

Washington Public Power Supply System

P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000
Docket No. 50-397

April 15, 1983
G02-83-349

Mr. J. B. Martin
Regional Administrator
U.S. Nuclear Regulatory Commission
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Subject: NUCLEAR PROJECT NO. 2
10CFR PART 21 - REPORT ON 3/4" SA-106 GRADE B PIPE
SUPPLIED BY GUYON ALLOYS

Reference: Telecon dated April 13, 1983, L.C. Floyd to D. Willett,
same subject.

In accordance with the provisions of 10CFR Part 21, your office was informed by telephone on April 13, 1983 of the above subject 10CFR Part 21 condition identified at WNP-2 during construction activities. The material, as used at WNP-2, does not meet the requirements for reportability under 10CFR Part 21; however, the Supply System feels this condition should be identified to, and evaluated by other facilities to ensure they do not have this material installed in safety-related applications. Attachments I through IX provide the details on this subject.

If you have any questions or desire further information, please contact Roger Johnson, WNP-2 Project QA Manager, at (509) 377-2501, extension 2712.


C. S. Carlisle
Program Director, WNP-2

Attachments: (9) As stated

cc: W.S. Chin, BPA
A. Forrest, Burns and Roe - HAPO
N.D. Lewis, NRC
J. Plunkett, NUS Corp.
A. Toth, NRC Resident Inspector
Document Control Desk, NRC
WNP-2 Files/917B/917Y

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ATTACHMENT I

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
NUCLEAR PROJECT NO. 2
DOCKET NO. 50-397
LICENSE NO. CPPR-93
10CFR PART 21 REPORT ON 3/4" SA 106 GRADE PIPE
SUPPLIED BY GUYON ALLOYS

DESCRIPTION OF DEFICIENCY

While installing 3/4" schedule 80 SA 106 Grade B seamless pipe purchased to ASME Section III Class I requirements in an ASME Section III Class II system, linear indications were identified after tack welding a pipe nipple to a socket weld fitting. The two longitudinal indications are parallel to one another and exceed 5% of nominal wall thickness.

SAFETY IMPLICATIONS

WNP-2 - The material identified has been used in ASME Section III Class II and III applications only. The linear indications do not infringe on the 12½% minimum wall thickness required for ASME Section II Class II and III installations. Based on the material being acceptable for use in ASME Section III Class II and III applications, there is no safety implication at WNP-2.

Other Facilities - WNP-2 is unable to provide this analysis, however, since the piping was manufactured and certified as ASME III, Class 1 piping, other customers may have bought similar piping from Guyon Alloys and employed it in ASME Code Class 1 systems. In this case, a significant safety hazard could occur since the piping does not meet material requirements of ASME Section III, Subsection NB. Therefore, it is determined that this condition (surface defects in excess of 5% of nominal wall thickness) be reported under 10CFR Part 21.

DATE OF DISCOVERY

November 5, 1982 during construction activities (tack welding a pipe nipple to a socket weld fitting).

PROBABLE CAUSE

Manufacturing process error and inability of ultrasonic examination to identify the deficiencies.

CORRECTIVE ACTION

All 3/4" schedule 80 seamless pipe heat number M82244 has been segregated from other materials and placed on QC Hold. All material on Hold was magnetic Particle (MT) examined, and no other indications, other than the length the original nipple was cut from, were discovered. Plant installed material has also been examined with no further indications identified.

ADDITIONAL INFORMATION

Manufacturer - U.S. Steel
Supplier - Guyon Alloys
Affected Heat Number - M82244
Purchaser - WSH/Boecon/Geri - Contract 215 at WNP-2

ATTACHMENT II



TUBULAR PRODUCTS FOR THE ENERGY INDUSTRIES

950 South Fourth Street, Harrison, N.J. 07029

(201) 485-5050

March 1, 1983

Bechtel Power Corporation WNP-2
P.O. Box 600 Caller Service
Richland, Washington 99352
Mail Drop 908A

Via Air Borne

Attn: Mr. Dave Eubanks

Subject: WSH/BOECON/GERI Order No. 215-20951Q
BPC-NCR # 020329

Attached please find our report of the examination and study of the piece of 3/4" S/80 SA-106 Grade B pipe which was returned to us as representative of two random lengths of pipe containing rejectable linear type defects per your subject NCR.

This report together with accompanying laboratory reports confirm verbal advice provided to your Mr. Colman Mullin during various telephone conversations.

Although per report conclusion, angle beam ultrasonic examination per Code requirements seems to be incapable of detecting the type of defects involved, the detection of the defects by other means is accepted as a basis for rejection. Please contact our Pasadena, California office for formal authorization to scrap the pipe with full credit allowed, or, if necessary and at your option to have replacement made with full credit allowed for the rejected material.

Because of mechanically caused defects not being traceable to specific heats or lots of pipe and Guyon Alloys not being capable of determining whether the described defects could create a substantial safety hazard, the enclosed report is in part provided to facilitate such determination. Accordingly, whether the occurrence should be considered an event reportable under 10CFR Part 21. Please advise the results of your determination in order that proper notifications can be provided by us if necessary.



TUBULAR PRODUCTS FOR THE ENERGY INDUSTRIES

950 South Fourth Street, Harrison, N.J. 07029

(201) 485-5050

Bechtel Power Corporation WNP-2

Page 2

The writer sincerely regrets the mishandling and undue delay in transmitting the enclosed reports to you with the hope that said delay has caused you no serious inconvenience.

Very truly yours,

GUYON ALLOYS, INC.

G.H. Grunthaler
Vice President-Technical Services

GHG:jc

encl.

Date: March 10, 1983

Subject: WSH/BOECON/GERI Order No. 215-20951Q entered 7/23/81.
Item 4. 600 ft 3/4" NPS S/80 SA-106 Grade B Pipe per
ASME Section III, Class 1, 1980 Edition
thru Winter 1980 Addenda.

Bechtel Power Corporation Advice of Nonconforming Material.

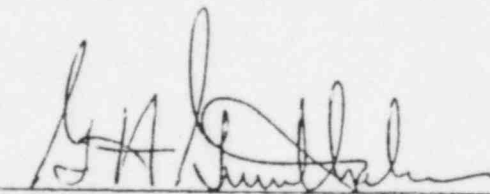
Supplementing our report dated 1/21/83 above reference, per your Mr. Colman Mullin's request the following information has been obtained from United States Steel Corporation's Gary, Indiana mill where the subject pipe was manufactured. The source of this information was Mr. John Simson, a US Steel Metallurgy Dept Gary Area Technical Services Representative, who may be contacted at telephone 800-348-4014. The information is with reference to Guyon Alloys purchase order A-25660-N entered 6/29/79, US Steel Mill Order No. GT 20330, and Reqn. 49663 as may be determined from the CMTR previously furnished.

Mr. Simson advised that the mill order records indicate that each initial production length tube did yield after cropping up to three single random lengths of final pipe as had been furnished for the subject order.

Mr. Simson advised further that the manufacture of the 3/4" NPS S/80 pipe involved three stages, namely hot piercing in a Mannesmann type piercer, elongating over a bar mandrel in a continuous mill, and a stretch reducing mill as previously described. Mr. Simson advised further that the overfill condition could occur in either of the latter two stages, both of which involve straight rolling thru alternating pairs of rolls oriented as previously described for the stretch mill. Mr. Simson advised that it would not normally be expected that overfill laps would become either shallow or deeper progressively along a specific length of pipe.

Based on the description provided to him of the depth of overfill laps progressively lessening in the sample of pipe returned to us, Mr. Simson expressed the opinion that possibly the overfill lap occurred during initial adjustment of rolls for the production run involved. Normally it would be expected that any production lengths exhibiting overfill laps which were visibly discernable either in the hot rolled condition or final cold condition would have been eliminated during hot or final inspection stages.

In addition to Mr. Simson, Mr. William Franz-Staff Metallurgical Engineer, Tubular Products Metallurgy located at US Steel's Pittsburgh corporate office may be contacted at telephone 412-433-2110 for any additional technical information desired.



G.H. Grunthaler

Date: January 21, 1983

Subject: WSH/BOECON/GERI Order No. 215-20951Q entered 7/23/81.
Item 4. 600 ft 3/4" NPS S/80 SA-106 Grade B Pipe per
ASME Section III, Class 1, 1980 Edition
thru Winter 1980 Addenda.

Bechtel Power Corporation Advice of Nonconforming Material.

Per telephone advice to Guyon Alloys Q.A. Mgr., W. Obergfell at Houston on 11/5/82, Messrs. John Byran and Colman Mullin of the Bechtel Power Corp. reported that defects were discovered in 2 lengths remaining from 12 lengths of 3/4" S/80 SA-106 Grade B ultrasonically examined Nuclear Class 1 pipe of United States Steel Corp. Heat # M82244 which had been furnished against the referenced order. Further, that the defects extended thru the entire length of each piece and although the defects did not exceed the applicable 12-1/2% mill under wall tolerance or infringe on required minimum wall thickness, they did or would exceed the 5% of wall thickness standard notch depth to which the pipe was required to be ultrasonically examined. In turn W. Obergfell reported this advice to G.H. Grunthaler at Guyon Alloys Harrison, N.J. facility.

A review of Guyon Alloys' Harrison, N.J. order records indicated that 29 single random lengths totaling 626'-4" of 3/4" S/80 SA-106 Grade B pipe was shipped from Guyon Alloys, Harrison, N.J. facility on 9/3/81 to the WPPSS Hanford # 2 jobsite. The 3/4" S/80 pipe shipped consisted of 12-SR/L (254'-10") of US Steel Heat # M82244 together with 7-SR/L (151'-9") of Heat # W91704 and 10-SR/L (219'-9") of Heat # T25190. All lengths had been ultrasonically examined by Guyon Alloys' qualified laboratory, Alpha Testing Laboratories, Inc. in accordance with Code requirements per Procedure ATL-7100 Rev. 1 3/13/81 with Supplement 4805 12/10/80 utilizing calibration standard S/N 614-5. The 12-SR/L of Heat # M82244 were serialized with Serial Numbers UT-2, -3, -5, -6, -7, -8, -11, -12, -14, -15, -16, and -17.

G.H. Grunthaler advised W. Obergfell on 11/8/82 to request the Bechtel Power Corporation to return a sample of each of the random lengths containing the defects via air freight to Guyon Alloys' Harrison, N.J. facility for examination, study, and possible confirmation of defects. It was requested that the samples be as long as possible with air freight size limitations and that each sample bear or be marked with the applicable UT serial number in addition to heat # identification.

One 7'-0" of 3/4" S/80 SA-106 Grade B pipe was received by Guyon Alloys at Harrison, N.J. on 11/17/82. The piece was identified with heat # M82244 but not with an ultrasonic examination serial number.

Initial examination of the returned piece revealed several tack welds adjacent to one end of the piece which had been cut with a grinding wheel. Apparently a socket welding fitting or flange had been tack welded to this end in the field and subsequently removed. Further visual examination revealed that the surface of one side of the pipe had been lightly ground to remove mill coating for a distance of 8" to 12" back from the cut tack welds. Clearly discernible in the ground surface area were two straight and parallel linear surface imperfections approximately 3/16" apart which extended completely thru the ground surface area. Upon close visual examination the barely discernible imperfections under mill coating could be determined to extend the entire 7 ft length of the returned piece. Due to the difficulty in observing the imperfections without removal of mill coating it is probable that the imperfections were discovered during an MT or LP surface examination performed in the field prior to fillet welding the socket welding item to the pipe. In addition to being parallel to each other, the imperfections were parallel to the longitudinal axis or centerline of the length of pipe. The imperfections visually appeared to be surface imperfections commonly referred to as laps or seams, however on hot rolled pipe such laps or seams would be expected to spiral on the outside surface of the pipe.

After visual examination, the returned 7 ft length of pipe was ultrasonically examined per the previously referenced examination procedure utilizing calibration standard S/N 614-5. As discussed in the attached Alpha Testing report dated 1/17/83, during opposite circumferential directional scanning an indication approximately 2" in length produced reflections 85 to 90% of the axial notches in the reference standard. The approximate 2" long indication was in the area just beyond but adjacent to the cut tack welds. With exploration of this indication the entire length would again have been considered acceptable per Code angle beam ultrasonic examination requirements. No appreciable reflections were observed during the two opposite axial scans of the pipe.

At the request of Guyon Alloys, a metallurgical representative of United States Steel visually examined the returned piece of pipe on 11/23/83 and concurred in the opinion that the surface imperfections appeared to be laps or seams but was puzzled by their non-spiral nature. After contact with the US Steel Gary tube mill where the pipe had been manufactured, the US Steel representative explained the straight parallel nature of the imperfections as follows.

Pipe of the size involved is produced at Gary in a hot stretch mill from hot rotary pierced tube rounds. Any surface imperfections resulting from the piercing operation would be spiral in nature. After piercing the tube rounds are hot reduced and stretched in a stretch mill. In a stretch mill, the tube round and resulting pipe passes straight thru a number of pairs of rolls and does not spiral. The axis of subsequent pairs of stretch mill rolls are at right angles to the axis of previous pairs of rolls. Occasionally due to an either slightly oversize or eccentric round, a slight bulge termed an overfill may be formed between and during rolling thru a pair of rolls. The bulge or overfill is rolled down by subsequent rolls causing a straight parallel pair of laps termed overfill laps. Overfill laps generally do not exceed a depth of a few thousandths of an inch or 5% of the nominal wall thickness of the pipe being produced as determined by exploration of a sufficient number of visual surface imperfections per the requirements of the SA-106 material specification. The manufacturer need not remove surface imperfections whose depth is less than 5% of nominal wall. In isolated cases where upon exploration lengths are found to contain surface imperfections in excess of 5% of nominal wall thickness, due to economics and small sizes of pipe involved, such lengths are scrapped rather than removing imperfections. The United States Steel Corp. accordingly contends that at time of manufacture the pipe in question met the requirements of the SA-106 specification.

After receipt of the US Steel explanation of overfill laps, an approximate 1/2" long ring was cut from the returned pipe at the center of the area which produced the 2" long major reflection. The 1/2" long ring was presented to a qualified laboratory for macroscopic and microscopic examination after both sides (ends) of the ring were polished. Per attached copy of International Testing Laboratory report dated 12/9/82 and accompanying macrophotographs and photomicrographs, the relative orientation and depth of overfill laps can be determined. Sample "A" is the side (end) of the ring taken nearest the end of the returned pipe bearing cut tack welds whereas Sample "B" is the opposite side of the ring.

The overfill laps termed "left lap" and "right lap" angle towards each other as would be expected based on the US Steel explanation of overfill laps. Left lap on Sample "A" which becomes Right lap on opposite side Sample "B" appears by use of the photomicrograph scale provided by the laboratory to have a radial depth of 0.032" on Sample "A" reducing to a radial depth of 0.026" on Sample "B". Right lap on Sample "A" which becomes Left lap on opposite side Sample "B" likewise appears to have a radial depth of 0.023" reducing to a radial depth of 0.016".

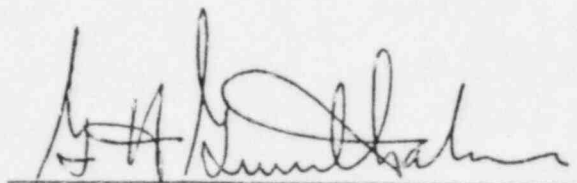
Based thereon, all apparent radial depths of laps exceed 5%, and 3 of 4 radial depths of laps exceed 12-12%, of the 0.154" nominal wall thickness of 3/4" NPS S/80 pipe. However, the radial thickness of the sample ring was measured by micrometer to be in excess of nominal at 0.169" to 0.170". Accordingly, the maximum apparent lap depth would appear to barely not infringe on the minimum wall thickness required for 3/4" NPS S/80 pipe.

While awaiting the results of macroscopic and microscopic examination of the 1/2" long ring sample, the approximately 6'-9 1/2" balance of the returned length was subjected to a magnetic particle surface examination at Alpha Testing Laboratories. As indicated in attached Alpha Testing report dated 1/17/83, the parallel indications were well defined near the end which had contained the tack welds. Accordingly, the length of pipe would be rejectable based on magnetic particle surface examination. To permit additional ultrasonic examination no effort was made to remove surface imperfections by surface conditioning to determine whether surface examination indications could be eliminated. However it was determined that by removal of a few thousands of inches of surface at two small areas near the middle and far end of the returned length, the capability of magnetic particle examination to disclose apparent defects was eliminated.

Because of the failure of performed ultrasonic examinations to disclose or confirm defects evidenced by both microscopic and magnetic particle examinations, an attempt was made to recalibrate the calibration standard utilized during initial and receipt examinations performed. However, because it is necessary for accurate calibration to calibrate the standard after but while still in the setup for performance of notching by the electrical discharge method, it was not possible to obtain an accurate and valid recalibration. Therefore a new calibration standard S/N 647-5 was made, calibrated, and certified. In addition to equivalent responses being obtained from the notches in both calibration standards, as indicated in the Alpha Testing Laboratories report dated 1/17/83, final ultrasonic examination of the returned length using calibration standard S/N 647-5 provided the same results as previous examinations.

It is concluded that angle beam ultrasonic examination per Code requirements inherently does not have the capability of disclosing overfill type laps in small size pipe which are in close proximity to each other, are parallel, and are oriented toward each other. Possibly because of reflection of sound during scanning in either or both circumferential directions, the responses obtained tend to reveal the difference in depth of such parallel defects.

It is also concluded that when overflow type laps exist the lap defects are mechanically caused and are therefore not unique with or traceable to specific heats of steel pipe.

A handwritten signature in cursive script, appearing to read "G.H. Grunthaler", written over a horizontal line.

G.H. Grunthaler



ALPHA TESTING LABORATORIES, INC.

RADIOGRAPHY
PENETRANT
MAGNETIC PARTICLE
ULTRASONICS
EDDY CURRENTS

Guyon Alloys, Inc.
950 S. 4th Street
Harrison, N.J. 07029

1/17/83

Att: George Grunthaler

Subject: Ultrasonic Inspection of 1 pce. 7' length, 3/4" 5/80, SA-106
Grade B, Heat #M82244.

Dear George:

On November 19, 1982 one of our Level II technicians (Joseph Stivali) performed a Ultrasonic Examination in accordance with our procedure ATL-7100 Rev. 1 dated 3/13/81 and supplement #4805 dated 12/10/80 using calibration standard S/N 614-5 on one end of the 7' specimen. An indication was found which produced a reflection of 85 to 90% of the reference standard, this indication extended approximately 2 inches in length, further scanning of the specimen revealed reflector ranging from 70% to 5% down the entire length of pipe.

On December 6, 1982 a Magnetic Particle examination was performed on the same specimen at Alpha Testing Labs., Totowa, N.J.. Magnetic Particle inspection revealed two longitudinal indications parallel to one another and running the entire length. These indications were separated by approx. 1/4", on one end of the specimen the indications were bright and well defined with a heavy concentration of Iron Oxide which would tend to indicate the indications at that point were quite deep. As the inspection progressed down the length of the pipe, the indications became less pronounced leading us to believe they were tapering off to little or no depth.

On January 14, 1983 a second Ultrasonic examination was performed on the same specimen using a new notch standard S/N 647-5. The results were the same as the inspection performed on Nov. 19, 1982.

A note should be made that during the Magnetic Particle examination and a visual inspection of one end of the pipe reveals the indications to be curved and tailing into one another. It is our conclusion because of the orientation of these indications and the inherent limitation of the Ultrasonic angle beam technique, these indications would not lend themselves to be resolved to the maximum possible extent.

If additional information is required, please do not hesitate to contact me directly.

Very truly yours,

R. Venello

RV/dv

BRANCH OFFICES:

Chicago, Illinois

Philadelphia, Pennsylvania

ATTACHMENT VII

International Testing Laboratories, Inc.

Materials Testing and Consulting Engineers

578-582 MARKET STREET

NEWARK, N. J. 07105

PHONES (201) 589-4772-3-4

Cable Address: INTEL

Telex: 139187

METALLURGICAL REPORT

No.

484399

DATE December 9, 1982

From

Guyon Alloys Inc.
Harrison, New Jersey

Sample of : Schedule 80 SA 106 Grade B Pipe

Marked : Heat No. M82244
Purchase Order No. A57440N

RESULTS : The submitted sample was polished for macroscopic examination. Macrophotographs, showing approximately 3.5X magnification, shows the relative orientation and depths of the laps.

Microscopic examination, at 75X magnification, more clearly delineates the limits of the laps. The photomicrographs show a scale calibrated at 13 divisions = 0.010 inch.

This examination was performed in accordance with our QA Program Rev. 5, dated 8-21-80, as audited and approved by Guyon Alloys on 4-23-82, and meeting the requirements of ASME Section III, NCA-3800.

To

Guyon Alloys, Inc.
Harrison, New Jersey

INTERNATIONAL TESTING LABORATORIES, INC.

The liability of the International Testing Laboratories, Inc. with respect to the services charged for herein, shall in no event exceed the amount of the invoice.

Our reports pertain to the sample tested only. Information contained herein is not to be reproduced, except with our permission.

David H. Hoffman

ITL 101 REV. 5M 6-82

PAUL F. BRUNS, Ph.D.
CONSULTING CHEM. ENGINEER

DAVID N. HOFFMAN, B. Ch. E. P. E.

INTERNATIONAL TESTING LABORATORIES, INC.

Materials Testing and Consulting Engineers

578-582 MARKET STREET

NEWARK, N. J. 07105

December 9, 1982

BRANCH OFFICES

CHICAGO, ILLINOIS

PHILADELPHIA, PENNSYLVANIA

CABLE ADDRESS: INTEL

TELEX: 139187

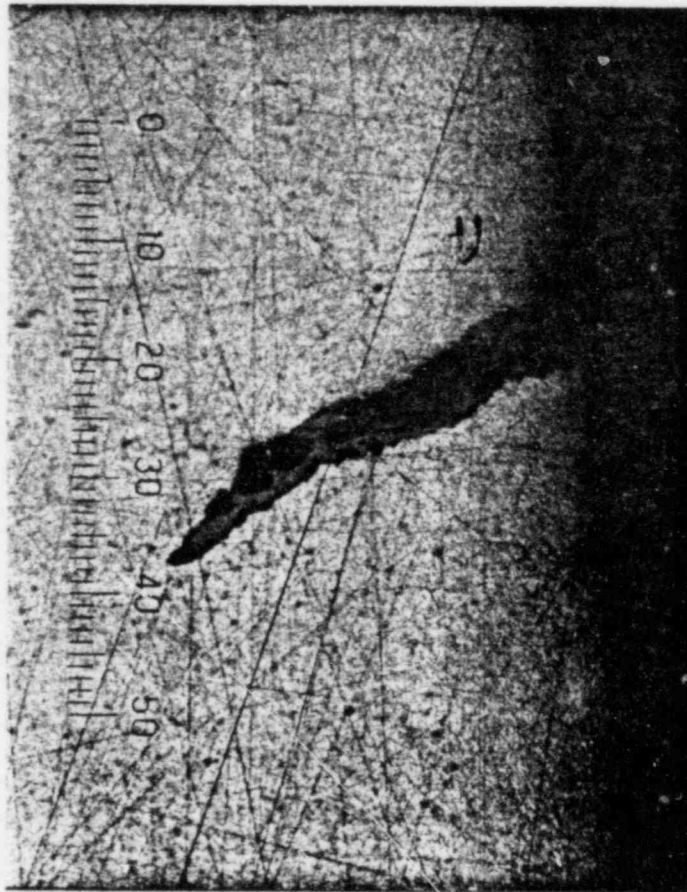
PHONE: (201) 589-4772-3-4

Guyon Alloys, Inc
350 South Fourth Street
Harrison, New Jersey 07033

Lab. #184300

Heat No. M82244
P.O. #A15744CN

Sample of : Sch 30 SA-106 Grade B Pipe



Mag. 75X - Side B - Right lap



PAUL F. BRUNS, Ph.D.
CONSULTING CHEM. ENGINEER

DAVID N. HOFFMAN, B. Ch. E. P. E.

INTERNATIONAL TESTING LABORATORIES, INC.

Materials Testing and Consulting Engineers

578-582 MARKET STREET

NEWARK, N. J. 07105

December 9, 1982

CABLE ADDRESS: INTEL

TELEX: 139187

PHONE: (201) 589-4772-3-4

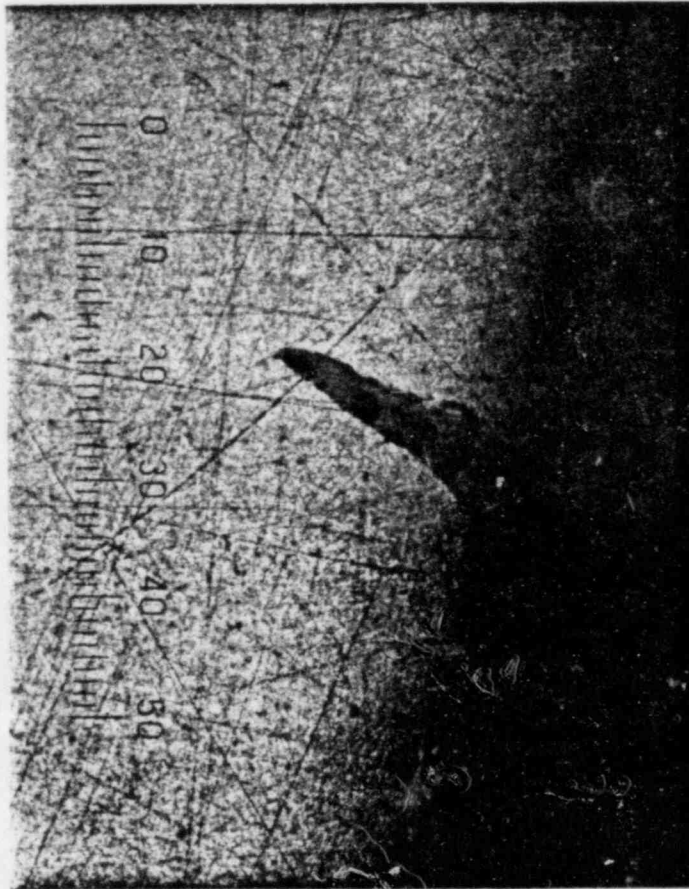
BRANCH OFFICES
CHICAGO, ILLINOIS
PHILADELPHIA, PENNSYLVANIA

Guyon Alloys, Inc
950 South Fourth Street
Harrison, New Jersey 07029

Lab.#484399

Heat No. M82244
P.O.#A057440N

Sample of : Sch 30 SA-106 Grade B Pipe



Mag. 75X - Side B - left lap



PAUL F. BRUNS, PH.D.
CONSULTING CHEM. ENGINEER

DAVID N. HOFFMAN, B. CH. E. P. E.

INTERNATIONAL TESTING LABORATORIES, INC.

Materials Testing and Consulting Engineers

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NEWARK, N. J. 07105

December 9, 1982

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CABLE ADDRESS: INTEL

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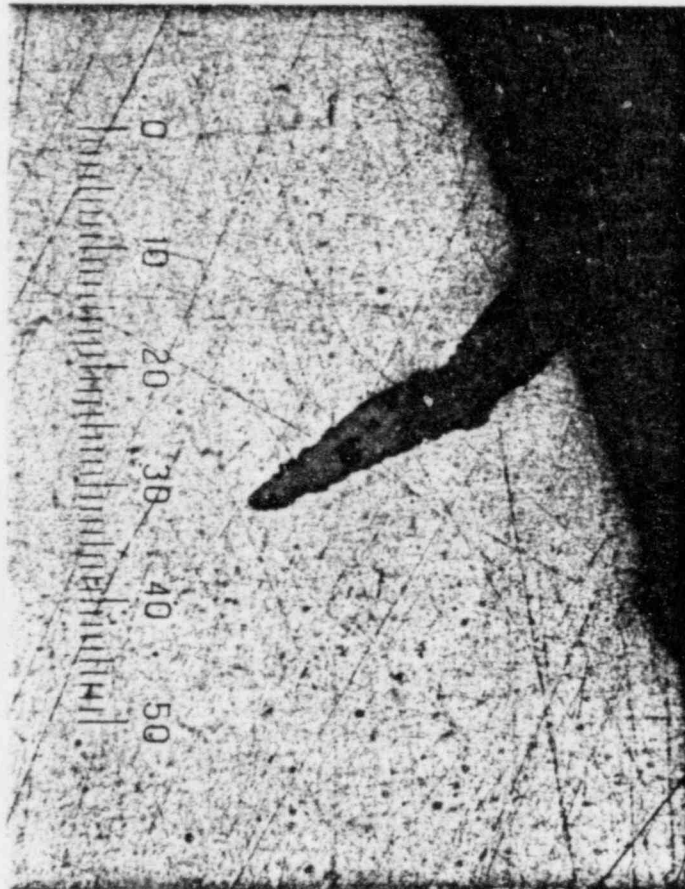
PHONE: (201) 589-4772-3-4

Guyon Alloys, Inc
950 South Fourth Street
Harrison, New Jersey 07029

Lab.#484399

Heat No. 182244
P.O.#A057440N

Sample of : Sch 30 SA-106 Grade B Pipe



Mag. 75X - Side A - Right lap



PAUL F. BRUNS, Ph.D.
CONSULTING CHEM. ENGINEER

DAVID N. HOFFMAN, B. Ch. E. P. E.

INTERNATIONAL TESTING LABORATORIES, INC.

Materials Testing and Consulting Engineers

578-582 MARKET STREET

NEWARK, N. J. 07105

December 9, 1982

BRANCH OFFICES

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PHILADELPHIA, PENNSYLVANIA

CABLE ADDRESS: INTEL

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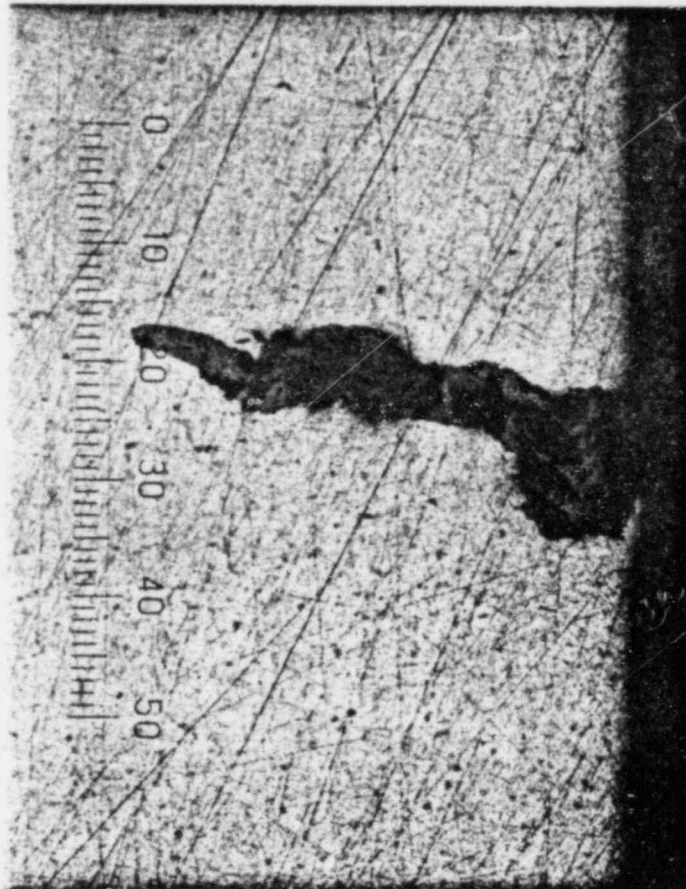
PHONE: (201) 589-4772-3-4

Guyon Alloys, Inc
350 South Fourth Street
Harrison, New Jersey 07029

Lab. #484599

Heat No. M82244
P.O. #A057440N

Sample of : Sca 30 SA-100 Grade B Pipe



Mag. 75X - Side A - Left lap



INTERNATIONAL TESTING LABORATORIES, INC.

Materials Testing and Consulting Engineers

578-582 MARKET STREET

NEWARK, N. J. 07105

December 9, 1962

BRANCH OFFICES

CHICAGO, ILLINOIS

PHILADELPHIA, PENNSYLVANIA

CABLE ADDRESS: INTEL

TELEX 139187

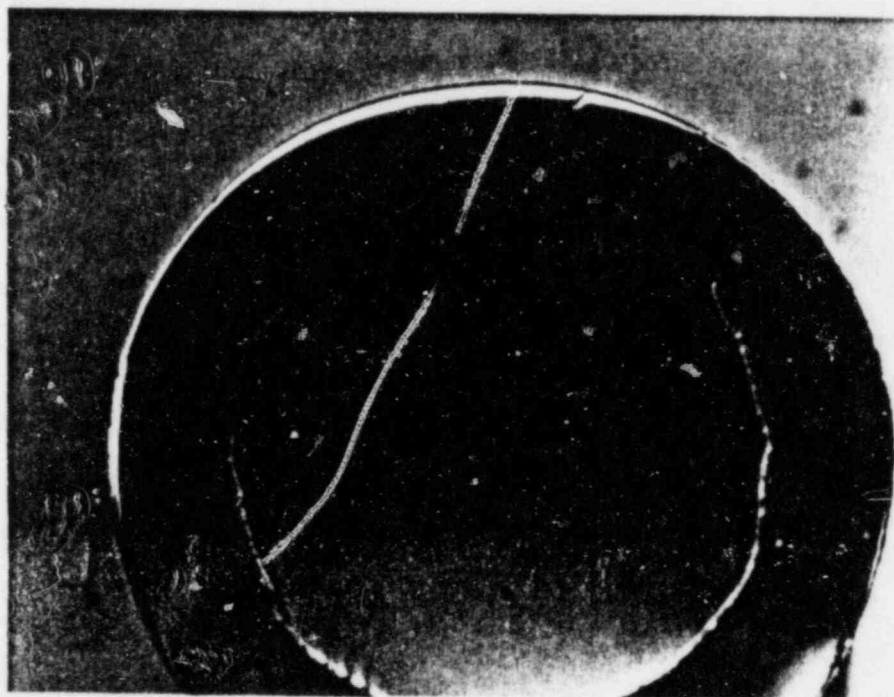
PHONE (201) 589-4772-3,4

Cayna Alloys, Inc
259 South Fourth Street
Harrison, New Jersey 07029

Lab. #431509

Inst. No. 482214
P.O. #A0574401

Specimen of : 100# A5-100 Grade A Pipe



Sample "B"



INTERNATIONAL TESTING LABORATORIES, INC.

Materials Testing and Consulting Engineers

578-582 MARKET STREET

NEWARK, N. J. 07105

December 9, 1982

CABLE ADDRESS: INTEL

TELEX 139187

PHONE (201) 589-4772-3-4

BRANCH OFFICES

CHICAGO, ILLINOIS

PHILADELPHIA, PENNSYLVANIA

Guyon Alloys, Inc
950 South Fourth Street
Harrison, New Jersey 07029

Lab. #484399

Heat No. M82244
P.O. #A057440N

Sample of : Sch 80 SA-106 Grade B Pipe



Sample "A"

