

# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

October 9, 1989

United States  
Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

Re: LICENSE NO. 50-17446-01  
DOCKET NO. 030-12770  
SUBJECT: RESPONSE TO LETTER OF ALLEGED VIOLATIONS OF NRC REQUIREMENTS

In your letter dated September 11, 1989 to the Testing Institute of Alaska, Inc., reference paragraph four: You wish a reply describing in particular those actions taken or planned to improve the effectiveness of our overall management control system.

The plans for a more effective management control system of the Testing Institute is to hire more personnel to be assigned to specific management control areas, and to raise the rates of our services to our customers to be able to afford the additional personnel. The additional personnel will be assigned the duties of checking over the report forms received from the radiographer for completeness, instruct field personnel of their requirements, and coordinate the timely events necessary for compliance with the NRC regulations.

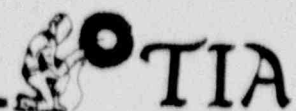
In paragraph five, you relate concern about radiographic personnel being instructed to perform radiation level surveys of source guide tubes and the circumference of exposure devices following each exposure during radiography. The Testing Institute of Alaska will make definite efforts in instruction of these surveys, both in a letter form to each radiographer and assistant radiographer, and verbal instruction during our upgrading periodic training program.

In paragraph six, you have stated you were informed that during July 1989 at the Tesoro Refinery in North Kenai, Alaska, an individual was permitted to perform work associated with licensed activities without wearing the appropriate dosimetry, and high radiation areas were not posted with the required signs, and restricted areas were not maintained under adequate surveillance to protect against unauthorized entry.

In my investigation of these alleged violations, I have found no cause for the allegations except that a past employee was disgruntled over not being guaranteed a job with numerous hours at a high rate of pay. The individual I suspect of making these allegations is Bob Taylor who worked for the Testing Institute of Alaska a total of five days, all during the Tesoro Refinery inspection of Tank #66.

3910170075 891009  
REGS LIC30 PDC  
50-17446-01

IE07



Page 2

Re: RESPONSE TO LETTER OF ALLEGED VIOLATIONS OF NRC REQUIREMENTS

On July 20, 1989, a three-man crew was dispatched from Anchorage to Kenai to perform several tests on Tank #66 at Tesoro's refinery in North Kenai. This tank was an existing large storage tank (approximately 85 feet in diameter) for fuel that required radiography of some old welds on the vertical plates of the tank walls, vacuum box tests, and magnetic particle tests of the floor welds.

The radiographer assigned to the radiography was Don Gilhousen. The crew assigned to the vacuum box and magnetic particle tests were Inspector Randy Denardi, with helper Robert Taylor. Don Gilhousen and Randy Denardi were assigned film badges and dosimeters as required, and Randy Denardi would assist Don Gilhousen as needed. Randy Denardi is also a qualified radiographer and both are long-time employees of the Testing Institute. Bob Taylor was not assigned a film badge or pocket dosimeter as he would not be working in any way associated with our licensed material. Bob Taylor worked with Randy Denardi, performing the vacuum box and magnetic particle tests during the two days of 7-20-89 and 7-21-89.

The sequence of events during those two days of inspection were as follows:

Don Gilhousen set up the radiographic film and location markers on the outside of the tank and then the radioactive source in position on the inside of the tank, while Randy Denardi and Bob Taylor performed the vacuum box and/or magnetic particle inspections on the floor welds on the inside of the tank. Don Gilhousen and Randy Denardi both stated that the proper signs were in place before any radiographic exposures were made. The proper signs were said to have been posted on the only entrance to the inside of the tank at the manways, and outside of the tank at the unrestricted areas. High radiation signs were posted at the proper locations, both outside and inside of the tank on the ladders needed to reach the locations being radiographed, as well as on the equipment bucket used to carry the small tools with the source.

When Don Gilhousen was set up and ready to make an exposure, he had Bob Taylor leave the tank with him, and Randy Denardi became Don Gilhousen's assistant, with Bob Taylor then being outside of the restricted area while the exposure was being made. Randy Denardi would crank out the source on the inside of the tank, monitoring the inside area, while Don Gilhousen would monitor the outside area. After Randy Denardi cranked the source back into the camera, locked and monitored the source, Bob Taylor was then permitted back into the tank to assist Randy Denardi in continuing the vacuum box and/or the magnetic particle inspections. At this point, Don Gilhousen is setting up the new radiographic film and repositioning the source for the next exposure, which was then conducted in a similar manner throughout those two days of inspection. At no time during those two days did Bob Taylor become involved with the usage of the licensed material.

Page 3

Re: RESPONSE TO LETTER OF ALLEGED VIOLATIONS OF NRC REQUIREMENTS

The following week Tesoro refinery requested more radiography be performed and two crews were requested for Tuesday, Wednesday and Thursday (7-25 through 7-27-89). A five man crew was dispatched to the Tesoro refinery to perform these additional radiography inspections. The crew consisted of three radiographers: Don Gilhousen, Randy Denardi and Steve Lockman, as well as two helpers, Robert Taylor and Bill Malay, all of whom were assigned film badges and pocket dosimeters. During these inspections the proper signs were again placed and proper monitoring of the radiation areas was performed. Each of the two sources were in the possession of qualified radiographers on the inside of the tank. The outside of the tank was monitored by a qualified radiographer with the additional assistance of the two helpers outside of the restricted areas.

The need for this many people was due to the added height of the welds to be inspected as ladders were used and the helpers held the ladders while the radiographers repositioned the film and sources. The Tesoro refinery required this work be performed at night while no other workers were in the area, and also provided two-way radios to each of our employees so they all would be in direct communication with each other to prevent any occurrence of an accident. Enclosed are copies of the Inspector's Daily Diaries, copies of inspection reports and copies of the utilization logs for these days. In my investigation I found no irregularities or violations.

In response to Appendix "A" - Notice of Violation:

Item A:

1. The reason this violation occurred is due to the radiographer's use of two survey meters. One was placed on the opposite side of the source tube and camera, and the other was carried by the radiographer. The radiographer felt the survey of the area immediately opposite on both sides of the source and source tube was sufficient to comply with the requirements of the survey.
2. To correct any further mistakes in interpretation of the survey requirements, instruction has been given to all radiographers and assistants that a complete survey of the entire length of the source tube and the entire circumference of the exposure device will be made after each exposure.
3. Future instruction will be given similar to that which has been given in this matter.
4. Full compliance has been achieved.



Re: RESPONSE TO LETTER OF ALLEGED VIOLATIONS OF NRC REQUIREMENTS

## ITEM B:

1. The survey in this instance was made but not properly recorded.
2. The entry has been made from the notes of the survey.
3. A better control on recordings is being planned for the near future.
4. Additional personnel have been hired to begin work on 10-9-89 and full compliance has been achieved.

## ITEM C:

1. An error was made by not entering the transportation index due to an oversight.
2. A reprimand has been given to the radiographer who failed to enter the T.I. He stated he will not make this error in the future.
3. The management control system has been changed to keep this from occurring.
4. Full compliance has been achieved.

## ITEM D:

1. The lack of registration was due to an oversight of not being aware of the requirements.
2. The registration, in accordance with 10CFR 71.12 (c) (3) is being complied with.
3. Future need for registration will be performed in a timely manner.
4. The date of full compliance will be when we receive confirmation back from the director that he has received our registration and acknowledges compliance.

If any further information is needed, please advise.

Respectfully submitted,



Donald M. Lockman  
Radiation Safety Officer

DML:rd/encls.

cc: United States Nuclear Regulatory Commission  
Regional Administrator  
Robert R. Pate, Chief  
Nuclear Materials Safety and Safeguards Branch  
Region V  
1450 Maria Lane, Suite 210  
Walnut Creek, CA 94596





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION V

1450 MARIA LANE, SUITE 210  
WALNUT CREEK, CALIFORNIA 94596

SEP 11 1989

License No. 50-17446-01

Testing Institute of Alaska, Inc.  
2114 Railroad Avenue  
Anchorage, Alaska 99501

Attention: Mr. Donald M. Lockman  
President

Gentlemen:

Subject: NRC Inspection

This refers to the routine inspection conducted by Mr. David D. Skov of this office on August 15 and 17, 1989, of activities authorized by NRC License No. 50-17446-01 and to the discussion of our findings held by Mr. Skov with you at the conclusion of the inspection.

The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Commission's rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

Based on the results of this inspection, it appears that certain of your activities were not conducted in full compliance with NRC requirements, as set forth in the Notice of Violation enclosed as Appendix A to this letter. These items have been categorized into severity levels as described in the NRC Enforcement Policy, 10 CFR Part 2, Appendix C (1989).

In addition to the need for corrective action regarding the specific violations included in Appendix A, we are especially concerned about the effectiveness of your management control system that permitted the violations to occur. Consequently, in your reply you should describe in particular those actions taken or planned to improve the effectiveness of your overall management control system.

We also have a concern about your radiographer training program. During the inspection, we learned that radiographic personnel have not been instructed to perform radiation level surveys of source guide tubes and the circumference of exposure devices following each exposure during licensed radiography as required by 10 CFR 34.43(b). Please confirm that your radiographic personnel will be instructed to perform the required surveys.

We have been informed that during July 1989 at the Tesoro Refinery, North Kenai, Alaska, (1) you permitted an individual to perform work associated with licensed activities without wearing the appropriate dosimetry; (2) radiation and high radiation areas were not posted with the required signs; and (3)

~~29992 0000~~ 2 200

SEP 11 1989

-2-

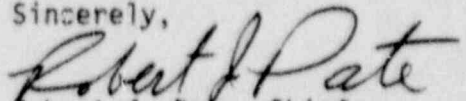
restricted areas were not maintained under adequate surveillance to protect against unauthorized entry. In your response to the enclosed Notice, please provide us with the results of your investigation into these additional areas of concern.

Your response to this Notice is to be submitted in accordance with the provisions of 10 CFR 2.202 as stated in Appendix A, Notice of Violation.

The responses directed by this letter and the accompanying Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

If you have any questions on this matter or concerning this inspection, we will be glad to discuss them with you.

Sincerely,

  
Robert J. Pate, Chief  
Nuclear Materials Safety and  
Safeguards Branch

Enclosure:  
Appendix A - Notice of Violation

APPENDIX A

NOTICE OF VIOLATION

Testing Institute of Alaska, Inc.  
2114 Railroad Avenue  
Anchorage, Alaska 99501

License No. 50-17446-01  
Docket No. 030-12770

During an NRC inspection conducted on August 15 and 17, 1989, certain violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1989), the violations are listed below:

- A. 10 CFR 34.43(b), in part, states that "The licensee shall ensure that a survey with a calibrated and operable radiation survey instrument is made after each exposure to determine that the sealed source has been returned to its shielded position. If the radiographic exposure device has a source guide tube, the survey must include the guide tube."

Section 10.2 of the "Radiation Safety Operating and Emergency Procedures Manual" dated January 23, 1983, which was incorporated by reference into License Condition 16, requires the survey of source guide tubes during the use of radiographic exposure devices.

Contrary to the above requirements, on August 17, 1989, the licensee failed to survey the source guide tube connected to an Amersham Model 660 exposure device during radiographic operations at the licensee's facility in Anchorage, Alaska.

This is a Severity Level IV Violation (Supplement VI).

- B. 10 CFR 20.401(b), in part, requires each licensee to maintain records in the same units used in 10 CFR Part 20, showing the results of radiation level surveys upon receipt of packages containing special form sources exceeding 20 curies, which are conducted pursuant to 10 CFR 20.205(c).

Contrary to the above requirement, at the time of the inspection, the licensee failed to record the results of a radiation survey of the transport package containing 105 curies of iridium-192 (special form source S/N 8216) upon its receipt by the licensee on July 17, 1989 in Anchorage, Alaska.

This is a Severity Level V Violation (Supplement IV).

- C. License Condition 15 states that the licensee may transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material." 10 CFR 71.5(a) provides that each licensee who transports licensed material outside of the confines of its plant or other place of use, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations of the Department of Transportation in 49 CFR Parts 170 through 189 appropriate to the mode of transport.

~~890920003~~ LP



49 CFR 172.203(d)(1)(v) provides that each person who offers a hazardous material for transportation shall describe the hazardous material on a shipping paper which must include the transport index assigned to each package in the shipment bearing Radioactive Yellow-II or Radioactive Yellow-III labels. 49 CFR 172.101 classifies radioactive material as a hazardous material for the purpose of transportation.

Contrary to the above requirements, on July 19, 1989, an Amersham Model 660 exposure device bearing a Radioactive Yellow-II label was shipped by the licensee between Anchorage and Kenai, Alaska using a shipping paper which did not include the transport index.

This is a Severity Level V Violation (Supplement V).

- D. 10 CFR 71.12(c)(3) grants a general license to the licensee to transport a Type B radioactive package for which an NRC Certificate of Compliance (COC) has been issued provided the user, who is not the original COC applicant, registers with the NRC, has a copy of the applicable COC, and complies with its terms and conditions.

Contrary to this requirement, at the time of the inspection, the licensee had not registered with the NRC as a user of Amersham Model 650 source changers and Amersham Model 660 exposure devices which are utilized by the licensee as transport packages.

This is a Severity Level V Violation (Supplement V).

Pursuant to the provisions of 10 CFR 2.201, Testing Institute of Alaska, Inc. is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region V, within 30 days of the date of the letter transmitting this Notice. This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation if admitted, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order may be issued to show cause why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Robert J. Pate, Chief  
Nuclear Materials Safety and  
Safeguards Branch

Dated at Walnut Creek, California  
this 11<sup>th</sup> day of September, 1989.

# Testing Institute of Alaska, Inc.

INSPECTOR'S DAILY DIARY

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality

Inspection / Integrity

CLIENT: TESOCO

DATE: 7-20-89 DAY OF WEEK: Thursday

LOCATION: TESOCO PLANT

JOB NO. 3181 P.O. NO. \_\_\_\_\_

INSPECTOR: DON GELHOUSSEN

ASSISTANT: RANDY DENARD / BOB TAYLOR <sup>HELPER</sup>

JOB DESCRIPTION: X-RAY + VACUUM TEST TANK #66 PAGE \_\_\_\_\_ OF \_\_\_\_\_

TIME	DESCRIPTION OF ACTIVITY
7:00	LEFT ANCHORAGE ON ERA
}	ARRIVE AT KENAI & TRAVEL TO PLANT
	MEET WITH BERNIE SMITH & WENT OVER WHAT
	TO X-RAY
	STARTED X-RAYING ON TANK #66
1/2 HOUR	1ST ROW CONNECTIONS
1 HOUR	X-RAYED TOTAL OF 20 INTERSECTIONS
}	ON 1ST ROW REJECTED 6 INTERSECTIONS
	ONE CRACK & 5 FOR NON FUSION
	VACUUM BOX TESTED 50% OF SEAL WELDS
	ON FLOOR
	COMPLETED WORK FOR DAY
	TRAVEL TO KENAI
7:30pm	CHECK IN HOTEL

CONSUMABLES USED: \_\_\_\_\_ FILM USED 42-4 1/2 X 17 in

MISC. CONSUMABLES: \_\_\_\_\_ OVERLAYS: 5-4 1/2 X 17

TOTAL WORKING HOURS: 12 TOTAL EQUIPMENT HOURS: 12 TRAVEL MILES: 30

SIGNATURE: Don Gelhausen

CLIENT REPRESENTATIVE: Bernie Smith

T.I.A. FORM NDT .043 Inspector's Daily Diary/NDTRMS



## REPORT OF VACUUM EXAMINATION OF WELDS

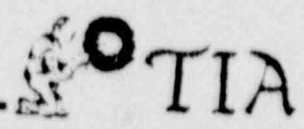
CLIENT: TESORO  
PROJECT: INSPECTION OF TANK #66  
ACCEPTANCE CRITERION: API-650

### WELD LOCATION AND IDENTIFICATION SKETCH

WELD SIZE:

DATE	WELD IDENTIFICATION	AREA	ACCEPT	REJECT	REMARKS
7-20-89	SEAM #1		✓		*ALL FLOOR WELD
	#2		✓		WERE VACUM
	#3		✓		TESTED + FOUND
	#4		✓		TO BE ACCEPTABLE
	#5		✓		AS NO LEAK
	#6		✓		WERE DETECTED.
	#7		✓		*SEE FLOOR
	#8		✓		SCHEMATIC DRAWING
					#24, ATTACHED.

INSPECTOR: J.R. Denard DATE: 7-20-89





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-20-87

CLIENT COMPANY: TESORO

WELDER'S NAME: \_\_\_\_\_

RADIOGRAPHIC TECHNICIAN: DON GILHOUSSEN / RANDY DENARDI

FILM INTERPRETER: DON GILHOUSSEN

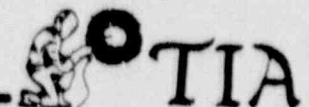
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: TANK #66 1ST ROW JUNCTIONS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
H022 1A	250WT	1	2		X	NF	
VERT 1A		1	2	✓			
H022 1B	250WT	2	3	✓			
VERT 1B		1	2	✓			
H022 1C	250WT	1	2	✓			
VERT 1C		1	2	✓			
H022 10	250WT	2	3	✓			
VERT 10		1	2		X	CR	

BT = Burn Through  
CC = Concave Root  
CR = Crack  
CP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity  
Rt Exam/NDTRMS

IC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-20-8

CLIENT COMPANY:

TESORO

WELDER'S NAME:

RADIOGRAPHIC TECHNICIAN:

DON GELHOJSEN/RANDY DENARD

FILM INTERPRETER:

DON GELHOJSEN

CONTROLLING SPECIFICATION:

MPI 650

PROCEDURE NUMBER:

TRK #66 1<sup>st</sup> ROW JUNCTION'S

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
<u>H02 IE</u>	<u>250WT</u>	<u>1</u>	<u>2</u>	<u>✓</u>			
<u>VERT IE</u>		<u>1</u>	<u>2</u>	<u>✓</u>			
<u>H02 IF</u>	<u>250WT</u>	<u>2</u>	<u>3</u>	<u>✓</u>			
<u>VERT IF</u>		<u>1</u>	<u>3</u>	<u>✓</u>			
<u>H02 IG</u>	<u>250WT</u>	<u>1</u>	<u>2</u>	<u>✓</u>			
<u>VERT IG</u>		<u>1</u>	<u>2</u>	<u>✓</u>			
<u>H02 IH</u>	<u>250WT</u>	<u>2</u>	<u>3</u>	<u>✓</u>			
<u>VERT IH</u>		<u>1</u>	<u>2</u>	<u>✓</u>			

BT = Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion

WH = Worm Hole Porosity

Rt Exam/NDTRMS

LC = Low Crown

NF = Non-Fusion

OU = Out. Undercut

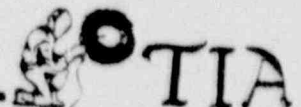
P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks

CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-20-8

CLIENT COMPANY:

TESORO

WELDER'S NAME:

RADIOGRAPHIC TECHNICIAN:

DON GELHORN/RANDY DENMARE

FILM INTERPRETER:

DON GELHORN

CONTROLLING SPECIFICATION:

API 650

PROCEDURE NUMBER:

TANK #66 1<sup>ST</sup> ROW JUNCTIONS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
VERT 1I	250WT	1	2	✓			
HORZ 1I		1	2		X	NF	
HORZ 1J	250WT	2	3	✓			
VERT 1J		1	2	✓			
HORZ 1K	250WT	1	2	✓			
VERT 1K		1	2	✓			
HORZ 1L	250WT	2	3	✓			
VERT 1L		1	2	✓			

BT = Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion

WH = Worm Hole Porosity

Rt Exam/NDTRVIS

LC = Low Crown

NF = Non-Fusion

OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks

CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-20-8

CLIENT COMPANY: TOSORO

WELDER'S NAME: \_\_\_\_\_

RADIOGRAPHIC TECHNICIAN: DON GZ/KOUSSEN / RANDY DEBARDT

FILM INTERPRETER: DON GZ/KOUSSEN

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: TANK #66 1<sup>st</sup> ROW JUNCTIONS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
HOZ 101	250WT	1	2		X	NF	
VERT 101		1	2	✓			
HOZ 1N	250WT	2	3		X	NF	
VERT 1N		1	2		X	HB WH NF	
HOZ 10	250WT	1	2	✓			
VERT 10		1	2	✓			
HOZ 1P	250WT	2	3	✓			
VERT 1P		1	2	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
CP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity  
Rt Exam/NDTRMS

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276 3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-20-81

CLIENT COMPANY: \_\_\_\_\_

TESORO

WELDER'S NAME: \_\_\_\_\_

RADIOGRAPHIC TECHNICIAN: \_\_\_\_\_

DON GELHOISEN/RANDY UERAROI

FILM INTERPRETER: \_\_\_\_\_

DON GELHOISEN

CONTROLLING SPECIFICATION: \_\_\_\_\_

API 650

PROCEDURE NUMBER: \_\_\_\_\_

TACK #66 1<sup>ST</sup> ROW JUNCTIONS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
<u>H02 1Q</u>	<u>250WT</u>	<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>			
<u>V02T 1Q</u>		<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>			
<u>H02 1R</u>	<u>250WT</u>	<u>2</u>	<u>3</u>	<input checked="" type="checkbox"/>			
<u>V02T 1R</u>		<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>			
<u>H02 1S</u>	<u>250WT</u>	<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>			
<u>V02T 1S</u>		<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>			
<u>H02T 1T</u>	<u>250WT</u>	<u>2</u>	<u>3</u>		<input checked="" type="checkbox"/>	<u>NF</u>	
<u>V02T 1T</u>		<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
CP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity  
Rt Exam/NDTRMS

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

## UTILIZATION/RADIATION REPORT

**WARNING — INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-20-89 CITY KENAI STATE AK

PROJECT TANK #66 CUSTOMER TESORO

**SOURCE OF RADIATION**  
 IR-192  CO-60  X-RAY   
 S.N. 8216 S.N. \_\_\_\_\_ S.N. \_\_\_\_\_

ACTIVITY OF SOURCE 99 CURIE  
 SURVEY INSTRUMENT MODEL NO. GS-2000

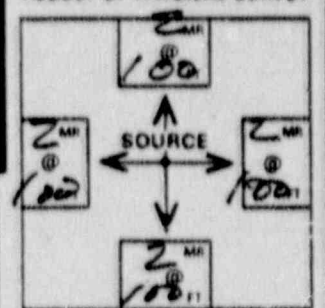
EXPOSURE DEVICE MODEL NO. 1040 S.N. 4486

S.N. 1040 VOID DATE 8-2-89

**RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH T I A O AND E PROCEDURE DAILY CHECK LIST.**

*[Signature]*  
 INSPECTION COMPLETED BY

### RESULT OF PHYSICAL SURVEY



### BARRICADE EQUIPMENT

STRAPS  ROPE  
 CONSTANT SURVEILLANCE  
 \_\_\_\_\_

**RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE**  
 IR-192 15-20 MR/HR @ 6" FROM SURFACE  
 CO-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE

TOTAL EXPOSURE TIME FOR THIS DAY 7 HRS 3 MIN.

PERSONNEL INFORMED All personnel

RADIOGRAPHER DAN GILHOUSTEN

RAIDING SUPERVISOR ASSISTANT Randy DENARDI

SERIAL NO. OF DISINTEGRATOR 015401

AND 14890

TOTAL MR RECORDED START 20 MR AND ST. BT 35 MR

FILM BAGS AND SERIAL NO. 5586-3134

AND 5586-1806

REMARKS \_\_\_\_\_

### SURVEY OF TRANSPORTING VEHICLE

MR. HR @ DRIVER Ø MR. HR @ OUTSIDE SURFACE Ø MR. HR @ 1 FT FROM SURFACE Ø



# Testing Institute of Alaska, Inc.

INSPECTOR'S DAILY DIARY

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276 3440

Welding / Quality  
Inspection Integrity  
DATE: 7-21-89 DAY OF WEEK FRIDAY

CLIENT: TESCO

DATE: 7-21-89 DAY OF WEEK FRIDAY

LOCATION: TESCO Plant

JOB NO. 3181 P.O. NO. \_\_\_\_\_

INSPECTOR: Don G. Hojssen

ASSISTANT: Randy D. MADOLE / BOB TAYLOR HELPER

JOB DESCRIPTION: X-RAY, MT, + VACUUM test of tank #66 PAGE \_\_\_\_\_ OF \_\_\_\_\_

TIME	DESCRIPTION OF ACTIVITY
7:00am	ARRIVED AT WORK + CONTINUED X-RAYING OF TANK #66 STARTED AT 2ND ROW OF JUNCTIONS
	X-RAYED 21 JUNCTION ALSO X-RAYED 4 VERTICAL SEAMS ON 2ND ROW
	ALSO 6 VERTICAL SEAMS ON 1ST ROW
	REJECTED 7 JUNCTIONS 4-CRACKS, 1-GP, 2-NF
	REJECTED 1 VERTICAL SEAM 2ND ROW, GP, IP, NF WITH
1/2 HOUR LUNCH	ALSO VACUUM TESTED FLOOR SEAMS + MT DOUBLE PLATS ON FLOOR ALL WELDS ACCEPTED
	FINISHED WORK FOR DAY
	TRAVEL TO KENAI
	COMPLETED PAPERWORK + REPORTS
	BOB TAYLOR RETURNED TO ANCHORAGE
	FINISHED UP REPORTS
9:00pm	QUIT WORK FOR DAY

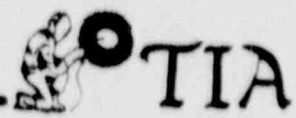
CONSUMABLES USED: 5 GAL GAS FOR GENERATOR FILM USED 53-4 1/2 X 17

MISC. CONSUMABLES: \_\_\_\_\_ OVERLAYS: 7-4 1/2 X 17

TOTAL WORKING HOURS: 13 1/2 TOTAL EQUIPMENT HOURS: 13 1/2 TRAVEL MILES: 30

SIGNATURE: Don G. Hojssen

CLIENT REPRESENTATIVE: [Signature]



## REPORT OF VACUUM EXAMINATION OF WELDS

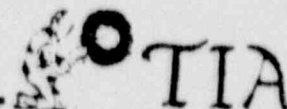
CLIENT: TESORO  
 PROJECT: INSPECTION OF TANK #66  
 ACCEPTANCE CRITERION: API-650

### WELD LOCATION AND IDENTIFICATION SKETCH

WELD SIZE:

DATE	WELD IDENTIFICATION	AREA	ACCEPT	REJECT	REMARKS
7-21	SEAM #9		✓		
	#10		✓		
	#11		✓		
	#12		✓		
	#13		✓		
	#14		✓		
	#15		✓		
	#16		✓		

INSPECTOR: J. R. Demary DATE: 7-21-89



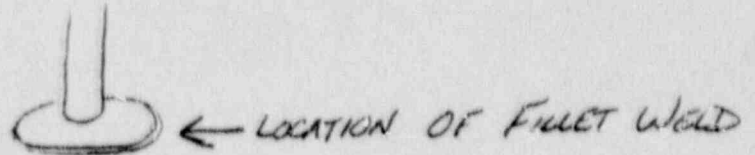
# Testing Institute of Alaska, Inc.

Mt. ENAM ND 934  
 2114 Railroad Avenue  
 Anchorage, Alaska 99501  
 (907) 276 3440  
Welding Quality  
Inspection Integrity

## MAGNETIC PARTICLE EXAMINATION

CLIENT: TESORO DATE: 7-21-89  
 PROJECT: TANK #66 INSPECTION LOCATION: TESORO PLANT  
 CODE ACCEPTANCE CRITERION: API-650

### LOCATION AND/OR IDENTIFICATION SKETCH



WELD IDENTIFICATION	NUMBER	INTERPRETATION		REPAIRS		REMARKS
		ACCEPT	REJECT	ACCEPT	REJECT	
BASE PLATE	11	✓				
	12	✓				
	13	✓				
	14	✓				
	15	✓				
	16	✓				
	17	✓				

TYPE OF MAGNETIZING CURRENT:

AC |  DC |  DRY |  WET |  RESIDUAL |  CONTINUOUS |  FLUX |  VISUAL

TECHNICIAN: J. R. Dupuy DATE: 7-21-89

TIA



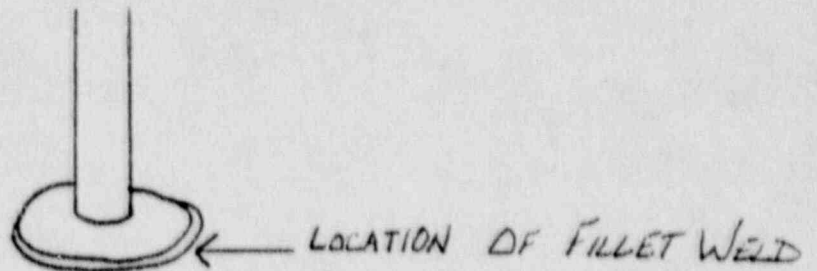
# Testing Institute of Alaska, Inc.

Mt. Enam/ND/PT  
 2114 Railroad Avenue  
 Anchorage, Alaska 99501  
 (907) 276 3440  
 Welding Quality  
 Inspection Integrity

## MAGNETIC PARTICLE EXAMINATION

CLIENT: TESORO DATE: 7-21-89  
 PROJECT: TANK #66 INSPECTION LOCATION: TESORO PLANT  
 CODE ACCEPTANCE CRITERION: API 650

### LOCATION AND/OR IDENTIFICATION SKETCH

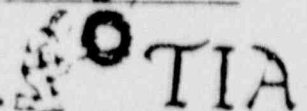


WELD IDENTIFICATION	NUMBER	INTERPRETATION		REPAIRS		REMARKS
		ACCEPT	REJECT	ACCEPT	REJECT	
BASE PLATE	1	✓				
"	2	✓				
"	3	✓				
"	4	✓				
"	5	✓				
"	6	✓				
"	7	✓				
"	8	✓				
"	9	✓				
"	10	✓				

TYPE OF MAGNETIZING CURRENT:

AC  DC  DRY  WET  RESIDUAL  CONTINUOUS  FLUOR  VISUAL

TECHNICIAN: J. R. Neary DATE: 7-21-89



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-21-89

CLIENT COMPANY: TESORO

WELDER'S NAME: \_\_\_\_\_

RADIOGRAPHIC TECHNICIAN: DON GILHOUSN / RALPH DENARD

FILM INTERPRETER: DON GILHOUSN

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: TANK #66 2ND ROW JUNCTIONS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
H002 2A	250WT	1	2		X	ST CR	
VERT 2A		1	2	✓			
H002 2B	250WT	1	2	✓			
VERT 2B		1	2	✓			
H002 2C	250WT	1	2	✓			
VERT 2C		1	2	✓			
H002 2D	250WT	1	2		X	NF	
VERT 2D		1	2		X	GR	

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity  
Rt Exam/NDTRMS

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-21-85

CLIENT COMPANY: TESORO

WELDER'S NAME: \_\_\_\_\_

RADIOGRAPHIC TECHNICIAN: DON GILHOISEN/RANDY DEWARDE

FILM INTERPRETER: DON GILHOISEN

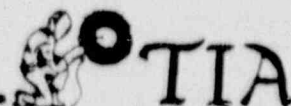
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: TANK #66 2ND ROW JUNCTIONS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
HORZ 2E	250WT	1	2	✓			
VERT 2E		1	2		X	GP	
HORZ 2F	250WT	1	2	✓			
VERT 2F		1	2	✓			
HORZ 2G	250WT	1	2	✓			
VERT 2G		1	2	✓			
HORZ 2H	250WT	1	2	✓			
VERT 2H		1	2		X	CR	

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity  
Rt Exam/NDTMS

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7.21-89

CLIENT COMPANY: TFSDCO

WELDER'S NAME: \_\_\_\_\_

RADIOGRAPHIC TECHNICIAN: DON GELHOUSTON/RANDY DEWARDE

FILM INTERPRETER: DON GELHOUSTON

CONTROLLING SPECIFICATION: APZ 650

PROCEDURE NUMBER: TRK#66 2ND ROW JUNCTIONS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
H02 2L	250WT	1	2		X	CR	
V02T 2J		1	2		X	CR	
H02 2J	250WT	1	2	✓			
V02T 2J		1	2	✓			
H02 2K	250WT	1	2	✓			
V02T 2K		1	2	✓			
H02 2L	250WT	1	2	✓			
H02 2L		1	2	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
CP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity  
Rt Exam/NDTRMS

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 576 3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-21-89

CLIENT COMPANY: TESORO

WELDER'S NAME: \_\_\_\_\_

RADIOGRAPHIC TECHNICIAN: DON GELHOUSE / RANBY DENARDI

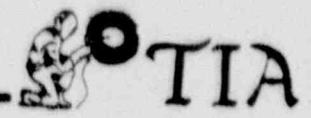
FILM INTERPRETER: DON GELHOUSE

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: TANK #66 2ND ROW JUNCTIONS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
HORZ 20	250WT	1	2		X	NFWH	
VERT 20		1	2		X	NF	
HORZ 20	250WT	1	2		X	NF	
VERT 20		1	2	✓			
HORZ 20	250WT	1	2	✓			
VERT 20		1	2	✓			
HORZ 20	250WT	1	2	✓			
VERT 20		1	2	✓			

- BT = Burn Through
- CC = Concave Root
- CR = Crack
- CP = Gas Pocket
- HB = Hollow Bead
- IP = Inadequate Penetration
- IU = Int. Undercut
- IF = Inadequate Fusion
- WH = Worm Hole Porosity
- Rt Exam/NDTRMS
- LC = Low Crown
- NF = Non-Fusion
- OU = Out. Undercut
- P = Porosity
- SL = Slag Lines
- TU = Tungsten Inclusions
- WT = Wagon Tracks
- CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-21-85

CLIENT COMPANY: \_\_\_\_\_

TISSARD

WELDER'S NAME: \_\_\_\_\_

RADIOGRAPHIC TECHNICIAN: \_\_\_\_\_

DON GELHOUSSEN / RANDY DENARDI

FILM INTERPRETER: \_\_\_\_\_

DON GELHOUSSEN

CONTROLLING SPECIFICATION: \_\_\_\_\_

API 650

PROCEDURE NUMBER: \_\_\_\_\_

TANK #66 END ROW JUNCTIONS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
<u>Horz 29</u>	<u>250WT</u>	<u>1</u>	<u>2</u>	<u>✓</u>			
<u>Vert 29</u>		<u>1</u>	<u>2</u>	<u>✓</u>			
<u>Horz 25</u>	<u>250WT</u>	<u>1</u>	<u>2</u>	<u>✓</u>			
<u>Vert 25</u>		<u>1</u>	<u>2</u>	<u>✓</u>			
<u>Horz 27</u>	<u>250WT</u>	<u>1</u>	<u>2</u>	<u>✓</u>			
<u>Vert 27</u>		<u>1</u>	<u>2</u>	<u>✓</u>			
<u>Horz 24</u>	<u>250WT</u>	<u>1</u>	<u>2</u>	<u>✓</u>			
<u>Vert 24</u>		<u>1</u>	<u>2</u>	<u>✓</u>			

BT = Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion

WH = Worm Hole Porosity

Rt Exam/NDTMS

LC = Low Crown

NF = Non-Fusion

OJ = Out, Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks

CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-21-84

CLIENT COMPANY:

TESORO

WELDER'S NAME:

RADIOGRAPHIC TECHNICIAN:

DON GELHOUSEW / RANDY DENARDI

FILM INTERPRETER:

DON GELHOUSEW

CONTROLLING SPECIFICATION:

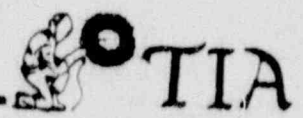
API 650

PROCEDURE NUMBER:

TANK #66 2ND ROW JUNCTIONS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
<u>HOZ 2V</u>	<u>250 WT</u>	<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>			
<u>VERT 2V</u>		<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>			

- BT = Burn Through
- CC = Concave Root
- CR = Crack
- CP = Gas Pocket
- HB = Hollow Bead
- IP = Inadequate Penetration
- IU = Int. Undercut
- IF = Inadequate Fusion
- WH = Worm Hole Porosity
- Rt Exam/NDTRMS
- LC = Low Crown
- NF = Non-Fusion
- OU = Out. Undercut
- F = Porosity
- SL = Slag Lines
- TU = Tungsten Inclusions
- WT = Wagon Tracks
- CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-21-88

CLIENT COMPANY: TESORO

WELDER'S NAME: \_\_\_\_\_

RADIOGRAPHIC TECHNICIAN: DON GELHOUSE / RANDY DENARE

FILM INTERPRETER: DON GELHOUSE

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: TANK #66 VERTICAL SEAMS

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
VEAT 2R	250 WT	1	2	✓			
VEAT 2W	250 WT	1	2			X	CP, IP, NF, WH
VEAT 2X	250 WT	1	2	✓			
VEAT 2Y	250 WT	1	2	✓			

- BT = Burn Through
- CC = Concave Root
- CR = Crack
- CP = Gas Pocket
- HB = Hollow Bead
- IP = Inadequate Penetration
- IU = Int. Undercut
- IF = Inadequate Fusion
- WH = Worm Hole Porosity
- Rt Exam/NDTMS
- LC = Low Crown
- NF = Non-Fusion
- OU = Out. Undercut
- P = Porosity
- SL = Slag Lines
- TU = Tungsten Inclusions
- WT = Wagon Tracks
- CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page 1 of 1

DATE: 7-21-89

CLIENT COMPANY: \_\_\_\_\_

TESOLO

WELDER'S NAME: \_\_\_\_\_

RADIOGRAPHIC TECHNICIAN: \_\_\_\_\_

DON GILHOUSAN / RAY BERNARD

FILM INTERPRETER: \_\_\_\_\_

DON GILHOUSAN

CONTROLLING SPECIFICATION: \_\_\_\_\_

API 650

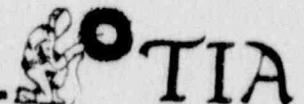
PROCEDURE NUMBER: \_\_\_\_\_

TANK # 66 VERTICAL SEAM

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
VERT 1U	250WT	1	2	✓			
VERT 1V	250WT	1	2	✓			
VERT 1W	250WT	1	2	✓			
VERT 1X	250WT	1	2	✓			
VERT 1Y	250WT	1	2	✓			
VERT 1Z	250WT	1	2	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity  
Rt Exam/NDTRMS

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

## UTILIZATION/RADIATION REPORT

**WARNING - INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-21-85 CITY KENAI STATE AK

PROJECT TANK #66 CUSTOMER TSSOCO

SOURCE OF RADIATION  
 IR-192  CO-60  X RAY  
 S/N 8216 S/N \_\_\_\_\_ S/N \_\_\_\_\_

ACTIVITY OF SOURCE 98 CURIE  
 SURVEY INSTRUMENT MODEL NO G5-3000

EXPOSURE DEVICE MODEL NO 660 S/N 4486

S/N 1040 VOID DATE 8-2-85

RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH TIA OANDE PROCEDURE DAILY CHECK LIST.

INSPECTION COMPLETED BY Paul S. [Signature]

RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE  
 IR-192 15-20 MR/HR @ 6" FROM SURFACE  
 CO-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE

TOTAL EXPOSURE TIME FOR THIS DAY 1 HRS 22 MINS

PERSONNEL INFORMED All personnel

RADIOGRAPHER DON GILHOUSN

RADIOGRAPHER'S ASSISTANT Randy DENARDI

SERIAL NO OF DOSIMETER 015401

AND 14890

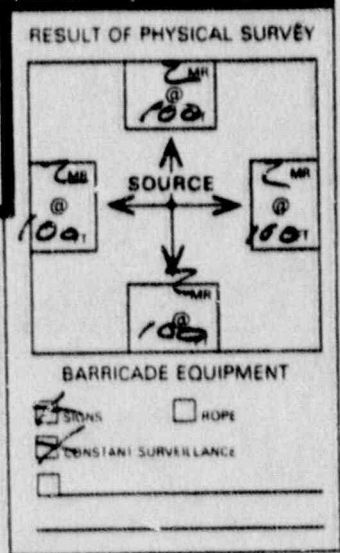
TOTAL MR RECORDED START  FINISH 20 MR

AND START  FINISH 40 MR

FILM BADGE AND SERIAL NO 5586-3134

AND 5586-180

REMARKS \_\_\_\_\_



### SURVEY OF TRANSPORTING VEHICLE

MR/HR @ DRIVER 0 MR/HR @ OUTSIDE SURFACE 0 MR/HR @ 1 FT FROM SURFACE 0

# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage Alaska 99501  
(907) 276 3440  
Welding / Quality  
Inspection / Integrity

## INSPECTOR'S DAILY DIARY

CLIENT: TESORO DATE: 7-25-89 DAY OF WEEK WEDNESDAY  
LOCATION: TESORO PLANT JOB NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_  
INSPECTOR: DON GELHOUSON ~~TEST~~: RANDY DEBAND  
JOB DESCRIPTION: X-RAY TANK #66 PAGE \_\_\_\_\_ OF \_\_\_\_\_

TIME	DESCRIPTION OF ACTIVITY
8:00am	ARRIVED AT PLANT MET WITH BEANES SMITH & DECIDED TO WORK AT NIGHT SO AS NOT TO SHUT DOWN WELDERS WELDING AT TANK
9:00am	LEFT PLANT
5:30pm	ARRIVED AT PLANT, SET UP AND STARTED X-RAYING 1 <sup>ST</sup> ROW VERTICAL SEAMS TWO SOURCES WERE BEING USED AT ONE TIME. X-RAYED ALL 15 VERTICAL SEAMS BELOW FLOOR PICKED UP EQUIPMENT FOR DAY LOADED UP EQUIPMENT WENT OVER PAPERWORK
8:30 AM	LEFT PLANT

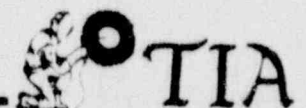
CONSUMABLES USED: \_\_\_\_\_ FILM USED \_\_\_\_\_

MISC. CONSUMABLES: \_\_\_\_\_ OVERLAYS: \_\_\_\_\_

TOTAL WORKING HOURS: 16 TOTAL EQUIPMENT HOURS: 16 TRAVEL MILES: 35

SIGNATURE: Don Gelhouson

CLIENT REPRESENTATIVE: B. Smith









# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: Unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

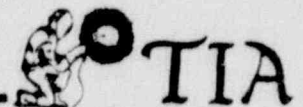
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam LINE# 1<sup>ST</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-3	vert	0	15		✓	WH	WH @ 5 1/2" to 8 3/4"
"	"	15	30	✓			
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75	✓			
"	"	75	90	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: Unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam LINE# 1<sup>ST</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-4	Vert	0	15	✓			
"	"	15	30	✓			
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75	✓			
"	"	75	90	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam LINE# 1<sup>ST</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-5	vert	0	15		✓	GP	1/4" GP @ 1 1/2" x 0 1/4"
"	"	15	30	✓			WH @ 8 1/2" - 9 1/4" CP @ 6 1/2" - 8", R @ 7 3/4" - 8 1/4"
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75	✓			
"	"	75	90	✓			
"	"	90	100	✓			

- BT = Burn Through
- CC = Concave Root
- CR = Crack
- GP = Gas Pocket
- HB = Hollow Bead
- IP = Inadequate Penetration
- IU = Int. Undercut
- IF = Inadequate Fusion
- WH = Worm Hole Porosity
- LC = Low Crown
- NF = Non-Fusion
- OU = Out. Undercut
- P = Porosity
- SL = Slag Lines
- TU = Tungsten Inclusions
- WT = Wagon Tracks
- CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

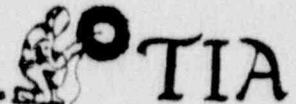
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 Vertical Seam LINE# 1<sup>ST</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-6	Vert	0	15	✓			
"	"	15	30		✓	WH, P @ 16 <sup>1</sup> / <sub>8</sub> "-16 <sup>1</sup> / <sub>2</sub> ", 24 <sup>1</sup> / <sub>2</sub> "-25 <sup>1</sup> / <sub>2</sub> "	
"	"	30	45	✓			
"	"	45	60		✓	WH+P @ 49"-50 <sup>1</sup> / <sub>2</sub> ", WH @ 56"-57"	
"	"	60	75	✓			
"	"	75	90	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-09

CLIENT COMPANY: Tesoro

WELDER'S NAME: Unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

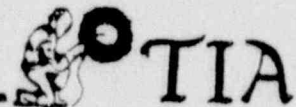
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 Vertical Seam ~~LINE~~ 1<sup>ST</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-7	Vert	0	15	✓			6' @ 6"
"	"	15	30	✓			
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75	✓			
"	"	75	90	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: Unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

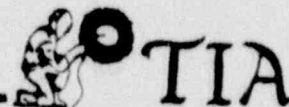
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam ~~LINE#~~ 1st Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-8	VERT	0	15		✓	GP-SL CP-WH	1/4" GP @ 0 3/8" SL @ 3" CP & WH @ 6"
"	"	15	30	✓			
"	"	30	45	✓			
"	"	45	60		✓	WH	@ 55 1/2" to 56 3/4"
"	"	60	75		✓	GP, WH	1/4" GP @ 60" SNOW FLOKE WH @ 70 3/4" - 73"
"	"	75	90		✓	WH	WH @ 84 1/4" - 85"

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: UNKNOWN

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 Vertical Seam LINE# 1st Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-9	VERT	0	15		✓	WH	@ 8" + 0 9 1/4"
"	"	15	30		✓	LF	@ 17 3/4" & 20 1/4"
"	"	30	45	✓			
"	"	45	60		✓	LF	@ 60"
"	"	60	75	✓			
"	"	75	90	✓			
"	"	90	100	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Derardi

LM INTERPRETER: Steven O. Lockman

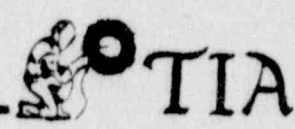
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam LINE# 1st Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-10	vert	0	15	✓			
"	"	15	30	✓			
"	"	30	45		✓	WH	631-33 <sup>3</sup> / <sub>4</sub> + 35-36 <sup>3</sup> / <sub>4</sub>
"	"	45	60	✓			
"	"	60	75	✓			
"	"	75	90	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

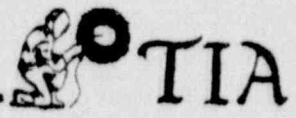
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam ~~LINE#~~ 1<sup>st</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-11	Vert	0	15	✓			
"	"	15	30	✓			
"	"	30	45	✓			GP @ 45"
"	"	45	60	✓			
"	"	60	75	✓			
"	"	75	90	✓			
"	"	90	100	✓			

- BT = Burn Through
- CC = Concave Root
- CR = Crack
- GP = Gas Pocket
- HB = Hollow Bead
- IP = Inadequate Penetration
- IU = Int. Undercut
- IF = Inadequate Fusion
- WH = Worm Hole Porosity

- LC = Low Crown
- NF = Non-Fusion
- OU = Out. Undercut
- P = Porosity
- SL = Slag Lines
- TU = Tungsten Inclusions
- WT = Wagon Tracks
- CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Derardi

FILM INTERPRETER: Steven O. Lockman

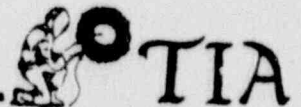
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 Vertical Seam ~~SINE~~ 1st Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-12	Vert	0	15		✓	GP	@ 0-1/2"
"	"	15	30	✓			
"	"	30	45		✓	LF, GP	1-F @ 41 3/4" - 42" GP @ 2 1/4"
"	"	45	60	✓			
"	"	60	75		✓	WH	@ 67 1/2" - 69" & 71 3/4" - 73 1/4"
"	"	75	90	✓		WH GP	WH @ 77 1/2" GP 79 1/2" WH 81 1/4" - 85"

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesco

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Demurdi

FILM INTERPRETER: Steven O. Lockman

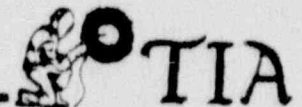
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam ~~LINE~~ 1ST Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-13	Vert	0	15		✓	WH, GP	WH @ 5'-7", GP @ 2 1/2" - 8"
"	"	15	30	✓			
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75		✓	WH	@ 66" - 68 1/4"
"	"	75	90		✓	WH	WH 77-78
"	"	90	100	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3640  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

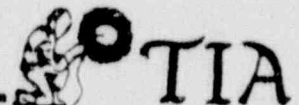
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam LINE# 1<sup>st</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-14	vert	0	15	✓		GP, LC	GP @ 4" 1/2", LC @ 5"-9"
"	"	15	30	✓		GP	@ 15" & 15 1/2"
"	"	30	45	✓		GP	@ 35"-45"
"	"	45	60	✓		UC, GP	UC @ 49"-50", GP @ 50"-60"
"	"	60	75	✓		GP	@ 60"-75"
"	"	75	90	✓		GP	GP 1/4 @ 77 GP 3/4 @ 86
"	"	90	100	✓		LC	LC 92 1/2

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-25-89

CLIENT COMPANY: Tesco

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denard

FILM INTERPRETER: Steven O. Lockman

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam LINE# 1st Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-15	vert	0	15		✓	GP	@ 14 1/2" - 25 1/2" x 6"
"	"	15	30	✓			
"	"	30	45		✓	GP	@ 30 3/4" - 37 3/4"
"	"	45	60		✓	GP	@ 50" - 55 1/2" & 58" - 60"
"	"	60	75		✓	GP	@ 60 1/2" - 65 1/2" & 70" - 75 1/2"
"	"	75	90	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-24-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Demardi

FILM INTERPRETER: Steven O. Lockman

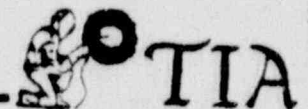
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 Vertical Seam LINE# 1<sup>st</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-1	vert	0	15	✓			
"	"	15	30		✓	GP	1/2" GP-CP @ 19-19 1/2
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75		✓	WH	Snowflake Porosity Worm Hole @ 70" to 75 1/2"
"	"	75	90		✓	WH	WH 73-75 78 1/4-80
"	"	90	100	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
19071 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-24-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

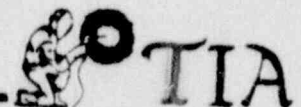
CONTROLLING SPECIFICATION: API 1104

PROCEDURE NUMBER: Tank 66 vertical seam ~~LINE~~ # 1<sup>st</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-2	vert	0	15	✓			
"	"	15	30	✓			
"	"	30	45	✓			
"	"	45	60		✓	GP	3/16" GP @ 46 1/4"
"	"	60	75	✓			
"	"	75	90	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

## UTILIZATION/RADIATION REPORT

**WARNING — INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-25-89 CITY Kenai STATE AK

PROJECT Tank 66 CUSTOMER Tesoro

**SOURCE OF RADIATION**  
 IR-192  CD-60  X-RAY   
 S/N 9216 S/N \_\_\_\_\_ S/N \_\_\_\_\_

ACTIVITY OF SOURCE 95 CURIE  
 SURVEY INSTRUMENT MODEL NO. G.57000

EXPOSURE DEVICE MODEL NO. 660 S/N 4486

S/N 1038 VOID DATE 8-5-89

**RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH T I A O ANDE PROCEDURE DAILY CHECK LIST.**

INSPECTION COMPLETED BY Randy Denard

**RESULT OF PHYSICAL SURVEY**

**BARRICADE EQUIPMENT**  
 SIGNS  ROPE  
 CONSTANT SURVEILLANCE

**RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE**  
 IR-192 15.20 MR/HR @ 6" FROM SURFACE  
 CD-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE

TOTAL EXPOSURE TIME FOR THIS DAY 1 HRS 8 MINS

PERSONNEL INFORMED Control & all persons in area

RADIOGRAPHER Randy Denard RADIOGRAPHER'S Bob Taylor  
ASSISTANT Helper

SERIAL NO OF DOSIMETER 014890 AND 13296

TOTAL MR RECORDED START 0 FINISH 70 MR AND START 0 FINISH 15 MR

FILM BADGE AND SERIAL NO 5586-1806 AND 5586-3

REMARKS \_\_\_\_\_

**SURVEY OF TRANSPORTING VEHICLE**

MR/HR @ DRIVER 0 MR/HR @ OUTSIDE SURFACE 0 MR/HR @ 1 FT FROM SURFACE 0

# Testing Institute of Alaska, Inc.

## UTILIZATION/RADIATION REPORT

**WARNING - INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-25-89 CITY Kenai STATE AK

PROJECT Tank 66 CUSTOMER Tesoro

**SOURCE OF RADIATION**

IR-192  CO-60  X-RAY

S/N 7792 S/N \_\_\_\_\_ S/N \_\_\_\_\_

ACTIVITY OF SOURCE 38 CURIE

SURVEY INSTRUMENT MODEL NO GS1000A

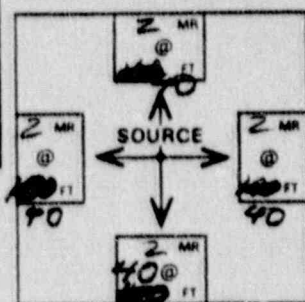
EXPOSURE DEVICE MODEL NO 660 S/N 4480

S/N 827 VOID DATE 9-5-89

**RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH TIA OANDE PROCEDURE DAILY CHECK LIST.**

*Bill Maloy*  
INSPECTION COMPLETED BY

**RESULT OF PHYSICAL SURVEY**



**BARRICADE EQUIPMENT**

SIGNS  ROPE

CONSTANT SURVEILLANCE

\_\_\_\_\_

**RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE**

5-10

IR-192  MR/HR @ 6" FROM SURFACE

CO-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE

TOTAL EXPOSURE TIME FOR THIS DAY 2 HRS 2 MINS

PERSONNEL INFORMED All persons in Area & control

RADIOGRAPHER Don Gillhausen RADIOGRAPHER'S ASSISTANT Bill Maloy

SERIAL NO OF DOSIMETER 015401 AND 13744

TOTAL MR RECORDED START 0 FINISH 60 MR AND START 0 FINISH 10 MR

FILM BADGE AND SERIAL NO 5586 - AND 5586 - 2

REMARKS \_\_\_\_\_

**SURVEY OF TRANSPORTING VEHICLE**

MR/HR @ DRIVER 0 MR/HR @ OUTSIDE SURFACE 0 MR/HR @ 1 FT FROM SURFACE 0



# Testing Institute of Alaska, Inc.

## UTILIZATION/RADIATION REPORT

**WARNING — INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-25-89 CITY Kenai STATE AK

PROJECT TANK 66 CUSTOMER Tesororo

**SOURCE OF RADIATION**

IR-192  CD-60  X-RAY

S/N 7792 S/N \_\_\_\_\_ S/N \_\_\_\_\_

ACTIVITY OF SOURCE 38 CURIE

SURVEY INSTRUMENT GS1000A

MODEL NO \_\_\_\_\_

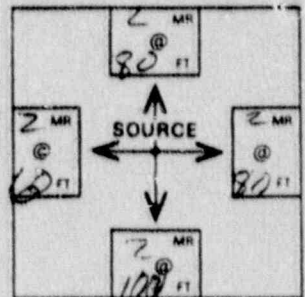
EXPOSURE DEVICE MODEL NO 660 S/N 4480

S/N 1070 VOID DATE 8-2-89

**RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH TIA OANDE PROCEDURE DAILY CHECKLIST.**

INSPECTION COMPLETED BY Steve Lockman

### RESULT OF PHYSICAL SURVEY



### BARRICADE EQUIPMENT

BRINS  ROPE

CONSTANT SURVEILLANCE

\_\_\_\_\_

**RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE**

IR-192 4-6 MR/HR @ 8" FROM SURFACE

CD-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE

TOTAL EXPOSURE TIME FOR THIS DAY on other farm MINS

PERSONNEL INFORMED Control & All persons in area

RADIOGRAPHER Steve Lockman RADIOGRAPHER'S ASSISTANT \_\_\_\_\_

SERIAL NO OF DOSIMETER 4815E AND \_\_\_\_\_

TOTAL MR RECORDED START 0 FINISH 10 MR AND START 0 FINISH 10 MR

FILM BADGE AND SERIAL NO 5586-5303 AND \_\_\_\_\_

REMARKS \_\_\_\_\_

### SURVEY OF TRANSPORTING VEHICLE

MR/HR @ DRIVER 0 MR/HR @ OUTSIDE SURFACE 0 MR/HR @ 1 FT FROM SURFACE 0



# Testing Institute of Alaska, Inc.

INSPECTOR'S DAILY DIARY

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality

Inspection / Integrity

CLIENT: TESORO

DATE: 7-26-87 DAY OF WEEK WEDNESDAY

LOCATION: TESORO PLANT

JOB NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_

INSPECTOR: DON GILHOUSN

ASSISTANT: RANDY DENARD

JOB DESCRIPTION: X-RAY TANK #66

PAGE \_\_\_\_\_ OF \_\_\_\_\_

TIME	DESCRIPTION OF ACTIVITY
5:00pm	TRAVEL TO PLANT
	ARRIVED AT PLANT + STARTED SETTING UP TO X-RAY TANK #66
	GET PERMITS AND STARTED SHOOTING ON VERTICAL SEAMS ON 2ND LEVEL
	OTHER CREW SHOWED UP
	ALSO STARTED X-RAYING ON RANDOM SHOTS ON 1ST HORIZONTAL LEVEL
	STARTED PICKING UP EQUIPMENT
	LOADED EQUIPMENT IN TRUCK
	MET WITH BEANIE SMITH
	LEFT TESORO PLANT
8:00AM	ARRIVED AT HOTEL

CONSUMABLES USED: \_\_\_\_\_ FILM USED \_\_\_\_\_

MISC. CONSUMABLES: \_\_\_\_\_ OVERLAYS: \_\_\_\_\_

TOTAL WORKING HOURS: 15 TOTAL EQUIPMENT HOURS: 15 TRAVEL MILES: 30

SIGNATURE: [Signature]

CLIENT REPRESENTATIVE: [Signature]

T.I.A. FORM NDT .043 Inspector's Daily Diary/NDTMS



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

## INSPECTOR'S DAILY DIARY

Welding / Quality  
Inspection / Integrity

CLIENT: Tesoro

DATE: 7-26-89 DAY OF WEEK: Wednesday

LOCATION: Nikiski Refinery

JOB NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_

INSPECTOR: Steve Lockman

HELPERS ASSISTANT: Bill McKay / Bob Taylor

JOB DESCRIPTION: RT-TANK 66

PAGE 2 OF \_\_\_\_\_

TIME	DESCRIPTION OF ACTIVITY
6:30 pm	leave hotel for job site
7:00 pm	arrived on the job site
	and continued to X-Ray tank 66
	2nd row vertical welds and 1st row horizontal welds shot
	11 verticals & random shots on the
1/2 hr	Horizontal weld developed out
Lunch	what film that time would glow & made up 5 overlays
	met with Bernice Smith
2:30 AM	leave the job site & traveled to the hotel
8:00 AM	arrived at the Katmai hotel

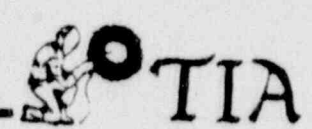
CONSUMABLES USED: 1-Roll mask & 1-Roll duct tape FILM USED 3-3 1/2 X 17 M  
94-4 1/2 X 17 M

MISC. CONSUMABLES: 5 Gal Gas for man lift, 2 Gal Acetone OVERLAYS: 5

TOTAL WORKING HOURS: 13 TOTAL EQUIPMENT HOURS: 13 TRAVEL MILES: 30

SIGNATURE: Steve O Lockman

CLIENT REPRESENTATIVE: Bob Smith





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Denardi

FILM INTERPRETER: Steve O. Lockman

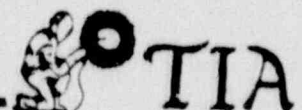
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam ~~1st~~ 2nd Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-1	vert	0	15	✓			
"	"	15	30		✓		NF @ 22 1/2
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75		✓		7 1/2 - 7 5/4 see Blw
"	"	75	90	✓			
"	"	90	105		✓		5/16 GP @ 125
1BRI	"			✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steve O. Lockman

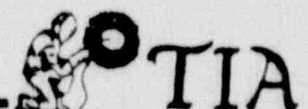
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam LINE# 2nd Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-2	vert	0	15		✓		NFC @ 17 1/2 GP @ 17
"	"	15	30	✓			
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75	✓			
"	"	75	90		✓		3/8 SL @ 79
"	"	90	105		✓		LCR 94 1/2 - 95 GP @ 95 WH @ 97 1/4 ICR 99-100
1							
IDRI	"	1	2	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2134 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: Unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

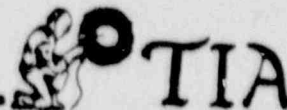
CONTROLLING SPECIFICATION: API 1104

PROCEDURE NUMBER: Tank 66 vertical seam ~~with~~ 2nd Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-3	Vert	0	15	✓			
"	"	15	30	✓			
"	"	30	45		✓		3/8 GP @ 94 3/8 GP 3 1/2 @ 35
"	"	4-	60		✓		WH 45 1/4 - 46 1/4 CR 49-50
"	"	60	75	✓			
"	"	75	90	✓			
"	"	90	105		✓		PG WH 95 1/2 - 96 3/4

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

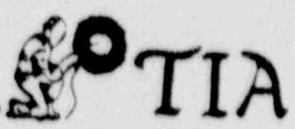
CONTROLLING SPECIFICATION: API 1104

PROCEDURE NUMBER: Tank 66 vertical seam LINE# 2nd Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-4	VERT	0	15	✓			
"	"	15	30		✓		CR @ 22 <sup>3</sup> / <sub>4</sub> - 24 - 26 - 26 <sup>1</sup> / <sub>2</sub>
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75		✓		CR @ 62
"	"	75	90		✓		1/2 SL @ 83
"	"	90	105		✓		NF @ 93 <sup>1</sup> / <sub>4</sub>

- BT = Burn Through
- CC = Concave Root
- CR = Crack
- GP = Gas Pocket
- HB = Hollow Bead
- IP = Inadequate Penetration
- IU = Int. Undercut
- IF = Inadequate Fusion
- WH = Worm Hole Porosity

- LC = Low Crown
- NF = Non-Fusion
- OU = Out. Undercut
- P = Porosity
- SL = Slag Lines
- TU = Tungsten Inclusions
- WT = Wagon Tracks
- CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 2-6-89

CLIENT COMPANY: Tesoro  
 WELDER'S NAME: unknown  
 RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Denardi  
 FILM INTERPRETER: Steven O. Lockman  
 CONTROLLING SPECIFICATION: API 1104  
 PROCEDURE NUMBER: Tank 66 vertical seam LINE# 2nd Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-5	vert	0	15	✓			
"	"	15	30		✓		wt. 1/2-21
"	"	30	45	✓			
"	"	45		✓			
"	"	60	75	✓			
"	"	75	90	✓			
"	"	90	105		✓		CR @ 93 1/4 - 93 1/2

- BT = Burn Through
- CC = Concave Root
- CR = Crack
- GP = Gas Pocket
- HB = Hollow Bead
- IP = Inadequate Penetration
- IU = Int. Undercut
- IF = Inadequate Fusion
- WH = Worm Hole Porosity
- LC = Low Crown
- NF = Non-Fusion
- OU = Out. Undercut
- P = Porosity
- SL = Slag Lines
- TU = Tungsten Inclusions
- WT = Wagon Tracks
- CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501

(907) 276-3440

Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 666 vertical seam ~~DATE~~ 2nd Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-6	vert	0	15	✓			
"	"	15	30	✓			
"	"	30	45		✓		NF 3/4
"	"	45	60	✓			
"	"	60	75		✓		Film Artifact
"	"	75	90	✓			
"	"	90	105	✓			

BT = Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion

WH = Worm Hole Porosity

LC = Low Crown

NF = Non-Fusion

OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks

CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

CONTROLLING SPECIFICATION: API 1104

PROCEDURE NUMBER: Tank 66 vertical seam LINE# 2nd Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-7	VerT	0	15	✓			
"	"	15	30	✓			
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75	✓			
"	"	75	90	✓			
"	"	90	105	✓			

BT = Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion

WH = Worm Hole Porosity

LC = Low Crown

NF = Non-Fusion

OU = Out. Undercut

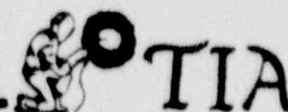
P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks

CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page: \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-28

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam ~~1111~~ 2nd Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACC'	REJECT		
2-8	vert	0	15	.	✓		WH-8-10
"	"	15	30	✓			
"	"	30	45		✓		NF 36-36½
"	"	45	60	✓			
"	"	60	75	✓			
"	"	75	90		✓		NFC 90
"	"	90	105		✓		GP 993A

BT = Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion

WH = Worm Hole Porosity

LC = Low Crown

NF = Non-Fusion

OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks

CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

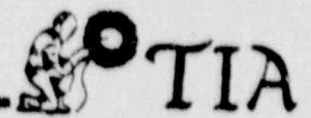
Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro  
 WELDER'S NAME: unknown  
 RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Denardi  
 FILM INTERPRETER: Steven O. Lockman  
 CONTROLLING SPECIFICATION: API 650  
 PROCEDURE NUMBER: Tank 06 vertical seam LINE 2nd Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-9	vert	0	15	✓	✓		WH 7'4-12
"	"	15	30	✓			
"	"	30	45		✓		Film artifact
"	"	45	60		✓		5/16 GP @ 45 3/4
"	"	60	75	✓			
"	"	75	90	✓			
"	"	90	105	✓			

- BT = Burn Through
- CC = Concave Root
- CR = Crack
- GP = Gas Pocket
- HB = Hollow Bead
- IP = Inadequate Penetration
- IU = Int. Undercut
- IF = Inadequate Fusion
- WH = Worm Hole Porosity
- LC = Low Crown
- NF = Non-Fusion
- OU = Out. Undercut
- P = Porosity
- SL = Slag Lines
- TU = Tungsten Inclusions
- WT = Wagon Tracks
- CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: Unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

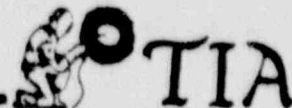
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 Vertical Seam ~~TYPE~~ 2nd

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-10	VERT	0	15		✓	WH	@ 4", 7", HB @ 13-13½"
"	"	15	30		✓	WH	@ 15-17 WH @ 21¼-26½"
"	"	30	45		✓	WH	@ 32¼-36¼", NFO 44"
"	"	45	60		✓	WH	@ 46¼-48½", 50-53"
"	"	60	75	✓			
"	"	75	90	✓			
"	"	90	105	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilheusen ASST. Randy Denardi

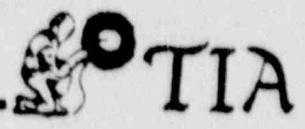
FILM INTERPRETER: Steven O. Lockman

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 Horizontal seam LINE# 1<sup>st</sup> Row, seam 1

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-6-1	Horiz.	1	2	✓			ok
1-6-2	Horiz.	1	2	✓			ok
1-6-3	Horiz.	1	2				
1-5-1	Horiz.	1	2	✓			ok

- BT = Burn Through
- CC = Concave Root
- CR = Crack
- GP = Gas Pocket
- HB = Hollow Bead
- IP = Inadequate Penetration
- IU = Int. Undercut
- IF = Inadequate Fusion
- WH = Worm Hole Porosity
- LC = Low Crown
- NF = Non-Fusion
- OU = Out. Undercut
- P = Porosity
- SL = Slag Lines
- TU = Tungsten Inclusions
- WT = Wagon Tracks
- CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhausen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 Horizontal Seam ~~1st~~ 1<sup>st</sup> Row, seam 1

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-7-1	Horiz.	1	2	✓			OK
1-7-2	Horiz.	1	2	✓			OK
1-7-3	Horiz.	1	2	✓			OK
1-8-1	Horiz	1	2	✓			OK
1-8-2	Horiz	1	2	✓			OK
1-8-3	Horiz	1	2	✓			OK

BT = Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion

WH = Worm Hole Porosity

LC = Low Crown

NF = Non-Fusion

OU = Out. Undercut

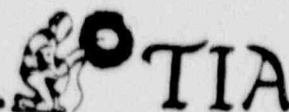
P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks

CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

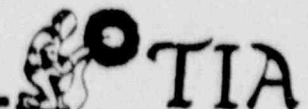
DATE: 7-26-87

CLIENT COMPANY: Tesoro  
 WELDER'S NAME: Unknown  
 RADIOGRAPHIC TECHNICIAN: Don Gillhansen ASST. Randy Denardi  
 FILM INTERPRETER: Steven O. Lockman  
 CONTROLLING SPECIFICATION: API 650  
 PROCEDURE NUMBER: Tank 66 Horizontal seam LINE# 1<sup>st</sup> Row, Seam 1

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-9-1	Horiz.	1	2	✓			OK
1-9-2	Horiz.	1	2	✓			OK
1-9-3	Horiz.	1	2	✓			OK
1-10-1	Horiz.	1	2	✓			OK
1-10-2	Horiz.	1	2	✓			OK
1-10-3	Horiz.	1	2	✓			OK

BT = Burn Through  
 CC = Concave Root  
 CR = Crack  
 GP = Gas Pocket  
 HB = Hollow Bead  
 IP = Inadequate Penetration  
 IU = Int. Undercut  
 IF = Inadequate Fusion  
 WH = Worm Hole Porosity

LC = Low Crown  
 NF = Non-Fusion  
 OU = Out. Undercut  
 P = Porosity  
 SL = Slag Lines  
 TU = Tungsten Inclusions  
 WT = Wagon Tracks  
 CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-2689

CLIENT COMPANY: Tesoro

WELDER'S NAME: UNKNOWN

RADIOGRAPHIC TECHNICIAN: Don Gilhansen ASST. Randy Denard

FILM INTERPRETER: Steven O. Lockman

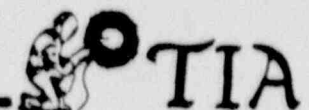
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: TANK 66 Horizontal ~~SEAM~~ 1st Row, Seam 1

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-11-1	Honiz	1	2		✓	IP	1/4 IP
1-11-2	Honiz	1	2		✓	GP IP	3/16 GP 3/16 GP 1/2 IP
1-11-3	Honiz	1	2	✓			OK
1-12-1	Honiz	1	2	✓			OK
1-12-2	Honiz	1	2	✓			OK
1-12-3	Honiz	1	2	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-26-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: UNKNOWN

RADIOGRAPHIC TECHNICIAN: DON Gilhausen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 Horizontal Seam ~~11~~ / 1<sup>st</sup> Row, Seam 1

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
1-13-1	Horiz	1	2		✓	IP, WH	2 1/8" - 3/4" IP 1/2" WH
1-13-2	Horiz	1	2		✓	IP, GP	2 3/4"
1-13-3	Horiz	1	2		✓	IP	17"
1-14-1	Horiz	1	2		✓		1/2 GP 1/8 GP 2 1/4 Aligned A
1-15-1	Horiz	1	2		✓		OK
1-15-2	Horiz	1	2		✓		OK
1-15-3	Horiz	1	2		✓		OK

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity











# Testing Institute of Alaska, Inc.

## UTILIZATION/RADIATION REPORT

**WARNING — INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-26-89 CITY SEASIDE STATE AK

PROJECT TANK #6 CUSTOMER TESORO

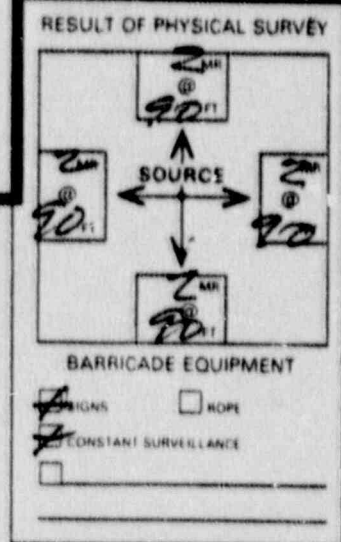
**SOURCE OF RADIATION**  
 M-192  CO-60  X-RAY   
 S.N. 8216 S.N. \_\_\_\_\_ S.N. \_\_\_\_\_

ACTIVITY OF SOURCE 94 CLUSE \_\_\_\_\_  
 SURVEY INSTRUMENT MODEL NO. G5-2000

EXPOSURE DEVICE MODEL NO. 1017 S.N. 660 S.N. 4486

S.N. 1039 VOID DATE 8-5-89

**RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH TIA O ANDE PROCEDURE DAILY CHECK LIST.**  
 INSPECTION COMPLETED BY Randy Denard



**RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE**  
 M-192 15.20 MR/HR @ 6" FROM SURFACE  
 CO-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE

TOTAL EXPOSURE TIME FOR THIS DAY 2 HRS 8 MINS

PERSONNEL INVOLVED All personnel

RADIOGRAPHER Randy Denard Walter Bell Malay

SERIAL NO OF DOSIMETER 014890 AND 13744

TOTAL MR RECORDED START  FINISH 80 MR AND START  FINISH 07 MR

FILM BADGE AND SERIAL NO 5586-1806 AND 5586-2

REMARKS \_\_\_\_\_

### SURVEY OF TRANSPORTING VEHICLE

MR/HR @ DRIVER ∅ MR/HR @ OUTSIDE SURFACE ∅ MR/HR @ 1 FT FROM SURFACE ∅



# Testing Institute of Alaska, Inc.

## UTILIZATION/RADIATION REPORT

**WARNING — INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-26-89 CITY Kovak STATE AK

PROJECT Tank 66 CUSTOMER Tesoro

**SOURCE OF RADIATION**  
 IR-192  CO-60  X-RAY   
 S.N. 7792 S.N. \_\_\_\_\_ S.N. \_\_\_\_\_

ACTIVITY OF SOURCE 38 CURR \_\_\_\_\_  
 SURVEY INSTRUMENT MODEL NO. GS 1000A

EXPOSURE DEVICE MODEL NO. 600 S.N. 4480

S.N. 827 VOID DATE 45-89

**RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH T I A O AND E PROCEDURE DAILY CHECK LIST.**

INSPECTION COMPLETED BY [Signature]

**RESULT OF PHYSICAL SURVEY**

**BARRICADE EQUIPMENT**  
 SIGNS  ROPE  
 CONSTANT SURVEILLANCE

**RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE**  
 IR-192 10-12 MR/HR @ 6" FROM SURFACE  
 CO-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE \_\_\_\_\_

TOTAL EXPOSURE TIME FOR THIS DAY 2 HRS 30 MINS

PERSONNEL INFORMED All persons in the area

RADIOGRAPHER Don Gilhouser - helper Bob Taylor

SERIAL NO. OF DISMETER 015401 AND 13296

TOTAL MR RECORDED START  FINISH 70 MR AND START  FINISH 28 MR

FILM BADGE AND SERIAL NO. 5586-3134 AND 5586-3

REMARKS \_\_\_\_\_

**SURVEY OF TRANSPORTING VEHICLE**

MR/HR @ DRIVER 0 MR/HR @ OUTSIDE SURFACE 0 MR/HR @ 1 FT FROM SURFACE 0

# Testing Institute of Alaska, Inc.

## UTILIZATION/RADIATION REPORT

**WARNING - INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-26-89 CITY Kenai STATE AK  
 PROJECT TANK 66 CUSTOMER Tesoro

**SOURCE OF RADIATION**  
 M-102  CO-60  X-RAY   
 S/N 7792 S/N \_\_\_\_\_

ACTIVITY OF SOURCE 38 CURIE  
 SURVEY INSTRUMENT MODEL NO. GS 1000 A

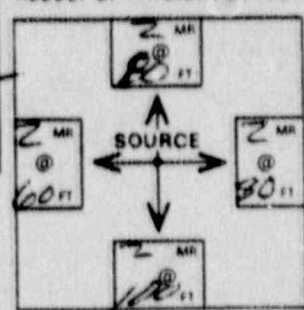
EXPOSURE DEVICE MODEL NO. 660 S/N 4480

S/N 1040 VOID DATE 8-2-89

**RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH T I A AND E PROCEDURE DAILY CHECK LIST.**

INSPECTION COMPLETED BY Steve Lockman

### RESULT OF PHYSICAL SURVEY



### BARRICADE EQUIPMENT

SIGNS  HEDV  
 RESISTANT SURVEILLANCE  
 \_\_\_\_\_

**RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE**  
 M-102 G MR/HR @ 6" FROM SURFACE  
 CO-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE

TOTAL EXPOSURE TIME FOR THIS DAY on other report HRS \_\_\_\_\_ MINS \_\_\_\_\_

PERSONNEL INFORMED All persons in the area

RADIOGRAPHER Steve Lockman RADIOGRAPHER'S ASSISTANT \_\_\_\_\_

SERIAL NO OF DOSIMETER 4815E AND \_\_\_\_\_

TOTAL MR RECORDED START 0 FINISH 15 MR AND START 0 FINISH MR

FILM BADGE AND SERIAL NO 5586-5303 AND \_\_\_\_\_

REMARKS \_\_\_\_\_

### SURVEY OF TRANSPORTING VEHICLE

MR/HR @ DRIVER 0 MR/HR @ OUTSIDE SURFACE 0 MR/HR @ 1 FT FROM SURFACE 0

# Testing Institute of Alaska, Inc.

INSPECTOR'S DAILY DIARY

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality

Inspection Integrity  
Thompson

CLIENT: TESORO

DATE: 7-27-87 DAY OF WEEK

LOCATION: TESORO PLANT

JOB NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_

INSPECTOR: DON GILHOUSE

ASSISTANT: RANDY DENARD

JOB DESCRIPTION: X-RAY TANK # 66

PAGE \_\_\_\_\_ OF \_\_\_\_\_

TIME	DESCRIPTION OF ACTIVITY
5:30pm	TRAVEL TO PLANT
	ARRIVE AT JOB SITE + STARTED
	SETTING UP + GOT PERMITS
	STARTED X-RAYING ON VERTICAL
	SEAMS ON 2ND ROW
	ALSO X-RAYING ON FIRST LEVEL
	HORIZONTAL SEAM
	ALSO X-RAYED SEVERAL REPAIR
	AREAS
	PACKED UP EQUIPMENT
	AT 20 SQUARE PLATE ON BOTTOM OF TANK
	ALL ACCEPTED COMPLETED REPORTS
	TRAVEL TO KENAI
	LEAVE KENAI
11:00am	ARRIVE AT ANCHORAGE + TRAVEL TO TIA

CONSUMABLES USED: \_\_\_\_\_ FILM USED \_\_\_\_\_

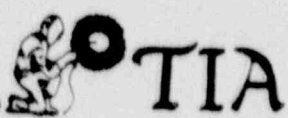
MISC. CONSUMABLES: \_\_\_\_\_ OVERLAYS: \_\_\_\_\_

TOTAL WORKING HOURS: 17 1/2 TOTAL EQUIPMENT HOURS: 17 1/2 TRAVEL MILES: 30

SIGNATURE: Don Gilhouse

CLIENT REPRESENTATIVE: B

T.I.A. FORM NDT .043 Inspector's Daily Diary/NDTRMS





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276 3440  
Welding / Quality  
Inspection / Integrity

## INSPECTOR'S DAILY DIARY

CLIENT: Tesoro

DATE: 7-27-89 DAY OF WEEK \_\_\_\_\_

LOCATION: Nikiski Refinery

JOB NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_

INSPECTOR: Steve O Lockman

HELPERS ASSISTANT: Bill McKay / Bob Taylor

JOB DESCRIPTION: RT - Tank 66

PAGE \_\_\_\_\_ OF \_\_\_\_\_

TIME	DESCRIPTION OF ACTIVITY
5:30pm	leave the hotel for the job site
6:00pm	arrived at Tesoro Refinery and
	continued to X-Ray the remaining
	shots on the 1 <sup>st</sup> horizontal seam
	weld and the remaining vertical
	welds developed out the film
	wrote reports & made overlays
8:30am	
9:00am	

CONSUMABLES USED: 1 set of chemicals FILM USED 75 - 4 1/2 x 17 in

MISC. CONSUMABLES: \_\_\_\_\_ OVERLAYS: 55 - 1/2 in

TOTAL WORKING HOURS: 17.5 TOTAL EQUIPMENT HOURS: 17.5 TRAVEL MILES: 30

SIGNATURE: Steve O Lockman

CLIENT REPRESENTATIVE: Bob Taylor

T.I.A. FORM NDT .043 Inspector's Daily Diary/NDTRMS



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-27-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

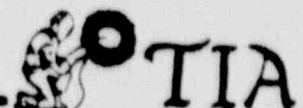
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam LINE# 2nd Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-11	Vert	0	15	✓			
"	"	15	30		✓	WH	17"-18"
"	"	30	45	✓			
"	"	45	60		✓	WH/GP	WH 45"-48", GP @ 47 <sup>3</sup> / <sub>4</sub>
"	"	60	75		✓	WH,SL	WH @ 69 <sup>3</sup> / <sub>4</sub> -70 <sup>1</sup> / <sub>2</sub> , 4" SL @ 70
"	"	75	90		✓	WH	@ 79" & 87 <sup>1</sup> / <sub>2</sub> -89
"	"	90	105	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-27-89

CLIENT COMPANY: Tesoro  
 WELDER'S NAME: unknown  
 RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi  
 FILM INTERPRETER: Steven O. Lockman  
 CONTROLLING SPECIFICATION: API 650  
 PROCEDURE NUMBER: Tank 66 vertical seam #1NF1 2<sup>nd</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-12	VERT	0	15		✓	WH	@ 5-11 3/4
"	"	15	30		✓	WH	@ 19 3/4 - 21
"	"	30	45	✓			
"	"	45	60		✓	WH, NF	@ 47 1/2 - 48 1/4, NF @ 50 1/4
"	"	60	75		✓	CR	@ 63 3/4
"	"	75	90		✓	NF	@ 98 1/4
"	"	90	105		✓	NF	@ 94 3/4, GP @ 100

BT = Burn Through  
 CC = Concave Root  
 CR = Crack  
 GP = Gas Pocket  
 HB = Hollow Bead  
 IP = Inadequate Penetration  
 IU = Int. Undercut  
 IF = Inadequate Fusion  
 WH = Worm Hole Porosity

LC = Low Crown  
 NF = Non-Fusion  
 OU = Out. Undercut  
 P = Porosity  
 SL = Slag Lines  
 TU = Tungsten Inclusions  
 WT = Wagon Tracks  
 CP = Cluster Porosity





# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440

Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-27-89

CLIENT COMPANY: Tesoro

WELDER'S NAME: Unknown

RADIOGRAPHIC TECHNICIAN: Don Gilhousen ASST. Randy Denardi

FILM INTERPRETER: Steven O. Lockman

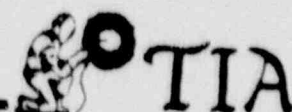
CONTROLLING SPECIFICATION: API 650

PROCEDURE NUMBER: Tank 66 vertical seam ~~LINE~~ 2nd ROW

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-13	vert	0	15		✓	LC	@ 5 <sup>3</sup> / <sub>4</sub> " - 11" Inside
"	"	15	30		✓	CR	@ 26 <sup>1</sup> / <sub>2</sub> "
"	"	30	45		✓	LC	@ 31 <sup>1</sup> / <sub>2</sub> " - 31 <sup>3</sup> / <sub>4</sub> " Inside
"	"	45	60		✓	GP	@ 48 <sup>3</sup> / <sub>4</sub> " - 51"
"	"	60	75	✓			
"	"	75	90	✓			
"	"	90	105	✓			

BT = Burn Through  
CC = Concave Root  
CR = Crack  
GP = Gas Pocket  
HB = Hollow Bead  
IP = Inadequate Penetration  
IU = Int. Undercut  
IF = Inadequate Fusion  
WH = Worm Hole Porosity

LC = Low Crown  
NF = Non-Fusion  
OU = Out. Undercut  
P = Porosity  
SL = Slag Lines  
TU = Tungsten Inclusions  
WT = Wagon Tracks  
CP = Cluster Porosity



# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
907/276-3440

Welding / Quality  
Inspection / Integrity

## RADIOGRAPHIC EXAMINATION REPORT

Page \_\_\_\_\_ of \_\_\_\_\_

DATE: 7-27-89

CLIENT COMPANY: \_\_\_\_\_

Tesoro

WELDER'S NAME: \_\_\_\_\_

unknown

RADIOGRAPHIC TECHNICIAN: \_\_\_\_\_

Don Gilhausen ASST. Rundy Denardi

FILM INTERPRETER: \_\_\_\_\_

Steven O. Lockman

CONTROLLING SPECIFICATION: \_\_\_\_\_

API 650

PROCEDURE NUMBER: \_\_\_\_\_

Tank 66 vertical seam ~~LINE#~~ 2<sup>nd</sup> Row

WELD NO.	SPEC. I.D.	POSITION MARKER		WELD QUALITY		DEFECT TYPE	COMMENTS
		FROM	TO	ACCEPT	REJECT		
2-14	vert	0	15	✓			
"	"	15	30	✓			
"	"	30	45	✓			
"	"	45	60	✓			
"	"	60	75	✓			
"	"	75	90	✓			

BT = Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion

WH = Worm Hole Porosity

LC = Low Crown

NF = Non-Fusion

OU = Out. Undercut

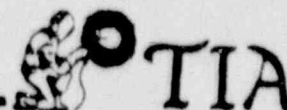
P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks

CP = Cluster Porosity









# Testing Institute of Alaska, Inc.

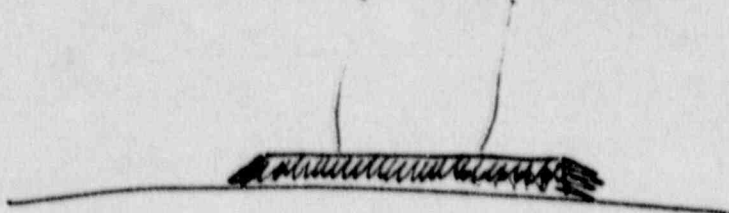
Mr. Edgar N. H. M.S.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding Quality  
Inspection / Integrity

## MAGNETIC PARTICLE EXAMINATION

CLIENT: TESORO DATE: 7-27-89  
PROJECT: TANK #66 LOCATION: TESORO PLANT  
CODE ACCEPTANCE CRITERION: API 650

### LOCATION AND/OR IDENTIFICATION SKETCH

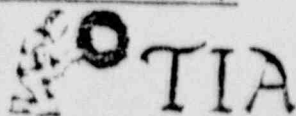


WELD IDENTIFICATION	NUMBER	INTERPRETATION		REPAIRS		REMARKS
		ACCEPT	REJECT	ACCEPT	REJECT	
Plate	1	✓				
Plate	2	✓				
Plate	3	✓				
Plate	4	✓				
Plate	5	✓				
Plate	6	✓				
Plate	7	✓				
Plate	8	✓				
Plate	9	✓				
Plate	10	✓				

TYPE OF MAGNETIZING CURRENT:

AC |  DC |  DRY |  WET |  RESIDUAL |  CONTINUOUS |  FLUOR |  VISUAL

TECHNICIAN: Paul S. [Signature] DATE: 7-27-89



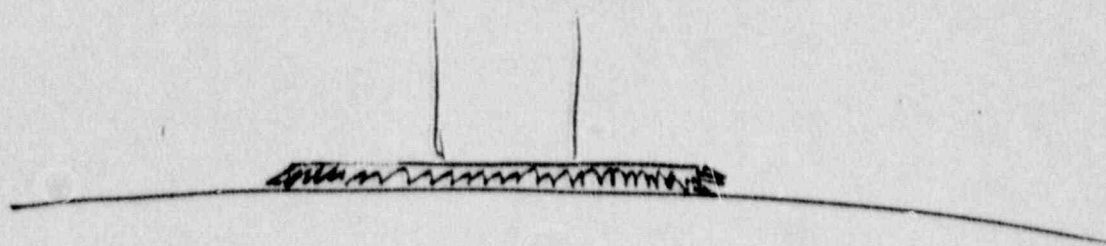
# Testing Institute of Alaska, Inc.

2114 Railroad Avenue  
Anchorage, Alaska 99501  
(907) 276-3440  
Welding / Quality  
Inspection / Integrity

## MAGNETIC PARTICLE EXAMINATION

CLIENT: TESORO DATE: 7-27-89  
PROJECT: TANK #6C LOCATION: TESORO Plant  
CODE ACCEPTANCE CRITERION: API 650

### LOCATION AND/OR IDENTIFICATION SKETCH

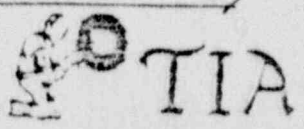


WELD IDENTIFICATION	NUMBER	INTERPRETATION		REPAIRS		REMARKS
		ACCEPT	REJECT	ACCEPT	REJECT	
Plate	11	✓				
Plate	12	✓				
Plate	13	✓				
Plate	14	✓				
Plate	15	✓				
Plate	16	✓				
Plate	17	✓				
Plate	18	✓				
Plate	19	✓				
Plate	20	✓				

TYPE OF MAGNETIZING CURRENT:

AC |  DC  DRY |  WET |  RESIDUAL |  CONTINUOUS |  FLUX |  VISUAL

TECHNICIAN: Donald S. [Signature] DATE: 7-27-89





# Testing Institute of Alaska, Inc.

## UTILIZATION/RADIATION REPORT

**WARNING - INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-27-89 CITY KENAI STATE AK

PROJECT TRNK #66 CUSTOMER TESORO

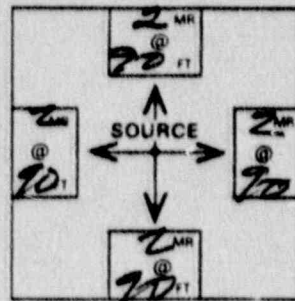
SOURCE OF RADIATION  
 IR-192  CO-60  X RAY   
 S/N 8216 S/N \_\_\_\_\_ S/N \_\_\_\_\_  
 ACTIVITY OF SOURCE 92 CURIE  
 SURVEY INSTRUMENT MODEL NO. G5-2000

EXPOSURE DEVICE MODEL NO. 660 S/N 4486  
 S/N 1039 VOID DATE 8-5-89

RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH TIA OANDE PROCEDURE DAILY CHECK LIST.

INSPECTION COMPLETED BY R. Raymond

### RESULT OF PHYSICAL SURVEY



### BARRICADE EQUIPMENT

SIGNS  ROPE  
 CONSTANT SURVEILLANCE  
 \_\_\_\_\_

RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE  
 IR-192 15-20 MR/HR @ 6" FROM SURFACE  
 CO-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE

TOTAL EXPOSURE TIME FOR THIS DAY 1 HRS 43 MINS

PERSONNEL INFORMED All personnel

RADIOGRAPHER Randy Duvant Helped Bill Maloy

SERIAL NO OF DOSIMETER 014890 AND 13744

TOTAL MR RECORDED START 60 MR AND START 8 MR FINISH 8 MR

FILM BOTTLE AND SERIAL NO 5586-1806 AND 5586-2

REMARKS \_\_\_\_\_

### SURVEY OF TRANSPORTING VEHICLE

MR. HR @ DRIVER 0 MR. HR @ OUTSIDE SURFACE 0 MR. HR @ 1 FT FROM SURFACE 0

# Testing Institute of Alaska, Inc.

## UTILIZATION/RADIATION REPORT

**WARNING - INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-27-89 CITY KEGONK STATE AK

PROJECT TANK #66 CUSTOMER TESORO

**SOURCE OF RADIATION**

IR-192  CD-60  X-RAY

S/N 792 S/N \_\_\_\_\_

ACTIVITY OF SOURCE 37 CURIE

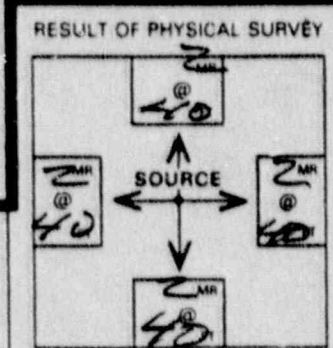
SURVEY INSTRUMENT MODEL NO GS-100A

EXPOSURE DEVICE MODEL NO 660 S/N 4480

S/N 827 VOID DATE 9-5-89

**RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH TIA OANDE PROCEDURE DAILY CHECK LIST.**

INSPECTION COMPLETED BY David S. Glick



**RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE**

IR-192 8-10 MR/HR @ 6" FROM SURFACE

CD-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE

**BARRICADE EQUIPMENT**

SIGNS  ROPE

CONSTANT SURVEILLANCE

\_\_\_\_\_

TOTAL EXPOSURE TIME FOR THIS DAY 1 HRS 12 MINS

PERSONNEL INFORMED All personnel

RADIOGRAPHER Don Gilhouson RAIA AS Helper Bob Taylor

SERIAL NO OF DOSIMETER 01540 AND 13296

TOTAL MR RECORDED START 30 MR AND START 5 MR FINISH 5 MR

FILM BADGE AND SERIAL NO 5586-3134 AND 5586-3

REMARKS \_\_\_\_\_

**SURVEY OF TRANSPORTING VEHICLE**

MR/HR @ DRIVER 0 MR/HR @ OUTSIDE SURFACE 0 MR/HR @ 1 FT FROM SURFACE 0



# Testing Institute of Alaska, Inc.

## UTILIZATION / RADIATION REPORT

**WARNING — INTENTIONAL FAILURE TO RECORD INFORMATION ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR DISCIPLINARY ACTION.**

DATE 7-27-89 CITY Kenai STATE AK

PROJECT Tank 66 CUSTOMER Tesoro

**SOURCE OF RADIATION**  
 IR-192  CO-60  X-RAY   
 S/N 2792 S/N \_\_\_\_\_ S/N \_\_\_\_\_

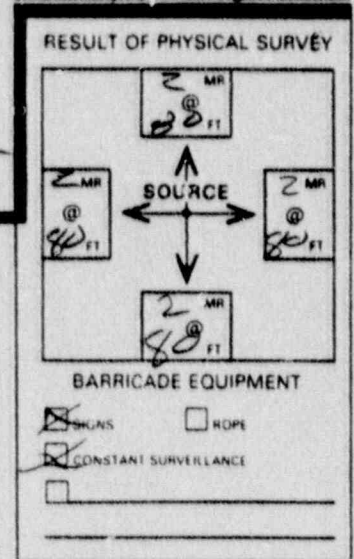
ACTIVITY OF SOURCE 37 CURIE  
 SURVEY INSTRUMENT MODEL NO GS1000A

EXPOSURE DEVICE MODEL NO 660 S/N 4470

S/N 1040 VOID DATE 8-2-89

**RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH TIA O AND E PROCEDURE DAILY CHECK LIST.**

INSPECTION COMPLETED BY Steve Locke



**RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE**  
 IR-192 4-6 MR/HR @ 6" FROM SURFACE  
 CO-60 \_\_\_\_\_ MR/HR @ SURFACE OF EXPOSURE DEVICE

TOTAL EXPOSURE TIME FOR THIS DAY on other form HRS \_\_\_\_\_ MINS \_\_\_\_\_

PERSONNEL INFORMED All persons in area

RADIOGRAPHER Steve Locke RADIOGRAPHER'S ASSISTANT \_\_\_\_\_

SERIAL NO. OF DISMETER 4815E AND \_\_\_\_\_

TOTAL MR RECORDED START 0 FINISH 4 MR AND START 0 FINISH \_\_\_\_\_ MR

FILM BADGE AND SERIAL NO 5586-5303 AND \_\_\_\_\_

REMARKS \_\_\_\_\_

### SURVEY OF TRANSPORTING VEHICLE

MR/HR @ DRIVER 0 MR/HR @ OUTSIDE SURFACE 0 MR/HR @ 1 FT FROM SURFACE 0