

United States Government

Department of Energy

memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221

DATE: June 26, 2001

REPLY TO
ATTN OF: CBFO:QA:SAV:VW:01-1151:UFC:2300

SUBJECT: Revised CBFO Surveillance Report S-01-18, Packaging Technology, Inc., Caliber Inspection/Alaskan Copper, Seattle, WA

TO: Robert A. Johnson, Pac Tec, Inc.


The Carlsbad Field Office (CBFO) has reviewed the Radiographic Overview Reader sheets, as requested, to determine the location of the base metal high-density indications that were reported within CBFO Surveillance S-01-18. This review resulted in the following locations being identified.

0021-121-A Job 6755, Cask 121-A1-00-01, W2, View 2-3
P.O. 42211 N497-2, W13 View 3-4
P.O. 42211 N497-2, W14, View 4-5
P.O. 42211 N497-2, W15, View 2-3, 3-4, 4-5, 5-6 & 6-7

During this review, the report for surveillance S-01-18 was corrected to properly refer to the RH-TRU 72B shipping cask instead of the TRUPACT-II. The revised report is attached.

I trust this information will help in your evaluation of the anomalies that were evident on the radiographic film and in responding to my letter dated June 19, 2001.

If you have any questions or comments concerning this report, please contact me at (505) 234-7476.


Michael R. Brown
Transportation Packaging Manager

Attachment

010615



Robert A. Johnson

-2-

June 26, 2001

cc: w/attachment
I. Triay, CBFO
K. Watson, CBFO
L. Chism, CBFO
S. Vega, CBFO
D. Winters, DNFSB
S. Monroe, EPA
M. Eagle, EPA
S. Zappe, NMED
B. Walker, EEG
M. Gerle, WTS Operating Record
G. Williams, WTS
T. Bowden, CTAC



U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

REVISED SURVEILLANCE REPORT S-01-18
OF THE
PACKAGING TECHNOLOGY, INC
CALIBER INSPECTION / ALASKAN COPPER

Seattle, WA

RADIOGRAPHIC FILM INTERPRETATION

May 21, 2001



Prepared by: _____

Steve Davis for

Betty J. R. Chavez, ASNT Level III
Surveillance Team Leader

Date: _____

6/25/01

Concurrence by: _____

Mike Brown

Mike Brown
CBFO Contracting Officer Technical Rep.

Date: _____

6/25/01

1.0 EXECUTIVE SUMMARY

CBFO Surveillance S-01-18 was conducted to evaluate Packaging Technology (Pac Tec, Inc.) subcontractors (Caliber Inspection, and Alaskan Copper) radiographic film interpretation of the RH-TRU 72B shipping cask. The surveillance team consisted of a CTAC ANST Level III and observers from Packaging Technology, Inc. (Pac Tec, Inc). The surveillance was conducted at the Seattle, Washington facility on May 21, 2001. The surveillance team determined that the activities evaluated relating to the film evaluation were satisfactorily implemented and effective. One concern that was isolated in nature was identified, resulting in one observation that addressed the lack of objective evidence indicating a completed disposition for radiographic view 0-1 of S/N 121-A1-00-02. (0012-121-A1 Job 6755-01), weld 2. In addition, one recommendation was offered to management relative to the use of dual film technique instead of single film technique for clarity.

2.0 SCOPE

CBFO Surveillance S-01-18 was conducted to evaluate the implementation and effectiveness of Caliber Inspection and Alaskan Copper radiographic film interpretation of welds on the RH-TRU 72B shipping cask.

3.0 SURVEILLANCE TEAM

Betty J. R. Chavez, ASNT Level III Surveillance Team Leader, CTAC

4.0 SURVEILLANCE PARTICIPANTS

A list of personnel contacted during the course of the surveillance is provided as Attachment 1 of this report.

5.0 SUMMARY OF SURVEILLANCE RESULTS

5.1 Surveillance Activities

Details of surveillance activities, along with the specific objective evidence reviewed and the results of the reviews are contained within the surveillance overview checklists. The radiographic overview checklists are maintained as QA records.

The surveillance team verified compliance with the American Society for Nondestructive Testing, (ASNT) Recommended Practice SNT-TC-1A, *Personnel Qualification and Certification in Nondestructive Testing*, ASME Section III, Article NF-5000, Article NB-5000, and Article VI-1000 "Rounded Indications." The surveillance team reviewed the qualifications of Caliber Inspection and Alaskan Copper radiographic film interpretation personnel and determined that

the qualification documentation met the intent of the ASNT SNT-TC-1A Recommended Practice.

The surveillance included an overview of a sample population of radiographic film of RH-TRU 72B shipping cask S/N 121-A1-00-01 & 02, 0012-121-A1, Job 6755 and P.O. 00088-00012/126, N497, and 42211, N495-2 W4 & W5 by an ASNT Level III in radiography. Results are submitted of this report, consisting of five radiographic film interpretation overview sheets and two radiographic technique sheets. One Observation was identified which addressed the lack of objective evidence to indicate completed disposition of radiographic view 0-1. One Recommendation was also offered to management concerning the use of dual film techniques (see Section 6.0 for details). Nondestructive testing personnel training and vision records were reviewed for the following: Dennis W. Evans, RTIII, MTIII, ASNT Level III DA-798 1965 – Present; Dennis Kujawa, Level II RT, MT, PT, 1974-Present; and Douglas L. Nalley, Level II RT, 1975 – Present. There were no discrepancies identified. The radiographic film interpretation overview sheets are maintained as QA records and provide specific evidence of the results of the surveillance activity.

The surveillance team determined that the evaluated Caliber Inspection and Alaskan Copper activities were satisfactorily implemented based on the sampled radiographic film population. As a result, the surveillance team concluded that the requirements related to the activities evaluated during the surveillance were adequate, satisfactorily implemented and effective.

5.1.1 Organization

The surveillance team evaluated the adequacy of documents depicting the qualifications of radiographic film interpretation personnel to ASNT Recommended Practice SNT-TC-1A, *Personnel Qualification and Certification in Nondestructive Testing*. Caliber Inspection and Alaskan Copper adequately incorporated the requirements of ASNT SNT-TC-1A and certified personnel adequately interpreted the radiographic film in accordance with ASME Section III, Article NF-5000, Article NB-5000, and Article VI-1000. The Pac Tec, Inc. subcontractor's radiographic film interpretation program has been satisfactorily implemented and is effective.

6.0 OBSERVATIONS AND RECOMMENDATION

The surveillance team identified one Observation during the surveillance for the lack of objective evidence of investigating the complete disposition of radiographic view 0-1 of S/N 121-A1-00-02. (0012-121-A1 Job 6755-01), weld 2.

It is noted that some film was shot using a single film technique. It is recommended that a dual film technique be used in order to clarify film interpretation.

Some large anomalies were noted on the base metal material (not the weld area) and should be further evaluated.

7.0 ATTACHMENTS

Attachment 1:

Radiographic Technique Sheets (2 pages... 1 from Caliber Inspection and 1 from Alaskan Copper)

Attachment 2:

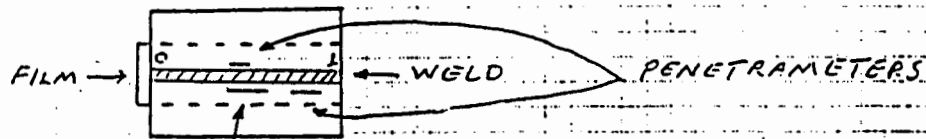
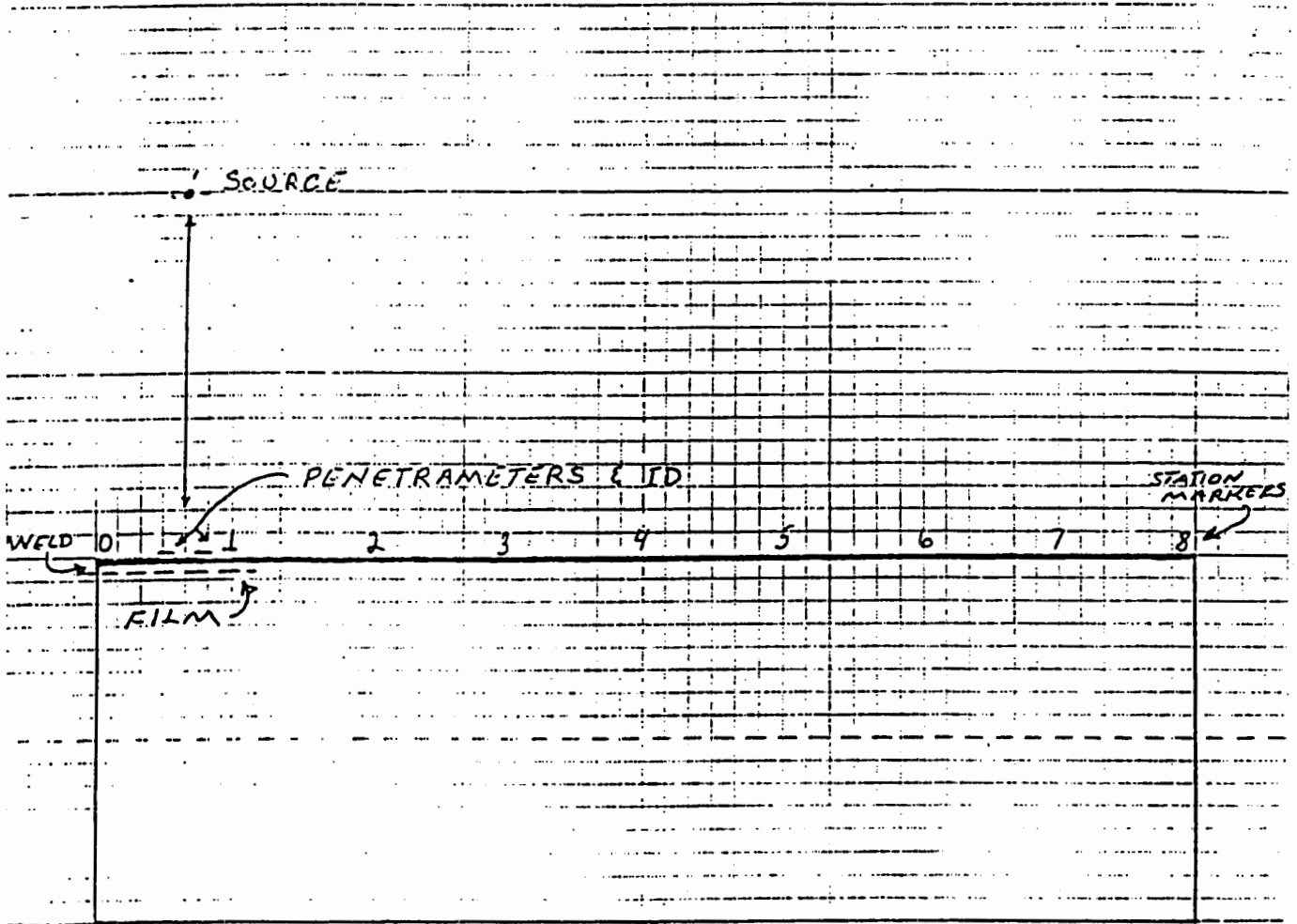
Radiographic Film Interpretation of Weldments, RH-TRU 72B shipping cask (5 pages)

PERSONNEL CONTACTED DURING SURVEILLANCE S

PERSONNEL CONTACTED				
NAME	ORG/TITLE	IN BRIEF	CONTACTED DURING AUDIT	OUT BRIEF
Counterman, Bernard.	Pac Tec, Inc., QA Manager	X	X	X
Chavez, Betty J. R.	CTAC / Surveillance Team Lead	X	X	X
Morgan, Dale	Caliber Inspection, Laboratory Superintendent	X	X	
Andrew Key	Pac Tec, Inc.		X	

SPECIAL RADIOGRAPHIC SETUP INFORMATION

Show cross section of the component along with the placement of the source, the film and the penetrameter. show the location marker placement and numbering sequence of the markers.



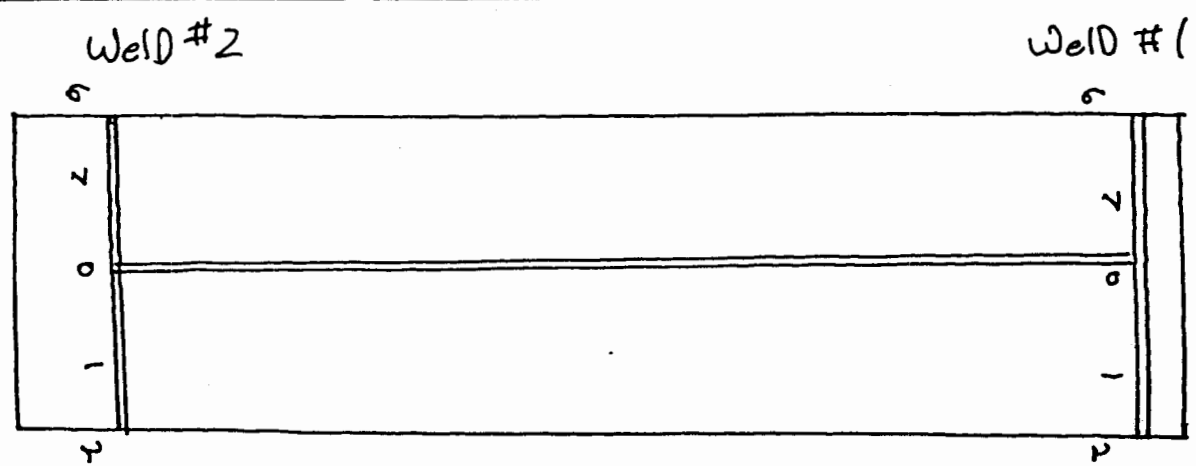
NO. 6715	CUST. P.O. 100055
NO.	DRAWING NO.
1	00012-126

3/14/01

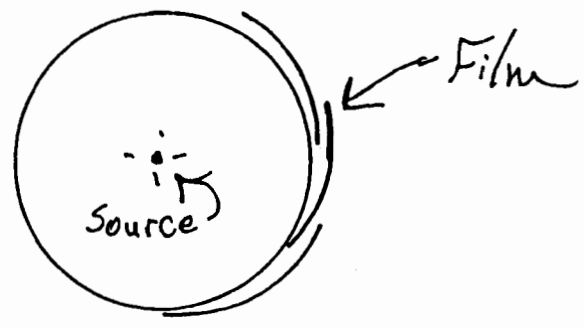
DATE <u>5-6-01</u>	CALIBER INSPECTION RADIOGRAPHIC TECHNIQUE	PAGE NO. <u>1</u> OF <u>1</u> REPORT NO. <u>102270</u>
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Customer <u>Ideal Machine + MFG.</u>	P.O. No. <u>1089</u>
Part No. <u>0012-121-A1</u>	Tube or Source No. <u>3</u>
Radiation Source <u>Ir 192</u>	Curie Strength <u>8/6</u>
Focal Spot or Source Size <u>.1 x .1</u>	Angle of Beam <u>90°</u>
KV _____ MA _____	Film Focal Distance <u>16"</u>
Material Thickness & Type <u>3/8" S.S. + build up</u>	Size <u>10</u>
Penetrometer Type <u>ASTM</u>	Sensitivity Level <u>2-4T</u>
Penetrometer Shim <u>1/16" TO 1/8" S.S.</u>	Source Side <u>XX</u>
Penetrometer Film Side _____	Size <u>4 1/2 x 17"</u>
Film Type <u>AGFA D4-D4 **</u>	Back <u>1010"</u>
Pb Screens - Front <u>1005</u>	Exposure Time <u>1 min 20 sec</u> Single View <input checked="" type="checkbox"/> Double View _____
Na. of Views <u>8 per weld</u>	Specification Procedure <u>ASME SEC. II + SEC. III</u>
Specification Acceptance <u>ASME SEC. III Div. 1 SubSec. NB-5000</u>	Development: Automatic 9 Minute Cycle @ 26 Degrees C. <input type="checkbox"/> Manual <input type="checkbox"/>

Approved By [Signature] Level III



*Double LOADS - Same Screens



Radiographer Dennis Kujawa Level II ASNT-TC-IA

TAC SURVEILLANCE RADIOGRAPHIC FILM INTERPRETATION OF WELDMENTS TRUPACT-II

PAGE 1 OF 7 10F5
6/18/01

RADIOGRAPHIC OVERVIEW

Organization Evaluated Caliber Inc / Pac Tech Location Seattle, WA
 Contact(s) Bennie Coulter Surveillance # 52107
 Activities Evaluated RT Date(s) of Surveillance 5/21/01
 Controlling Document(s) ASME Sect III NB5000, ASME Sect V
 Surveillance Team Member(s) Betty Chavez / Bonnie Coulter
 CAR: Yes NO - CAR Initiator _____ CAR Date _____
 Radiographic Procedure Number Caliber Inc QA Manual, Rev 5 / Report 102270
 Radiographer Qualifications Dennis Kujawa, Level III, Dennis Evans, Level III Technicians
 Material and thickness range 3/8" + Building Stainless Steel
 TRUPACT-II Serial Number 0012-121-A1 Job 6755-01, S/N 12EA1-00-02

NWB
6/25/01
RA-726

Weld	View	IQI	Original Disposition	Accept	Reject	Comments
1	0-1	#104T	(A) P, S	✓		P < .020" @ 0.5
	1-2	~2.64	(A)	✓		
	2-3		(A)	✓		
	3-4		(A)	✓		
	4-5		(R) S		✓	P Cluster @ 5.3 < .045" P LOP along joint @ 5.1 P ~ .050" LOF @ 5.8
	5-6		(A)	✓		Artifacts
	6-7		(A)			
	7-0		(A)			Reweld not available
2	0-1		N/A	✓		No Disposition
	1-2		(A)	✓		
	2-3		(A)	✓		
	3-4		(A) S	✓		
	4-5		(A) P	✓		P @ 4.3
	5-6		(A) P	✓		P @ 2.020"
	6-7		(A)	✓		
	7-0		(A)	✓		
						densitometer & density strip Caliber Inc 7/01

.045"
 P ~ .050"
 LOF @ 5.8
 marked
 a
 RF

Film Evaluated By: [Signature] ASNT Level III, RT on 5-21-01
 Signature, ASNT Certification # _____ Date

A = Accept
 R = Reject
 UWB = Uneven Weld Bead
 LOF = Lack of Fusion
 LOP = Lack of Penetration
 P = Porosity

NDE SURVEILLANCE RADIOGRAPHIC FILM INTERPRETATION OF WELDMENTS TRUPACT-II

PAGE 2 OF 5
6/18/01

RADIOGRAPHIC OVERVIEW

Organization Evaluated Caliber Inc. Location Seattle, WA
 Contact(s) Bernie Courter Surveillance # _____
 Activities Evaluated RT Film Date(s) of Surveillance _____
 Controlling Document(s) ASME Sect. III, NB5000, ASME Sect V
 Surveillance Team Member(s) Betty Chavez
 CAR: Yes NO CAR Initiator _____ CAR Date _____
 Radiographic Procedure Number ASME Sect III NB5000 & ASME Sect V
 Radiographer Qualifications Dennis Kujawa Level II, Dennis Egan, Level III
 Material and thickness range 3/8" SS & Duplex
 TRUPACT-II Serial Number 0021-121-A SS, Rept. 102270-1 5/6/01
121-A1-00-01

WB 101
6/25/01
RH-726

Weld	View	IQI	Original Disposition	Accept	Reject	Comments
W1	0-1	#10	(A)	✓		
	1-2		(A)	✓		
	2-3		(A)	✓		
	3-4		(A)	✓		
	4-5		(A) P	✓		P < .025 Cluster
	5-6		(A) P	✓		P < .025 Cluster @ 5.3
	6-7	#10	(A)	✓		Artifacts
	7-0		(A)	✓		
W2	0-1		(A)	✓		
	1-2		(A)	✓		
	2-3		(A)	✓		
	3-4		(A) thru	✓		HDI on Parent Metal HDI .075" x .030" @ 3.7
	4-5		(A)	✓		P < .035"
	5-6		(A)	✓		
	6-7		(A)	✓		
	7-0		(A)	✓		

Texture Weave

Film Evaluated By: _____ ASNT Level III, RT on _____
 Signature, ASNT Certification # _____ Date _____

A = Accept
 R = Reject
 UWB = Uneven Weld Bead

LOF = Lack of Fusion
 LOP = Lack of Penetration
 P = Porosity

NATAC SURVEILLANCE RADIOGRAPHIC FILM INTERPRETATION OF WELDMENTS -TRUPACT-II

RADIOGRAPHIC OVERVIEW

Organization Evaluated Alaska Copper/Packer Location Seattle
 Contact(s) Bernie Cowterman Surveillance # _____
 Activities Evaluated RT Date(s) of Surveillance 5/21/01
 Controlling Document(s) ASME Sect III, NB5000, ASME Sect. V
 Surveillance Team Member(s) Betty Chavez
 CAR: Yes NO CAR Initiator _____ CAR Date _____
 Radiographic Procedure Number Technique 6755 PO P00088 - 00012 / 126
 Radiographer Qualifications Chuck Glibbo Level III
 Material and thickness range 32.00" O.S. x 3/8" Wall S401 x 112 1/2" nominal length
 TRUPACT-II Serial Number N4997 42211 N4997-2

N4997-1
6/25/01
RH-126

nominal length
T304
ASTM
240

Weld	View	IQI	Original Disposition	Accept	Reject	Comments
N4997-1		0-1	(A)	✓		HBT <.030"
		1-2	(A)	✓		HBT <.030"
		2-3	(A)	✓		HBT <.020"
		3-4	(A) surface	✓		Surface Cond.
		4-5	(A) surface	✓		"
		5-6	(A)	✓		HBT .025"
		6-7	(A)	✓		
		7-8	(A)	✓		
N4997-2		0-1	(A)	✓		HBT <.040"
		1-2	(A)	✓		HBT <.040"
		2-3	(A)	✓		HBT <.040"
		3-4	(A)	✓		HBT <.040"
		4-5	(A) surface	✓		HBT <.040" surface Base
		5-6	(A)	✓		HBT
		6-7	(A)	✓		
		7-8	(A) Tungsten	✓		HBT <.030" dia
N4997-3		0-1	(A)	✓		HBT <.030" dia
		1-2	(A)	✓		P <.040" dia
		2-3	(A)	✓		Surface Cond.
		3-4	(A)	✓		HBT + Surface Cond.
		4-5	(A)	✓		Surface Cond.
		5-6	(A)	✓		Surface Cond. + HBT .050"
		6-7	(A)	✓		Surface Cond.
		7-8	(A)	✓		

single film tech.

single film technique

single film tech

Surface Base metal indicated ~13 indicate >.040" dia in ~1" diam area >1" long

Film Evaluated By: Betty Chavez ASNT Level III, RT on 5/21/01
 Signature, ASNT Certification # _____ Date _____

A = Accept
R = Reject
UWB = Uneven Weld Bead

LOF = Lack of Fusion
LOP = Lack of Penetration
P = Porosity

CTAC SURVEILLANCE RADIOGRAPHIC FILM INTERPRETATION OF WELDMENTS TRUPACT-II

RADIOGRAPHIC OVERVIEW

Organization Evaluated Alcoa Copper/Pack Location Seattle
 Contact(s) Bernie Cowterman Surveillance # _____
 Activities Evaluated RT Film Date(s) of Surveillance 5/21/01
 Controlling Document(s) ASME Sect III, NB5000, ASME Sect. V
 Surveillance Team Member(s) Betty Chavez
 CAR: Yes NO / CAR Initiator _____ CAR Date _____
 Radiographic Procedure Number 00012-126 3/14/01
 Radiographer Qualifications Chuck (Sub) (2/23/01)
 Material and thickness range 3 1/2" x 3/8" 11 7/8" Long + ASTM A-240 Type 304
 TRUPACT-II Serial Number 42211-N 497-4R1
RH-72B

MB3
 6/25/01

Weld	View	IQI	Original Disposition	Accept	Reject	Comments
4R1	0-1	7	(A)	✓		
	1-2		(A)	✓		
	2-3		(A)	✓		
	3-4		(A)	✓		
	4-5		(A)	✓		
	5-6		(A) P	✓		P ~ .050" @ 5.4
	6-7		(A)	✓		P < .010" Rando
	7-8		(A)	✓		P < .030" Art Peets

single
 film

Isolated

Film Evaluated By: Betty Chavez M1050 ASNT Level III, RT on 5/21/01
 Signature ASNT Certification # _____ Date

A = Accept
 R = Reject
 UWB = Uneven Weld Bead
 LOF = Lack of Fusion
 LOP = Lack of Penetration
 P = Porosity

TAC SURVEILLANCE RADIOGRAPHIC FILM INTERPRETATION OF WELDMENTS -TRUPACT-II

Form 6/12/01

RADIOGRAPHIC OVERVIEW

Organization Evaluated Alaska Copper, Inc. Location Seattle
 Contact(s) Bernie Coulter Surveillance # _____
 Activities Evaluated ASME RT Film Date(s) of Surveillance _____
 Controlling Document(s) ASME Sect. III, NB5000, NF5000, ASME Sect. V
 Surveillance Team Member(s) Bernie Coulter / Betty Chavez
 CAR: Yes NO CAR Initiator _____ CAR Date _____
 Radiographic Procedure Number Rep. # 9796
 Radiographer Qualifications Douglas Nally, Level II, John Olson, Level III
 Material and thickness range 1" to 1 1/2"
 TRUPACT-II Serial Number 42211 N-495-2 W4 + W5

WBS
6/25/01 RH-728

Weld	View	IQI	Original Disposition	Accept	Reject	Comments
2	0-1	35	(A)	✓		
	1-2	~3.02	(A)	✓		UBT
	2-3		(A)	✓		
	3-4		(A)	✓		
	4-5		(A)	✓		
5	0-1	35	(A)	✓		
	1-2		(A)	✓		
	2-3		(A)	✓		
	3-4		(A)	✓		
	4-5		(A)	✓		

Film Evaluated By: [Signature] ASNT Level III, RT on 5/21/01
 Signature, ASNT Certification # _____ Date _____

A = Accept
 R = Reject
 UWB = Uneven Weld Bead
 LOF = Lack of Fusion
 LOP = Lack of Penetration
 P = Porosity