



BOILERS AND PRESSURE VESSELS REPAIR AND ALTERATION REPORT

(A) #: 403458

OWNER EQUIP NO.: 630

REPAIR and/or ALTERATION Partial Final

1. **Name and Address of Organization** doing Repair/Alteration Exact Oilfield Developing Ltd.
1412 Tamerack Road N.E. Slave Lake AB AQP No. & Expiry Date 2172 November 26 / 2014
 Location of Installation 12-9-81-22 W4 Brintnell Battery

2. **Name of Owner** Canadian Natural Resources Ltd.
 Address 2500-855 2 St. SW Calgary AB T2P 4J8

3. **Boiler/Pressure Vessel Description** Treater CRN L0015.2
 Manufacturer's Name RCI Resource Constructors Year Built 1998 Serial No. 97015-3-30

4. **Design Conditions:**
 a) Vessel/Shellside/Boiler: Max Allowable Working Press. 75 psi Min/Max Design Temp /300 F
 b) Jacket/Tubeside: Max Allowable Working Press. _____ Min/Max Design Temp /

5. **Description of defects** (location and types of deterioration that resulted in the repair/alteration).
Part of hot side on each of 2 firetubes are collapsed. As well as cracks in the tube to flange weld

6. **ASME Code Edition and Addenda** used for work: ASME Sect. VIII-I Year 1996 Addenda _____

7. **Repair/Alter. Description of Work.** Step by step description of repair/alteration method, attach additional sheets as needed.

Note 1: Repair/Alteration Procedure to be accepted by ABSA SCO prior to start of work.

Remove & replace 18'7" On Tube "A" & 18' 3" On Tube "B"

Repair crack in firetube "A".

Repair to be done to CNRL repair Procedure

8. **Material** - List any material used in repair/alteration and any base material welded on:

Item	Mat'l Spec.	Thick/Sch	Diam	Item	Mat'l Spec.	Thick/Sch	Diam
Shell/Drum	SA-516-70	.500"		Heads/ Ends	SA-516-70	.691" / .439"	
Tubeshe				Tubes	A106 B	.375"	20"
Nozzles				Flanges/Fitting		Class	

9. **Welding Procedure** - Alberta Registration Number WP- 1093.2 WPS Numbers used: EOD-2-2

10. **Heat Treatment:** Bake Out (Temp./Time) 600F / 1hr Preheat Temp 176 F Post Weld HT (Temp./Time) 1150F/1 hr

11. **Non Destructive Examination** (Specify type and extent).

MT Prep ends. MT Root weld. 100% RT butt welds. MT welds 12 hr. after PWHT

MT Crack Repair

(A) #: 403458

OWNER EQUIP. NO. 630

Pressure Test

Vessel/Boiler/Shellside

Tubeside/Jacket

- a) Hydrostatic _____
- b) Other Test _____

13. **Welded Replacement Parts:** Attached are Manufacturer's Partial Data Reports or Repair/Alteration Reports properly identified and signed by Authorized Inspectors for the following items of this report: (Welded parts supplied by others).

14. **Responsibility Owner/Client.** Identify below items that the owner/client has assumed responsibility for. **Note (2)**

- a) Design Submission _____
- b) Repair/Alteration Procedure: yes
- c) Material Control _____
- d) Welding Control _____
- e) NDE _____
- f) Heat Treatment _____
- g) Pressure Test _____

Note 2: Owner/client must have a valid Alberta Quality Program (AQP), for the scope of work, to assume responsibility for function c, d, e, f, or g.

15 **REMARKS:** _____

16. **CERTIFICATE OF COMPLIANCE**

We certify that the statements made in this Report are correct and that all design, material, construction and workmanship on this repair/alteration conform to the requirements of the Alberta Safety Codes Act and Regulations.

a) For all items except for items identified in 14:
Exact Oilfield Developing Ltd.

b) For items identified in 14 only:

(Repair/Alteration Organization Name)
2172 Nov. 26/2014
(AQP Number & Expiry Date)
Len Hayne Apr. 3/12
(Signature & Date)
Len Hayne
(Print Name)

CNHL
(Owner/Client Organization Name)
8039 June 30 / 2013
(AQP Number & Expiry Date)
Roger Dlugosz April 3/2012
(Signature & Date)
Roger Dlugosz
(Print Name)

17. DATE WORK WAS COMPLETED: Apr. 3 / 2012

18. **CERTIFICATE OF INSPECTION**

I have inspected the repairs and/or alterations described in this report. To the best of my knowledge, this work has been done in accordance with the Safety Codes Act and Regulations and the requirements established in AB-513.

a) Owner-User Inspection Certification (Field Only)
(Required when Owner-User Inspects the work under their ABSA Authorized Owner-User Quality Program).

b) ABSA Safety Codes Officer Certification
(when work is inspected by ABSA).

8039 June 30 / 2013

Owner-User AOP# & Expiry Date
Roger Dlugosz April 3/2012
In-Service Inspector Signature & Date
Roger Dlugosz
In-Service Inspector Name (Please Print)

ABSA SCO Signature & Date

Print Name

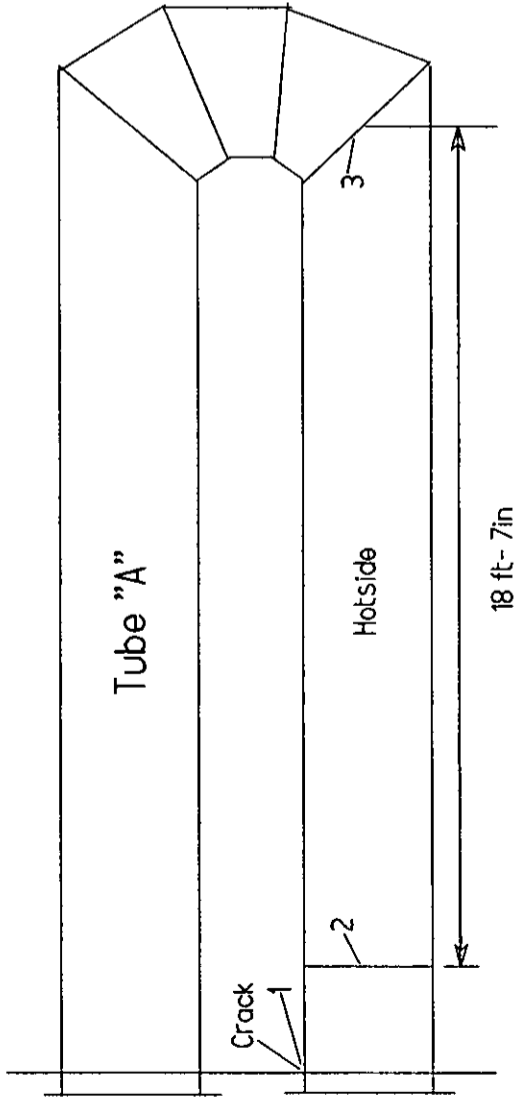
Cent # 000566
In-Service Inspector Alberta Cert #

Report Received by ABSA SCO _____

Date _____

CUT	FIT	FAB	DIM	VISUAL	NDE	HYDRO	SHIP	ITEM	QTY	A106 Gr. B	SMLS	WELDS	WELDERS	X-Ray	MT
												1	K		MT
												2	K/R	X1	MT
												3	K	X2	MT

Treater 630 AH 403458



20" x .375 Pipe HT# 906489

All Welds Were Stress Relieved

EOD-CN-050412-6013

Mot. Supplier: APEX Inspector:
 Design Press: Design Temp: PMHT NONE Service: A106 B Test Medium: 0.0 sq. ft. X-Ray Company: TEAM IND. SERVICES
 P1 VISUAL HYDRO FAB CODE B313 INSUL SURF AREA 0.0 sq. ft. JOB CODE IPAINT REF DRG REV.
 WELD PROC. EOD-1-2 DRN LH DATE 2012-03-30
 BY CHK DATE 2012-04-10
 REVISIONS

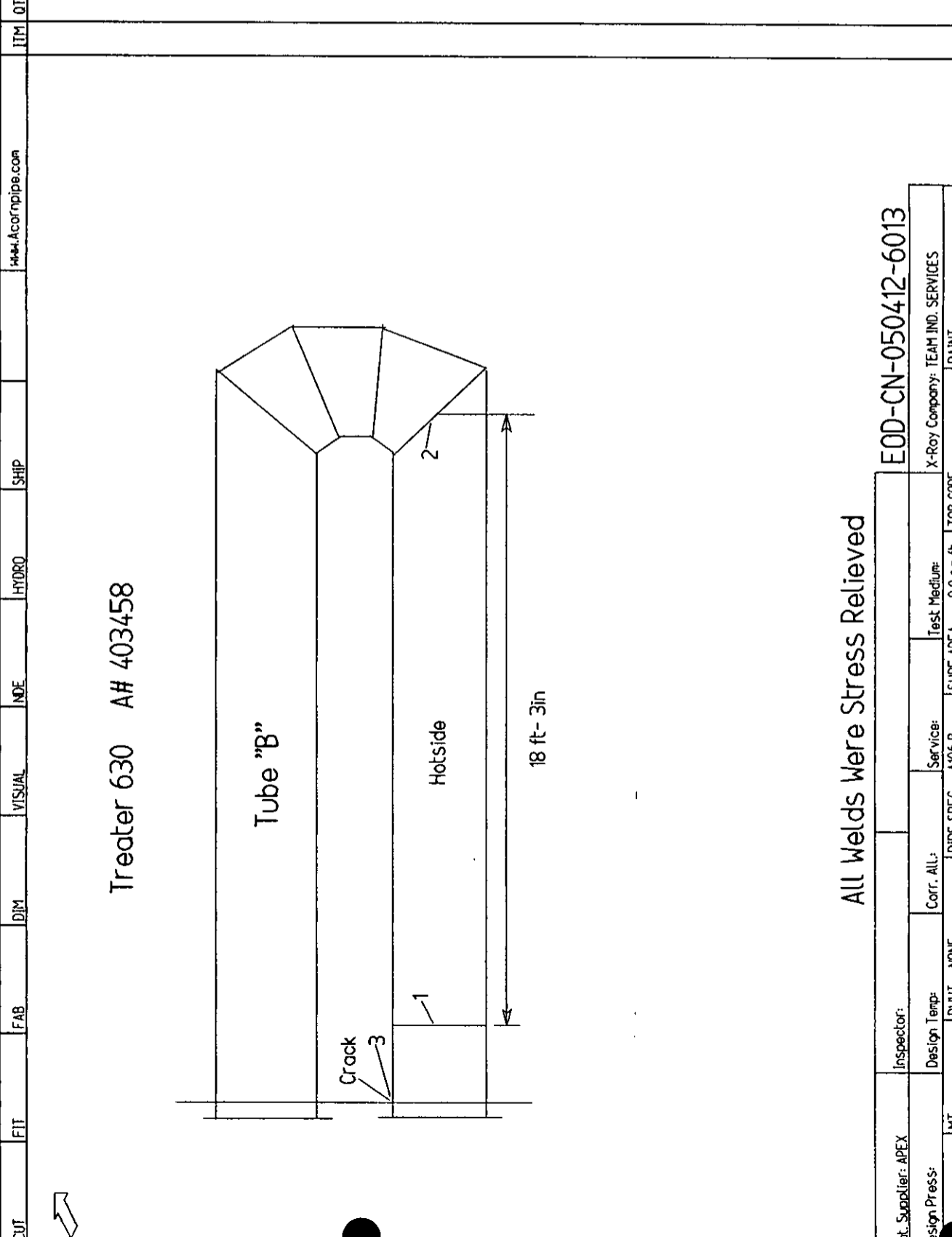
0 butt welds
 CLIENT CNRL Brintnell P.O.No.
 PROJECT 12-9-81-22 W4
 SPOOL 20" Treater Firetube Repair REV. 0 1 of 1
 JOB No. 010709 1 CONTROL No. 011

EXACT OILFIELD
 DEVELOPING LTD.

CUT	FIT	FAB	DJM	VISUAL	NDE	HYDRO	SHIP	ITEM	QTY	A106 Gr. B	SMLS	WELDS	WELDERS	X-Ray	MT
												1	K/R	X1	MT
												2	K	X2	MT
												3	K		MT

DIA-INS	0.0	WEIGHT	0.0 lb
JOB No.	010709	CONTROL No.	011

20" x .375 Pipe HT# 906489



All Welds Were Stress Relieved

www.acornpipe.com

0 butt welds

CLIENT CNRL Brintnell P.O.No.

PROJECT 12-9-81-22 W4

SPOOL 20" Treater Firetube Repair 0 1 of 1

Mat. Supplier: APEX	Inspector:	EOD-CN-050412-6013		
Design Press:	Design Temp:	Service:	Test Medium:	X-Ray Company: TEAM IND. SERVICES
MT	PHRT	PIPE SPEC: A106 B	SURF AREA	0.0 sq. ft.
VISUAL	HYDRO	FAB CODE: B313	INSUL	PAINT
EOD-1-2				REF DRG

EXACT OILFIELD DEVELOPING LTD.

DRN	LH	DATE	2012-03-30
CHK	APP	DATE	
BY	CHK	DATE	2012-04-10



Canadian Natural

Procedure Number: IN-QP-010

Owner User Program – Pressure Vessel Repair Procedure
Vessel Firetube Repair - Replacement of Damaged Sections
Treater 630

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Revision History

Date	Revision	By	Chk	Approver
Nov 24, 2011	1.3	AM	KM	AM

Static Data

Date:	March 27/2012	CNRL Facility:	12-9 Brintnell Battery
Facility LSD:	12-09-81-22w4	Vessel Description:	Treater 630
A #:	A0403458	CRN:	L0015.2
Vessel Serial #:	97015-3-30	Firetube Serial #:	TBD
Vessel MAWP:	75 psi	Firetube Thickness:	.375"
Owners Inspector:	Western Quality	Repair Organization:	Exact Oilfield Service's
Scope of Work:	Firetube failure on heated section of tube. Replace failed section of tube. Identify tube number and weld on flange.		

Scope

Installation of replacement section of severely pitted or collapsed firetube from ASME Section VIII Division I pressure vessel constructed of P-I Group 1 or 2 materials. Note that due to the high likelihood of repeat failure, all repairs on vessel firetubes must be post-weld heat treated (PWHT) regardless of whether the firetube was PWHT at time of manufacture.

Materials shall be of the same specification, grade, and dimensions as defined in the manufacturer's original registered design.

Procedure

Vendor Qualification

1. CNRL Owner's Inspector must review Contractor's Quality Control Program, welding procedures, and welder qualifications prior to the start of the repair. Any concerns must be brought the attention of the CNRL Integrity group.

Cut-Out

2. Define the area to be removed.
3. Perform UT of the cut area to determine if any laminations or discontinuities exist.
4. If laminations or discontinuities are identified, move the cut out area to attempt to avoid these defects.
5. Owner's Inspector shall approve the layout of the area to be removed prior to the initial cut being made.
6. Make sure the firetube has been sanitized and there are no explosive environments present.
7. Perform the cut.

Weld Preparation

8. The joint preparation shall be in accordance with the contractor's registered WPS.
9. The surface shall be cleaned to white metal for a distance of 10 mm beyond the expected weld area.
10. The weld area shall be MPI (where practical Wet Fluorescent MPI) examined for laminations and surface discontinuities. If laminations or surface discontinuities are identified they shall be brought to the attention of the Chief Inspector.

Hydrogen Bake Out and Sulfur Removal

Note: Remove this section if firetube has not been in sour service

11. Vessels that have been exposed to sour or sulfur bearing process streams shall required the weld attachment area to undergo a "Bake Out" procedure. This procedure shall consist of heating the weld attachment area and 10 cm on each side to 315°C (600°F) for and holding that temperature for a minimum of 60 minutes. Bake out should be done prior to cutting out, if cutout is done thermally. Stipulate controls methods.
12. Bake Out is performed by either induction coil (use thermocouples as control instrumentation) or propane torch (use temperature-sensitive crayons – upper and lower temperature to be controlled). Oxyacetylene torches are not acceptable.
13. If induction coils are used, a 250°C (482°F) four-hour heat treatment may be substituted for the normal 450°C (842°F) one-hour heat treatment.

Welding

14. Minimum pre-heat shall be 80°C (176°F) for a 100 mm band on both sides of the weld attachment area.
15. The CNRL Owner's Inspector shall witness seal on the box being broken and ensure that once the box has been opened the electrodes are stored in an oven.
16. The CNRL Owner's Inspector shall approve the alignment and fit-up of the replacement section with only the tack welds in place.
17. Welding shall be in accordance with the contractor's registered PWHT WPS utilizing new E 7018-1 (4H) electrodes.
18. Inspect root weld using dry powder MT.
19. Complete the butt welds. No down hand welding shall be used.
20. Perform post weld heat treatment (PWHT). If firetube was PWHT at time of manufacture, perform PWHT as per U1A. If firetube was not PWHT at time of manufacture, perform PWHT by heating to 620°C (1150°F) and holding for 1 hour. PWHT may be performed by either oven or stress-relief truck. Heating rates shall be as per ASME Section VIII Division 1.
21. After PWHT, the weld area shall be wrapped with an insulating blanket and allowed to slow cool to 100°C (212°F). The cooling rate shall not exceed 260°C (500°F) / hour.

Post Weld Non-Destructive Examination (NDE)

22. Complete 100% RT of butt weld joints.
23. MT 12 hours after completion of the work
24. No hydro-test is required.

Documentation

25. The CNRL Owner's Inspector must make sure that Contractor has completed required QC documentation and jurisdictional documents.

26. The CNRL Owner's Inspector must sign off the jurisdictional documents and make sure one copy is submitted to the jurisdictional authority and one is included in the QC package.

27. Mail a hard copy of QC Documentation to:

Anthony Merle c/o CNRL

Suite 2500, 855 – 2nd Street SW

Calgary AB, T2P 4J8

TUBE A+B

Travel Sheet

A #:	A0403458	Date:	
Vessel LSD:	12-09-81-22W4	Facility:	12-9 Brintnell Battery

Step #	Description of Step	Insp. Point	Contractor		Insp. Point	Owners Inspector	
			Initial	Date		Initial	Date
Scope Sign-Off							
						CF	March 30, 2012
Vendor Qualification							
Step 1	Ensure Vendor is Qualified		RD	MAR 31/12			
Cut-Out							
Step 2	Mark Area		RD	"		RD	
Step 3	Perform UT		/	/			
Step 4	Move Area If Defects Found		/	/			
Step 5	Owners Inspector Approval		RD	"		RD	
Step 6	Ensure Removal of LEL		/	/			
Step 7	Perform Cut		RD	"		RD	
Weld Preparation							
Step 8	Joint Prep as per WPS		RD	"		RD	
Step 9	Surface Prep		RD	"		RD	
Step 10	Weld Area MPI for Discontinuities		RD	"		RD	
Hydrogen Bake Out							
Step 11	Perform Bake-Out (If Required)		RD	"		RD	
Step 12	Heating Method Used for Bake-Out	PROPANE	RD	"		RD	
Step 13	Substitution of Inductions Coils		/	/			
Welding							
Step 14	Pre-Heat		RD	"		RD	
Step 15	New Electrodes		RD	"		RD	
Step 16	Owners Acceptance of Fit-Up		RD	"		RD	
Step 17	Approved WPS		RD	"		RD	
Step 18	Inspect Root Weld		RD	APR 1/12		RD	
Step 19	Completion of Weld		RD	"		RD	
Step 20	PWHT		RD	APR 2/12		RD	
Step 21	Slow Cool		RD	"		RD	
Post-Weld Non-Destructive Examination (NDE)							
Step 22	Completion of Radiography		RD	"		RD	
Step 23	12 Hour MPI		RD	APR 3/12		RD	
Step 24	No Hydrotest						
Documentation							
Step 25	Completion of Contractor Documentation		RD	"		RD	
Step 26	Owners Inspector Signs Jurisdictional Docs		RD	"		RD	
Step 27	Mail QC Docs to Anthony Merle						

H = Hold Point, W = Witness Point, R = Review Point

Final Sign-Off	
Contractor: 	Owners Inspector: 

POOR QUALITY CONTROL

A-41-3438

AB-25 (Mde 1) 97/11

ALBERTA LABOUR
 Alberta Boilers Safety Association
 200, 4208 - 97 Street
 Edmonton AB T6E 5Z9
 Partial/ Partiel C

MANUFACTURER'S DATA REPORT
 FOR PRESSURE VESSEL
 DÉCLARATION DE CONFORMITÉ DU CONSTRUCTEUR
 D'APPAREILS SOUS PRESSION

Upon shipment of a pressure vessel, this form fully and correctly filled in must be mailed to the office of the Chief Inspector in the province of installation in accordance with the regulations under the Act, governing the construction and installation of pressure vessels.

au moment de l'expédition d'un appareil sous pression, ce formulaire complété correctement, doit être envoyé au bureau de l'inspecteur en chef de la province d'installation tel que prévu dans les règlements de la loi sur les appareils sous pression.

Manufactured by Constructeur par	Name and address of Manufacturer/ Nom et adresse du constructeur RCI
Manufactured for Construit pour	Name and address of Purchaser or Consignee/ Nom et adresse du client ou de son représentant C.S. RESOURCES LTD. c/o MILZNA RESOURCES CONSULTING
Ultimate owner Utilisateur	Name and address/ Nom et adresse 150 1300 - 9th STREET CALGARY AB.
Location of installation Lieu d'installation	Address/ Adresse PELICAN LAKE COMPLEX, WABASCA AB., L.S.D.# 12-9-081-22W44

Pressure vessel/ Appareil			
Type/ Genre HORIZONTAL EMULSION TREATER	Serial No./ N° de série 97015-3-30	Year built/ Année de fabrication 1998	Overall Length/ Longueur totale 40'-0"
Provincial Registration No. - C.R.N./ N° d'enregistrement provincial - N.E.C.L.-0015.2	National Board No./ N° National Board	Drawing No./ N° de dessin 97015.1/3-30REV2	Diameter/ Diamètre 120"

The chemical and physical properties of all parts meet the requirements of material specifications of the A.S.M.E. Code.
 Les propriétés chimiques et physiques de toutes les composantes respectent les exigences des spécifications de matériaux de code ASME. YES

The design, construction and workmanship conform to CSA B51. La conception, la construction et la façon sont conformes à l'ASME B51. YES	ASME Sec III	Division DIV I	Addenda/ Suppléments 96	Code case No. N° de cas N/A
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Manufacturers' partial data reports properly identified and signed by authorized inspectors have been furnished for the following items of the report, and attached to this report.
 Les rapports partiels de constructeur adéquatement identifiés et signés par les inspecteurs autorisés ont été produits pour les items suivants du rapport, et attachés à ce rapport.
 N/A

Name of part/ Nom de la composante	Item No./ N° de l'item	Manufacturer's Name/ Nom du constructeur	Identifying Stamp/ Estampe d'identification

Shell/Virule

Description	Material Alliages	Thickness Épaisseur	Corr Allow Surdépense de corr	Diameter Diamètre	Overall Length Longueur totale	Number of courses Nombre de sections	Girth joints Joints de circonférence		Longitudinal joints Joints longitudinaux			P.W.H.T. Traitement thermique	
							Type	RT Régime	Type	RT Régime	Intermittent Épave	Temp	Time Durée
SHELL # 1,2,3,4	SA516-70	0.5	.0625	120"	10'-0"	4	1	FULL RT-1	1	RT-1	1.0	N/A	

Heads/Têtes

Description	Material Alliages	Min Thick. Épais min.	Corr Allow Surdépense de Corr	Corr. Radius Rayon de corr.	Knuckle Radius Rayon de la sautoie	Ellipse Ratio Rapport ellipse	Conical Apex Angle Angle conique	Hemisp. Radius Rayon	Flare Diameter Diamètre	End to pressure End de la pression
FT END	SA516-70	.691	.0625	N/A		2.1				CONCAVE
OIL END	SA516-70	.439	.0625			2.1				CONCAVE
Removable bolts used (describe other fastenings) Boulons amovibles utilisés (décrire tous autres attaches)					Mat'l Spec / Spec du mat.			Grade		End Diameter

Pressure - Temperature / Pression - température

Pressure Vessel Part Partie de l'appareil	Construction for max allowable working pressure Construit pour une pression maximale de travail permise	At max. temp. A une temp. max.	Min. Temp. (when less than -29°C) Temp. min. inférieure à -29°C	Test pressure (hydro-pneumatic or combination) Pression d'épreuve (hydro-pneumatique ou combinatoire)
SHELL	75 PSI	300°F	-20°F	113 PSI

Tube Section / Epaveau tubulaire

Tube No./Nbre	Material/Matériau	Diameter/Diamètre	Nominal Thickness / Epaisseur nominale	Corr. Allow. / Surépais corrosion	Attchment / Mode d'attachement
Tube material/Matériau des tubes	Diameter/Diamètre	Nominal Thickness (gauge) / Epaisseur nominale (calibre)	Number/Nbre	Type (Straight or U) / Type (Droit ou U)	Welding Surface / Surface de soudure

Jacket/ Chemise

Type of Jacket/ Gens de chemise	Jacket Closure / Fermeture de chemise	Proof Test / Pression d'épreuve	Welding Surface / Surface de soudure	Sketch / Schéma
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Safety Valve Outlet/ Soupapes de sûreté

Number/Nombre	Dimension	Location/Endroit
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Nozzles and Openings/ Tubulures et ouvertures

Purpose/But	Number/Nombre	Dimension	Type	Material/Matériau	Nominal Thickness / Epaisseur nominale	Reinforcement material / Matériau de renfort	Non attached / Non attaché	Location/Endroit
SEE SUPPLEMENTARY SHEETS								

POOR QUALITY CONTROL

Supports/ Supports

Skirt Area / Yes/ Oui No/ Non	Legs/ Outlets / No./Nbre	Legs/ Plich / No./Nbre	Other/ Autres (Description)	Attache/ Attaches (Where and How/ Adhésifs et endroits)
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Remarks/ Observations (Capacity/ Volume)

VESSEL IS IMPACT TEST EXEMPT PER UCS-66
 VOLUME OF VESSEL 3378 CUFT
 RADIOGRAPHY DONE PER UW-11(a)
 SAFETY VALUE BY OTHERS

Certificate of Compliance/ Certificat de conformité

We certify that the statements made in this data report are correct, and that the said vessel has been constructed in accordance with the Provincial Registered design below and the requirements of standard CSA B31.

Nous certifions que les données de la déclaration de conformité sont correctes et que l'appareil a été construit en accord avec l'enregistrement provincial ci-dessous et les exigences de la norme ACNOR B31

Provincial Registered Design / Enregistrement provincial: L-0015.2

Manufacturer/ Constructeur: RCI

Signature: P. Orlowski Date: March 12/98

Certificate of Shop Inspection/ Certificat d'inspection en usine
 I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector
 Je, soussigné, inspecteur autorisé de chaudières et appareils sous pression
 employed by / employé par: ABSA

of / de: Alberta
 I have inspected the above vessel and state that to the best of my knowledge and belief, the manufacturer has constructed the vessel in accordance with the Provincial registration CRN: L-0015.2
 and the requirements of standard CSA B31.

Je inspecte l'appareil précité et déclare que, de mon mieux, je crois que le constructeur a construit l'appareil en accord avec l'enregistrement provincial NET et les exigences de la norme ACNOR B31

Inspector's Name / Nom de l'inspecteur: Tom Chalkin

Signature: T. Chalkin Date: March 12/98

Certificate of Compliance - Field Work/ Certificat de conformité - Installation en chantier

We certify that the field installation of all parts of the vessel conforms with the requirements of Provincial Regulations.

Nous certifions que l'installation en chantier de toutes les composantes de l'appareil est conforme aux règlements provinciaux

Installer's Name / Nom de l'installateur

Signature

Date

Certificate of Field Inspection/ Certificat d'inspection - Installation en chantier

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector
 Je, soussigné, inspecteur autorisé de chaudières et appareils sous pression
 employed by / employé par

have inspected the items not covered by the Shop Inspection Certificate and the installation of the items and state that to the best of my knowledge and belief the construction and assembly of the items are in accordance with the Provincial Regulations.

Je inspecte les composantes non couvertes par le certificat d'inspection en usine et l'installation des pièces et déclare que, de mon mieux, je crois que la construction et l'assemblage de l'appareil sont en accord avec les règlements provinciaux

Inspector's Name / Nom de l'inspecteur

Signature Date

A 110343E

HEAD OFFICE
PO Box 3120, 53251-RR 232
Sherwood Park, Alberta, T8A 2A6
Phone: (403) 417-7222, Fax: (403) 417-7220

1. Manufactured and certified by: RCI Resource Constructors Inc., 53251 RR 232 Sherwood Park, Alberta. T8A 2A6
(Name and Address of Manufacturer)
2. Manufactured for: C.S. RESOURCES LTD. c/o MILLENIA RESOURCE CONSULTING
(Name and Address of Purchaser) 150, 1300-8TH STREET, CALGARY, AB.
3. Location of installation: PELICAN LAKE COMPLEX, WABASCA AB., LSD# 12-9-081-22W4M
(Name and Address)
4. Type: Horizontal EMULSION TREATER 77015-3-36 L-2015.2 97015.1/3 REV 2 N/A 1998
(Horiz, Vert, or Sphere) (Tank Sep., Heat Exh., Etc.) (Mfg's Serial No.) (CRN) (Drawing No.) (Part. Bd. No.) (Year Built)

Purpose (Inlet, Outlet, Drain)	Item No.	Diameter or Size	Type	Material	Nominal Thk.	Reinforcement Material	How Attached	Location
EMULSION INLET	N1	6"	150° RFWN	SA 105	SCH 80		WELDED	PIPE
		8"	PIPE	SA 106B	SCH 80		WELDED	SHELL
GAS OUTLET	N2	3"	150° RFWN	SA 105	SCH 80		WELDED	PIPE
		3"	PIPE	SA 106B	SCH 80		WELDED	PIPE
OIL OUTLET	N3	4"	150° RFWN	SA 105	SCH 80		WELDED	PIPE
		4"	PIPE	SA 106B	SCH 80		WELDED	HEAD
WATER OUTLET	N4	2"	150° RFWN	SA 105	SCH 160		WELDED	SHELL
		2"	150° RFSO	SA 105	SCH 160			
DRAIN	NS4B	3"	150° RFWN	SA 105	SCH 80		WELDED	PIPE
		3"	PIPE	SA 106B	SCH 80		WELDED	SHELL
ANODE	NA/A/E	4"	150° RFWN	SA 105	SCH 80		WELDED	PIPE
		4"	PIPE	SA 106B	SCH 80		WELDED	SHELL
		3/4"	STUD	SA 19307M				
		3/4"	NUT	SA 1942HM				
RELIEF	N7	4"	150° RFWN	SA 105	SCH 80		WELDED	PIPE
		4"	PIPE	SA 106B	SCH 80		WELDED	SHELL
WASH WATER INLET	NS4C	2"	150° RFWN	SA 105	SCH 80		WELDED	PIPE
		2"	150° RFSO	SA 105	SCH 80			
		3"	PIPE	SA 106B	SCH 80		WELDED	SHELL
WASH WATER INLET	NS4A	2"	150° RFWN	SA 105	SCH 160		WELDED	PIPE
		2"	150° RFSO	SA 105	SCH 160			
		2"	PIPE	SA 106B	SCH 160		WELDED	SHELL
DESAND WATER OUTLET	N10A/B	3"	150° RFWN	SA 105	SCH 80		WELDED	PIPE
		3"	PIPE	SA 106B	SCH 80		WELDED	SHELL
DESLEUDGE OUTLET	N11A/B	3"	150° RFWN	SA 105	SCH 80		WELDED	PIPE
		3"	PIPE	SA 106B	SCH 90		WELDED	SHELL
MANWAY	M 1/2	24"	150° RFSO	SA 105	SCH 40		WELDED	PIPE
		24"	PIPE	SA 106B	SCH 40		WELDED	SHELL
		24"	BLIND FLANGE	SA 105	SCH 40			
		24"	GASKET	31655	1/8"			
		1.25	STUD	SA 19307M				
		1.25	NUT	SA 1942HM				
		24"	DAWIT	CS				
		24"	HANGE	CS				
DOVE	D1	24"	HEAD	SA 51670	SCH 40		WELDED	PIPE
		24"	PIPE	SA 106B	SCH 40		WELDED	SHELL
		24"	PIPE	SA 106B	SCH 40		WELDED	HEAD
		24"	150° RFSO	SA 105	SCH 40		WELDED	PIPE
		24"	GASKET	31655	1/8"			
		1.25	STUD	SA 19307M				
		1.25	NUT	SA 1942HM				
FIRE TUBE	FT 1/2	1.375"	PLATE	SA 51670N	1.375			
		1.375"	PLATE	SA 51670N	1.125			
		1.375"	PLATE	SA 51670	0.5			
		1"	GASKET	NEOPRENE	.1875			

Date March 12/98 Name RCI Resource Constructors Inc. Signed [Signature]
 Date March 12/98 Name: [Signature] ARJE Commission Alberta ARJE
 (Authorized Inspector) (Part Board Incl. Endorsement, State, Province and No.)



A-403458

HEAD OFFICE
 PO Box 3120, 53251-RR 232
 Sherwood Park, Alberta, T8A 2A6
 Phone: (403) 417-7222, Fax: (403) 417-7220

- Manufactured and certified by: RCI Resource Constructors Inc., 53251 RR 232 Sherwood Park, Alberta, T8A 2A6
(Name and Address of Manufacturer)
- Manufactured for: C.S. RESOURCES LTD. 46 MILLENIA RESOURCE CONSULTING
(Name and Address of Purchaser) 150, 1300-8th STREET, CALGARY, ALBERTA
- Location of installation: PELICAN LAKE COMPLEX, WABASCA, AB, LSD # 12-9-081-22W4M
(Name and Address)
- Type: Horizontal EMULSION TREATER 97015-3-30 L-00152 97015-1/3 Rev 2 N/A 1998
(Horz, Vert, or Sphere) (Tank, Sep., Heat Exch. Etc.) (Mfg's Serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year Built)

Purpose (Inlet, Outlet, Drain)	Item No.	Diameter or Size	Type	Material	Nominal Thk.	Reinforcement Material	How Attached	Location
FIRE TUBE	FT 1/2	.75"	STUD	SA19387N				
		.75"	NUT	SA1942HM				
DESUDGE (SPARE)	N11A/B	3"	BLIND FLANGE	SA105	SCH 80			
		3"	GASKET	316SS	.125"			
		.625"	STUD	SA19387M				
		.625"	NUT	SA1942HM				
DESUDGE OUTLET	N12A/B	3"	150# RWV	SA105	SCH 80		WELDED	PIPE
		3"	150# RESO	SA105	SCH 80		WELDED	SHELL
		3"	PIPE	SA-106B	SCH 80		WELDED	PIPE
WATER LT	N13A/B	2"	150# RWV	SA105	SCH 160			
		2"	150# RTRF	SA105	SCH 160			
		2"	GASKET	316SS	.125"			
		.625"	STUD	SA-19387M				
		.625"	NUT	SA1942HM				
		2"	PIPE	SA106B	SCH 160		WELDED	SHELL
		2"	PIPE	SA106B	SCH 160		WELDED	SHELL
TI	G1A/B	.75"	COUPLING	SA105	6000#		WELDED	SHELL
TE	G2A/B	.75"	COUPLING	SA105	6000#		WELDED	SHELL
PI	G3	.50"	COUPLING	SA105	6000#		WELDED	SHELL
SAMPLE	G4A/B	.75"	COUPLING	SA105	6000#		WELDED	SHELL
SAMPLE	G5A/B	.75"	COUPLING	SA105	6000#		WELDED	SHELL
SAMPLE	G6A/B	.75"	COUPLING	SA105	6000#		WELDED	SHELL
FUEL GAS	G6A/B	1.0"	COUPLING	SA105	6000#		WELDED	SHELL
L5LL	G7A/B	1.0"	COUPLING	SA105	6000#		WELDED	SHELL
L5HH	G8A/B	1.0"	COUPLING	SA105	6000#		WELDED	SHELL
OIL LT	G9A/B	1.0"	COUPLING	SA105	6000#		WELDED	HEAD
SPARE	G10	1.0"	COUPLING	SA105	6000#		WELDED	SHELL
SPARE	G11	1.0"	PLUG	SA105	6000#		WELDED	SHELL
	G12	1.0"	COUPLING	SA105	6000#		WELDED	SHELL
	G13A/B	1.0"	PLUG	SA105	6000#		WELDED	SHELL
LG	G14	.75"	COUPLING	SA105	6000#		WELDED	SHELL
SAMPLE	G14	.75"	COUPLING	SA105	6000#		WELDED	SHELL

Date March 12/98
 Date Mar 12/98

Name RCI Resource Constructors Inc.
 Name J. Althaus
 (Authorized Inspector)

Signed C. Althaus
 (Manufacturer) (Representative)
 Commission Alberta AS78
 (Nat'l Board Incl. Endorsement, State, Province and No.)



R&R Stress Relieving Service Ltd.
2103 - 6th Street
Nisku AB T9E 7X8

DATE: Apr 2/12

CHART / JOB NO: #2 - 173

CLIENT: CNRL BRINTNELL

LOCATION: EXACT OILFIELD SHOP

PROJECT: 2 - 20" FIRE TUBES A



R & R Stress Relieving Service Ltd.

2103 - 6 Street, Nisku, AB T9E 7X8 Ph: (780) 955-7559 Fx: (780) 955-2903 1-800-499-4328
#13 Burbank Industrial Park, Blackfalds, AB Ph: (403) 885-2280 Fx: (403) 885-0177

CERTIFICATE OF CONFORMANCE OF RECORDING INSTRUMENTS


CERTIFIED BY: R & R Stress Relieving Service Ltd.
TEST NUMBER: RR0117B
DATE: January 17, 2012
DATE DUE: April 17, 2012
INSTRUMENT MFG: Chino
MODEL NUMBER: AH-3745 N00
SERIAL NUMBER: AH-038C099
RECORDER NUMBER: IR-173

This instrument has been calibrated and it is within the manufacturers specifications.

REFERENCE STANDARDS

DIGIMITE 311600 S/N 48430-5522 CERT DATE NOV 25/11
GORDON 5060 CALIBRATOR S/N 028-84257113 CERT DATE OCT 25/11

R&R Stress Relieving Service Ltd. certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology (NIST), or to the NIST accepted intrinsic standards of measurement, or derived by the ratio type of self-calibration techniques. This calibration complies with NIL-STD-45662A and ANSI/NCSL Z540.3-2006.



Steve Pierson



Stress Relieving Service Ltd.

DAILY TIME TICKET

15591

CERTIFICATE OF HEAT TREATMENT

Specifications to be agreed and signed for on behalf of client prior to commencing heat treatment

DATE: 04/02/12
 CLIENT: CNRK Brintnell
 CONTACT: Len Hayne
 PHONE NUMBER: 780-849-2211
 PROJECT REF: 20" Fire Tubes A
 LOCATION: Exact oilfield shop
 R & R STRESS JOB No: 101
 CLIENT P.O. No: _____

AMBIENT TO: 900 (°F)(°C) AT MODERATE RATE
 HEAT TO 1150 (°F)(°C) AT 400 (°F)(°C)/HR. MAX
 SOAK FOR 1 HRS. - MINS ± 25 (°F)(°C)
 COOL TO 800 (°F)(°C) AT 500 (°F)(°C)/HR
 RECORDER NO. 1K-173 CHART SPEED 50 mm/hr
 CLIENT APPROVAL LEN HAYNE

MU- 110 / TOTAL DAILY KM _____, PU- - / TOTAL DAILY KM _____

EMPLOYEE	HOURS ON SITE			ST	OT	STANDBY TIME			TRAVEL TIME			
	IN	OUT	TOTAL			FROM	TO	TOTAL	FROM	TO	TOTAL	
R. Luccero												
D. Dick	Pls. Check Time Ticket no. <u>15590</u>											

CHART NO: 02							CHART NO:						
WELD LINE I.D. NUMBER	WELD SIZE	SCHED	S/R NUMBER	RECORD NUMBER	TOTAL WELDS	COMMENTS	WELD LINE I.D. NUMBER	WELD SIZE	SCHED	S/R NUMBER	RECORD NUMBER	TOTAL WELDS	COMMENTS
w-1	20"		1	1-4	1	BW							
w-2	20"		2	5-8	1	BW							
w-3	20"		3	9-12	1	BW							
* Reference: 12-9-81-22 w4													
* A# 403458													
* Treater #630													
<u>Fire Tubes A</u>													

Comments: _____

11748

WORK & CHART Accepted by

LEN HAYNE
 Clients Representative (Signature)

Overtime Authorized by

LEN HAYNE
 Clients Representative (Signature)

BRANCH OFFICES:
 Calgary (403) 236-8986
 Blackfalds (403) 885-2280
 Fort McMurray (780) 743-0079

TELEPHONE:
 HEAD OFFICE:
 (780) 955-7559
 1-800-499-HEAT

MAILING ADDRESS:
 2103 - 6 Street
 Nisku, AB T9E 7X8



Stress Relieving Service Ltd.

DAILY TIME TICKET

15592

CERTIFICATE OF HEAT TREATMENT

Specifications to be agreed and signed for on behalf of client prior to commencing heat treatment

DATE: 04/03/12
 CLIENT: CMRL Brintnell
 CONTACT: Len Hayne
 PHONE NUMBER: 780-949-2211
 PROJECT REF: _____
 LOCATION: Exact oilfield slave lake
 R & R STRESS JOB No: 101
 CLIENT P.O. No: _____

AMBIENT TO: _____ (°F)(°C) AT MODERATE RATE
 HEAT TO _____ (°F)(°C) AT _____ (°F)(°C)/HR. MAX
 SOAK FOR _____ HRS. _____ MINS ± _____ (°F)(°C)
 COOL TO _____ (°F)(°C) AT _____ (°F)(°C)/HR
 RECORDER NO. _____ CHART SPEED _____
 CLIENT APPROVAL: LEN HAYNE

MU- 110 / TOTAL DAILY KM 285 , PU- _____ / TOTAL DAILY KM _____

EMPLOYEE	HOURS ON SITE			ST	OT	STANDBY TIME			TRAVEL TIME		
	IN	OUT	TOTAL			FROM	TO	TOTAL	FROM	TO	TOTAL
R. Lucco	0700	1636	3 1/2	3 1/2							
D. Dick	0700	1636	3 1/2	3 1/2							

CHART NO:							CHART NO:						
WELD LINE I.D. NUMBER	WELD SIZE	SCHED	S/R NUMBER	RECORD NUMBER	TOTAL WELDS	COMMENTS	WELD LINE I.D. NUMBER	WELD SIZE	SCHED	S/R NUMBER	RECORD NUMBER	TOTAL WELDS	COMMENTS
Note: Travel time only going back to base													

Comments: _____

WORK & CHART Accepted by
LEN HAYNE
 Clients Representative (Signature)

Overtime Authorized by

 Clients Representative (Signature)

BRANCH OFFICES:
 Calgary (403) 236-8986
 Blackfalds (403) 885-2280
 Fort McMurray (780) 743-0079

TELEPHONE:
 HEAD OFFICE:
 (780) 955-7559
 1-800-499-HEAT

MAILING ADDRESS:
 2103 - 6 Street
 Nisku, AB T9E 7X8

End of pwhT



End of this soak

Start this soak

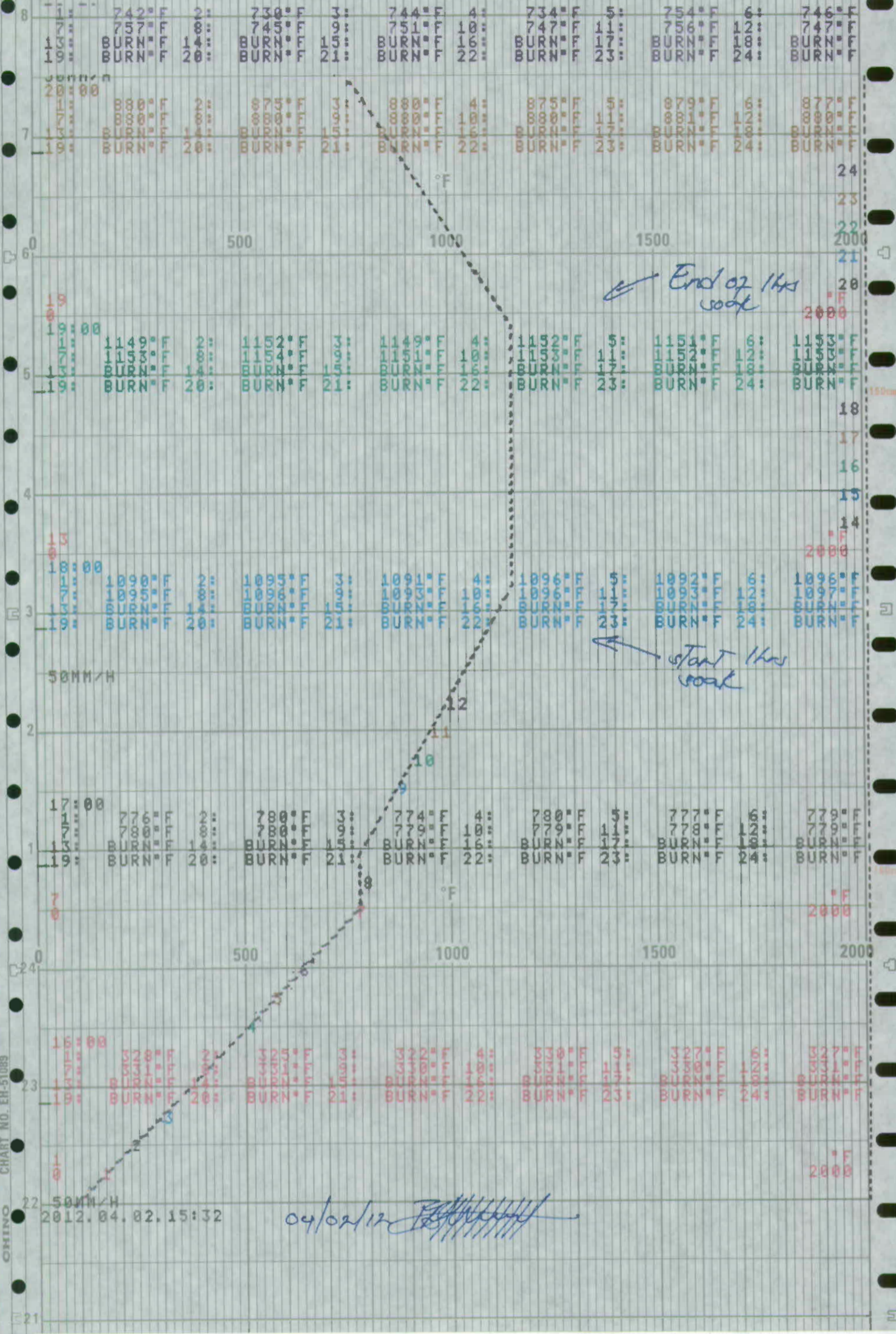


CHART NO. EH-51089

2012.04.02.15:32

04/02/12 *[Signature]*

	R&R Stress Relieving Service Ltd	Technician: D. Dick	Customer:
		Signature: <i>[Signature]</i>	CNRL BRINTNEL
Date: APRIL 2/12	Job No. 101	Site: EXACT OILFIELD SHOP	
Recorder No. 173	Chart Speed: 50 mm/hr	Chart # 02	Set#

Weld#	Weld Dia.	TC#	Weld Description	Weld#	Weld Dia.	TC#	Weld Description
1	20"	1-4	BW				
2	20"	58	BW				
3	20"	9-12	BW				
				12-9-81-22-W4 A#403458			
				TREATER #630			
				A-FIRE TUBE			



R&R Stress Relieving Service Ltd.
2103 - 6th Street
Nisku AB T9E 7X8

DATE: APRIL 2/12

CHART / JOB NO: V2 #170 #173

CLIENT: CNR L BRINTNELL

LOCATION: EXACT OILFIELD SHOP

PROJECT: 2-20" FIRE TUBES - B

Heat Treatment Instructions

Owner Company CNRL BRINTNELL Job # TREATER #630
 Reference 12-9-81-22 W4 A#40345B Date: APR. 2/12
 Materials 2- 20" FIRETUBES
 Code ASME SECTION VIII DIV1

Component Description

Drawing	Diameter	Thickness	Material	Length	Weight
<u>6 WELDS</u>	<u>20"</u>	<u>.375</u>	<u>A106B</u>		

Type Of Treatment

Instructions: Stress Relieving

1. Temperature to be raised from 800 F {426 C} to 1150 F {621 C} at a maximum rate 400 F per hour. Not to exceed 222 C per hour. (Calculated rate of 222 C per hour divided by governing thickness.
2. Temperature to be held at 1150 F {621 C} plus or minus 14 C for 60 minutes
3. Temperature to be lowered from 1150 F {621 C} to 800 F {426 C} at a rate of 500 F per hour. Must not exceed 278 C per hour.

{ }-Suggested Temperature Guidelines

Additional Requirements

1. Job # and description to be marked on chart.
2. Furnace thermocoupling calibration to be provided
3. Sufficient thermocouplings located to control and maintain a uniform temperature
4. No welding to be performed after the final stress relieving

Operator Signature _____ Date: _____
 Machine Number _____
 QCI/QCM Approval [Signature] Date: RR APR. 2/12



R & R Stress Relieving Service Ltd.

2103 - 6 Street, Nisku, AB T9E 7X8 Ph: (780) 955-7559 Fx: (780) 955-2903 1-800-499-4328
#13 Burbank Industrial Park, Blackfalds, AB Ph: (403) 885-2280 Fx: (403) 885-0177

CERTIFICATE OF CONFORMANCE OF RECORDING INSTRUMENTS


CERTIFIED BY: R & R Stress Relieving Service Ltd.
TEST NUMBER: RR0117
DATE: January 17, 2012
DATE DUE: April 17, 2012
INSTRUMENT MFG: Chino
MODEL NUMBER: AH-3745 N00
SERIAL NUMBER: AH-038C101
RECORDER NUMBER: IR-170

This instrument has been calibrated and it is within the manufacturers specifications.

REFERENCE STANDARDS

DIGIMITE 311600 S/N 48430-5522 CERT DATE NOV 25/11
GORDON 5060 CALIBRATOR S/N 028-84257113 CERT DATE OCT 25/11

R&R Stress Relieving Service Ltd. certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology (NIST), or to the NIST accepted intrinsic standards of measurement, or derived by the ratio type of self-calibration techniques. This calibration complies with NIL-STD-45662A and ANSI/NCSS Z540.3-2006.



Steve Pierson



Stress Relieving Service Ltd.

DAILY TIME TICKET

15590

CERTIFICATE OF HEAT TREATMENT

Specifications to be agreed and signed for on behalf of client prior to commencing heat treatment

DATE: 04/02/12 / CMRL Brintnell AMBIENT TO: 800 (°F)(°C) AT MODERATE RATE
 CLIENT: Exact Oilfield shop HEAT TO 1150 (°F)(°C) AT 400 (°F)(°C)/HR. MAX
 CONTACT: Len Hayne SOAK FOR 1 HRS. - 25 MINS ± (°F)(°C)
 PHONE NUMBER: 780-849-2211 COOL TO 800 (°F)(°C) AT 500 (°F)(°C)/HR
 PROJECT REF: 20" Fire Tube B RECORDER NO. 1R-170 CHART SPEED 50mm/hr
 LOCATION: Exact Oilfield shop slave lake
 R & R STRESS JOB No: 101 CLIENT APPROVAL LEN HAYNE
 CLIENT P.O. No: _____

MU- 110 / TOTAL DAILY KM 285 PU- — / TOTAL DAILY KM —

EMPLOYEE	HOURS ON SITE			ST	OT	STANDBY TIME			TRAVEL TIME		
	IN	OUT	TOTAL			FROM	TO	TOTAL	FROM	TO	TOTAL
Rosendo Lucco	1130	2330	12	8	4				0800	1130	3 1/2
									2330	2400	1/2
Daniel Dick	1130	2330	12	8	4				0800	1130	3 1/2
									2330	2400	1/2

CHART NO: 01

CHART NO:

WELD LINE I.D. NUMBER	WELD SIZE	SCHED	S/R NUMBER	RECORD NUMBER	TOTAL WELDS	COMMENTS	WELD LINE I.D. NUMBER	WELD SIZE	SCHED	S/R NUMBER	RECORD NUMBER	TOTAL WELDS	COMMENTS
W-1	20"		1	1-4	1	BW							
W-2	20"		2	5-8	1	BW							
W-3	20"		3	9-12	1	BW							
* Reference: 12-9-81-22W4													
* A# 403458													
* Treater # 630													
<u>Fire Tubes B</u>													

Comments: wrap 2 20" Fire Tubes, then start heat cycle and clean up work area.

WORK & CHART Accepted by

LEN HAYNE
Clients Representative (Signature)

Overtime Authorized by

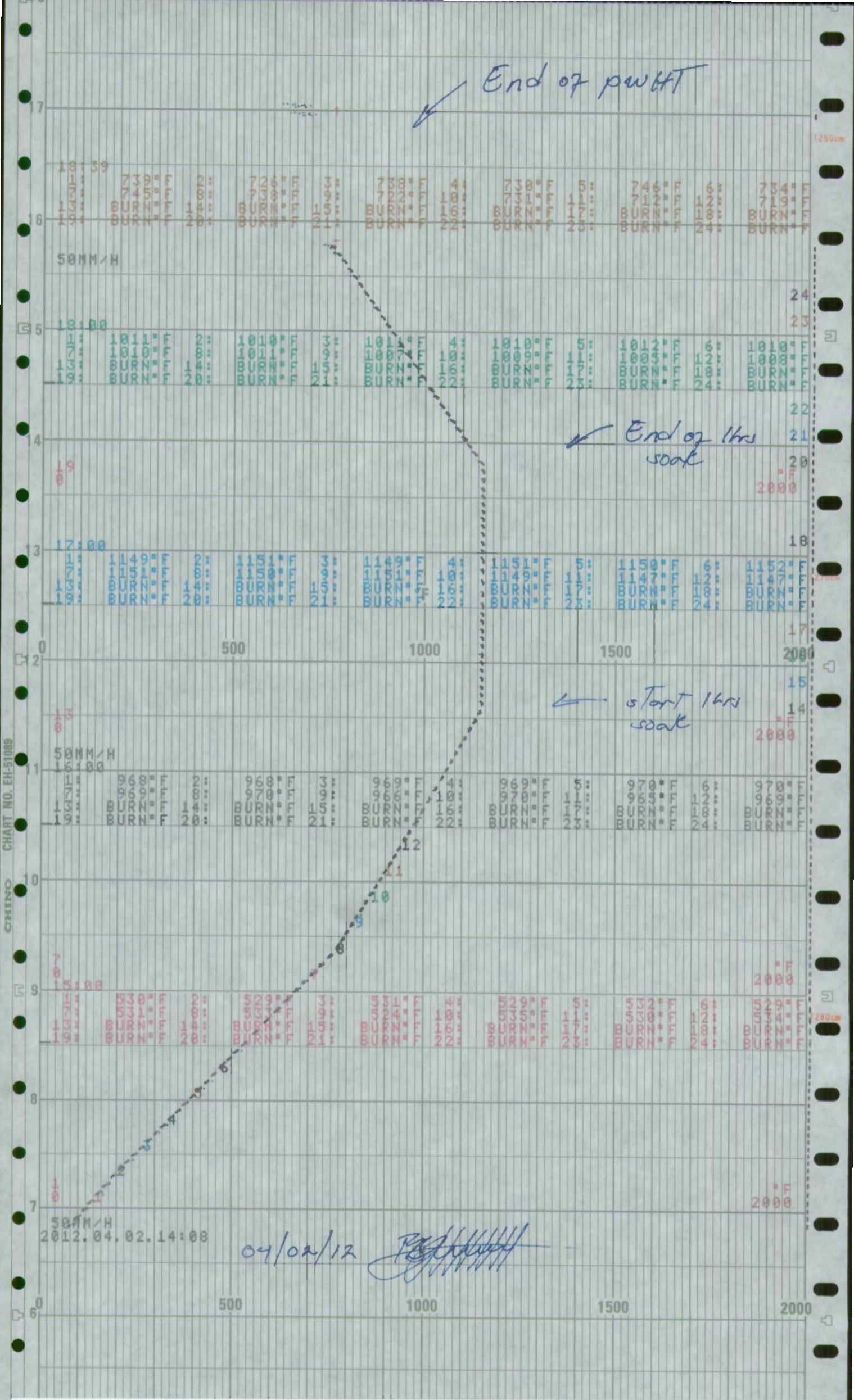
LEN HAYNE
Clients Representative (Signature)

BRANCH OFFICES:
 Calgary (403) 236-8986
 Blackfalds (403) 885-2280
 Fort McMurray (780) 743-0079

TELEPHONE:
 HEAD OFFICE:
 (780) 955-7559
 1-800-499-HEAT

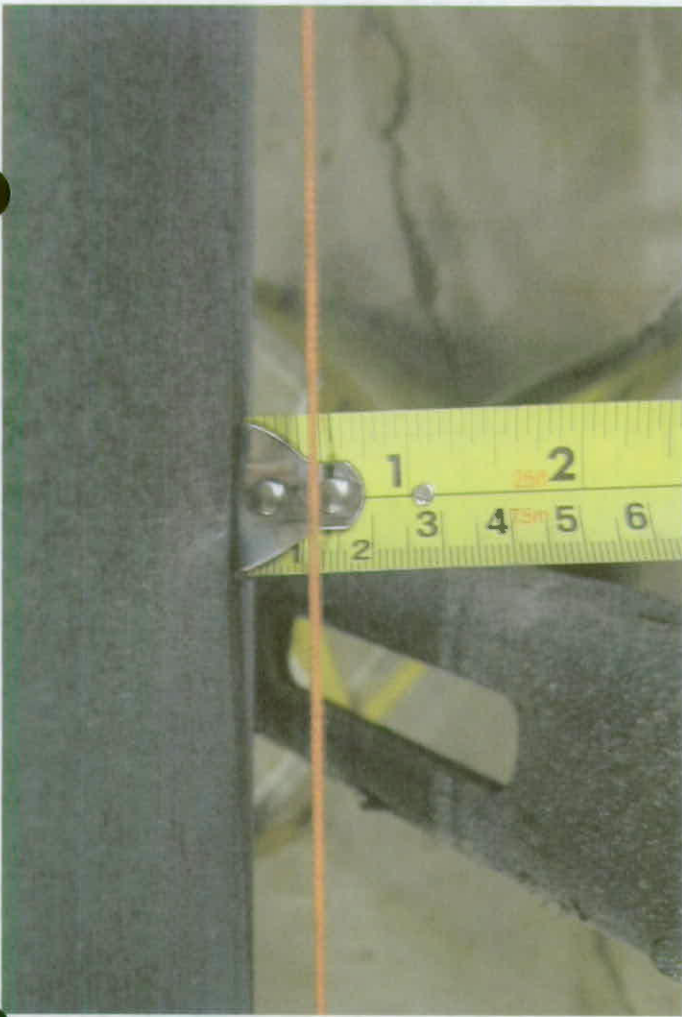
MAILING ADDRESS:
 2103 - 6 Street
 Nisku, AB T9E 7X8

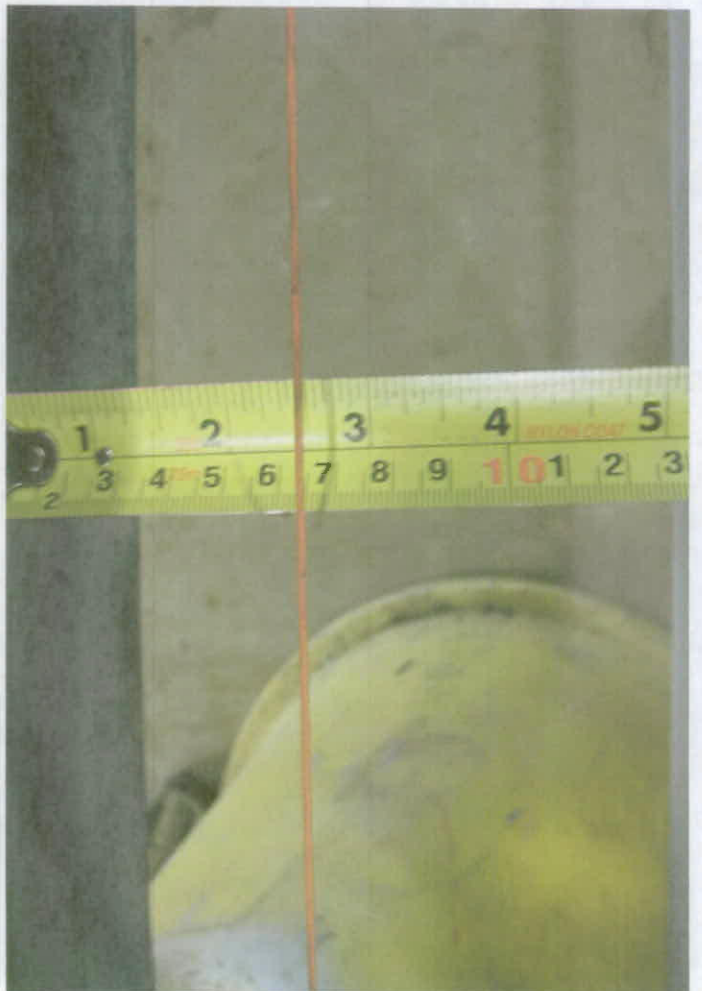
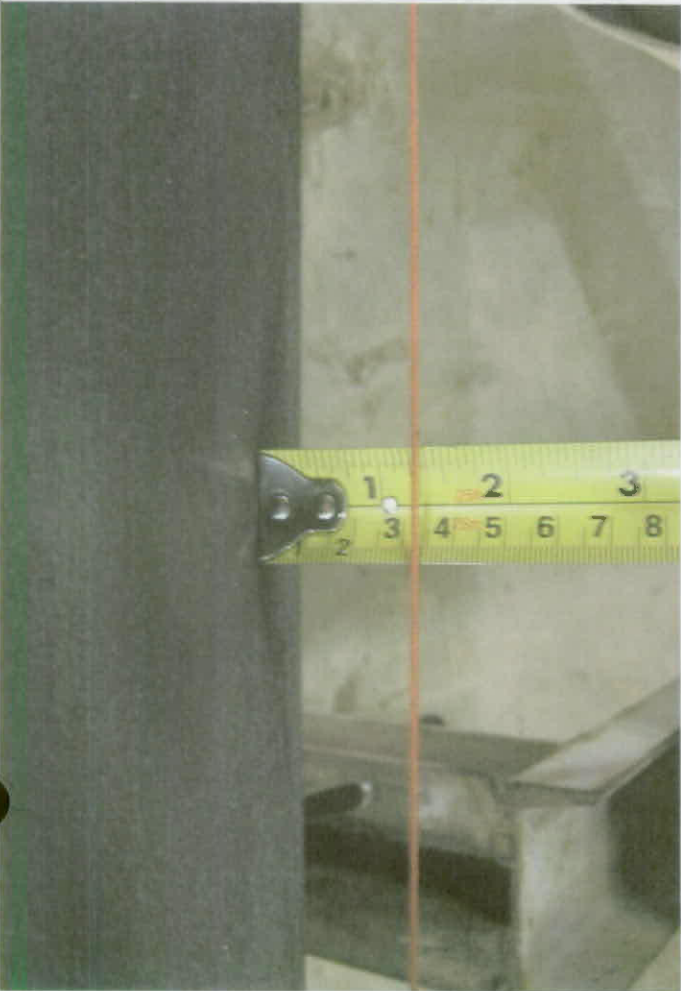
CHART NO. EH-51089



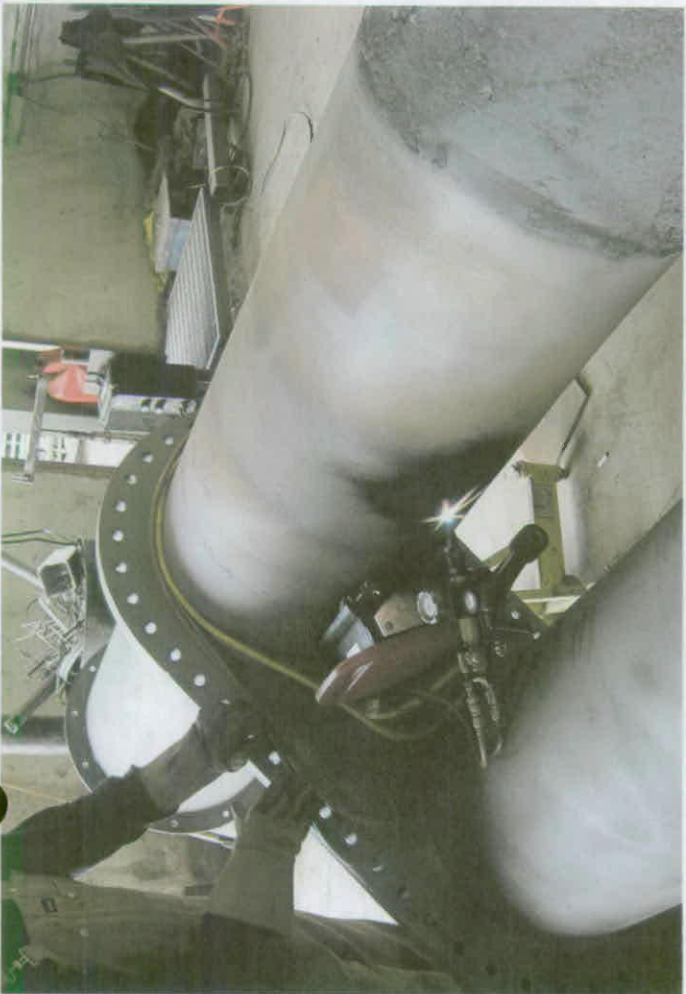
	R&R Strees Relieving Service Ltd	Technician: <u>D Dick</u>	Customer: <u>CNRL BRINTNEL</u>
		Signature: <u>[Signature]</u>	<u>EXACT OILFIELD SHOP</u>
Date: <u>APRIL 2/12</u>	Job No. <u>101</u>	Site:	
Recorder No. <u>170</u>	Chart Speed: <u>50 mm/hr</u>	Chart # <u>01</u>	Set#

Weld#	Weld Dia.	TC#	Weid Description	Weld#	Weld Dia.	TC#	Weid Description
1	20"	1-A	BW				
2	20"	5-9	BW	12-9-81-22-WA			R# 403458 TREATER * 630
3	20"	9-12	BW				B - FIRETUBE











MAGNETIC PARTICLE EXAMINATION REPORT

CLIENT: CNRL DATE: 1-Apr-12 PAGE: 1 OF 2
 INVOICE ADDRESS: BRINTNELL 12-9-81-22 W4M
 EXAMINATION STANDARD: ASME V Article 7 ACCEPTANCE STANDARD: ASME VIII Div 2 Sect 7.5.6.2
 TEAM PROCEDURE: MT, ASME.1 R14 EXAMINATION OF: TREATER 630 A403458 FIRETUBE A

MT - 2167 - HW

TEAM JOB NO.: 2024
 BRANCH NO.: 5311
 PO NO.: _____
 WO NO.: _____

SURFACE CONDITION: AS GROUND MACHINED PAINTED SAND BLAST BASE METAL AS WELDED
 TEMPERATURE: 20 °C

TEST EQUIPMENT AND MATERIALS:		CURRENT		TEST MEDIUM	
<input checked="" type="checkbox"/> EM YOKE	MODEL AND SERIAL NO.	<input checked="" type="checkbox"/> AC	<input checked="" type="checkbox"/> WET VISIBLE	MANUFACTURER / BATCH NO. / CONCENTRATION	
<input type="checkbox"/> PERM. MAGNET	Contour Probe B300 Serial#1563 - 4AMP	<input type="checkbox"/> DC	<input type="checkbox"/> DRY POWDER	Chemtal 8031/32021611	
<input type="checkbox"/> BENCH		<input checked="" type="checkbox"/> CONTINUOUS	<input checked="" type="checkbox"/> CONTRAST PAINT	Ancolor Red/16451	
<input checked="" type="checkbox"/> WHITE LIGHT	MT Yoke Light	<input type="checkbox"/> RESIDUAL	<input type="checkbox"/> WET FLUORESCENT	Chemtal 8901W/65078511	
<input type="checkbox"/> BLACKLIGHT					

BLACK LIGHT INTENSITY BEFORE EXAMINATION: _____ $\mu\text{W}/\text{CM}^2$ BLACK LIGHT INTENSITY AFTER EXAMINATION: _____ $\mu\text{W}/\text{CM}^2$ WHITE LIGHT/BACKGROUND: _____

A VISIBLE WET CONTRAST MT EXAMINATION WAS CARRIED OUT ON THE ITEM(S) DETAILED IN THE PHOTOGRAPH. RECORDABLE INDICATIONS WERE DETECTED DURING THE EXAMINATION. INDICATIONS WERE REMOVED AND REPAIRED. ITEM(S) EXAMINED ARE ACCEPTABLE TO ASME VIII CODE.



SEE CONTINUATION PAGE FOR INDICATION PHOTOS
TREATER A403458 CRN: L0015.2 SN: 97015-3-30

11 HOURS OT
 5 CANS MT SUPPLIES
 DIGITAL CAMERA
 2 OT MEALS

\$1872.20
 \$93.35 GST
 \$1966.55

TECHNICIANS
 INTERPRETATION IS IN ACCORDANCE WITH THE ABOVE MENTIONED STANDARDS, TO THE BEST OF MY PROFESSIONAL ABILITY
 (PRINT): HAROLD WAHLSTROM CGSB/SNT LEVEL: II REG. NO.: 1913 (SIGN): [Signature]
 (PRINT): COLIN EVENSON CGSB/SNT LEVEL: II REG. NO.: 15132 (SIGN): [Signature]

THE ABOVE REPRESENTATION IS A PROFESSIONAL OPINION. FINAL INTERPRETATION IS THE RESPONSIBILITY OF THE CLIENT. I HAVE READ AND AM IN FULL AGREEMENT WITH THE CONTENTS OF THIS REPORT.

CLIENT REPRESENTATIVE: _____ (PRINT): ROGER DLUGOSZ (SIGN): _____

A026 MPE RO

MAGNETIC PARTICLE EXAMINATION CON'T REPORT

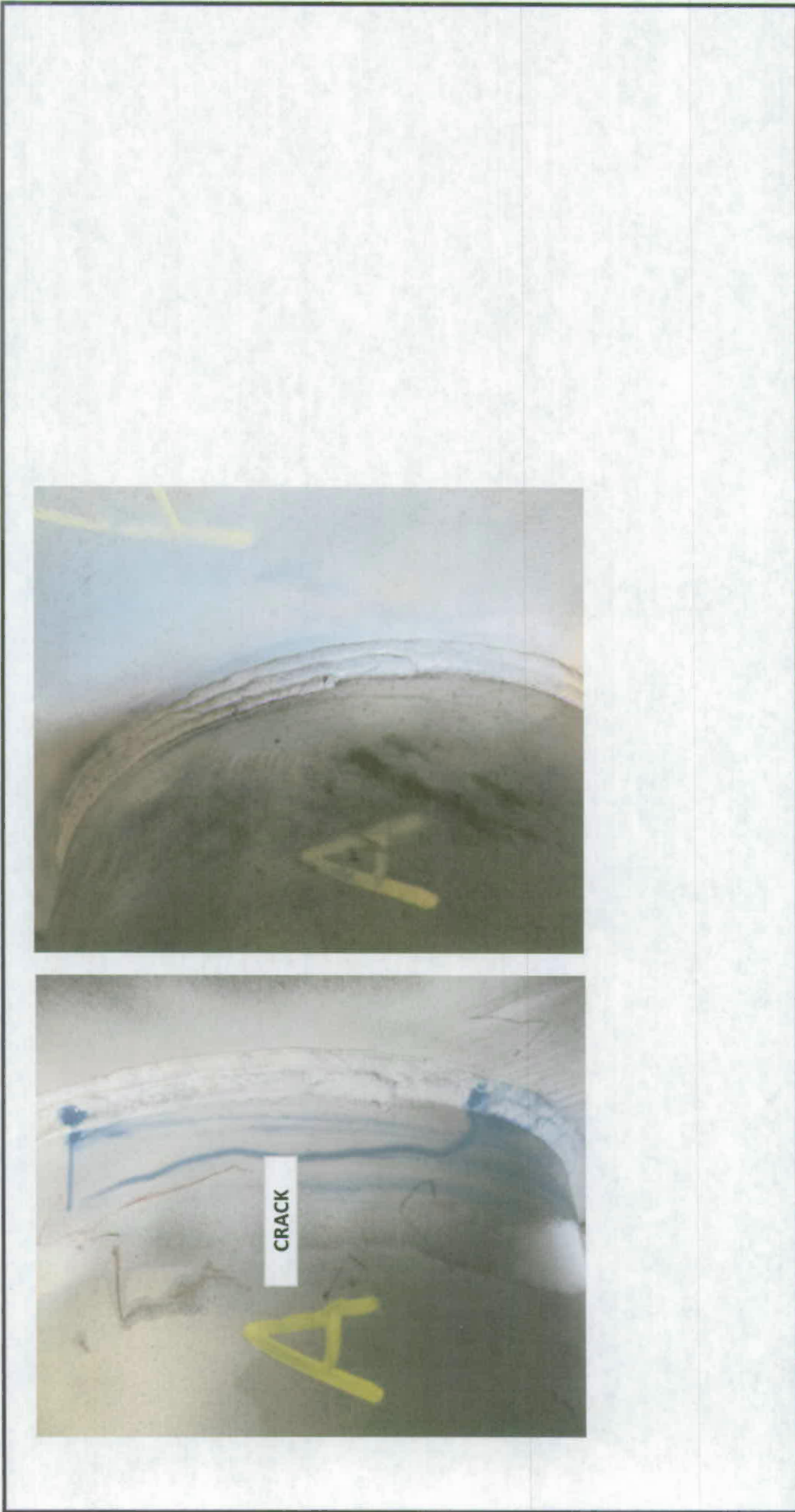
CLIENT: _____
EXAMINATION OF: _____

CNRL
TREATER 630 A403458 FIRETUBE A

DATE: _____
WORK LOCATION: _____

1-Apr-12
BRINTNELL 12-9-81-22 W4M

MT - 2167 - HW



TECHNICIANS

INTERPRETATION IS IN ACCORDANCE WITH THE ABOVE MENTIONED STANDARDS, TO THE BEST OF MY PROFESSIONAL ABILITY

(PRINT): HAROLD WAHLSTROM

II REG. NO.: 1913

(SIGN): _____

(PRINT): COLIN EVENSON

CGSB/SNT LEVEL: _____

II REG. NO.: 15132

(SIGN): _____

THE ABOVE REPRESENTATION IS A PROFESSIONAL OPINION. FINAL INTERPRETATION IS THE RESPONSIBILITY OF THE CLIENT. I HAVE READ AND AM IN FULL AGREEMENT WITH THE CONTENTS OF THIS REPORT.

CLIENT REPRESENTATIVE: _____ (PRINT): _____

(SIGN): _____

A026 MPEC R0

MAGNETIC PARTICLE EXAMINATION REPORT

CLIENT: **ENRL** DATE: **1-Apr-12** PAGE: **1** OF **2**
INVOICE ADDRESS: **BRINTNELL 12-9-81-22 W4M**

EXAMINATION STANDARD: **ASME V Article 7** ACCEPTANCE STANDARD: **ASME VIII Div 1 App 6**
TEAM PROCEDURE: **MT, ASME.1 R14** EXAMINATION OF: **TREATER 630 A403458 FIRETUBE A**

MT - 2169 - HW

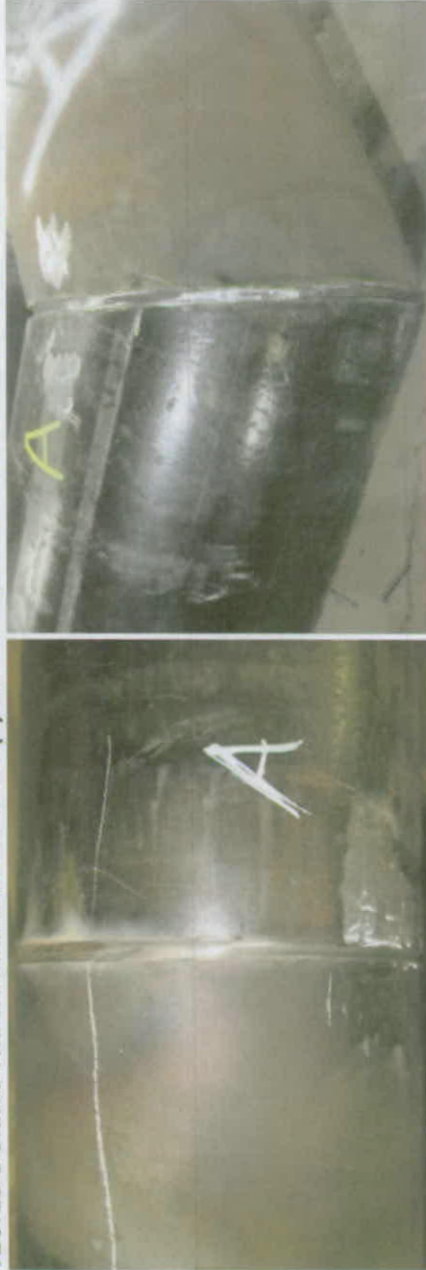
TEAM JOB NO.: 2024
BRANCH NO.: 5311
PO NO.:
WO NO.:

SURFACE CONDITION: AS GROUND MACHINED PAINTED SAND BLAST BASE METAL AS WELDED
TEMPERATURE: 20 °C

TEST EQUIPMENT AND MATERIALS:		CURRENT		TEST MEDIUM	
<input checked="" type="checkbox"/> EM YOKE	MODEL AND SERIAL NO.	<input checked="" type="checkbox"/> AC	<input type="checkbox"/> WET VISIBLE	MANUFACTURER / BATCH NO. / CONCENTRATION	
<input type="checkbox"/> PERM. MAGNET	Contour Probe B300 Serial#1563 - 4AMP	<input type="checkbox"/> DC	<input checked="" type="checkbox"/> DRY POWDER	Chemtal 8031/32021611	
<input type="checkbox"/> BENCH		<input checked="" type="checkbox"/> CONTINUOUS	<input type="checkbox"/> CONTRAST PAINT	Ancolor Red/16451	
<input checked="" type="checkbox"/> WHITE LIGHT	MT Yoke Light	<input type="checkbox"/> RESIDUAL	<input type="checkbox"/> WET FLUORESCENT	Chemtal 8901W/65078511	
<input type="checkbox"/> BLACKLIGHT					

BLACK LIGHT INTENSITY BEFORE EXAMINATION: $\mu\text{w}/\text{cm}^2$ BLACK LIGHT INTENSITY AFTER EXAMINATION: $\mu\text{w}/\text{cm}^2$ WHITE LIGHT/BACKGROUND:

A VISIBLE DRY POWDER MT EXAMINATION WAS CARRIED OUT ON THE ITEM(S) DETAILED IN THE PHOTOGRAPH. NO RECORDABLE INDICATIONS WERE DETECTED DURING THE EXAMINATION. ITEM(S) EXAMINED ARE ACCEPTABLE TO ASME VIII CODE.



5 HOURS OT
DIGITAL CAMERA

\$1278.00
\$63.90 GST
\$1341.90

A026 MPE RO

SEE CONTINUATION PAGE FOR PREPARED ENDS PHOTOS

R. J. Johnson

TECHNICIANS
INTERPRETATION IS IN ACCORDANCE WITH THE ABOVE MENTIONED STANDARDS, TO THE BEST OF MY PROFESSIONAL ABILITY
(PRINT): **HAROLD WAHLSTROM** CGSB/SNT LEVEL: **II** REG. NO.: **1913** (SIGN):
(PRINT): **COLIN EVENSON** CGSB/SNT LEVEL: **II** REG. NO.: **15132** (SIGN):

THE ABOVE REPRESENTATION IS A PROFESSIONAL OPINION. FINAL INTERPRETATION IS THE RESPONSIBILITY OF THE CLIENT. I HAVE READ AND AM IN FULL AGREEMENT WITH THE CONTENTS OF THIS REPORT.

CLIENT REPRESENTATIVE: (PRINT): **ROGER DLUGOSZ** (SIGN):

MAGNETIC PARTICLE EXAMINATION CON'T REPORT

CLIENT: TREATER 630 A403458 FIRETUBE A
 EXAMINATION OF:

CNRL
 DATE: _____

1-Apr-12
 WORK LOCATION: BRINTNELL 12-9-81-22 W/4M

PAGE: _____ OF 2

MT - 2169 - HW



TECHNICIANS

INTERPRETATION IS IN ACCORDANCE WITH THE ABOVE MENTIONED STANDARDS, TO THE BEST OF MY PROFESSIONAL ABILITY

(PRINT): HAROLD WAHLSTROM

(PRINT): COLIN EVENSON

CGSB/SNT LEVEL: _____

CGSB/SNT LEVEL: _____

II REG. NO.: 1913

II REG. NO.: 15132

(SIGN): _____

(SIGN): _____

THE ABOVE REPRESENTATION IS A PROFESSIONAL OPINION. FINAL INTERPRETATION IS THE RESPONSIBILITY OF THE CLIENT. I HAVE READ AND AM IN FULL AGREEMENT WITH THE CONTENTS OF THIS REPORT.

CLIENT REPRESENTATIVE: _____ (PRINT): _____ (SIGN): _____

A026 MPEC R0

MAGNETIC PARTICLE EXAMINATION REPORT

CLIENT: CNRL DATE: 1-Apr-12 PAGE: 2 OF 2
 INVOICE ADDRESS: BRINTNELL 12-9-81-22 W4M
 EXAMINATION STANDARD: ASME V Article 7 ACCEPTANCE STANDARD: ASME VIII Div 1 App 6
 TEAM PROCEDURE: MT.ASME.1 R14 EXAMINATION OF: TREATER 630 A403458 FIRE TUBE B

MT - 2170 - HW

SURFACE CONDITION: AS GROUND MACHINED PAINTED SAND BLAST BASE METAL AS WELDED
 TEMPERATURE: 20 °C

TEST EQUIPMENT AND MATERIALS:

EQUIPMENT	MODEL AND SERIAL NO.	CURRENT	TEST MEDIUM
<input checked="" type="checkbox"/> EM YOKE	Contour Probe B300 Serial#1563 - 4AMP	<input checked="" type="checkbox"/> AC	<input type="checkbox"/> WET VISIBLE
<input type="checkbox"/> PERM. MAGNET		<input type="checkbox"/> DC	<input checked="" type="checkbox"/> DRY POWDER
<input type="checkbox"/> BENCH		<input checked="" type="checkbox"/> CONTINUOUS	<input type="checkbox"/> CONTRAST PAINT
<input checked="" type="checkbox"/> WHITE LIGHT	MT Yoke Light	<input type="checkbox"/> RESIDUAL	<input type="checkbox"/> WET FLUORESCENT
<input type="checkbox"/> BLACKLIGHT			
MANUFACTURER / BATCH NO./ CONCENTRATION			
Chemtal 8031/32021611			
Ancolor Red/16451			
Chemtal 8901W/65078511			

BLACK LIGHT INTENSITY BEFORE EXAMINATION: 1µW/CM² BLACK LIGHT INTENSITY AFTER EXAMINATION: 1µW/CM² WHITE LIGHT/BACKGROUND:

A VISIBLE DRY POWDER MT EXAMINATION WAS CARRIED OUT ON THE ITEM(S) DETAILED IN THE PHOTOGRAPH. NO RECORDABLE INDICATIONS WERE DETECTED DURING THE EXAMINATION. ITEM(S) EXAMINED ARE ACCEPTABLE TO ASME VIII CODE.



SEE CONTINUATION PAGE FOR PREPARED ENDS PHOTOS

TECHNICIANS

INTERPRETATION IS IN ACCORDANCE WITH THE ABOVE MENTIONED STANDARDS, TO THE BEST OF MY PROFESSIONAL ABILITY

(PRINT): HAROLD WAHLSTROM CGSB/SNT LEVEL: II REG. NO.: 1913 (SIGN): [Signature]

(PRINT): COLIN EVENSON CGSB/SNT LEVEL: II REG. NO.: 15132 (SIGN):

THE ABOVE REPRESENTATION IS A PROFESSIONAL OPINION. FINAL INTERPRETATION IS THE RESPONSIBILITY OF THE CLIENT. I HAVE READ AND AM IN FULL AGREEMENT WITH THE CONTENTS OF THIS REPORT.

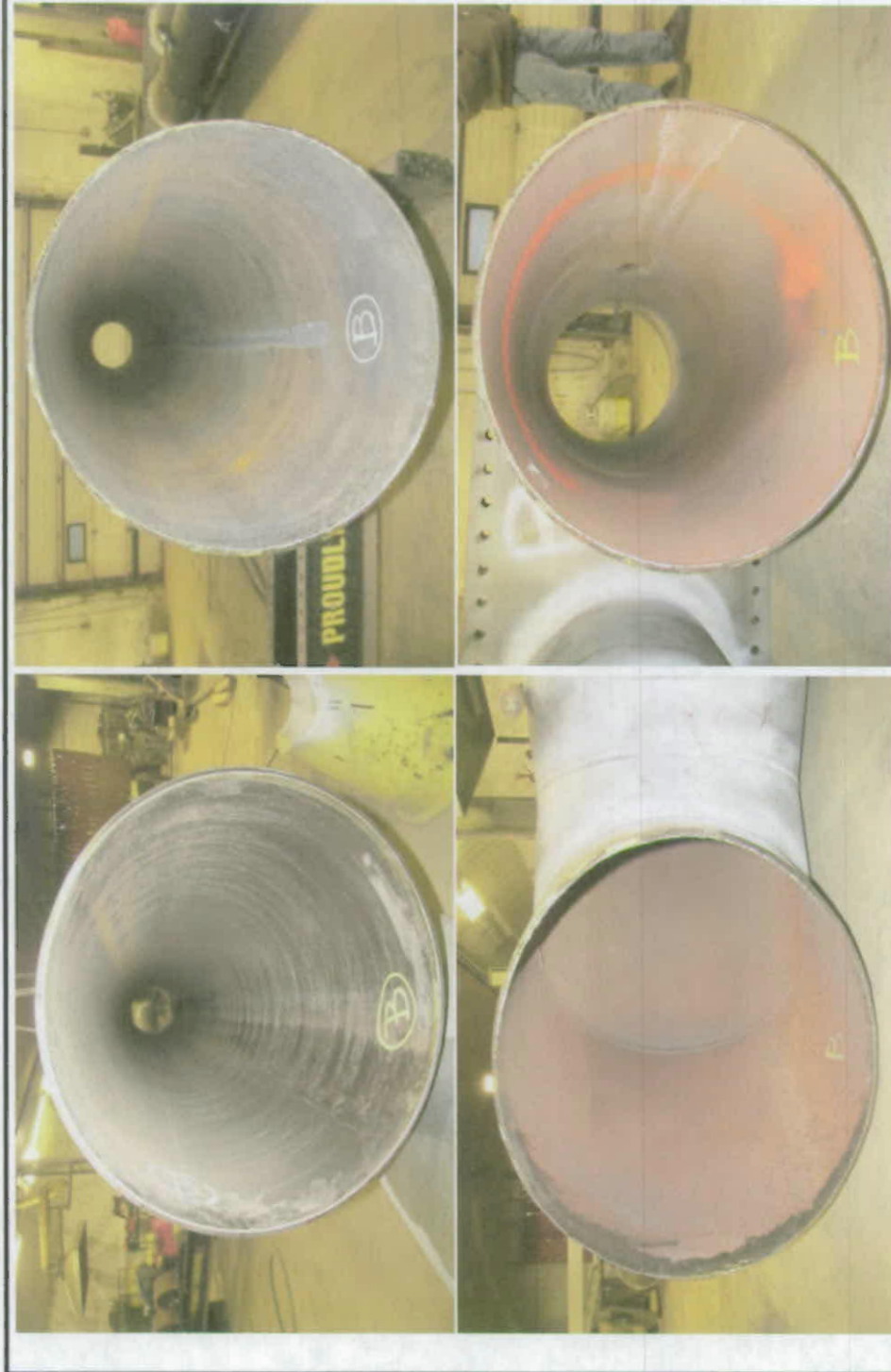
CLIENT REPRESENTATIVE: (PRINT): ROGER DLUGOSZ (SIGN):

A026 MPE R0

MAGNETIC PARTICLE EXAMINATION CON'T REPORT

CLIENT: CNRL DATE: 1-Apr-12 PAGE: 2 OF 2
 EXAMINATION OF: TREATER 630 A403458 FIRETUBE B WORK LOCATION: BRINTNELL 12-9-81-22 W4M

MT - 2170 - HW



A026 MPEC R0

TECHNICIANS
 INTERPRETATION IS IN ACCORDANCE WITH THE ABOVE MENTIONED STANDARDS, TO THE BEST OF MY PROFESSIONAL ABILITY

(PRINT): HAROLD WAHLSTROM

CGSB/SNT LEVEL: II

REG. NO.: 1913

(SIGN): _____

(PRINT): COLIN EVENSON

CGSB/SNT LEVEL: II

REG. NO.: 15132

(SIGN): _____

THE ABOVE REPRESENTATION IS A PROFESSIONAL OPINION. FINAL INTERPRETATION IS THE RESPONSIBILITY OF THE CLIENT. I HAVE READ AND AM IN FULL AGREEMENT WITH THE CONTENTS OF THIS REPORT.

CLIENT REPRESENTATIVE: _____ (PRINT): _____ (SIGN): _____

CLIENT: CNRL
 LOCATION: BRINTNELL 12-9-81-22 W4M
 RT PROCEDURE: RT.ASME.1 R13
 ACCEPTANCE STANDARD: ASME B31.3 NORMAL
 ITEMS EXAMINED: TREATER 630 A403458 CRN: L0015.2 SN: 97015-3-30 FIRETUBE B REPAIR

PAGE 2 OF 2
 DATE: 02/04/2012
 JOB #: 53112024
 PO #:

DEFECT LEGEND IF - INCOMPLETE FUSION IP - INCOMPLETE PENETRATION UC - UNDERCUTTING S - SLAG BT - BURN THROUGH	P - POROSITY HL - HIGH / LOW IC - INTERNAL CONCAVITY LC - LOW COVER	HB - HOLLOW BEAD C - CRACK AC - ARC BURNS EP - EXCESSIVE PENETRATION SH - SHRINKAGE 1 - SLIGHT, 2 - MEDIUM, 3 - SEVERE	CODE LEGEND 1. ASME B31.3 NORMAL 2. ASME B31.3 SEVERE 3. ASME VIII DIV 1 UW 51 4. ASME VIII DIV UW 52	5. ASME B31.1 6. CSA Z 662 7. API 650 8. OTHER	TECHNIQUES 1. SINGLE WALL EXPOSURE 2. DOUBLE WALL EXPOSURE 3. SINGLE WALL VIEWING 4. DOUBLE WALL VIEWING
---	---	--	--	--	---

WELD #	LOCATION	THK	DIA.	WLDG SYM	IF	IP	UC	S	BT	P	IC	LC	TECH #	CODE #	ACC.EPT	REMARKS	REJECT
X 1	508	STD	20	K/R									1/3	3	<input checked="" type="checkbox"/>	1	
X 2	508	STD	20	K						1	1		1/3	3	<input checked="" type="checkbox"/>	2	
															<input type="checkbox"/>	3	
															<input type="checkbox"/>	4	
															<input type="checkbox"/>	5	
															<input type="checkbox"/>	6	
															<input type="checkbox"/>	7	
															<input type="checkbox"/>	8	
															<input type="checkbox"/>	9	
															<input type="checkbox"/>	10	
															<input type="checkbox"/>	11	
															<input type="checkbox"/>	12	
															<input type="checkbox"/>	13	
															<input type="checkbox"/>	14	
															<input type="checkbox"/>	15	
															<input type="checkbox"/>	16	
															<input type="checkbox"/>	17	
															<input type="checkbox"/>	18	
															<input type="checkbox"/>	19	
															<input type="checkbox"/>	20	
															<input type="checkbox"/>	21	
															<input type="checkbox"/>	22	
															<input type="checkbox"/>	23	
															<input type="checkbox"/>	24	

Exposures per Weld	Film Make and Type	Screens	Fils per Cassette	Type of Energy	Physical Size	Activity or K.V.	Maximum Source To Object Distance	Maximum Source To Film Distance	Material	Thickness			IQI		Exp. Time G/min
										Base	Weld	R.F.	Type	Size	
5	GE D5	.010 PB	1	IR 192	2.7 MM	60 CI			CS				DIN	10-16	

This Certificate or Report is valid only for that work which was specifically requested. The Company is not responsible for any views or opinions expressed by employees performing this work which fall outside the contract terms or reference. All certificates and / or reports are the result of work performed in conformance with applicable specifications and standards to the best of our ability and intent. However, the company will not be responsible for deviation within the normal limits of accuracy in accordance with standard practices. Final Code Acceptance shall require Client and Manufacturer

A.M.		P.M.		TOTAL HOURS		KILOMETERS		SUBSISTENCE		CONSUMABLES	
TIME IN	TIME OUT	TIME	TIME	S.T.	hrs.	MAN DAY	OT / MEALS				
				O.T.	hrs.						

Interpretation is done in accordance with the specified code, to the best of my professional ability.

Radiographer: HAROLD WAHLSTROM SNT/CGSB Level: 2 Reg. No.: 1913 Assistant: COLIN EVENSON

I am in full agreement with the contents of this report and accept receipt of the associated film. Client Representative ROGER DLUGOSZ

MAGNETIC PARTICLE EXAMINATION REPORT

CLIENT: CMRL DATE: 3-Apr-12 PAGE: 1 OF 2
 INVOICE ADDRESS: BRINTNELL 12-9-81-22 W4M
 EXAMINATION STANDARD: ASME V Article 7 ACCEPTANCE STANDARD: ASME VIII Div 2 Sect 7.5.6.2
 TEAM PROCEDURE: MT, ASME.1 R14 EXAMINATION OF: TREATER A403458 FIRE TUBE B

MT - 2176 - HW

TEAM JOB NO.: 2024
 BRANCH NO.: 5311
 PO NO.: _____
 WO NO.: _____

SURFACE CONDITION: AS GROUND MACHINED PAINTED SAND BLAST BASE METAL AS WELDED
 TEMPERATURE: 20 °C

TEST EQUIPMENT AND MATERIALS:

EQUIPMENT	MODEL AND SERIAL NO.	CURRENT	TEST MEDIUM
<input checked="" type="checkbox"/> EM YOKE	Contour Probe B300 Serial#1563 - 4AMP	<input checked="" type="checkbox"/> AC	<input checked="" type="checkbox"/> WET VISIBLE
<input type="checkbox"/> PERM. MAGNET		<input type="checkbox"/> DC	<input type="checkbox"/> DRY POWDER
<input type="checkbox"/> BENCH		<input checked="" type="checkbox"/> CONTINUOUS	<input checked="" type="checkbox"/> CONTRAST PAINT
<input checked="" type="checkbox"/> WHITE LIGHT	MT Yoke Light	<input type="checkbox"/> RESIDUAL	<input type="checkbox"/> WET FLUORESCENT
<input type="checkbox"/> BLACKLIGHT			

BLACK LIGHT INTENSITY BEFORE EXAMINATION: $\mu\text{W}/\text{CM}^2$ BLACK LIGHT INTENSITY AFTER EXAMINATION: $\mu\text{W}/\text{CM}^2$ WHITE LIGHT/BACKGROUND:

MANUFACTURER /BATCH NO./CONCENTRATION
 Chemical 8031/32021611
 Ancolor Red/16451
 Chemical 8901W/65078511

A VISIBLE WET CONTRAST MT EXAMINATION WAS CARRIED OUT ON THE ITEM(S) DETAILED IN THE PHOTOGRAPH. NO REJECTABLE INDICATIONS WERE OBSERVED DURING THIS EXAMINATION. ITEM(S) EXAMINED ARE ACCEPTABLE TO ASME VIII CODE.

12 HOUR POST HEAT TREAT INSPECTION
 TREATER A403458 CRN: L0015.2 SN: 97015-3-3



TECHNICIANS
 INTERPRETATION IS IN ACCORDANCE WITH THE ABOVE MENTIONED STANDARDS, TO THE BEST OF MY PROFESSIONAL ABILITY
 (PRINT): HAROLD WAHLSTROM CGSB/SNT LEVEL: II REG. NO.: 1913 (SIGN): H. Wahlstrom
 (PRINT): COLIN EVENSON CGSB/SNT LEVEL: II REG. NO.: 15132 (SIGN): _____
 THE ABOVE REPRESENTATION IS A PROFESSIONAL OPINION. FINAL INTERPRETATION IS THE RESPONSIBILITY OF THE CLIENT. I HAVE READ AND AM IN FULL AGREEMENT WITH THE CONTENTS OF THIS REPORT.
 CLIENT REPRESENTATIVE: _____ (PRINT): ROGER DLUGOSZ (SIGN): _____
 A026 MPE RO

TEAM Industrial Services
Inspection Services Canada

Slave Lake, Alberta
Phone: 780-805-6384
Fax: 780-849-5321
ndtaitec@hotmail.com

**Harold
Wahlstrom**
Senior Technician
Area Supervisor

**POOR QUALITY
CONTROL**



Natural Resources
Canada

Ressources naturelles
Canada



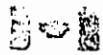
Name/
Nom Harold Wahlstrom

Reg. No. /
No. matricule 1913

Issue Date /
Date d'émission 2011/01/12

Corrective lenses for [X] near [X] far vision.
Verres correctifs pour la vision de [X] près [X] distance.

Signature [



Natural Resources
Canada

Ressources naturelles
Canada

Method Méthode	Level Niveau	Sector Secteur	Cert. Date Date cert.	Date recert. Date recert.	Expires Expiration
MT	2	EMC	1997/06/05		2013/12/31
PT	2	EMC	1997/12/02		2013/12/31
RT	2	EMC	1998/01/01		2013/12/31

TEAM

This certifies that Harold Wahlstrom
has qualified to S.N.T. No.SNT-TC-1A
Radiographic Inspection Level Level II
Magnetic Particle Level Level III
Liquid Penetrant Level Level II
Ultrasonic Testing Level _____
Level III Examiner: S. Banner
Date of Issue: 01 January 2011
Expiry Date: 31 December 2013

VISION ACUITY RECORD

Name: Harold Walstrom

Employee #: 664923

Vision Acuity Results

Near Vision Requirements
Required for All Personnel

Left Eye Right Eye

Uncorrected J -1 @ 12" J -1 @ 12"

Corrected J - @ " J - @ "

- Satisfactory Near Vision (J-1 minimum required in at least one eye)
- Unsatisfactory Near Vision
- Corrective Lenses Required (J-1 requirement in at least one eye met with use of corrective lenses)
- Reading card has been verified IAW 8.1.2.1 of 33.G.103-S8 for personnel certifying to 33.G.103-S4 (CP-189/ASME XI)

Distance Vision Requirements
Branch is Required to Determine Applicability

Left Eye Right Eye

Uncorrected 20/ Snellen 20/ Snellen

Corrected 20/ Snellen 20/ Snellen

- Satisfactory Distance Vision (20/30 Snellen minimum required in at least one eye.)
- Unsatisfactory Distance Vision
- Corrective Lenses Required (20/30 Snellen requirement in at least one eye met with use of corrective lenses)
- N/A (Branch determined non-applicable by Code or contractual agreements)

Color Vision Requirements

Required for All Personnel

(Use Form 103.10a "Color Vision Examination Charts")

- Can differentiate between colors or shades of gray used in method(s)
- Cannot differentiate between colors or shades of gray used in method(s)
- Satisfactory Unsatisfactory Corrective Lenses Required

Deficiencies: None

Brightness Discrimination Requirements

Branch is Required to Determine Applicability

- N/A Satisfactory Unsatisfactory Corrective Lenses Required

Remarks/Restrictions:

Administered By:

Reviewed & Approved By:

Signature: _____

- NDT Level III Signature:
- Resp. Level 3 Signature
- NDT Level III Name:
- Resp. Level 3 Name:

Name: _____

Stan Banner

Signature: _____
Stan Banner

Location: _____

Edmonton

Date: _____

5 November 2010

Date: _____

5 November 2010

Next Examination Date: _____

5 November 2011

Welder's Log and Continuity Log

Exact Oilfield Developing Ltd.

"B" Pressure Welder's Log Control

Welder's Name Welder's Symbol	Ticket #	File #	P Number	F Number	Process	WPS Qualified To	Positions Qualified To	Thickness Range Qualified To	Minimum Pipe Diameter Qualified To	Expiry Date Of Ticket
Uphill Kim Lummerding "K"	# 15817	W-10793	P-1	F-6 F-4	GTAW/SAW	EOD-8	All	.250" - .438"	1" OD	Nov. 16/2012
	# 16813	W-10793	P-1	F-3 F-4	SMAW	EOD-1-2	All	.188" - .684"	1" NPS	Aug. 23/2013
	# 16814	W-10793	P-1	F-3	SMAW	EOD-CSA-2	All	0.436"	1" NPS	Aug. 23/2013
"3" David Edwards Uphill	# 17087	W-10234	P1	F-3 F-4	SMAW	EOD-CSA-2	All	.250" - .186"	1" OD	Nov. 3/2013
	# 17086	W-10234	P-1	F-3 F-4	SMAW	EOD-1-2	All	.104" - Max	1" OD	Nov. 3/2013
Uphill Carmen Conrad "J"	# 17043	W-19732	P-1	F-3 F-4	SMAW	EOD-1-2	All	.104" - Max	1" OD	Oct. 24/2013
	# 17044	W-19732	P-1	F-3 F-4	SMAW	EOD-CSA-2	All	.250" - .186"	1" OD	Oct. 24/2013
Uphill Robin Edwards "R"	# 15800	W-21515	P1 - P8	F-6 F-5	GTAW/SAW	EOD-3	All	.250" - .438"	1" OD	Nov. 4/2012
	# 16034	W-21515	P-1	F-3 F-4	SMAW	EOD-1-2	All	.188" - .500"	1" OD	Feb. 17/2013
	# 16380	W-21515	P-1	F-3 F-4	SMAW	EOD-1-2	All	.104" - Max	1" OD	Apr. 28/2013
Uphill Jeff White "2"	# 17168	W-21857	P1 - P8	F-6 F-5	GTAW/SAW	EOD-3-1	All	.250" - .438"	1" OD	Nov. 30/2013
	# 15828	W-21857	P-1	F-6 F-4	GTAW/SAW	EOD-8	All	.250" - .488"	1" OD	Nov. 18/2012
	# 15503	W-21857	P-1	F-3 F-4	SMAW	EOD-1-2	All	.104" - Max	1" OD	Aug. 4/2012
	# 15504	W-21857	P-1	F-3	SMAW	EOD-CSA-2	1G / 5G	.560"	2.875"	Aug. 4/2012
"G" Brent Ghostkeeper	# 17104	W-17894	P-1	F-6 F-4	GTAW/SAW	EOD-8	All	.250" - .438"	1" OD	Nov. 7/2013
	# 17103	W-17894	P-1	F-3 F-4	SMAW	EOD-1-2	All	.104" - Max	1" OD	Nov. 7/2013

GRB Enterprises Ltd
Edmonton Alberta
WELDER PERFORMANCE QUALIFICATION CARD

AOQP 7107(C)

Name KIM LUMMERDING W-10793
ABSA File Number

This card is issued pursuant to the Safety Codes Act and the Pressure Welders Regulation. The performance qualification is in accordance with Section IX of the ASME BPV Code and subject to the limitations on the reverse side.

Date of Test AUG 23, 2011
Welder Signature [Signature]
Welding Examiner (Print/Type) BRUCE CORNIER GRB Card No. 16813

Performance Qualification GRB Card No. 16813

Process(es) SMAW Materials (P.No.) P1
Filler Metal (F.No.) F3 F4 Min. Outside Pipe Diameter 1" OD
Max Deposited Weld Metal 0.188" 0.684" Position(s) Qualified ALL
Backing WITHOUT WITH WITH Backing Gas NONE
Progression UPHILL #E00 252
P.Q. Expiry Date 2013 Welding Examiner Signature [Signature]
Examiner File No.

GRB Enterprises Ltd
Edmonton Alberta
WELDER PERFORMANCE QUALIFICATION CARD

AOQP 7107(C)

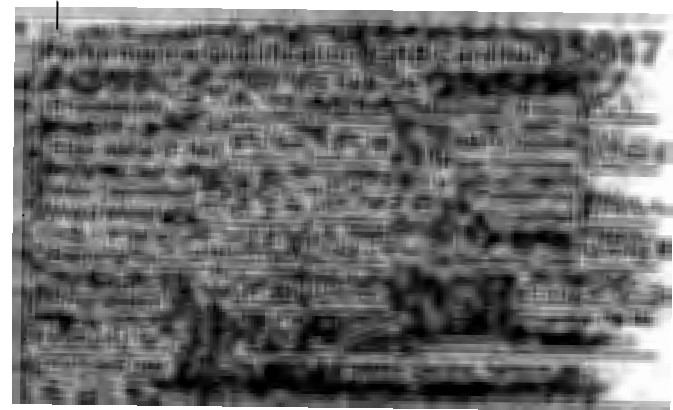
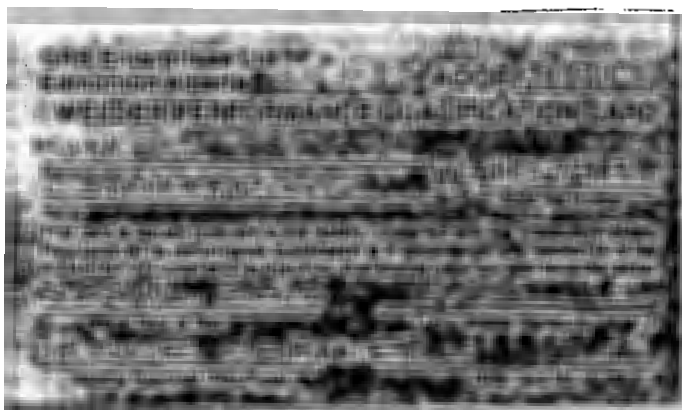
Name KIM LUMMERDING W-10793
ABSA File Number

This card is issued pursuant to the Safety Codes Act and the Pressure Welders Regulation. The performance qualification is in accordance with Section IX of the ASME BPV Code and subject to the limitations on the reverse side.

Date of Test AUG 23, 2011
Welder Signature [Signature]
Welding Examiner (Print/Type) BRUCE CORNIER GRB Card No. 16814

Performance Qualification GRB Card No. 16814

Process(es) SMAW Materials (P.No.) P1
Filler Metal (F.No.) F3 Min. Outside Pipe Diameter 1" OD
Max Deposited Weld Metal 0.436" Position(s) Qualified ALL
Backing WITHOUT WITH WITH Backing Gas NONE
Progression DOWNHILL #E00 252
P.Q. Expiry Date 2013 Welding Examiner Signature [Signature]
Examiner File No.



**POOR QUALITY
CONTROL**

GRB Enterprises Ltd
Edmonton Alberta
WELDER PERFORMANCE QUALIFICATION CARD

AOQP 7107(C)

ROBIN

Name EDWARDS W-21515
ABSA File Number

This card is issued pursuant to the Safety Codes Act and the Pressure Welders Regulation. The performance qualification is in accordance with Section IX of the ASME BPV Code and subject to the limitations on the reverse side.

Date of Test FEB 17, 2011 Welder Signature

BRUCE CORMIER 16034
Welding Examiner (Print/Type) GRB Card No.

Performance Qualification GRB Card No. 16034

Process(es) SMAW Materials (P.No.) P1
Filler Metal (F.No.) F3 F4 Min. Outside Pipe Diameter 1.00
Max Deposited Weld Metal 0.188 0.500 Position(s) Qualified ALL
Backing WITHOUT WITH WITH Backing Gas NONE
Progression UPHILL #E00 252
FEB 17, 2013 P.O. Expiry Date Welding Examiner Signature

GRB Enterprises Ltd
Edmonton Alberta
WELDER PERFORMANCE QUALIFICATION CARD

AOQP 7107(C)

ROBIN

Name EDWARDS W-21515
ABSA File Number

This card is issued pursuant to the Safety Codes Act and the Pressure Welders Regulation. The performance qualification is in accordance with Section IX of the ASME BPV Code and subject to the limitations on the reverse side.

Date of Test APRIL 28, 2011 Welder Signature

BRUCE CORMIER 16380
Welding Examiner (Print/Type) GRB Card No.

Performance Qualification GRB Card No. 16380

Process(es) SMAW Materials (P.No.) P1
Filler Metal (F.No.) F3 F4 Min. Outside Pipe Diameter 1.00
Max Deposited Weld Metal 0.188 0.500 Position(s) Qualified ALL
Backing WITHOUT WITH WITH Backing Gas NONE
Progression UPHILL #E00 252
APRIL 28, 2013 P.O. Expiry Date Welding Examiner Signature

GRB Enterprises Ltd
Edmonton Alberta
WELDER PERFORMANCE QUALIFICATION CARD

AOQP 7107(C)

ROBIN

Name EDWARDS W-21515
ABSA File Number

This card is issued pursuant to the Safety Codes Act and the Pressure Welders Regulation. The performance qualification is in accordance with Section IX of the ASME BPV Code and subject to the limitations on the reverse side.

Date of Test NOV 4, 2010 Welder Signature

BRUCE CORMIER 15800
Welding Examiner (Print/Type) GRB Card No.

Performance Qualification GRB Card No. 15800

Process(es) GTAW SMAW P1 THROUGH Materials (P.No.) P8
Filler Metal (F.No.) F6 F5 Min. Outside Pipe Diameter 1.00
Max Deposited Weld Metal 0.250 0.438 Position(s) Qualified ALL
Backing WITHOUT WITH WITH Backing Gas WITH
Progression UPHILL #E00 252
NOV 4, 2012 P.O. Expiry Date Welding Examiner Signature

POOR QUALITY
CONTROL



HARDNESS CERTIFICATE CERTIFICATO DI DUREZZA

Number / Numero: **11/03976**
Date / Data: **March 01, 2011**

Page / Pagina: **1 / 3**

Dainne S.p.A. - Dainne plant
Piazza Caruli 8 Luglio 1944, 1
24044 Dainne (BG) - Italy
+39 035 500 111 / 1
+39 035 500 3827 fax

Customer / Cliente: VAN LEEUWEN PIPE & TUBE (CANADA) INC.	Customer's Order / Item / Ref. / Ordine Cliente - Item / Posizione Cliente: 1210313/003
Manufacturer's Order / Item / Ref. / Ordine Cliente - Item / Posizione Cliente: 45001375	Manufacturer's Works Order N° / Contiene-Posizione: 1210313/003
Manufacture Process / Processo di fabbricazione:	Surface / Superficie:
Standard or Specification / Norme o specifiche:	See note nr.1 Vedi nota nr.1
See note nr.2 Vedi nota nr.2	Ends / Estremità:
Dimensions / Dimensioni:	Ends / Estremità: BEVELLED AS PER ASTM A 106 CT4 - B395
Length / Lunghezza:	Nominal Weight / Peso nominale:
7000 mm ÷ 11600 mm	SMUSSATI SECONDO ASTM A 106 CT4 - B395
508mm O.D. x 9.52mm W.T.	Quantity / Quantità: 22Pcs/Pz
	818,04 ft
	249.34 mt
	07673 lb
	30696 kg

Delivery Notes Avviso di spedizione	Delivery Notes Avviso di spedizione
Job number: E/502818/5	Town: 128 31 CALGARY
Shipping note:	Country: CDN
Address: 4646 - 32 ST. E.	

Heat N° Cottura N°	Sample N° Prova N°	Specimen condition Stato	Individuals / Individuali			Average / Media			Type of hardness Tipo di durezza	ID	Variation / Variazione
			Min	Max	Scale	Min	Max	Scale			
808489	L2129	B	196.0	197.0	AV	196.5	197.0	AV	138.0	1.5	
808740	L2718	B	196.0	197.0	AV	196.5	197.0	AV	138.0	1.5	
Avg. As manufactured / Come laminato			Max: 249.0			Max: 249.0			Avg: 138.0		
Avg. Average / Media			Max: 249.0			Max: 249.0			Avg: 138.0		
B: Body / Corpo			Max: 249.0			Max: 249.0			Avg: 138.0		
Dist: Diameter from outer diameter / Distanza dal diametro esterno			Max: 249.0			Max: 249.0			Avg: 138.0		
ID: Internal Diameter / Diametro interno			Max: 249.0			Max: 249.0			Avg: 138.0		
Ls: Location of sample / Ubicazione provetta			Max: 249.0			Max: 249.0			Avg: 138.0		
Max: Maximum / Massimo			Max: 249.0			Max: 249.0			Avg: 138.0		

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FORNITORE



HARDNESS CERTIFICATE CERTIFICATO DI DUREZZA

Number / Numero: **11/03976**
Page / Pagina: **2 / 3**

Date / Data: **March 01, 2011**

Dainese S.p.A. - Dainine plant
Piazza Cardillo Luglio 1944, 1
24044 Dainine (BG) - Italy
+39 035 560 111 int.
+39 035 560 3427 fax

Customer / Cliente: VAN LEEUWEN PIPE & TUBE (CANADA) INC.	Customer's Order Item / Rifer. Ordine Cliente - Item / Posizione Cliente: 45001375	Manufacturer's Works Order N° / Conferma-Posizione: 1210313/003
Manufacture Process / Processo di fabbricazione:	Product Type / Tipo di prodotto:	Surface / Superficie:
Standard or Specification / Nome o specificità:	SEAMLESS HOT FINISHED PIPES FOR HIGH TEMPERATURE SERVICES (WITH EXTRA REQUIRE TUBI S.S. PER TRASPORTO DI FLUIDI AD ALTA TEMPERATURA (FUORI STANDARD))	See note nr.1
See note nr.2	Steel Grade / Grado dell'Acciaio:	Ends / Estremità:
Vedi nota nr.2	See note nr.3	BEVELLED AS PER ASTM A 106 CT4 - B395
Dimensions / Dimensioni:	Quantity / Quantità: 22Pcs/7z	SMUSSATI SECONDO ASTM A 106 CT4 - B395
608mm O.D. x 8.52mm W.T.	818,04 ft	Normal Weight / Peso nominale:
	249,34 mt	
	Length / Lunghezza:	
	7000 mm + 11800 mm	
	Schedule / Spessore:	
	7000 mm + 11800 mm	

PRODUCT DESCRIPTION NOTES NOTE DI DESCRIZIONE DEL PRODOTTO

<p>Note 1 is the full description of the 'Surface' INTERNALLY BARE, EXTERNALLY VARNISHED, WITH QUAKERCOAT 854 CLEAR</p> <p>Note 2 is the full description of the 'Standard or specification' ACC. TO ASTM A 106, ASME SA 106 SECT.II PART A, CSA Z245.1-07 APR-07, PSP00373 REV.0 + TEMPLATE LP CAN/4</p> <p>Note 3 is the full description of the 'Steel grade' STEEL GR. B ASTM A 106 /SA 106/290 SS CSA Z245.1 CAT.1</p>	<p>La nota 1 è la descrizione completa della 'Superficie' GREZZI INTERNAMENTE, OLEATI ESTERNAMENTE CON QUAKERCOAT 854 CLEAR</p> <p>La nota 2 è la descrizione completa delle 'Norme o specifiche' NORMA ASTM A 106, ASME SA 106 SECT.II PARTE A, CSA Z245.1-07 APR-07, PSP00373 REV.0 + TEMPLATE LP CAN/4</p> <p>La nota 3 è la descrizione completa del 'Grado acciaio' ACCIAIO GR. B ASTM A 106 /SA 106/290 SS CSA Z245.1 CAT.1</p>
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<p>SEAMLESS HOT FINISHED PIPES VISUAL AND DIMENSIONAL CONTROL: HAS BEEN CARRIED OUT WITH SATISFACTORY RESULT. STEEL IS FULLY MILD AND PRODUCED BY ELECTRIC FURNACE TO A FINE GRAIN PRACTICE. THE PRODUCT SUPPLIED IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE ORDER. MANUFACTURED BY TENARIS DAININE. NO WELD REPAIR, MERCURY AND RADIATION FREE</p>	<p>Supplementary Information / Informazioni supplementari</p> <p>TUBI SENZA SALDATURA FINITI A CALDO. CONTROLLO VISIVO E DIMENSIONALE. L'ACCIAIO È BASSO CARBONIO AGRANO FINO. PRODOTTO AL FORNO ELETTRICO. IL MATERIALE FORNITO È IN ACCORDO A I REQUISITI DELL'ORDINE. FABBRICATO DA TENARIS DAININE. NON RIPARATO MEDIANTE SALDATURA, ESSENTE DA MERCURIO E RADIAZIONI.</p>
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FOR0871



HARDNESS CERTIFICATE CERTIFICATO DI DUREZZA

Number / Numero: **11/03976**
Page / Pagina: **3 / 3**
Date / Data: **March 07, 2011**

Dalmare S.p.A. - Dalmare plant
Piazza Carlioli 8 Luglio 1644, 1
24044 Dalmare (BS) - Italy
+39 035 580 111 tel
+39 035 580 8827 fax

Customer / Cliente: VAN LEEUWEN PIPE & TUBE (CANADA) INC.	Customer's Order Item / Rifer. Ordine Cliente - Item Customer's Reference / Posizione Cliente: 45001375	Manufacturer's Works Order N° / Conferma-Posizione: 1210313/003
Manufacture Process / Processo di fabbricazione:	Product Type / Tipo di prodotto: SEAMLESS HOT FINISHED PIPES FOR HIGH TEMPERATURE SERVICES (WITH EXTRA REQUIRE TUBI S.S. PER TRASPORTO DI FLUIDI AD ALTA TEMPERATURA (FUORI STANDARD))	Surface / Superficie: See note nr.1
Standard or Specification / Norme o specifiche: See note nr.2	Steel Grade / Grado dell'Acciaio: See note nr.3	Ends / Estremità: BEVELLED AS PER ASTM A 106 CT4 - 8399
Dimensions / Dimensioni: Ø 908mm O.D. x 9.52mm W.T.	Quantity / Quantità: 22Pcs/Pz	BEVELLED AS PER ASTM A 106 CT4 - 8399
	Length / Lunghezza: 7000 mm + 11600 mm	Nominal Weight / Peso nominale:
		67873 lb
		30686 kg

This is to certify that the product described here has been manufactured, sampled, tested, and inspected in accordance with purchaser order requirements. This certificate is not a declaration of origin nor may it be used as a declaration of origin.

Si certifica che il prodotto descritto è stato prodotto, provato, testato e controllato in conformità ai requisiti dell'ordine del cliente. Questo certificato non è una dichiarazione d'origine o non può essere usato come tale.

CUSTOMER - THIRD PARTY

INSPECTION COMPANY
COMPAGNIA D'ISPEZIONE

Lattanzi Sabina

QUALITY CERTIFICATION DEPT.
UFFICIO CERTIFICAZIONE QUALITÀ

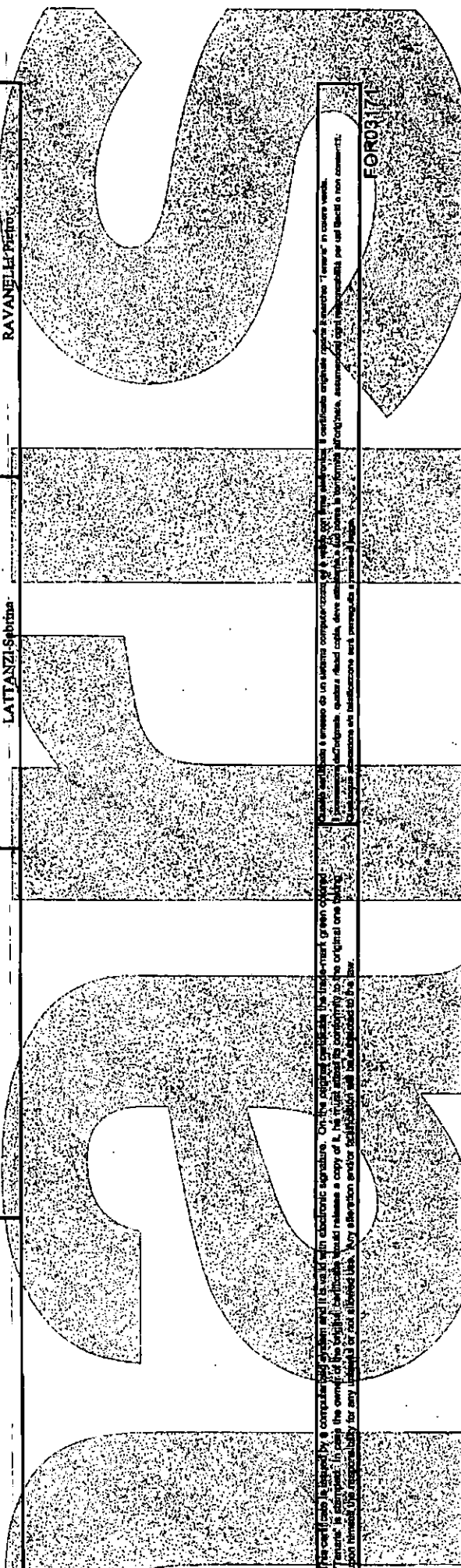
LATTANZI SpA

TENARIS QUALITY DEPARTMENT SIGNATURE

Ravanello Pietro

CHIEF OF QUALITY CERTIFICATION DEPT.
RESPONSABILE DELL'UFFICIO CERTIFICAZIONE QUALITÀ

RAVANELLO Pietro



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