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 ALLEDOED 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.

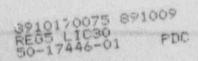
The plans for a more effective management control system of the Testing Institute is to hire more personnel to be assigned to specific management control areas, and to raise the rates of our services to our customers to be able to afford the additional personnel. The additional personnel will be assigned 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.

TEOT





Page 2
Re: RESPONSE TO LETTER OF ALLEDGED 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 ALLEDGED 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 heighth 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 occurence 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 Appendex "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.
- Future instruction will be given similar to that which has been given in this matter.
- 4. Full compliance has been achieved.

ATTA

Page 4

Re: RESPONSE TO LETTER OF ALLEDGED 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 th's 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

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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



NUCLEAR REGULATORY COMMISSION NEGION V

1450 MARIA LANE, SUITE 210 WALNUT CREEK, CALIFORNIA 94596

SEP 1 1 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.

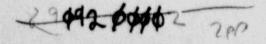
The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Commission's rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records,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



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 2.201 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,

Pobert 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 rediographic 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 radingraphic 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.

8 9 492040 43 20

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

Safequards Branch

Dated at Walnut Creek, California this //41 day of September, 1989.

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

Welding Quality
Inspection Integrity

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

REPORT OF VACUM EXAMINATION OF WELDS

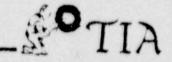
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					#24, ATTACHED.

INSPECTOR: 1. R. Dunard DATE: 7-20-89



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

RADIOCKAPHIC EXAMINATION REPORT

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CP = Cas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion WH = Worm Hole Porosity

Rt Exam/NDTR/S

OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



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

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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/NDTRVS

LC = Low Crown

NF = Non-Fusion

OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



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

Welding | Quality
Inspection | Integrity

RADIOGRAPHIC EXMINATION REPORT

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CP = Cluster Porosity

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iF = Inadequate Fusion

WH = Worm Hole Porosity

Rt Exam/NDTRVS

21 is Railroad Avenue Anchorage, Aluska 99501 (907) 276 3440

Welding | Quality Inspection | Integrity

RADIOCRAPHIC EXAMINATION REPORT

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P = Porosity

SL = Slag Lines

TU = Tungsten Inc!usions

WT = Wagon Tracks



2114 Railroud Avenue Anchorage, Alaska 99501 (907) 276 3440 Welding | Quality Inspection | Integrity

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BT = Burn Through CC = Concave Root

OR = Crack

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IU = Int. Undercut

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Rt Exam/NDTRVS

LC = Low Crown

NF = Non-Fusion

OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



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

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

Welding Quality

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

REPORT OF VACUM EXAMINATION OF WELDS

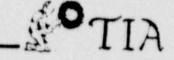
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WELD LOCATION AND IDENTIFICATION SKETCH

WELD SIZE:

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	#13 #14 #15 #16		-		
	#14		~		
	#15		/		
	#16		/		
			ALEY I		

INSPECTOR: 1 R. Dugard DATE: 7-21-89



Anchorage Alaska 99501

49071 276 3440

Welding Quality

Inspection Integrity

MADNETIC PARTICLE EXAMINATION

alibri: TESORO	DATE: 7-21-89
PROJECT: TANK #66 TNECCTION	LOCATION: TESORO PLANT
CODE ACCEPTANCE ORITERION: API - 6.9	

LOCATION AND/OR IDENTIFICATION SKETCH

LE LOCATION OF FILLET WELD

WELD IDENTIFICATION	N MBER	INTERP	ETATION	REPA	TREFEREN	DD HD/C
BASE PLATE		1	The sect	ALEFI	REJECT	RB/MRKS
DASE		<u> </u>				
	12	-				
	123	-	-			
	24	-				
	15	/				
	16	/	-			
	17			-		
		to the second				
				-		

TYPE OF MACNETIZING CURRENT:

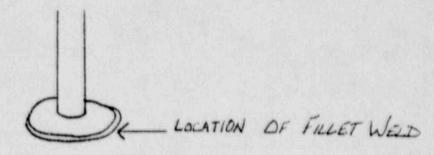
IXIAC I IDO	LYDRY I JWET	1 PRESIDUAL	(X) CONTINOUS (FLLOR JVISLAL
TECHICIAN:	4. K. ne	prdj	DATE:	7-21-89
	J			7-21-89

2114 Reilroad Avenur Anchorage, Alaska 99501 1907, 276 3440 Welding Quality Inspection Integrity

MACNETIC PARTICLE EXAMINATION

CLIENT: TESORO		DATE:	1-21-89
PROJECT: TANK # 66	INSPECTION	LOCATION:	TESORO PLANT
CODE ACCEPTANCE CRITERION:			

LOCATION AND/OR IDENTIFICATION SKETCH



WELD IDENTIFICA	TION	NUMBER	INTERIA	ETATION	REPA	TREJECT	RB.WRKS
BASE PL	ATE	1	/				
",	"	2	/				
· ·	"	3	1				
**	4	1 4	1				
VI.	4	5	1				
,,	11	6	/				
,	11	7	~				
,	11	8	/				
`	1,	9	/				
1	4	10	/				

TYPE OF MACNETIZING CURRENT:

I XAC I IDO	1 XORY 1	I JWET I	TRESTOUAL	1X) CONTINUES 1	FLLOR [MIRIN
TECANICIAN						

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

AITO

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

RADIOCRAPHIC EXAMINATION REPORT

WEI DED	S NAME:				oro				
RADIOCE	APHIC TECH	IICIAN:	DON GILLOUSEN / RANGE DENANDE						
FILM IN	TERPRETER:		-	DON	62/600	SEN			
CONTROL	LING SPECIF	ICATION:		API	650				
PROCEDU	RE NUMBER:					200	Row Junctions		
WELD NO.	SPEC.	POSITION	MARKER	WELD C	VALITY	DEFECT	COMMENTS		
HOEZ	250WT	,	2		×	5 CR			
vent		/	2	V					
4022	250 WT	,	2	~					
2B		,	2	1					
ber	4.50		2						
28	2500	,	2	1					
HOLZ 2D	259WT	,	2		7	NF			
2D		,	2		2	GR			

HB = Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion
WH = Worm Hole Porosity

Rt Exam/NOTAMS

SL = Slag Lines

TU = Tungsten Inclusions WT = Wagon Tracks CP = Cluster Porosity



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

RADIOCRAPHIC EXAMINATION REPORT

						-	
Page	1 of 1						DATE: 7-21-89
CLIENT	COMPANY: TESONO						
WELDER	S NAME:						
RADIOOR	RAPHIC TECHN	IICIAN:		20.	Gilho	255 / PAN	ey DEWANDS
FILM IN	TERPRETER:				Galho		1
CONTROL	LING SPECIF	ICATION:			65		
PROCEDU	RE NUMBER:				TO THE STATE OF		ROW JUNCTIONS
WELD NO.	SPEC.	POSITION FROM	MARKER TO	WELD C	REJECT	DEFECT TYPE	COMMENTS
26	250 WT	1	2	v			
VELT DE		/	2		×	68	
HURZ	250WT		2	-			
VORT		1	2	/			
HOLZ	SOUT	,	ے	/			
VERT		1	2	/			
HORZ	250 NT		2	-			
JORT 24		1	2		7	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/NDTRVS

LC = Low Crown

NF = Non-Fusion

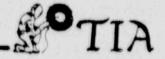
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



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

RADIOCRAPHIC EXAMINATION REPORT

Page	1 of 1						DATE 2 2/			
CLIENT	COMPANY:			75	3000					
WELDER	S NAME:		-							
RADIOOR	APHIC TECHN	ICIAN:	Dow GElhouss of RATION DENANCE							
FILM IN	TERPRETER:			Don Galhoust-						
CONTROL	LING SPECIF	ICATION:		AP	650					
PROCEDU	RE NUMBER:			791	K#66	300	Pow Jupations			
WELD NO.	SPEC.	POSITIO	THE RESERVE OF		WALITY	DEFECT				
HOUZ	250.5	FROM /	10	ACCEPT	REJECT	CR	COMMENTS			
VONT 27		1	2		7	cr				
1622 25	2530UT	,	2	-						
ont 2J		/	2	/						
HOEZ	250-57	,	2	/						
2K		/	2	/						
Her	250 NT	,	2	-						
21	The same of the sa			1						

CP = Cas Pocket

HB = Hollow Bead

IP = Inadequate Penetration
IU = Int. Undercut

IF = Inadequate Fusion
WH = Worm Hole Porosity

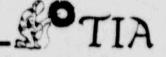
Rt Exam/NDTRVS

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



2114 Railroad Avenue Anchorage, Alaska 99501 (907) 1/6 3440 Welding | Quality Inspection | Integrity

RADIOGRAPHIC	EVAMINAT	ION	DEDOM
MULLIAMITIC	EAMILIANI	LON	MELCIN

Page _/ of _/	DATE: 7-2/-
CLIENT COMPANY:	TE5020
MELDER'S NAME:	
RADIOGRAPHIC TECHNICIAN:	DON GELLOSSEN/RATES DENANOI
FILM INTERPRETER:	Den Galhouse
CONTROLLING SPECIFICATION:	APJ 650
PROCEDURE NUMBER:	TANK # 66 OND ROW JUNCTIONS

WELD	SPEC.		N MARKER		VALITY	DEFECT	
NO.	1.D.	FROM	10	ACCEPT	REJECT	TYPE	COMMENTS
HORZ Om	ZSOWT	1	2		×	NEWH	
vort		1	2		×	NE	
HORZ	25007		2		×	NE	
2027			2	/			
WAZ 20	250 WT	,	2	-			
20		,	2	/			
HORZ	25027	,	2	/			
LERT		1	2	1			

BT = Burn Through CC = Concave Root

OR = Crack

GP = Gas Pocket HB = Hollow Bead

IP = Inadequate Penetration

{U = Int. Undercut
IF = Inadequate Fusion

WH = Worm Hole Porosity

Rt Exam/NDTR//S

LC = Low Crown

NF = Non-Fusion

OU = Out. Undercut

P = Pornsity SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



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

			RADIOCR	WHIC EX	MINATION	REPORT	raspection / Integrity				
Page _	1 of 1				DATE: 7-21-8						
CLIENT	COMPANY:			785020							
WELDER	S NAME:										
RADICOR	APHIC TECHN	IICIAN:		Do.	Galho	USTA /2	4.04 Dr. 440+				
FILM IN	TERPRETER:			Po	DON GETHOUSEN / RANDY DENARDS						
CONTROL	LING SPECIF	ICATION:			T 650						
PROCEDU	RE NUMBER:			THE RESERVE OF			ROW JUNCTION				
WELD NO.	SPEC.	POSITIO	N MARKER	WELD C	UALITY	DEFECT	MAID TE				
Hoez	2504	1	2	1	NEJECT	TIPE	COMMENTS				
20		1	2	/							
Houz	250 WT	,	2	-							
vont		,	2	V							
622	250WT	,	2	~							
VERT			2	1							
HOLZ	250.5		2	/							
vert		1	2	1							
CC = Cor CR = Cra CP = Gas HB = Ho IP = Ina IU = Ina IF = Ina	rn Through ncave Root ack s Pocket Ilow Bead adequate Per t. Undercut adequate Fus rm Hole Porc	sion	LC NF OU P SL TU WT	= Wagon '	sion ndercut ty ines en Inclus						

Rt Exam/NOTRMS

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

			RADIOCR	APHIC EX	MINATION	REPORT	maperiton / Integrity				
Page _	ge _/_ of _/_						DATE: 7-21-89				
CLIENT	COMPANY:										
WELDER	S NAME:										
RADIOCE	RAPHIC TECHN	NICIAN:		DON GILLOUSEN RANGY DENAMOS							
FILM IN	TERPRETER:			200	6-16	Descar	og cenants				
CONTROL	LING SPECIF	ICATION:		40	650)					
PROCEDU	RE NUMBER:						Row Junction				
					-	0 21-10	LOW JONGTON				
WELD NO.	SPEC.	POSITION	MARKER		REJECT	DEFECT TYPE					
HOUZ	250 WT	,	2	1	REJECT	TIPE	COMMENTS				
vent		1	2	1							
CC = Cor CR = Cra CP = Gas HB = Hol	rn Through ncave Root ack s Pocket I low Bead adequate Per	netration	NF OU F SL	= Low Cr = Non-Fu = Out. U = Porosi = Slag L = Tungst	sion ndercut ty	ions					

WT = Wagon Tracks

CP = Cluster Porosity

IU = Int. Undercut

Rt Exam/NOTRVS

IF = Inadequate Fusion

WH = Worm Hole Porosity

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

RADIOCRAPHIC EXAMINATION REPORT

	COMPANY:			75	5010		DATE: 7-21-89				
WELDER	S NAME:										
RADIOOR	APHIC TECHN	IICIAN:		DON GELHOUST / TEMPOY DEMARE							
FILM IN	TERPRETER:					100582					
CONTROL	LING SPECIF	ICATION:		APZ	650	2					
PROCEDU	RE NUMBER:			TA	K#6	6 USA+	THAT SEAMS				
WELD NO.	SPEC.	POSITIO	N MARKER		TALITY	DEFECT TYPE	COMMENTS				
WAT	250 WT	,	2	6	NESCO!		WWZNIS				
UTAT SW	250 UT	/	2		>	of IP, N	F, wH				
VERT	250 WT	/	2	V							
VEET	250 WT	1	2	V							
CC = Co CR = Cr CP = Ga	rn Through ncave Root ack s Pocket I I ow Bead		NF OU P	= Low Cr Non-Fu = Out. U = Porosi	sion Indercut ty						

TU = Tungsten Inclusions

CP = Cluster Porosity

WT = Wagon Tracks

AIT®

IP = Inadequate Penetration

IU = Int. Undercut

Rt Exam/NDTRMS

IF = Inadequate Fusion

WH = Worm Hole Porosity

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

WELDER	S NAME:						
RADIOCE	RAPHIC TECHN	NICIAN:		Do	6= (he	USAN/RA	rey DENAGE
FILM IN	TERPRETER:			PON	Grillio	ousre	
CONTROL	LING SPECIF	FICATION:		AP	I 65	٥	
PROCEDU	RE NUMBER:			77	TIK # G	66 vent	ICAL SEAM
WELD NO.	SPEC.	POSITION FROM	MARKER TO	WELD C	UALITY REJECT	DEFECT TYPE	COMMENTS
VERT	250 WT	1	2	/			
Voct	250 WT	,	2	7			
IW	250WT	_/	2	/			
VEST	250 WT	,	2	V			
vert	250 WT	1	2	/			
Viet 12	250 -	,	2	1			

IP = Inadequate Penetration

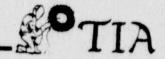
IU = Int. Undercut IF = Inadequate Fusion

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Rt Exam/NDTRVS

TU = Tungsten Inclusions

WT = Wagon Tracks



UTILIZATION/RADIATION REPORT

WARNING — INTENTIONAL FAILURE TO RECORD INFORMATION

ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR

DISCIPLINARY ACTION.

" 7.51-89	CITY KEN4	STATE AIC
DACT TANKS	±66 CUSTOMER	755000
	RADIATION	ACTIVITY 98 CU
# 192 CO 60 SIN 8216 SIN	5/N	SURVEY GS-3000
POSURE +AP	. 4486	- 2-8 dig 040/ v.s
IN ACCORDANCE W	JIPMENT INSPECTED ITH TIA DANDE MILY CHECK LIST.	(A)
12.005	9/1	100
SPECTION COMPLETED BY		SOURCE OF
		100
RECORD OF PHYSICAL SU	PRVEY MADE TO DETERMINE DED POSITION PRIOR TO	
SECURING EX	POSURE DEVICE	100
	HR @ 6" FROM SURFACE	BARRICADE EQUIPMENT
CO-60 MR 'HH (SURFACE OF EXPOSURE DEVICE	DESTINAL LANGE
TOTAL EXPOSURE	- HR 21	MINS CONVERGANCE
	esonnel	
NI OHMED ALL POR	· // - > 11	EMPRIMATION ZHOOD DEVAND
SERIAL NO OF DOSIMETER	5401	AND /4890
TOTAL MR RECORDED START C	INSH ZO	AND START O FINISH 40
FILM BADGE CC	6-3174	MD 5586-180
AND SERIAL NO 3 3 8	9 3.24	
REMARKS		
	SURVEY OF TRANSPO	RTING VEHICLE
	MR/HR @	MR HR W

INSPECTOR'S DAILY DIARY

2114 Railroad Avenue Anchorage Alaska 99501 (907) 276 3440

Welding Quality
Inspection Integrity

CLIENT:	785060	DATE: 7-25	DAY OF WEEK	wessy
LOCATION:_	TESONO PLANT	JOB NO	P.O. NO	
	Den GELLOUSS ~	AND A	empy Depi	moz
	PTION: X-RM TANK #6	6	PAGE	
TIME	DESCRIP	TION OF ACTIV	ITY	
8:00m	HEESOSO AT Plant	MIT	WITH BEAN	is south
)	+ DECEPTO TO WOCK AT			
7	DOWN WELDORS WEIDING			
9:00.m	NETT Plant			
5:30pm	Mesoso AT PIANT,			
-	X-DAGING 1st FOW UCA			e Surney
	were Borry USER AT	BNE Y	DAE	
	X-RayED All 15	- VEATOCA	1 Srams	80/0W
	#/80 L			
	Pzokse up Eguspa	set Roc	DAG	
	10 MED UP Egoppes			
	WENT DIEL JAPEL			
\$ 30 Am	GAT PINT			
V made and a manufacture of the same of th				
CONSUMBLE	ES USED:		FILM USED	
MISC. CONS	SUMBLES:		OMERLAYS:	
TOTAL WORK	KING HOURS: 16 TOTAL EQUIPMENT	HOURS: 16	TRAVEL MILE	S: 35
	That sthe			
	PRESENTATIVE: BALLE		_ 👯 🔾	TIA

Testing Institute of Alaska, Inc.	2114 Railroad Avenur Anchorage, Alaska 99501 (907) 276 3440
	Melding Quality Inspection Integrity ROAY OF WEEK Ties day
LOCATION: Nikiski Refinery JOE NO. INSPECTOR: Steve O Lockman INSPECTOR: Bill Marlay, Bob taylor P.O. NO:	
JOB DESCRIPTION: RT - Tank 66	PAGE/ OF
TIME DESCRIPTION OF ACTIVITY	TY
5:00 pm leave hotel for job site 5:30 pm arrived at Tesoro refinery	
and performed Radiograp	
of tank 66 Vertical of the bottom ring 1. thru	Seam welds
Whr. 0-75 developed on	of the Sila
8:15 Am leave Job Site 9:00 Am arrived at hotel	
CONSUMABLES USED: L-Roll Duct lap - 1-Gal Gas	FILM USED 90-45 X17 17
MISC. CONSUMABLES: Room & Board TOTAL WORKING HOURS: 14.5 TOTAL EQUIPMENT HOURS: 14.5	OVERLAYS: 27-42x17k
CLIENT REPRESENTATIVE: BONDS	& OTTO

RADIOGRAPHIC EXAMINATION REPORT .

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

Inspection | Integrity

Page	of						DATE: 7-25-89
CLIENT	COMPANY:		_ 70	sorc			
WELDER'	S NAME:			onknow	n		
RADIOGR	APHIC TECH	HNICIAN:	Don	Gilhou	sen	ASST	. Randy Denardi
FILM IN	TERPRETER:			Steve	en	0. L	ockman
CONTROL	LING SPECT	FICATION:		API	- 6	50	
PROCEDU	RE NUMBER		Tank 6	6 vert	ical S	GEM LINE	1st Row
WELD NO.	SPEC.	POSITION FROM	MARKER		WALITY REJECT	DEFECT TYPE	COMMENTS
				The same of	/		

WELD	SPEC.	POSITION	MARKER	WELD QU	UALITY	DEFECT	DENTIFICAÇÃO DE ANDIO
10.	I.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
-3	YerT	0	15		V	WH	WH @ 55" +0 8 34"
17	11	15	30	V			
11	11	30	45	V			
9	1)	45	60	V			
b	h	60	75	U			
11	1/	75	90	V			
				E L			

BT - Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IV = Int. Undercut

IF = Inadequate Fusion

WH = Worm Hole Porosity

LC = Low Crown

NF = Non-Fusion

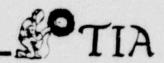
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



Page

RADIOGRAPHIC EXAMINATION REPORT

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

Inspection | Integrity

DATE: 7-25-89

CLIENT C	OMPANY:			Teso	0				
WELDER'S	NAME:		1	unkno	nknown				
RADIOGRA	PHIC TEC	HNICIAN:	Don Gilhousen ASST. Randy Den						
FILM INT	ERPRETER			Steve		0. 1	ockman		
CONTROLL	ING SPEC	IFICATION:		API		50			
PROCEDUR	E NUMBER	•	Tonk G	6 ver		eam time	1st Row		
WELD NO.	SPEC.	POSITION FROM	MARKER TO	WELD Q	UALITY [REJECT	DEFECT	COMMENTS		
1-4	vert	0	15	V					
11	11	15	30	V					
(1	1/	30	45	1					
H	11	45	60	V					
11	11	60	75	1		Trist			
11	11	75	90	V					

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RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenur Anchorage, Alaska 95:01 (907) 276:3440

Welding | Quality Inspection | Integrity

CLIENT COMPANY: Tesoro WELDER'S NAME: UNKNOWN RADIOGRAPHIC TECHNICIAN: Don Gilhousen Asst. Kandy Dengre FILM INTERPRETER: CONTROLLING SPECIFICATION: PROCEDURE NUMBER: Tank 66 Vertical Segm LENE 1ST ROW WELD SPEC. POSITION MARKER WELD QUALITY DEFECT	Page	of						DATE: 7-25-89
RADIOGRAPHIC TECHNICIAN: Don Gilhousen asst. Randy Denore FILM INTERPRETER: Steven O. Lockman CONTROLLING SPECIFICATION: APT 650 PROCEDURE NUMBER: Tank 66 Vertical Seam Level 1st Row WELD SPEC. POSITION MARKER WELD QUALITY DEFECT	CLIENT C	COMPANY:		7	resorc)		
FILM INTERPRETER: Steven O. Lockman CONTROLLING SPECIFICATION: PROCEDURE NUMBER: Tank 66 Vertical Seam Letter 1st Row WELD SPEC. POSITION MARKER WELD QUALITY DEFECT	WELDER'S	NAME:			nknoc	un		
FILM INTERPRETER: Steven O. Lockman CONTROLLING SPECIFICATION: PROCEDURE NUMBER: Tank 66 Vertical Seam Level 1st Row WELD SPEC. POSITION MARKER WELD QUALITY DEFECT	RADIOGRA	APHIC TECH	HNICIAN:	Don	Silha	sen	ASST	. Randy Denardi
PROCEDURE NUMBER: Tank 66 Vertical Seam LENET 15T ROW WELD SPEC. POSITION MARKER WELD QUALITY DEFECT	FILM INT	ERPRETER:			Stever	0.		
WELD SPEC. POSITION MARKER WELD QUALITY DEFECT	CONTROLI	ING SPECT	IFICATION:		APZ	- 6	50	
WELD SPEC. POSITION MARKER WELD QUALITY DEFECT	PROCEDUF	E NUMBER		Tank 6	o vert	ical S	EGM LINE	t 1st ROIN
			CONTRACTOR OF THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER, WHEN PERSON NAMED					
NO. 1.D. FROM TO ACCEPT REJECT TYPE COMMENTS	NO.	1.D.	FRON		ACCEPT	REJECT		1 1/

WELD	SPEC.	POSITION	MARKER	WELD Q	UALITY	DEFECT	1
NO.	I.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
1-5	vert	0	15		V	GP	4 6P@ 12 +0134"
1/	11	15	30	V			CHO67-8 A073 -84
11	1/	30	45	V			
11	11	45	60	1			
11	1/	60	75	U			
11	17	75	90	V			
11	4	90	100	Y			

BT = Burn Through

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Page

RADIOGRAPHIC EXAMINATION REPORT

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

Welding Quality
Inspection Insegrity

DATE: 7-25-89

WELDER'S	PHIC TECH	UNICIAN.	Don	nknou			0.15
	ERPRETER			Hever			Randy Denardi Exman
		FICATION:		PI			CEMAN
PROCEDUR	LE NUMBER	. 7	The second secon		CONTRACTOR OF THE PERSON NAMED IN		1ST ROW
WELD NO.	SPEC.	POSITION FROM	MARKER TO	WELD QU	REJECT	DEFECT	COMMENTS
1-6	Veri	0	15	V			
(/	.,	15	30		V	WHP	@168-162", 242-252
11	11	30	45	V			
11	11	45	60		V	WHAP	AQ 49"-502", WHQ 56-57"
11	11	60	75	~			
11	1/	75	90	V			

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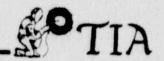
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WI = Wagon Tracks



Page

RADIOGRAPHIC EXAMINATION REPORT .

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

Welding | Quality Inspection | Integrity

DATE: 7-75 09

RADIOGRAPHIC TECHNICIAN:			Don Gilhousen ASSI. Rendy Denure							
LM INI	ERPRETER		Steven O. Lockman							
NTROLL	ING SPEC	IFICATION:	_ F	PI	6	50				
OCEDUR	E NUMBER		Tank 66	. Vertic	al Se	am H	1 ST ROW			
ELD	SPEC.	POSITION FROM	MARKER	WELD Q	UALITY REJECT	DEFECT	COMMENTS			
-7	Vert	0	15	V			G106"			
11	11	15	30	V						
11	1,	30	45	V						
1/	11	45	60	6						
21	1,	60	75	6						
//	"	75	90	V						
	The same of									

CC = Concave Root

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IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion

WH = Worm Hole Porosity

NF = Non-Fusion

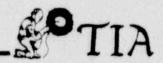
OU = Out. Undercut

P = Porosity

SI = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

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

Welding Quality
Inspection Integrity

Pageof	DATE: 7-25-89
CLIENT COMPANY:	Tesoro
WELDER'S NAME:	Unknown
RADIOGRAPHIC TECHNICIAN:	Don Gilbousen ASST. Rundy Denard:
FILM INTERPRETER:	Steven O. Lockman
CONTROLLING SPECIFICATION:	API 650
PROCEDURE NUMBER:	Tank 66 vertical Seem LINE 15+ ROW
WELD SPEC. POSITION	MARKER WELD QUALITY DEFECT

WELD	SPEC.				UALITY	DEFECT	
NO.	1.D.	FROM	TO		REJECT	TYPE	COMMENTS
1-8	VerT	0	15		V	CP-NH	4"6P@0 *"SL@3" CPAWH@ 6"
11	17	15	30	1 ~			
11	11.	30	45	1			
"	1/	45	60		V	WH	Q 55 2" to 56 39"
(1	1/	60	75		V	GP, WH	SHOW Floke WH @ 7024-73 WH @ 84-14-85
//	11	75	90		V	WH	WH 084-19-85
	1						
				The state of the			

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

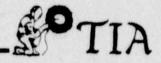
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT

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

Welding Quality
Inspection Integrity

Pageof	DATE: 7-25-89
CLIENT COMPANY:	Tesoro
WELDER'S NAME:	unknown
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASST. Rondy Denardi
FILM INTERPRETER:	Steven O. Lockman
CONTROLLING SPECIFICATION:	API 650
PROCEDURE NUMBER:	Tank 66 Vertical Seam 1984 1st Row

WELD	SPEC.			WELD QU	UALITY	DEFECT	T
NO.	I.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
1-9	VerT	0	15		V	WH	@8"+094"
,	"	15	30			LF	@1734" 7 204
*	11	30	45	4			
11	.11	45	60	ATTENDED	V	LF	@ 60"
h	H	60	75	V			
11	11	75	90	V			
"/	"	90	100	V			
	160000						

BT = Burn Through

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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

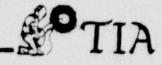
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WI = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenue Anchorage, Alaska 89501 (907) 276-3440

Welding Quality
Inspection Integrity

Page	of						DATE: 7-25-89
CLIENT C	COMPANY:			esoro			
WELDER'S	NAME:		U	nknown			
RADIOGRA	PHIC TEC	HNICIAN:	Don G	Filhouse	n	ASS	I. Rundy Denordi
LM INT	ERPRETER			Steve	n 0,	Loc	kman
CONTROLL	ING SPEC	IFICATION:		API			
PROCEDUR	E NUMBER		Tank 66				et 1st Row
			LALL VI	VCITIE			T IOW
WELD NO.	SPEC.	POSITION FROM	MARKER TO	WELD Q	UALITY REJECT	DEFECT	COMMENTS
1-10	vert	0	15	V	RESECT		CONTENTS
1/	1/	15	30				
17	1/	30	45		V	WH	631-3374435 363
11	17	45	60	V			
11	"	60	75	V			
"	"	75	90	V			

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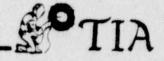
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WI = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

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

Welding Quality
Inspection Integrity

							DATE: 7-25-87		
CLIENT C	COMPANY:		_Tes	oro					
VELDER'S	NAME:		unknown						
RADIOGRA	APHIC TEC	CHNICIAN:	Don Gi	lhouse	n	ASS	T. Randy Denardi		
FILM INT	ERPRETER		Don Gilhousen ASST. Randy Denardi Steven O. Lockman						
CONTROLL	ING SPEC	IFICATION:	_ F	PIT	65				
PROCEDUR	E NUMBER	:	Tank 6	6 verting			Et 1st Row		
WELD NO.	SPEC.	POSITION FROM	N MARKER TO	WELD Q ACCEPT	UALITY REJECT	DEFECT	COMMENTS		
1-11	Vert	0	15	V			Harrison Herrica		
)/	17	15	30	1					
ji .	1/	30	45	V			GP@ 45"		
1/	1/	45	60	٧					
H	l ₁	60	75	V					
11	11	75	90	V					
//	11	90	100	V					

IU = Int. Undercut
IF = Inadequate Fusion
WH = Worm Hole Porosity

IP = Inadequate Peratration

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

TU = Tungsten Inclusions

OU = Out. Undercut

WT = Wagon Tracks

P = Porosity

SL = Slag Lines

RADIOGRAPHIC EXAMINATION REPORT

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

Welding Quality
Inspection Integrity

Pageof		DATE: 7-25-89
CLIENT COMPANY:	Tesoro	
WELDER'S NAME:	unknown	
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen	ASST. Randy Deixardi
FILM INTERPRETER:	Steven O.	Lockman
CONTROLLING SPECIFICATION:	API 65	50
PROCEDURE NUMBER:	Tank 66 Vertical Se	Emsine 1st Row

WELD	SPEC.	POSITION MARKER		WELD QUALITY		DEFECT	T
NO.	I.D.	FROM	TO		REJECT	TYPE	COMMENTS
1-12	Vert	0	15		V	GP	@0-=="
(/	11	15	30	1			
-11	11	30	45		1	1.F.GP	LRD 4134"-42" GAR 243
//	1,	45	60	V		1	
11	1,	60	75		L	WH	@675-69 + 713-73
11	"	75	90		V	with	WH 8 77/2 GP 79/2
						Clarity	

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

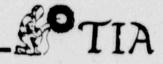
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

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

Welding Quality
Inspection Integrity

Pageof	DATE: 7-25-89
CLIENT COMPANY:	Tesoro
WELDER'S NAME:	unknown
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASST. Randy Denurdi
FILM INTERPRETER:	Steven O. Lockman
CONTROLLING SPECIFICATION:	API 650
PROCEDURE NUMBER:	Tork 66 vertical seam wet 1st Row
	Tank 66 Vertical Seam WHE 1ST ROW

WELD			MARKER	WELD QUALITY		DEFECT	
NO.	I.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
-13	Vert	0	15		1	WH, GP	WHO 5"7", SAO 24" = 8
y	1.	15	30	~			
11	11	30	45	1/			
k	1,	45	60	V			
11	1,	60	75		V	WH	@ 66"-684"
11	11	75	90		V	WH	WH 77-18
"	11	90	100	V			

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 Porcsity

LC = Low Crown

NF = Non-Fusion

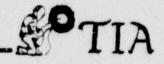
OU = Out. Undercut

P . Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WI = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenue Anchorage, Alaska 99501 (907) 276-3640

Welding Quality
Inspection Integrity

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 sour EINE 1ST Row

WELD	SPEC.	POSITION MARKER		WELD QUALITY		DEFECT	
NO.	I.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
1-14	Cert	0	15		U	GP. LC	GAO 4 3112", 1005-9"
- 17	11	15	30		L	GP	@ 15 0 15%
11	11	30	45		~	GP	@ 35"-45"
17	11	45	60		V	UC,GP	UCD 49"-50", GP050-66'5
vi	11	60	75		4	GP	0 60"-75"
11	11	75	90		V	60	GP 44 8 77
11	1	90	100		V	/C	LC 92/2

BT = Burn Through

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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



RADIOGRAPHIC EXAMINATION REPORT .

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

Welding | Quality
Inspection | Integrity

Pageof	DATE: 7-75-89
CLIENT COMPANY:	Tesoro
WELDER'S NAME:	unknown
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASST. Randy Denordi
FILM INTERPRETER:	Steven O. Lockman
CONTROLLING SPECIFICATION:	API 650
PROCEDURE NUMBER:	Tank 66 vertical Seam LINE 1ST Row

WELD	SPEC.	POSITION	MARKER	WELD Q	UALITY	DEFECT	
NO.	I.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
1-15	vert	0	15		V	GP	101402"052"06
"/	1/	15	30	V			
y	1/	30	45		6	GP	@ 3034"- 3734
1,	11	45	60		V	GP.	0 50-55 2 58-60
11	11	60	75		V	60	@60463"-654"970"-
11	11	75	90	V			
							建设各共产业的

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

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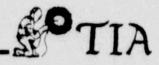
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT

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

Weiding Quality

Pageof	DATE: 7-24-89
CLIENT COMPANY:	Tesoro
WELDER'S NAME:	unknown
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASSI. Randy Demandi
FILM INTERPRETER:	Steven O. Lockman
CONTROLLING SPECIFICATION	00-1
PROCEDURE NUMBER:	Tank 66 vertical + 1st Row
	seam

					Sean		
WELD NO.	SPEC.	POSITION FROM	N MARKER TO	WELD O	UALITY TREJECT	DEFECT	COMMENTS
1-1	verT	0	15	V			COMPLEXTS
4	11	15	30		V	GP	±"6P-CP@ 19-19±
11	11	30	45	V			
//	11	45	60	i			
11	11	60	75		V	WH	Worn Hele Porosity 1 WH 73-75 78/8 80
11	11	75	190	,	V	WH	WH 73-75 78/8-80
11	*	90	100	/			

BT = Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

IV = 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

WI = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

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

Welding Quality
Inspection Integrity

CLIENT COMPANY: Tesoro	DATE: 7-24-89
WELDER'S NAME: UNKNOWN	
	sst. Ready Denard;
	kman
CONTROLLING SPECIFICATION: APT 1104	
PROCEDURE NUMBER: Tank 66 vertical Seam =	IST ROW

WELD	SPEC.	WELL QUALITY		UALITY	DEFECT	T	
NO.	I.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
1-2	vert	0	15	V			
11	111	15	30	1			
11	11	30	45	V			
11	11	45	60		V	GP.	36 68@ 464"
11	11	60	75	V			1 2,6 404
11	11	75	90	V			
			1				

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

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OU = Out. Undercut

P = Porosity

SL = Slag Lines

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WT = Wagon Tracks



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

DISCIPLINARY ACTIO	
DATE 7-25-89 CHY Kenai	STATE AK
MOJECT Tank 66 CUSTOMER	Tesoro
SOURCE OF RADIATION	0-
miser co so X X MAY	OF SOURCE 45 CUR
0216	SURVEY INSTRUMENT (STAN
EXPOSURE ()	MODEL NO GOOD
MODEL NO. 660 SN 4486	5 1038 YOU 8-5-8
RADIOGRAPHIC EQUIPMENT INSPECTED	
IN ACCORDANCE WITH TIA DANDE	RESULT OF PHYSICAL SURVEY
PROCEDURE DAILY CHECK LIST.	Z MR
100	100 "
Hall K Denand	
WSACTION COMPLETED BY	ZMA SOURCE ZMA
CHALLES AND THE STREET, STREET	A STREET STREET STREET STREET
	1000
RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO	1 5 40
SECURING EXPOSURE DEVICE	
IR-192 15-20 MR HR IN 6" FROM SURFACE	V00 "
CD 60 MR HR & SURFACE OF EXPOSURE DEVICE	BARRICADE EQUIPMENT
CO 60 MR HR & SURFACE OF EXPOSURE DEVICE	SIGNS HOPE
TOTAL EXPOSURE /	CONSTANT SURVEILLANCE
TIME FOR THIS DAY HRS MINS	
PERSONNEL CONTrol & all persons in ace	
A 1 4 .	
HADRICHAPHER Kundy Denard: HADRICHAN	" Bob Towler
telper	12261
SERIAL NO DE DOSIMETER 014890	AND 132967
IOTAL O 7/1	0 15
MR PECONDED STANS O FINISH 70 MR	AND START O FINISH / S ME
AND SERIAL NO 5586 - 1806	-EE86- 7
3.500 - 1000	AND 3 00 - 3
HE MARKS	在一种工作,但是一种工作,
SURVEY OF TRANSPORTING	VEHICLE
MR HR SO MR/HR SO	MR HR W

UTILIZATION RADIATION REPORT

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

A11 7-25-89 CITY Kengi	STATE AK
HORET TUNK 66 CUSTOMER 7	esoro
SOURCE OF RADIATION	ACTIVITY 38 CURIE
APOSUME 660 14480	MODEL NO 6,5/000 H
RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH TIA OANDE PROFEDURE DAILY EBECK LIST.	RESULT OF PHYSICAL SURVEY
RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE MR/HR @ 6" FHOM SURFACE CO-60 MR/HR @ SURFACE OF EXPOSURE DEVICE	BARRICADE EQUIPMENT
TOTAL EXPOSURE 2 HHS 2 MIRE	CONSTANT SURVERLANCE
STATE OF THE STATE	control 0.11 ml
SERIAL NO OITUDE	17744
TOTAL METORDED START O TRESH 60 MH	AND START O FINISH / O
FILM BADGE AND SERIAL NO SS 86 -	AND 5586-2
REMARKS	
SURVEY OF TRANSPORTIN	G VEHICLE Z
MR HR SO OUTSIDE SURFACE	MR/HR SF T FROM SURFACE

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

0411 7-25-89 cm Kenai	STATE AK
PROJECT TANK 66 CUSTOMER	Tesoro
SOURCE OF RADIATION IN-192 TO 60 TO X RAY TO S/N S/N 5/N	SURVEY AS TRUMENT AS SURVEY MODEL NO AS SURVEY MODEL NO AS SURVEY AS TRUMENT AS SURVEY
EXPOSURE 660 S.N. 4480	51 1040 NOOB-2=8
RADIOGRAPHIC EQUIPMENT INSPECTED IN ACCORDANCE WITH TIA OANDE PROCEDURE DAILY CHECKLIST.	RESULT OF PHYSICAL SURVEY
RECORD OF PHYSICAL SURVEY MADE TO DETERMINE SOURCE IS IN SHIELDED POSITION PAIOR TO SECURING EXPOSURE DEVICE IR-192	BARRICADE EQUIPMENT
TOTAL EXPOSURE ON COTHEY MINS	CONSTANT SURVEICEANCE
PERSONNEL CONTROL & All judisons in MADIOGRAPHER Seve Lockman RADIOGRAPHER	APHERS
SERIAL NO 4815/E	AND
TOTAL OF FINISH 10 MR	AND START O FINISH M
FILM BADGE AND 5586-5303	AND
REMARKS	
SURVEY OF TRANSPORTING	S VEHICLE

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

Welding | Quality

CLIENT: 1850RO	DATE: 7-26 87DAY OF WEEK WEONES OF
LOCATION: TESOLO PLANT	JOB NO P.O. NO
INSPECTOR: DON GILLOUSTN	ASSISTANT: RANDY DENNAPE.
JOB DESCRIPTION: X-Ruy fork	#66 PAGE OF
	IPTION OF ACTIVITY
5100pm travel to P	lant
AMARIO AT PLANT	- + 5 tantro 5 Etting
up to x-any TAN	K # 66
GOT PERMITS	and streets stoots
ON VERTICAL SEAM	15 ON 2ND 18UE/
When crew spe	
Also Symber	
	on 1st HORZONO
level	
	- us up Equipment
100000 Equepm	
mat work B	[2018] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1
JEST JESONO P.	
8:00 AM ANDOR AT 15	104/
DISTANCE POLICE PART 19	
CONSUMABLES USED:	FILM USED
MISC. CONSUMABLES:	OMERLAYS:
TOTAL WORKING HOURS: 15 TOTAL EQUIPME	NT HOURS: 15 TRAVEL MILES: 30
SIGNATURE: Kill 5 thm	
CLIENT REPRESENTATIVE: B	
T.I.A. FORM NOT .043 Inspector's Daily Diam	Y/NOTEMS COTID

A Magnith 2114 Railroad Avenue Testing Institute of Alaska, Inc. Anchorage, Alaska 99501 (907) 276 3440 INSPECTOR'S DAILY DIARY Welding | Quality Inspection | Integrity CLIBAT: TESORO DATE: 7-26-89 DAY OF WEEK WERS de JOB NO. P.O. NO. Lakman JOB DESCRIPTION: TIME DESCRIPTION OF ACTIVITY unch 3-32×17 M FILM USED 94-42X17 M CONSUMABLES USED: Z Gul General EVERLAYS: MISC. CONSLIMBLES: 5 Gal TOTAL WORKING HOURS: / ? TOTAL EQUIPMENT HOURS: 13 TRAVEL MILES: 30

CLIENT REPRESENTATIVE:

T. I.A. FORM NOT . 043 Inspector's Daily Diary/NOTHVS

Darra

5-

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

	RADIOGRAPHIC EXAMINATION REPORT	Inspection / Integrity
Pageof		DATE: 7-26-89
CLIENT COMPANY:	Tesoro	
WELDER'S NAME:	unknown	
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASSI	Randy Denardi
FILM INTERPRETER:		kman
CONTROLLING SPECIFICATION:	API 650	
PROCEDURE NUMBER:	Tank lola vertical seam -	ord Roca

WELD	SPEC.	POSITION	MARKER	WELD Q	YTTSAU	DEFECT	T
NO.	I.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
2-1	verT	0	15	V	/		
./	1'	15	30	/	/		NFODDYa
11	11	30	45	V			
"	11	45	60	V.	/		
. 11	11	60	75		V		73/2-75/4 SE BOW
//	11	75	90	V			
1/	ıí.	90	105		/		5/6 GP @ 125
BRI	11						

BT = Burn Through

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

IP = Inadequate Penetration

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NF = Non-Fusion

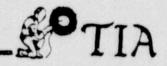
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

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

Pageof	DATE: 7-26-89
CLIENT COMPANY:	Tesoro
WELDER'S NAME:	unknown
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASST. Randy Denard;
FILM INTERPRETER:	_ Steve O. Lockman
CONTROLLING SPECIFICATION:	API 650
PROCEDURE NUMBER:	Tank 66 vertical spam sind 2nd Row

WELD SPEC		POSITION MARKER		WELD Q	UALITY	DEFECT	
NO.	I.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
2-2	vert	6	15		V		NF@ 17/2 GP@ 17
71	11	15	30	V			
11	11	30	45	V			
"	1	45	60	V			
"	11	60	75	V	/		
,,	11	75	90		V		3/8 SL@ 79
"	1,	90	105		V		LCP 991, 95 GP P 95 WHE 9714 1 CR 99-100
							- 11/4 / CK 1/ M
DRI		1	2	V			
							《新教》的《新教》
	1						

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



RADIOGRAPHIC EXAMINATION REPORT .

Anchorage, Alaska 99501 (907) 276-3440 Welding | Quality Inspection | Integrity

Pageof	DATE: 7-26-84
CLIENT COMPANY:	Tesoro
WELDER'S NAME:	unknown
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASST. Rondy Denordi
FILM INTERPRETER:	Steven O. Lockman
CONTROLLING SPECIFICATION:	APT 1104
PROCEDURE NUMBER:	Tank 66 vertical seament 2nd Row

WELD	SPEC.	POSITION	Company or the second s	WELD (YTILAU	DEFECT	1
NO.	I.D.	FROM	TO	ACCEP	EJECT	TYPE	COMMENTS
2-3	VerT	0	15	V			
11	11	15	30	V	1/		
11	14	30	45		V		3/4 GP @ 94% GP34/6 Q3.
11	li li	4-	60	. ,	1		3/4 GP @ 94% GP34/6 Q3. WH 95/4 - 46/4 CR 49-5
11	11	60	75	V			
11	11	75	90	V	/		
10	1.	90	105		V		PG WH 95 /2-963/4

BT - Burn That igh

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



RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenue Anchorage, Alaska Pic 17 (907) 276-3440 Welding | Quality Inspection | Integrity

Pageof	DATE: 7-26-89
CLIENT COMPANY:	Tesoro
WELDER'S NAME:	unknown
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASST. Rondy Denardi
FILM INTERPRETER:	Steven O. Lockman
CONTROLLING SPECIFICATIO	N: API 1104
PROCEDURE NUMBER:	Tank 66 vertical seam ETNER 2nd Row

WELD	SPEC.		N MARKER	WELD Q	UALITY	DEFECT	T
NO.	1.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
2-4	VerT	0	15	V	/	1	医视频器 被继续的
"	11	15	30		/		CRC 223/4-24-26-21/2
1,	"	30	45	V			
()	111	45	60	V	,	1	
11	11/	60	7.5		/		CRE62
1,	1,	75	90		V		LRE62 1/2 SLE83
11	11	90	105		V		NF @ 931/4

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



2114 Railroad Avenur Anchorage, Alaska 99501 (907) 276-3440 Welding | Quality Inspection | Liegrity

RADIOGRAPHIC EXAMINATION RE	RADIOGRAPHIC	EXAMINATION	RE
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Pageof	DATE: 2 6-89
CLIENT COMPANY:	Tesoro
WELDER'S NAME:	unknown
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASST. Rundy Denardi
FILM INTERPRETER:	Steven O. Lockman
CONTROLLING SPECIFICATION:	API 1104
PROCEDURE NUMBER: Z	ank 66 vertical segmented 2nd Row

WELD	SPEC.	POSITION		WELD Q	UALITY	DEFECT	
NO.	1.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
2-5	VerT	0	15	V			
1,	11	15	30	/	1		WH -21
11	11	30	45	V			
11	11	45		V			
1,	11	60	75	V			
11	11	75	90	V	/		
>	11	90	105		V		CRE 93/4-93/2
-		-					

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

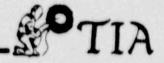
OU = Out. Undercut

P - Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

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

Inspection | Integrity

Page	of						DATE: Z-26-89
CLIENT C	COMPANY:		Tes	oro			
ELDER'S	NAME:		unk	nown			
ANIOGRA	PHIC TECH	HNICIAN:	Don (Silhous	sen	ASS	T. Rondy Denardi
ILM INT	ERPRETER					Loc	knan
ONTROLL	ING SPEC	IFICATION:		API			
ROCEDUR	E NUMBER		Tank 6	6 ver	Lical s	Gun has	El 2nd Row
			curry w		10.		
WELD NO.	SPEC.	POSITION FROM	MARKER TO	WELD O	VALITY REJECT	DEFECT	COMPANY
2-6	vert	0	15	1	KESECI	TIFE	COMMENTS
"	11	15	30	V	1		
11	11	30	45	/	V		NF 34 1/4
11	11	45	60	V	/	/	
11	11	60	75	- /	V		Film ARE: Eact
1,	11	75	90	V			
11	1.	90	105	V			
	+					-	
	1						

CC - Concave Root

CR - Crack

GP = Gas Pocket

HB - Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

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NF = Non-Fusion

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SL - Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

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

Page	of			DATE:	7-26-89
CLIENT (COMPANY:	Tesoro			
WELDER'S		unknown			
RADIOGRA	APHIC TECHNICIAN:	Son Gilhou	sen	ASST. Randy	Denardi
FILM INT	TERPRETER:	Steven	0.	Lockman	1
CONTROLI	ING SPECIFICATION:	API	110	4	
PROCEDUE	LE NUMBER: Zai	nk 66 vertice	cal sear	n LANET 2nd	Row
WELD	SPEC. POSITION MAR	KER WELD QUA	LITY DE	FECT	

WELD	SPEC.	POSITIO	N MARKER	WELD QUALIT	Y DEFECT	
NO.	1.D.	FROM	TO	ACCEPT REJE	CT TYPE	COMMENTS
2-7	VerT	0	15	V		
11	11	15	30	V		
1,	11	30	45	V		
3/	"	45	60	V		
"	11	60	75	V		
11	11	75	90	V		
11	"	90	105			

BT = Burn Through

CC - Concave Root

CR - Crack

GP = Gas Pocket

HB - Hollow Bead

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IU = Int. Undercut

IF = Inadequate Fusion

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TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC FYAMINATION DEPORT.

2114 Railroad Avenue Anchorage, Alasko 99501 (907) 276-3440 Welding | Quality

			1001001001	I C LANGIL	MALLON K	LIURI	The state of the s
Page	of						DATE: 7-26-28
CLIENT C	COMPANY:		Tes	oro			
WELDER'S	NAME:		_ unk	nown			
RADIOGRA	PHIC TECH	HNICIAN:	Don	Gilho	usen	ASS	- Rondy Denardi
FILM INT	ERPRETER:			Steve	nc	0. 40	ekman
CONTROLL	ING SPECI	FICATION:			I 6		
PROCEDUR	E NUMBER:		Tank 6				El 2nd Row
						/	
WELD NO.	SPEC.	POSITION FROM	MARKER TO		OUALITY REJECT	DEFECT	COMMENTS
2-8	verT	0	15		V		WH-8-10
"	11	15	30	/		/	
11	"	30	45		V		NF 36-36%

,	11	90	105	V	GP 9934
	1 "	10	1705		GITTA
	-	-	 		
	 				

75

60

CC - Concave Root

CR - Crack

GP = Gas Pocket

HB - Hollow Bead

IP = Inadequate Penetration

11

IU = Int. Undercut

IF = Inadequate Fusion

WH - Worm Hole Porosity

NF = Non-Fusion

OU = Out. Undercut

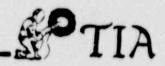
P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks

CP = Cluster Porosity



NFE 90

RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenue Anchorage. Alaska 99501 (907) 276-3440 Welding | Quality

Inspection | Integrity

Page	of						DATE: 7-26-89
CLIENT C	COMPANY:		Te	esoro			
ELDER'S	NAME:		un	known			
ADIOGRA	APHIC TECH	HNICIAN:			sen	ASS	Rundy Denardi
ILM INT	ERPRETER			Steven			
		IFICATION:		API			Z//IG/
			TIC		Control of the Contro	THE REAL PROPERTY AND ADDRESS OF	and D
ROCEDUR	E NUMBER		lank lo	6 Verti	cal S	eam bin	and Row
110015	7 0000 1			•		Y	
WELD NO.	SPEC.	POSITION FROM	MARKER	WELD QUALITY ACCEPT REJECT		DEFECT	COMMENTS
2-9	verT	0	15	/	V		WH 7/4-12
"	11	15	30	/		/	
"	1.	30	45		V		film fathact
,	1,	45	60		V		Film Fathact SILGP @ 453/4
"	4	60	75	V			1
11	1.	75	90	V			新聞 建建筑的金属
	CONTRACTOR OF THE PERSON NAMED IN COLUMN 1	THE REAL PROPERTY AND PERSONS ASSESSMENT OF THE PERSONS ASSESSMENT OF	1	1/			1
11	11	90	105	0		L'Objet L'IN	
"	"	90	105	V			

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

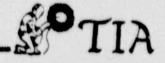
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

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

Pageof	DATE: 7-26-89
CLIENT COMPANY:	Tesoro
WELDER'S NAME:	unknow
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASST. Rundy Dengrdi
FILM INTERPRETER:	Steven of Lackman
CONTROLLING SPECIFICATION:	API 650
PROCEDURE NUMBER:	Tank 66 vertical soom with 2nd

WELD	SPEC.	POSITIO	N MARKER	WELD Q	UALITY	DEFECT	1
NO.	1.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
2-10	VerT	0	15		V	WH	@4",7", HB@ 13-13 2
11	u	15	30		0	WH	@4",7", HB@ 13-1342 @15-17 WH@214-268
t	11	30	45		V	WH	@ 324"-364", NFQ 44
11	1	45	60			WH	0 464-462,50-53
1/	u	60	75				
1,	1/	75	90	0			
11	11	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

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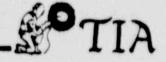
OU = Out. Undercut

P - Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenue Anchorage, Alueko 09501 15771 276 8440 Welding | Quality Inspection | Integrity

Page	01						DATE: 7-26-89
CLIENT C	COMPANY:		Te	soro			
WELDER'S	NAME:			known			经共民国的政治建筑的
RADIOGRA	PHIC TECH	HNICIAN:	Don G		n	ASS	I. Rondy Denordi
FILM INT	ERPRETER			Steve	n c	D. Lo	T. Randy Denordi
CONTROLL	ING SPEC	IFICATION:			6		
PROCEDUR	E NUMBER		Tank 6	6 Horica	Hul Secu	n trie	EI 1st ROW, Seem 1
WELD	SPEC.	PGSITION	CANADA CA		UALITY	DEFECT	1
NO.	1.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
1-6-1	Horiz.		2	10			ok
1 / -	+			+,/	 		
1-6-2	Horiz.		2	+			lok
	1						
16-3	Honz		2				
1-5-1	Horiz.	,	2				-v
1-3-1	moriz.			10			DV
			1	1			
				1			

HB - Hollow Bead

GP = Gas Pocket

CC . Concave Root

CR = Crack

IP . Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion WH = Worm Hole Porosity

NF = Non-Fusion

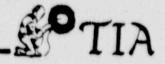
OU - Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WI = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenue Anchorage, Alasko 99501 (907) 276 3440 Welding | Quality Inspection | Integrity

DATE . 7-26-80

			-			DAIL. TEO DY			
COMPANY:			esore	,					
NAME:		U	nknow	^					
PHIC TECH	HNICIAN:								
TERPRETER		Steven O. Lockman							
ING SPEC		API 650							
E NUMBER	. 5	Tank (66 Her	izental	Seembar	# 15 Row Secon			
SPEC.	POSITION FROM	MARKER TO			DEFECT TYPE	COMMENTS			
Honz.	1	2	1			cK			
				4					
Honz.		2	~	-		oK			
		1	· ,			1			
Honz.		-	0	-		01			
11.		-	1./	-		Ιν			
Mong		1 2				lox -			
Haris	,	2	0	1-		LV			
10.3									
Haria	1	2	/			nK			
10:3						P/\			
11			1			_			
	PHIC TECH PERPRETER ING SPEC I.D. Horiz. Horiz.	NAME: PHIC TECHNICIAN: PERPRETER: ING SPECIFICATION: E NUMBER: SPEC. POSITION 1.D. FROM Honz. / Honz. / Honz. /	PHIC TECHNICIAN: Don (PERPRETER: ING SPECIFICATION: E NUMBER: Tank (SPEC. POSITION MARKER 1.D. FROM TO Horiz. 1 Z Horiz. 1 Z	SNAME: LIPHIC TECHNICIAN: Den Gilhous SERPRETER: STEVEN LING SPECIFICATION: LE NUMBER: SPEC. POSITION MARKER WELD 1.D. FROM TO ACCEP Horiz. Honz. 1 2 Horiz. Horiz. 1 2 Horiz. 1 2 Horiz. 1 2 Horiz. 1 2	SNAME: UNKNOW'N SPHIC TECHNICIAN: Don Gilhousen SERPRETER: Steven Or SING SPECIFICATION: API 6 ENUMBER: Tank 66 Herizental SPEC. POSITION MARKER WELD GALITY 1.D. FROM TO ACCEPT REJECT Horiz. 1 2 Horiz. 1 2	Shame: Shame: Shirt technician: Show Gilhousen Asserter: Steven O. Loc API 650 She number: Tank 666 Herizontal Stemuta Spec. Position Marker Weld Gality Defect 1.D. FROM TO ACCEPTREJECT Type Honz. 1 2 Honz. 1 2 Honz. 1 2 Horiz 1 2 Horiz 1 2 Horiz 1 2 Horiz 1 2			

CC - Concave Root

CR = Crack

GP = Gas Pocket

HB - Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

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WH = Worm Hole Porosity

NF = Non-Fusion

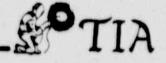
OU = Out. Undercut

F = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

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

Page	of					DATE: 7-26-89				
CLIENT C	COMPANY:			esoro						
WELDER'S	NAME:		unknown							
RADIOGRA	PHIC TECH	INICIAN:	Don Gilhousen ASST. Rendy Denar							
FILM INT	ERPRETER:		Steven O. Lockman							
CONTROLL	ING SPECI	FICATION:	API 650							
PROCEDUR	E NUMBER:		Tank 6	Control of the Contro		*Row Seam				
WELD NO.	SPEC.	POSITIO: FROM	N MARKER TO	WELD QUALITY ACCEPT/REJECT	DEFECT TYPE	COMMENTS				
1-9-1	Honz	,	2		o.K	THE RESERVE OF THE PARTY OF THE				
1-9-2	Horz.	,	2		o X					
1-9-3	Honz.	/	2		o.K					
1-10-1	HON'S	. /	2		o K	/				
1-10-2	HONIZ	1	2		οK					

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

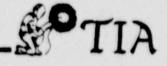
OU - Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT - Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenue Anchorage, Alasko 99501 (907) 276-3440 Welding | Quality

Inspection | Integrity

WELDER'S	NAME:			w KNO							
RADIOGRA	PHIC TECH	HNICIAN:	DON Gilhovsen ASST. RANdy Denta								
FILM INT	ERPRETER:		5	tever	10). L	ockman				
CONTROLL	ING SPECT	FICATION:		API 650							
PROCEDUR	E NUMBER:		Tank	661	Horiza	ontal	1st Row, Seam				
WELD NO.	SPEC.	POSITION FROM	N MARKER		UALITY [REJECT]	DEFECT	COMMENTS				
<u> - - </u>	Howig		2		V	IP	1/4 IP				
1-11-2	VICNIZ		2		V	GP IP	3/6P 3/6P 1/2P				
1-11-3	Howing	1	2	1			οK				
1-12-1	Howing	. 1	2	V			οK				
1-12-2	Howing	1	2	V		-	οX				
1-12-3	Howis	1	2	0							

CR - Crack

GP = Gas Pocket

HB - Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF - Inadequate Fusion

WH - Worm Hole Porosity

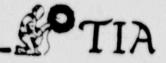
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenue Anchorage, Alaska 99501 1907/ 276-3440 Welding | Quality

7 11 -00

Inspection | Integrity

FILM INT	PHIC TECH ERPRETER: ING SPECI	FICATION:	DON Gilhousen ASST. Randy Denard Steven O. Lockman API 650							
	E NUMBER					icun un	El/st Row, Stam 1			
WELD NO.	SPEC.	POSITION FROM	TO	WELD Q ACCEPT	REJECT	DEFECT	COMMENTS			
1-13-1	Howiz		2		V	IP,WH	THE THE TENTS			
1-13-2	Howis	1	2		V	IP,6P	234"			
1-13-3	HONIZ	1	2	-	V	IP	17"			
J- 14-1	HONIZ	. /	2		V		1/2 GP 1/8 GP 21/4 Aliqued			
1-15-1	Howiz	/	2	V			οK			
1-15-2	HONIZ	7	2	0			οK			
1-15-3	their	1	2	0			oK			

IU = Int. Undercut IF = Inadequate Fusion

GP = Gas Pocket

HB - Hollow Bead

WH - Worm Hole Porosity

IP = Inadequate Penetration

OU = Out. Undercut

P - Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



2114 Railroad Avenue Anchorage, Alaska 99501 1907/ 276-3440 Welding | Quality

			RADIOGRAP	HIC EXAMINATION	REPORT .	Inspection / Inte	Ently
Page	of					DATE: Z-Z	6-89
CLIENT (COMPANY:		le	soro			
WELDER'S	S NAME:		UN	KNOWN			
RADIOGRA	APHIC TECH	NICIAN:	DON (Silhouser	ASST.	RANDY Den	vandi
FILM INT	TERPRUTER:			Steven	O. Lo	ckman	
CONTROLI	LING SPECI		WHEN PERSON NAMED OF PERSONS ASSESSED.	API	650		
PROCEDUI	RE NUMBER:	Tax	K 66	Horizontal	/ Seam	1st Row, S	5cam 1
WELD	SPEC.	POSITIO	ON MARKER	WELD QUALIT	Y DEFECT		

WELD	SPEC.	POSITION	MARKER	WELD Q	UALITY	DEFECT	
NO.	I.D.	FROM	TO	ACCEPT	UALITY REJECT	TYPE	COMMENTS
IARI	Horiz		2	V			la!
		•					
	1						
	1						

BT = Burn Through

CC - Concave Root

CR - Crack

GP = Gas Pocket

HB - Hollow Bead

IP = Inadequate Penetration

IU = Int. Undercut

IF = Inadequate Fusion

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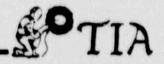
OU = Out. Undercut

P = Porosity

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TU = Tungsten Inclusions

WI = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenue Anchorage, Alaska 99501 1907/ 276-3440 Welding | Quality Inspection | Integrity

Page	of						DATE: 7-26-89
CLIENT C	OMPANY:		Tes!	oro			
WELDER'S	NAME:		UN	KNOWA			
LADIOGRA	PHIC TECH	HNICIAN:	Dav Gi	lhouse	N	ASST	Randy Devard
ILM INT	ERPRETER:			teven	0.	Lackr	מא
CONTROLL	ING SPECT	FICATION:	1	PI	6	50	
ROCEDUR	E NUMBER	Tani	K 66 V	lert.	Seam	LINE	1st Row
WELD NO.	SPEC.	POSITION FROM	MARKER TO		WALITY REJECT	DEFECT TYPE	COMMENTS
IBRI	VerT	0	15	0			
						150	
			A				
			The Paris				
					ALCO NO.		
		•					

CC - Concave Root

CR = Crack

GP = Gas Pocket

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IU = Int. Undercut

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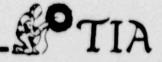
OU = Out. Undercut

P - Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WI = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

Anchorage, Alasko 99501 (907) 276-3440 Welding Quality

			10101010111	THE ENGLEN	mazon M	De Contra	7
age	of						DATE: 7-26-89
LIENT C	OMPANY:		Tes	oro			
ELDER'S	NAME:			KNOWA	J		
ADIOGRA	PHIC TECH	INICIAN:	Dow G			455	Ravdy Devaro
	ERPRETER:			Steve		7	- Acres Level
				Steve		50	ck mar
ONTROLL	ING SPECI	FICATION:	11 1	API	, 6	50	101.0
ROCEDUR	E NUMBER:	Tank	66 Hor	rizon to	1 sec	M THE	15t Raw, Scam
WELD NO.	SPEC.	POSITION FROM	MARKER	WELD Q ACCEPT	REJECT	DEFECT	COMMENTS
IIRI	Horiz.	3			V		1/418
	1						

				•			
		HELE WILL FROM					
			Contaction (
		***************************************	+				
				1			

BT = Burn Through

CC . Concave Root

CR = Crack

GP = Gas Pocket

HB = Hollow Bead

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IF = Inadequate Fusion

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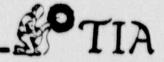
OU = Out. Undercut

P = Porosity

SL = Slag Lines

TU = Tungsten Inclusions

WT = Wagon Tracks



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

7-26-89 cm	KENA	I HAN AK
SOURCE OF RA	CUSTOMER	TESORO
# \$26 sa	KHAY []	SURVEY 65-200 D
APOSURE FELTO SA	4486	MODEL NO VOID 5-57
RADIOGRAPHIC EQUIPMENT ACCORDANCE WITH PROCEDURE DAILY	TIA DANDE	RESULT OF PHYSICAL SURVEY
	DSITION PRIOR TO	BARRICADE EQUIPMENT
DIAL EXPOSITION 2 PRICE THIS DAY 2 PRICE THE DAY 2	MIS 8 MI	S. CONSTANT SURVEILLANCE
MICHINAPULE RANDY	Denmar 4	
DOSIMETER OF 40	80	AND 51ARI O INSH 67 N
M BAJNIE ND SERIAL NO 5386- /	806	MD 5586-2
MARKS		
R HR Ø MAR	RVEY OF TRANSPORTI	NG VEHICLE

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

DATE 7-26-8	9 cm Kenni	STATE POX
MOACI Tark	GG CUSTOMER	Tesoro
1	CO 40 X NAV	SURVEY 38 CURI STRUMENT 65 1000 P
MODEL NO G GO	s. 4480	SA 827 VOID 45-8
IN ACCORDANC	EQUIPMENT INSPECTED E WITH TIA DANDE DAILY CHECK LIST.	RESULT OF PHYSICAL SURVEY
SOURCE IS IN SECURIN	AL SURVEY MADE TO DETERMINE HIGHEDED FOSITION PRIOR TO HIGHER BY BY FROM SURFACE HIGHER BY BY FROM SURFACE HIGHER BY BURFACE OF EXPOSURE DEVICE	BARRICADE EQUIPMENT
TOTAL EXPOSURE THAT FOR THIS DAY	2 30	CONSTANT SURVEILLANCE
N.	ans in the ar	01 1
SERIAL NC (M DISSASI III	15401	13296
TOTAL MR PECORDED START	O 11851 70 ME	490 5 281 C FINISH 28 M
FILM BADUF AND STRIAL NO 558	6-3134	NO 5586-3
REMARKS		
	SURVEY OF TRANSPORTIN	G VEHICLE
MR HIR	MILITER OF	MR MR CD

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

7-2	6-89	on Kengi	/ 401101	STATE	nk	
MOJECT 7	ANK	66 custo		Tesor	0	
		OF RADIATION		SURVEY NO TRUME NO CA	5 1000	A
KPOSURE EVICE ADDEL NO	660	" 448C)	104	O VOID S	-2.8
IN ACC	DROANCE	OUIPMENT INSPECT	TED IDE	N. 8.	PHYSICAL S	Z MA @ 801
**** <u>C</u>	SECURING	SURVEY MADE TO DETERMINE ELDED PORTION PRIOR TO EXPOSURE DEVICE MR/HR & E' FROM SURFACE MR & SURFACE OF EXPOSURE DE OTHER TOPOT		STONS .	ADE EQUIPA	
TOTAL EXPOSU TIME FOR THIS PERSONNEL MEDIOGRAPHICA	All per	sons in the	MINS ASSISTANT	NAS .		
SERIAL NO OF DOSIMETER	481	5/=		AND		
TOTAL MR RECORDED		O HNISH 15	MR	AND START	O FINISH	м
FLM BADGE AND SERIAL N	000	36-5303		AND		
REMARKS						
		SURVEY OF TRAN	SPORTING	VEHICLE		
MR HR	0	MR/HR @	0	MR HR &	SURFACE	0

2114 Railroad Avenue Anchorage, Alaska 99501

(907) 276-3440 Welding | Quality

CLIENT:	185010	DATI	E: 7-2+87	DAY OF WEEK	winso
LOCATION:	TESORO PLANT			P.O. NO.	
INSPECTOR	Dow GIlhous	ru ASS	ISTANT: Z	man PEN	4noz
	IPTION: X-any tra			PAGEC)F
TIME		DESCRIPTION	NE ACTIVITY		
<1300 L	travel to		or ACHVIII		
1	AMPSIE AT		++ 4	5 Sants	
	setting up				
	Stantes X-10				
	STAMS ON				
	Also X-RAS			t leve	1
	Horrontal				
	Also X-12	MED S	even 4	1 Rapp	~
	ANENS				
	PACKED UP	Equipm	50%		
-	1 20 50	power Plat	2 ex 3		HNK
1	All Augsteo		letro 1	Reponts	
-	MAUEL to	KEMAT			
\	18AVE KENAI				
1/100	MANGUE AT	Auchenny 8	+ PEAVO	70 TIA	
CONSUMBL	ES USED:		FIL	M USED	
MISC. CON	SUMBLES:		OVE	RLAYS:	
TOTAL WOR	KING HOURS: 17/2 TOTAL	EQUIPMENT HOUR	s: 17/2	TRAVEL MILES:	30
SIGNATURE	Rad Salla				
	PRESENTATIVE: BRM NOT .043 Inspector's Da	III Diary/NOTO		80	
1.1	in ion 1043 inspector's De	illy blary/horni		Carried To	AT

2114 Railroad Avenue

(907) 276	3440
Welding !	Quality

CLIENT: 7	ESOTO DATE: 2-27-89 DAY OF WEEK
LOCATION:	Vikiski Refinery JOB NO. P.O. NO.
	Steve o Lockman HELERS Bill Malay /Bob Taybr
	TION: RT-Jank 66 PACE OF
TIME	DESCRIPTION OF ACTIVITY
5:30pm	leave the hotel for the job site
	arrived at Tesoro Refinery and
	continued to X-Ray the remaining
	shots on the 1st horizontal seam
	weld and the remaining vertical
	welds developed out the film
	wrote reports + made overlays
8:30 Am	
9:008M	
Mary Service	
	sused: 1 sot of Chemicals FILM USED 75 472 x 7
MISC. CONSU	
SIGNATURE:	Al Tow (9 Linches)
CLIENT REPR	

RADIOGRAPHIC EXAMINATION REPORT .

Anchorage, Alaska 99501 (907) 276-3440 Welding | Quality Inspection | Integrity

Pageof		DATE: 7-27-5'9
CLIENT COMPANY:	Tesoro	
WELDER'S NAME:	unknown	
RADIOGRAPHIC TECHNICIAN:	Dan Gilhousen	ASST. Randy Denordi
FILM INTERPRETER:	Steven	O. Lockman
CONTROLLING SPECIFICATION:	APT	650

Tank 66 vertical Seam with 2nd Ra

MENTS
P@ 473
P@ 473
₹-89

BT = Burn Through

PROCEDURE NUMBER:

CC = Concave Root

CR = Crack

GP = Gas Pocket

HB . Hollow Bead

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WT = Wagon Tracks



RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenue Anchorage, Alaska 99501 1907/ 276-3440 Welding | Quality Inspection | Integrity

Pegeof		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 65	.0
PROCEDURE NUMBER:	Tank 66 vertical se	oum LINE 2nd Row

WELD	SPEC.	POSITION	Management of the Control of the Con	WELD Q		DEFECT	1
NO.	1.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
2-12	VerT	0	15		1	WH	05-1134
"	11	15	30		~	WH	@1934-21
"	11	30	45	V			
1'	11	45	60		~	WHA	10472-484, NF@ 504
	11	60	75		U	CR	@ 6379
11	4	75	90		V	NF	@ 984
11	"	90	105		-	NF	09434,600,00
				11-11-11			,

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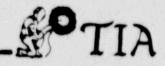
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2114 Railroad Avenue Anchorage, Alaska 99501 (907) 276-3440 Welding | Quality Inspection | Integrity

Pageof		DATE: 7-27-89
CLIENT COMPANY:	Tesoro	
WELDER'S NAME:	_ unknown	
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen	ASST. Randy Denardi
FILM INTERPRETER:	Steven C	De Lockman
CONTROLLING SPECIFICATION	API 6	50
PROCEDURE NUMBER:	Tank 66 vertical s	eyn times 2nd ROW

WELD	SPEC.		N MARKER	WELD Q	UALITY	DEFECT	
NO.	1.D.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
2-13	verT	0	15		V	LC	0534-11 Inside
11	11	15	30		V	CR	@ 262
11	11	30	45		V	LC	0312-3134 Inside
11	11	45	60		V	69	04834-51
h	1/	60	75				
11	10	75	90				
"	"	90	105	1			
	+ +						

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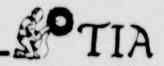
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RADIOGRAPHIC EXAMINATION REPORT .

2114 Railroad Avenur Anchorage. Alaska 99501 1907/ 276-3440 Welding | Quality Inspection | Integrity

Pageof	DATE: 7-27-89
CLIENT COMPANY:	
WELDER'S NAME:	unknown
RADIOGRAPHIC TECHNICIAN:	Don Gilhousen ASST. Rundy Denardi
FILM INTERPRETER:	Steven O. Lockman
CONTROLLING SPECIFICATION:	_ API 650
PROCEDURE NUMBER:	Tank 66 Vertical Seam LINE 2nd Row

WELD SPEC	SPEC.		N MARKER	WELD Q	UALITY	DEFECT	
	1.D.	FROM	TO	ACCEPT REJECT TYPE	TYPE	COMMENTS	
2-14	verT	0	15	V			
"	11	15	30	V			
11	11	30	45				
11	11	45	60	~			
11	11	60	75	V			
16	t/	75	90				
	4						

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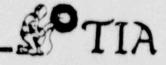
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2114 Railroad Avenue Anchorage, Alaska 99501 (907) 276-3440 Welding | Quality

			RADIOGRAPH	IC EXAMI	NATION R	EPORT .	Inspection Integrity
Page	of						DATE: 7-27-89
CLIENT C	OMPANY:		_ Te	Som			
WELDER'S	NAME:		_ Un	KNIGH	IN		
RADIOGRA	PHIC TEC	HNICIAN:	DON C	2 lhous	ten	ASST.	Randy Denordi
FILM INT	ERPRETER		Ste	even C). La	ctman	1
CONTROLL	ING SPEC	IFICATION:					
	E NUMBER	. Tank	do 11	1.1	<	1 795	1st Row, Seam 1
· NOCEDUR	z worden		145025	nig i	E.M	LINE	1= Kow, Seom 1
WELD NO.	SPEC.	POSITION	THE RESERVE AND ADDRESS OF THE PARTY OF THE		UALITY	DEFECT	
ITRI	1.0.	FROM	TO	ACCEPT	REJECT	TYPE	COMMENTS
1111			+ -				
			-	/	1		
ITRI		4	5	V			
	(House)						
		,	-				

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RADIOGRAPHIC EXAMINATION REPORT .

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

Inspection | Integrity

VELDER'S	NAME.			oro Wown	,		
			- Clu	Now		D	
LADIOGRA	PHIC TECH	HNICIAN: [bu Gi	house	<u>~</u>	ASST.	udy Doubre
ILM INT	ERPRETER:			steve	v 0	Lockma	art
CONTROLL	ING SPECI	IFICATION:	A	PI	650)	
ROCEDUR	E NUMBER	ENK 6	6 Herico	utal.	Scan	LINE# /S	*Row, Soom
			. 5		/		
WELD NO.	SPEC.	POSITION FROM	MARKER	WELD Q	WALITY TREJECT	DEFECT TYPE	COMMENTS
ZARI	Horiz	/	1 2	V	KEOLO		CONFERIS
	1 115		1				
	-						
	S (ASSET)			200000			

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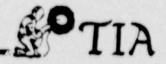
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2114 Railroad Avenue Anchorage, Alaska 99501 (907) 276-3440 Welding Quality

Welding Quality
Inspection | Integrity

MACNETIC PARTICLE EXAMINATION

alen: _	TESORO	DATE:	7-27-89
PROJECT: _	HANK #66	LOCATION:	TESORC Plant
CODE ACCEPTA	WICE ORITERION:	APT 650	建构建设设置
		IDENTIFICATION SKETCH	

WELD	T		RETATION	REPA		
DENTIFICATION	NUMBER	ACCEPT	REJECT	ACCEPT	REJECT	REMARKS
Plate	12	1/				
Plate	12	/				
Plate	13	1				
9/4te	14	1				
Plate	5	1/				
Plate	6	1/				
Plate	1	1				
Plate	8	1				
Plate	9	1				
Plate	10	/				

TYPE OF MACNETIZING CURRENT:

JAC IDC THORY IMET IRESIDUALS	FEDNTINOUS JELLOR + AVISUAL
TECHNICIAN: JORY I JWET, I JRESIDUAL J	_ DATE: 7-27-89
	PTI

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

MACNETIC PARTICLE EXAMINATION

CLIENT: PROJECT:		30RU #66	***************************************	DATE:	7.27-87 729020 8/ht
CODE ACCEPT	TANCE OPITERI	ON:	APE	650	
	LOCAT	TON AND/OR	IDENTIFIC	ATION SKETCH	

WELD	The second		ETATION	REPA		
IDENTIFICATION	NUMBER	ACCEPT	REJECT	ACCEPT	REJECT	RB.MRKS
Plate	111	/				
Plate	12	/				
Plate	13	/				
Plate	14	/				
PIATE	15	/				
Plate	16	/				
PIATE	17	1				
Plate	18	/				
Plate	19	/				
Plate	20	/				

TYPE OF MACNETIZING CURRENT:

17/1×6 1 100	HADRY I JWET !	IRESIDAN + AC	ENTINOUS []	FLLOR 1-AVISIAL
TECHNICIAN:	Smill	5 2/m	DATE:	7-27-8
				& OTI
				1

UTILIZATION/RADIATION REPORT

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

DATE 7-24-8	7 CITY XE	WAS-	STATE	AIC	
PROJECT TANK	466	CUSTOMER	TESO.	10	
IR 192			ACTIVITY OF SOURCE	93	CUR
. 8216	S/N S/A		INSTRUMENT 6	5-200	0
ADDEL NO 660	49	186	1039	VOIDS 5	8
IN ACCORDAN	CEQUIPMENT INS	OANDE	2	HYSICAL SUP	VEY
SOURCE IS IN	CAL SURVEY MADE TO DET SHIELDED POSITION PRIOR ING EXPOSURE DEVICE	10	70.	ZMR	2
CD-60 A	MR/HR @ 6" FROM SURFACE OF EXPOSE		BARRICAD Signs Constant su	RVEILLANCE	•
TIME FOR THIS DAY	DOLSONN:	2 MMS			_
	Dy Drum		od Bz/	mala	4
SERIAL NO DE DOSIMETER	14890		AND /3	744	
TOTAL MR RECORDED STANT	O INSH 6	0	ANDSTART O	INISH 8	
TILM BI II	16-1806		AND 5586	6-2	
RE MARKS					
	SURVEY OF TE	RANSPORTING V	EHICLE		
MR HR DRIVER	MR/HR @ OUTSIDE SURFACE	1	MR/HR @ 1 FT FROM SURF	G 9	

UTILIZATION/RADIATION REPORT

WARNING — INTENTIONAL FAILURE TO RECORD INFORMATION

ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR

DISCIPLINARY ACTION.

7-27.89	cov Keous	STATE AR
HOLECT TANK E	66 CUSTOMER	TESOND
SOURCE OF	RADIATION	ACTIVITY OF SOURCE SURVEY INSTRUMENT MODEL NO G5-/054
POSURE VICE ODEL NO 660	. 4480	MODEL NO G7-000 9-5-8
IN ACCORDANCE W	JIFMENT INSPECTED	RESULT OF PHYSICAL SURVEY
SOURCE IS IN SHIELD SECURING EXI IR-192 8-10 MR	RVEY MADE TO DETERMINE NED POSITION PRIOR TO POSURE DEVICE HR & 6" FROM SURFACE P SURFACE OF EXPOSURE DEVICE	BARRICADE EQUIPMENT
TOTAL EXPOSURE	1 12 mm	NS. CONSTANT SURVEILLANCE
HADRICHAPITER DON (SELHOUSTNEL	
SERIAL NO DE DOSIMETER	30	AND 13296
MR RECOPPED START	- 3134	AND 5586 -3
RE MARKS		
	SURVEY OF TRANSPORT	ING VEHICLE
MR HR SE DRIVER	MR/HR & DUTSIDE SURFACE	MR HR (F) FT FROM SURFACE

WARNING — :NTENTIONAL FAILURE TO RECORD INFORMATION
ACCURATELY ON THIS FORM CAN RESULT IN A FINE AND/OR

DISCIPLINARY ACTION. Keng, STATE PSOVE CUSTOMER SOURCE OF RADIATION CO-60 X HAY SURVEY INSTRUMENT GS/000 A RADIOGRAPHIC EQUIPMENT INSPECTED RESULT OF PHYSICAL SURVEY IN ACCORDANCE WITH TIA DANDE PROCEDURE DAILY CHECK LIST, 8,, SOURCE 80, RECORD OF PAYSICAL SURVEY MADE TO DETERMINE SCURCE IS IN SHIELDED POSITION PRIOR TO SECURING EXPOSURE DEVICE BARRICADE EQUIPMENT MR HR W SURFACE OF EXPOSURE DEVICE **S**SHGNS CONSTANT SURVEILLANCE AND REMARKS SURVEY OF TRANSPORTING VEHICLE

MR HR 60

MR HA