

Quality Control Manual
For
8145BTP-150Z
S/N CSN08943
For HUSKY ENERGY INCORPORATED
Project #: 4504765

Crimtech Services Ltd.
#45, 27429 Township Road 374
Red Deer County, Alberta
T4S 2H4

Phone No. (403) 342-7579

Fax. No. (403) 342-6929



CONSTRUCTION DATA REPORT FOR PIPING SYSTEMS

In accordance with the provisions of the Safety Codes Act

Shop Construction ; Field Construction ; Final Data Report
 Partial Data Report (from one ABSA-authorized Contractor to another ABSA-authorized Contractor).

Complete both sides of this Form

1. Constructed By: Crimtech Services Ltd. S/N CSN08943 Owner's Job No: 4504765
(Name of ABSA authorized primary contractor or subcontractor)
8017 Edgar Industrial Ave. Red Deer, AB, T4P 3S2
(Address)

Alberta Quality Program No. AQP-1330 (S) Expiry Date: Nov 15, 2006

2. Constructed For: Husky Energy Incorporated
(Name of primary contractor if different from above)
707 8 Ave. S.W. Calgary AB. T2P 1H5
(Address)

Alberta Quality Program No. AQP-N/A Expiry Date: N/A
(Required when the primary contractor undertakes some/all of the quality functions e.g. Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

3. Owner: Husky Energy Incorporated 707 8 Ave. S.W. Calgary AB. T2P 1H5
(Name and address)
TBD
(Location of installation)

Alberta Quality Program No. AQP- Expiry Date:
(Required when the owner undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

4. Piping Design Alberta Registration No.: PP-N/A
(Required if aggregate piping volume is over 0.5m³)

5. WP No.: WP-1861.2 ; Company: Crimtech Services Ltd. ; Owner's WP No. (If used): WP-
(Alberta Registration No.) (Alberta Registration No.)
 WPS No(s). used: CRIM 1, CRIM 3 ; Owner's WPS No(s). (If used):

6. Code: ASME B31.1 Non Boiler External Piping ; ASME B31.1 Boiler External Piping
 ASME B31.3 - Service category: Normal , D , M , High Pressure ; B31.5 ; B31.9

Drawing No Rev No Line No.	Fluid (Air/Stm Etc)	Des Press kPa	Des Temp °C	Test Press kPa	Test Medium	Pipe Mat'l Spec & Grade	C A mm	Pipe NPS & Schedule	Flange Material & Rating	PWHT/ Preheat Temp °C	R T %	Other NDE
1010693-PS-01 Rev 0	GAS	6894	38	10341	Water	SA106-B	1 6	½" S160 2" S160	SA105N 600#	N/A	N/A	Visual
1010693-PS-02 Rev 3	GAS	6894	38	10341	Water	SA106-B	1 6	2" S160	SA105N 600#	N/A	10% BW	Visual MPI
1010693-PS-03 Rev 0	GAS	6894/ 1965	38	10341/ 2951	Water	SA106-B	1 6	1" S160	N/A	N/A	N/A	Visual
1010693-PS-04 Rev 3	GAS	6894/ 1965	38	10341/ 2951	Water	SA106-B	1 6	1" S160 2" S160	N/A	N/A	N/A	Visual
1010693-PS-05 Rev 1	GAS	6894/ 1965	38	10341/ 2951	Water	SA106-B	1 6	1/2" S80 1/2" S160 1" S80	N/A	N/A	N/A	Visual
1010693-PS-06 Rev 0	GAS	1965	38	N/A	Air	SA106-B	1 6	3" S40	N/A	N/A	N/A	Visual
1010693-PS-07 Rev 0	GAS	1965	38	N/A	Air	SA106-B	1 6	½" S80	N/A	N/A	N/A	Visual

Partial Data Reports, properly identified and certified by ABSA-authorized contractors, as listed below are attached to and form part of this Data Report

No.	Line No.	Spool No.	Dr. No. (with Rev. No.)	Contractor (Name)	AQP No.	Expiry date

Remarks: Provide additional comments including noting any code work that was not performed by the ABSA-authorized contractor(s) supplying this document as a Partial Data Report but which must be completed by another ABSA-authorized contractor who assumes overall responsibility for conformance with the Safety Codes Act & Regulations and applicable ASME Codes, and who assures that all required code work is completed prior to putting the piping system into service.

Endorse certificate 'A' or 'B'

A. CERTIFICATE OF COMPLIANCE

Signed by the subcontractor when supplying this certificate as a Partial Data Report

We certify that the statements in this Data Report are correct and that materials, construction and workmanship of the piping fabrication conform to the registered quality system and the applicable Piping code(s).

Date: _____
Subcontractor

Print Authorized Representative's Name Signature

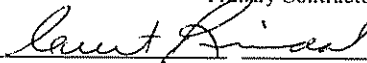
This certificate is not valid unless it forms part of a Final Data Report signed by Primary Contractor

B. CERTIFICATE OF COMPLIANCE

Signed by the primary contractor when supplying this certificate as a Final Data Report

We certify that the statements in this Data Report are correct and that piping job no. 4504765 described in this Data Report was constructed in accordance with the Province of Alberta Safety Codes Act and Regulations, and applicable ASME Piping Code(s).

Date: Jan. 25, 2006 Crimtech Services

Primary Contractor
Curt Rindal 

Print Authorized Representative's Name Signature

CERTIFICATE OF INSPECTION

I, the undersigned, employed by _____ have inspected the piping job no. _____ described in this Construction Data Report and state that, to the best of my knowledge and belief, the Contractor has constructed this piping in accordance with the applicable Sections of the ASME Piping Codes and Province of Alberta Safety Codes Act and Regulations.

Date: _____

Date: _____

Print Owner's Inspector's Name Owner's Inspector's Signature

Name: _____ Sign: _____
ABSA Safety Codes Officer
(BOILER EXTERNAL PIPING ONLY)



CRIMTECH SERVICES LTD.
PRESSURE TEST EXAMINATION
CHECKLIST CSN 08943

PRESSURE TEST PREPARATION	Q.C. INSP
1. All punch list items corrected.	/
2. Test blinds are of correct thickness	OK
3. All items which could be damaged by test isolated or removed (control valves, safety valves, instruments, expansion joints, etc.)	OK
4. Equipment with internals (i.e. filters) that could be damaged, isolated as required.	OK
5. Vents and drains correctly installed.	OK
6. Open and Closed position of all valves verified.	OK
PRESSURE TEST COMPLETION	
	Q.C. INSP.
1. All temporary blinds (blanks) removed.	OK
2. Temporary gaskets changed for correct gaskets.	/
3. Temporary supports removed.	/
4. Piping drained of all fluids.	OK
Q.C. Inspector Signature: X <i>Laurit Rindal</i> Date: January 5, 2006	

HYDROSTATIC TEST REPORT

Client: Husky Energy Date: January 5, 2006
 Facility: _____ Location: Crimtech Services Ltd., Red Deer
 Project: 4504765 Contractor: _____
 Description of Product: Model 8145BTP-150Z, Vessel s/n 14532, Spool s/n's 13714, 13723,
Meter XJ53601-14, Scrubber s/n 14174 & various Threaded piping. CSN 08943
 Test Medium: Water
 Tests Conducted By: Cliff Stockman
 Test Pressure: 1500 psi
 Holding Time at Test Pressure: Minimum 15 Minutes.
 Results: No visible leaks or drop in hydrostatic pressure during test.

Test Gauge No's: 203041-2-1 203041-2-2 Recorder No: N/A
 Crimtech Quality Control Inspector: X *Laurit Rindal*
 Client Representative (if witnessed): *[Signature]*
 Comments: _____

Laurit Rindal
Signature of Quality Control Manager

CRIMTECH SERVICES LTD.
PNEUMATIC TEST REPORT



Client: Husky Date: January 24, 2006
Facility: _____ Location: _____
Project: 4504765 Contractor: _____
Description of Product: 8145BTP – 150Z
CSN08943

Test Medium: Air
Tests Conducted By: Curt Rindal
Test Pressure: 125 psi
Hold Time at Test Pressure: 15 minutes minimum

Step No.:	1						
Pressure:	125 psi						
Hold Time:	15 min.						

Test Gauge No's: --
Crimtech Quality Control Inspector: *Curt Rindal*
Client Representative: _____
Comments: All connections were sprayed with a water/soap solution. There were no visible leaks at time of test. All functions correct.

Curt Rindal
Signature of Quality Control Manager



1903 SE 29th Street
 Oklahoma City, OK 73129
 405-672-6660, Fax 405-672-6661

Date: 8/26/2005

Safety Relief Valve Test Certification

WellMark Sales Order #: 96133
 Serial Number: 96133-56
 Representative W/H: _____

Customer: _____
 Customer P.O. #: _____
 Reference#: _____

Wellmark safety relief valves are manufactured and tested in accordance with the requirements of the ASME boiler and Pressure Vessel Code Section VIII Division 1. The relieving capacities have been certified, as required by the National Board of Boiler and Pressure Vessel Inspectors. The Valve is guaranteed to relieve within plus or minus 2 psi of the set pressure 70 psig or below, and plus or minus 3% of set point for pressures above 70 psig, as allowed for in the provisions of ASME.

Valve Specifications

Model Number :	<u>W9501-RSA 200</u>	Spring Range :	<u>25-200</u>
Part Number :	<u>40841-200</u>	Orifice Diameter :	<u>0.5</u>
Inlet Connection :	<u>1"</u>	Orifice Area :	<u>0.196</u>
Outlet Connection :	<u>1"</u>	Seat :	<u>Viton</u>

Materials

Body :	<u>WCB</u>	Top Configuration :	<u>Closed Top</u>
Seat Material :	<u>Stainless Steel</u>	Seat Frame :	<u>Carbon Steel</u>
Guide Material :	<u>Stainless Steel</u>	Ball or Disc :	<u>17-4 PH Stainless Steel</u>
Elastomer Seals :	<u>Viton</u>	Spring :	<input type="checkbox"/> 17-7 Stainless Steel
Seat Seal :	<u>Viton</u>		<input checked="" type="checkbox"/> 302 Stainless Steel
			<input type="checkbox"/> Inconel

Test Information

Test Date : 8/26/2005
 Set Pressure : 125
 ASME High limit : 129
 ASME Low Limit : 121

Relief Capacity 366 SCFM Specific Gravity = 1 Temp = 60 Degrees F
 Air

Printed By : Dick Pflieffer
 Title : Engineering & Manufacturing

Signed : 



TEST REPORT

BRANCH: Red Deer

Serial #: 204232

Work Order: 72071

Customer PO#: 120156

Date: 9/26/05

Customer: CRIMTECH SERVICES

Facility: RED DEER

LSD:

PSV Location:

A#:

Cust Id:

Cust. Ref.:

Valve PO: 120156

VALVE DATA

Man.: Mercer	Model: 91-17D51T13E1	Serial: 204232
Conn: Threaded	Inlet: 1 inch MNPT	Orifice: D
Set Pres: 1000 PSI	Back Press: PSI	Temp: Cold/Diff Set Press: PSI
Lift Lever:	Cap Assembly: Closed	Trim: Standard
		Code Symbol: UV
		Cap: 2041 SCFM
		CRN#: 0G8841 5C

CUSTOMER INSTRUCTIONS

Valve Instruct. Factory Set	Instructions: Sold New Valve	Reset Required?
RESET INFORMATION: <i>New Pressure:</i>	<i>New Cold/Diff Set:</i>	<i>New Capacity:</i>

COMPONENTS INSPECTION

Components Installed

Components Removed

New Model #: 91-17D51T13E1	Spring #: 05-013	New Inlet Size:
Trim: Standard	Valve Medium: Gas / Air	Temperature:
Disassembly:	Inspection: Karen Fegan	Reassembly:

FINAL TEST:

Test Medium:	Simmer:	Set Pressure:
Reseat:	Leakage: BPM	B.P. Test:
Test Gauge:		Cold/Diff Set:
Tested by:		

FINAL INSPECTION:

SEAL Installed: ✓	End Protectors Installed: ✓	Painted:	Palletized:	Ship Container: ✓	Flex Gaskets Supplied:
Final Inspection: Karen Fegan	Customer Inspection			INSPECTION ID#: 2461	
Comments:					



the pressure equipment safety authority

Certificate of Authorization

Quality Control Program

Expiry Date: **December 9, 2007**

Reg. No.: **AQP-5046**

This is to certify that:

**NUFLO MEASUREMENT SYSTEMS
A NUFLO TECHNOLOGIES COMPANY
9207 - 34A AVENUE
EDMONTON, ALBERTA**

having complied with the provisions of the SAFETY CODES ACT, is hereby authorized to:
Manufacture Category 'F' Fittings in accordance with CSA B51
at the above SHOP address.



Dated at Edmonton, this 3rd day of March, 2005

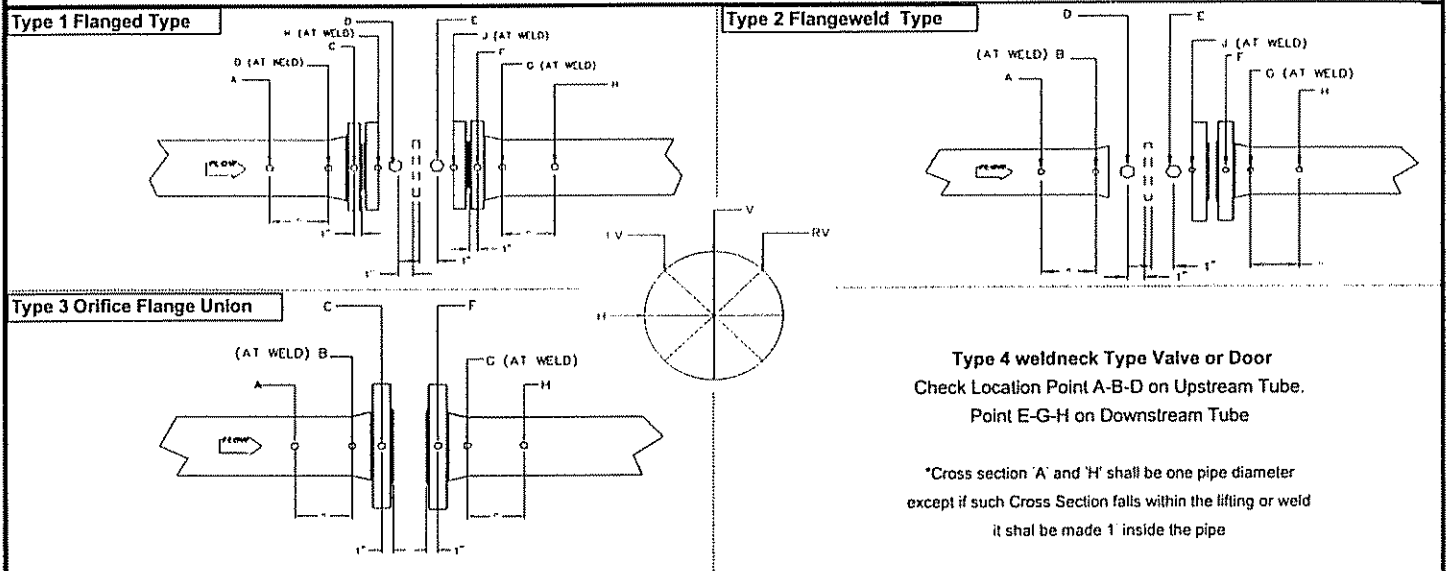
Chief Inspector and Administrator

Certificate No.: 4486

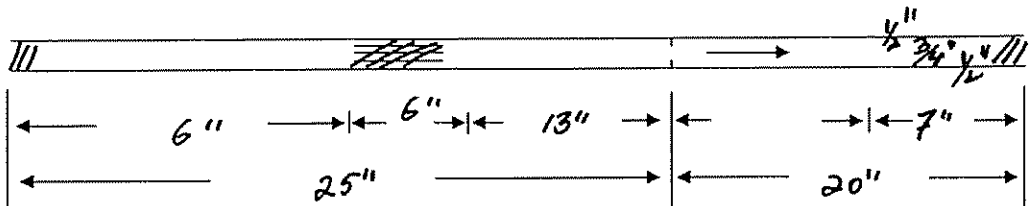
Meter Tube Calibration Record

General Specifications

Customer:	CRIMTECH SERVICES LTD.	Date:	OCTOBER 17/2005
Location:	STOCK	P.O. Number:	120152
Serial No.	XJ53601-14	Work Order No.	XJ53601
Assembly Part No.	40982-000-A0013	Part No.	40422-34321
Orifice Fitting:	2" 600# SCH. 160 SINGLE CHAMBER	Meter Tube Type No.	2
Straightening Vain:	Yes	X	No




Location	Upstream Meter Tube					Downstream Meter Tube					
	A	B	C	D	K	E	F	G	H	J	
V	1.697	1.685		1.685		1.685	1.694	1.690	1.697	1.690	
LV	1.696	1.682		1.685		1.685	1.695	1.692	1.697	1.687	
RV	1.697	1.687		1.685		1.685	1.694	1.687	1.695	1.682	
H	1.696	1.677		1.685		1.685	1.695	1.697	1.697	1.682	
Average	1.696	1.683		1.685		1.685	1.694	1.691	1.696	1.685	
Upstream Mean Average to Stamp on I.D. Plate					1.685	Downstream Mean Average to Stamp on I.D. Plate					1.685




AGA/API Figure	3c	BETA	0.61	Meter Tap Location	Upstream	1"	Downstream	1"
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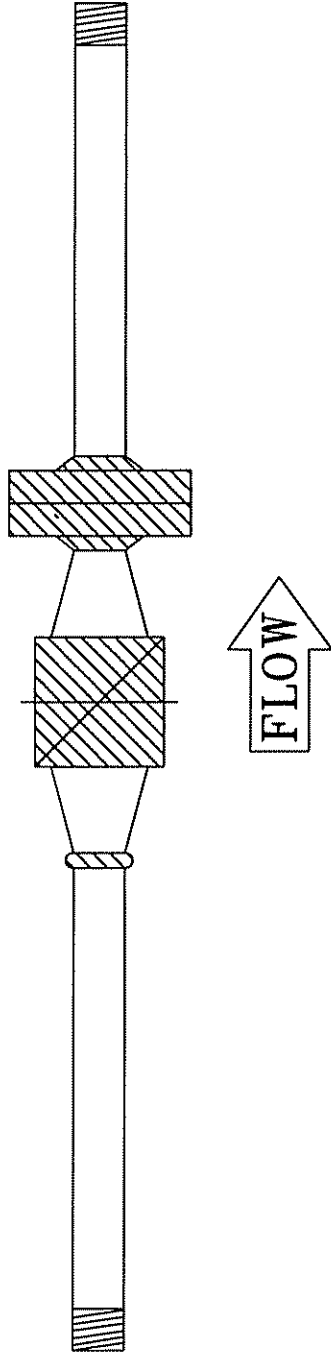
Remarks: 68°F

Inspector: V. Reddy

 PRODUCT OF CANADA					
SINGLE CHAMBER	40422 - 34321				
SIZE	2.0	SER. NO.	XJ53601-14		
BORE	1.687	W.P.	1480	FLG.	600
TRIM	SWEET	C.R.N. NO.	0F1120.213		

 EDMONTON, ALBERTA, CANADA					
METER RUN ASSY. NO.	40982 - 000 - A0013				
SER. NO.	XJ53601-14	U.S. (D)	1.685	MAX. BORE	1.685
PIPE SIZE	2.0	SCH.	160	D.S. (D)	1.685
AGA / API	3 C	d/D	0.61	RATING	600
W.O. NO.	XJ53601	DATE	10 / 05	CALIBRATION CERTIFIED BY	NuFlo

WELD IDENTIFICATION MAP



DESCRIPTION: 2" 600# SCH.160 SINGLE CHAMBER METER RUN
 SERIAL No.: XJ53601-14
 CUSTOMER: CRIMTECH SERVICES LTD.
 P/O No.: 120152 TAG No.: STOCK
 W/O No.: XJ53601 END USER:
 WELDER: BRIAN WALSH FILE No.: W-9657
 DATE: OCT. 18/2005 *Margie Mahoney*
 SYMBOL: S QUALITY ASSURANCE INSPECTOR



NuFlo Measurement Systems

9207 - 34A AVENUE
 EDMONTON, ALBERTA
 T6E 5T6

Alberta

LABOUR
Employment Services Division
Alberta

Grade - II - Pressure Welders

Certificate of Competency

Brian R. Walsh

This is to certify that
the holder of this certificate has
successfully completed the requirements of the Safety and Pressure Vessels Act in
accordance with the provisions of the Safety and Pressure Vessels Code of Competency, and
is authorized to engage in pressure welding in accordance with the professional
regulations.



W-9657
ABS File No.

26
February 1988

Form No. CG-1 (01/75)

No 0982

PERFORMANCE QUALIFICATION **E 7031**

Process(es) SMAW Materials (P.No.) PI

Filler Metal Group (F.No.) F3 FA Min. Outside Diameter 1.000

Max. Deposited Weld Metal 0.188" 0.684" Position(s) Qualified Flat

Backing without with Backing Gas N/A

Progression N/A N/A

March 9, 2006 P.Q. Expiry Date

Welding Examiner Signature [Signature] Examiner File No. E-00075



A.O.Q.P. No. 7106 (c)
LUDWIG & ASSOCIATES LTD.

Materials and Welding Engineering

WELDER PERFORMANCE QUALIFICATION CARD

Name: Brian Walsh ABSA File No. W-9657

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

March 9, 2006 Date of Test

[Signature] Signature of Welder or Machine Operator

Andrew Elsh Welding Examiner (Print/Type) Card No. **E 7031**



A.O.Q.P. No. 7106 (c)

LUDWIG & ASSOCIATES LTD.

Materials and Welding Engineering

WELDER PERFORMANCE QUALIFICATION CARD

Name: BRIAN WALSH ABSA File No. W-9657

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

August 24, 2005 Date of Test

[Signature] Signature of Welder or Machine Operator

R. GOTTSCHLICH Welding Examiner (Print/Type) Card No. **E 7559**

PERFORMANCE QUALIFICATION **E 7559**

Process(es) GMAW FCAW Materials (P.No.) PI

Filler Metal Group (F.No.) F6 F6 Min. Outside Diameter 1.0 in. O.D.

Max. Deposited Weld Metal 0.110 in. 0.684" Position(s) Qualified FLAT FCAW: FLAT

Backing WITHOUT WITH Backing Gas Without

Progression Downhill N/A

August 24, 2007 P.Q. Expiry Date

[Signature] Welding Examiner Signature Examiner File No. E-00037

Product# . . . : 40726-015
Customer Part#: 40726-015
Customer . . . : NuFlo Measurement Systems
9207 - 34A Avenue
Edmonton AB T6E 5T6
Canada

Order/Item# . . : 26439 / 2
Customer P.O.#: XP50391



Prepared by: _____
Quality Assurance Technician

2" S/C BODY

Heat Treatment: NORMALIZED AND TEMPERED

Melt#	Quantity	Date	Heat Treat	BATCH #	Specification
5-7753	42	5/03/05		A37 -	ASTM A216 GRADE WCB

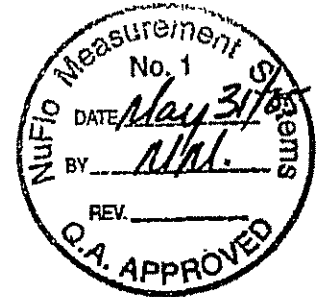
. C H E M I C A L S

C :.1900	MN:.8430	SI:.4900	P :.0220
S :.0190	NI:.0630	CR:.3380	MO:.0770
CU:.1360	V :.0100		

. P H Y S I C A L S

YIELD KSI	46.3	TENSILE KSI	77.7
ELONGATION %	32	RED OF AR. %	65

CE: .4287



MATERIAL TEST REPORT

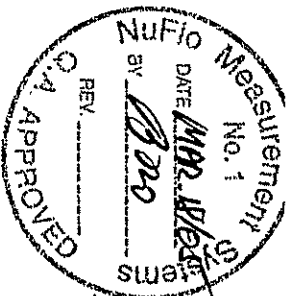
9670-187th Street, Surrey, BC Canada V4N 3N6
Phone 604-888-8444 Fax 604-888-3634
www.highlandfoundry.com

ISO 9001:2000

MATERIAL TEST REPORT

Date: 13-Jan-05
 Customer: NuFlo Measurement Systems
 Purchase Order: XP00076

Pattern: 40726-002 (B510274)
 Description: 2" Single Chamber Lid
 Material: ASTM A216 WCB
 Heat Treatment: Normalized & Tempered



Heat No.	Chemistry											CE
	C	Mn	Si	P	S	Cr	Ni	Mo	V	Cu		
	max -> Qty in Batch	0.300	1.000	0.600	0.040	0.045	0.500	0.500	0.200	0.030	0.300	
04-12	120	0.237	0.899	0.376	0.025	0.023	0.108	0.026	0.010	0.015	0.047	4183
04-13	120	0.228	0.735	0.458	0.031	0.027	0.083	0.027	0.034	0.012	0.045	3811
04-14	120	0.245	0.672	0.523	0.015	0.015	0.072	0.057	0.025	0.013	0.051	3862
04-15	120	0.249	0.825	0.514	0.021	0.023	0.067	0.028	0.017	0.010	0.057	4109
04-16	120	0.213	0.917	0.476	0.025	0.023	0.091	0.022	0.023	0.014	0.055	3965
04-17	120	0.240	0.864	0.425	0.015	0.017	0.041	0.032	0.035	0.012	0.049	4070
04-18	120	0.233	0.769	0.400	0.021	0.023	0.067	0.021	0.048	0.015	0.042	3913
04-19	120	0.211	0.754	0.396	0.019	0.017	0.083	0.035	0.040	0.010	0.057	3694
04-20	140	0.209	0.692	0.453	0.015	0.015	0.049	0.042	0.035	0.013	0.048	3497

MECHANICAL PROPERTY REPORT

Date: 13-Jan-05

Customer: NuFlo Measurement Systems

Purchase Order: XP00076

Pattern: 40726-002 (B510274)

Description: 2" Single Chamber Lid

Material: ASTM A216 WCB

Equipment: King Portable Hardness Tester

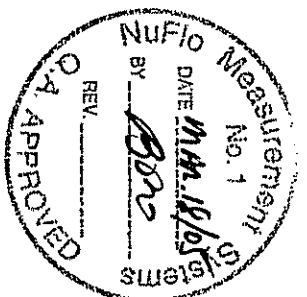
Type of Ball: Regular

Load: 3000 kg

Holding Time: 10 secs

Hardness Required: 237 Max (Brinell)

Heat Treatment: Normalized & Tempered



Heat No.	Qty in Batch	T.S. MPA	Y.S. MPA	Elong. %	R.A.	Hardness Obtained								% of Batch Tested
04-12	120	490	268	24	39	145	148	145	145	145	147	149	10%	
						150	145	144	145	148	149			
04-13	120	495	265	27	42	144	145	147	150	145	150	10%		
						145	144	148	144	150	149			
04-14	120	501	270	23	37	145	148	147	150	144	149	10%		
						150	144	144	148	145	150			
04-15	120	500	272	28	40	145	144	148	145	147	144	10%		
						145	148	145	144	147	144			
04-16	120	495	270	26	43	144	148	145	150	150	144	10%		
						145	147	150	150	148	146			
04-17	120	493	265	25	42	148	145	150	148	144	145	10%		
						145	145	148	144	148	150			
04-18	120	498	274	28	39	150	144	145	144	150	148	10%		
						148	145	150	144	148	150			
04-19	120	501	271	25	40	144	150	144	147	145	150	10%		
						150	145	150	144	144	145			
04-20	140	495	273	23	39	145	150	144	145	144	150	10%		
						145	150	144	148	150				
						148	145							

HEAT NUMBER : 75737
 TRANS AM PIPING PRODUCTS - REV'D BY
 Shipment/Seq # 5 5 - 1110 10

2" 600# W/N FLANGE RF SCH 160
 BORE A105N



METALFAR
 PRODOTTI INDUSTRIALI S.P.A.
 23861 GESANA DI SANVA (LO) ITALY
 Tel. 031 656441 Fax 031 655149
 MATERIAL TEST DEPARTMENT
 SALA PROVE ED ANALISI MATERIALI

COMPANY
 WITH QUALITY MANAGEMENT
 SYSTEM CERTIFIED BY DNV
 = ISO 9001:2000 =

TRANS AM PIPING PRODUCTS LTD
 7025 44TH STREET SE 72C188
 CALGARY-ALBERTA

INSPECTION CERTIFICATE DIN 50406/3-1B EN 10204/3 1B ** CERTIFICATO DI COLLAUDO

INVOICE / FATURA 791/ 03/03/2005
 S. 40596 720/ 02/03/2005
 DEL. NOTE / SOLLA 1581/ 02/03/2005

HEAT CODE COD. COLANA	HEAT COLANA	ITEM POS.	YOUR P.O. VS. ORDER	OUR REFERENCE VS. ORDER	QUANTITY QUANTITA'	DESCRIPTION DESCRIZIONE	DIN IN ACCORDANCE TO DIN IN ACCORDO A	VISUAL & DIMENSIONAL ISPEZIONE E DIMENSIONALE												
75737	75737	0035	C105-155	05000072 0047	W/N 600 RF 2" 160	A105	ASME/ANSI B16.5	SATISFACTORY												
38497	38497	0020	C104-563	05000072 0047	W/N 600 RF 2" 160	A105	ASME/ANSI B16.5	SATISFACTORY												
38497	38497	0039	C105-100	05000072 0047	W/N 600 RF 2" 160	A105	ASME/ANSI B16.5	SATISFACTORY												
38497	38497	0020	C104-565	05000072 0047	W/N 600 RF 2" 160	A105	ASME/ANSI B16.5	SATISFACTORY												
75737	75737	0039	C105-100	05000072 0047	W/N 600 RF 2" 160	A105	ASME/ANSI B16.5	SATISFACTORY												
75737	75737	0035	C105-155	05000072 0047	W/N 600 RF 2" 160	A105	ASME/ANSI B16.5	SATISFACTORY												
75737	75737	0015	ASPM A 105	ASPM A 105	0.200	0.190	0.130	0.010	0.070	0.050	0.010	0.023	0.130	0.025	0.001	0.000	0.025	0.420	ACC	B1VA
38497	38497	0020	ASPM A 105	ASPM A 105	0.185	0.240	1.110	0.010	0.140	0.100	0.024	0.015	0.200	0.022	0.001	0.000	0.026	0.420	ACC	CARBONO
75737	75737	0039	ASPM A 105	ASPM A 105	0.200	0.190	1.130	0.010	0.070	0.050	0.010	0.033	0.130	0.025	0.001	0.000	0.025	0.420	ACC	B1VA
38497	38497	0020	ASPM A 105	ASPM A 105	0.185	0.240	1.110	0.010	0.140	0.100	0.024	0.015	0.200	0.022	0.001	0.000	0.026	0.420	ACC	CARBONO
75737	75737	0039	ASPM A 105	ASPM A 105	0.200	0.190	1.130	0.010	0.070	0.050	0.010	0.033	0.130	0.025	0.001	0.000	0.025	0.420	ACC	B1VA
75737	75737	0039	ASPM A 105	ASPM A 105	0.200	0.190	1.130	0.010	0.070	0.050	0.010	0.033	0.130	0.025	0.001	0.000	0.025	0.420	ACC	B1VA
75737	75737	0035	ASPM A 105	ASPM A 105	0.190	0.160	0.950	0.022	0.011	0.080	0.010	0.013	0.170	0.022	0.001	0.000	0.006	0.382	ACC	B1VA
75737	75737	0045	126 60	50 80	344 D	31 D	56 D	166-174	0 0	0 0	0 0	20	86	90	84	1	0	0	0	0
38497	38497	0020	126 60	50 80	306 D	36 D	67 D	156-159	0 0	0 0	0 0	20	82	86	84	1	0	0	0	0
75737	75737	0039	126 60	50 80	344 D	31 D	56 D	166-170	0 0	0 0	0 0	20	85	90	84	1	0	0	0	0
38497	38497	0020	126 60	50 80	306 D	36 D	67 D	156-157	0 0	0 0	0 0	20	82	86	84	1	0	0	0	0
75737	75737	0039	126 60	50 80	344 D	31 D	56 D	166-170	0 0	0 0	0 0	20	85	90	84	1	0	0	0	0
75737	75737	0039	126 60	50 80	344 D	31 D	56 D	166-170	0 0	0 0	0 0	20	85	90	84	1	0	0	0	0
75737	75737	0035	126 60	50 80	338 C	34 D	59 D	163-165	0 0	0 0	0 0	20	84	88	86	1	0	0	0	0

NuFio Measurement
 DATE July 2005
 BY [Signature]
 REV [Signature]
 O.A. APPROVED

MATERIAL IN ACCORDANCE WITH NACE MR-0175/2003

BRACCHI PLANTIO

QUALITY CONTROL DEPARTMENT
 ISPEZIONE CONTROLLO QUALITA'

MANUFACTURING DEPARTMENT
 FABBRICAZIONE

WPT

HEAT TREATMENT
 TRATTAMENTO TERMICO

FURNACE
 FORNO

AUG 22/05

HEAT NUMBER : 56282
TRANS AM PIPING PRODUCTS - REV'D BY:
Shipment/Seq #: S 5 - 1289 6

1/2X3/4-36 3000# FS THREADED PIPET
A105N



Manufacturer of Piping & Pressure Vessel Components
4407 Haygood St - Houston, TX 77022
Phone: 713-695-3633 Fax: 713-695-3528
A Division of BONNEY FORGE

Page: 31

SOLD TO: TRANS AM PIPING (CALGARY)
7025 - 44TH STREET S E
CALGARY, AB, CN T2C 4E8

This product has not come in direct contact with mercury or any of its compounds, nor with any mercury containing device employing a single boundary of containment. No welding performed.

MTR #: 93359

We certify that the contents of this report are correct and accurate and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard and that the material conforms to the dimensional requirements of the order. This document is in accordance with EN10204 3.1.B.

PG #: CI-05-338

SALES ORDER #: CS04474 DATE: 05/13/2005

CERTIFIED MATERIAL TEST REPORT

MATERIAL: A/SA105N 01

HEAT CODE: 56282

ITEM	Quantity	Description
7		36 - 3/4 X 1/2 3000 THP A/SA105N

CHEMICAL COMPOSITION:

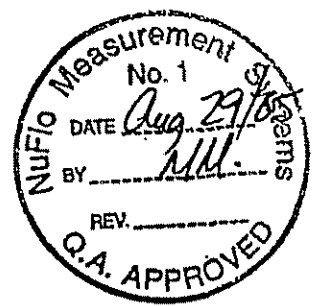
LADLE	C	MN	P	S	SI	CU	NI	CR
	0.200	1.040	0.013	0.021	0.220	0.330	0.086	0.117
	MO	V	NB					
	0.022	0.036	0.008					

CARBON EQUIVALENCY: LADLE 0.435

MECHANICAL PROPERTIES:	TENSILE PSI	YIELD PSI	ELONG %	RA %	HARDNESS
PRODUCT	85,750	63,000	29.00%	66.55%	169 BHN 169 BHN

Normalized

Marie Dehmer
Quality Assurance Representative



HEAT NUMBER : 56438
 TRANS AM PIPING PRODUCTS - REV'D BY:
 Shipment/Seq #: S 5 - 1418 11

B 3/4X11/2-36 3000# FS THREADED PIPET
 A105N



Manufacturer of Piping & Pressure Vessel Components
 4407 Haygood St - Houston, TX 77022
 Phone 713 695-3633 Fax 713 695 3528
 A Division of **BONNEY FORGE**

Page:

SOLD TO: TRANS AM PIPING (CALGARY)
 7025 - 44TH STREET S E
 CALGARY, AB, CN T2C 4E8

This product has not come in direct contact with mercury or any of its compounds, nor with any mercury containing device employing a single boundary of containment No welding performed

We certify that the contents of this report are correct and accurate and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard and that the material conforms to the dimensional requirements of the order This document is in accordance with EN10204 3 1 B

MTR #: 95749

PO #: CI-05-460

SALES ORDER #: C306447 DATE: 07/08/2005

CERTIFIED MATERIAL TEST REPORT

MATERIAL: A/SA105N 01

HEAT CODE: 56438

ITEM Quantity

Description

11

36 - 1 1/2 X 3/4 3000 THP
 A/SA105N

CHEMICAL COMPOSITION:

LADLE	C	MN	P	S	SI	CU	NI	CR
	0.190	0.990	0.008	0.025	0.250	0.190	0.040	0.070
	0.011	0.023	0.001					

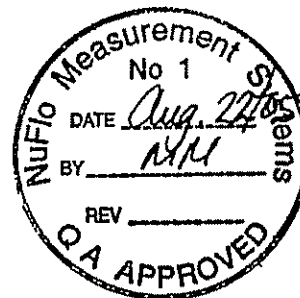
CARBON EQUIVALENCY: LADLE 0.391

MECHANICAL PROPERTIES:

	TENSILE PSI	YIELD PSI	ELONG %	RA %	HARDNESS
PRODUCT	76,875	52,250	32.65X	65.60X	144 BHN 147 BHN
Normalized					

Pete Ogg
 Quality Assurance Representative

Pete Ogg



Benteler Stahlrohr GmbH - Postfach 1340 - 33043 Paderborn - Deutschland
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 Deutschland
 Tel.: +49 5254 81-0 Fax: +49 5254 13666

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1
 CERTIFICAT DE RECEPTION EN 10204-3.1
 EN 10204-2:2005-01

Benteler Stahlrohr GmbH - Postfach 1340 - 33043 Paderborn - Deutschland
 Westland - Edmonton
 5105 - 75th Street
 EDMONTON, AB T6E 5S5
 KANADA

Dokument-Nr.: 65-26903B/001/P
 Document No.:
 No. du document:

DATE: *Alle Tage*
 BY: *Pro*
 NuFlo
 Inspection No. *2520065*
 No. de l'inspection

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 Page:
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Kunden-Bestell-Nr.: 05-5403
 Purchase Order No.:
 No. de commande du client:

Hersteller: Warmrohrwerk Dinslaken
 Manufactureur: ISO/TS 15849 (ISO 9001) DNV CERT-15785-2005
 Producteur: PED 97/23/EC TÜV Cert 07 202 41111Z/50011/H

Benteler Auftrags-Nr.: 1125975
 Benteler Order No.:
 No. de commande Benteler:

Herstellerzeichen:
 Manufactureur's brand:
 Marque du producteur:



Versandanzeigen-Nr.: 6556340
 Dispatch Note No.:
 No. d'avis d'expédition:

Stempel des Abnahmebeauftragten: WA
 Stamp of the inspection representative:
 Timbre du contrôleur:

Produkt: NAHTLOSE STAHLROHRE
 Product: SEAMLESS STEEL TUBES
 Produit: TUBES D'ACIER SANS SOUDURE

Stahlerzeugungungsverfahren: ELEKTROSTAHL
 Steelmaking process: ELECTRIC FURNACE
 Procédé d'élaboration de l'acier: FOUR ELECTRIQUE

Lieferbedingungen: CSA Standard Z245.1-02 Category I, API Specification 5L Forty-Third Edition, March 2004, PSL 1, ASTM-A 106-2002a, S5, ASME SA-106, ASME Section II Part A Edition 2004, S5, NACE MR0175-03
 Terms of delivery:
 Conditions de livraison:

Maße - Toleranzen: ASME B36.10M-1996, ASME SA-530, ASME Section II Part A Edition 2004, ASTM-A 530-2003
 Dimensions-tolérances:
 Dimensions-tolérances:

Stahlsorte: GRADE 290, GRADE B, GRADE X 42
 Steel grade:

Lieferzustand: Hot rolled
 Delivery condition:
 État de livraison:

Produktkennzeichnung: see attachment product marking
 Product marking:
 Marquage du produit:

Pos.	Stück	Maße	Länge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vielfachlängen
Item	Number	Dimensions	Length	Weight	Heat No.	Test pressure	Tube number group	Multiple lengths
Pos.	Nombre	Dimensions	Longueur	Poids	No. de coulée	Pression d'épreuve	Série de no. des tubes	Longueurs multiples
0002	53	4 * NPS * Sched. 80 38 FT - 42 FT	2163,58	32251	736034	3000	5	
			feet	lbs		PSI		
0003	59	3 * NPS * Sched. 160 38 FT - 42 FT	2456,86	35168	526846	3000	5	
			feet					

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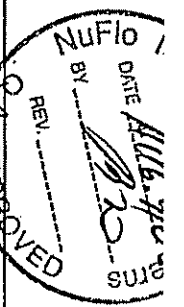
ABNAHMEPRÜFZEUGNIS EN 10204-3.1
 INSPECTION CERTIFICATE EN 10204-3.1
 CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.:
 Document No.:
 No. du document:

65-268038/001/P

Produkt-Nr.:
 Inspection No.:
 No. du certificat:

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Stahl/Rohr

Pos.	Stück	Maße	Dimensions	Länge	Weight	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vierfachlängen
Item	Number	Dimensions	Dimensions	Length	Weight	Heat No.	Test pressure	Tube number group	Multiple lengths
Posto	Nombre	Dimensions	Dimensions	Longueur	Poids	No. de coulée	Pression d'épreuve	Série de no. des tubes	Longueurs multiples
				feet	lbs		PSI		
0004	16	3* NPS * XXS 38 FT - 42 FT		649,90	12035	526846	3000	5	
0007	75	1 1/2* NPS * Sched. 40 18 FT - 22 FT		1530,12	4079	526982	3000	5	
0011	74	1 1/4* NPS * Sched. 80 18 FT - 22 FT		1566,86	4599	526982	3000	5	
0012	58	1 1/2* NPS * Sched. 80 18 FT - 22 FT		1236,32	4478	526971	3000	5	
0015	195	1* NPS * Sched. 160 18 FT - 22 FT		4085,60	11766	526881	3000	5	
0016	104	1 1/2* NPS * Sched. 160 18 FT - 22 FT		2213,52	10827	736100	3000	5	
0017	126	2* NPS * Sched. 160 18 FT - 22 FT		2708,73	20168	526881	3000	5	
0018	63	2* NPS * XXS 18 FT - 22 FT		1268,08	11513	526846	3000	5	

Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]

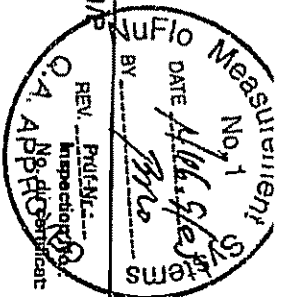
Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
Item	Heat No.													
Posto	No. de coulée													
0002	736034	0,130	0,205	0,84	0,008	0,003	0,10	0,02	0,08	0,15	0,001	0,010	0,003	0,0002
0003	526846	0,130	0,180	0,83	0,008	0,003	0,10	0,02	0,09	0,15	0,001	0,010	0,002	0,0002
0004	526846	0,130	0,180	0,83	0,008	0,003	0,10	0,02	0,09	0,15	0,001	0,010	0,002	0,0002
0007	526982	0,130	0,190	0,82	0,008	0,008	0,11	0,04	0,11	0,15	0,001	0,010	0,002	0,0002
0011	526982	0,130	0,190	0,82	0,008	0,008	0,11	0,04	0,11	0,15	0,001	0,010	0,002	0,0002
0012	526971	0,130	0,220	0,82	0,013	0,008	0,16	0,03	0,11	0,16	0,001	0,010	0,003	0,0001
0015	526881	0,130	0,230	0,84	0,007	0,003	0,10	0,02	0,07	0,14	0,001	0,010	0,003	0,0002
0016	736100	0,135	0,195	0,85	0,009	0,005	0,14	0,03	0,13	0,14	0,001	0,010	0,003	0,0001

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 INSPECTION CERTIFICATE EN 10204-3.1
 CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.: 65-268038/00175
 Document No.:
 No. du document:

Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]



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 Stahl/Rohr

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 Page:

Pos.	Schmelzen-Nr.	C	SI	MIN	P	S	CR	MO	NI	CU	V	NB	TI	B
0017	526881	0,130	0,230	0,84	0,007	0,003	0,10	0,02	0,07	0,14	0,001	0,010	0,003	0,0002
0018	526846	0,130	0,180	0,83	0,008	0,003	0,10	0,02	0,09	0,15	0,001	0,010	0,002	0,0002

1. Formel: $CE \ IIW = C + (Mn/6) + ((Cr + Mo + V)/5) + ((Cu + Ni)/15) \leq 0,40 \%$
2. Formel: $CEV = C + F + ((Mn/6) + (Si/24) + (Cu/15) + (Ni/20) + ((Cr + Mo + V + Nb)/5) + (5 \cdot B)) \leq 0,40$
3. Formel: $Mn/Cs = 3/1$
4. Formel: $Cr + Cu + Mo + Ni + V \leq 1,00 \%$

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr.	1. Formel	2. Formel	3. Formel	4. Formel
0002	736034	0,310	0,282	6,462	0,351
0003	526846	0,309	0,280	6,385	0,361
0004	526846	0,309	0,280	6,385	0,361
0007	526982	0,314	0,285	6,308	0,411
0011	526982	0,314	0,285	6,308	0,411
0012	526971	0,323	0,292	6,308	0,461
0015	526881	0,308	0,282	6,462	0,331
0016	736100	0,329	0,307	6,296	0,441
0017	526881	0,308	0,282	6,462	0,331
0018	526846	0,309	0,280	6,385	0,361

Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]

Pos.	Schmelzen-Nr.	C	SI	MIN	P	S	CR	MO	NI	CU	V	NB	TI	B
0002	736034	0,140	0,200	0,78	0,007	0,002	0,10	0,02	0,08	0,15	0,001	0,010	0,003	0,0003
0002	736034	0,140	0,200	0,79	0,007	0,002	0,10	0,02	0,08	0,15	0,001	0,010	0,003	0,0003

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Stahl/Rohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1 **Dokument-Nr.:** 65-26803B/001/P **Prüf-Nr.:**
 INSPECTION CERTIFICATE EN 10204-3.1 **Document No.:** **Inspection No.:**
 CERTIFICAT DE RECEPTION EN 10204-3.1 **No. du document:** **No. du certificat:**

Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]

Pos.	Schmelzen-Nr.	C	SI	MIN	P	S	CR	MO	NI	CU	V	NB	TI	B
Item	Heat No.													
Poste	No. de coulée													
0003	526846	0,140	0,160	0,82	0,008	0,002	0,10	0,03	0,09	0,14	0,001	0,010	0,002	0,0002
0003	526846	0,140	0,160	0,82	0,008	0,002	0,10	0,03	0,09	0,15	0,001	0,010	0,002	0,0001
0004	526846	0,140	0,160	0,82	0,008	0,002	0,10	0,03	0,09	0,14	0,001	0,010	0,002	0,0001
0004	526846	0,140	0,160	0,81	0,008	0,002	0,10	0,03	0,09	0,14	0,001	0,010	0,002	0,0002
0007	526982	0,140	0,220	0,83	0,009	0,007	0,13	0,04	0,14	0,13	0,001	0,010	0,002	0,0002
0007	526982	0,130	0,200	0,85	0,009	0,008	0,12	0,04	0,14	0,13	0,001	0,010	0,002	0,0002
0011	526982	0,140	0,220	0,83	0,009	0,007	0,13	0,04	0,14	0,13	0,001	0,010	0,002	0,0001
0011	526982	0,130	0,210	0,80	0,009	0,007	0,12	0,05	0,12	0,12	0,001	0,010	0,002	0,0001
0012	526971	0,140	0,190	0,83	0,007	0,004	0,18	0,05	0,17	0,16	0,001	0,010	0,002	0,0001
0012	526971	0,130	0,200	0,82	0,008	0,005	0,18	0,05	0,18	0,17	0,002	0,010	0,002	0,0002
0015	526881	0,140	0,210	0,82	0,007	0,002	0,10	0,02	0,07	0,13	0,001	0,010	0,003	0,0003
0015	526881	0,140	0,200	0,82	0,007	0,002	0,10	0,02	0,07	0,13	0,001	0,010	0,003	0,0002
0016	736100	0,130	0,240	0,89	0,008	0,007	0,17	0,04	0,15	0,17	0,001	0,010	0,002	0,0010
0016	736100	0,130	0,210	0,87	0,009	0,007	0,15	0,05	0,15	0,16	0,001	0,010	0,002	0,0010
0017	526881	0,140	0,160	0,82	0,008	0,002	0,10	0,03	0,09	0,15	0,001	0,010	0,002	0,0001
0017	526881	0,140	0,160	0,82	0,008	0,002	0,10	0,03	0,09	0,15	0,001	0,010	0,002	0,0001
0018	526846	0,140	0,160	0,82	0,008	0,002	0,10	0,03	0,09	0,14	0,001	0,010	0,002	0,0002
0018	526846	0,130	0,170	0,82	0,008	0,002	0,10	0,03	0,08	0,14	0,001	0,010	0,002	0,0002

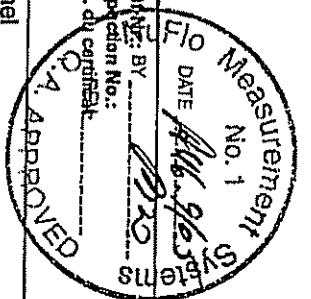
- Formel: $CE + (Mn/6) + ((Cr + Mo + V)/5) + ((Cu + Nb)/15) \leq 0,40 \%$
- Formel: $CE + F + ((Mn/6) + (Si/24) + (Cu/15) + (Ni/20) + ((Cr + Mo + V + Nb)/5) + (S * B)) \leq 0,40$
- Formel: $Mn/C \geq 3/1$
- Formel: $Cr + Cu + Mo + Ni + V \leq 1,00 \%$



ABNAHMEPRÜFZEUGNIS EN 10204-3.1
 INSPECTION CERTIFICATE EN 10204-3.1
 CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.: 65-268038/001/P
 Document No.:
 No. du document:

Prof. By: *[Signature]*
 Inspection No.:
 No. du certificat:



Blatt: 5 / 10
 Page:

BENTELER
 Stahl/Rohr

Pos.	Schmelzen-Nr Heat No.	Formeln				Formel Formula
		1. Formel 1. Formula	2. Formel 2. Formula	3. Formel 3. Formula	4. Formel 4. Formula	
0002	736034	0,310	0,293	5,571	0,351	
0003	526846	0,311	0,294	5,643	0,351	
0003	526846	0,318	0,298	5,857	0,361	
0003	526846	0,319	0,299	5,857	0,371	
0004	526846	0,318	0,298	5,857	0,361	
0004	526846	0,317	0,297	5,786	0,361	
0007	526982	0,331	0,310	5,929	0,441	
0007	526982	0,322	0,291	6,538	0,431	
0011	526982	0,331	0,310	5,929	0,441	
0011	526982	0,314	0,284	6,154	0,411	
0012	526971	0,347	0,322	5,929	0,561	
0012	526971	0,336	0,302	6,308	0,582	
0015	526881	0,314	0,297	5,857	0,321	
0015	526881	0,314	0,297	5,857	0,321	
0016	736100	0,342	0,311	6,846	0,531	
0016	736100	0,336	0,305	6,692	0,511	
0017	526881	0,319	0,299	5,857	0,371	
0017	526881	0,319	0,299	5,857	0,371	
0018	526846	0,318	0,298	5,857	0,361	
0018	526846	0,308	0,279	6,308	0,351	

Prüfergebnisse / Test results / Résultats des essais

Die Rohre sind auf Dichtheit geprüft durch:

The tubes have been submitted to a leak tightness test by:

Les tubes ont passé un contrôle d'étanchéité par:

Hydrostatic test acc. to CSA Z245.1, holding time min 5 seconds, Test pressure/Time-record

PASSED

ABNAHMEPRÜFZEUGNIS EN 10204-3.1
INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.: 65-268038/001/P
Document No.:
No. du document:

Prüf-Nr.:
Inspection No.:
No. du certificat:

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Page:
Page:

Augensichtkontrolle: PASSED
Visual inspection:
Examen visuel:

Biegeversuch:
Bending test:
Essai de cintrage:
POS. / Item / Poste: 0007, 0011, 0012, 0015, 0016,
0017, 0018

Maßkontrolle: PASSED
Dimensions examination:
Verification des dimensions:

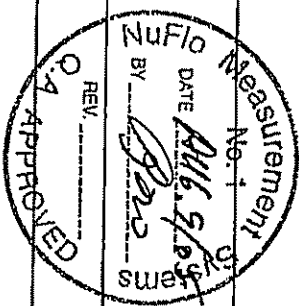
Ringfaltversuch: PASSED
Flattening test:
Essai d'aplatissement:
POS. / Item / Poste: 0002, 0003, 0004

Ergebnisse der mechanischen Prüfung / Results of mechanical testing / Résultats des essais mécaniques

Die Probenahme erfolgte an Vielfachlängen.
The sampling was carried out on multiple lengths.
L'echantillonnage a été réalisé aux longueurs multiples.

Zugversuch / Tensile test / Essai de traction

Pos.	Prober-Nr.	Schmelzen-Nr.	Probenabmessung	Streckgrenze	Zugfestigkeit	Dehnung	Einschnürung	Rel/Rm
Item	Specimen No.	Heat No.	Specimen dimensions	Yield strength	Tensile strength	Elongation	Area reduction	Rel/Rm
Poste	No. de l'éprouvette	No. de coulée	Dimensions de l'éprouv.	Limite élastique	Résistance à la traction	Allongement	Coefficient de striction	Rel/Rm
Anforderungen			mm	ReH	Rm	A ₂ [*]	1. Formel	
Requirements			mm	PSI	PSI	%	1. Formule	
Exigences				42061-71794	60191-110229	MIN 30	1. Formule	
0002	000001	736034	25,30 X 8,40	48588	68603	38,00		
0002	000002	736034	25,30 X 8,50	48878	69183	36,00		
0003	000001	526846	25,60 X 10,70	47427	67443	40,00		
0003	000002	526846	25,60 X 11,00	46557	66862	42,00		
0004	000001	526846	25,40 X 15,20	46267	66862	45,00		
0004	000002	526846	25,40 X 15,20	46412	66717	48,00		
0007	000001	526982	12,70 X 3,60	51198	69908	39,00		
0007	000002	526982	12,70 X 3,60	51343	68893	37,00		
0011	000001	526982	12,70 X 4,70	50908	68893	37,00		
0011	000002	526982	12,70 X 4,70	50618	70198	40,00		
0012	000001	526971	12,70 X 5,10	50473	70778	38,00		



ABNAHMEPRÜFZEUGNIS EN 10204-3.1 Dokument-Nr.: 65-268038/001/P Prof-Nr.:
 INSPECTION CERTIFICATE EN 10204-3.1 Document No.: Inspection No.:
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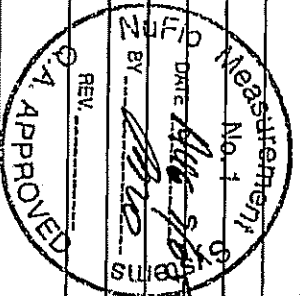
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Zugversuch / Tensile test / Essai de traction

Pos.	Proben-Nr.	Schmelzen-Nr.	Probenabmessung	Streckgrenze	Zugfestigkeit	Dehnung	Einschnürung	Re/Rm
Item	Specimen No.	Heat No.	Specimen dimensions	Yield strength	Tensile strength	Elongation	Area reduction	Re/Rm
Poste	No. de l'éprouvette	No. de coulée	Dimensions de l'éprouv.	Limite élastique	Résistance à la traction	Allongement	Coefficient de striction	Re/Rm

Anforderungen		RaH		Rm		A2°		1. Formel	
Requisitements		PSI		PSI		%		1. Formule	
Exigences		mm		42061-71794		MIN 30		1. Formule	

0012	000002	526971	12,70 X 5,10	51488	70633	38,00		
0015	000001	526881	12,50 X 6,30	51053	70633	34,00		
0015	000002	526881	12,50 X 6,40	49023	68313	40,00		
0015	000003	526881	12,50 X 6,30	49458	68748	40,00		
0016	000001	736100	12,70 X 7,20	48588	67153	40,00		
0016	000002	736100	12,70 X 7,20	48298	67733	40,00		
0017	000001	526881	19,00 X 8,70	49313	67878	40,00		
0017	000002	526881	19,00 X 8,70	48588	68313	42,00		
0018	000001	526846	19,00 X 11,10	47282	67298	42,00		
0018	000002	526846	19,00 X 11,10	46847	67153	41,00		



Härteprüfung / Hardness test / Essai de dureté

Pos.	Proben-Nr.	Schmelzen-Nr.	Härte	HRC	HB	HV	HRB
Item	Specimen No.	Heat No.	Hardness	Dureté			
Poste	No. de l'éprouv.	No. de coulée	Dureté				

Requisitements
 Exigences
 MAX 200

0002	000001	736034	139				
0003	000001	526846	138				
0004	000001	526846	146				
0007	000001	526982	137				
0011	000001	526982	137				
0012	000001	526971	144				
0015	000001	526881	149				

Postfach 13 40
 33043 Paderborn
 Deutschland
 Tel.: +49 5254 81-0 Fax: +49 5254 13665

BEIHLER
 Stahl/Rohr

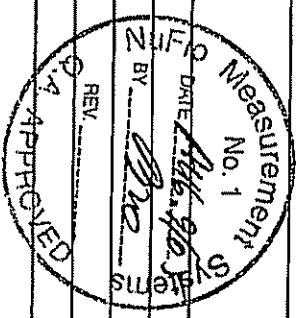
ABNAHMEPRÜFZEUGNIS EN 10204-3.1 Dokument-Nr.: 65-268038/001/P Prof.-Nr.:
 INSPECTION CERTIFICATE EN 10204-3.1 Document No.: No. du document Inspection No.:
 CERTIFICAT DE RECEPTION EN 10204-3.1 No. du certificat

Pos.	Proben-Nr.	Schmelzen-Nr.	Härte	HB	HV	HRB
Item	Specimen No.	Heat No.	Hardness			
Poste	No. de l'éprouv.	No. de coulée	Dureté			
Anforderungen						
Requisitements						
Exigences						

0016	000001	736100		150		
0017	000001	526881		143		
0018	000001	526846		138		

Restmagnetismus / Demagnetiza / Demagnetiser
 Pos. / Item / Poste: 0002, 0004, 0015, 0007, 0017, 0018, 0003, 0016, 0012, 0011
 residual magnetic field intensity max 3,5 millitesla

Pos.	Ihr Zeichen	Kundenmaterial	Kundenbestell-Nr.
Item	Your reference	Customer's Material No.	Purchase Order No.
Poste	Votre référence	No. de matière du client	No. de commande du client
0002		P.O. 9100336-2520050	05-5403
0003		P.O. 9100336-2520065	05-5403
0004		P.O. 9100336-2520074	05-5403
0007		P.O. 9100336-2520249	05-5403
0011		P.O. 9100336-2520389	05-5403
0012		P.O. 9100336-2520397	05-5403
0015		P.O. 9100336-2520524	05-5403
0016		P.O. 9100336-2520532	05-5403
0017		P.O. 9100336-2520540	05-5403
0018		P.O. 9100336-2520613	05-5403



ABNAHMEPRÜFZEUGNIS EN 10204-3.1
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 Document No.:
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Prof.Nr.:
 Inspection No.:
 No. du certificat

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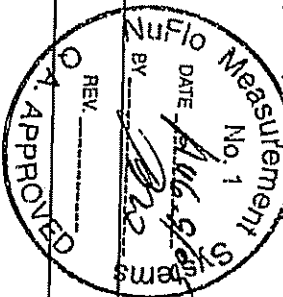
Vermerk / Remark / Remarque

Pos. / Item / Poste: 0002, 0003, 0004,
 NACE Standard: hardness acc. to NACE Standard MF0175 HRC max 22, The material meets the requirements of NACE
 MF0103; Certificate remarks: This is to confirm that the seamless linepipe supplied by Benteler and verified
 to CSA Standard Z245.1-02 meets the requirement for micro hardness of max. 248 HV 500.

Pos. / Item / Poste: 0007, 0017, 0016, 0012, 0011, 0015, 0046, 0045, 0012, 0017, 0018, 0012, 0017, 0015, 0016, 0011, 0018, 0011, 0015, 0011, 0017, 0016-0847,
 0012, 0016, 0012, 0015, 0018
 NACE Standard: hardness acc. to NACE Standard MF0175 HRC max 22, The material meets the requirements of NACE
 MF0103; Certificate remarks: This is to confirm that the seamless linepipe supplied by Benteler and verified
 to CSA Standard Z245.1-02 meets the requirement for micro hardness of max. 248 HV 500.; Bend test: mandrel
 diameter 12D, bending angle 90 degree

Beiblatt Produktkennzeichnung / Attachment product marking / Supplément marquage du produit

Pos. Produktkennzeichnung
 Item Product marking
 Poste Marquage du produit



0002 FS: BENTELEER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
 P.O. 9100336-2520050

0003 FS: BENTELEER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
 P.O. 9100336-2520065

0004 FS: BENTELEER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS WEIGHT CLASS WA GERMANY
 P.O. 9100336-2520074

0007 FS: BENTELEER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
 P.O. 9100336-2520249

0011 FS: BENTELEER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
 P.O. 9100336-2520389

0012 FS: BENTELEER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
 P.O. 9100336-2520397

0015 FS: BENTELEER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
 P.O. 9100336-2520524

Benteler Stahl/Rohr GmbH
Postfach 13 40
33043 Paderborn
Deutschland
Tel.: +49 5254 81-0 Fax: +49 5254 13666

BEIIELECH V
Stahl/Rohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1
INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.:
Document No.:
No. du document

65-268038/001/P

Prüf-Nr.:
Inspection No.:
No. du certificat

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0016 FS: BENTELER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
P.O. 9100336-2520532

0017 FS: BENTELER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
P.O. 9100336-2520540

0018 FS: BENTELER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
P.O. 9100336-2520613

FK = Farbschichtierung, colour marking, marquage par couleur FS = Farbschichtierung, paint application, marquage par peinture FSD = Farbschichtstruktur, Colour / paint finish, Impression à jet d'encre de couleur LS = Längsschichtierung, longitudinal lamination, marquage longitudinal par peinture PCE = Edelmetallbeschichtung, lag marking, marquage sur étiquette PS = Prägemoppel, die stamp, marquage par poinçonnage TS = Tinsensichtbarbeschichtung, ink jet spray marking, Impression à jet d'encre


Verkäufer(in) / Salesman/woman in charge / Personne chargée : Mr Seelbach, Tel.: 05254/81-4281, Fax: 4289



Dinslaken, 03.05.2005, TEL.: 02064.623-572 FAX: 02064.623-575

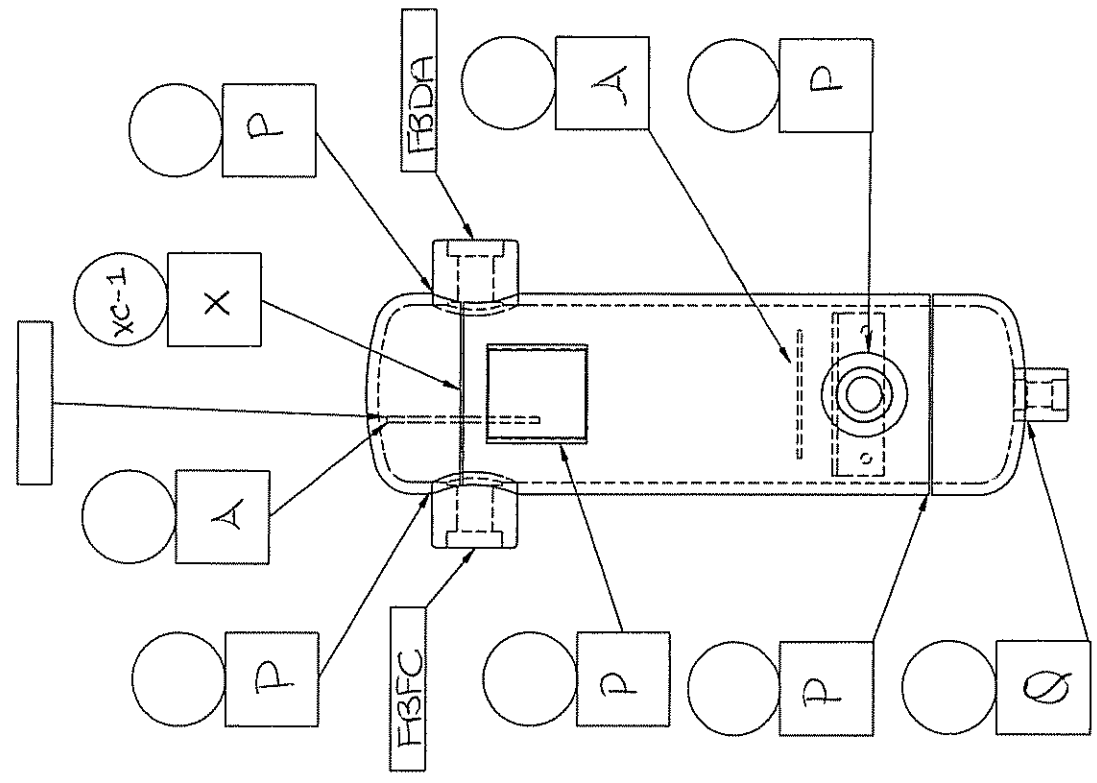
Abnahmebeauftragter: BENTELER
Inspection representatives: DIJALDISSSTELLE
Contrôleur: 1387 DINSLAKEN
JAN FREERKS / WAG

Es wird bestätigt, daß die gelieferten Erzeugnisse den besch. Lieferbedingungen des Auftrages entsprechen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechtsgültig.
We certify that the supplied products comply with the order specification. This document was prepared by means of electronic data processing and is valid without signature.
Nous attestons que les produits livrés sont conformes aux spécifications de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.






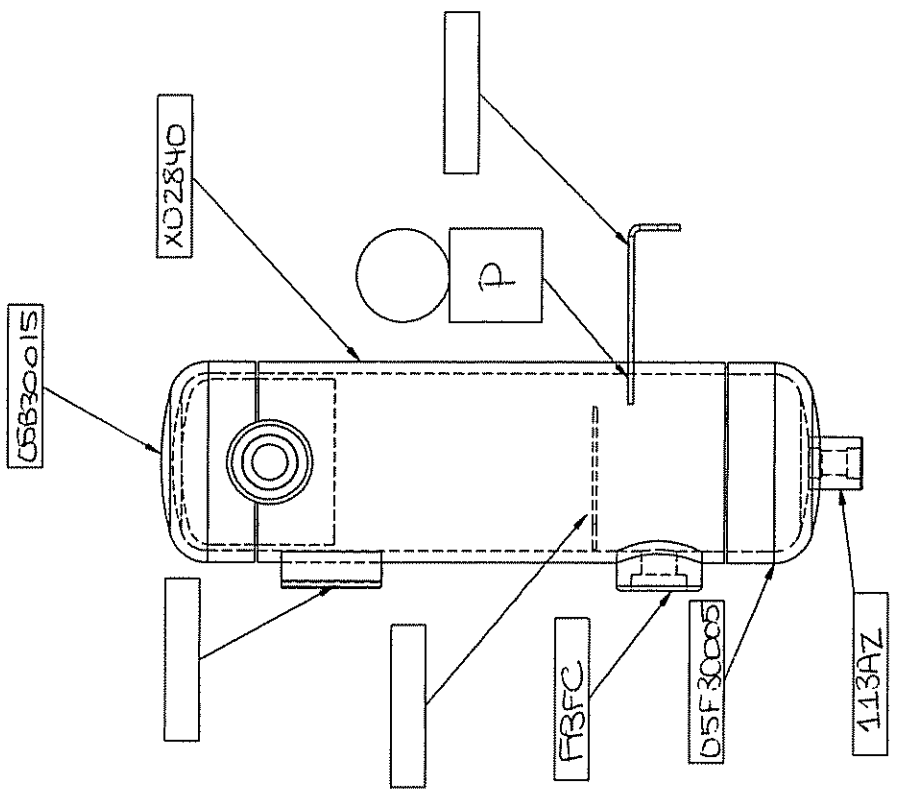
CRIMTECH
SERVICES LTD
WWW.CRIMTECH.COM
PH 1-800-993-9958

DRAWING NO.: 1006005-WM-01
SPOOL NO.: 14532



WELD MAP LEGEND

-  = NDE
-  = WELDER
-  = HEAT NUMBER



FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
 (Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only) **5475917**
 As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1 **547602**

1 Manufactured and certified by Crimtech Services Ltd. #45, 27429 Township Road 374, Gasoline Alley Business Park Red Deer County, Alberta T4S 2H4
 (Name and address of Manufacturer)

2 Manufactured for Crimtech Services Ltd. #45, 27429 Township Road 374, Gasoline Alley Business Park Red Deer County, Alberta T4S 2H4
 (Name and address of Purchaser)

3 Location of installation Crimtech Services Ltd. - Stock
 (Name and address)

4 Type VERTICAL SEPARATOR 14525 - 14536 P3515.231 VS-8145A-01 REV. 3 N/A 2005
 (Horiz or vert tank) (Mfg's serial No) (CRN) (Drawing no) (Nat'l Bd No) (Year built)

5 The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE The design.
 construction, and workmanship conform to ASME Rules, Section VIII, Division 1 2004
 Year

to N/A N/A N/A
 Addenda (Date) Code Case Nos Special Service per UG 120(d)

6 Shell: SA106-B 0.500" 0.0625" 0' 7.625" 1' 8"
 Matl (Spec No., Grade) Nom Thk (in) Corr Allow (in) Diam I D (ft & in) Length (overall) (ft & in)

7 Seams: SMLS N/A 100% N/A N/A TYPE 1 *SPOT (70%Eff.) 1
 Long (Welded, Dbl. R T (Spot or Full) Eff (%) H T Temp (F) Time (hr) Girth (welded, Dbl. R T. (Spot, Partial. No of Courses
 Sngl. Lap, Butt) Sngl. Lap, Butt) Eff (%) or Full)

8 Heads: (a) Matl SA234 WPB (b) Matl SA234 WPB
 (Spec No., Grade) (Spec No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	TOP	0.4023"	0.0625"	N/A	N/A	2:1	N/A	N/A	N/A	CONCAVE
(b)	BOTTOM	0.4023"	0.0625"	N/A	N/A	2:1	N/A	N/A	N/A	CONCAVE

If removable, bolts used (describe other fastenings) N/A
 (Matl, Spec No., Gr, Size, No)

9 MAWP 1480 N/A psi at max temp 100 N/A °F
 (internal) (external) (internal) (external)

Min design metal temp -20 °F at 1480 psi Hydro, pneu, or comb test pressure HYDRO - 2220 psi

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam or Size	Type	Matl.	Nom Thk.	Reinforcement Matl.	How Attached	Location
INLET/INSPECTION	1	2.375"	Cplg	SA105N	6000#	-	UW16.1(c)	HD/SHL
OUTLET/INSPECTION	1	2.375"	Cplg	SA105N	6000#	-	UW16.1(c)	HD/SHL
LC/INSPECTION	1	2.375"	Cplg	SA105N	6000#	-	UW16.1(c)	SHELL
DRAIN	1	1"	Cplg	SA105N	6000#	-	UW16.1(c)	HEAD

11 Supports: Skirt NO Lugs N/A Legs N/A Other Support Bracket Attached Shell & Welded
 (Yes or No) (No) (No) (Describe) (Where and how)

12 Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of this report: N/A
 (Name of part, item number Mfg's name and identifying stamp)

SERVICE: SWEET PSV ON PIPE AS PER UG-125
 CONST. DRAWING NO.: 1006005-VS-01 REV. 5 RADIOGRAPHY: BOTTOM HEAD - *SPOT UW11(a)5(b), TOP HEAD - FULL UW14(b)
 TESTING: CHARPY IMPACT TEST EXEMPT PER UG20(f) 1 - 5 CUBIC CAPACITY: 0.71 cubic feet

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1 "U" Certificate of Authorization No 32.207 expires November 15, 2006
 Date DEC 22, 2005 Co name CRIMTECH SERVICES LTD Signed [Signature]
 (Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by CRIMTECH SERVICES LTD. at RED DEER COUNTY, ALBERTA, CANADA
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of ALBERTA and employed by ABSA have inspected the component described in this Manufacturer's Data Report on DEC 22, 2005, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1 By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection
 Date DEC 22, 2005 Signed [Signature] Commissions AB (30 AS)
 (Authorized Inspector) (Nat'l Board. (incl. endorsements) State, Prov. and No.)



CRIMTECH SERVICES LTD.
TRAVEL SHEET (front)

DO NOT START CONSTRUCTION WITHOUT A.I. REVIEW

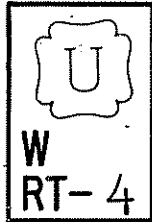
A.I. Review		Review Date	Nov. 29/05
Serial No.	14525-14536	Job No.	307944
Drawing No.	1006005-VS-01	Dwg. Rev. No.	5
Travel Sheet Initiation by:	Jason L. Miller	Vessel Type	Wellhead Separator

Seq	Item	Comments	Q.C.	Date	A.I. Hold Points	A.I.	Date	Owner	Date
1	Calculations in File		JLM	11/28/05					
2	Release of Approved Dwg		JLM	11/28/05					
3	Heat Numbers Recorded		GH	12/14/05*					
4	M.T.R.'s Checked		GH	12/14/05*					
5	W.P.S. Checked		GH	11/28/05					
6	Welders Qualified		GH	11/28/05					
7	Thickness Verified & Recorded		GH	12/14/05					
8	Shell(s) & Head(s) Fit-up & Inspection		GH	12/14/05*					
9	Nozzles & Fittings Fit-up & Inspection		GH	12/14/05					
10	Nozzle Orientation		GH	12/14/05					
11	Nozzle & Flange Rating Checked		GH	12/14/05					
12	Impact Tests		/						
13	Internals Checked		GH	12/14/05					
14	Final Internal Inspection	Shell Side Tube Side	GH		**				
15	Weld Size Checked		GH	12/16/05					
16	Welder I.D. Checked		GH	12/16/05					
17	Final External Inspection		GH	12/16/05*					
18	Radiography				*				
19	Other N D E		/						
20	Final Ext. Prior to P W H T.		/						
21	PWHT Chart Checked		/						
22	Hydrostatic Test	Shell Side Gauge # CT-006 Tube Side Gauge # M6	GH	12/22/05	**				
23	CRN Drawing	CRN # P3515 231	JLM	11/28/05					
24	N C R #		/						
25	Nameplate Stamping		GH	12/06/05*					
26	Manu. Data Report Complete & Verified		GH	12/06/05*					
27	Nameplate Installation		GH	12/27/05					

The Authorized Inspector shall be presented with the travel sheet prior to construction so that he can designate additional inspection points and/or Hold Points (Any revisions shall be marked with a delta symbol with revision number and described at the bottom of this page)

*Denotes an A.I. Inspection Point **Denotes an A.I. Hold Point

CERTIFIED BY CRIMTECH SERVICES LTD.



FLODRIP
WELLHEAD SEPARATORS
RED DEER, ALBERTA, CANADA
1-800-377-4701

M.A.W.P. 1480 PSI @ 100 °F
M.D.M.T. -20 °F @ 1480 PSI
S/N 14532 YEAR 2005
C.R.N. P3515.213 MODEL 8145A

(A) 547598

CANADIAN PATENT 2,235,452
U.S. PATENT 6,972,061

CERTIFIED BY CRIMTECH SERVICES LTD.



FLODRIP
WELLHEAD SEPARATORS
RED DEER, ALBERTA, CANADA
1-800-377-4701

M.A.W.P. 1480 PSI @ 100 °F
M.D.M.T. -20 °F @ 1480 PSI
S/N 14531 YEAR 2005
C.R.N. P3515.213 MODEL 8145A

(A) 547597

CANADIAN PATENT 2,235,452
U.S. PATENT 6,972,061

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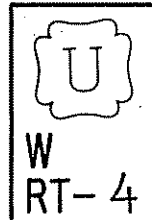
FLODRIP
WELLHEAD SEPARATORS
RED DEER, ALBERTA, CANADA
1-800-377-4701

M.A.W.P. 1480 PSI @ 100 °F
M.D.M.T. -20 °F @ 1480 PSI
S/N 14530 YEAR 2005
C.R.N. P3515.213 MODEL 8145A

(A) 547596

CANADIAN PATENT 2,235,452
U.S. PATENT 6,972,061

CERTIFIED BY CRIMTECH SERVICES LTD.



FLODRIP
WELLHEAD SEPARATORS
RED DEER, ALBERTA, CANADA
1-800-377-4701

M.A.W.P. 1480 PSI @ 100 °F
M.D.M.T. -20 °F @ 1480 PSI
S/N 14529 YEAR 2005
C.R.N. P3515.213 MODEL 8145A

(A) 547595

CANADIAN PATENT 2,235,452
U.S. PATENT 6,972,061

CRIMTECH SERVICES LTD.
TRAVEL SHEET Vessel s/n 14531

MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION				WELD I.D. / WELDER SYMBOLS / FIT-UP					
Description	Thickness	Material Spec & Grade	Heat & Slab Number or I D Number	Weld I.D	Symbol	Fit-Up	Weld I.D	Sym bol	Fit-Up
Shell #1		SA 106-B	U00487						
Head #1		SA 234 WPB	05B30015	C - 1	X				
Head #2		SA 234 WPB	05B30015	C - 2	R				

ATTACHMENT AND / OR NOZZLE MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION						WELDER SYMBOLS / FIT-UP			
Mark	Mat. I.D.	Neck	Fitting	Flange	Repad or Attachment	Cat. B	Cat. C	Cat. D	Pad OD
N-1	Spec.-Grd		SA 105-N					R	
	Thk /Rating		2" 6M Cplg						
	Heat# or ID		2415						
N-2	Spec -Grd		SA 105-N					R	
	Thk /Rating		2" 6M Cplg						
	Heat# or ID		2415						
N-3	Spec -Grd		SA 105-N					R	
	Thk /Rating		2" 6M Cplg						
	Heat# or ID		FBFC						
N-4	Spec -Grd		SA 105-N					Q	
	Thk /Rating		1" 6M Cpl.						
	Heat# or ID		113AZ						

CRIMTECH SERVICES LTD.
TRAVEL SHEET Vessel s/n 14532

MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION				WELD I.D. / WELDER SYMBOLS / FIT-UP					
Description	Thickness	Material Spec & Grade	Heat & Slab Number or I D Number	Weld I.D	Symbol	Fit-Up	Weld I.D	Sym bol	Fit-Up
Shell #1		SA 106-B	X02840						
Head #1		SA 234 WPB	05B30015	C - 1	X				
Head #2		SA 234 WPB	05F30005	C - 2	P				

ATTACHMENT AND / OR NOZZLE MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION						WELDER SYMBOLS / FIT-UP			
Mark	Mat. I.D.	Neck	Fitting	Flange	Repad or Attachment	Cat. B	Cat. C	Cat. D	Pad OD
N-1	Spec -Grd		SA 105-N					P	
	Thk /Rating		2" 6M Cplg						
	Heat# or ID		FBFC						
N-2	Spec -Grd		SA 105-N					P	
	Thk /Rating		2" 6M Cplg						
	Heat# or ID		FBDA						
N-3	Spec -Grd		SA 105-N					P	
	Thk /Rating		2" 6M Cplg						
	Heat# or ID		FBFC						
N-4	Spec -Grd		SA 105-N					Q	
	Thk /Rating		1" 6M Cpl.						
	Heat# or ID		113AZ						

CRIMTECH SERVICES LTD.
PRESSURE TEST EXAMINATION
CHECKLIST CSN



PRESSURE TEST PREPARATION		Q.C. INSP
1.	All punch list items corrected.	/
2.	Test blinds are of correct thickness	GH
3.	All items which could be damaged by test isolated or removed (control valves, safety valves, instruments, expansion joints, etc.)	GH
4.	Equipment with internals (i.e. filters) that could be damaged, isolated as required.	GH
5.	Vents and drains correctly installed.	GH
6.	Open and Closed position of all valves verified.	GH
PRESSURE TEST COMPLETION		Q.C. INSP.
1.	All temporary blinds (blanks) removed.	GH
2.	Temporary gaskets changed for correct gaskets.	/
3.	Temporary supports removed.	/
4.	Piping drained of all fluids.	GH
Q.C. Inspector Signature: <u>X Genna Hodder</u>		Date: December 22, 2005

HYDROSTATIC TEST REPORT

Client: Crimtech Services Ltd. Date: December 22, 2005
 Facility: _____ Location: Crimtech Services Ltd., Red Deer
 Project: W/O# 307944 Contractor: _____
 Description of Product: Model 8145A, Vessel s/n 14525-14536, Spool s/n's N/A ,
Meter N/A & various Threaded piping. CSN N/A
 Test Medium: Water
 Tests Conducted By: Tracy Swanson
 Test Pressure: 2220 psi
 Holding Time at Test Pressure: Minimum 15 Minutes.
 Results: No visible leaks or drop in pressure at time of hydrostatic test.

Test Gauge No's: CT-006 M6 Recorder No: N/A
 Crimtech Quality Control Inspector: X Genna Hodder
 Client Representative (if witnessed): _____
 Comments: _____

Genna Hodder
 Signature of Quality Control Manager

Exposure Device #: 6673 Source #: A668 Job / P.O. #: W0X 307944 IRISNDT #: 106475 Date: DEC-07-05

Cobalt 60 IR 192 X-Ray EFSS: 150 Client: CRIMTECH SVS

Film Brand: AGFA #Film/cassette: 1 Location: Red Deer / Gasoline Alley

Code: ASME UWS 1 Item: 8" DIA vessels sch80 Material: CIS

Film #	Size, Location, Thickness	Welder ID	IRISNDT Proc.	SOD Inches	OFD Inches	# of Exp.	Work Location	Accept	Type and Location of Discontinuities (circle rejectable discontinuities)	Reject
	<u>10-15"</u>		<u>15-0"</u>							
									<u>S/N</u>	
<u>XC 1</u>	<u>8"</u>	<u>SCH80</u>	<u>P</u>	<u>RT 1</u>	<u>4.25"</u>	<u>.625"</u>	<u>1</u>	<u>4</u>	<u>✓</u>	<u>14525</u> <u>pe 12 1/2"</u>
<u>XC 1</u>		<u>X</u>						<u>✓</u>	<u>14526</u>	
<u>XC 1</u>		<u>I</u>						<u>✓</u>	<u>14527</u>	
<u>XC 1</u>		<u>X</u>						<u>✓</u>	<u>14528</u>	
<u>XC 1</u>		<u>X</u>						<u>✓</u>	<u>14529</u> <u>watermark @ 11"</u> <u>Root profile 18"</u>	
<u>XC 1</u>		<u>I</u>						<u>✓</u>	<u>14530</u>	
<u>XC 1</u>		<u>X</u>						<u>✓</u>	<u>14531</u>	
<u>XC 1</u>		<u>X</u>						<u>✓</u>	<u>14532</u>	
<u>XC 1</u>		<u>I</u>						<u>✓</u>	<u>14533</u> <u>Film mark eo</u>	
<u>XC 1</u>		<u>X</u>						<u>✓</u>	<u>14534</u>	
<u>XC 1</u>		<u>I</u>						<u>✓</u>	<u>14535</u> <u>pe 15"</u>	
<u>XC 1</u>		<u>I</u>						<u>✓</u>	<u>14536</u> <u>pe 19"</u>	

Number of Radiation Barrier Warning Signs Erected 2 Spools Number of Radiation Barrier Warning Signs Returned 2 Spools

Work Location Legend (insert number): [1] Inside Fab. Shop [2] Yard/Lay-down Area [3] Piping/Modular Fab. Area [4] N/A (Other)

IRIS Procedure: Single Wall Exposure: RT 1, 2, 2A, 6, 7 Double Wall Exposure: RT 3, 3A, 4, 5, 8	SOD = Minimum Source-to-object distance OFD = Distance source side of Object to film at min. SOD	AB - Arc Burns BT - Burn Through CK - Crack EP - Excessive Penetration P - Porosity	EUC - External Undercut IUC - Internal Undercut HB - Hollow Bead IP - Incomplete Penetration S - Slag	IC - Internal Concavity LF - Lack of Fusion LC - Low Cover MA - Misalignment
---	---	---	---	---

Unit # 230 Kilometres: 1

In 0900 Out 01100 Hrs 2-0

In _____ Out _____ Hrs _____

Personnel: E. Caines
V. Brake

Film Quantity:
24 x 3 1/2" x 17 1/2"
DS

Interpretation by: Emanuel Caines SNT-TC-1A II

(Signature) CGSB II (Level)
CGSB # 9502

I am in full agreement with report contents:

Client Representative: Genna Jodder

5908 - 96 Street Edmonton, Alberta T6E 3G3 Ph (780) 437-2022 Fax (780) 436-4873	Barrhead Fort McMurray Grande Prairie High Level	(780) 674-3018 (780) 743-1536 (780) 532-2283 (780) 956-4094	Lloydminster Cold Lake Red Deer Tulsa, OK	(780) 875-6455 (780) 594-1114 (403) 347-1742 (918) 446-8773	5442 - 56 Avenue S.E. Calgary, Alberta T2C 4M6 Ph (403) 279-6121 Fax (403) 236-0716
--	---	--	--	--	--

Exposure Device #: 6704 Source #: A698
 Cobalt 60 IR 192 X-Ray EFSS: .150
 Film Brand: AGFA #Film/cassette: 1
 Code: ASME UWS2

Job / P.D. #: WOX 307944 IRISNDT #: 106496 Date: Dec. 20-05
 Client: CRIM TECH SVS
 Location: RED DEER / GASOLINE ALLEY
 Item: 8" DIA vessels Material: C/S SCH80

Film #	Size, Location, Thickness	Welder ID	IRISNDT Proc.	SOD Inches	OFD Inches	# of Exp.	Accept	Type and Location of Discontinuities (circle rejectable discontinuities)	Reject
								0" - 6" spots	
								S/N	
XG2	8" SCH80	P	RT3	8.0"	.625	1	✓	14525	
XG2		X					✓	14526	
XG2		I					✓	14528	
XG2		G					✓	14530	p@3"
XG2		R					✓	14531	

Number of Radiation Barrier Warning Signs Erected 10 Number of Radiation Barrier Warning Signs Returned 10

IRIS Procedure: Single Wall Exposure: RT 1, 2, 2A, 6, 7 Double Wall Exposure: RT 3, 3A, 4, 5, 8
 SOD = Minimum Source-to-object distance OFD = Maximum Object-to-film distance
 AB - Arc Burns BT - Burn Through CK - Crack EP - Excessive Penetration P - Porosity
 EUC - External Undercut IUC - Internal Undercut HB - Hollow Bead IP - Incomplete Penetration S - Slag
 IC - Internal Concavity LF - Lack of Fusion LC - Low Cover MA - Misalignment

Unit # 236 Kilometres: 1
 In 01030 Out 12:00 Hrs 1.5
 Personnel: E. Caines
V. Mc Dougall

Film Quantity:
5 x 2 3/4 x 8 1/2
DS

Interpretation by: Emanuel Caines SNT-TC-1A II
 CGSB # 9502
 I am in full agreement with report contents:
 Client Representative: Genna Dlodder

5908 - 96 Street Edmonton, Alberta T6E 3G3 Ph (780) 437-2022 Fax (780) 436-4873
 Barrhead Fort McMurray Grande Prairie Rainbow Lake (780) 674-3018 (780) 743-1536 (780) 532-2283 (780) 956-4094
 Lloydminster Cold Lake Red Deer Tulsa, OK (780) 875-6455 (780) 594-1114 (403) 347-1742 (918) 446-8773
 5442 - 56 Avenue S.E. Calgary, Alberta T2C 4M6 Ph (403) 279-6121 Fax (403) 236-0716

69

0 2500 11V 011204 WPB

Purchaser: CE Franklin Ltd. INSPECTION CERTIFICATE H# 05B30015 EN 10204 3.1B

E-No. Purchase Order No. Job No. D M Y Certificate No. 13/04/2005 T-2005200303



Specification for Material
 Made from Seamless Pipe
 ASTM A234-03/ASME SA234 WPB
 (Heat Identification No.)
 CSA Z246.11 GR241 CAT I NACE MR0176-2000

Specification for Inspection
 ASME / ANSI B16.9

Visual Examination
 Good

Dimensional Inspection
 Good

No.	MEG. No. (Heat Identification No.)	Product & Size	Quantity	Heat Treatment (Note 1)	Item No.
1	05A30016	C WPB 3 S80	50	*N	7515782
2	04N30011	C WPB 8 S80	50	*N	7515865
3	05B30015	C WPB 8 S80	100	*N	7511493
4	05C30003	C WPB 10 XS	5	*N	7514484
5	05A30011	C WPB 12 XS	2	*N	7514508

Material Heat No.	Chemical Composition %											Tension Test #2			E	
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	C.E.	YS	TS		HARDNESS MAX
	X/100	X/100	X/100	X/1000	X/1000	X/100	X/100	X/100	X/100	X/1000	X/1000	%	MPa	MPa		%
1	4-2807	12	17	108	19	5	1	2	2	0	31	329	432	36		
2	553	15	24	74	18	18	<1	2	<0.2	<1	28	291	440	47		
3	892	15	17	62	15	10	1	<2	<0.4	<2	28	288	480	43		
4	856	18	16	63	10	20	1	<2	<0.4	<2	27	255	432	44		
5	4-1022	11	17	120	15	3	2	2	2	1	32	354	448	42		

Note 1) A: Hot formed with final temperature between 620°C-980°C. Air Cooling. N: Normalizing 910°Cx0.5 HR. Air Cooling. S: Stress Relieving 675°Cx0.5 HR. Air Cooling. VA: Hot Finished Condition.

* N: NORMALIZING 910 C X 0.5 HR. AIR COOLING (SPECIFICATION FOR MATERIAL MADE FROM PLATE)

CE = C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15

MAGNETIC PARTICLE EXAMINATION FOR THE ONI, N

We hereby certify that the product described herein has been manufactured in accordance with the specifications concerned and also with the purchaser's requirements and that the test results shown herein are correct.

* 1: T: Symbolized wall thickness in mm. * 2: YS: Yield strength TS: Tensile strength E: Elongation

CRIMTECH SERVICES LTD.
 MATERIAL CONFORMS TO: ASME
 SEC. II, 2004

Quality Assurance Manager
 A/DENDAH Bankan Co., Ltd

58 Seti Wataruna, Bangkru, Prapadaeng.

BY:
 OCT 31 2005
 P.O. No.



UNITED STATES STEEL

(TYPE B - IN ACCORDANCE WITH ISO 10474/EN10204/DIN50049 3.1.b)

TUBULAR PRODUCTS
CERTIFIED TEST REPORT

X02840
B/S/L 80

SA 106 D

TIME: 08:15:51 1419

MILL ORDER/ITEM NO. TT07583 08
CE FRANKLIN LTD
1900 300-5TH AVE SW
CALGARY AB T2P 3C4

SHIPPERS NO. P91048
SOLD TO ADDRESS

P.O. NUMBER 1229222-OR-2100
MAIL TO ADDRESS

VEHICLE ID. NS192816

INVOICE NO 0423543
VENDOR

USS TUBULAR PRODUCTS
USS FAIRFIELD WORKS
P.O. BOX 599
FAIRFIELD ALABAMA 35064

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SPECIFICATION AND GRADE

PIPE CARBON SMLS STD PIPE API 5L-X43RD EDITION DATED 3/04 PSL-2 GRADE B AND GRADE X42 ASTM A53-X02 ASTM A106-X02A GRADE B QUAD STENCIL ASME SA53-X2001 EDITION 2003 ADDENDA ASME SA106-X2001 EDITION 2003 ADDENDA GRADE B BLK REG MILL COAT PE BEV 30 DEG MEETING ALL THE APPLICATIONS OF NACE CORROSION RESISTANCE SERVICES LTD. MATERIAL CONFORMS TO: ASME SEC. II, 2003 EDITION, 20 ADDENDA

JUN 23 2005

MATERIAL COND: AS-ROLLED
OD: 8.625 (219.075)
By: In (mm) WALL: 0.500 (12.700)

PRODUCT IDENTIFICATION	TEST TYPE/ ORIENTATION	TEST COND.	GAUGE WIDTH	YIELD		TENSILE		Y/T	ELONG %	HARDNESS	MAX PRO	DWELL (SEC)	CE *
				MIN:	MAX:	MIN:	MAX:						
U00487 *NOTE A	STRIP/L/B	AR	IN	42,000	72,000	70,000	110,000	0.65	30.0	99.5	3650		.39
X02840 *NOTE B	STRIP/L/B	AR	IN	48,400	48,200	79,000	75,000	0.64	44.4	91.5	3650		.40
				END OF DATA THIS SHEET ***									

*CE IS BASED ON THE FOLLOWING EQUATION(S): C.E. = C + MN/6 + (CRTMOT V)/5 + (CU+NI)/15 < 0.43

DECIMAL POSITIONS FOR ELEMENTS ARE INDICATED BY THE LEFT MARGIN, VERTICAL DOTTED LINE OR DECIMAL POINT.
529901002 T0401B50 3117850002 CAA 2-0-0 PAGE 1 OF 2
MAR 22 2005

33

41



EU STATES STEEL

UBULAR PH(L) LIS
CERTIFIED TES. REPORT
TYPE B - IN ACCORDANCE WITH ISO 10474/EN10204/DIN50049 3.1.b)

TIME: 08:15:52

MILL ORDER/ITEM NO. TT07583 08
 SHIPPERS NO. P91048
 P.O. NUMBER 1229222-OR-2100
 OD: 8.625(219.075)
 INVOICE NO 0423543
 WALL: 0.500 (12.700)

PRODUCT IDENTIFICATION	FLAT	BEND	GRAIN SIZE	MIN COLLAPSE	B - BODY		W - WELD		HAZ - HEAT AFFECTED ZONE							
					DIR	TEST LOC	TEMP	SIZE	TEST COND.	FT-LES			% SHEAR			AVG
					1	2	3	AVG	1	2	3	AVG				
U00487	OK															
X02840	OK															

LEGEND: L - LONGITUDINAL T - TRANSVERSE B - BODY W - WELD HAZ - HEAT AFFECTED ZONE

TEST / INSPECTION	YES	TESTING / INSPECTION INFORMATION	RESULTS / COMMENTS
FULL LENGTH VISUAL	X		
FULL LENGTH EMI	X	OD _____	OD/ID _____ X _____ L _____ L/T _____ X _____ 10.0/10.0% NOTCH
FULL LENGTH MPI		OD _____	OD/ID _____ L _____ L/T _____
FULL LENGTH UT		MPI _____ X _____	UT _____
END AREA INSPECTION (PLAIN END)	X	MPI _____	UT _____
SPECIAL END AREA (SEA) INSP.		MPI _____	DRIFT MANDREL SIZE: _____
FULL LENGTH DRIFT			

ADDITIONAL NOTES/COMMENTS

ALL MELTING AND MANUFACTURING TOOK PLACE IN THE USA.
 MANUFACTURED IN AN ISO 9001 CERTIFIED FACILITY - CERTIFICATE #30727.
 NO REPAIRS BY WELDING, NO MERCURY OR MERCURY COMPOUNDS ARE ADDED TO THE STEEL AND ALL MERCURY BEARING EQUIPMENT IS PROTECTED BY A DOUBLE BOUNDARY OF CONTAINMENT.
 01 MILL
 *NOTE A SEE ATTACHED REPORT FOR TENSILE RESULTS.
 *NOTE B SEE ATTACHED REPORT FOR TENSILE RESULTS.
 ALSO MEETS THE REQUIREMENTS OF ASTM A106-99/ASME SA106-1998 ED. 1999 GRADE C.
 *** END OF DATA ***

THIS IS TO CERTIFY THAT THE PRODUCT DESCRIBED HEREIN WAS MANUFACTURED, SAMPLED, TESTED AND/OR INSPECTED IN ACCORDANCE WITH THE SPECIFICATION AND FULFILLS THE REQUIREMENTS IN SUCH RESPECTS.
 PREPARED BY THE OFFICE OF: J.T. CLAYTON - MANAGER, Q.A.
 DATE 03/18/05

113AZ 1" Gm cp/g.

CLIENTE / Customer / Client
CE FRANKLIN LTD.
 1900-300-5TH AVENUE S.W.
 CALGARY, ALBERTA, T2P 3C4
 CANADA

CERTIFICADO DE INSPECCION
 Works Certificate - Certificat d'Usine

DIN 50049 / 3.1.B
 EN 10204 / 3.1.B

FECHA: 14/07/2004
 Date: 14/07/2004

No. N.º: 95147
 HOJA: 2
 Page: 2


ULMA FORJA S. COOP
 Bº Zubillaga, 3 - Añulo, 14
 20500 UZTATI (Gipuzkoa) SPAIN
 Tel: 34 - 943 780552
 Fax: 34 - 943 781808
 E-mail: tonja@orgma.ulma.es

N.º: 92216-4

BRIMECH SERVICIOS LTD.
 MATERIAL CONFORMISTO ASME
 SEC. II, 2007 EDITION - 20 ADDENDA

23/06/2004

PRODUCTO **FITTING**
 Article - Produit
 NORMAS APLICABLES **ASME B16.11-01**
 Requirements - Normes applicables
 MATERIAL CORRESPONDIENTE **ASTMA105N-02**
 Material Correspondent - Qualité **ASME SA105N**
 MODO DE FUSION (*) **NACE MR-01-75/03**
 Steel making - Elaboration de l'acier
 E = Elec. Y = Origano basico

By: 
JUN 30 2005

Certified acc. PED 97/23/EC
 by TÜV Rheinland
 N.º 01 202 EQ 02 7443

MARCA DEL FABRICANTE
 Mark of factory
 Marque du fabricant

DEPARTAMENTO **QUALITY ASSURANCE**
 Section **QUALITY ASSURANCE**
 Departement

40849

PARTIDA Item Parte	CANTIDAD Quantity	DESCRIPCION Description	P.O. No.	OBSERVACIONES Remarks	PLACA N.º Heat No	RESISTENCIA Tensile Strength	VALOR ELASTICO Yield Point	ALARGAMIENTO Elongation	REDUCCION A LA RUP Reduktion A	RESISTENCIA IMPACT ENERGY Impact energy	UTDA ATADG MONTAJE	DUREZA Brinell HB
10	204	COUPLING 1.1/2 3000LB NPT A105N 1099S1S2		NE	89A4	515	312	33.00	67.10			151
11	1.200	COUPLING 2 3000LB NPT A105N 1099L382		NE	89A4	515	312	33.00	67.10			151
12	100	COUPLING 4 3000LB NPT A105N 1099S988		NE	157A4	516	320	33.50	67.00			151
14	150	CAP 2 3000LB NPT A105N 1099S555		NE	267AX	519	317	31.00	56.00			150
15	800	UNION 1/2 3000LB NPT A105N 1099L60A1		NE	164AZ	524	320	31.70	62.00			152
16	350	UNION 3/4 3000LB NPT A105N 1099L39AS		NE	165AZ	534	322	30.20	55.00			153
17	210	COUPLING 1 6000LB NPT A105N 1099Q9AS		NE	113AZ	516	304	31.40	60.00			150

COMPOSICION QUIMICA - STEEL MAKER'S LADLE ANALYSIS - ANALYSE CHIMIQUE

COADA Heat Coulee No	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	CEQ %
113AZ	0.190	0.220	1.150	0.017	0.002	0.030	0.060	0.010	0.000	0.000	0.150	0.404
157A4	0.200	0.300	1.130	0.019	0.022	0.060	0.060	0.005	0.001	0.001	0.150	0.416
164AZ	0.190	0.280	1.000	0.008	0.029	0.080	0.090	0.030	0.001	0.003	0.080	0.391
165AZ	0.200	0.280	1.030	0.007	0.026	0.110	0.090	0.040	0.001	0.002	0.160	0.419
267AX	0.190	0.230	0.990	0.007	0.021	0.110	0.220	0.050	0.000	0.000	0.270	0.420
89A4	0.190	0.190	0.930	0.011	0.005	0.090	0.090	0.020	0.010	0.001	0.200	0.387

• Las dimensiones y la condición superficial se hallaron satisfactorias
 • Dimension and surface condition were found acceptable
 • Les dimensions et états de surface sont satisfaisants

• Los materiales citados cumplen las normas aplicables
 • Manufacturing requirements are satisfied
 • Les normes applicables sont respectées

ULMA FORJA S. COOP
 Dpto. de Garantía de Calidad
 Quality Assurance Dept.

EL INSPECTOR
 Works Inspector - l'inspecteur

(*) OBSERVACIONES N.º NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR
 Remarks Observations

M.E.G.A.

CLIENTE Customer Client
 CE FRANKLIN LTD.
 1900 - 300 - 5th AVENUE S W
 CALGARY, ALBERTA, CANADA T2P 3C4

CERTIFICATO N. 252409 Foglio 7
 Certificate N. Sheet
 Certificat N. Feuille
 DATA / Date 25/01/05

CERTIFICATO DI COLLAUDO
 TEST CERTIFICATE
 CERTIFICAT DE CONTROLE

COMPANY WITH QUALITY SYSTEM
 CERTIFIED BY DNV
 ISO 9001

ORDINE Purchase order Commande
 1169057-OR-2100

COMMESSA Job # Confirmation de commande
 74522

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CEX
RXDB	ASTM A105N/98	0030147	0.220	0.210	1.040	0.006	0.013	00.12	00.02	0.006	0.000	0.016	0.001	0.022	0.420
CUBB	ASTM A105/01	78372	0.180	0.250	0.920	0.010	0.009	00.06	00.05	0.010	0.000	0.160	0.018	0.020	0.364
FFXN	ASTM A105/02	BLE*440568	0.196	0.189	1.130	0.013	0.017	00.05	00.02	0.006	0.002	0.060	0.001	0.026	0.401
FBFC	ASTM A234/02 WPB	04/30303	0.200	0.210	1.020	0.010	0.009	00.12	00.05	0.010	0.018	0.160	0.015	0.023	0.413
FBDB	ASTM A105/02	32712	0.170	0.260	1.080	0.010	0.009	00.10	00.11	0.030	0.000	0.200	0.010	0.030	0.398
FUCA	ASTM A105/02	1T 16362	0.190	0.280	0.890	0.006	0.009	00.11	00.10	0.023	0.021	0.210	0.001	0.031	0.385

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SNERVAMENTO Yield point Limite d'élasticité	ROTTURA Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHIACC Flat test Aplatis	RESILLENZA Impact test / Résilience			
	SEZIONE Section / Sect	LUNGHEZZA Length / Longueur								UNITA' MISC. Unit system	TIPD Type	T °C Test temp	VALORE Value / Donner
RXDB	59.4	36.5	314.0	540.0	26.9	65.6	160-163			KV		0	110-130-128
CUBB	122.7	50.0	330.0	504.0	32.4	62.6	154-156			KV		0	54-46-50
FFXN	126.6	50.0	482.0	623.0	27.0	62.0	143-150			KV		0	138-134-148
FBFC	122.7	50.0	333.6	528.9	32.0	64.6	145-147			KV		0	58-52-54
FBDB	122.6	50.0	351.0	494.0	47.6	76.8	145-151			KV		0	112-130-120
FUCA	30.2	25.0	319.0	506.0	36.8	60.1	154-156			KV		0	

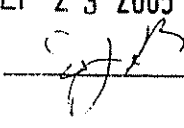
NOTE / Remarks / Notes

EN10204/3.1B ** DIN 50049 3.1B

FORMA Shape / Forme : 1 = Ø 2 = I

RXDB	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	/19643.98 LUCCHINI*101080 MEGA*NB:0.002*Sn:0.002*
CUBB	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	/CERT.390.03 ISMA*241948 MEGA
FFXN	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	/CERT.2318.04 METALFAR*
FBFC	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	/CERT.22343.04 RIVA*241992 MEGA
FBDB	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	/CERT.278496.04 IMS*242000 MEGA
FUCA	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	/CERT.394.04 ISMA*247540 MEGA*

PROVA Test Epreuve	POS. Item Pos.	QUANTITA' Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
RXDB	064	1	1090482	COUPLING S. 3000 SW A/SA105N 3	OK
CUBB	076	10	1096286	90 DEG. ELBOW S. 6000 NPT A/SA105N 2	OK
FFXN	077	15	1090520	TEE S. 6000 NPT A/SA105N 2	OK
FBFC	081	300	1092402	COUPLING S. 6000 NPT A/SA105N 2	OK
FBDB	082	30	1561213	COUPLING S. 6000 NPT A/SA105N 3	OK
FUCA	086	150	1095881	HEX. HEAD PLUG NPT A/SA105N 3	OK

CRIMTECH SERVICES LTD.
 MATERIAL CONFORMS TO: ASME
 SEC II, 2004 EDITION, 20__ ADDENDA
 SEP 23 2005
 By: 
 P.O No

NOTE / Remarks / Notes

ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official

CAPO COLLAUDO Chief Inspection DPT Responsable Assurance qualité

DOC CERT. H.E.G.A.
 Sergio Apiani

MATERIAL ACCORDING TO:
 NACE MR 0175 Ed. 2003.

36

2" Cp19 6m

SA105N

F B F C H # 117

PO 117439

M.E.G.A.

CLIENTE Customer Client
CE FRANKLIN LTD.
 1900 - 300 - 5th AVENUE S.W.
 CALGARY, ALBERTA. CANADA T2P 3C4

CERTIFICATO N. 243897 FOLGIO 12
 Certificate N. Sheet
 Certificat N. Feuille
 DATA / Date 26/02/04

CERTIFICATO DI COLLAUDO
 TEST CERTIFICATE
 CERTIFICAT DE CONTROLE

COMPANY WITH QUALITY SYSTEM
 CERTIFIED BY DNV
 ISO 9001

ORDINE Purchase order
 Commande
 996190-OR-2100

COMMESSA Job N.
 Confirmation de commande
 71660


PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CEX
DXCB	ASTM A105/01	0341407/03	0.170	0.300	1.080	0.004	0.010	00.11	00.03	0.011	0.000	0.024	0.002	0.020	0.379
FAFO	ASTM A105N/01	113529	0.182	0.224	1.055	0.004	0.007	00.14	00.15	0.028	0.000	0.240	0.001	0.030	0.419
FALO	ASTM A105N/98	113529	0.182	0.224	1.055	0.004	0.007	00.14	00.15	0.028	0.000	0.240	0.001	0.030	0.419
FBDA	ASTM A105/01	T32514	0.182	0.255	1.050	0.006	0.015	00.05	00.02	0.002	0.002	0.050	0.004	0.033	0.372
RCLD	ASTM A105N/01	24521	0.190	0.170	1.000	0.011	0.010	00.13	00.11	0.010	0.000	0.200	0.000	0.000	0.405
RCXB	A350/00a LF2 C1.1	099162	0.160	0.225	1.180	0.005	0.007	00.10	00.16	0.031	0.000	0.234	0.004	0.031	0.410
SBA9	A350/00a LF2 C1.1	977399	0.190	0.240	1.000	0.004	0.015	00.16	00.09	0.030	0.000	0.210	0.005	0.000	0.415

PROVA Test Epreuve	PROVETTA Test specimen / Ep. bouchette		SMERVAMENTO Yield point Limite d'élasticité	ROTTURA Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHIACC. Flat. test Aplattiss.	RESILLENZA Impact test / Résilience		
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITA MIS. Unit system	TIPO Type	VALORE / Value / Données
DXCB	1	60.1 35.0	265.4	490.0	30.4	73.3	143-146			J	KV	0 260-272-274
FAFO	1	30.1 25.0	302.0	518.0	30.6	68.0	145-150			J	KV	0 66-60-62
FALO	1	30.1 25.0	292.0	508.0	31.6	68.4	140-150			J	KV	0 208-240-216
FBDA	1	122.7 50.0	313.0	510.0	34.0	69.8	149-152			J	KV	0 208-240-216
RCLD	1	122.6 50.0	322.0	538.0	27.4	63.6	152-156			J	KV	-50 78-84-90
RCXB	1	30.6 25.0	372.5	512.0	31.4	67.2	143-149			J	KV	-50 32-28-18
SBA9	1	31.8 25.0	364.0	593.0	35.2	75.6	156-158			J	KV	-50 32-28-18

NOTE / Remarks / Notes
 EN10204/3.1B ** DIN 50049 3.1B.

DXCB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.20571.03 LUCCHINI*241966MEGA*Nb:0.0026**
FAFO	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.73.00 EVASI*117786 MEGA*Nb:0.002*
FALO	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.68.00 EVASI*117786 MEGA*Nb:0.002*
FBDA	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.256799.04 IMS*241966 MEGA*Nb:0.0033**
RCLD	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.357.00 ISMA*209301 MEGA*Nb:0.001*
RCXB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/127.98 EVASI*101038 MEGA*Nb=.002**Sn=.015*
SBA9	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/97/21194 DALMINE*171390 MEGA*Nb<0.02**

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
DXCB	101	180	1095355	CAP S. 3000 NPT A/SA105N 2	OK
FAFO	208	50	1127610	ELBOMEGALET S. 3000 NPT A/SA105N 3/4x1.1/4 -36	OK
FALO	207	60	1127441	ELBOMEGALET S. 3000 NPT A/SA105N 1/2x1.1/4 -36	OK
FBDA	148	100	1092402	COUPLING S. 6000 NPT A/SA105N 2	OK
RCLD	212	5	1126545	ELBOMEGALET S. 3000 SW A/SA105N 1x1.1/4 -36	OK
RCXB	290	3	1551015	MEGALET S. 6000 NPT LF2 CLI 1/2x2.1/2 -24	OK
SBA9	254	4	1097705	COUPLING S. 3000 SW LF2 CLI 1.1/2	OK

CRIMTECH SERVICES LTD.
 MATERIAL CONFORMS TO: ASME
 SEC. II, 2004 EDITION - 20 - ADDENDA
 APR 11 2005
 By: 
 P.O. No. _____

26

NOTE: Remarks / Notes

ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official

CAPO COLLAUDO Chief Inspection DPT Responsable assurance qualité

DOC. CERT. M.E.G.A. Luca Marcati

FBDA 2" 6m coup.

69

8" Sch. 80 weld cap SH 234 WPB

POH 120919

LT# 05F30005

Purchaser: CCTF CORPORATION

INSPECTION CERTIFICATE

EN 10204 3.1B

E.No. Purchase Order No. Job No.

MA-269 4873443



D M Y Certificate No.

13/07/2005 T-2005200515

No.	MFG. No. (Heat Identification No.)	Specification for Material		Specification for Inspection		Visual Examination ¹	Dimensional Inspection
		Product & Size	ASTM A234-03/ASME SA234 WPB CSA Z245.11 GR241 CAT 1 NACE MR0175-2000	ASME / ANSI B16.9	Quantity		
1	05B30015	C WPB 8 SB0		8/25		Good	Good
2	05F30005	C WPB 8 SB0		15/25		Good	Good
3	05F30024	C WPB 8 SB0		4/25		Good	Good
4							
5							

Material Heat No.	Chemical Composition %														Tension Test #2		
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	C.E.	YS	TS	E		
1	15	17	82	15	10	1	<2	1	<0.4	2	<10	26	288	460	43		
2	18 ✓	28 ✓	105 ✓	8 ✓	4 ✓	16 ✓	6 ✓	4 ✓	12 ✓	1 ✓	0.4	41	305 ✓	472 ✓	44 ✓		
3	15	20	95	11	5	1	2	2	2	1	1	31	280	448			
4																	
5																	

(Note 1) A: Heat formed with final temperature between 620°C-980°C, Air Cooling; N: Normalizing 910°Cx0.5 HR, Air Cooling; S: Stress Relieving 675°Cx0.5 HR, Air Cooling

* N: NORMALIZING 910 C X 0.5 HR, AIR COOLING (SPECIFICATION FOR MATERIAL MADE PLATE)

C.E. = C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15

MAGNETIC PARTICLE EXAMINATION FOR TEE ONLY

We hereby certify that the product described herein has been manufactured in accordance with the specifications concerned and also with the purchaser's requirements and that the test results shown herein are correct.

1: TS = Tensile strength E = Elongation

CFIMTECH SERVICES LTD.
 ADDENDUM
 SEC. II. 2005-2005
 12005

BY: Quality Assurance Manager
 POC: BKK Benkan Co., Ltd.
 38 Soi Wukrunai, Bangkok, Prapad

M.E.G.A.

CLIENTE Customer Client
 CE FRANKLIN LTD.
 1900 - 300 - 5th AVENUE S.W
 CALGARY, ALBERTA, CANADA T2P 3C4

CERTIFICATO N. 252409 foglio 7
 Certificate N. Sheet Feuille
 DATA / Date 25/01/05

50002
 36

CERTIFICATO DI COLLAUDO
 TEST CERTIFICATE
 CERTIFICAT DE CONTROLE

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV ISO 9001

ORINE Purchase order Commande 1169057-OR-2100

COMMESSA Job N. Confirmation de commande 74522

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	AL %	CE %
RXDB	ASTM A105N/98	0030147	0.220	0.210	1.040	0.006	0.013	00.12	00.02	0.006	0.000	0.016	0.001	0.022	0.420
CUBB	ASTM A105/01	78372	0.180	0.250	0.920	0.010	0.009	00.06	00.05	0.010	0.000	0.160	0.018	0.020	0.364
FFXN	ASTM A105/02	BLE*440568	0.196	0.189	1.130	0.013	0.017	00.05	00.02	0.006	0.002	0.060	0.001	0.026	0.401
FBFC	ASTM A234/02 WPB	04/30303	0.200	0.210	1.020	0.010	0.009	00.12	00.05	0.010	0.018	0.160	0.015	0.023	0.413
FBDB	ASTM A105/02	32712	0.170	0.260	1.080	0.010	0.009	00.10	00.11	0.030	0.000	0.200	0.010	0.030	0.398
FUCA	ASTM A105/02	IT 16362	0.190	0.280	0.890	0.006	0.009	00.11	00.10	0.023	0.021	0.210	0.001	0.031	0.385

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SMERVAMENTO Yield point Limite d'élasticité	ROTTURA Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Ployage	SCHIACC Flat test Aplatis	RESILLENZA Impact test / Résilience		
	SEZIONE Section / Sect	LUNGHEZZA Length / Longueur								UNITA' MISC. Unit system	TIPO Type	T °C Test temp
RXDB	1	59.4	36.5	314.0	26.9	65.6	160-163			KV	0	110-130-128
CUBB	1	122.7	50.0	330.0	32.4	62.6	154-156			KV	0	54-46-50
FFXN	1	126.6	50.0	482.0	27.0	62.0	143-150			KV	0	138-134-148
FBFC	1	122.7	50.0	333.6	32.0	64.6	145-147			KV	0	58-52-54
FBDB	1	122.6	50.0	351.0	47.6	76.8	145-151			KV	0	112-130-120
FUCA	1	30.2	25.0	319.0	36.8	60.1	154-156			KV	0	112-130-120

NOTE / Remarks / Notes

EN10204/3.1B ** DIN 50049 3.1B.

FORMA Shape / forme : 1 = 0 2 = 1

RXDB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/19643.98 LUCCHINI*101080 MEGA*NB:0.002x*Sn:0.002x
CUBB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.390.03 ISMA*241948 MEGA
FFXN	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.2318.04 METALFAR*
FBFC	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.22343.04 RIVA*241992 MEGA
FBDB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.278496.04 IMS*242000 MEGA
FUCA	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.394.04 ISMA*247540 MEGA*

PROVA Test Epreuve	POS. Item Pos.	QUANTITA' Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE Description / Description	VISUAL AND DIMENSIONAL
RXDB	064	1	1090482	COUPLING S. 3000 SW A/SA105N 3	OK
CUBB	076	10	1096286	90 DEG. ELBOW S. 6000 NPT A/SA105N 2	OK
FFXN	077	15	1090520	TEE S. 6000 NPT A/SA105N 2	OK
FBFC	081	300	1092402	COUPLING S. 6000 NPT A/SA105N 2	OK
FBDB	082	30	1561213	COUPLING S. 6000 NPT A/SA105N 3	OK
FUCA	086	150	1095881	HEX. HEAD PLUG NPT A/SA105N 3	OK

CRIMTECH SERVICES LTD.
 MATERIAL CONFORMS TO: ASME
 SEC II, 2004 EDITION, 20__ ADDENDA
 SEP 23 2005
 By:
 P.O. No.

NOTE / Remarks / Notes

ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official

CAPO COLLAUDO Chief Inspection DPT Responsabilité Assurance qualité

DOC. CERT. M.E.G.A. Sergio Appliant

MATERIAL ACCORDING TO:
 NACE MR. 0175 Ed. 2003

2" Coplg Com
 24105 N
 FBFC
 # 1.17



PH 1-800-993-9958

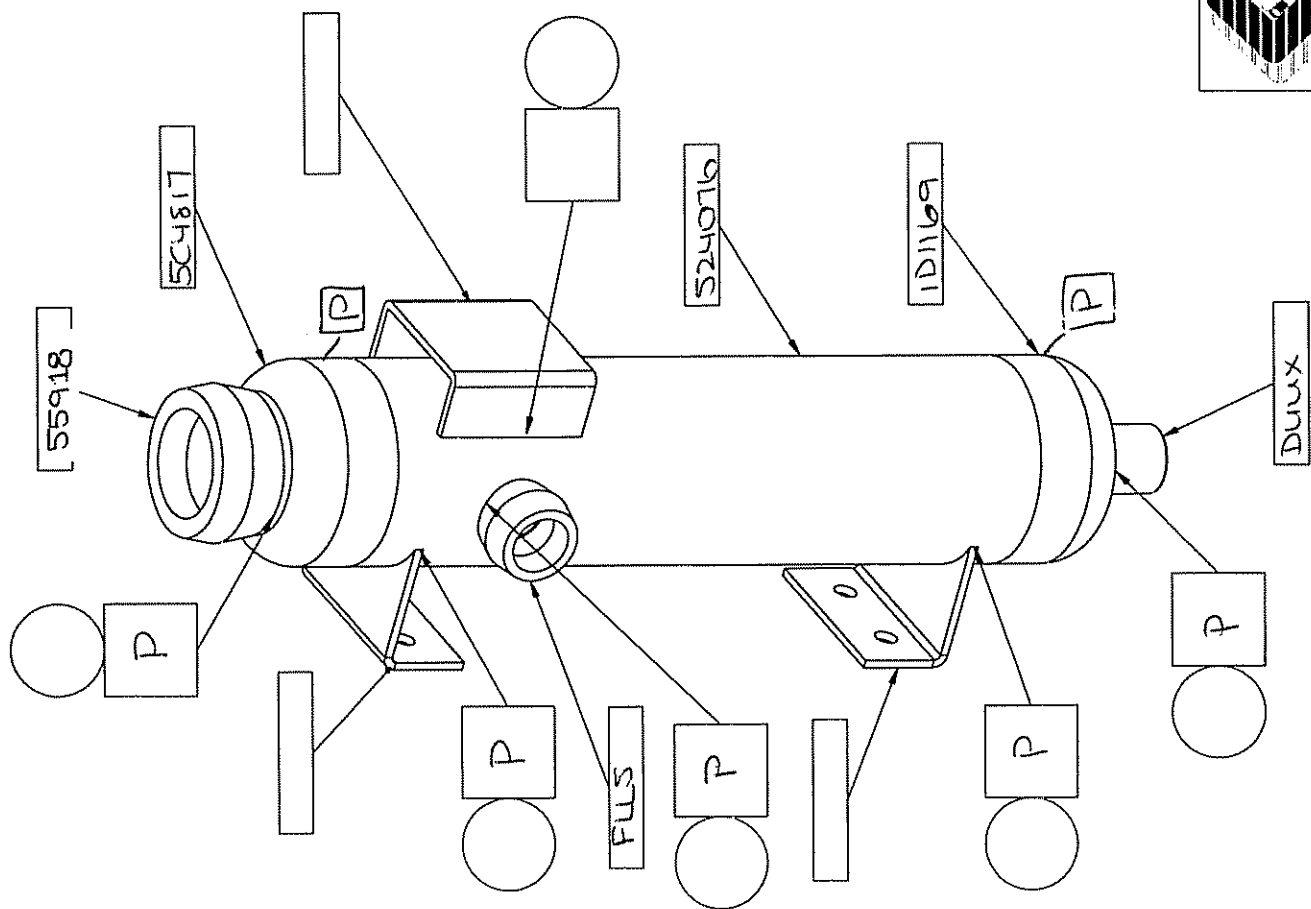
WWW.CRIMTECH.COM

DRAWING NO.:




1006909-WM-01

SPOOL NO.:

14-174



WELD MAP LEGEND

-  = NDE
-  = WELDER
-  = HEAT NUMBER

ALBERTA MUNICIPAL AFFAIRS

Alberta Boilers Safety Association
200, 4208 - 97 Street
Edmonton AB T6E 5Z9

MANUFACTURER'S DATA REPORT
FOR MINIATURE 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 <i>Construit par</i>	Name and address of Manufacturer/ <i>Nom et adresse du constructeur</i> Crimtech Services Ltd. 8005 Edgar Industrial Avenue Red Deer, Alberta Canada
Manufactured for <i>Construit pour</i>	Name and address of Purchaser or Consignee/ <i>Nom et adresse du client ou de son représentant</i> Crimtech Services Ltd. 8005 Edgar Industrial Avenue Red Deer, Alberta Canada
Ultimate owner <i>Utilisateur</i>	Name and address/ <i>Nom et adresse</i> TBD
Location of installation <i>Lieu d'installation</i>	Name and address/ <i>Nom et adresse</i> TBD

Pressure vessel/ Appareil

Type/ <i>Genre</i> Vertical	Overall Length/ <i>Longueur totale</i> 1' 8"	Serial No / <i>N° de série</i> 14170 - 14181	Year built/ <i>Année de fabrication</i> 2005
Provincial Registration No - C R N / <i>N° d'enregistrement provincial - N E C</i> OH3822.213			Drawing No / <i>N° de dessin</i> VS-4140-01 R1

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

The design, construction and workmanship conform to CSA B51 <i>La conception, la construction et la façon sont conformes à ACNOR B51</i>	ASME Section VIII	Division 1	Addenda/ <i>Supplément</i> 2004	Code case No <i>N° de cas</i> N/A
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Manufacturer's 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 du constructeur adéquatement identifiés et signés par les inspecteurs autorisés ont été produits pour les items suivants du rapport. et attachés à ce rapport

Names of parts/ <i>Nom de la composante</i>	Item No / <i>NO d'item</i>	Manufacturer's Name/ <i>Nom du constructeur</i>	Identifying Stamp/ <i>Estampe d'identification</i>
N/A	N/A	N/A	N/A

Shell/ Virole

Description	Material <i>Matériau</i>	Thickness <i>Épaisseur</i>	Corr. Allow. <i>Surépais de corr.</i>	Diameter <i>Diamètre</i>	Longitudinal Joints <i>Joints longitudinaux</i>			P.W.H.T <i>Traitement therm</i>		Girth Joints <i>Joints de circonférence</i>		Number of courses <i>Nombre de sections</i>
					Type	R.T. <i>Radiog</i>	Efficiency <i>Efficacité</i>	Temp	Time <i>Durée</i>	Type	R.T. <i>Radiog</i>	
Shell	SA 106B	0.337"	0.0625"	4.5"	N/A	N/A	N/A	None	None	Type 1	Spot *	1

Heads/ Tetes

Description	Material <i>Matériau</i>	Min. Thickn. <i>Épais minim</i>	Corr. Allow <i>Surép. Corr.</i>	Crown Radius <i>Rayon couron</i>	Knuckle Radius <i>Petit rayon</i>	Ellipse Ratio <i>Rapp. ellipse</i>	Conical Apex Angle <i>Angle conique</i>	Hemisph Radius <i>Ray. Hémisph</i>	Flat Diameter <i>Diam plat</i>	Side to pressure <i>Côte sous pression</i>
Top	SA-234 WPB	0.2949"	0.0625"	N/A	N/A	2:1	N/A	N/A	4.5"	Concave
Bottom	SA-234 WPB	0.2949"	0.0625"	N/A	N/A	2:1	N/A	N/A	4.5"	Concave
Removable bolts used (describe other fastenings) <i>Boulons amovible utilisés (décrire tout autre attache)</i>					Mat'l Spec./ <i>Spéc. du mat.</i>			Grade		Size/ <i>Dimension</i>
N/A					N/A			N/A		N/A

Pressure - Temperature/ Pression - température

Pressure Vessel Part <i>Partie de l'appareil</i>	Constructed for max allowable working pressure <i>Construit pour une pression maximale de marche permise</i>	At max. temp. <i>A une temp. max</i>	Minimum design metal temp <i>Temp. min</i>	Test pressure (hydro-pneumatic or combination) <i>Pression d'épreuve (hydro-pneumatique ou combinaison)</i>
Shell	1480 PSI	100°F	-20°F	2220 PSI
Head	1480 PSI	100°F	-20°F	2220 PSI

Tube Section/ Faisceau tubulaire

Material/ Matériau N/A	Diameter/ Diamètre N/A	Nominal Thickness (gauge) Épaisseur nominale (calibre) N/A	Number/ Nbre N/A	Type (Straight or U) Type (Droit ou U) N/A	Attachment Mode d'attachement N/A
Tube material/ Matériau des tubes N/A	Diameter/ Diamètre N/A	Nominal Thickness (gauge) Épaisseur nominale (calibre) N/A	Number/ Nbre N/A	Type (Straight or U) Type (Droit ou U) N/A	Heating Surface Surface de chauffe N/A

Jacket/ Chemise

Type of jacket/ Genre de chemise N/A	Jacket closure Fermeture de chemise N/A	Proof Test Pression d'épreuve N/A	Heating Surface Surface de chauffe N/A	Sketch/ Schéma N/A
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Safety Valve Outlets/ Soupapes de sûreté

Number/ Nombre N/A	Dimension N/A	Location/ Endroit N/A
-----------------------	------------------	--------------------------

Nozzles and Openings/ Tubulures et ouvertures

Purpose/ But	Number Nombre	Dimension	Type	Material Matériau	Nominal Thickness Épaisseur nominale	Reinforcement material Matériau de renfort	How attached Genre d'attaches	Location/ Endroit
N Inlet	1	1"	Thread-o-let	SA 105 N	3000#	N/R	UW16.1(a)	Shell
N2 Gas Out/ HLSD/Insp	1	2"	Thread-o-let	SA 105 N	3000#	N/R	UW16.1(a)	Top Head
C3 Level Switch	1	1/2"	Cplg	SA 105 N	6000#	N/R	UW 16.1(c)	Bottom Head

Supports/ Supports

Skirt/ Jupe Yes/ Oui No/ Non <input type="checkbox"/> <input checked="" type="checkbox"/>	Lugs/ Orelles No / Nbre No	Legs/ Pieds No / Nbre No	Other/ Autres (Description) Support Brackets	Attached/ Attaches (Where and How/ Méthode et endroit) Welded to shell
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Remarks/ Observations (Cubical capacity/ Volume)

Volume 0.11 ft³
 * Radiography Spot per UW-11(a)5(b)
 Impact test exempt per UG-20(f)
 Construction drawing 1006909-VS-01 Rev. 4

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 B51

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 B51.

Provincial Registered Design
 Enregistrement provincial OH3822.213

Manufacturer
 Constructeur Crimtech Services Ltd.

Signature [Signature] Date 11/9/05
 (Representative)

Signature [Signature] Date 11/9/05
 (Certified Individual)


CRIMTECH SERVICES LTD.
TRAVEL SHEET (front)
DO NOT START CONSTRUCTION WITHOUT A.I. REVIEW

A.I. Review

Review Date

Serial No. 14170 - 14181

Job No. 307716

Drawing No. 1006909-VS-01

Dwg. Rev. No. 4

Travel Sheet Initiation by: Jason L Miller

Vessel Type Fuel Gas Scrubber

Seq	Item	Comments	QC	Date	A.I. Hold Points	A.I.	Date	Owner	Date
1	Calculations in File		JLM	10/28/05		CE	10/28/05		
2	Release of Approved Dwg		JLM	10/28/05		CE	10/28/05		
3	Heat Numbers Recorded		GH	11/08/05		CE	11/8/05		
4	M T R.'s Checked		GH	11/07/05		CE	11/7/05		
5	W P S. Checked		GH	10/28/05		CE	10/28/05		
6	Welders Qualified		GH	10/28/05		CE	10/28/05		
7	Thickness Verified & Recorded		GH	11/08/05		CE	11/8/05		
8	Shell(s) & Head(s) Fit-up & Inspection		GH	11/08/05		CE	11/8/05		
9	Nozzles & Fittings Fit-up & Inspection		GH	11/08/05		CE	11/8/05		
10	Nozzle Orientation		GH	11/08/05		CE	11/8/05		
11	Nozzle & Flange Rating Checked		GH	11/08/05		CE	11/8/05		
12	Impact Tests		/			-	-		
13	Internals Checked		GH	11/09/05		CE	11/9/05		
14	Final Internal Inspection	Shell Side	GH	11/09/05		CE	11/9/05		
		Tube Side							
15	Weld Size Checked		GH	11/08/05		CE	11/8/05		
16	Welder I.D. Checked		GH	11/08/05		CE	11/8/05		
17	Final External Inspection		GH	11/09/05		CE	11/9/05		
18	Radiography		GH	11/08/05		CE	11/8/05		
19	Other N D E		/			-	-		
20	Final Ext Prior to P W H T.		/			-	-		
21	PWHT Chart Checked		/			-	-		
22	Hydrostatic Test	Shell Side	Gauge # CT-006	GH	11/09/05	CE	11/9/05		
		Tube Side	Gauge # M6						
23	CRN Drawing	CRN # OH3822 213	JLM	10/28/05					
24	N.C.R. #		/			-	-		
25	Nameplate Stamping		GH	11/07/05		CE	11/9/05		
26	Manu Data Report Complete & Verified		GH	11/07/05		CE	11/9/05		
27	Nameplate Installation		GH	11/07/05		CE	11/9/05		

The Authorized Inspector shall be presented with the travel sheet prior to construction so that he can designate additional inspection points and/or Hold Points (Any revisions shall be marked with a delta symbol with revision number and described at the bottom of this page).

*Denotes an A.I. Inspection Point

**Denotes an A.I. Hold Point

CERTIFIED & MANUFACTURED BY



CRIMTECH
SERVICES LTD

RED DEER, ALBERTA, CANADA 1-800-377-4701

M.A.W.P. 1480 psi @ 100 °F

Serial No. 14170 Year Built 2005

CRN OH.3822.231

CERTIFIED & MANUFACTURED BY



CRIMTECH
SERVICES LTD

RED DEER, ALBERTA, CANADA 1-800-377-4701

M.A.W.P. 1480 psi @ 100 °F

Serial No. 14171 Year Built 2005

CRN OH.3822.231

CERTIFIED & MANUFACTURED BY



CRIMTECH
SERVICES LTD

RED DEER, ALBERTA, CANADA 1-800-377-4701

M.A.W.P. 1480 psi @ 100 °F

Serial No. 14172 Year Built 2005

CRN OH.3822.231

CERTIFIED & MANUFACTURED BY



CRIMTECH
SERVICES LTD

RED DEER, ALBERTA, CANADA 1-800-377-4701

M.A.W.P. 1480 psi @ 100 °F

Serial No. 14173 Year Built 2005

CRN OH.3822.231

CERTIFIED & MANUFACTURED BY



CRIMTECH
SERVICES LTD

RED DEER, ALBERTA, CANADA 1-800-377-4701

M.A.W.P. 1480 psi @ 100 °F

Serial No. 14174 Year Built 2005

CRN OH.3822.231

CERTIFIED & MANUFACTURED BY



CRIMTECH
SERVICES LTD

RED DEER, ALBERTA, CANADA 1-800-377-4701

M.A.W.P. 1480 psi @ 100 °F

Serial No. 14175 Year Built 2005

CRN OH.3822.231



CRIMTECH SERVICES LTD.
TRAVEL SHEET Vessel s/n 14174

MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION				WELD I.D. / WELDER SYMBOLS / FIT-UP					
Description	Thickness	Material Spec & Grade	Heat & Slab Number or I.D. Number	Weld I.D.	Symbol	Fit-Up	Weld I.D.	Symbol	Fit-Up
Shell #1		SA 106-B	524076						
Head #1		SA 234 WPB	5C4817	C-1	P				
Head #2		SA 234 WPB	1D1169	C-2	P				

ATTACHMENT AND / OR NOZZLE MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION						WELDER SYMBOLS / FIT-UP			
Mark	Mat. I.D.	Neck	Fitting	Flange	Repad or Attachment	Cat. B	Cat. C	Cat. D	Pad OD
N-1	Spec -Grd		SA 105-N					P	
	Thk /Rating		1" 3M Cplg						
	Heat# or ID		FLLF						
N-2	Spec -Grd		SA 105-N					P	
	Thk /Rating		2" 3M Cplg						
	Heat# or ID		55918						
N-3	Spec -Grd		SA 105-N					P	
	Thk /Rating		½" 6M Cplg						
	Heat# or ID		DUUX						
N-4	Spec -Grd								
	Thk /Rating								
	Heat# or ID								

CRIMTECH SERVICES LTD.
TRAVEL SHEET Vessel s/n 14175

MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION				WELD I.D. / WELDER SYMBOLS / FIT-UP					
Description	Thickness	Material Spec & Grade	Heat & Slab Number or I.D. Number	Weld I.D.	Symbol	Fit-Up	Weld I.D.	Symbol	Fit-Up
Shell #1		SA 106-B	524076						
Head #1		SA 234 WPB	1D1169	C-1	P				
Head #2		SA 234 WPB	1D1169	C-2	P				

ATTACHMENT AND / OR NOZZLE MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION						WELDER SYMBOLS / FIT-UP			
Mark	Mat. I.D.	Neck	Fitting	Flange	Repad or Attachment	Cat. B	Cat. C	Cat. D	Pad OD
N-1	Spec -Grd		SA 105-N					P	
	Thk /Rating		1" 3M Cplg						
	Heat# or ID		FCCA						
N-2	Spec -Grd		SA 105-N					P	
	Thk /Rating		2" 3M Cplg						
	Heat# or ID		55918						
N-3	Spec -Grd		SA 105-N					Q	
	Thk /Rating		½" 6M Cplg						
	Heat# or ID		DUUX						
N-4	Spec -Grd								
	Thk /Rating								
	Heat# or ID								



**CRIMTECH SERVICES LTD.
PRESSURE TEST EXAMINATION
CHECKLIST CSN**

PRESSURE TEST PREPARATION		Q.C. INSP
1.	All punch list items corrected.	/
2.	Test blinds are of correct thickness	GH
3.	All items which could be damaged by test isolated or removed (control valves, safety valves, instruments, expansion joints, etc.)	GH
4.	Equipment with internals (i.e. filters) that could be damaged, isolated as required.	GH
5.	Vents and drains correctly installed.	GH
6.	Open and Closed position of all valves verified.	GH
		GH
PRESSURE TEST COMPLETION		Q.C. INSP.
1.	All temporary blinds (blanks) removed.	GH
2.	Temporary gaskets changed for correct gaskets.	/
3.	Temporary supports removed.	/
4.	Piping drained of all fluids.	GH
Q.C. Inspector Signature: X <i>Genna J. Fodder</i>		Date: November 9, 2005

HYDROSTATIC TEST REPORT

Client: Crimtech Services Ltd. Date: November 9, 2005
 Facility: _____ Location: Crimtech Services Ltd., Red Deer
 Project: W/O# 307716 Contractor: _____
 Description of Product: Model 4140 R1, Vessel s/n 14170-14181, Spool s/n's N/A ,
Meter N/A & various Threaded piping. CSN N/A
 Test Medium: Water
 Tests Conducted By: Tracy Swanson
 Test Pressure: 2220 psi
 Holding Time at Test Pressure: Minimum 15 Minutes.
 Results: No visible leaks or drop in pressure at time of hydrostatic test.

Test Gauge No's: CT-006 M6 Recorder No: N/A
 Crimtech Quality Control Inspector: X *Genna J. Fodder*
 Client Representative (if witnessed): _____
 Comments: _____

Laest Riis
Signature of Quality Control Manager

Exposure Device #: 6704 Source #: A689 Job / P O #: 307716 IRISNDT #: _____ Date: 8 Nov 05
 Cobalt 60 IR 192 X-Ray EFSS: 0.150 Client: Crimtech
 Film Brand: AGFA #Film/cassette: 1 Location: Red Deer
 Code: CSA UW 52 Item: 4" S80 vessels Material: C/S

Film #	Size, Location, Thickness	Welder ID	IRISNDT Proc.	SOD Inches	OFD Inches	# of Exp.	Work Location	Accept	Type and Location of Discontinuities (circle rejectable discontinuities)	Reject
	<u>SN 14172</u>									
<u>XC-1</u>	<u>4" 80</u>	<u>P</u>	<u>RT3</u>	<u>4.04</u>	<u>.96</u>	<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>		
	<u>SN 14179</u>									
<u>XC-1</u>	<u>4" 80</u>	<u>R</u>	<u>RT3</u>	<u>4.04</u>	<u>.96</u>	<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>	<u>film mark @ 5"</u>	
	<u>SN 14177</u>									
<u>XC-1</u>	<u>4" 80</u>	<u>I</u>	<u>RT3</u>	<u>4.04</u>	<u>.96</u>	<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>		

Number of Radiation Barrier Warning Signs Erected Spool Number of Radiation Barrier Warning Signs Returned Spool

Work Location Legend (insert number): [1] Inside Fab. Shop [2] Yard/Lay-down Area [3] Piping/Modular Fab. Area [4] N/A (Other)

IRIS Procedure:
 Single Wall Exposure: RT 1, 2, 2A, 6, 7
 Double Wall Exposure: RT 3, 3A, 4, 5, 8

S O D = Minimum Source-to-object distance
 O F D = Distance source side of Object to film at min S O D

AB - Arc Burns
 BT - Burn Through
 CK - Crack
 EP - Excessive Penetration
 P - Porosity

EUC - External Undercut
 IUC - Internal Undercut
 HB - Hollow Bead
 IP - Incomplete Penetration
 S - Slag

IC - Internal Concavity
 LF - Lack of Fusion
 LC - Low Cover
 MA - Misalignment

Unit # 170 Kilometres: 0
 In 13:30 Out 14:30 Hrs 1.0
 In _____ Out _____ Hrs _____
 Personnel: Gus Ford
Bonnie Lotzian

Film Quantity:
(3) 2 3/4" X 8 1/2"
D5

Interpretation by: Gus Ford SNT-TC-1A II
 (Print) CGSB II
Mus Ford CGSB # 2872
 (Signature)
 I am in full agreement with report contents:
 Client Representative: Gus Ford

JUL 0 8 2005

16

4" XH Weld Cap

INSPECTION CERTIFICATE

5C4814

DATE: 2005-06-20



RIGID INDUSTRIES CO., LTD.

PURCHASER: SEYBOLD
 ASTH A234 WPB-02-
 ASME SA234 WPB-01
 CSA Z245.11 GR. 241 Cat I
 ASTM A106 Gr. B/JIS G3103 SB410

B. MEI CHUANG RD, NAO SONG,
 KAOHSIUNG HSEH, TAIWAN
 TEL: (07) 79340527-8
 FAX: (07) 79315887

INSP SPEC: ASME B16.9 - 01

ACCORDING TO EN10204/DIN50049/3 1B

ORDER NO: 4770
 P. I. NO: 4L31-3
 CERTIFI. NO: 327

ITEM NO.	PRODUCT & SIZE	QUANTITY PCS	MFG NO.	VISUAL & DIMENSIONAL INSPECTION	HARDNESS MAX. 197 HB	HEAT TREATMENT (NOTE)	MAGNETIC PARTICLE EXAMINATION	PHYSICAL TEST			
								Y S KSI	T S KSI	E %	
1	CAP 3" S160	10	5D2748	G000	134-149	N		49.6	69.6	27.0	30
2	CAP 4" XH	75	5C4817	G000	135-168	N		44.5	63.7	30.0	25
3	ELL. 45 LR 2" S160	50	4L0418	G000	132-151	N		45.0	68.5	64.0	34
4	CON-RED 3X1.1/2" XH	25	5B3913	G000	128-141	N		46.1	69.8	42.7	35
5	CON-RED 4X3" STD	150	5A566D	G000	120-126	N		50.1	64.6	40.0	28
6	TEE 4" XH	200	5C0579	G000	132-173	N		45.5	69.0	42.3	34
7	TEE 6" XH	50	5C3304	G000	118-118	N		47.1	68.5	45.7	34
8	TEE 10" XH	2	4L4022	G000	116-119	N		43.2	64.0	52.7	33
9	RED-TEE 4X2" STD	100	5C0336	G000	110-116	N		48.2	66.4	43.0	33
10	RED-TEE 4X2" XH	48	5C4322	G000	136-144	N		48.4	70.9	40.6	36

ITEM NO.	MATERIAL CHARGE NO.	CHEMICAL COMPOSITION %										PHYSICAL TEST			
		C X100	SI X100	Mn X100	P X1000	S X1000	CU X100	NI X100	CR X100	MO X100	V X100	Nb X1000	Y S KSI	T S KSI	E %
1	2Q964	15	29	89	22	7	1	2	1	0	0	49.6	69.6	27.0	30
2	241417	15	14	61	11	20	1	2	1	0	4	44.5	63.7	30.0	25
3	J4L8918	11	23	130	16	4	2	2	1	0	0	45.0	68.5	64.0	34
4	J4KA413	11	23	127	9	5	2	2	1	0	0	46.1	69.8	42.7	35
5	20046D3289	20	30	51	20	22	1	1	0	0	0	50.1	64.6	40.0	28
6	J4LB279	11	23	126	10	3	3	2	1	1	1	45.5	69.0	42.3	34
7	J4K1004	10	25	128	13	4	2	2	1	0	0	47.1	68.5	45.7	34
8	J4K1122	11	24	127	11	3	3	3	1	0	0	43.2	64.0	52.7	33
9	J4KC136	11	27	125	6	5	3	2	1	0	0	48.2	66.4	43.0	33
10	J4LC222	12	22	129	14	6	2	2	1	1	0	48.4	70.9	40.6	36

(NOTE): A: HOT FORMED WITH FINAL TEMPERATURE BETWEEN 620°C-980°C, AIR COOLING.
 N: NORMALIZING AT TEMPERATURE 880°C X 0.5 HR, AIR COOLING.

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT.

CRIMTECH SERVICES LTD.
 MATERIAL CONFORMS TO ASME
 SEC. II, 2004 EDITION, 2004 ADDENDA
 MANAGER OF QA DEPT.

SEP 08 2005
 BY: [Signature]
 P.O. No.

14

4I4371 4" sck 80 weld cap.



INSPECTION CERTIFICATE

CRIMTECH SERVICES LTD.
 CONFORMS TO ASME
 SEC II, 2007 EDITION

DATE: 2005-01-13

4553

P. I. NO: 4G01-2

ORDER NO: 028

JUN 30 2005

B. ME CHANG RD, NAO SONG,
 KAOHSUNG HSEN, TAIWAN
 TEL: (07) 791-0627-8
 FAX: (07) 791-8987

PURCHASER: SEYBOLD
 ASTM A234 WPB-02
 ASME SA234 WPB-01

STANDARD: ASTM A106 Gr. B/JIS G3103 SB410

MATERIALS: ASME B16.9 -01

INSPECTION TO EN10204/D11550/4073

By: *[Signature]*

CERTIF. NO: 028

ITEM NO.	PRODUCT & SIZE	QUANTITY PCS	MFG NO.	INSPECTION	DIMENSIONAL	HARDNESS		HEAT TREATMENT (NOTE)	MAGNETIC PARTICLE EXAMINATION
						197 HB	MAX		
1	CAP 4" XH	180	414371	G00D	0	122-136	N		7511477
2	ELL 45 LR 2" XH	150	4G4776	G00D	0	128-130	A		7511464
3	ELL 45 LR 8" XH	6	4D8747	G00D	0	129-130	A		7511604
4	ELL 90 LR 3/4" STD	100	4A6410 (4A)	G00D	0	113-125	A		7510250
5	ELL 90 LR 1" STD	220	4J342Y (4J)	G00D	0	117-136	A		7510236
6	ELL 180 LR 3" STD	100	4A2575	G00D	0	132-134	A		7512375
7	TEE 6" XH	50	4J2522	G00D	0	116-133	N		7512179
8	RED-TEE 4X3" STD	75	4G1705	G00D	0	111-119	N		7513511
9	RED-TEE 4X3" XH	50	4D3427	G00D	0	118-135	N		7513011
10	RED-TEE 6X2" STD	26	4J0122	G00D	0	127-137	N		

ITEM NO.	MATERIAL CHARGE NO.	CHEMICAL COMPOSITION %											PHYSICAL TEST			C.T.E.
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Y S	T S	E	
1	3J871	17	22	77	19	8	1	0	1	0	0	46.3	66.7	27.1	30	
2	J4K4076	11	28	125	13	3	1	6	0	0	0	47.6	68.2	55.0	33	
3	J3K7247	11	22	129	12	4	2	6	0	0	0	46.6	68.5	46.1	34	
4	J0K1210	12	30	130	15	2	2	6	0	1	0	59.8	76.6	43.0	35	
5	430672Y	17	21	43	19	15	2	1	0	0	0	49.0	65.0	34.0	27	
6	J4L7222	14	17	66	13	3	1	4	0	2	0	46.6	67.5	44.5	34	
7	J4L1305	11	22	131	13	5	1	8	0	0	0	43.7	68.0	44.5	34	
8	J4L1305	11	28	132	14	4	2	5	0	0	0	51.5	69.9	40.5	34	
9	J2K5727	23	22	74	18	9	2	5	0	0	0	46.1	78.3	36.8	36	
10	J4L7222	11	22	131	13	5	1	8	0	0	0	44.1	69.5	39.8	34	

(NOTE): A: HOT FORMED WITH FINAL TEMPERATURE BETWEEN 630C-890C, AIR COOLING.
 N: NORMALIZING AT TEMPERATURE 890C X 0.5 HR, AIR COOLING.

NACE MR-01-75: SATISFACTORY
 WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASERS REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT.

Qu E Pan

MANAGER OF Q.A. DEPT.

PO 118594

19

4" Sch. 80 Weld Cap SPA 234 WPB

NO# 121112

HIT 0500001

Purchaser: CCTF

INSPECTION CERTIFICATE

EN 10204 3.1B

E.No. MA-091 Purchase Order No. 4871898

Job No.

D M Y Certificate No. 12/04/2005 T-2005200269



No.	MFG. No. (Heat Identification No.)	Specification for Material Made from Seamless Pipe		Specification for Inspection		Visual Examination	Dimensional Inspection
		ASTM A234-03/ASME SA234 WPB CSA Z245.11 GR241 CAT 1 NACE MR0175-2000	Product & Size	ASME / ANSI B16.9	Quantity		
1	04P30014	C WPB 4 S80	C WPB 4 S80	9/200	9/200	Good	Good
2	05B30027	C WPB 4 S80	C WPB 4 S80	101/200	100	Good	Good
3	05B30024	C WPB 3 S80	C WPB 3 S80	100	100	Good	Good
4	05C30024	C WPB 4 S80	C WPB 4 S80	90/200	90/200	Good	Good
5							

Material Heat No.	Chemical Composition %											Tension Test *2		
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	CE	YS	TS
23	100	100	100	1000	1000	100	100	100	100	1000	100	240	415	30
14	14	14	88	15	4	1	2	2	1	1	30	343	450	34
12	17	17	108	19	5	1	1	2	2	0	31	328	432	36
17	17	26	65	7	9	2	<2	1	1	<2	28	288	424	47
17	17	20	65	10	8	1	<2	2	<0.4	2	29	288	424	47

(Note 1) A : Hot formed with final temperature between 620°C-980°C, Air Cooling N : Normalizing 910°Cx1.5 HR, Air Cooling S : Stress Relieving 675°Cx0.5 HR, Air Cooling

* N : NORMALIZING 910 C X 0.5 HR, AIR COOLING (SPECIFICATION FOR MATERIAL MADE FROM PLATE)

CE = C+Mn/6+Cr+Mo+V/5+Ni+Cu/15

MAGNETIC PARTICLE EXAMINATION FOR TEE ONLY

We hereby certify that the product described herein has been manufactured in accordance with the specifications concerned and also with the purchaser's requirements and that the test results shown herein are correct.

BY: GH

Quality Assurance Manager

THAI BENKAN CO., LTD.

58 Soi Watkrum, Bangkok, Prapadaeng

SEC. II 2005

12005

4# Std Weld Cap H# 1P 1169

CRIMECH SERVICES LTD.
MATERIAL CERTIFICATE TO ASME

SEC. II, DIV. 1, PART 1, SUBPART 1, SECTION 1, ADDENDA

DATE: 2003-10-13



INSPECTION CERTIFICATE

ORDER NO: 4115

PURCHASER: SEYBOLD
ASTM A234 WPB-00
ASTM SA234 WPB-90

B. MEI CHUANG FO, NAO SONG O. NO.
KAOSUNG HSENI, TAWAN
TEL: (07) 791-0527-8
FAX: (07) 791-5887

P. I. NO: 3607-1

STANDARD: ASTM A106 Gr. B/JIS G3103 SB410

INSPECTION NO: 0665

CERTIFI. NO: 0665

ITEM NO.	PRODUCT & SIZE	QUANTITY PCS	MFG NO.	DIMENSIONAL INSPECTION	HARDNESS MAX. 197 HB	HEAT TREATMENT (NOTE)	MAGNETIC PARTICLE EXAMINATION	PHYSICAL TEST		
								Y S KSI	T S KSI	E %
1	CAP 1.1/4" STD	20	1L5730 (1L)	G00D	120-122	N		7515499		
2	CAP 2" STD	100	3F4179	G00D	126-131	N		7515545		
3	CAP 2" XII	50	3B7048	G00D	114-129	N		7515582		
4	CAP 3" STD	120	3F3579	G00D	114-116	N		7515782		
5	CAP 3" XII	40	3F3738	G00D	120-127	N		7515682		
6	CAP 4" STD	130	3B6748	G00D	116-127	N		7511477		
7	CAP 4" XII	30	1D1169	G00D	110-146	N		7515669		
8	CAP 6" STD	75	3F4238	G00D	115-134	N		7514484		
9	CAP 10" XII	4	3H1894	G00D	108-144	N		7514484		
10	CAP 12" STD	25	3E2238	G00D	124-154	N		7513710		

ITEM NO.	MATERIAL CHARGE NO.	CHEMICAL COMPOSITION %										PHYSICAL TEST			
		C X100	SI X100	Mn X100	P X1000	S X1000	Cu X100	Ni X100	Cr X100	Mo X100	V X100	Nb X1000	Y S KSI	T S KSI	E %
1	3A530	18	21	76	15	7	5	2	2	0	0	48.9	69.1	27.4	31
2	1L179	17	21	75	21	8	8	4	4	0	1	50.2	69.2	27.6	31
3	2T548	17	22	75	18	7	3	4	6	1	0	47.4	68.2	27.8	31
4	1L179	17	21	75	21	8	8	4	4	0	1	50.2	69.2	27.6	31
5	32338	17	20	73	18	10	3	4	6	0	1	46.1	68.2	27.8	31
6	2T548	17	22	75	18	7	3	4	6	1	1	46.1	69.1	26.5	32
7	1Q869	17	19	80	23	7	3	4	6	1	1	49.9	67.8	28.0	31
8	32338	17	20	73	18	10	3	4	6	0	1	41.8	64.1	29.9	27
9	2Y194	14	29	67	14	7	1	2	6	1	0	46.1	68.9	27.3	31
10	32338	17	20	73	18	10	3	4	6	1	1	46.1	68.9	27.3	31

(NOTE): A: HOT FORMED WITH FINAL TEMPERATURE BETWEEN 600C-800C, AIR COOLING.
N: NORMALIZING AT TEMPERATURE 880C X 0.5 HR, AIR COOLING.
NACE MR-01-75: SATISFACTORY
WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT.

Qu E Pan
MANAGER OF Q.A. DEPT.

CERTIFIED MILL TEST REPORT



The Best Value
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All The Time.

LOG NO. 20295 PAGE 3

BONNEY FORGE
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 www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

Date 06/23/05

CUSTOMER'S Order No.: 4641122-00

Bonney Order No. 013144

SHIPPED TO: CCTF CORPORATION

307425

5407 - 53 AVENUE

EDMONTON ALBERTA, T6B 3G2 CANA

GRADE OR SPECIFICATION
 CHEMICAL ANALYSIS PHYSICAL PROPERTIES MECHANICAL

ITEM	QUANTITY	LOT NO	GRADE OR SPECIFICATION	CHEMICAL ANALYSIS	PHYSICAL PROPERTIES	MECHANICAL
SA/A105N						
011	25	56188	7550007	4-31/2x2 JM A105N THRD T		
				✓ 190 MN	1.050 ✓	007 ✓
				✓ WT 020 ✓	060 CD	002 ✓
				✓ 024 AL	001 NB	000
				CE (LONG FORMULA) = 0.38		
				✓/S 75128 ✓/S 48597 EL ✓/32 30 RA 67 50		
				BRINELL HARDNESS1 139 HARDNESS2 139		
012	25	56091	7551874	6 X 2 JM A105N THRD T		
				C 180 MN	790 P	015 S
				NI 130 CU	270 CR	170 MO
				AL 002 NB	000	
				CE (LONG FORMULA) = 0.38		
				1/S 78000 Y/S 54250 EL 30 95 RA 63 20		
				BRINELL HARDNESS1 144 HARDNESS2 144		

CRIMTECH SERVICES LTD.
 MATERIAL CONFORMS TO ASME
 SECTION 2004 ADDENDA

OCT 31 2005

By GH

PO No _____

***** CONTINUED ON NEXT PAGE *****

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks

Cris Childers

M.E.G.A.

CLIENTE
Customer
Client

CE FRANKLIN LTD.

1900 - 300 - 5th AVENUE S.W.
CALGARY, ALBERTA. CANADA T2P 3C4

CERTIFICATE N° 525628
Foglio 1
Data / Date 09/03/05

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY ENX
150 9001

ORDINE
Purchase order
Commande 1113330-OR-2100

COMPLETA
JOB N°
Confirmation de commande 73717

PROVA Test Exposure	MATERIALE Steel/Alloy / Matière	COLATA Heat / Coudre	C%	Si%	Mn%	P%	S%	Cr%	Ni%	Mo%	V%	Co%	V%	Al%	CE%
FARS	ASTM A105/02	04777719	0.205	0.200	0.810	0.008	0.015	00.12	00.06	0.010	0.000	0.170	0.017	0.000	0.384
FART	ASTM A105/02	LT 14603	0.180	Nb% = 0.002	0.250	0.830	0.009	0.008	00.05	00.08	0.010	0.000	0.120	0.001	0.343
FARU	ASTM A105/02	LT 14603	0.180	Nb% = 0.000	0.250	0.830	0.009	0.008	00.05	00.08	0.010	0.000	0.120	0.001	0.343
FUCT	ASTM A105/02	03/73431	0.180	Nb% = 0.000	0.210	0.880	0.009	0.011	00.10	00.06	0.010	0.000	0.210	0.016	0.369
FUCU	ASTM A105/02	03/73431	0.180	Nb% = 0.001	0.210	0.880	0.009	0.011	00.10	00.06	0.010	0.000	0.210	0.016	0.369
FRBB	ASTM A105/02	449B/D4	0.170	Nb% = 0.001	0.160	0.940	0.009	0.008	00.08	00.11	0.022	0.000	0.200	0.000	0.367

PROVA Test Exposure	PROVETTA Test Specimen / Epreuve		SMEZZAMENTO N/mm ² Yield point Limiti d'elasticità	NOTIZIA N/mm ² Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CORROSIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend Test Pliage	SCHIACC. Flat. Test Appiattiss.	UNIA MIS. UTM system	TPO Type	T. °C Test Temp	VALORE / Value / Donnée
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur											
FARS	1	30.6 25.0	313.0	534.0	29.6	67.6	152-155				KV	0	48-52-50
FART	1	30.6 25.0	299.0	513.0	30.6	67.6	143-148				KV	0	52-50-50
FARU	1	30.6 25.0	304.0	519.0	30.3	67.1	145-150				KV	0	42-50-46
FUCT	1	30.6 25.0	312.0	531.0	28.3	67.1	152-156				KV	0	42-44-40
FUCU	1	30.6 25.0	301.0	516.0	31.2	68.4	140-149				KV	0	56-46-46
FRBB	1	30.6 25.0	298.0	513.0	30.3	68.6	146-153				KV	0	42-48-38

NOTE / Remarks / Note

PROVA Test Exposure	NOTE / Remarks / Note
FARS	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.40531.04 FEAT*247537 MEGA*
FART	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.40525.04 FEAT*247537 MEGA*
FARU	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.40524.04 FEAT*247537 MEGA*
FUCT	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.406.04 ISMA*247537 MEGA*
FUCU	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.410.04 ISMA*247537 MEGA*
FRBB	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.81.04 EVA5I*247496 MEGA*

PROVA Test Exposure	POS. Item Pos.	QUANTITA Quantity Quantità	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	nut
FARS	100	300	1090546	UNION S. 3000 NPT A/SA105N 2	OK
FART	100	300	1090546	UNION S. 3000 NPT A/SA105N 2	male OK
FARU	100	300	1090546	UNION S. 3000 NPT A/SA105N 2	female OK
FUCT	136	10	1092568	UNION S. 6000 NPT A/SA105N 2	nut OK
FUCU	136	20	1092568	UNION S. 6000 NPT A/SA105N 2	male+female OK
FRBB	152	500	1552907	HEGALET S. 3000 NPT A/SA105N 1x3-5	OK

GRIMTECH SERVICES LTD.
MATERIAL CONFORMS TO: ASME
SEC. II, 2004 EDITION. 20-ADDENDA
JUN 02 2005
By: *[Signature]*
P.O. No. _____

ENTE UFFICIALE DI COLLAUDO
Inspection Authority
Service Inspection Official

CAPO COLLAUDO
Chief Inspection DPT
Responsabile assistenza qualità

DOC. *[Signature]* M.E.G.A.
G. Marzati

MAR 30 2005

MATERIAL ACCORDING TO:
NACE HR. 0175 Ed. 2003.

FRBB 1-3m TOL

38

PO# 114086

M.E.G.A.

CE FRANKLIN LTD
 1900 300 5th AVENUE S W
 CALGARY ALBERTA CANADA T2P 3C4

CERTIFICATE 245655 FOLIO 2
 DATE 22/04/04
 COMMESSA 72318

CERTIFICATO DI COLLAUDO
 TEST CERTIFICATE
 CERTIFICAT DE CONTROLE

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV ISO 9001

ORDINE 1033646-OR-2100
 Purchase order Confirmation

PROVA Test	MATERIALE Steel quality - Matière	COLATA Heat / Coulee	C%	Si%	Mn%	S	P%	Cr%	Ni%	Mo%	Ti%	Cu%	Al%	CE%	
DTXC	ASTM A105/01	933133	0.130	0.220	0.220	0.003	0.013	0.06	0.12	0.070	0.003	0.160	0.060	0.000	0.389
DULC	ASTM A105/01	FC1*293	0.190	0.210	0.920	0.007	0.008	0.10	0.20	0.050	0.000	0.220	0.000	0.017	0.000
DUTF	ASTM A105/01	0341722	0.195	0.205	1.080	0.003	0.011	0.14	0.01	0.003	0.000	0.068	0.002	0.027	0.409
DUTN	A350/00c LF2 CL 1	10341849	0.170	0.210	1.050	0.005	0.010	0.10	0.01	0.004	0.000	0.111	0.002	0.028	0.369
DUUX	ASTM A105/01	IT 12002	0.200	0.250	0.890	0.012	0.010	0.09	0.10	0.010	0.003	0.200	0.001	0.036	0.388
DXCC	A 105/01	0341723/03	0.180	0.260	1.120	0.003	0.019	0.11	0.01	0.002	0.000	0.029	0.004	0.038	0.393
DXDF	A 105/01	A05268	0.200	0.240	1.030	0.005	0.013	0.09	0.08	0.020	0.000	0.160	0.000	0.021	0.409

4

lot # DUUX

PROVA Test	PROVETTA Test specimen / Epreuve	SNERVAMENTO Yield point / Limite d'élasticité	ROTTURA Tensile strength / Rupture	ALLUNGAMENTO Elongation / Allongement	CONTRAZIONE % Reduction of area / Rétrécissement	DUREZZA HB Hardness / Dureté	PIEGA Bend test / Pliage	SCHIACC. Flat test / Aplatis	RESILIEZA Impact test / Résilience
DTXC	122 6	50 0	434 0	30 4	69 2	155 160			0 50-56-50
DULC	122 7	50 0	273 0	29 0	53 0	156 160			0 65-54-70
DUTF	60 1	35 0	322 0	28 5	68 2	154-160			0 46-40-40
DUTN	59 2	35 0	332 0	34 2	78 0	143-146			50 202-216-200
DUUX	200 9	50 0	341 0	30 0	59 0	157			0 120-123-121
DXCC	122 7	50 0	305 0	35 0	70 4	147-149			0 230-216-210
DXDF	30 6	25 0	298 0	31 2	67 4	140-146			0 36-34-35

1/2" 6mm Cpl.

PROVA Test	REMARKS / Notes	FORMA Shape / Forme
DTXC	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	1 = 0 2 =
DULC	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	
DUTF	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	
DUTN	ELECTRIC FURNACE QUENCHED AT 880 C TEMPERED AT 620 C	
DUUX	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	
DXCC	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	
DXDF	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR	

/CERT 33112 03 DALMINE*241939 MEGA*NB:0.0111*
 /CERT 8301 03 F CARLOTTO*241942 MEGA*NB:0.0001*
 /CERT 10 04 ISMA*241954 MEGA*NB:0.0011*
 /CERT 41 04 ISMA*241974 MEGA*NB:0.0021*
 /CERT HX 9796 03 LEALI*NB:0.0021*
 /CERT 21960 03 LUCCHINI*241966MEGA*NB:0.00251*
 /CERT 120 03 EVASI*241956 MEGA*NB:0.0001*

PROVA Test	POS Item	QUANTITA Quantity	CODICE CLIENTE Customer code	DESCRIZIONE Description - Description	VISUAL AND DIMENSIONAL
DTXC	078	50	1095988	COUPLING S 3000 NPT A/SA105N 4	OK
DULC	019	2	1092269	45 DEG ELBOW S 2000 NPT A/SA105N 4	OK
DUTF	021	402	1094459	TEE S 3000 NPT A/SA105N 2	OK
DUTN	145	900	1097481	90 DEG ELBOW S 3000 NPT LF2 CL 1	OK
DUUX	101	225	1095945	COUPLING S 6000 NPT A/SA105N 1/2	OK
DXCC	072	490	1095347	COUPLING S 3000 NPT A/SA105N 1	OK
DXDF	136	50	1552966	MEGALET S 3000 SW A/SA105N 1x3 5	OK

CRIMTECH SERVICES LTD
 MATERIAL CONTROL
 JUL 05 2004
 By [Signature]
 P.O. No.

MTR APPROVED

- Manufacturer
- Description
- Grade
- Composition
- Clarity
- Approved By [Signature]

MATERIAL ACCORDING TO:
 NACE MR 0175 Ed 2003

ENTE UFFICIALE DI COLLAUDO Inspector Authority / S. Ufficiale Ispezione Officiale
 CAPI COLLAUDO Chief Inspector / Responsabile Ispezione
 DOC [Signature] M.E.G.A. SpA
 Spazio Apptario

CERTIFIED MILL TEST REPORT

PO 119660



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LOG NO. 20654B PAGE 13

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CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 05/10/04

CUSTOMER'S Order No.: 9193592-00

Bonney Order No.: 91845

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

Made: 9836

EDMONTON ALBERTA
EDMONTON ALBERTA, T6E5S5 CANAD

GRADE OR SPECIFICATION NO.
CHEMICAL ANALYSIS. PHYSICAL PROPERTIES. REMARKS.

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO.	CHEMICAL ANALYSIS. PHYSICAL PROPERTIES. REMARKS.
			SA/A105N-02	
019	15	5594 / 7525826 ✓	11/2 3000 A105N TEE S	C 200 MN 1.090 P 009 S 024 SI 250 NI 030 CU 130 CR 070 MO 006 V 024 AL 001 NB 000 CE(LONG FORMULA) = 0.41 T/S 83875 Y/S 57875 EL 32.35 RA 66.10 BRINELL HARDNESS1: 150 HARDNESS2: 150
050	14	55851 / 7525915 ✓	3 3000 A105N CAP T	C 170 MN 990 P 011 S 021 SI 270 NI 100 CU 270 CR 070 MO 024 V 031 CB 001 CE(LONG FORMULA) = 0.38 T/S 77500 Y/S 55250 EL 30.20 RA 64.90 BRINELL HARDNESS1: 147 HARDNESS2: 150
051	10	2380 / 7525982 ✓	11/2 3M A105N COUP S	C 200 MN 1.050 P 009 S 021 SI 260 NI 070 CU 180 CR 060 MO 014 V 024 AL 001 NB 001 CE(LONG FORMULA) = 0.41 T/S 82000 Y/S 51000 EL 32.00 RA 63.00 BRINELL HARDNESS1: 150 HARDNESS2: 150
053	75	2426 / 7526822 ✓	1/2 6M A105N COUP T	C 190 MN 1.000 P 012 S 025 SI 250 NI 040 CU 130 CR 060 MO 016 V 024 AL 001 NB 001 CE(LONG FORMULA) = 0.39 T/S 75750 Y/S 51250 EL 32.60 RA 63.75 BRINELL HARDNESS1: 141 HARDNESS2: 141

***** CONTINUED ON NEXT PAGE *****

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks.



CRIMTECH SERVICES LTD.
MATERIAL CONFORMS TO: ASME
SEC. II, 2004 EDITION 20__ ADDENDA

SEP 08 2005

By: [Signature]

PO No _____

Cris Childers
QUALITY CONTROL MANAGER



柏緯鐵工股份有限公司

高雄縣仁武鄉烏林村仁心路 303 號

BOTH-WELL STEEL FITTINGS CO., LTD.

NO 303, JEN-HSIN ROAD JEN-WU HSIANG
KAOHSIUNG HSIEN TAIWAN R.O.C (81405)

TEL: (07) 371-0497, 371-1536, 372-0260

An ISO-9001 Registered Manufacturer



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WEB SITE: http://www.bothwell.com.tw E-MAIL: bothwell@www.bothwell.com.tw or box@mail.bothwell.com.tw

17

MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN10204/DIN50049/3.1 B

INVOICE NO: BW04910003

DATE: 01/24/05
PAGE: 20

CUSTOMER: SEYBOLD INTERNATIONAL CORP
CERT NO: 50096

ORDER NO: 4657(1169099-OR-2100)

L/C NO:

ITEM	RAW MATERIAL HEAT NO	BOTH WELL HT CD	DESCRIPTION	QUANTITY	SPECIFICATION: ASTM / ASME A/SA 105N -03 DIMENSION: ASME B16.11 - 2001 SURFACE: BY VISUAL GOOD
108	372665	2139	FULL CPLG 1/2" 6000# NPT	150 PC	
109	373866	2184	FULL CPLG 1" 6000# NPT	200 PC	
110	371554	2107	HALF CPLG 1" 6000# NPT	25 PC	
111	369715	2087	HEX PLUG 1/8" NPT	200 PC	
112	372128	2127	HEX PLUG 1/2" NPT	8500 PC	
113	372664	2136	HEX PLUG 3/4" NPT	1000 PC	
114	372127	2138	HEX PLUG 1" NPT	1020 PC	

CHEMICAL COMPOSITION (%)

ITEM	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	CE
Min	-	0.100	0.600	-	-	0.400	0.300	0.400	0.120	0.080	-	0.450
Max	0.350	0.350	1.050	0.035	0.040	0.400	0.300	0.400	0.120	0.080	-	0.370
108	0.190	0.190	0.850	0.021	0.008	0.150	0.110	0.050	0.010	0.002	0.001	0.370
109	0.190	0.190	0.840	0.016	0.010	0.260	0.140	0.070	0.020	0.002	0.001	0.380
110	0.200	0.210	0.830	0.024	0.006	0.170	0.180	0.070	0.030	0.002	0.003	0.400
111	0.200	0.170	0.830	0.019	0.008	0.140	0.160	0.060	0.020	0.003	0.001	0.390
112	0.210	0.220	0.880	0.014	0.010	0.250	0.130	0.090	0.030	0.004	0.000	0.410
113	0.200	0.190	0.850	0.013	0.011	0.180	0.060	0.050	0.010	0.002	0.002	0.370
114	0.210	0.220	0.900	0.014	0.007	0.220	0.110	0.090	0.020	0.004	0.000	0.410

MECHANICAL TEST

ITEM	Tensile Strength (KSI)	Yield Strength (KSI)	Elongation (%)	R of A (%)	Hardness (HB)
Min	70.0	36.0	22.0	30.0	187
Max	-	-	-	-	-
108	73.8	52.1	34.0	67.6	138
109	79.4	59.1	34.0	64.5	140
110	78.8	54.3	32.2	66.6	152
111	72.7	52.9	34.4	64.6	143
112	79.3	53.7	34.4	65.7	150
113	79.2	55.0	34.4	66.6	152
114	77.8	52.1	34.4	67.2	146

Remark:
NORMALIZED : 850°C
CONFORMS TO NACE MR0175-97
STEEL MARKING PROCESS : ELECTRIC FURNACE
MERCURY FREE

WE CERTIFY THE ABOVE MENTIONED FITTINGS HAVE BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS SHOWN

S. C. Lee
Q.C. MANAGER
SHENG CHENG LEE

C. C. Huang
INSPECTOR
CHUN CHIEH HUANG

GRIMTECH SERVICES LTD.
MATERIAL CONFORMS TO: ASME
SEC II 2004 PART 21 ADDENDA

SEP 20 2005

By:

QJB

FEB 08 2005

1/2" 6m Cplg

SA105N

2134

118674

MEGA

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY WITH QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001 =

CLIENTE Customer Client
VAN LEEUWEN PIPE & TUBE
(CANADA) INC.
2875-64th AVENUE
EDMONTON, ALBERTA T6P 1R1

ORDINE Purchase order Commande
45028704

CERTIFICATO N° 249740
Certificato N° Certificate N°
DATA / Date 24/09/04
COMMESSA Job N° 72095
Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coudée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Fe %	Cu %	V %	Al %	CE %
DXDA	ASTH A105/01	03774148	0.185	0.190	0.950	0.010	0.010	0.08	0.05	0.020	0.000	0.140	0.000	0.021	0.375
FCCA	ASTH A105/01	284/03	0.170	0.220	0.950	0.003	0.010	0.15	0.14	0.044	0.000	0.170	0.000	0.025	0.387
FLLF	ASTH A105/02	4493/04	0.170	0.160	0.940	0.009	0.008	0.08	0.11	0.022	0.000	0.200	0.000	0.020	0.367

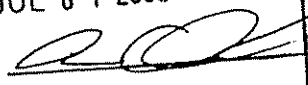
PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SOLLECAMENTO Yield point Limite élastique	ROTTURA Rupture	ALLUNGAMENTO Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	MEGA Bend test Ploye	SCHIACCIO Flat test Aplatis	RESISTENZA Impact test / Résistance		
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITÀ MIS Unit system	TIPO Type	VALORE / Value / Données
DXDA	30	6 25 0	306 0	529 0	32 6	68 4	146 156			J	KV	0 38-36-38
FCCA	30	6 25 0	322 0	534 0	29 3	67 6	156 163			J	KV	0 52-50-52
FLLF	30	6 25 0	338 0	543 0	28 4	63 2	156 163			J	KV	0 42-54-50

NOTE / Remarks / Notes
EN10204/3.1B ** DTH 50049 3.1B.
DXDA ELECT FURNACE NORMALIZED AT 900 C COOLED IN STILL AIR /CERT 115 03 EVASI*241956 MEGA
FCCA ELECT FURNACE NORMALIZED AT 900 C COOLED IN STILL AIR /CERT 18 04 EVASI*241963 MEGA
FLLF ELECT FURNACE NORMALIZED AT 900 C COOLED IN STILL AIR /CERT 68 04 EVASI*242023 MEGA

VISUAL AND DIMENSIONAL

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer Code Code client	DESCRIZIONE / Description / Description
DXDA	6	250	23713	MEGALET S 3000 NPT A/SA105H 3/4x2-3 1/2
FCCA	9	1700	23739	MEGALET S 3000 NPT A/SA105H 1x6-36
FCCA	10	761	23723	MEGALET S 3000 NPT A/SA105H 1x3-5
FLLF	10	2339	23723	MEGALET S 3000 NPT A/SA105H 1x3-5

COMPLIES WITH
CSA Z245.11 Gr 241 Cat I

CRIMTECH SERVICES LTD.
MATERIAL CONFORMS TO ASME
SEC II 2004 EDITION 20 ADDENDA
JUL 04 2005
By: 
P.O. No. _____

COMPLIES WITH
SOUR SERVICE
APPROVED BY



QUALITY ASSURANCE

DATE: 4 Jun 05

ENTE UFFICIALE DI COLLAUDO
Inspection Authority
Service Inspection Office

CAPO COLLAUDO
Chief Inspector OPI
Responsible assurance quality

DOC. CER. M.E.G.A.
Locata/cati

MATERIAL ACCORDING TO:
NACE MR 0175 Ed 2003

FLLF 1" 3m TOL.

40

M.E.G.A.

CLIENTE
Customer
Client

CE FRANKLIN LTD

1900 - 300 - 5th AVENUE S.W.
CALGARY, ALBERTA. CANADA T2P 3C4

CERTIFICATO N
Certificate N
Certificat N

250455

FOGLIO 12
Sheet
Feuille

DATA / Date

16/10/04

COMMESSA
Job N
Confirmation de commande

72992

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DHV
ISO 9001

ORDINE
Purchase order
Commande

1072713-0R-2100

PROVA Test Epreuve	MATERIALE Steel quality / Matériau	COLATA Heat / Coulée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
FCCA	ASTM A105/01	284/03	0.170	0.220	0.950	0.003	0.010	00.15	00.14	0.044	0.000	0.170	0.000	0.025	0.387
FCFL	ASTM A105/01	141624	0.183	0.245	1.240	0.006	0.006	00.08	00.12	0.021	0.000	0.160	0.001	0.034	0.428
FCTA	ASTM A105/02	0341835	0.170	0.215	1.120	0.002	0.013	00.12	00.10	0.016	0.000	0.032	0.002	0.046	0.000
FDTT	ASTM A105/02	143938	0.184	0.222	1.044	0.001	0.005	00.08	00.13	0.028	0.000	0.277	0.001	0.035	0.400
FDOA	ASTM A105/02	0376016	0.180	0.190	0.930	0.009	0.013	00.12	00.08	0.010	0.015	0.230	0.015	0.022	0.384
FDUS	ASTM A105/02	4498/04	0.170	0.160	0.940	0.009	0.008	00.08	00.11	0.022	0.000	0.200	0.001	0.020	0.367

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SNERVAMENTO Yield point / Limite d'élasticité	ROTTURA Rupture	ALLUNGAMENTO Elongation	CONTRAZIONE Reduction of area	DUREZZA HB Hardness	PIEGA Bend test	SCHIACC. Flat test	RESILLENZA Impact test / Résilience		
	SEZIONE Section / Sect	LUNGHEZZA Length / Longueur								UNITA MIS Unit system	TIPO Type	T. C Test temp
FCCA	1	30 6 25 0	322 0	534 0	29 3	67.6	156-163		J	KV	0	52-50-52
FCFL	1	122.7 50 0	288.6	521 0	30 7	66.6	149-156		J	KV	0	82-80-76
FCTA	1	30 6 25 0	292.0	498 0	34 1	71.8	138-143		J	KV	0	34-32-34
FDTT	1	124 0 50 0	342.0	537 0	30 0	64.3	156-160		J	KV	0	108-116-104
FDOA	1	30 6 25 0	309 0	529 0	28 6	65.3	149-156		J	KV	0	44-38-42
FDUS	1	30.6 25.0	310.0	530 0	29.2	67.6	149-156		J	KV	0	50-40-42

FORMA Shape / Forme : 1 = 2 =

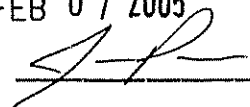
NOTE / Remarks / Notes

EN10204/3.1B ** DIN 50049 3.1B.

FCCA	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT 18.04 EVASI*241963 MEGA
FCFL	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT 57802.04 ACC VENETE*241990 MEGA
FCTA	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT 121.04 ISMA*242001 MEGA
FDTT	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT 60569.04 ACC VENETE*242015 MEGA
FDOA	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.40.04 EVASI*271999 MEGA
FDUS	ELECT FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.51.04 EVASI*242013 MEGA

VISUAL AND DIMENSIONAL

PROVA Test Epreuve	POS Item Pos	QUANTITA Quantity	CODICE CLIENTE Customer code	DESCRIZIONE - Description / Description	OK
FCCA	144	1350	1552907	MEGALET S. 3000 NPT A/SA105N 1x3 .5	OK
FCFL	084	3	1096163	CAP S. 3000 NPT A/SA105N 4	OK
FCTA	030	200	1096454	90 DEG. ELBOW S 3000 NPT A/SA105N 1/2	OK
FDTT	067	925	1095347	COUPLING S. 3000 NPT A/SA105N 1	OK
FDOA	023	105	1096155	CROSS S. 2000 NPT A/SA105N 1	OK
FDUS	035	33	1095241	STREET ELBOW S. 3000 NPT A/SA105N 1/2	OK

CRIMTECH SERVICES LTD.
MATERIAL CONFORMS TO: ASME
SEC II. 2001 EDITION
FEB 07 2005
By: 
PO No

ENTE UFFICIALE DI COLLAUDO
Inspection Authority
Service Inspection Official

CAPO COLLAUDO
Chief Inspection DPT
Responsible assurance quality

DOC. MEGA
Logo Marcati

NOV 24 2004

MATERIAL ACCORDING TO:
NACE MR 0175 Ed. 2003

M.E.G.A. S.p.A. - VIA DALLA CHIESA, 3 - SCANZOROSCIATE (BG) ITALY - TEL. +39 035 661280 - TELEFAX +39 035 665535

CERTIFIED MILL TEST REPORT

PO#113853



BONNEY FORGE

U S ROUTE 522 SOUTH
 P.O. BOX 330
 MOUNT UNION, PA 17086
 (814) 542-2545 (800) 345-7546
 FAX (814) 542-9977 TELEX 910-240-9091

LOG NO. 20694B PAGE 4

CUSTOMER: CCTF - DIV OF EMCO CORPORATION

Date 05/24/04

CUSTOMER'S Order No.: 4870140-00

Bonney Order No.: 993332

SHIPPED TO: CCTF - DIV OF EMCO CORPORATION

Mark 252148

5407 - 53 AVENUE

EDMONTON ALBERTA, T6B 3G2 CANA

8

Lot # 55918

2# 3m Tol

SA/A105N-02

012	500	55997	7551673	10-6X1 3M A105N THRD T				
				C 200 MN 1 140 P	011 S	018 SI	270	
				NI 020 CU 090 CR	030 MO	006 V	012	
				AL 001 NB 001				
				CE(LONG FORMULA) = 0 41				
				T/S 80000 Y/S 50000 EL 34 00 RA 66 00				
				BRINELL HARDNESS1 156 HARDNESS2: 153				
013	200	55773	7551924	36 -20 X 2 3000 A105N THRD T				
				C 200 MN 990 P	011 S	023 SI	240	
				NI 030 CU 160 CR	040 MO	008 V	02	
				NB 000				
				CE(LONG FORMULA) = 0 39				
				T/S 74617 Y/S 50000 EL 29 55 RA 63 21				
				BRINELL HARDNESS1: 147 HARDNESS2: 150				
		55918	7551924	36 -20 X 2 3000 A105N THRD T				
				C 190 MN 1 050 P	008 S	025 SI	260	
				NI 030 CU 080 CR	060 MO	008 V	023	
				NB 000				
				CE(LONG FORMULA) = 0 39				
				T/S 79000 Y/S 51500 EL 33 00 RA 66 00				
				BRINELL HARDNESS1 150 HARDNESS2: 150				
014	25	38355	7556066	24-14 X1 1/2 3000 A105N SOCK S				
				C 200 MN 970 P	012 S	025 SI	240	
				NI 030 CU 080 CR	060 MO	008 V	025	
				AL 001 NB 002				
				CE(LONG FORMULA) = 0 39				
				T/S 77934 Y/S 54719 EL 33 00 RA 65 41				
				BRINELL HARDNESS: 140				

CRIMTECH SERVICES LTD
 MATERIALS ENGINEERING
 SEC 8 2001 EDWARDS AVE #303 WILKINSON
 JUN 14 2004
 By
 P.O. No. _____

***** CONTINUED ON NEXT PAGE *****

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks



by
 Cris Childers

QUALITY CONTROL MANAGER

CERTIFIED MILL TEST REPORT



**The Best Value
Price, Quality, Service
All The Time.**

LOG NO. 205827 PAGE 1
 BONNEY FORGE
 P.O. BOX 330 • U.S. RTE 522 SOUTH • MOUNT UNION, PA 17066
 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4905
 www.bonneyforge.com

CUSTOMER: CCTF - DIV OF EMCO CORPORATION

Date 04/15/04

CUSTOMER'S Order No.: 4869313-00

Bonney Order No.: 88991

SHIPPED TO: CCTF - DIV OF EMCO CORPORATION

Mark 246403

5407 - 53 AVENUE

EDMONTON ALBERTA, T6B 3G2 CANA

P.O.# 113660

ITEM QUANTITY LOT NO. GRADE OR SPECIFICATION NO. PHYSICAL PROPERTIES REMARKS

SA/A105N-02

(16)

WUTG

2" DM
10L
SA-A105N

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO.	PHYSICAL PROPERTIES	REMARKS
011	200	55646	7551878	3 X 2 3M A105N THRD T	
				C 200 MN 990 P	006 S 023 SI 260
				NI 060 CU 170 CR	060 MD 015 V 023
				CB 002	
				CE(LONG FORMULA) = 0.40	
				T/S 78750 Y/S 51875 EL 33 15 RA 63.50	
				BRINELL HARDNESS1: 153 HARDNESS2: 156	
013	225	55646	7551894	6 X 2 3M A105N THRD T	
				C 200 MN 990 P	006 S 023 SI 260
				NI 060 CU 170 CR	060 MD 015 V 02
				CB 002	
				CE(LONG FORMULA) = 0.40	
				T/S 78750 Y/S 51875 EL 33 15 RA 63.50	
				BRINELL HARDNESS1: 153 HARDNESS2: 156	

1. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
2. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
3. CERTIFYING ASTM A105-02 / ASME SA105-02 EDITION
4. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD 2 INCH OR 50 MM GAGE LENGTH

CRIMTECH SERVICES LTD
 ORIGINAL COPY FORMS TO ASTM
 SEC II 2001 EDITION 2003
 MAY 1 / 2004
 By:

***** END OF CERTIFICATION *****

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks



by

Cris Childers

QUALITY CONTROL MANAGER

20

SEP 02 2005

4" Sch. 80 Weld cap SA234WB HT USC

Pol2/013

EN 10204 3.1B

INSPECTION CERTIFICATE



Purchaser: CE Franklin Ltd.

D M Y Certificate No.

E-No. MA-204
Purchase Order No. 1282667-OR-2100

05/08/2005 T-2005200581

No.	MFG. No. (Heat Identification No.)	Specification for Material Made from Seamless Pipe ASTM A234-03/ASME SA234 WPB CSA Z245.11 GR241 CAT 1 NACE MR0175-2000	Specification for Inspection ASME / ANSI B16.9	Visual Examination Good	Dimensional Inspection Good
1	1175161	C WPB 3 S80	14/100	*N	7515782
2	1175161	C WPB 3 S80	25/100	N	7515782
3	1175161	C WPB 3 S80	18/30	N	7515523
4	1175162	C WPB 1 1/2 S40	25	*N	7511477
5	1175251	C WPB 4 S80			

Material Heat No.	Chemical Composition %											Tension Test *2		E																		
	Specification		C		Si		Mn		P		S		Cu		Ni		Cr		Mo		V		Nb		C.E.		YS		TS		HARDNESS MAX 197 HB : GOOD	
	Min.	Max.	X	100	X	100	X	100	X	1000	X	1000	X		100	X	100	X	100	X	1000	X	1000	X	100	X	100	MPa.	%			
1	4-2907		12	17	106	19	5	1	1	2	2	<0.4	2	<10	31	288	456	39	457	289	263	28	29	283	28	29	283	28	29	283		28
2	1023		19	22	67	10	10	1	1	3	3	<1	1	<1	28	289	289	39	457	289	263	28	29	283	28	29	283	28	29	283	28	29
3	08833		19	19	71	10	1	1	1	3	3	<1	1	<1	28	289	289	39	457	289	263	28	29	283	28	29	283	28	29	283	28	29
4	3-27238		14	20	84	7	3	3	3	3	3	<1	1	<1	28	289	289	39	457	289	263	28	29	283	28	29	283	28	29	283	28	29
5	1070		17	20	65	10	8	1	1	2	2	<0.4	2	<10	29	289	289	39	457	289	263	28	29	283	28	29	283	28	29	283	28	29

(Note 1) A : Hot formed with final temperature between 620°C-980°C, Air Cooling. N : Normalizing 910°Cx0.5 HR. Air Cooling. S : Stress Relieving 675°Cx0.5 HR. Air Cooling.
 * N : NORMALIZING 910 C X 0.5 HR. AIR COOLING (SPECIFICATION FOR MATERIAL MADE FROM PLATE)

CE = C+Mn+Si+P+S+Cu+Ni+V+Nb+Ti+Al
 We hereby certify that the product described herein has been manufactured in accordance with the specifications concerned and also that the purchaser's requirements and that the test results shown herein are correct.
 * 1 : Yield strength TS = Tensile strength E = Elongation

BY Quality Assurance Manager
 P. D. B. Co., Ltd.
 38 Soi Walkrunat, Bangkhen, Prapudeng,
 Samutprakarn, 10130 Thailand.

418
 MATERIAL
 44MM
 1 2005
 495C
 44MM

PO 119113

5

110886

4" XH weld cap

PURCHASER: SEYBOLD

ASTM A234 VPR-00
ASTM SA234 VPR-90

STANDARD: ASTM A106 Gr. B/JIS G3103 SB410

INSPECTION SPEC.: ASME B16.9 -93



INSPECTION CERTIFICATE

CRIMTECH SERVICES LTD.
MATERIAL CONFORMS TO: ASME
SEC. II, 2014 EDITION, 2014 ADDENDA

AUG 01 2005
DATE

P.O. NO. 2618

ORDER NO. 3855/759943

MAR 17 2003
2003-02-07

CERTIFI. NO.: 0070

ACCORDING TO EN10204/D1N50049/2.1B

ITEM NO.	PRODUCT & SIZE	QUANTITY PCS	MFG NO.	VISUAL & DIMENSIONAL INSPECTION		HARDNESS MAX. 197 HB		HEAT TREATMENT (NOTE)	MAGNETIC PARTICLE EXAMINATION
				G00D	G00D	110-114	106-124		
1	CAP 2" STD	150	212822	G00D	G00D	110-114	106-124	N	1171661
2	CAP 2" XH	50	2H2788	G00D	G00D	106-124	148-160	N	1171784
3	CAP 3" STD	110	2F2888	G00D	G00D	148-160	134-136	N	1175503
4	CAP 3" XH	50	2A3279	G00D	G00D	134-136	103-106	N	1175161
5	CAP 4" STD	125	212422	G00D	G00D	103-106	134-142	N	1174607
6	CAP 4" XH	100	110886	G00D	G00D	134-142	122-154	N	1175751
7	CAP 6" STD	100	212722	G00D	G00D	122-154	114-127	N	
8	CAP 8" STD	40	2H4346	G00D	G00D	114-127	122-129	N	
9	CAP 10" STD	25	2J1374	G00D	G00D	122-129	134-138	N	
10	ELL 45 LR 2" STD	150	2L6276	G00D	G00D	134-138		A	

ITEM NO.	MATERIAL CHARGE NO.	CHEMICAL COMPOSITION %											PHYSICAL TEST				
		C	SI	Mn	P	S	CU	NI	Cr	Mo	V	Nb	Y S	T S	E	C.T.	
		X100	X100	X100	X1000	X1000	X100	X100	X100	X100	X100	X1000	KSI	KSI	%		
1	106222	19	22	79	25	10	3	4	6	1	0	49.9	70.8	27.0	34		
2	3N588	18	21	76	20	9	3	2	2	0	0	44.4	66.7	26.4	31		
3	3N588	18	21	76	20	9	3	2	2	0	0	44.4	66.7	26.4	31		
4	1X079	19	25	76	18	8	1	2	6	0	0	50.6	70.8	27.1	33		
5	1D622	19	22	79	25	10	3	4	6	0	0	49.9	70.8	27.0	34		
6	1S786	16	21	75	17	8	4	3	4	0	0	46.9	66.6	29.0	29		
7	1D622	19	22	79	25	10	3	4	6	0	0	49.8	71.5	28.7	34		
8	3R846	18	20	72	23	8	1	2	5	0	0	48.8	70.8	27.2	31		
9	2L174	17	21	76	17	9	2	2	2	0	0	52.5	70.1	25.7	30		
10	104676	18	23	58	12	7	0	2	1	0	0	49.4	70.4	32.0	28		

(NOTE): A: HOT FORMED WITH FINAL TEMPERATURE BETWEEN 620C-980C, AIR COOLING.
N: NORMALIZING AT TEMPERATURE 880C X 0.5 HR, AIR COOLING.
NACE MR-01-75: SATISFACTORY

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT.

Q. E. Lam

Benteler Stahl/Rohr GmbH
Postfach 13 40
33043 Padernborn
Deutschland
Tel.: +49 5254 81-0 Fax: +49 5254 13666

BENTELER
Stahl/Rohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1.B
INSPECTION CERTIFICATE EN 10204-3.1.B
CERTIFICAT DE RECEPTION EN 10204-3.1.B
EN 10204 - 1991 + A1: 1995

Dokument-Nr.: 65-240681/001/P

Plat-Nr.:

Blatt 1 / 10

Document No.:

Inspection No.:

Page: Page:

No. du document

No. du certificat

Page: Page:

Kunden-Bestell-Nr.:

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

No. de commande de client

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

Benteler Auftrags-Nr.:

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

Benteler Order No.:

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

No. de commande Benteler:

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

Vorwandlungs-Nr.:

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

Departch Note No.:

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

No. d'avis d'expédition:

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

Produkt:

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

Produkt:

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

Produkt:

Hersteller:

Werkstoffherk.:
ISO 9001 ISO 9001 DIN CERT-13706-2001
ISO 9001:2000 TÜV Cert 07 200 4117/2001 VDA

Lieferbedingungen:
Terms of delivery:
Conditions de livraison:

CSA Z245.1-98, Category 1 API Specification 5L Forty-Second Edition, January 2000 PSL 1, ASTM-A 106-2002A, SS, ASME SA-106, ASME Section II Part A Edition 2001 Addenda 2003, SS, NACE Standard MR0175-03

Stahlschmelzungsverfahren: ELECTROSTAHL
Schmelzverfahren: ELECTRIC FURNACE
Procédé de fabrication de l'acier: FOUR ELECTRIQUE

Maße - Toleranzen:
Dimensions-tolérances:
Dimensiones-tolérances:

ASME B36.10M-1996, ASME SA 530, ASME Section II Part A Edition 2001 Addenda 2003, ASTM-A 530-2003

Stahlschmelzungsverfahren: ELECTROSTAHL
Schmelzverfahren: ELECTRIC FURNACE
Procédé de fabrication de l'acier: FOUR ELECTRIQUE

Lieferzustand:
Delivery condition:
État de livraison:

Hot rolled

Stahlschmelzungsverfahren: ELECTROSTAHL
Schmelzverfahren: ELECTRIC FURNACE
Procédé de fabrication de l'acier: FOUR ELECTRIQUE

Stahlgruppe:
Steel grade:
Nuance d'acier:

GRADE 290, GRADE B, GRADE X 42

Stahlschmelzungsverfahren: ELECTROSTAHL
Schmelzverfahren: ELECTRIC FURNACE
Procédé de fabrication de l'acier: FOUR ELECTRIQUE

Produktkennzeichnung:
Product marking:
Marquage du produit:

see attachment product marking

Stahlschmelzungsverfahren: ELECTROSTAHL
Schmelzverfahren: ELECTRIC FURNACE
Procédé de fabrication de l'acier: FOUR ELECTRIQUE

Pos. Stück	Maße	Länge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Verlängerungen
Item Number	Dimensions	Length	Weight	Heat No.	Test pressure	Tube number group	Multiple lengths
Poste Nombre	Dimensions	Longueur	Poids	No. de coulée	Pression d'épreuve	Série de no. des tubes	Longueurs multiples
		feet	lbs		PSI		
0002 90	2" NPS * Sched. 40 18 FT - 22 FT	2082,61	7507	733269	3000	5	1121942
0004 145	3" NPS * Sched. 40 18 FT - 22 FT	3078,71	22893	733297	3000	5	1121526

Produktkennzeichnung: see attachment product marking

Produktkennzeichnung: see attachment product marking

Produktkennzeichnung: see attachment product marking

Produktkennzeichnung: see attachment product marking

Produktkennzeichnung: see attachment product marking

Produktkennzeichnung: see attachment product marking

Produktkennzeichnung: see attachment product marking

Produktkennzeichnung: see attachment product marking

FEB 08 2005

Benteler Stahl/Rohr GmbH
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Stahl/Rohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1.B
INSPECTION CERTIFICATE EN 10204.3.1.B
CERTIFICATE DE RECEPTION EN 10204-3.1.B

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Pos.	Stück	Maße	Länge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vielfachlängen
Item	Number	Dimensions	Length	Weight	Heat No.	Test pressure	Tube number group	Multiple lengths
Poste	Numéro	Dimensions	Longueur	Poids	No. de coulée	Pression d'épreuve	Série de no. des tubes	Longueurs multiples
			feet	lbs		PSI		
0009	46	1 1/2" NPS * Sched. 80 18 FT - 22 FT	998,98	3580	733197	3000	1124209	
0010	319	2" NPS * Sched. 80 18 FT - 22 FT	6312,40	11471	733191	3000	1121305	
0011	145	3" NPS * Sched. 80 18 FT - 22 FT	3172,67	12054	733187	3000	1122419	
0012	98	4" NPS * Sched. 80 18 FT - 22 FT	2114,76	11136	524076	3000	1132291	
0015	72	1" NPS * Sched. 160 18 FT - 22 FT	1504,00	4264	524039	3000	1134353	
0016	122	2" NPS * Sched. 160 19 FT - 22 FT	2637,50	9526	524076	3000	1121416	
0017	27	2" NPS * Sched. 160 38 FT - 42 FT	1123,29	8303	524039	3000	1149633	
0018	53	1" NPS * Sched. 160 38 FT - 42 FT	2078,82	29141	733084	3000	1124293	
0019	76	1" NPS * XXS 18 FT - 22 FT	1592,55	5889	524039	3000	1124292	

Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]

Pos.	Schmelzen-Nr.	C	SI	MIN	P	S	CR	MO	NI	CU	V	NB	TI	B
Item	Heat No.													
Poste	No. de coulée													
0002	733259	0,135	0,205	0,82	0,010	0,003	0,09	0,03	0,08	0,13	0,001	0,010	0,004	0,0001
0004	733297	0,130	0,215	0,82	0,011	0,003	0,11	0,03	0,08	0,14	0,001	0,010	0,004	0,0001
0009	733197	0,135	0,195	0,82	0,067	0,004	0,09	0,02	0,07	0,12	0,001	0,010	0,003	0,0001
0010	733191	0,135	0,195	0,84	0,007	0,004	0,09	0,02	0,07	0,12	0,001	0,010	0,003	0,0001
0011	733187	0,140	0,205	0,82	0,009	0,003	0,09	0,02	0,07	0,14	0,001	0,010	0,004	0,0001
0012	524076	0,140	0,210	0,83	0,010	0,002	0,10	0,02	0,07	0,13	0,001	0,010	0,004	0,0001

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Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B	
Item	Heat No.														
Poste	No. de coulée														
0015	524039	0,140	0,220	0,83	0,008	0,003	0,10	0,03	0,10	0,14	0,001	0,010	0,003	0,0001	
0016	524076	0,140	0,210	0,83	0,010	0,002	0,10	0,02	0,07	0,13	0,001	0,010	0,004	0,0001	
0017	524039	0,140	0,220	0,83	0,008	0,003	0,10	0,03	0,10	0,14	0,001	0,010	0,003	0,0001	
0018	733084	0,135	0,210	0,83	0,011	0,003	0,08	0,02	0,07	0,11	0,001	0,010	0,003	0,0001	
0019	524039	0,140	0,220	0,83	0,008	0,003	0,10	0,03	0,10	0,14	0,001	0,010	0,003	0,0001	

- Formel: $CEV=C+(Mn/6)+((Cr+Mo+V)/5)+((Cu+Ni)/15) \leq 0,40 \%$
- Formel: $CEV=C+F*((Mn/6)+(Si/24)+(Cu/15)+(Ni/20)+((Cr+Mo+V+Ni)/5)+(5*B)) \leq 0,40$
- Formel: $Mn/C \leq 3/1$
- Formel: $Cr+Cu+Mo+Ni+V \leq 1,00 \%$

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr.	1. Formel	2. Formel	3. Formel	4. Formel
Item	Heat No.	1. Formule	2. Formule	3. Formule	4. Formule
Poste	No. de coulée	1. Formule	2. Formule	3. Formule	4. Formule
0002	733269	0,310	0,292	6,074	0,331
0004	733297	0,310	0,282	6,308	0,361
0009	733197	0,307	0,289	6,074	0,311
0010	733191	0,310	0,292	6,222	0,301
0011	733187	0,313	0,295	5,857	0,321
0012	524076	0,316	0,298	5,929	0,321
0015	524039	0,321	0,302	5,929	0,371
0016	524076	0,316	0,298	5,929	0,321
0017	524039	0,321	0,302	5,929	0,371
0018	733084	0,306	0,289	6,118	0,281
0019	524039	0,321	0,302	5,929	0,371

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Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]

Pos.	Schmelzen-Nr	C	SI	MIN	P	S	CR	MO	N	CU	V	NB	TI	B
Poste	No. de coulée													
0002	733269	0,130	0,170	0,84	0,007	0,004	0,07	0,03	0,07	0,11	0,001	0,010	0,003	0,0002
0002	733269	0,140	0,170	0,83	0,006	0,003	0,07	0,03	0,06	0,11	0,001	0,010	0,003	0,0001
0004	733297	0,140	0,190	0,83	0,010	0,003	0,10	0,04	0,08	0,13	0,002	0,010	0,003	0,0002
0004	733297	0,130	0,190	0,83	0,011	0,002	0,10	0,04	0,08	0,13	0,002	0,010	0,003	0,0002
0009	733197	0,140	0,190	0,82	0,008	0,002	0,11	0,03	0,08	0,10	0,002	0,010	0,003	0,0001
0009	733197	0,130	0,190	0,83	0,008	0,002	0,11	0,03	0,09	0,10	0,002	0,010	0,003	0,0001
0010	733191	0,130	0,199	0,83	0,008	0,003	0,11	0,03	0,09	0,10	0,001	0,010	0,003	0,0001
0010	733191	0,130	0,190	0,83	0,008	0,002	0,11	0,03	0,09	0,10	0,001	0,010	0,003	0,0001
0011	733187	0,130	0,193	0,83	0,008	0,003	0,11	0,03	0,09	0,10	0,001	0,010	0,003	0,0001
0011	733187	0,130	0,193	0,83	0,008	0,003	0,11	0,03	0,09	0,10	0,001	0,010	0,003	0,0001
0012	524076	0,130	0,213	0,84	0,010	0,002	0,10	0,03	0,07	0,11	0,002	0,010	0,004	0,0001
0012	524076	0,130	0,210	0,84	0,010	0,002	0,11	0,03	0,07	0,11	0,002	0,010	0,004	0,0001
0015	524039	0,140	0,203	0,82	0,009	0,003	0,10	0,03	0,11	0,12	0,001	0,010	0,003	0,0001
0015	524039	0,140	0,213	0,82	0,009	0,003	0,10	0,03	0,11	0,13	0,001	0,010	0,003	0,0001
0016	524076	0,130	0,203	0,81	0,010	0,002	0,11	0,03	0,07	0,11	0,002	0,010	0,003	0,0002
0016	524076	0,130	0,200	0,81	0,010	0,002	0,11	0,03	0,07	0,11	0,002	0,010	0,003	0,0002
0017	524039	0,130	0,200	0,84	0,016	0,003	0,09	0,02	0,07	0,10	0,001	0,010	0,003	0,0002
0017	524039	0,130	0,200	0,83	0,017	0,003	0,09	0,02	0,07	0,09	0,001	0,010	0,003	0,0002
0018	733084	0,130	0,203	0,82	0,016	0,003	0,09	0,02	0,07	0,10	0,001	0,010	0,003	0,0001
0018	733084	0,140	0,200	0,82	0,016	0,003	0,09	0,02	0,07	0,10	0,001	0,010	0,003	0,0002
0019	524039	0,130	0,203	0,82	0,008	0,002	0,10	0,03	0,11	0,13	0,001	0,010	0,003	0,0001
0019	524039	0,130	0,203	0,82	0,009	0,002	0,10	0,03	0,11	0,13	0,001	0,010	0,003	0,0001

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1. Formel: $CEV=C+(MnV/6)+((Cr+Mo+V)/5)+((Cu+Ni)/15) \leq 0,40 \%$
2. Formel: $CEV=C+F^2((MnV/6)+(Si/24)+Cu/15)+(Ni/20)+((Cr+Mo+V+Nd)/5)+(5*Bi) \leq 0,40$
3. Formel: $Mn/Cs \leq 3/1$
4. Formel: $Cr+Cu+Mo+Ni+V \leq 1,00 \%$

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelz-Nr	Formeln				Formel
		1. Formel	2. Formel	3. Formel	4. Formel	
Item	Melt No.	1. Formula	2. Formula	3. Formula	4. Formula	Formula
Posno	No. de coulée	1. Formula	2. Formula	3. Formula	4. Formula	Formula
0002	733269	0,302	0,275	6,462	0,281	
0002	733269	0,310	0,292	5,929	0,271	
0004	733297	0,321	0,301	5,929	0,352	
0004	733297	0,311	0,282	6,385	0,352	
0009	733197	0,317	0,298	5,857	0,322	
0009	733197	0,309	0,281	6,385	0,332	
0010	733191	0,309	0,280	5,385	0,331	
0010	733191	0,309	0,280	6,385	0,331	
0011	733187	0,309	0,280	6,385	0,331	
0011	733187	0,309	0,280	6,385	0,331	
0012	524076	0,308	0,281	6,462	0,312	
0012	524076	0,310	0,282	6,462	0,322	
0015	524039	0,318	0,299	5,857	0,361	
0015	524039	0,319	0,300	5,857	0,371	
0016	524076	0,305	0,278	6,231	0,322	
0016	524076	0,305	0,278	6,231	0,322	
0017	524039	0,304	0,277	6,462	0,281	
0017	524039	0,301	0,275	6,385	0,271	
0018	733084	0,300	0,274	6,308	0,281	
0018	733084	0,310	0,293	5,857	0,281	
0019	524039	0,309	0,280	6,308	0,371	

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Formelerggebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr	1. Formel	2. Formel	3. Formel	4. Formel	Formel
	Heat No.	1. Formula	2. Formula	3. Formula	4. Formula	Formula
	Poste No. de coulée	1. Formule	2. Formule	3. Formule	4. Formule	Formule
0019	524019	0,309	0,280	6,306	0,371	

Prüfsergebnisse / Test results / Résultats des essais

Die Rohre sind auf Dichtheit geprüft durch:
 The tubes have been submited to a leak tightness test by:
 Les tubes ont passé un contrôle d'étanchéité par:

Hydrostatic test; acc. to CSA Z245.1, holding time min 5 seconds. Test
 pressure/time-record

PASSED

Augensichtkontrolle: PASSED Biegeversuch: PASSED Maßkontrolle: PASSED

Visual inspection: Biegeversuch: Banding test: Essai de charge: Pos. / Item / Poste: 0002, 0009, 0010, 0015, 0016, 0017, 0019

Ringlaufversuch: PASSED

Fließring test: Essai d'opitissement: Pos. / Item / Poste: 0004, 0011, 0012, 0018

Ergebnisse der mechanischen Prüfung / Résultats des essais mécaniques

Die Probenahme erfolgte an Vielfachlängen.
 The sampling was carried out on multiple lengths.
 L'échantillonnage a été réalisé aux longueurs multiples.

Zugversuch / Tensile test / Essai de traction

Pos.	Proben-Nr.	Schmelzen-Nr.	Probenabmessung	Streckgrenze	Zugfestigkeit	Dehnung	Einschnürung	Re/Rm
Item	Specimen No.	Heat No.	Specimen dimensions	Yield strength	Tensile strength	Elongation	Area reduction	Re/Rm
Poste	No. de l'éprouvette	No. de coulée	Dimensions de l'éprouv.	Limite élastique	Résistance à la traction	Allongement	Coefficient de stracon	Re/Rm
			mm	ReH	Rm	AZ*	1. Formel	
				PSI	PSI	%	1. Formule	
				MIN 42061	MIN 60191	MIN 30	1 Formule	
0002	000001	711269	19,00 X	3,80	53229	69473	35,00	
0004	000001	711291	25,30 X	5,30	49893	68023	36,00	

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Zugversuch / Tensile test / Essai de traction Polym: Inspection No: Blatt: 7 / 10
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Pos.	Proben-Nr.	Schmelz-Nr.	Probenabmessung	Streckgrenze	Zugfestigkeit	Dehnung	Einschätzung	Re/Rm
Poste	No. de l'éprouv.	Heat No.	Dimensions de l'éprouv.	Limite élastique	Résistance à la traction	Allongement	Coefficient de straction	Re/Rm
			mm	MPa	MPa	%		
Anforderungen			mm	MPa	MPa	%		
Requisiments			mm	MPa	MPa	%		
Exigences			mm	MPa	MPa	%		
0004	000002	733297	25,40 X 5,40	48733	66717	38,00	1. Formel	
0004	000003	733297	25,40 X 5,40	50473	68748	38,00	1. Formel	
0004	000004	733257	25,40 X 5,40	51198	69183	36,00	1. Formel	
0004	000005	733297	25,40 X 5,40	51633	69473	36,00	1. Formel	
0004	000006	733297	25,40 X 5,40	50763	68603	36,00	1. Formel	
0009	000001	733197	12,70 X 5,00	49458	68458	41,00	1. Formel	
0010	000001	733191	19,00 X 5,40	49023	69038	42,00	1. Formel	
0011	000001	793187	25,40 X 7,50	49603	68313	38,00	1. Formel	
0012	000001	524076	25,40 X 8,40	48733	69183	38,00	1. Formel	
0015	000001	524039	12,70 X 6,30	49748	70198	35,00	1. Formel	
0016	000001	524076	19,10 X 8,50	49603	68748	40,00	1. Formel	
0017	000001	524039	19,00 X 8,50	50038	68893	40,00	1. Formel	
0018	000001	733084	25,40 X 10,30	48588	68168	43,00	1. Formel	
0019	000001	524039	9,90 X 9,20	50763	70778	36,00	1. Formel	
0019	000002	524039	9,90 X 8,80	52359	72374	34,00	1. Formel	
0019	000003	524039	9,90 X 9,30	49748	70198	38,00	1. Formel	

Härteprüfung / Hardness test / Essai de dureté

Pos.	Proben-Nr.	Schmelz-Nr.	Härte	HRC	HB	HV	HRB
Item	Specimen No.	Heat No.	Hardness	Dureté			
Posite	No. de l'éprouv.	No. de chauffe	Dureté				
Anforderungen							
Requisiments							
Exigences							
0002	000001	733269			136		

MAX 200

CRIMTECH SERVICES LTD.
MATERIALECONSTRUSTO ASME
SEC 1 2720
ADDENDA
BY  1 2005
PO No

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BENTELER 
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Härteprüfung / Hardness test / Essai de dureté

Pos.	Proben-Nr.	Schmelzen-Nr.	Härte	HB	HV	HRB
Item	Specimen No.	Heat No.	Hardness			
Paste	No. de l'éprouv.	No. de coulée	Dureté			

Antordenungen
 Requirements

MAX 200

0004	000001	733297		139		
0004	000002	733297		140		
0004	000003	733297		140		
0004	000004	733297		138		
0004	000005	733297		140		
0004	000006	733297		141		
0009	000001	733197		144		
0010	000001	733191		145		
0011	000001	733187		146		
0012	000001	524076		147		
0015	000001	524039		148		
0016	000001	524076		137		
0016	000002	524076		137		
0016	000003	524076		138		
0017	000001	524039		141		
0018	000001	733084		143		
0019	000001	524039		147		
0019	000302	524039		148		
0019	000003	524039		147		

Residualmagnetismus / Demagnetize / Démagnétiser
 residual magnetic field intensity max 40.0 A/cm

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Pos.	Ihr Zeichen Your reference Votre référence	Kundenmaterial Customer's Material No. No. de matière du client	Kundenbestell-Nr. Purchase Order No. No. de commande du client
0002		1126070-OR2100/131942	04-5313
0004		1126070-OR2100/131926	04-5313
0009		1126070-OR2100/128209	04-5313
0010		1126070-OR2100/128305	04-5313
0011		1126070-OR2100/128276	04-5313
0012		1126070-OR2100/132291	04-5313
0015		1126070-OR2100/128250	04-5313
0016		1126070-OR2100/131686	04-5313
0017		1126070-OR2100/1496239	04-5313
0018		1126070-OR2100/1474283	04-5313
0019		1126070-OR2100/128962	04-5313

Vermert / Remark / Remarque
 Pos. / Item / Poste 0002, 0009, 0019, 0017, 0016, 0010, 0015, 0017

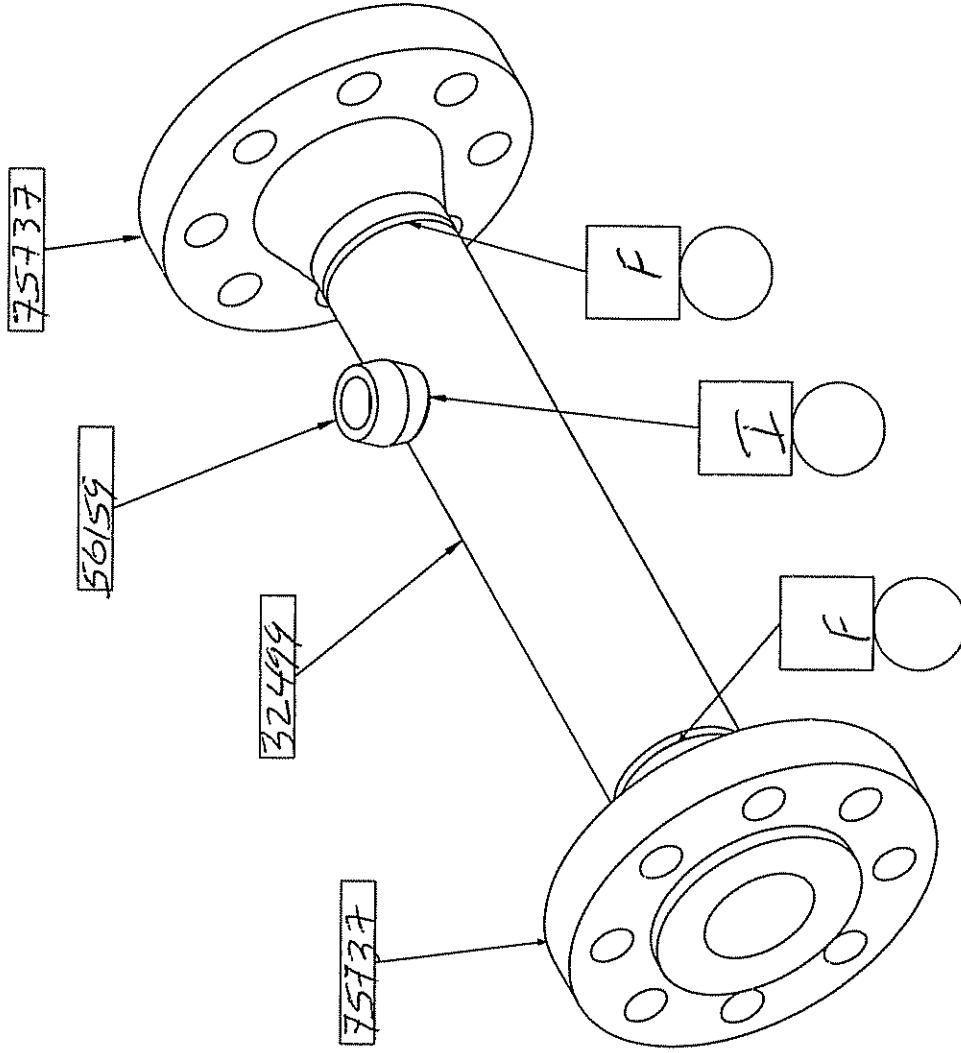
NACE Standard: hardness acc. to NACE Standard MRO175 HRC max 22; Certificate remarks: The seamless line pipes meet the requirement for micro hardness of max 248 HV 500; Bend test: mandrel diameter 12D, bending angle 90 degree

Pos. / Item / Poste: 0004, 0012, 0011, 0018, ...
 NACE Standard: hardness acc. to NACE Standard MRO175 HRC max 22; Certificate remarks: The seamless line pipes meet the requirement for micro hardness of max 248 HV 500

Beiblatt Produktkennzeichnung / Attachment product marking / Supplément marquage du produit

Pos. Produktkennzeichnung
 Item Produktkennzeichnung
 Poste Marquage du produit

0002 FS: BENTELER Z.245.1, API 5L - PSL 1, AVSA-106 S5 BX/42/290 HEAT-NO. TEST PRESSU RE DIMENSIONS SCHEDULE WA GERMANY
 1126070-OR2100/131942



COPY



PH 1-800-993-9958

WWW.CRIMTECH.COM

SPOOL NO.:

DRAWING NO.:

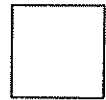
13714

1010693-WM-02B

WELD MAP LEGEND



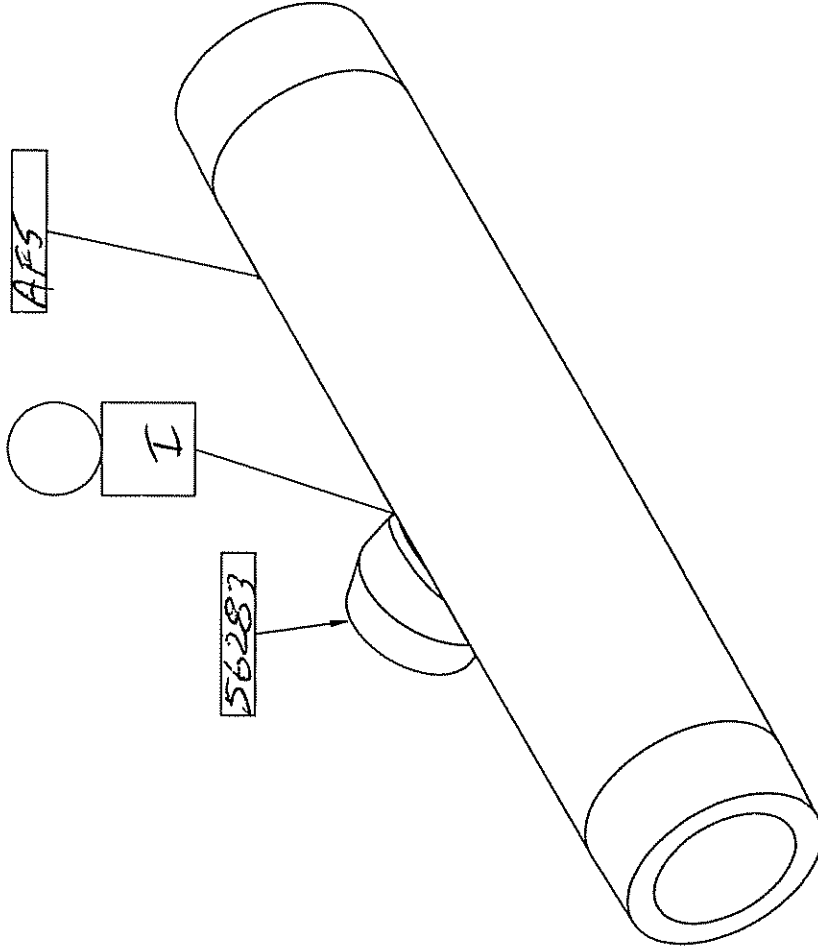
= NDE



= WELDER



= HEAT NUMBER



COPY



CRIMTECH

SERVICES LTD

WWW.CRIMTECH.COM

PH 1-800-993-9958

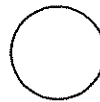
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DRAWING NO.:

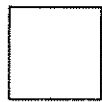
13723

1010693-WM-02A

WELD MAP LEGEND



= NDE



= WELDER



= HEAT NUMBER

Procedures: MT-2F
Code: ASME SGC V B31.3 n1s.

Job / P.O. #: NO 307507 IRISNDT #: 106583 Date: NOV 1/05
Client: CRIMTECH
Location: RD
Item Inspected: Below

SURFACE CONDITION: Painted Sandblasted Machined As Cast As Forged Weldment Other

MATERIAL: CS Thickness: N/A Heat Treatment: N/A

MAGNETIZING EQUIPMENT: Yoke Coil Prod Bench: Headshot Central Conductor Coil

IRISNDT #: 40089 Mfg: CONTOUR Calibration Date: SEPT-6/05

BLACKLIGHT: IRISNDT #: 41064 Mfg: SPECTROLINE Calibration Date: NOV 7/05

WHITELIGHT: Battery Powered Min. 3V Held within 30 cm (12in) of the inspection surface

110V Power Min 60W Bulb Held within 30 cm (12in) of the inspection surface

METHOD OF MAGNETIZATION: AC DC Continuous Residual

MAGNETIC PARTICLES: Dry Wet Red Grey Black Fluorescent

Batch #: 887 Mfg: MIG10 Type: 810

BACKGROUND: Batch #: _____ Mfg: _____ Type: _____

Inspection Results:

WFMPI WAS DONE ON THE FOLLOWING.
3/4 TOL SPOOL 13706 WBLD BLS.

Results : ACCEPTABLE TO CODES

Unit #: 208 Kilometres: 0
In 1145 Out 1200 Hrs .25
In _____ Out _____ Hrs _____
Personnel: GS BL

Consumables: Min

Interpretation by: SNT-TC-1A II
G. Shink CGSB II
(Signature) (Level)
AS CGSB # 6759

I am in full agreement with report contents:
Client Representative: [Signature]

Edmonton (780) 437-4747
Calgary (403) 279-6121
Nisku (780) 955-7616
Barrhead (780) 674-3018

Fort McMurray (780) 743-1536
Grande Prairie (780) 532-2283
High Level (780) 841-0470
Lloydminster (780) 875-6455

Cold Lake (780) 594-1114
Red Deer (403) 347-1742
Tulsa, OK (918) 446-8773
Houston, TX (713) 722-7177

Mailing Address
5908 - 96 Street
Edmonton, Alberta
T6E 3G3

IRIS NDT

MAGNETIC PARTICLE INSPECTION REPORT

127685

Page 1 of 1

Procedures: IRISNDT.S.O.MT2F WOX Job/PO #: 307507 IRISNDT #: 106610 Date: OCT-30-05
 Code: ASME B31.3 NIS Client: CRIMTECH SUS
 Location: Red Deer
 Item Inspected: 3/4" T.O.L (3) CIS

SURFACE CONDITION: Painted Sandblasted Machined As Cast As Forged Weldment Other
 MATERIAL: CIS Thickness: ~ / Heat Treatment: ~ /
 MAGNETIZING EQUIPMENT: Yoke Coil Prod Bench: Headshot Central Conductor Coil
 IRISNDT #: 40082 Mfg: Contour probe Calibration Date: OCT-30-05
 BLACKLIGHT: IRISNDT #: 41054 Mfg: SpectroLine Calibration Date: OCT-30-05
 WHITELIGHT: Battery Powered Min 3V Held within 30 cm (12in) of the inspection surface
 110V Power Min. 60W Bulb Held within 30 cm (12in) of the inspection surface
 METHOD OF MAGNETIZATION: AC DC Continuous Residual
 MAGNETIC PARTICLES: Dry Wet Red Grey Black Fluorescent
 Batch #: 406 Mfg: MIGLO Type: SLO
 BACKGROUND: Batch #: / Mfg: / Type: /

Inspection Results: Items Inspected

Scope: To perform wet Fluorescent MPI ON 3 x 3/4" T.O.L as WOX 307507

WOX	Spool S/N	Size	SCH	MTX	Welder
307507	13716	3/4"	T.O.L	MPI-1	I
307507	13717	3/4"	T.O.L	MPI-1	N
307507	13718	3/4"	T.O.L	MPI-1	Z

Results: No Rejectable INDICATIONS Noted @ Time of INSPECTION. Acceptable

Unit #: 226 Kilometres: /
 In 11:00 Out 12:00 Hrs 1:0
 Personnel: E-Cairnes
B. Lotzien
 Consumables: Min
 Interpretation by: Emanuel Cairnes SNT-TC-1A II
 CGSB # 9502
 I am in full agreement with report contents:
 Client Representative: Paul Lueil

Edmonton (780) 437-4747	Fort McMurray (780) 743-1536	Cold Lake (780) 594-1114	Mailing Address
Calgary (403) 279-6121	Grande Prairie (780) 532-2283	Red Deer (403) 347-1742	5908 - 96 Street
Nisku (780) 955-7616	High Level (780) 841-0470	Tulsa, OK (918) 446-8773	Edmonton, Alberta
Barrhead (780) 674-3018	Lloydminster (780) 875-6455	Houston, TX (713) 722-7177	T6E 3G3

WELDING PROCEDURE SPECIFICATION NO: CRIM-1

WELDING PROCEDURE QUALIFICATION RECORD NO (S): CSL-2-1, MIL-1-1,
MIL-1-2, MIL-1-3

QUALIFIED FOR

Base Metal (Typical): P1 Groups 1 & 2 to P1 Groups 1 & 2
(SA 333 Gr.6, SA 350 Gr.LF2, SA 420 WPL6, SA 516 Gr.70 etc.)
Process(es): SMAW Weld Types: GROOVE & FILLET
Position: ALL POSITIONS Diameter: ALL DIAMETERS
Filler Metal: E6010, E7018-1

BASE METAL CONDITIONS & THICKNESS RANGE QUALIFIED:

NOTCH TOUGHNESS APPLICATIONS TO -46°C AS WELDED

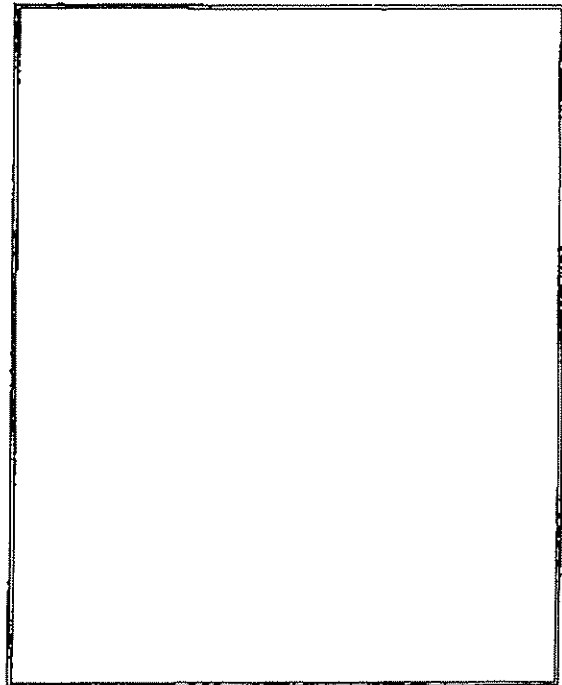
ASME B31.1 3.2 to 19.1 mm (0.125 to 0.750 in.) inclusive.
ASME B31.3 3.2 to 19.1 mm (0.125 to 0.750 in.) inclusive.
ASME SECT. VIII, DIV.I 3.2 to 38.1 mm (0.125 to 1.50 in.) inclusive.

ALBERTA BOILERS SAFETY ASSOCIATION
PROVINCE OF ALBERTA
SAFETY CODES ACT
WELDING PROCEDURE

Reg. No. WP 18612
Spec. No. CRIM-1
Weld Process SMAW
Mall. Gr. P No. 1 Gr. 1 & 2 to P No. 1 Gr. 1 & 2
Elec. Gr. F No. 3+4 A No. 1
Th. Qual. For 3.2 to 38.1 mm WHT NO
C.V.N. -46°C

Yr. No. 9 Day 26 Signed R. ROSEBERG, R. ENG.
WELDING SPECIALIST

PROVINCIAL REGISTRATION



WELDING PROCEDURE SPECIFICATION NO: CRIM-3

WELDING PROCEDURE QUALIFICATION RECORD NO (S): MIL-3-1, MIL-3-2

QUALIFIED FOR

Base Metal (Typical): P1 to P1 (SA 53 Gr.B, SA 106 Gr.B, SA 105, SA 516 Gr.70 etc.)
Process(es): GMAW / SMAW Weld Types: GROOVE & FILLET
Position: ALL POSITIONS Diameter: ALL DIAMETERS
Filler Metal: ER70S-2, ER70S-3, ER70S-6, E7018, E7018-1

BASE METAL CONDITIONS & THICKNESS RANGE QUALIFIED:

STANDARD APPLICATIONS AS WELDED

ASME B31.1
ASME B31.3
ASME SECT. VIII, DIV.1

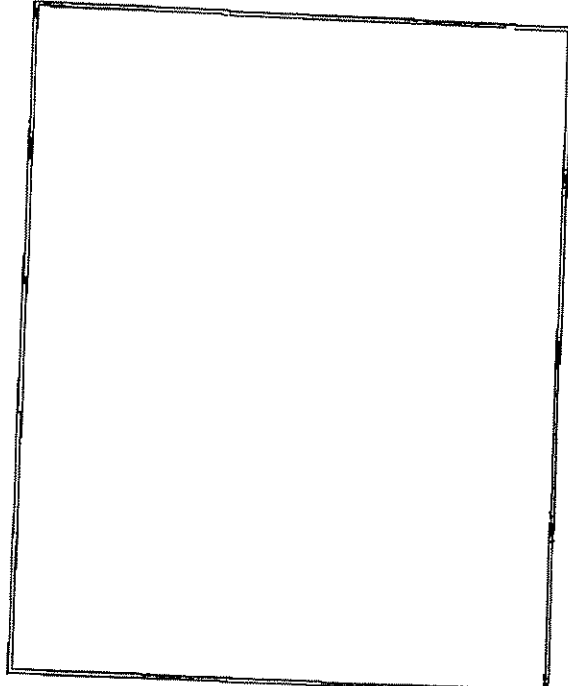
4.8 to 19.1 mm (0.188 to 0.750 in.) inclusive.
4.8 to 19.1 mm (0.188 to 0.750 in.) inclusive.
4.8 to 38.1 mm (0.188 to 1.50 in.) inclusive.

ALBERTA BOILERS SAFETY ASSOCIATION
PROVINCE OF ALBERTA
SAFETY CODES ACT
WELDING PROCEDURE

Reg. No. WP 18612
Spec No. CRIM-3
Weld Process GMAW/SMAW
Matl. Gr. P No. 1 to P No. 1
Elec. Gr. F No. 6+4 A No. 1
Th. Qual. For 38.1mm PWHT NO

Yr. 04, Mo. 9, Day 26, Signed [Signature]
R. ROSEBERG, P. ENG.
WELDING SPECIALIST

PROVINCIAL REGISTRATION





ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

Certificate of Test

Part Number: Y52074 Description: 2x12 BLK 160 SML NIP 106B
Heat Code: AF5
Reference No :
Specification: ASTM A106-99 GRADE B/ ASME SA106 GRADE B
Fitting Trademark: ZELEZIARN PODBREZOVA

2" x 12" sch 160 nipple
AF5

Chemical Analysis %

Heat No.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
40495	0.18	0.61	0.009	0.012	0.25	0.23	0.10	0.05	0.02	0.01	

CE (LONG FORMULA) = 0.32

Mechanical Properties

Yield Strength	Tensile Strength	Elongation % 2	Reduction Area	Hardness BHN
psi 49,160 MPa 000	psi 70,620 MPa 000	35.10	0.00	N/R

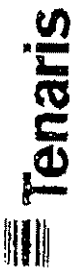
Heat Treatment:
Hydrotest/NDE: 2500 PSI Bend: GOOD

We certify that this is a true and correct copy of the mill certificate, issued by the manufacturer of the steel employed or the laboratory which has determined it, as retained in the records of the company We make no representation beyond those of the manufacturer or its agent.

32

CRIMTECH SERVICES LTD.
MATERIAL CONFORMS TO: ASME
SEC. II, 2001 EDITION . 2001 APPENDIX
APR 11 2005
By:
P.O. No. _____

JAN 11 2005



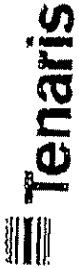
Siderco S.A.I.C.
 Dr Jorge A. Yimindzi
 (B280AHRA) Compara
 Buenos Aires, Argentina
 (54) 209 433100 (tel)
 (54) 3485 432405 fax

INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474.3.1B)

Cliente / Customer CCTF		Expediente / Manufacturing Order 57575.04		Número / Number 205329		Fecha / Date 01/06/2004		Página / Page 2 / 6	
Producto / Product Seamless steel line pipe		Orden de Compra / Purchase Order PO 486935100		Item 00004		Referencia del Cliente / Customer Reference ANSI B16.25F2AASME B1025			
Norma / Standard ASTM/AASME A510GRAPSL + CSA Z245.1-98		Grado / Grade B3042+290SS		Exentos / Excs ANSI B16.25F2AASME B1025		Centrados / Quantities 93 Pz 615.63 m 6844 Kg 93 Pcs 2019.78 Ft 15088 Lb			
Dimensiones / Dimensions 60.36 x 8.74 mm 2 3/8 x 0.344 inches		Peso Nominal / Nominal Weight 11.11 KG/MET 7.46 LB/FT		Superficie Externa / External Surface VARNISHED					
Schedule 160		Longitud / Length S.R. (SIF)							

ENSAYOS QUIMICOS / CHEMICAL ANALYSES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
C	Si	Mn	P	S	Ni	V	Al	Sn	Cu	x 1000										C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	H	D	N	D	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn	As	Nb	Ti	Fe	N	O	H	C	S	Pb	Bi	Zr	Co	Zn

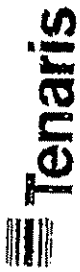


INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Siderca S.A.I.C.
 Di Jorge A. Jimenez 230
 16260 (M.V.A.) Campanas
 Buenos Aires, Argentina
 (54) 7489 4331003161
 (54) 7489 433405181

Cliente / Customer CCTF	Expediente / Manufacturing Order 57575.04	Número / Number 204329	Fecha / Date 01/08/2004	Pág. / Page 4 / 6
Producto / Product Seamless steel line pipe	Orden de Compra / Purchase Order PO 406935100	Referencia del Cliente / Customer Reference 00004		
Norma / Standard ASTM A516 / API 5L X 60 + CSA Z245.1-98	Grado / Grade BX42+290SS	Extremo / Ends ANSI B16.25 / FZAJASME B1625		
Dimensiones / Dimensions 60.30 x 8.74 mm 2.38 x 0.344 inches	Peso Nominal / Nominal Weight 11.11 KG/M 7.46 LB/FT	Superficie Externa / External Surface VARNISHED	Cantidades / Quantities 93 Pz 93 Pcs	6844 Kg 15088 LB
Marking / Marking LLL = Longitud / Length HNX000X = Colada / Heat				
@ = Monograma / Monogram API				
NNNNN = Número de tubo / Nbr of pipe Y/T = Año / Trimestre Year / Quarter				
Estándar (Tubo) / Standard (Pipe) NNNNN LLLL P P P P P TENARIS SD 5L0098 @ MM.YY A SA 106 API 5L Z245.1-98 BX42P5L1290 C1 S S S 2 3 8 X 0.344 2 SCH 160 7.46 3000PSI CCTF PO 486935100 57575.04 MADE IN ARGENTINA HNX000X				
Tarjeta / Card: SIDERCA MADE IN ARGENTINA P.O.: PO 486935100 OF: 57575-04 PIECES: LENGTH: WEIGHT(KG): LIFT: SIZE: 60.30 X 8.74 G.D.O. BX42+290SS SPEC: API-ASTM HEAT: CL: CCTF-EDMONTON				
FABRICADO POR SIDERCA *PROCESO DE ACERACIÓN* *FABRICACIÓN DE ACERO: FUNDICIÓN POR ARCO ELÉCTRICO Y COLADO CONTINUO - ACERO CALMADO AL ALUMINIO. *LA PRÁCTICA DE AFINO EN EL HORNO - CUCHARA INCLUYE UNA INYECCIÓN FINAL DE UNA VARILLA DE SILICIO DE CALDO PARA OBTENER UNA FORMA GLOBULAR DE EVENTUALES MICROINCLUSIONES. *MATERIAL LIBRE DE CONTAMINACIÓN DE MERCURIO. *PROCESO DE LAMINACIÓN* *FABRICACIÓN DE TUBO: LAMINADO EN CALIENTE Y SIN COSTURA. *CONTROLES* *CONTROL VISUAL Y DIMENSIONAL: SATISFACTORIO. *CONTROL NO DESTRUCTIVO TUBO (C.N.D.): SATISFACTORIO.		*MANUFACTURED BY SIDERCA* *ACIERAGE PROCESS* *STEEL MAKING PROCESS: E.A.F. A.F. AND CONTINUOUS CASTING - FULL ALUMINIUM KILLED AND FINE GRAIN PRACTICE. *THE LF PRACTICE INCLUDES A FINAL INJECTION OF CALCIUM SILICIDE WIRE FOR MICROINCLUSION SHAPE CONTROL. *MATERIAL FREE FROM MERCURY CONTAMINATION. *ROLLING PROCESS* *MANUFACTURING PROCESS: SEAMLESS HOT ROLLED. *CONTROLS* *VISUAL AND DIMENSIONAL INSPECTION: SATISFACTORY. *PIPE NON DESTRUCTIVE TEST (N.D.T.): SATISFACTORY.		



INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Siderca S.A.T.C.
 Director A. Simón 250
 (0280) MALI Campana
 Buenos Aires, Argentina
 (54) 3445 43100 Tel
 (54) 3483 432605 Fax


Cliente / Customer CTCF	Expediente / Manufacturing Order 51757504	Número / Number 205329	Fecha / Date 01/06/2004	Pág./Page 5 / 6
Producto / Product Seamless steel line pipe	Orden de Compra / Purchase Order PD 486835100	Item 00004	Referencia del Cliente / Customer Reference	
Norma / Standard ASTM/ASME A54106/AP6L + CSA Z245.1-98	Grado / Grade B7X24*280SS	Extremo / Ends ANSI B16.25/ASME B16.25		
Dimensiones / Dimensions 60.30 x 8.74 mm 2 3/8 x 0.344 inches	Schedule 160	Peso Nominal / Nominal Weight 11.11 KG/MT 7.46 LB/FT	Longitud / Length 8.18 (81)	Cantidad / Quantity 93 Pz 93 Pcs
Superficie Externa / External Surface VARNISHED		615.63 m 2019.78 Ft		
CONDICIONES DEL MATERIAL -NO REPARADO POR SOLDADURA. *PROPIEDADES DEL MATERIAL* -LA DUREZA CUMPLE CON LA NORMA NACE MR 01-75 ULTIMA EDICION. -EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS CSA Z245.1-98 GR 241/290 Cal. *NORMAS* -CERTIFICADO DE ACUERDO CON: EN 10204 3.1.B/95 - ISO 10474 3.1.B/92. -EDICION DE LA NORMA : ASME SA 106/D1. -EDICION DE LA NORMA : API 5L, 42ª Edición 2000. -EDICION DE LA NORMA: CSA Z245.1/98. -EDICION DE LA NORMA : ASTM A106/02a.				
Observaciones / Remarks HEAT TREATMENT: AS ROLLED. HYDROSTATIC TEST PRESSURE : 207 KPA (100 = 3000 PSI (5 sec.). NON DESTRUCTIVE TEST: SATISFACTORY. INSPECTION METHODS: E.M.I. LONG. (EXT.) NOTCH 5% - E.M.I. LONG (INT.) NOTCH 10% - E.M.I. - TRANSV. (EXT. INT.) NOTCH 10%. HARDNESS TEST ACCORDING TO NACE MR-01-75 ULT. ED ONE LONGITUDINAL BLUE BAND AND ONE RING PURPLE.				



Siderca S.A.I.C.
 C/ Jorge A. Gimini 250
 (B2001897A) Campana
 Buenos Aires, Argentina
 (54) 3499-433100 Tel
 (54) 3499-433405 Fax

INSPECTION CERTIFICATE
 (EN 10204 3.1B - ISO 10474 3.1B)

Client / Customer		Expedient / Manufacturing Order		Número / Number		Fecha / Date		Pág./Page	
Product / Product		Orden de Compra / Purchase Order		Item		Referencia del Cliente / Customer Reference			
Norma / Standard		Grado / Grade		Extremo / Ends					
ASTM/AASME A106/A106/ASPL + CSA Z245.1-98		B7X42+250SS		ANSI B16.25F2A/AASME B16.25					
Dimensions / Dimensions		Superficie Externa / External Surface		Cantidades / Quantities					
810.39 x 8.74 mm		VARNISHED		93 Pz					
2 3/8 x 0.344 inches				93 Pcs					
Schedule		Longitud / Length							
160		S.R. (SP)							
Peso Nominal / Nominal Weight									
11.17 KG/MT									
7.46 LB/FT									

<p>Por la presente certificamos que el material aquí descrito ha sido fabricado de acuerdo con las normas y especificaciones solicitadas en vuestra orden y satisface las correspondientes requerimientos.</p> <p>Este certificado es válido mediante un sistema computarizado y es válido con firma electrónica. El certificado original presenta el logo Tenaris (verde claro), impreso en la parte inferior de la hoja. En caso que el poseedor del certificado entregue una copia del mismo, deberá garantizar la conformidad con el original, haciéndose responsable por cualquier uso ilegal o inadecuado. Cualquier alteración y/o falsificación estará sujeta a la ley.</p> <p>Si necesita asegurar la autenticidad de este certificado, contactarse con Siderca S.A.I.C. e-mail: ajw@siderca.com</p>	<p>We hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies the corresponding requirements.</p> <p>This certificate is issued by a computerized system and it is valid with electronic signature. On the original certificate the trade-mark Tenaris light-green is blurred at the bottom of the page is stamped. In case the owner of the certificate would release a copy of it, he must certify its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use.</p> <p>If you need to ensure the authenticity of this certificate, please do not hesitate to contact Siderca S.A.I.C. through the e-address ajw@siderca.com</p>
	
<p>QUALITY CERTIFICATION DEPT. OTO CERTIFICACION DE CALIDAD EDUARDO A. AYERBE</p>	

134

METALFAR
PRODOTTI INDUSTRIALI S.P.A.
VIA CESANA BRIANZA (LC) ITALY
Tel 031 655411 - Fax 031 655149

COMPANY
WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= ISO 9001:2000 =

PORGBD FLANGES & FITTINGS LTD
CASTLE HOUSE - STATION ROAD
NEW BARRETT/BRISTOL GB

INSPECTION CERTIFICATE DIN 50049/3.1B - EN 10204/3.1B ** CERTIFICATO DI COLLAUDO.
N. 1070F 18/03/2005
INVOICE / FATTURA: 9871 18/03/2005
S. 40636
DEL. NOTE / BOLL. 19591 18/03/2005

MATERIAL TEST DEPARTMENT
SALA PROVE ED ANALISI MATERIALI

DESCRIPTION
DESCRIZIONE

DIM. IN ACCORDANCE TO
DIM. IN ACCORDO A

VISUAL & DIMENSIONAL
VERIFICA VISUALE

EAT CODE	HEAT	ITEM POS.	YOUR P.O. VS ORDINE	OUR REFERENCE NS. ORDINE	QUANTITY QUANTITA	MATERIAL MATERIALE	CHEMICAL ANALYSIS											DIM. IN ACCORDANCE TO DIM. IN ACCORDO A	SATISFACTORY						
							C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %			Nb %	N %	Al %	C.E. %	STEEL ANALYSIS	
0076			3000	04004334 0060	200	ASTM A 105	0.200	0.190	1.130	0.015	0.010	0.070	0.050	0.010	0.023	0.136	0.025	0.001	0.000	0.025	0.020	0.020			
0026																									
0026																									

VERIFIED TRUE COPY
OF ORIGINAL
FORGED FLANGES &
FITTINGS LIMITED

HEAT TREATMENT
TRATTAMENTO TERMICO
NORMALIZED AT 920 C - COOLED IN STILL AIR
ELETTRIC FURNACE

INSPECTION AUTHORITY
INTELLIGENTE COLLAUDO

QUALITY CONTROL DEPARTMENT
DIPARTIMENTO CONTROLLO QUALITA

MANUFACTURER'S SYMBOL
MARCHIO FABBRICATORE

CRIMTECH SERVICES LTD.
MATERIAL CERTIFICATE TO: ASME

SEC II 2005

APPENDIX 7 2005

OCT 24 2005

By: *[Signature]*

P.O. No. _____

NOTE
LP2 CHARPY TEST SPECIMEN RESULT AS 10X10mm
MATERIAL IN ACCORDANCE WITH NACE MR-0175/2003
2004/2005

CERTIFIED MILL TEST REPORT

PO 119660



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LOG NO. 213700 PAGE 10

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www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 02/07/05

CUSTOMER'S Order No.: 9199995-00

Bonney Order No. 006920

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

290976

EDMONTON ALBERTA
EDMONTON ALBERTA, T6E5S9 CANAD

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
------	----------	---------	--

SA/A105N-02

004	125	55746	755147B 2 1/2-2X1 1/2 3M A105N THRD T
			C 190 MN 990 P .009 S .022 SI .240
			NI .020 CU 100 CR .040 MD .010 V .025
			NB .001
			CE(LONG FORMULA) = 0.38
			T/S 76900 Y/S 51200 EL 30.90 RA 65.00
			BRINELL HARDNESS1: 154 HARDNESS2: 152

005	175	56283	7551550 2 1/2-2X3/4 3000 A105N THRD T
			C 210 MN 1.010 P .010 S .023 SI .240
			NI .073 CU 220 CR .089 MD .019 V .036
			CB .010 AL .010
			CE(LONG FORMULA) = 0.43
			T/S 83625 Y/S 58125 EL 29.20 RA 63.25
			BRINELL HARDNESS1: 147 HARDNESS2: 153

006	225	56283	7551568 5 -3 X 3/4 3000 A105N THRD T
			C 210 MN 1.010 P .010 S .023 SI .240
			NI .073 CU 220 CR .089 MD .019 V .036
			CB .010 AL .010
			CE(LONG FORMULA) = 0.43
			T/S 83625 Y/S 58125 EL 29.20 RA 63.25
			BRINELL HARDNESS1: 147 HARDNESS2: 153

007	200	56131	7551622 2X1 3M A105N THRD T
			C 200 MN 890 P .012 S .017 SI .220
			NI .084 CU 260 CR .141 MD .021 V .019
			CB .019 AL .006 SN .012
			CE(LONG FORMULA) = 0.41
			T/S 79875 Y/S 54875 EL 30.00 RA 59.05
			BRINELL HARDNESS1: 153 HARDNESS2: 156

***** CONTINUED ON NEXT PAGE *****

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks

CRIMTECH SERVICES LTD. MATERIAL CONFORMS TO: ASME SEC II, 2004 EDITION, 20__ ADDENDA SEP 07 2005 By: <u>[Signature]</u> P.O. No. _____

by [Signature]

Cris Childers

QUALITY PROCESS MANAGER

CMTR: REV 1

(32)
 Spec S A105N
 3/4" 3m TDR
 H# 56283

CERTIFIED MILL TEST REPORT



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LOG NO. 219804 PAGE 1

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www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

Date 06/02/05

CUSTOMER'S Order No.: 4873305-00

Bonney Order No. 012316

SHIPPED TO: CCTF CORPORATION

Mat# 7561

5407 - 53 AVENUE

EDMONTON ALBERTA, T6B 3G2 CANA

ITEM QUANTITY LOT NO. TEST (BY DATE)

				SA/A350-LF2 CL 1			
001	25	56159	7692050	8-3 X 1/2 3M LF2 THRD T			
				C 200✓MN 970✓P	020✓S	023✓SI	240✓
				NI 040✓CU 140✓CO	003✓CR	060✓MO	011✓
				V 023✓AL 001 NB	001		
				CE (LONG FORMULA) = 0.39			
				T/S 77625 ✓/S 51000 ✓ EL 32 40 ✓/A 67 90			
				BRINELL HARDNESS1: 144 HARDNESS2: 147 ✓			
				CHARPY -50F 29 0, 32 0, 13 0 (FT/LBS)			
				AVERAGE 24 b			

CRIMTECH SERVICES LTD.
MATERIAL CONFORMS TO ASME
SECTION II, 2004 EDITION, 2004 ADDENDA

AUG 03 2005

By:

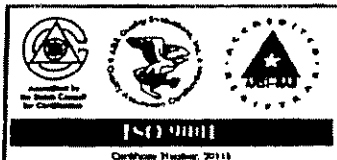
101
L-5195

1. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS
2. THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SA350-LF2
3. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH A350-LF2
4. CERTIFYING TO ASTM A350 LF2 04A REVISION
5. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS
6. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH

46

***** END OF CERTIFICATION *****

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks



by

Cris Childers

QUALITY CONTROL MANAGER