RETAINING PARTS

Date: 6/20/91

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY:

J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY:

R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY:

S. Karidas
S. Karidas, Engineering Manager



PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT SB 9121
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

J. Sefcik, Project Engineer (516)293-3800, Ext. 562
S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Northern States Power Company. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9121

TABLE I
TARGET ROCK PRESSURE REGULATING VALVES
NORTHERN STATES POWER COMPANY
Monticello Nuclear Generating Plant
Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name	PRESSURE RETAINING ITEM Part No.	MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>82TT</u> 82TT-001E Quantity 2	Chern Contracting Corp. M9443	Spring Housing	202471-1	SA-479(316) 82-2872	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
NORTHERN STATES POWER COMPANY

T. R. CERT# 82-2872

JUN 16 1982



JUN 17 1982

PAGE (C) 1 OF 2

TRC QCE
789/10

ANALYSIS AND TEST CERTIFICATE

TARGET ROCK CORP
RECEIVED
JUN 16 1982
FOR THE...
P.O. BOX V

REVIEWED BY _____ SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

TO
TARGET ROCK CORP.
P.O. BOX V
E. FARMINGDALE, NY 11735



YOUR ORDER NO. 1911	
OUR INVOICE NO. 130532	DATE 5/26/82
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
316 CG ANN	2-1/4 RD X 10-12 FT RDM ASME-SA 479-80 THE MATERIAL SUPPLIED IS IN ACCORDANCE WITH P.A. FRASSE Q.A. MANUAL DATED 1/1/78 REV#3	924 LBS	BROWN

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
1G3723	.041	1.60	.027	.023	.40	12.22	17.34		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
2.08	.40			.14					.049

MECHANICAL PROPERTIES

TENSIL STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVER- ITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
72700	33400	55	78.1	143-152						
MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION				17-4PH or 15-5PH		COND. H-900	COND. H-925			

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

BEND TEST	EMBRITTLEMENT	FERRITE	MACRO ETCH
-----------	---------------	---------	------------

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed _____
for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

T24101
 REVISED

S-582

GRADE AND DESCRIPTION: **UNILOY 316 CENTERLESS GROUND BAR**

SPECIFICATION: **AMS5648E QQS763D AMD1 COND A ASTM A276-81A ASTM A479-RL ASME SA479 612-03 REV 10 CHEM & PHYS ASTM A182-31A ASME SA182 ASME 1980 EDITION**

SIZE: **2.250" RD. X 11/13 FT.** ASTM-A-484-80, ASTM-A-193-81A GR 66
 ASTM-A-194-80A, CHEM. ONLY, ASME 1981 ADDENDA

SHIP TO: *J. Frasse*
 PETER A. FRASSE 612-673640
 LYNDHURST, N. J.

CUST. ORDER NO. **XS-18757**
 MILL ORDER NO. **51048 75094**
 DATE SHIPPED _____
 QUANTITY & WEIGHT **4417**

T. R. CERT # 82-2872

JUN 17 1982
~~XXXXXXXXXXXX~~ 78910

PACELMELTED IN THE USA							CHEMICAL ANALYSIS						
HEAT NO	C	Mn	Si	S	P	Q	Cr	W	V	Ni	Mo	Co	Cu
1G3723	.041	1.60	.40	.023	.027	17.34				12.22	2.08	.14	.40
HEAT NO.	Sn	Pb (PPM)	Al	Ti	Fe	B	Zr.	Cb /Ta	La	Bi (PPM)	N		
												.049	

TENSILE PROPERTIES						STRESS RUPTURE PROPERTIES			IMPACT		
CODE	IDENTIFICATION	KSI TENSILE	KSI 2 YIELD	KSI 0.2 YIELD	% EL	% RA	TEMP. °F	KSI STRESS	TIME HR	% EL	N. lbs. V N CHARPY
		77.7	33.4		55.0	78.1					

Target Customer
 P. O. # **130**
 INVOICE **532**
 DATE **5-28-82**
 QUANTITY **924**

CODE	HEAT TREATMENT	HARDENABILITY	GRAIN SIZE
	<i>Brown</i> ANNEALED 1925°F 20 MIN. WATER	<i>OK</i>	DATA INPUT

HARDNESS. **143/152 BHN** ***FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION***

REMARKS:
 MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY CONTAMINATION
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG. 1 STEP STRUCTURE
 FREE FROM CONTINUOUS CARBIDE NETWORK
 EMBRITTLEMENT 180 BEND: OK
 MATERIAL MANUFACTURED TO QUALITY CONTROL PROGRAM DATED 12/5/80

TEST REPORT

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

4/6/82

THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.

By *Raymond A. Hoke*
 Quality Control Representative

0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

S. B. 9122

TARGET ROCK PRESSURE
REGULATING VALVES
CAROLINA POWER AND LIGHT COMPANY Date: 6/20/91
CLASSIFICATION OF PRESSURE RETAINING PARTS

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY: J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY: R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY: S. Karidas
S. Karidas, Engineering Manager



SB 9122

TABLE I
 TARGET ROCK PRESSURE REGULATING VALVES
 CAROLINA POWER AND LIGHT COMPANY
 Brunswick Steam Electric Plant
 Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM		MATERIAL DESIGNATION & CERT. NO.	REMARKS
		Name	Part No.		
<u>85M</u>					
85M-001B Quantity 4	Carolina Power and Light Co. B-26532	Spring Housing	202471-1	SA-479(316) 83-4595	Condition 1
<u>85S-380</u>					
85M-001 Spare Parts Quantity 1	Carolina Power and Light Co. B-30194	Spring Housing	202471-1	SA-479(316) 85-0422	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE	LONG ISLAND, N. Y.	PAGE	OF
DATE _____			REPORT	
APPROVED BY _____			PROJECT	
DATE _____				

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
CAROLINA POWER AND LIGHT COMPANY

ORIGINAL MISSING

83-4595



JLR CERT. 3# 4595

OCT 5 1983

ANALYSIS AND TEST CERTIFICATE

Page (S)

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE, HEREOF

TQC OCE SA 10/20/83

TO Target Rock Corp
PO Box V
LE Farmingdale NY 11735

YOUR ORDER NO. 5047-4	
OUR INVOICE NO. 171421	DATE 8-26-83
DISTRICT LYNDHURST	

GRADE	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS.	HEAT PAINT
316- CG ANN	2 1/4" dia 12 FPM. ASME - SA 479 '82A	1211	Black

CHEMICAL ANALYSIS

HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI.	CR.		
1C4592	.037	1.74	.030	.028	.48	10-F2	16.47		
MO	CU	TI	PB	CO	AL	CB	TA	SN	N
207	.27			16					054

MECHANICAL PROPERTIES

TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG % IN IN.	RED. OF AREA %	HARDNESS		FREQUENCY	SEVERITY	GRAIN SIZE	HARDEN- ABILITY	AS SHIPPED HARDNESS
				BRINELL	ROCKWELL "B" "C"					
77500	33500	52.5	763	143-149						

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION

17-4PH or 16-5PH

COND. H-900

COND. H-925

DATA INPUT

Handwritten notes: Target Rock Corp, Frasse, etc.

MINIMUM HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40	DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION. MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

Handwritten checkmark and signature

BEND TEST	EMBRITTLEMENT	FERRITE	MACRO ETCH
-----------	---------------	---------	------------

OTHER:

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

51212-12

27.83

GRADE AND DESCRIPTION: **UNILOY 316 CENTERLESS GROUND BARS**

SPECIFICATION: **AMS 5648F QCS7E3D AM 1 CD A ASTM A276-82A ASTM A479-82A ASME SA479**
ASTM A484-82 CHEM&PHYS ASTM A182-82A ASME SA182 ASME WIN 82 AC
 SIZE: **2.250" RL. X 11/16" FT. 612-03 REV 14, CHEM ASTM A193-82, GR 8M**
CHEM ASTM A194-82 GR 8M

SHIP TO: **PETERA. FRASSE 612-673640**
LYNDHURST, N.J.

CUST ORDER NO: **XS-22629**
 MILL ORDER NO: **75802**
 DATE SHIPPED: _____
 QUANTITY & WEIGHT: **83 - 4595**
L R CERT #

CCT 5 1983

MELTED IN THE U.S.A

CHEMICAL ANALYSIS

HEAT NO	C	Mn	Si	S	P	Cr	W	V	Fe	Ni	Mo	Co	Ti	Cu
<i>Black</i> 104592	.037	1.74	.48	.028	.030	16.47								
HEAT NO.	Sn	Pb	Al	Ti	Fe	B	Zr	Cb	Ta	La	Bi	N		
												.054		

Revised by: *[Signature]*
 2.07 .16
 27.9
 10

TENSILE PROPERTIES

STRESS RUPTURE PROPERTIES

CODE	IDENTIFICATION	YIELD	TENSILE	ELONG	% EL	% RA	TEMP	TIME	SEC
		77.5	83.5		57.5	76.3			

Target Point City
 507-114-11
 8-26-83
 12/11

HEAT TREATMENT

HARDENABILITY

GRAIN SIZE

ANNEALED 1925F 20 MIN. WATER QUENCH

DATA
EXIST

HARDNESS: **180/149 BPN**
 REMARKS:

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY AND DETRIMENTAL LOW MELTING ALLOY CONTAMINATION
 IMBRITTLEMENT 180 BEND: OK
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE B FIG. 1 STEP STRUCTURE
 FREE FROM CONTINUOUS CARBIDE NETWORK
 MATERIAL MFG. TO QUALITY CONTROL PROGRAM DTD 2/10/82 & CONFORMS TO NCA3500

TEST REPORT

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

7/19/82

THE RECORDING OF FALSE FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW TITLE 18 CHAPTER 47.

By: *[Signature]*
 SPECIAL QUALITY CONTROL REPRESENTATIVE

ANALYSIS AND TEST CERTIFICATE

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE HEREOF

JAN 23 1985

TO Target Rock Corp
 P.O. Box 1
 10000
 10000
 10000

YOUR ORDER NO. 17547
 OUR INVOICE NO. 561198

DISTRICT: Dayton DATE: 1/23/85

ITEM NO	SIZE, DESCRIPTION AND SPECIFICATIONS	QTY. FT/LBS	HEATPAINT
1	316 C-C wire 2 1/4 dia 12 F Edm.	310	None
2	Asm 477-283		
3			

CHEMICAL ANALYSIS

	HEAT NO.	C	MN.	PHOS.	SUL.	SIL.	NI	CR	MO	CU	TI	PB	CB/TA	AL	CO	...
1	165410	.031	1.24	.028	.028	.39	10.89	16.60	2.06	.19					.14	.00
2																
3																

MECHANICAL PROPERTIES

17-4 or 15-5 PH COND. H-900 H-90

85-422

	TENSILE STRENGTH LBS/SQ. INCH	YIELD LBS/SQ. INCH	ELONG IN. 2 IN. %	RED. of AREA %	HARDNESS	FREQUENCY SEVERITY	GRAIN SIZE	HARDENABILITY	AS SHIPPED HARDNESS
1	83.1	39.5	62.5	79.2	BH V 143/159				
2									
3									

JAN 25 1985
 PAGE(S) 1 of 1
 REVIEWED BY: [Signature]
 TRC QCE

JOMINY HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

1	2	3	4	5	6	7	8	9	10	12	14	16	20	24	28	32	40

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION.
 MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

DE CARB _____ EMBRITTLEMENT _____ FERRITE _____ MACRO ETCH CR

OTHER: _____

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed Jean Borgeau
 for Peter A Frasse & Co Inc

MATERIAL CERTIFICATION

7547

PAGE:

P.O. NUMBER XS 26559 FROM 51094-94
 DESCRIPTION UNILLOY 316 ANNEAL CENT GRD
 SPECIFICATION 612-03 REV15 AMS5648F QG5763D AM2 ASTM A276-83 ASTM A479-83 ASTM A484
 ASME SA479 CHEM ASTM A193-83A ASTM A194-83 CHEM&PHY ASTM A182-82A ASME
 182 WIN 83 ADD PWA300AG
 SIZE 2.25" RD X 11/13 FT
 SHIP TO

MILL ORDER NO. 74750-

PETER A FRASSE CO 612-673640
 SYRACUSE N Y

DATE SHIPPED
 QTY. & WGT.

CHEMICAL COMPOSITION

HEAT ID.	C	MN	SI	S	P	CR	NI	MO	CU	N
165410	.031	1.74	.39	.028	.028	16.60	10.89	2.06		
	.19	.069								

MECHANICAL PROPERTIES

CONDITION AS SHIPPED: ANNEALED 1925F 20 MIN. WATER QUENCHED

IDENTIFICATION HARDNESS, BHN
 143/159

IDENTIFICATION UTS, KSI 0.2% YLD, KSI % EL % RA
 83.1 39.5 62.5 73.2

REMARKS

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY AND DETRIMENTAL LOW
 MELTING ALLOY CONTAMINATION
 INTERGRANULAR CORROSION ACCEPTABLE PER ASTM A262 PRACTICE E
 MATERIAL MANUFACTURED TO QUALITY CONTROL PROGRAM
 DTD 4/30/84 AND CONFORMS TO NCA3800
 PRODUCED UNDER PWA REQUIREMENTS FOR LABORATORY CONTROL
 AT SOURCE PER PWA-MCL MANUAL SECTION F17
 FREE FROM CONTINUOUS CARBIDE NETWORK
 VENDOR HEAT
 CODE CODE
 5411 KSSG

T. R. CERT# 85-422

JAN 25 1985 6 7

PAGE(S) 2 OF 25
 REVIEWED BY _____



All testing procedures are in accordance with ASTM standards or applicable specifications.

The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under federal statutes including Federal Law, Title 18, Chapter 47.

The above are true and correct results of tests on samples of the material. Said results meet the specification(s) applicable and are on record.

By Jerry A. Miller
 Quality Control Representative

S. B. 9123

TARGET ROCK PRESSURE
REGULATING VALVES
TENNESSEE VALLEY AUTHORITY
CLASSIFICATION OF PRESSURE RETAINING PARTS

Date: 6/20/91

BACKGROUND AND PROBLEM DEFINITION

Target Rock Pressure Regulating valves supplied for Nuclear Power Plant applications were manufactured and tested in accordance with customer specifications, purchase order requirements, and customer approved drawings and inspection procedures. However, based upon a response to a customer inquiry, Target Rock has re-evaluated the pressure retaining classification of valve parts for these designs. This review finds that certain additional valve parts should have originally been classified as pressure retaining. For those additional parts which have now been re-classified as pressure retaining one of the following two conditions apply:

CONDITION 1 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for the parts, however, was manufactured to ASME Code Specifications or manufactured under an ASTM designation which was identical to the ASME Specification and Certified Materials Test Reports exist.

CONDITION 2 - Since the reclassified parts were not originally classified as pressure retaining, these parts were not listed on the NPV-1 Code Data Report Form and the applicable material certifications were not included in the Valve Quality Documentation Package. Material for these parts was not manufactured to an ASME or ASTM specification and/or Certified Material Test Reports with actual chemical and physical properties does not exist.

RECOMMENDED CORRECTIVE ACTION

(See page 2)

PREPARED BY:

J. Sefcik
J. Sefcik, Project Engineer

REVIEWED BY:

R. Glazier
R. Glazier, Quality Engineering Manager

APPROVED BY:

S. Karidas
S. Karidas, Engineering Manager

TRPUB - 0038 (3/83)



Target Rock Corporation, 1966E Broadhollow Road, East Farmingdale, New York 11735

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE 2 OF 3
DATE _____		REPORT SB 9123
APPROVED BY _____		PROJECT
DATE _____		

RECOMMENDED CORRECTIVE ACTION

CONDITION 1 - To resolve Condition 1 above, Target Rock has enclosed copies of the applicable material certifications for the reclassified pressure retaining parts. These certifications should be retained with the documentation packages for these valves.

CONDITION 2- For those valves which are identified below as having parts with a Condition 2 problem, it is recommended that Target Rock be contacted* to discuss an appropriate course of action to resolve the conditions. Target Rock has enclosed copies of the applicable material certifications for these parts.

* TARGET ROCK CONTACTS:

- J. Sefcik, Project Engineer (516)293-3800, Ext. 562
- S. Karidas, Engineering Manager (516)293-3800, Ext. 526/475

Table I, which follows, identifies the Pressure Regulating valves supplied to Tennessee Valley Authority. The table lists the recently reclassified pressure retaining parts for each valve along with the material used to manufacture these parts. Applicable material certification numbers are identified and the remarks column identifies the category (Condition 1 or 2) which applies to each material and certification.

SB 9123

TABLE I
TARGET ROCK PRESSURE REGULATING VALVES
TENNESSEE VALLEY AUTHORITY
Browns Ferry Nuclear Plant
Parts Reclassified Pressure Retaining

TRC PROJECT/ MODEL NO. QUANTITY	ORIGINAL CUSTOMER & PURCHASE ORDER	PRESSURE RETAINING ITEM Name	PRESSURE RETAINING ITEM Part No.	MATERIAL DESIGNATION & CERT. NO.	REMARKS
<u>87F</u> 87F-002 Quantity 2	TVA 87NNR-839021	Spring Housing	202471-1	SA-479(316) 83-4595	Condition 1

PREPARED BY _____	TARGET ROCK CORPORATION EAST FARMINGDALE LONG ISLAND, N. Y.	PAGE OF
DATE _____		REPORT
APPROVED BY _____		PROJECT
DATE _____		

MATERIAL CERTIFICATION FOR VALVES SUPPLIED TO
TENNESSEE VALLEY AUTHORITY

ORIGINAL MISSING

83-4595



TRUE COPY 4595

OCT 5 1983

ANALYSIS AND TEST CERTIFICATE

Page (s)

SUBJECT TO SELLER'S TERMS OF WARRANTY STATED ON REVERSE SIDE, HEREOF



TO Target Rock Corp
PO Box V
E Farmingdale NY 11735

YOUR ORDER NO. 5047-4
OUR INVOICE NO. 171421 DATE 8-26-83
DISTRICT LYNDBURST

Table with columns: GRADE (316- GG ANN), SIZE, DESCRIPTION AND SPECIFICATIONS (2 1/4 in 12 FRM ASME-SA 479 '82A), QTY. FT/LBS (1211), HEAT PAINT (Black)

CHEMICAL ANALYSIS

Table with columns: HEAT NO. (1C4591), C (.037), MN. (1.74), PHOS. (-030), SUL. (.028), SIL. (.48), NI. (10-F2), CR. (16.47), MO (2.07), CU (.27), TI, PB, CO (16), AL, CB, TA, SN, N (054)

MECHANICAL PROPERTIES

Table with columns: TENSILE STRENGTH (77500), YIELD (33500), ELONG (57.5), RED. OF AREA (763), HARDNESS (BRINELL 143-149, ROCKWELL B/C), FREQUENCY, SEVERITY, GRAIN SIZE, HARDENABILITY, AS SHIPPED HARDNESS

MECHANICAL CAPABILITIES FOR HEAT TREATED CONDITION 17-4PH or 15-5PH COND. H-900 COND. H-925



Handwritten notes: 15 in, SUP, FRASSE, REV #3, Target Rock Corp, 20 APR 2000, L. NO.

MINIMUM HARDENABILITY - ROCKWELL "C" IN 16THS OF AN INCH

Table with columns: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 20, 24, 28, 32, 40, DECARB

TO THE BEST OF OUR KNOWLEDGE, MATERIAL IS FREE OF MERCURY CONTAMINATION. MATERIAL IS SOLUTION HEAT TREATED FREE FROM CONTINUOUS CARBIDE NETWORK

Handwritten initials/signature

Table with columns: BEND TEST, EMBRITTLEMENT, FERRITE, MACRO ETCH

OTHER:

We hereby certify that the above data is a true copy of data furnished us by the producer or data resulting from tests performed by the producer or by approved laboratories.

Signed for PETER A. FRASSE & CO., INC.



UNIVERSAL-CYCLOPS SPECIALTY STEEL DIVISION
 TITUSVILLE PLANT - TITUSVILLE, PA. 16354
 MATERIAL CERTIFICATION REPORT

51212-12
 77-83

GRADE AND DESCRIPTION: **UNILOY 316 CENTERLESS GROUND BARS**

SPECIFICATION: **AMS5648F QCS763D AM 1 CD A ASTM A276-82A ASTM A479-82A ASME SA479**
ASTM A484-82 CHEM&PHYS ASTM A182-82A ASME SA182 ASME WIN 82 AC
 SIZE: **2.250" RD. X 11/13" FT. 612-03 REV 14, CHEM ASTM A193-82, GR 8M**
CHEM ASTM A194-82 GR 8M

SHIP TO: **PETERA. FRASSE 612-673640**
LYNDHURST, N.J.

CUST ORDER NO: **XS-22629**
 MILL ORDER NO: **75802**
 DATE SHIPPED: _____
 QUANTITY & WEIGHT: **83 - 4595**
L.R. CERT. #

CCT 5 1983

MELTED IN THE U.S.A.										CHEMICAL ANALYSIS		
HEAT NO	C	Mn	Si	S	P	Cr	W	V	Page(s)	Mo	Co	IC
104592	.037	1.74	.48	.028	.030	16.47						27
										Reviewed by: 2.07		
HEAT NO.	Sn	Pb	Al	Ti	Fe	B	Zr	Cb	Ta	La	Bi	N
												.054

TENSILE PROPERTIES						STRESS RUPTURE PROPERTIES				
CODE	IDENTIFICATION	TENSILE	YIELD	ELONG	% EL	% RA	TEMP °F	HOUR	STRESS	PHASE
		77.5	33.5		57.5	76.3				

Target Point
 507
 1/24/81
 8-26-83
 12A

CODE	HEAT TREATMENT	HARDENABILITY	GRAIN SIZE
	ANNEALED 1925F 20 MIN. WATER QUENCH		



HARDNESS: **120/149 BRN**
 REMARKS:

MACRO ETCH TEST ACCEPTABLE IN ACCORDANCE WITH SPECIFICATION
 FREE OF MERCURY AND DETRIMENTAL LOW MELTING ALLOY CONTAMINATION
 IMBRITTEMENT 180 BEND: OK
 OXALIC ACID TEST ACCEPTABLE PER ASTM A262 PRACTICE E FIG. 1 STEP STRUCTURE
 FREE FROM CONTINUOUS CARBIDE NETWORK
 MATERIAL MFG. TO QUALITY CONTROL PROGRAM DTD 2/10/82 & CONFORMS TO NCA3600

TEST REPORT

7/19/82

THE RECORDING OF FALSE FICTITIOUS OR
 FRAUDULENT STATEMENTS OR ENTRIES ON
 THIS DOCUMENT MAY BE PUNISHED AS A
 FELONY UNDER FEDERAL STATUTES INCLUDING
 FEDERAL LAW TITLE 18 CHAPTER 47.

The above are true and correct results of tests on
 samples of the material. Said results meet the
 specification(s) applicable and are on record.

By: *P. J. Williams*
 Quality Control Representative