

QUALITY CONTROL DATA BOOK

Cordero Energy Inc.
C/O Seiditz Engineering Ltd.
1700, 840 – 7th Ave S.W.
Cangary, Alberta
T2P 3G2

JOB# 2006-7578-50

Gas Dehydration Unit.
LSD: 13-20-43-22 W4M
LSD: 10-29-43-22 W4M

Phase # : 2006-7578-50B
Phase Title: Glycol Dehydration Package

TABLE OF CONTENTS

Title	Availability	
	Yes	No
1. Data Reports	X	
2. CRN's		N/A
3. Nameplate Copy	X	
4. Travel Sheet	X	
5. Impact Test Reports		N/A
6. Material Control	X	
7. Material Reports		N/A
8. MTR's	X	
9. NDE MPT		N/A
LPT		N/A
RADIOGRAPHY	X	
ULTRA SONIC		N/A
10. Stress Relieve Charts		N/A
11. Hydrotest Report(s)		N/A
12. Hydro Chart		N/A
13. PSV & Valve Cert.	X	



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: ALCO Gas & Oil Production Equipment Ltd. Owner's Job No: 2006-7578-50B
(Name of ABSA authorized primary contractor or subcontractor)
5203-75th Street, Edmonton, AB T6E 5S5
(Address)

Alberta Quality Program No. AQP- 1004 Expiry Date: Oct. 7th, 2007

2. Constructed For: Seidlitz Engineering Ltd.
(Name of primary contractor if different from above)
1700, 840 - 7th Ave. S.W. Calgary, AB T2P 3G2
(Address)

Alberta Quality Program No. AQP- _____ Expiry Date: _____
(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: Cordero Energy Inc. 2400 - 255 - 5th Ave S.W. Calgary, AB
(Name and address)
LSD: 10-29-43-22 W4M Malmö
(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- 340.2; Company: ALCO Gas & Oil Prod. Equip. Ltd.; Owner's WP No. (If used): WP-
(Alberta Registration No.) (Alberta Registration No.)
WPS No(s). used: CA-PIG1G2 AWLT, AA-PIG1G2 AWLT; 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
B-2006-7578-50S -001, -002 Rev. 0 Iso #1, #2	Gas	9,757	-29/66	14,638	H ₂ O	SA-106-B SA-234 WPB SA-105N	0	4", 2" Sch 80 3" Sch 40	SA-105N 600#/ 900#	None	5	
B-2006-7578-50S -003 Rev. 0 Iso, #3	Gas	1,896	-29/66	2,793	H ₂ O	SA-106-B SA-234 WPB SA-105N	0	2" Sch 40 1 1/2", 1" Sch 80	SA-105N 150#	None	5	
B-2006-7578-50S -004 Rev. 0 Iso #4	Glycol	9,757	-29/66	14,893	H ₂ O	SA-106-B SA-234 WPB SA-105N	0	2", 1" Sch 80		None	5	
D-2006-7578-50F -001 Rev. 1 D-2006-7578-50A -001 Rev. 0 LCV-710 stn. piping from T-710 to skid edge.	Water	9,757	-29/66	14,893	H ₂ O	SA-106-B SA-105N	0	1" Sch 160 to LCV-710 1" Sch. 80 after LCV-710	SA-105N 3000#	N/A	N/A	

BDV-710 stn. piping from Iso #2	Gas	9,757	-29/66	14,893	H ₂ O	SA-106-B SA-105N	0	1" Sch 160 to BDV-710 1" Sch 80 after BDV-710	SA-105N 3000#	N/A	N/A	
Pipe lines from P-510 A/B through coil in T-710, through E-310 to T-710 and back from T-710 to P-510 A/B.	Glycol	9,757	-29/66	14,893	H ₂ O	SA-106-B SA-105N SA-234 WPB	0	1" Sch 80	SA-105N 3000#	None	None	
Complete unit air tested				586 or as regulated	Air/Soap	SA-106B SA-105N SA-234 WPB	0	2", 1 1/2", 1", 1/2" Sch 80	SA-105N 3000#	None	None	
Function test				586 or as regulated	Air							

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.	Drg. 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. 2006-7578-50B 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: March 27, 2006 ALCO Gas & Oil

Print Authorized Representative's Name _____ Signature _____
Primary Contractor

David Glasgow *David Glasgow*
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)

Current version of this Form may be obtained from www.absa.ca

(U)

RT2

2006

1-9115-273

PH GLYCOL CONTACTOR

NAME

SA-316-70MT 1.068

HEAD

2006

SQID TQ 2006-7578-01

(U)

2006

1-9115-2

PH GLYCOL CONT

SA-316-70MT 1.068

SA NTI

Certified By

ALCO GAS & OIL

PRODUCED BY ALCO GAS & OIL

ALCO GAS & OIL

1600 150

-20 1600

2006-7529-01B

(A) 548812

1-710

SA-316-70MT 1.0

HEAD

2006

ALCO GAS & OIL

PRODUCED BY ALCO GAS & OIL

ALCO GAS & OIL

1600 150

1600 150

-20 1600

2006-7529-01B

(A)

1-710

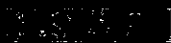
SA-316-70MT 1.068

SA NTI

 GAS & OIL PRODUCTION EQUIPMENT LTD. EDMONTON, ALBERTA		A.G.A. RECOMMENDATIONS GUARANTEED		SER. NO. 2006-7578-02B
AVR. INT. DIA.	UPSTREAM	SCH.	MAX. ORIFICE SIZE	DOWNSTREAM
PIPE SIZE 4.000				
A.G.A. CASE 2006-7578-02B	FOR d/D		E & G INSPECTION	
DRWG. NO.	DATE 06/03/00		DEPT. CONSUMER & CORP. AFFAIRS	

2006-7578-02B

2006-7578-50B

 GAS & OIL PRODUCTION EQUIPMENT LTD. EDMONTON, ALBERTA		A.G.A. RECOMMENDATIONS GUARANTEED		SER. NO. 
AVR. INT. DIA.	UPSTREAM 	DOWNSTREAM 		
PIPE SIZE 	SCH. 			
A.G.A. CASE 	FOR d/D 	E & G INSPECTION 		
DRWG. NO. 	DATE 	DEPT. CONSUMER & CORP. AFFAIRS 		

2006-7578-03

2006-7578-50B

ALCO

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11/18/1971

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SOLD TO 2505-7578-508

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11-11-11

54-56

0-250

STRUCTURAL

0-250

NTI

WATER TILL CHECK FOR LEAKS



W

2005

Year Built

C-4262 213

(131)

FUEL GAS SCRUBBER

(NAME)

SA-516-70MT 750

(HEAD)

MTL

(131)

Certified By

ALCO GAS & OIL
PRODUCTION EQUIPMENT LTD

10000000, 10000000, 10000000

150

150

10000000, 10000000, 10000000

150

150

10000000, 10000000, 10000000

2005-7517-01B

Serial Number

SA-5317 ERW 365

(HEAD)

225

(131)

2006-7578-50 B

PIPING TRAVEL SHEET

SERIAL NUMBER: 2006-7578-50 B

DATE: Feb 24, 2006

CUSTOMER: Cordero Energy Inc

COMMENTS:

DATE & INITIAL OF INSPECTOR FOR COMPLETION OF HOLD POINTS
HOLD POINTS ARE IDENTIFIED WITH AN *

CODE ITEM:

ALCO QC

CUSTOMER/AGENT

APPROVED DRAWINGS

DA

MATERIALS CHECKED AGAINST DRAWING BILL OF MATERIALS

DA

MILL TEST REPORTS CHECKED

DA

IMPACT TESTS

N/A

UNIT LAYOUT

DA

WELD PROCEDURE APPROVED

DA

WELDER'S QUALIFICATIONS VERIFIED

DA

FIT-UP

DA

INTERNALS / EXTERNALS

DA

WELD SIZE AND PROFILE

DA

WELDER'S ID

DA

P.W.H.T.

POST WELD HEAT TREATMENT INSTRUCTIONS

N/A

POST WELD HEAT TREATMENT REVIEWED

N/A

NDT INSPECTIONS

RADIOGRAPHS

DA

BRINELL HARDNESS TESTING

N/A

OTHER NDE

N/A

COATING

VISUAL PRIOR TO COATING

N/A

VISUAL AFTER COATING

N/A

STENCILING

N/A

TESTING

HYDROSTATIC TESTING

DA March 20/06

PNEUMATIC TESTING USING SHOP AIR AT 100 PSIG

DA March 17/06

PNEUMATIC TESTING USING HIGH PRESSURE TEST PROCEDURE

N/A

FUNCTION TEST

DA March 27/06

P & ID FROM FLOWSHEET VARIFIED

DA March 28/06

NOTES:

ALCO **GAS & OIL**
PRODUCTION EQUIPMENT LTD.

Summary of Heat Numbers on Spools

Job #: 2006-7578-50

Customer: Cordero Energy Inc.

Date: March 20, 2006

Bill of Materials

No.	Size	Rating	Description	Schedule	Material	Heat Numbers
Flanges						
1	4"	900#	RF WN Flange	80	SA-105N	306A5
2	4"	600#	RF WN Flange	80	SA-105N	442A4
3	3"	600#	RF WN Flange	40	SA-105N	305A5
4	2"	600#	RF WN Flange	80	SA-105N	27937
5	2"	150#	RF WN Flange	40	SA-105N	34949, 44027
Fittings						
6	4"		90' LR EII BW	80	SA-234-WPB	05H00014
7	2"		90' LR EII BW	80	SA-234-WPB	04M00076
8	2"		90' LR EII BW	40	SA-234-WPB	001102
9	4"x3"		Conc. Red BW	80x40	SA-234-WPB	05K20020
10	2"		Tee BW	40	SA-234-WPB	001109, 001209
11	2"x2"x11/2"		Red. Tee BW	40x80	SA-234-WPB	05C10213
12	2"x1"		Conc. Swage	80	SA-234-WPB	JBKG
13	2"x1"		Conc. Swage	40x80	SA-234-WPB	JBKG
Piping						
14	4"		Pipe Sml's	80	SA-106-B	X03985
15	2"		Pipe Sml's	80	SA-106-B	0522112V
16	2"		Pipe Sml's	40	SA-106-B	62W
17	11/2"		Pipe Sml's	80	SA-106-B	735552, 733197, 734288
18	1"		Pipe Sml's	160	SA-106-B	260350, 330315, 33608
19	1"		Pipe Sml's	80	SA-106-B	05303305-3, 134821, 67U
20	1/2"		Pipe Sml's	80	SA-106-B	529912, 126388, 32844
O-lets						
21	2"		WOL	80	SA-105N	56297
22	1"	3000#	TOL		SA-105N	56645
23	3/4"	3000#	TOL		SA-105N	FURC
24	1/2"	3000#	TOL		SA-105N	FLLX

CERTIFICADO DE INSPECCION DN
Works Certificate - Certificat d'Usine

DIN 50049 / 3.1.B
EN 10204 / 3.1.B
ISO 10474 / 3.1.B

VAN LEEUWEN PIPE AND TUBE - CAN
2875-64TH AVENUE
EDMONTON - ALBERTA T6P 1R1
CANADA

FECHA: 07/10/2005
Date:

N.º No.

102710

HOJA: Page: 1

PRODUCTO
Product

FLANGES

SU PEDIDO N.º
Your Order No.
Votre Cde N.º

45000254/URGENT

DE of - de 15/07/2005

27578-50
125-001
20*110735

RMAS APLICABLES
Normes Applicables

ASME B16.5-96

MATERIAL CORRESPONDIENTE
Material Correspondent

ASTMA105N-03
ASME SA105N

NACE MR-01-7503
CAN/CSA-Z245.12
Gr.248 CAT 1

DO DE FUSION (*)
Mélange d'élaboration de l'acier
= Elec. Y = Oxigène básico



ULMA FORJA, S.COOP.

Bº Zubillaga, 3 - Apdo. 14
20560 OÑATI (Gipuzkoa) SPAIN
Tel.: 34 - 943 780552
Tel.: 34 - 943 781808
E-mail: forja@forjimg.ulma.es



MARCA DEL FABRICANTE
Mark of factory
Marque du fabricant

48075

DEPARTAMENTO QUALITY ASSURANCE
Section

Department

PARTIDA Item Poste	CANTIDAD Quantity Quantité	DESCRIPCION Description	OBSERVACIONES Remarks Observations	COLADA N.º Heat No. N.º Coule	RESISTENCIA T. Strength Resist Rupt.	LIMITE ELAST. Yield Point Unite Elast.	ALARGAM. Elongation Lc. + d	ESTRICCION Reduction A Striction	RESILIENCIA Impact test Resilience	PROBETA SPECIMEN MEDIA Average Moyenne	DUR. Hard. Dureté
3901	55	BLIND 6 150LB RF A105N	NE	279A5	517	316	32.80	65.10	Joules	°C	HB
4471	50	SW 1.1/2 300LB S80 RF A105N	NE	186A5	503	312	32.00	65.30			150
4499	20	SW 3/4 600LB S80 RF A105N	NE	437A4	520	312	30.70	63.00			148
9 24044	6	WN 6 1500LB S80 RF A105N	NE	273A5	519	316	32.70	66.00			152
0 24052	50	WN 4 900LB S80 RF A105N	NE	308A5	510	316	32.30	65.70			151
2 24196	50	THR 6 150LB RF A105N	NE	282A5	516	319	32.40	65.70			148
4 31940	5	WN 3 1500LB S40 RF A105N	NE	282A5	516	319	32.40	65.70			150

CONFORME TO SA 105N
YEAR 2006-07-01
JOB / 2006 7578-50
ITEM # 1
SIGNED BY 2006.02.28

COMPOSICION QUIMICA - STEEL MARKER'S - ANALYSE CHIMIQUE

ADA N.º If No. Coule	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	CEQ %
16A5	0.210	0.210	0.810	0.017	0.007	0.010	0.009	0.003	0.001	0.001	0.150	0.358
17A5	0.200	0.250	0.850	0.011	0.002	0.110	0.130	0.040	0.007	0.001	0.280	0.399
18A5	0.180	0.300	0.830	0.011	0.004	0.100	0.090	0.040	0.007	0.001	0.260	0.370
19A5	0.190	0.270	0.830	0.010	0.002	0.080	0.100	0.030	0.007	0.001	0.260	0.375
20A5	0.180	0.250	0.830	0.008	0.003	0.070	0.100	0.020	0.007	0.001	0.260	0.361
21A4	0.190	0.200	1.040	0.010	0.015	0.030	0.100	0.020	0.000	0.001	0.190	0.393

- Les dimensions y la condition 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

EL INSPECTOR
Works Inspector - L'inspecteur



BSERVACIONES: N, NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR

marks
bservations

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:
Date: 13/04/2005

N.º
No. 100267

HQJA:
Page: 2

PRODUCTO
Article - Produit

FLANGES
ASME B16.5-03

MATERIAL CORRESPONDIENTE
Material Correspondent - Qualité

MODO DE FUSION (*)
Steel Making - Elaboration de l'acier

E - Elec. Y = Oxígeno básico

SU PEDIDO N.º
Your Order No. 1256895-OR-2100

Votre Cde. N.º

DE
of - de 14/02/2005

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

MARCA DEL FABRICANTE
Mark of factory
Marque du fabricant

DEPARTAMENTO
Department

QUALITY ASSURANCE

Section

DESCRIPCION
Description

Observations

REMARKS
Observations

RESISTENCIA
T. Strength

ALARGAMIENTO
Elongation

RESILIENCIA
Impact test

DUREZA
Hardness

COLADA N.º Heat No. N.º Cofée	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	CEQ %
101A5	0.200	0.300	0.900	0.025	0.009	0.170	0.120	0.040	0.007	0.002	0.370	0.425
108A5	0.180	0.280	0.830	0.021	0.001	0.110	0.130	0.050	0.007	0.002	0.360	0.383
125A5	0.190	0.270	1.010	0.008	0.012	0.050	0.100	0.020	0.000	0.001	0.190	0.392
12A5	0.190	0.270	0.880	0.017	0.001	0.120	0.140	0.040	0.007	0.002	0.400	0.405
22A5	0.180	0.280	1.130	0.019	0.029	0.160	0.100	0.010	0.002	0.002	0.200	0.423
442A4	0.190	0.240	0.870	0.016	0.004	0.170	0.170	0.050	0.007	0.002	0.400	0.417
85A5	0.190	0.220	0.840	0.030	0.003	0.140	0.080	0.010	0.007	0.001	0.400	0.392
98A5	0.200	0.270	0.830	0.024	0.002	0.170	0.120	0.040	0.007	0.002	0.400	0.415

COMPOSICION QUIMICA - STEEL MARKERS - ANALYSE CHIMIQUE

COMPOSICION QUIMICA - STEEL MARKERS - ANALYSE CHIMIQUE

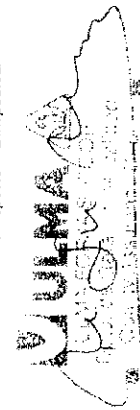
COLADA N.º Heat No. N.º Cofée	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	CEQ %
101A5	0.200	0.300	0.900	0.025	0.009	0.170	0.120	0.040	0.007	0.002	0.370	0.425
108A5	0.180	0.280	0.830	0.021	0.001	0.110	0.130	0.050	0.007	0.002	0.360	0.383
125A5	0.190	0.270	1.010	0.008	0.012	0.050	0.100	0.020	0.000	0.001	0.190	0.392
12A5	0.190	0.270	0.880	0.017	0.001	0.120	0.140	0.040	0.007	0.002	0.400	0.405
22A5	0.180	0.280	1.130	0.019	0.029	0.160	0.100	0.010	0.002	0.002	0.200	0.423
442A4	0.190	0.240	0.870	0.016	0.004	0.170	0.170	0.050	0.007	0.002	0.400	0.417
85A5	0.190	0.220	0.840	0.030	0.003	0.140	0.080	0.010	0.007	0.001	0.400	0.392
98A5	0.200	0.270	0.830	0.024	0.002	0.170	0.120	0.040	0.007	0.002	0.400	0.415

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

REMARKS
Observations

CONFORMING TO SA 105N
YEAR 2004 ED 2005A
JOB # 2006-7578-50
ITEM # 2
SIGNED BY DA Feb 28/06

EL INSPECTOR
Works Inspector - L'Inspecteur



MAY 06 2005

ULMA

ULMA FORJA, S.COOP.

Bº Zubillaga, 3 - Apdo. 14
20560 ONATI (Gipuzkoa) SPAIN
Tel.: 34 - 943 780552
Tel.: 34 - 943 781808
E-mail: forja@forja.ulma.es

45622

HE

700 VIN 3 80CLB S40 RE A105N

700 VIN 3 80CLB S40 RE A105N

ULMA CORPORATION (EDMONTON)
5407 - 53 AVENUE NW
EDMONTON, AB T6B 3G2
CANADA

ULMA CERTIFICATE - Certificat d'Usine
N° 922164
DE 07/06/2005
FECHA 20/06/2005
N° 102605
FOLIA Page 1



ULMA FORJA S COOP

BY Zuelaga, J. - Apdo 14
20860 ONATI (Gipuzkoa) SPAIN
Tel. 34 - 943 780562
Tel. 34 - 943 781803
E-mail: forja@forjagipuzkoa.es
47867

SU PEDIDO N°
Your Order No.
Volum Code N°

ASME B16.3.98

ASTM A105N-03
ASME SA105N

NORMAS APLICABLES
Requirements - Normes Applicables

MATERIAL CORRESPONDIENTE
Material Correspondent - Matière

MODO DE FUSION (*)
Steel Making - Elaboration de l'acier

E = Elec. Y = Oxygene basico

NACE MR-01-7803

Certified with PED 972JEC
by EDV Rheinland
N° 01 202 EQ 02 7443

MARCA DEL FABRICANTE
Mark of factory
Membre du fabricant

DEPARTAMENTO QUALITY ASSURANCE

Sección

Capacidad

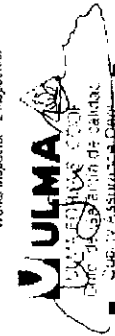
PARTIDA Item Poste	CANTIDAD Quantity Quantité	DESCRIPCION Description Description	OBSERVACIONES Remarks Observations	COLADA N° Heat No. M. Double	RESISTENCIA Yield Point Tensile Strength N/mm ²	RESILIANCIA Impact Test Resilience Joule	ESTRACION Extraction Extraction %	WELD Welding Welding	DUREZA Hardness HB
26 7530060	700	VIN 3 80CLB S40 RE A105N	NE	305A5	513	314	31.50	53.80	149

COMPOSICION QUIMICA - STEEL MARKER'S - ANALYSE CHIMIQUE

	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	CEQ %
305A5	0.140	0.280	0.850	0.012	0.003	0.070	0.090	0.020	0.007	0.001	0.230	0.371

(*) OBSERVACIONES N° NORMALIZED AT 800°C AND ALLOWED TO COOL IN STILL AIR
Remarks
Observations

EL INSPECTOR
Works Inspector - L'inspecteur



CONFORME TO SA 105A
YEAR 2004 A-2005
JOB 7528.50
ITEM 3
SIGNED BY 06.2.24

MILL TEST CERTIFICATE

EN10204-3.1.B(DIN50049/3.1.B)
CUSTOMER: SEYBOLD INTERNATIONAL CORP.

CERT NO.: SE-4604JN

DATE: 12/12/2005

PAGE: 1 OF 1

20 HOLLY STREET, SUITE 205

TORONTO, M4S 3B1, CANADA

TEL: 416-4810191 FAX: 416-4811790

ORDER NO.: 4604(10)NATIONA

L/C NO.:

P R O D U C T			S P E C I F I C A T I O N F O R M A T E R I A L				S P E C I F I C A T I O N F O R F I T T I N G S										
FORGED CARBON STEEL FLANGES			ASTM A-105-03/ASME SA-105 (Z245.12 CAT I GR.248 SOUR SERVICE-01)				ASME B16.5-98a										
ITEM NO.	D E S C R I P T I O N	Q U A N T I T Y	C H E M I C A L C O M P O S I T I O N (%)											C.E.			
			C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb		N		
1.	3716 150# WRRF STD	2"	490 PCE	0.210	0.160	1.070	0.005	0.008	0.060	0.050	0.030	0.005	0.003	0.005	0.010	0.406	
2.	5603 600# WRRF STD	6"	90 PCE	0.190	0.250	0.900	0.021	0.021	0.200	0.130	0.130	0.020	0.000	0.000	0.008	0.392	
3.	6222 300# WRRF XS	2"	145 PCE	0.200	0.130	1.150	0.016	0.019	0.100	0.070	0.060	0.012	0.003	0.005	0.009	0.420	
4.	3730 600# WRRF XS	2"	900 PCE	0.210	0.180	1.120	0.011	0.010	0.060	0.060	0.050	0.040	0.004	0.005	0.008	0.425	
5.	6222 300# WRRF XS	2"	205 PCE	0.210	0.180	1.030	0.010	0.007	0.090	0.080	0.060	0.005	0.003	0.005	0.010	0.410	
ITEM	NEAT	TENSILE STRENGTH (MPA)	YIELD STRENGTH (MPA)	ELONGATION (%)	HARDNESS (HB)	REDUCTION OF AREA (%)	HEAT TREATMENT	MATERIAL SUPPLIER		R E M A R K S							
1.	10941	485 MIN	250 MIN	22.0 MIN	187 MAX	30.0 MIN		OEMK		NORMALIZATION: 880°CX2HRS CONFORMS TO MEET NACE MR-01-75 LATEST EDITION							
2.	58032	493.30	294.20	37.2	155	65.9	NORMALIZED	OEMK		90988							
3.	47278	505.00	309.90	34.4	153	66.8	NORMALIZED	OEMK									
4.	27937	511.90	331.50	33.2	153	66.8	NORMALIZED	OEMK									
5.	34949	513.90	339.30	34.0	153	67.7	NORMALIZED	OEMK									
		509.90	306.00	39.0	148	65.9	NORMALIZED	OEMK									

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR BY THE ABOVE ORDER AND IS THAT WHICH HAS BEEN TESTED TO THE SATISFACTION OF THE CERTIFICATE

San Je See

TEST CHIEF

MANAGER

CONFORMS TO SA 105N

YEAR 2004 A-2005

JOB 7578-30

ITEM # 4

SIGNED BY 06-2-24

三英鋼鐵股份有限公司
SAN ENG STEEL FORGING CO., LTD.

NO. 22 LANE 50, WAK SING STREET
SAN MIN DISTRICT, KAOHSIUNG,
TAIWAN, R. O. C.
Tel: 07-372 4249 07-371 2934
Fax: 07-371 2923 07-371 2846
URL: http://www.saneng.com.tw
e-mail: saneng@ksts.seed.net.tw

VILL TEST CERTIFICATE

EN10204-2.1.B/DIN50049/2.1.B;
CUSTOMER : SEYBOLD INTERNATIONAL CORP.

20 HOLLY STREET, SUITE 205
TORONTO, M4S 3R1, CANADA
TEL: 416-4810191 FAX: 416-4811790

CERT NO.: SE-43403N

DATE : 07/18/2005

ORDER NO.: 4340(10)-V/L

L/C NO. :

125-001

PAGE : 1 OF 1

PRODUCT		SPECIFICATION FOR MATERIAL				SPECIFICATION FOR FITTINGS									
FORGED CARBON STEEL FLANGES		ASTM A-105-03/ASME SA-105 (2245.12 CAT I GR.248 SOUR SERVICE-01)				ASME B16.5-98a									
ITEM NO.	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)												
			C	SI	Mn	P	S	CU	CR	NI	Mo	V	Nb	H	C.E.
1.	4550 150# WRRF STE	27	0.210	0.180	1.030	0.010	0.007	0.000	0.080	0.060	0.005	0.003	0.005	0.010	0.410
2.	4616 150# WRRF STE	27	0.210	0.180	1.030	0.010	0.007	0.000	0.080	0.060	0.005	0.003	0.005	0.010	0.410
3.	4931 600# WRRF STE	27	0.200	0.170	1.080	0.014	0.009	0.000	0.110	0.040	0.008	0.002	0.005	0.008	0.411
ITEM	HEAT	TENSILE STRENGTH (MPa)	YIELD STRENGTH (MPa)	ELONGATION (%)	HARDNESS (HB)	REDUCTION OF AREA (%)	HEAT TREATMENT	MATERIAL SUPPLIER		REMARKS					
		485 MIN	250 MIN	22.0 MIN	187 MAX	30.0 MIN				NORMALIZATION: 380°C X2HRS CONFORMS TO MEET NACE MR-01-75 LATEST EDITION					
		509.90	306.00	39.0	148	65.9	NORMALIZED	GENK	GENK	CONFORMS TO SA 105N					
		509.00	306.00	39.0	148	65.9	NORMALIZED	GENK	GENK	YEAR 2004 A-2005					
3.	26495	508.00	325.60	35.0	150	66.4	NORMALIZED	GENK	GENK	7578-5-6 5 06-2-24					

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR BY THE

S. A. C.

MATERIAL TEST CERTIFICATE

SAFETY: This certificate is valid only when used in conjunction with the material it describes. It is not valid if the material is not properly identified.

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PRODUCT		SPECIFICATION FOR MATERIAL		SPECIFICATION FOR FITTINGS													
FORGED CARBON STEEL FLANGES		ASTM A-105-03/ASME SA-105 (2245.12 CAT I GR.248 SOUR SERVICE)		ASME B16.5-98a													
DESCRIPTION		QUANTITY		CHEMICAL COMPOSITION (%)													
				C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N	C.E.	
1.	3716 150# WRF STD → 2"	980 PCE		0.210	0.210	1.080	0.011	0.009	0.070	0.060	0.050	0.005	0.003	0.005	0.009	0.412	
ITEM		YIELD STRENGTH (MPa)		TENSILE STRENGTH (MPa)		ELONGATION (%)		REDUCTION OF AREA (%)		HEAT TREATMENT		NORMALIZATION: 880°C/2HRS		CONFORMS TO MEET NACE MR-01-75 LATEST EDITION		CONFORMING TO SA 105 N	
1.		485 MIN		507.70 MIN		22.0 MIN		30.0 MIN		NORMALIZED		880°C/2HRS		CONFORMS TO MEET NACE MR-01-75 LATEST EDITION		CONFORMING TO SA 105 N	
1.		329.30 MIN		507.70 MIN		32.4 MIN		65.9 MIN		NORMALIZED		880°C/2HRS		CONFORMS TO MEET NACE MR-01-75 LATEST EDITION		CONFORMING TO SA 105 N	

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR BY THE ABOVE ORDER AND IS THAT WHICH HAS BEEN TESTED TO THE SATISFACTION OF THE CERTIFICATION

Manager: *San Jose*

MANAGER

TEST CHIEF

David Chang

SIGNED BY: 06-2-24

YEAR: 2004-2-2005
JOB #: 2528-50
ITEM #: 5



Thai Benkan Co., Ltd.
58 Soi Watkrual, Bangkok, Prapadaeng,
Samutprakarn, 10130 Thailand.

INSPECTION CERTIFICATE

Purchaser: NATIONAL OILWELL INC.

E.No.

Purchase Order No.

Job No.

TO EN10204 3.1

D M Y Certificate No.

27/12/2005 T-2005200992

No.	MFG. No. (Heat Identification No.)	Specification for Material Made from Seamless Pipe		Specification for Inspection		Visual Examination		Dimensional Inspection									
		ASTM A234-04/ASME SA234 WPB CSA Z245.11 GR241 CAT 1 NACE MR0175-2003		ASME B16.9-2003		Good		Good									
		Product & Size		(T*1)	Quantity	Heat Treatment (Note 1)		Symbol No.									
1	05H00014	90 EL WPB 4 S80			64/500	A		7510885									
2	05M00074	90 EL WPB 4 S80			436/500	A		7510885									
3	05M00022	90 EL WPB 8 S80			3/60	A		7511051									
4	05M00523	90 EL WPB 8 S80			57/60	A		7511051									
5	POH-16750																
Specification		Chemical Composition %										Tension Test #2					
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	C.E.	YS	TS	E	
Min.		X 100	X 100	X 100	X 1000	X 1000	X 100	X 100	X 100	X 100	X 1000	X 1000	X 100	MPa		%	
Max.														240	415	30	
Material Heat No.												197 HB		GOOD			
1	38093	19	19	66	10	2	4	3	5	4	1	1	32	308	461	42	
2	39882	18	18	72	12	2	4	4	6	3	1	1	33	310	458	39	
3	65402	18	20	66	11	1	5	3	2	2	1	1	31	275	459	42	
4	65403	18	19	64	11	1	5	4	3	2	1	1	30	252	460	43	
5																	

CONFORMING TO SA 234 WPB

YEAR 2004 ED 2005A

JOB# 2006-7578-SD

ITEM# 6

SIGNED BY DA Feb 28/06

CONFORMING TO SA 234 WPB
YEAR 2004 ED 2005A
JOB # 2006-7578-3D
ITEM # 6
SIGNED BY DA Feb 28/06

(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 810 C X 0.5 HR AIR COOLING(SPECIFICATION FOR MATERIAL MADE FROM PLATE)

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

MAGNETIC PARTICLE EXAMINATION FOR THE 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.

91935

Quality Assurance Manager
Thai Benkan Co., Ltd.

ASPECTRA CERTIFICATE

125-001



D M Y Certificate No.

Purchase Order No.

15/11/2004 T-2004040427

40026514

No.	MFG. No. (Heat Identification No.)	Specification for Material Made from Seamless Pipe		Quantity	Heat Treatment (Note 1)	Visual Examination	Remarks
		ASTM A234-03 WPB/ASME SA234 WPB CSA Z245.11 GR241 CAT 1 NACE MR0175-2009	Product & Size (T*1)				
1	04K00082	90 EL WPB 4 S40		76/1,000	A	Good	Good
2	04K00110	90 EL WPB 4 S40		499/1,000	A	3523	
3	04M00015	90 EL WPB 6 S40		80/350	A	3530	
4	→ 04M00076	90 EL WPB 2 S80		200/1,100	A	3578	
5	04M00055	90 EL WPB 3 S80		500	A	3584	

Specification	Chemical Composition %										Tension Test #2	
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	CE	YS
Min	X 100	X 100	X 100	X 1000	X 1000	X 100	X 100	X 100	X 100	X 1000	X 100	MPa
Max	10	29	106	50	56	40	40	40	15	80	41	240
Material Heat No.	23											585
1	32942	19	18	67	10	2	5	2	3	2	1	415
2	48M9449	19	25	76	12	5	16	8	12	2	27	481
3	34043	18	19	70	10	1	4	2	3	3	1	510
4	J4L6664	19	18	71	19	8	1	2	5	1	0	461
5	33767	21	20	68	9	1	3	2	3	2	1	489
												343
												34

30	CONFORMS TO SA 234 WPB
30	VEAS 2004 A-2003
30	JIS 7528-80
50	SIGNED BY 06.2.24

(NOTE 1) A : HOT FORMED WITH FINAL TEMPERATURE BETWEEN 820 C - 980 C. AIR COOLING

N : NORMALIZING 810 C X 2 HR AIR COOLING S : STRESS RELIEVING 675 C X 2 HR FOR POLING

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.

* A Hot Finished Condition

Quality Assurance Manager
Thui Benkan Co., Ltd.

INSPECTION CERTIFICATE

Buyer: VAN LEEUWEN PIPE AND TUBE (CANADA) INC.

125-001 TO EN10204 3.1B

No. Purchase Order No. Job No.

A-380 45000321

D M Y Certificate No.

03/11/2005 T-2005040229

No.	MFG. No. (Heat Identification No.)	Specification for Material Made from Seamless Pipe		Specification for Inspection		Visual Examination	Dimensional Inspection
		Product & Size (1"x1")	Quantity	Heat Treatment (Note 1)	Item No.		
1	05M20077	RC WPB 8 X 6 S80	16/20	N	2658	Good	Good
2	05B20042	RC WPB 4 X 3 S80	49/200	N	2633		
3	05C20033	RC WPB 4 X 3 S80	13/200	N	2633		
4	05G20032	RC WPB 4 X 3 S80	65/200	N	2633		
5	05K20020C	RC WPB 4 X 3 S80	52/200	N	2633		

Specification		Chemical Composition %											Tension Test *			
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	C.E.	YS	TS	E
	Min.	X 100	X 100	X 100	X 1000	X 1000	X 100	X 100	X 100	X 100	X 1000	X 1000	X 100	MPa		%
	Max.		10	29										240	415	30
Material Heat No.		23		106	50	58	40	40	40	15	80	20	45		585	
1	22157	16	29	67	10	1.9	15	5	7	3.7	0	0	31	297	442	44
2	J4KC509	18	21	68	13	6	1	2	7	2	0	1	31	290	467	41
3	36416	20	18	63	11	1	4	4	4	3	1	1	33	331	469	41
4	58M3819	18	28	72	12	7	13	17	12	1	26	1	40	316	488	37
5	58M3819	18	28	72	12	7	13	17	12	1	26	1	40	316	488	37

Note 1 A: Hot formed with final temperature between 620°C-980°C. Air Cooling. B: Hot formed with final temperature 620°C-980°C. Air Cooling. C: Hot formed with final temperature 620°C-980°C. Air Cooling. D: Hot formed with final temperature 620°C-980°C. Air Cooling.

Buyer: VAN LEEUWEN PIPE AND TUBE (CANADA) INC.

Inspected by: [Signature]

Quality Assurance Manager: [Signature]

Thai Benkan Co., Ltd.

17.6A/1

2004 A-2002
7578-50
9
06-2-24

Inspector:
Purchaser:
Inspector's Name:

NATIONAL OILWELL INC.

INSPECTION CERTIFICATE 検査証明書

Benex Corporation
KURYO FACTORY
651 Z-CHOME AIOI CHO
KURYO CITY GUAMIAI PREF. JAPAN

DIN 50049/3.1B
TO EN 10204/3.1B

Date: 日付
M Y
R 年

検査工場
群馬県桐生市桐生町2-651

検査会社 ベネックス

検査番号
95-0011-09

検査品名
E04212N01

Dimensional Inspection
寸法検査

Visual Examination
外観検査

Specification for Material
材料規格

Job No.
I 検査番号

検査結果
GOOD

Dimensional Inspection
寸法検査

Visual Examination
外観検査

Specification for Material
材料規格

Job No.
I 検査番号

検査結果
GOOD

Dimensional Inspection
寸法検査

Visual Examination
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Specification for Material
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寸法検査

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検査結果
GOOD

Dimensional Inspection
寸法検査

Visual Examination
外観検査

Specification for Material
材料規格

Job No.
I 検査番号

検査結果
GOOD

Dimensional Inspection
寸法検査

Visual Examination
外観検査

Specification for Material
材料規格

Job No.
I 検査番号

検査結果
GOOD

MADE FROM SEAMLESS PIPE
WCE0 = C + MN/6 + (CR+ND+V)/75 + (NI+CU)/15
PARTICLE EXAMINATION : GOOD

85594

85594

ARBOR CONTENT : 0.23% MAX.
NORMALIZING : 910°C X 0.5 HR. AIR COOLING.

検査結果
GOOD

検査結果
GOOD

MTR No.

HEAT: 05C10213 SKU: 7513348 DESC: 2X1-1/2 XH WELD TEE WPB

INSPECTION CERTIFICATE

EN 10204 3.1B

Product: CCTF CORPORATION

U M Y Certificate No.

07/06/2006 T-2005200427



E. No. 4872655
Purchase Order No. 4872655
Job No.

Qty	NFC No. (Heat No.)	Specification for Material Made from Seamless Pipe		Quantity	Specification for Inspection		Visual Examination	Discreet Inspection
		ASTM A234 WPB SA234 WPB CSA 234.11 GRADE 60	Product & Size		ASME / ANSI B16.9 H. Treatment (Note 1)	Symbol		
1	04M10112	TWPB 1 1/4 S40		100	S	7513348	Good	Good
2	05C10107	TWPB 1 1/2 S40		20	S	7513348		
3	05C10110	TWPB 2 1/2 S40		20	S	7513348		
4	05C10213	TWPB 2 X 1 1/2 S60		50	S	7513348		

Specification	Material Heat No.	Chemical Composition %										Tensile Test 1/2		E	HARDNESS MAX					
		C		Si		Mn		P	S	Fe	Ni	Cr	Mo			V	Nb	C.B. X 100	YS MPa	TS
		X 100	X 100	X 100	X 100	X 1000	X 1000													
Min		100	100	100	100	1000	1000	1000	1000	100	100	100	100	1000	1000	1000	1000	MPa	%	
Max		100	100	100	100	1000	1000	1000	1000	100	100	100	100	1000	1000	1000	1000	240	415 30	
		23	108	50	58	40	40	15	80	20							665			
1	JAK2480	18	21	64	15	8	1	2	6	0	0	0	0	0	0	0	30	310	470 47	
2	JAK2486	18	21	64	15	8	1	2	6	0	0	0	0	0	0	0	30	315	477 69	
3	JAK357	19	21	64	14	7	2	3	4	0	0	0	0	1	1	31	305	480 43		
4	JAK6180	18	21	67	14	5	4	2	5	0	0	0	0	0	0	21	292	460 81		

CONFORMS TO SA-234 WPB
YEAR 2004 A-2003
JOB 7513348-50
ITEM # 11
SIGNED BY 06.2.24

JB Smith Mfg Co
6618 Navigation Blv
Houston, TX
77011

Phone: (713) 928-5711 Fax : (713) 928-5219

TEST REPORT

Date: 02/08/06
15:49:41

Heat Code: JBKG
Mill Heat#: 0512527
Item Description: 2 X 1 80 CONC TBE PTD
Specification: ASTM A234-04 WPB
Raw Description: 2 SCH 80 A106 GR.B SMLS

Chemical Analysis:

C: 0.190	MN: 0.700	P: 0.011	S: 0.007
SI: 0.320	CR: 0.030	NI: 0.040	CU: 0.090
MO: 0.010	CO: 0.000	AL: 0.000	V: 0.001
CB/NB: 0.000	TI: 0.000	W: 0.000	FE: 0.000
SR: 0.000	ZN: 0.000	SN: 0.000	CB: <u>0.323</u>

Mechanical Tests:

Yield PSI: 50750	Yield MPA: 350
Tensile PSI: 78300	Tensile MPA: 540
Elongation: 31	Reduction: 0.0
BHN Hard: 151	Charpy Temp: 0
Charpy 1: 0.0	Charpy 2: 0.0
Charpy 3: 0.0	Charpy 2: 0.0

Other Tests:

Heat Treatment Process Type: Hot Rolled

CONFORMS TO SA	<u>234-WPB</u>
YEAR	<u>2004 A-2005</u>
JOB	<u>7278-50</u>
ITEM #	<u>12, 13</u>
SIGNED BY	<u>06.2.24</u>

Certification:

We certify that this is a true & 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. JB Smith makes no representation beyond those of the manufacturer or its agent. JB Smith certifies that the material used to manufacture swage nipples & ball plugs has been processed & heat treated to comply with all requirements of DIN/EN 10204 & the chemical & physical properties of the raw material fall within the required ranges. JB Smith also certifies that this product meets the requirements of NACE MR0175-03 revision & MSS-SP95 specifications.

UNITED STATES STEEL

TUBULAR PRODUCTS

CERTIFIED TEST REPORT

TYPE 3.1 IN ACCORDANCE WITH ISO 10474:2004/DIN50049 3.1.b)

Material Grade

Certificate

P.O. Number

Schedule

Vendor

TR0383 05 P93689
 SOLD TO ADDRESS
 ENCO PT. CHARLOTTE EDMONTON
 PO BOX 5000
 LONDON ON N6A 4N7

9102483-00

B5534

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

SPECIFICATION AND GRADE

PIPE CARBON SMLS STD PIPE API 5L-X43RD EDITION DATED 3/04 PSL-1 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 BEY 30 DEG MEETING ALL THE APPLICABLE REQUIREMENTS OF NACE STANDARD MR-01-75 X2002

MATERIAL CONDITION: AS-ROLLED

OD: 4.500(114.300)

WALL: 0.337 (8.559)

W (mm)

PRODUCT IDENTIFICATION	TEST TYPE/ ORIENTATION	TEST COND.	GAUGE WIDTH IN	YIELD		TENSILE	Y/T	ELONG %		HARDNESS	MIN HYDRO	DWELL (SEC)
				MIN.	MAX.	PSI	EXT %	IN 2"	1	SCALE: HRB	PSI	
X03985	STRIP/L/B	AR	1.5	42,000	48,700	70,000	.50	27.0	MAX	99.5	4720	5
X03985	STRIP/L/B	AR	1.5	48,600	48,600	75,500	.50	40.8	MAX	81.2	4720	5
				NO TEST OF DATA THIS SHEET								

LEGEND:		L - LONGITUDINAL U - UPSET		T - TRANSVERSE N - NORMALIZED		P		S		SI		CU		N		CR		MO		AL		N		V		B		TI		CB		CO		W - WELD			
PRODUCT IDENTIFICATION		TYPE		C	MN																													CE.*			
X03985	HEAT	20	109	009	005	20	02	01	03	01	026		00						01	026				00										MAX .43			
X03985	PROD	20	108	007	006	22	02	01	04	01	028		00						01	028				00										.39			
X03985	PROD	20	111	003	004	20	04	01	03	01	027		00						01	027				00										.39			
																																		106-B			
																																		COMPLYING TO SA			
																																		2004 EP 100% A			
																																		YEAR			
																																		2005-7578-50			
																																		14			
																																		ITEM#			
*C.E. IS BASED ON THE FOLLOWING EQUATION(S): C.E. = C + MN/6 + (CR+MO+ V)/5 + (CU+NI)/15 < 0.43																																					
XA 50024/06																																					

SKU#

2520427

2520050

DECIMAL POSITIONS FOR ELEMENTS ARE INDICATED BY THE LEFT MARGIN, VERTICAL DOTTED LINE OR DECIMAL POINT.

409591008

FQ110815

2842636003

CAA 2-0-0

PAGE 1 OF 2

2/3

4"X4"

MAY 23 2005

HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

MILL TEST REPORT

Add: 10 Daixincun, Hengyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942
Cable: 6993
P.C. 421001

Date: MAR 28, 2005

DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE

Page: 47

TOTAL: 4175PIECES, 102BUNDLES, 183.953MT, 91060 FT

SPEC: ASTM A53B-2002/A106B-2002A, ASME SA53B-2001/SA106B-99, API 5L B X42, PSL1-2004, NACE MR-0175-1999

NO.	DATE	NO.	GRADE	SIZE	BUNDLES	PIECES	FEET	QUALITY (MT)	WEIGHT(MT)																
16	953201109	0521363	X42	5 1/2" x 154" x 20FT	7	127	8540	14.175																	
	953201110	0521865	X42	2 1/2" x 154" x 20FT	12	732	14640	24.300																	
17	953201107	0521865	X42	2 1/2" x 154" x 10FT	11	378	15120	25.101																	
18	953401517	0510751	X42	2 1/2" x 218" x 20FT	8	270	5100	12.315																	
	953401519	0521859	X42	2 1/2" x 218" x 20FT	15	592	11840	27.008																	
	953401520	0521859	X42	2 1/2" x 218" x 20FT	16	592	11810	27.008																	
	953401521	0522015	X42	2 1/2" x 218" x 20FT	16	592	11910	27.008																	
	953401522	0522112V	X42	2 1/2" x 218" x 20FT	16	592	11840	27.008																	
NO.	DELIVERY CONDITION	NONDESTRUCTIVE TEST										CHEMICAL COMPOSITION %													
		WELD ECHO TEST	ULTRASOUND TEST	C	Mn	P	S	Si	Fe	Al	Cr	Ni	Mo	Cu	Ca	Na	Cl	As	Se	V	Co	Al	Fe	Ma	C
16	HOT-ROLLED	OK		0.25	0.26	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017
17	HOT-ROLLED	OK		0.23	0.27	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
18	HOT-ROLLED	OK		0.23	0.27	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
	HOT-ROLLED	OK		0.21	0.25	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
	HOT-ROLLED	OK		0.21	0.25	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
	HOT-ROLLED	OK		0.21	0.25	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
	HOT-ROLLED	OK		0.23	0.28	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
	HOT-ROLLED	OK		0.23	0.26	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017
NO.	TENSILE STRENGTH		YIELD STRENGTH σ _{0.2} (PSI)	ELONGATION δ (%)	AK (J) IMPACT	HARDNESS	HYDROSTATIC TEST	FLATTEN TEST	BEND TEST																
	σ _b (PSI)	σ _s (PSI)																							
16	73750	52200	52200	28		HRC 9.5	2800 PSI		OK																
17	81925	52925	52925	27		HRC 11	2800 PSI		OK																
18	75400	50750	50750	28		HRC 9.0	2800 PSI		OK																
	75400	50750	50750	30		HRC 9.5	2800 PSI		OK																
	77575	50750	50750	32		HRC 8.0	2800 PSI		OK																
	78300	50750	50750	30		HRC 7.5	2800 PSI		OK																
	77575	50750	50750	32		HRC 8.0	2800 PSI		OK																

REMARKS: We hereby certify that the material has been manufactured, sampled, tested and disposed in accordance with the required standards.

2 Properties compliances: DIN 50049 3.18/IN EN 10201 3.18

3. Bredel (Bredel) and Bredel (Bredel) NACE MR-0155-08

THE UNIVERSITY OF CHICAGO

[illegible]

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The *Agrobacterium* strains were grown in YEA medium for 24 h at 28 °C. The cell concentration was adjusted to 10⁸ cells/ml. The cells were then mixed with the plant tissue and the transformation efficiency was determined. The results are shown as the mean ± SD of three independent experiments. The asterisk indicates a significant difference (p < 0.05) between the two strains.

[illegible]

QUALITY MANAGER. To it

28.5

piece length portion is 1' 4" / 06-8
 CONFORMS TO SA
 YEAR: 2004 ED 2005A
 JOB: 2006-7578-50
 ITEM #: 15
 SIGNED BY: DA Feb 24/06

HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

R.V.-14V: 7410

Name of Customer: R AND R TRADING CO., LTD.

MILL INSPECTION CERTIFICATES

Land and Fix: 86 734 8873739 8872942

Table: 6593

421001

Description: Seamless Steel Pipe

FILED: JUL 19, 2014

Page: 174

TOTAL: 6505PIECES 156BUNDLES 247.31SMT, 136605 FT.

SA 106B-99, API 5LB-2000

CERTIFICATE NO: 0400140

75057

SPEC: ASTM A53B-2001/A106B-99, ASME SA53B-2001/SA106B-99, API 5LB-2000													CERTIFICATE NO: 0400140		
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEEL	QUANTITY (MT)	ACTUAL WEIGHT(MT)						
1	6869-6871	58W	B	1-1/4" X SCH80 X 21FT	35	2135	44833	91.100							
	6872-6874	59W	B	1-1/4" X SCH80 X 21FT	22	1342	28182	38.402							
2	6875-6876	60W	B	1-1/2" X XXS X 21FT	34	816	17136	49.931							
	6877-6878	61W	B	1-1/2" X XXS X 21FT	33	792	16632	48.463							
3	6879-6881	62W	B	2" X SCH40 X 21FT	32	1420	29820	49.494							
				CHEMICAL COMPOSITION %											
NO.	DELIVERY CONDITION	NONDESTRUCTIVE TEST				CHEMICAL COMPOSITION %									
		EDDY CURRENT TEST	ULTRASONIC TEST	C	Mn	Si	S	P	Cl	Ni	Cu	Mo	V		
1	COLD-DRAWN(780°C)	OK		0.19	0.55	0.23	0.013	0.017	0.04	0.02	0.05	0.001	0.001		
	COLD-DRAWN(780°C)	OK		0.21	0.53	0.21	0.016	0.015	0.04	0.02	0.04	0.001	0.001		
2	COLD-DRAWN(780°C)	OK		0.22	0.50	0.21	0.018	0.014	0.04	0.01	0.04	0.001	0.001		
	COLD-DRAWN(780°C)	OK		0.21	0.51	0.23	0.015	0.016	0.04	0.02	0.04	0.001	0.001		
3	HOT-ROLLED	OK		0.19	0.46	0.24	0.011	0.016	0.04	0.06	0.16	0.001	0.001		
TENSILE STRENGTH		YIELD STRENGTH		ELONGATION		HRC		HYDROSTATIC TEST		FLATTEN TEST		BEND TEST			
NO.	σ _b (PSI)	σ _s (PSI)		δ (%)		IMPACT		HARDNESS							
1	69600	45675		34				8		2800 PSI		OK			
	71050	45675		32				10		2800 PSI		OK			
2	68875	44950		34				9		2800 PSI		OK			
	70325	44225		35				9		2800 PSI		OK			
3	68150	44950		34				9		2800 PSI		OK			

1. We hereby certify that the material has been manufactured, sampled, tested and inspected in accordance with the required standards.

2 Properties compliance to DIN 50049 3 I.B.

2. Properties comparable to 2010-2011.

3. BURNELL/ROCKWELL HARDNESS CORRELATED TO NAEL: ARE 0.17, 0.18, 0.19, 0.20, 0.21, 0.22, 0.23, 0.24, 0.25, 0.26, 0.27, 0.28, 0.29, 0.30, 0.31, 0.32, 0.33, 0.34, 0.35, 0.36, 0.37, 0.38, 0.39, 0.40, 0.41, 0.42, 0.43, 0.44, 0.45, 0.46, 0.47, 0.48, 0.49, 0.50, 0.51, 0.52, 0.53, 0.54, 0.55, 0.56, 0.57, 0.58, 0.59, 0.60, 0.61, 0.62, 0.63, 0.64, 0.65, 0.66, 0.67, 0.68, 0.69, 0.70, 0.71, 0.72, 0.73, 0.74, 0.75, 0.76, 0.77, 0.78, 0.79, 0.80, 0.81, 0.82, 0.83, 0.84, 0.85, 0.86, 0.87, 0.88, 0.89, 0.90, 0.91, 0.92, 0.93, 0.94, 0.95, 0.96, 0.97, 0.98, 0.99, 1.00, 1.01, 1.02, 1.03, 1.04, 1.05, 1.06, 1.07, 1.08, 1.09, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.18, 1.19, 1.20, 1.21, 1.22, 1.23, 1.24, 1.25, 1.26, 1.27, 1.28, 1.29, 1.30, 1.31, 1.32, 1.33, 1.34, 1.35, 1.36, 1.37, 1.38, 1.39, 1.40, 1.41, 1.42, 1.43, 1.44, 1.45, 1.46, 1.47, 1.48, 1.49, 1.50, 1.51, 1.52, 1.53, 1.54, 1.55, 1.56, 1.57, 1.58, 1.59, 1.60, 1.61, 1.62, 1.63, 1.64, 1.65, 1.66, 1.67, 1.68, 1.69, 1.70, 1.71, 1.72, 1.73, 1.74, 1.75, 1.76, 1.77, 1.78, 1.79, 1.80, 1.81, 1.82, 1.83, 1.84, 1.85, 1.86, 1.87, 1.88, 1.89, 1.90, 1.91, 1.92, 1.93, 1.94, 1.95, 1.96, 1.97, 1.98, 1.99, 2.00, 2.01, 2.02, 2.03, 2.04, 2.05, 2.06, 2.07, 2.08, 2.09, 2.10, 2.11, 2.12, 2.13, 2.14, 2.15, 2.16, 2.17, 2.18, 2.19, 2.20, 2.21, 2.22, 2.23, 2.24, 2.25, 2.26, 2.27, 2.28, 2.29, 2.30, 2.31, 2.32, 2.33, 2.34, 2.35, 2.36, 2.37, 2.38, 2.39, 2.40, 2.41, 2.42, 2.43, 2.44, 2.45, 2.46, 2.47, 2.48, 2.49, 2.50, 2.51, 2.52, 2.53, 2.54, 2.55, 2.56, 2.57, 2.58, 2.59, 2.60, 2.61, 2.62, 2.63, 2.64, 2.65, 2.66, 2.67, 2.68, 2.69, 2.70, 2.71, 2.72, 2.73, 2.74, 2.75, 2.76, 2.77, 2.78, 2.79, 2.80, 2.81, 2.82, 2.83, 2.84, 2.85, 2.86, 2.87, 2.88, 2.89, 2.90, 2.91, 2.92, 2.93, 2.94, 2.95, 2.96, 2.97, 2.98, 2.99, 3.00, 3.01, 3.02, 3.03, 3.04, 3.05, 3.06, 3.07, 3.08, 3.09, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15, 3.16, 3.17, 3.18, 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 3.25, 3.26, 3.27, 3.28, 3.29, 3.30, 3.31, 3.32, 3.33, 3.34, 3.35, 3.36, 3.37, 3.38, 3.39, 3.40, 3.41, 3.42, 3.43, 3.44, 3.45, 3.46, 3.47, 3.48, 3.49, 3.50, 3.51, 3.52, 3.53, 3.54, 3.55, 3.56, 3.57, 3.58, 3.59, 3.60, 3.61, 3.62, 3.63, 3.64, 3.65, 3.66, 3.67, 3.68, 3.69, 3.70, 3.71, 3.72, 3.73, 3.74, 3.75, 3.76, 3.77, 3.78, 3.79, 3.80, 3.81, 3.82, 3.83, 3.84, 3.85, 3.86, 3.87, 3.88, 3.89, 3.90, 3.91, 3.92, 3.93, 3.94, 3.95, 3.96, 3.97, 3.98, 3.99, 4.00, 4.01, 4.02, 4.03, 4.04, 4.05, 4.06, 4.07, 4.08, 4.09, 4.10, 4.11, 4.12, 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.19, 4.20, 4.21, 4.22, 4.23, 4.24, 4.25, 4.26, 4.27, 4.28, 4.29, 4.30, 4.31, 4.32, 4.33, 4.34, 4.35, 4.36, 4.37, 4.38, 4.39, 4.40, 4.41, 4.42, 4.43, 4.44, 4.45, 4.46, 4.47, 4.48, 4.49, 4.50, 4.51, 4.52, 4.53, 4.54, 4.55, 4.56, 4.57, 4.58, 4.59, 4.60, 4.61, 4.62, 4.63, 4.64, 4.65, 4.66, 4.67, 4.68, 4.69, 4.70, 4.71, 4.72, 4.73, 4.74, 4.75, 4.76, 4.77, 4.78, 4.79, 4.80, 4.81, 4.82, 4.83, 4.84, 4.85, 4.86, 4.87, 4.88, 4.89, 4.90, 4.91, 4.92, 4.93, 4.94, 4.95, 4.96, 4.97, 4.98, 4.99, 5.00, 5.01, 5.02, 5.03, 5.04, 5.05, 5.06, 5.07, 5.08, 5.09, 5.10, 5.11, 5.12, 5.13, 5.14, 5.15, 5.16, 5.17, 5.18, 5.19, 5.20, 5.21, 5.22, 5.23, 5.24, 5.25, 5.26, 5.27, 5.28, 5.29, 5.30, 5.31, 5.32, 5.33, 5.34, 5.35, 5.36, 5.37, 5.38, 5.39, 5.40, 5.41, 5.42, 5.43, 5.44, 5.45, 5.46, 5.47, 5.48, 5.49, 5.50, 5.51, 5.52, 5.53, 5.54, 5.55, 5.56, 5.57, 5.58, 5.59, 5.60, 5.61, 5.62, 5.63, 5.64, 5.65, 5.66, 5.67, 5.68, 5.69, 5.70, 5.71, 5.72, 5.73, 5.74, 5.75, 5.76, 5.77, 5.78, 5.79, 5.80, 5.81, 5.82, 5.83, 5.84, 5.85, 5.86, 5.87, 5.88, 5.89, 5.90, 5.91, 5.92, 5.93, 5.94, 5.95, 5.96, 5.97, 5.98, 5.99, 6.00, 6.01, 6.02, 6.03, 6.04, 6.05, 6.06, 6.07, 6.08, 6.09, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28, 6.29, 6.30, 6.31, 6.32, 6.33, 6.34, 6.35, 6.36, 6.37, 6.38, 6.39, 6.40, 6.41, 6.42, 6.43, 6.44, 6.45, 6.46, 6.47, 6.48, 6.49, 6.50, 6.51, 6.52, 6.53, 6.54, 6.55, 6.56, 6.57, 6.58, 6.59, 6.60, 6.61, 6.62, 6.63, 6.64, 6.65, 6.66, 6.67, 6.68, 6.69, 6.70, 6.71, 6.72, 6.73, 6.74, 6.75, 6.76, 6.77, 6.78, 6.79, 6.80, 6.81, 6.82, 6.83, 6.84, 6.85, 6.86, 6.87, 6.88, 6.89, 6.90, 6.91, 6.92, 6.93, 6.94, 6.95,

A For pine, 5' full length specimen were used.

g. For about 2" horizontal strip specimens were used, the width of the gauge length portion is 3/4".

Country	% of respondents
Canada	85%
United States	75%
Mexico	65%
Brazil	55%
Argentina	45%

QUALITY MANAGER: Zuo Jianguo

100

CONFORMING TO SA 106B.
YEAR 2004 ED 2005 A
JOB # 2006-7578-50
ITEM # 16
SIGNED BY 78A Feb 24/06



Benteler Stahlrohr GmbH
Postfach 13 40
52453 Badarborn
Deutschland
Tel: +49 5254 81-0 Fax: +49 5254 12-0

ABNAHMEPRÜFZEUGNIS EN 10204-3.1
INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1
EN 10204:2006-01

Benteler Stahlrohr GmbH - Postfach 1340 - 33043 Badarborn - Deutschland
BHD Tubular Ltd.
6903 - 72nd Ave.,
EDMONTON, AB T6B 3A5
KANADA

Dokument-Nr.: 65-263338/001/P

Document No.:
No. du document:

Kunden-Bestell-Nr.: 05-5395

Purchase Order No.:
No. de commande du client:

Benteler Auftrags-Nr.: 1124706

Order No.:
No. de commande Benteler:

Veranzahlungs-Nr.: 6553637

Dispatch Note No.:
No. d'avis d'expédition:

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

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

Hersteller: Warmrohrwerk Dinslaken
Manufacturer: BORTS 16548 (ISO 9001:DNV CERT-13765-2003)
Producteur: PED 97236 C TÜV Cert 07 202 411/17/50011/14

Herstellerzeichen:
Manufacturer's Brand:
Marque du producteur:

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

Stahlschmelzungsverfahren: ELEKTROSTAHL
Steel making process: ELECTRIC FURNACE
Procédé d'élaboration de l'acier: FOUR ELECTRIQUE

1067
2004 ED 2005A
2005. 7578-5D
17
22 March 7/06

Lieferbedingungen:

Terms of delivery:

Conditions de livraison:

Maße - Toleranzen:

Dimensions-tolerances:

Dimensions-tolerances:

Stahlsorte:

Steel grade:

Nuance d'acier:

Lieferzustand:

Delivery condition:

État de livraison:

Produktkennzeichnung:

Product marking:

Marquage du produit:

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

ASME B36.10M-1996, ASME SA-530, ASME Section II Part A Edition 2004, ASTM-A 530-2003

GRADE 290, GRADE B, GRADE X 42

Hot rolled

see attachment product marking

Pos.	Stück	Maße	Dimensions	Dimensions	Poste	Nombre	Dimensions	Dimensions	Poste	Nombre	Dimensions	Dimensions	Poste	Nombre	Dimensions	Dimensions		
0007	250	1" NPS * Sched. 160	18 FT - 22 FT	18 FT - 22 FT	0008	376	1 1/2" NPS * Sched. 80	18 FT - 22 FT	18 FT - 22 FT	0009	376	1 1/2" NPS * Sched. 80	18 FT - 22 FT	18 FT - 22 FT	0010	376	1 1/2" NPS * Sched. 80	18 FT - 22 FT
		5191.31	14919	526020	3000	5	8001.28	29169	735552	3000	5	8001.28	29169	735552	3000	5	8001.28	29169
		5191.31	14919	526020	3000	5	8001.28	29169	735552	3000	5	8001.28	29169	735552	3000	5	8001.28	29169

Kontinier Stahl/Rohr GmbH
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42349 Pilsdorf
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BENTON
Stahl/Rohr

VERBODEN TOEGANG	106 D
VERBODEN TOEGANG	2004 ED 2005A
VERBODEN TOEGANG	2005-7578-50
VERBODEN TOEGANG	17
VERBODEN TOEGANG	28 March 7/06

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

Dokument-Nr.: 65-263338/001/P
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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	Nombre	Dimensions	Longueur	Poids	No. de coulée	Pression d'épreuve	Série de no. des tubes	Longueurs multiples
			feet	lbs		PSI		
0009 149	1 1/2" NPS * Sched. 160	18 FT - 22 FT	3165,09	15382	735443	3000	5	
0010 328	2" NPS * Sched. 40	18 FT - 22 FT	6994,69	25287	735501	3000	5	
0011 528	2" NPS * Sched. 80	18 FT - 22 FT	10512,70	52836	735548	3000	5	
0012 197	3" NPS * Sched. 40	18 FT - 22 FT	4152,62	31158	735486	3000	5	
0013 167	3" NPS * Sched. 80	18 FT - 22 FT	3619,09	37020	735435	3000	5	
0014 143	4" NPS * Sched. 40	16 FT - 22 FT	3055,91	33786	735482	3000	5	
0015 147	4" NPS * Sched. 80	18 FT - 22 FT	3202,66	47734	735430	3000	5	

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													
0007 526020	0,140	0,200	0,83	0,009	0,004	0,15	0,03	0,15	0,21	0,001	0,001	0,010	0,003	0,0002
0008 735552	0,140	0,230	0,81	0,011	0,004	0,15	0,06	0,13	0,16	0,001	0,001	0,010	0,003	0,0001
0009 735443	0,130	0,185	0,81	0,005	0,001	0,09	0,02	0,06	0,10	0,001	0,001	0,010	0,002	0,0001
0010 735501	0,130	0,215	0,81	0,010	0,003	0,08	0,02	0,07	0,12	0,002	0,002	0,010	0,003	0,0001
0011 735548	0,140	0,230	0,81	0,011	0,004	0,15	0,06	0,13	0,16	0,001	0,001	0,010	0,003	0,0001
0012 735486	0,130	0,185	0,85	0,007	0,002	0,08	0,02	0,06	0,11	0,001	0,001	0,010	0,003	0,0001
0013 735435	0,135	0,190	0,85	0,006	0,002	0,09	0,02	0,06	0,11	0,001	0,001	0,010	0,003	0,0001
0014 735482	0,130	0,220	0,81	0,010	0,004	0,10	0,02	0,07	0,10	0,002	0,002	0,010	0,003	0,0001
0015 735430	0,135	0,190	0,83	0,005	0,002	0,05	0,01	0,05	0,10	0,001	0,001	0,010	0,003	0,0001

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BENTELER
STÄHLE

ABNAHMEPRÜFZEUGNIS EN 10204-3.1
INSPECTION CERTIFICATE EN 10204-3.1
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1. Formel: $CEI = \frac{W}{C} + \frac{Mn}{6} + \frac{(Cr+Mo+V)/5}{(Cu+Ni)/15} \leq 0.40 \%$
2. Formel: $CEV = C + \frac{F}{5} + \frac{(Mn/6) + (Si/24) + (Cu/15) + ((Cr+Mo+V)/5) + ((5 \cdot B))}{5} \leq 0.40$
3. Formel: $Mn/C \geq 3/1$
4. Formel: $Cr + Cu + Mo + Ni + V \leq 1.00 \%$

Formelergabnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr.	1. Formel	2. Formel	3. Formel	4. Formel
Item	Heat No.	1. Formula	2. Formula	3. Formula	4. Formula
Poste	No. de coulée	1. Formule	2. Formule	3. Formule	4. Formule
0007	526020	0,339	0,316	5,929	0,541
0008	735552	0,337	0,315	5,786	0,501
0009	735443	0,298	0,272	6,231	0,271
0010	735501	0,298	0,273	6,231	0,292
0011	735548	0,337	0,315	5,786	0,501
0012	735486	0,303	0,275	6,530	0,271
0013	735435	0,310	0,292	5,296	0,281
0014	735482	0,301	0,275	6,231	0,292
0015	735430	0,296	0,280	6,148	0,211

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

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
Item	Heat No.													
Poste	No. de coulée													
0007	526020	0,130	0,180	0,82	0,008	0,004	0,16	0,04	0,15	0,19	0,002	0,010	0,002	0,0002
0007	526020	0,150	0,190	0,83	0,009	0,004	0,15	0,04	0,15	0,19	0,002	0,010	0,002	0,0002
0008	735552	0,130	0,210	0,80	0,012	0,004	0,11	0,04	0,14	0,14	0,001	0,010	0,002	0,0002
0008	735552	0,130	0,210	0,80	0,012	0,003	0,11	0,04	0,14	0,14	0,001	0,010	0,002	0,0001
0009	735443	0,140	0,170	0,87	0,007	0,002	0,07	0,02	0,06	0,09	0,001	0,010	0,002	0,0001
0009	735443	0,130	0,170	0,87	0,007	0,002	0,05	0,02	0,06	0,10	0,001	0,010	0,002	0,0001
0010	735501	0,140	0,230	0,79	0,009	0,001	0,09	0,02	0,07	0,10	0,002	0,010	0,002	0,0002
0010	735501	0,130	0,230	0,80	0,010	0,001	0,09	0,02	0,07	0,11	0,002	0,010	0,002	0,0002

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ABNAHMEPRÜFZEUGNIS EN 10204-3.1 65-263338/001/P

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

Pos.	Schmelzen-Nr.	Item	Heat No.	Poste	No. de coulée	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0011	735548					0,130	0,210	0,80	0,012	0,004	0,11	0,04	0,14	0,14	0,001	0,010	0,002	0,0002
0011	735548					0,130	0,210	0,80	0,012	0,003	0,11	0,04	0,14	0,14	0,001	0,010	0,002	0,0001
0012	735486					0,140	0,180	0,81	0,010	0,003	0,08	0,04	0,08	0,11	0,001	0,010	0,002	0,0003
0012	735486					0,130	0,180	0,81	0,010	0,003	0,08	0,03	0,08	0,11	0,001	0,010	0,002	0,0003
0013	735435					0,140	0,170	0,87	0,007	0,002	0,07	0,02	0,06	0,09	0,001	0,010	0,002	0,0001
0013	735435					0,130	0,170	0,87	0,007	0,002	0,05	0,02	0,06	0,10	0,001	0,010	0,002	0,0001
0014	735482					0,130	0,190	0,80	0,009	0,004	0,10	0,04	0,06	0,08	0,002	0,010	0,002	0,0002
0014	735482					0,130	0,190	0,81	0,009	0,005	0,10	0,04	0,06	0,08	0,001	0,010	0,002	0,0003
0015	735430					0,130	0,180	0,80	0,006	0,002	0,05	0,02	0,06	0,09	0,001	0,010	0,002	0,0001
0015	735430					0,130	0,170	0,79	0,006	0,002	0,05	0,02	0,05	0,09	0,001	0,010	0,002	0,0002

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

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr.	Item	Heat No.	Poste	No. de coulée	1. Formel	2. Formel	3. Formel	4. Formel	Formel
0007	526020					0,330	0,296	6,308	0,542	
0007	526020					0,349	0,333	5,533	0,532	
0008	735552					0,312	0,283	6,154	0,431	
0008	735552					0,312	0,283	6,154	0,431	
0009	735443					0,313	0,295	6,214	0,241	
0009	735443					0,300	0,273	6,692	0,231	
0010	735501					0,305	0,290	5,643	0,282	
0010	735501					0,298	0,273	6,154	0,292	

FORMULAR-NR. 7066

YEAR

ACR

ITEM

SIGNED BY

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

Dokument-Nr.:
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ABNAHMEPRÜFZEUGNIS EN 10204-3.1
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Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr	1. Formel	2. Formel	3. Formel	4. Formel	Formel
Item	Heat No.	1. Formula	2. Formula	3. Formula	4. Formula	Formula
Poste	No. de coulée	1. Formule	2. Formule	3. Formule	4. Formule	Formule
0011	735548	0,312	0,283	6,154	0,431	
0011	735548	0,312	0,283	6,154	0,431	
0012	735486	0,312	0,294	5,786	0,311	
0012	735486	0,300	0,274	6,231	0,301	
0013	735435	0,313	0,295	6,214	0,241	
0013	735435	0,300	0,273	6,692	0,231	
0014	735482	0,301	0,275	6,154	0,282	
0014	735482	0,303	0,276	6,231	0,281	
0015	735430	0,288	0,263	6,154	0,221	
0015	735430	0,285	0,262	6,077	0,211	

Prüfsergebnisse / 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

Augensichtkontrolle:
Visual inspection:
Examen visuel:

PASSED

Biegeversuch:
Bending test:
Essai de cintrage:
Pos. / Item / Poste: 0007, 0008, 0009, 0010, 0011

Maßkontrolle:
Dimensions examination:
Vérification des dimensions:
PASSED

Ringfaltversuch:
Flattening test:
Essai d'aplatissement:
Pos. / Item / Poste: 0012, 0013, 0014, 0015

PASSED

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'échantillonnage a été réalisé aux longueurs multiples.

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ABNAHMEPRÜFZEUGNIS EN 10204-3.1 Dokument-Nr.: 65-263338/001/P Blatt: 6 / 8
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CERTIFICAT DE RECEPTION EN 10204-3.1

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			mm	ReH	Rm	A2*	1. Formel	
Requirements				PSI	PSI	%	1. Formula	
Exigences				42061-71794	60191-110229	MIN 30	1. Formula	
0007	000001	526020	12,70 X 6,40	50328	69518	36,00	CONFORMING TO SA 106-B YEAR 2004 ED 2005A JOB# 2005-7578-50 ITEM# 17 SIGNED BY DA March 7/06	
0007	000002	526020	12,70 X 6,40	52504	70198	37,00		
0008	000001	735352	12,70 X 5,10	51633	69183	35,00		
0008	000002 →	735552	12,70 X 5,10	52069	68023	34,00		
0009	000001	735443	12,70 X 7,20	47572	66572	43,00		
0009	000002	735443	12,70 X 7,20	47282	66427	44,00		
0010	000001	735501	19,00 X 3,80	51924	68603	37,00		
0010	000002	735501	19,00 X 3,80	51779	68023	38,00		
0011	000001	735548	19,00 X 5,50	51033	69183	34,00		
0011	000002	735548	19,00 X 5,50	51343	69763	32,00		
0012	000001	735486	25,20 X 5,80	51488	67588	38,00		
0012	000002	735486	25,20 X 5,60	50183	68168	40,00		
0012	000003	735486	25,20 X 5,70	50763	68023	40,00		
0013	000001	735435	25,40 X 7,60	47717	66427	42,00		
0013	000002	735435	25,40 X 7,60	48008	67153	42,00		
0014	000001	735482	25,20 X 6,30	49603	66862	46,00		
0014	000002	735482	25,20 X 6,20	48153	65702	48,00		
0015	000001	735430	25,40 X 8,50	46702	64687	41,00		
0015	000002	735430	25,40 X 8,50	46267	65992	44,00		

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Prüf-Nr.:
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No. du certificat:

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Document No.:
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Härteprüfung / Hardness test / Essai de dureté

CONFORMING TO SA		106-B
YEAR	2004	ED 2005A
JOB #	2005	7578-50
ITEM #	17	
SIGNED BY		88 March 7/06

Pos. Item Poste	Proben-Nr. Specimen No. No. de l'éprouv.	Schmelzen-Nr. Heat No. No. de coulée	Härte Hardness Dureté	HRC	HB	HV	HRB
Anforderungen Requirements Exigences					MAX 200		
0007	000001	526020			136		
0008	000001	→ 735552			143		
0009	000001	735443			143		
0010	000001	735501			139		
0011	000001	735548			144		
0012	000001	735486			138		
0012	000002	735486			139		
0012	000003	735486			138		
0013	000001	735439			143		
0014	000001	735482			147		
0015	000001	735430			144		

Restmagnetismus / Demagnetize / Démagnétiser
residual magnetic field intensity max 3,5 millitesla

Pos. Item Poste	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
0007		P.O. 103790	05-5395
0008		P.O. 103790	05-5395
0009		P.O. 103790	05-5395
0010		P.O. 103790	05-5395
0011		P.O. 103790	05-5395
0012		P.O. 103790	05-5395

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

Pos.	Ihr Zeichen	Kundenmaterial	Kundenbestell-Nr.	Dokument-Nr.:	Prof.Nr.:	Blatt:
Item	Your reference	Customer's Material No.	Purchase Order No.	Document No.:	Inspection No.:	8 / 8
Poste	Votre référence	No. de matière du client	No. de commande du client	No. du document	No. du certificat	Page:
0013		P.O. 103790	05-5395			
0014		P.O. 103790	05-5395			
0015		P.O. 103790	05-5395			

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0007, 0010, 0010, 0008, 0008, 0010, 0009, 0008, 0010, 0009, 0011, 0010, 0009, 0008, 0011, 0009, 0010, 0008
NACE Standard: hardness acc. to NACE Standard MR0175 HRC max 22, The material meets the requirements of NACE
MR0103; 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

Pos. / Item / Poste: 0012, 0014, 0015, 0013, 0015, 0013, 0015, 0014, 0013
NACE Standard: hardness acc. to NACE Standard MR0175 HRC max 22, The material meets the requirements of NACE
MR0103; 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.

Beiblatt Produktkennzeichnung / Attachment product marking / Supplément marquage du produit

Pos.	Produktkennzeichnung
Item	Produktkennzeichnung
Poste	Marquage du produit
0007, 0008, 0009, 0010, 0011, 0012, 0013, 0014, 0015	
FS:	BENTELER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/280 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
	P.O. 103790

FS = Farbmarkenzeichnung, colour marking, marquage par couleur FS = Farbmarkenzeichnung, paint marking, marquage par peinture FSD = Farbmarkenzeichnung, colour marking, marquage par peinture FS = Farbmarkenzeichnung, paint marking, marquage par peinture
longitudinal marking, longitudinal marking, marquage longitudinal
longitudinal marking, longitudinal marking, marquage longitudinal
longitudinal marking, longitudinal marking, marquage longitudinal

Verkäufer(in) / Salesman / Vendeur in charge / Personne chargée : Mr Seelbach, Tel.: 05254/81-4281, Fax: 4289
Dinslaken, 11.04.2005, TEL.: 02064-623-571 FAX: 02064-623-575

Abnahmebeauftragter
Inspection representative
Contrôleur
JAN FREEPKS / WIL

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. Lieferbedingungen des Auftrages entsprechen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechts gültig.
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 stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.

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 2004 ED 2005A
 2006-7578-50
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 2A March 7/06

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

Benteler Stahlrohr GmbH - Postfach 1390 - 33043 Paderborn - Deutschland
 National-Oilwell Canada Ltd.
 7127 - 56 Avenue
 EDMONTON, AB T6B 3L3
 KANADA

Document No.: 65-241026/00115

No. du document:

Kunden-Bestell-Nr.: 04-5320

Purchase Order No.: 1117486

No. de commande du client:

Benteler Auftrags-Nr.: 6543545

Benteler Order No.:

No. de commande Benteler:

Versandanzzeigen-Nr.:

Dispatch Note No.:

No. d'avis d'expédition:

Produkt: NAHTLOSE STAHLROHRE

Product: SEAMLESS STEEL TUBES

Produit: TUBES D'ACIER SANS SOUDURE

Lieferbedingungen:

Terms of delivery:

Conditions de livraison:

Maße - Toleranzen:

Dimensions-tolerances:

Dimensions-tolérances:

Stahlsorte:

Steel grade:

Nuance d'acier:

Lieferzustand:

Delivery condition:

État de livraison:

Produktkennzeichnung:

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
Posta	Nombra	Dimensione	fact	lbs	etc.	PSI		
0005	225	1 1/2" NPS * Sched. 40 18 FT - 22 FT	4634,06	12350	733275	3000	5	
0010	110	1 1/4" NPS * Sched. 80 18 FT - 22 FT	2348,43	6817	733289	3000	5	85820

BENTELER
 Stahlrohr

Inspection No.:
 No. du certificat:
 Hersteller:
 Manufacturer:
 Producteur:
 Herstellerzeichen:
 Manufacturer's brand:
 Marque du producteur:
 Stempel des Sachverständigen: WA
 Inspector's stamp:
 Poignon de l'expert:
 Stahlerschmelzungsverfahren: ELEKTROSTAHL
 Steelmaking process: ELECTRIC FURNACE
 Procédé d'élaboration de l'acier: FOUR ELECTRIQUE

Warmrohrwerk Dinslaken
 ISO/TS 16949:2001 DIN CERT-13705-2003
 PED 97/23/EC TÜV Cert 07 203 41172/900171H



CSA Z245.1-98, Category I, API Specification 5L Forty-Second Edition, January 2000 PSL 1, ASTM-A 106-2002a,
 S5, ASME SA-106, ASME Section II Part A Edition 2001 Addenda 2003, S5, NACE Standard MR0175-03

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

GRADE 290, GRADE B, GRADE X 12

Hot rolled

see attachment product marking

RAUTELEA

Stahl/Rohr

Deutscher StahlRohr-Gruppe
Postfach 13 40
33043 Paderborn
Deutschland
Tel: +49 5254 21 0 5 0 - 1 4 0 0 4 1 7 0 3 0

ABNAHMEPROTOKOLL EN 10204 3.1.B
INSPECTION CERTIFICATE EN 10204 3.1.B
CERTIFICAT DE RECEPTION EN 10204 3.1.B

Document No.:
No. du document:

55 2419060014

Inspection No.:
No. du certificat:

Page:
Page:

Pos.	Stück	Maße	Item	Number	Dimensions	Poste	Nombre	Dimensions	Länge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vielfachlängen
									Longueur	Poids	No. de coulée	Pression d'épreuve	Tube number group	Multiples longth
									feet	lbs		PSI	Série de no. des tubes	Longueurs multiples
0011	360	1 1/2" NPS * Sched. 80							7761,16	28082	733197	3000	5	
		18 FT - 22 FT												
0012	163	1" NPS * Sched. 160							3405,12	9680	524039	3000	5	
		18 FT - 22 FT												
0013	29	1 1/2" NPS * Sched. 160							615,09	2985	524076	3000	5	
		18 FT - 22 FT												
0014	31	1" NPS * XXS							649,64	2401	524039	3000	5	
		18 FT - 22 FT												
0015	21	2" NPS * XXS							438,75	3887	523873	3000	5	
		18 FT - 22 FT												

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

Pos.	Schmelzen-Nr.	Item	Heat No.	Poste	No. de coulée	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0005	733275					0,140	0,210	0,82	0,009	0,004	0,10	0,03	0,08	0,13	0,001	0,010	0,003	0,0001
0010	733289					0,135	0,205	0,83	0,007	0,004	0,09	0,03	0,08	0,13	0,001	0,010	0,003	0,0001
0011	733197					0,135	0,195	0,82	0,007	0,004	0,09	0,02	0,07	0,13	0,001	0,010	0,003	0,0001
0012	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
0013	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
0014	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
0015	523873					0,140	0,220	0,84	0,017	0,003	0,09	0,02	0,07	0,10	0,001	0,010	0,003	0,0001

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

CONFORMS TO SA 106-B	
YEAR	2004 ED 2005 A
JOB	2006-7578-SB
ITEM #	17
SIGNED BY	DA March 7/06

REITER

Stahl/Rohr

Benteler Stahlrohr GmbH

204670, 13.11.

33453 Paderborn

Deutschland

Tel.: +49 5254 81-0 Fax: +49 5254 81-33390

ABNAHMEPRÜFUNGSGEHEBEN 10204-3.1.B

INSPECTION CERTIFICATE EN 10204-3.1.B

CERTIFICAT DE RÉCEPTION EN 10204-3.1.B

Déclaration
Document final
No. du document:

10-21103-2001-10

Inspection No.:
No. du certificat:

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr.	1. Formel	2. Formel	3. Formel	4. Formel
Item	Heat No.	1. Formula	2. Formula	3. Formula	4. Formula
Poste	No. de coulée	1. Formule	2. Formule	3. Formule	4. Formule
0005	733275	0,317	0,299	5,857	0,341
0010	733289	0,312	0,293	6,148	0,331
0011	733197	0,307	0,289	6,074	0,311
0012	524039	0,321	0,302	5,929	0,371
0013	524076	0,316	0,298	5,929	0,321
0014	524039	0,321	0,302	5,929	0,371
0015	523873	0,314	0,296	6,000	0,281

CONFORMING TO SA 106-B	
YEAR	2004 ED 2005A
FOR	2006-7578-50
ITEM	17
SIGNED BY	82 March 7/06

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

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
Item	Heat No.													
Poste	No. de coulée													
0005	733275	0,130	0,170	0,84	0,002	0,004	0,07	0,03	0,09	0,11	0,001	0,010	0,003	0,0002
0005	733275	0,140	0,170	0,83	0,002	0,003	0,07	0,03	0,09	0,11	0,001	0,010	0,003	0,0001
0010	733289	0,130	0,190	0,83	0,010	0,001	0,10	0,04	0,08	0,13	0,002	0,010	0,003	0,0001
0010	733289	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
0011	733197	0,130	0,190	0,83	0,008	0,003	0,11	0,03	0,09	0,10	0,001	0,010	0,003	0,0001
0011	733197	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
0012	524039	0,140	0,210	0,82	0,008	0,003	0,10	0,03	0,11	0,13	0,001	0,010	0,003	0,0001
0012	524039	0,140	0,210	0,82	0,008	0,002	0,10	0,03	0,11	0,13	0,002	0,010	0,003	0,0001
0013	524076	0,130	0,210	0,84	0,010	0,002	0,10	0,03	0,07	0,11	0,002	0,010	0,004	0,0001
0013	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
0014	524039	0,140	0,200	0,82	0,008	0,003	0,10	0,03	0,12	0,13	0,001	0,010	0,003	0,0001
0014	524039	0,130	0,200	0,82	0,009	0,003	0,10	0,03	0,11	0,13	0,001	0,010	0,003	0,0001
0015	523873	0,130	0,200	0,82	0,016	0,003	0,09	0,02	0,07	0,10	0,001	0,010	0,003	0,0001
0015	523873	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

BENTELER

Stahl/Rohr

Blatt:
Page:
No. du certificat:Inspection No.:
No. du certificat:

Benteler StahlRohr GmbH

Bentelerstr. 1
42699 Solingen
Germany

Tel.: +49 212 244 91-0 Fax: +49 212 244 12665

CERTIFICAT DE RECEPTION EN 10204.3.1.B

INSPECTION CERTIFICATE EN 10204.3.1.B

Document No.:
No. du document:

1. Formel: $CEV = C + (Mn/6) + ((Cr + Mo + V)/5) + ((Cu + Ni)/15) \leq 0,40 \%$
 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: $Mn/C \geq 3/1$
 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	Formel
Item	Heat No.	1. Formula	2. Formula	3. Formula	4. Formula	Formula
Poste	No. de coulée	1. Formule	2. Formule	3. Formule	4. Formule	Formule
0005	733275	0,302	0,275	6,462	0,281	
0005	733275	0,310	0,292	5,929	0,271	
0010	733289	0,321	0,301	5,929	0,352	
0010	733289	0,311	0,282	6,385	0,352	
0011	733197 ←	0,309	0,280	6,385	0,331	
0011	733197	0,309	0,280	6,385	0,331	
0012	524039	0,319	0,300	5,857	0,371	
0012	524039	0,319	0,300	5,857	0,372	
0013	524076	0,308	0,281	6,452	0,312	
0013	524076	0,316	0,282	6,462	0,322	
0014	524039	0,319	0,300	5,857	0,371	
0014	524039	0,309	0,280	6,308	0,371	
0015	523873	0,300	0,274	6,308	0,281	
0015	523873	0,310	0,293	5,857	0,281	

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
Augsensichtkontrolle: Visual inspection: Examen visuel:	Biegeversuch: Bending test: Essai de cintrage:	PASSED
	Maßkontrolle: Dimensions examination: Vérification des dimensions:	PASSED

HEITLER

Stahl/Rohr

Borteler Stahlrohr GmbH
Postfach 13 10
33433 Paderborn
Deutschland
Telefon 05256431-0 Fax 052564313665

ABNAHMEPRÜFUNG BEI KÜSEN 10204-3.1.8
INSPECTION CERTIFICATE EN 10204-3.1.8
CERTIFICAT DE RECEPTION EN 10204-3.1.8

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'échantillonnage était réalisé aux longueurs multiples.

Document No.
No. du document

Document No.
No. du document

Inspection No.
No. du certificat

Unit:
Page:
Page:

Zugversuch / Tensile test / Essai de traction

Pos. Item Poste	Proben-Nr. Specimen No. No. de l'éprouvette	Schmelzen-Nr. Heat No. No. de coulée	Probenabmessung Specimen dimensions Dimensions de l'éprouv.	Streckgrenze Yield strength Limite élastique	ReH PSI MIN 42061	Zugfestigkeit Tensile strength Résistance à la traction	Dehnung Elongation Allongement	Einschnürung Area reduction Coefficient de striction	Re/Rm Re/Rm Re/Rm
Anforderungen Requirements Exigences									
			mm			Rm PSI MIN 60191	A2" % MIN 30	1. Formel 1. Formula	
0005	000001	733275	12,70 X 3,60	55695		70198	36,00		
0010	000001	733289	12,70 X 4,70	50473		68748	38,00		
0011	000001 →	733197	12,70 X 5,00	49023		69183	39,00		
0012	000001	524039	12,70 X 6,20	49313		71069	35,00		
0013	000001	524076	12,70 X 7,10	49298		68313	43,00		
0014	000001	524039	12,70 X 9,10	50183		70926	26,00		
0015	000001	523873	19,00 X 10,90	40878		69473	43,00		

Härteprüfung / Hardness test / Essai de dureté

Pos. Item Poste	Proben-Nr. Specimen No. No. de l'éprouv.	Schmelzen-Nr. Heat No. No. de coulée	Härte Hardness Dureté
Anforderungen Requirements Exigences			
			HRC HB HV HRB
0005	000001	733275	MAX 200 135
0010	000001	733289	140
0011	000001 →	733197	146
0012	000001	524039	148
0013	000001	524076	147

CONFORMING TO SA 106-B	
YEAR	2004-ED 2005A
JOB #	2006-7578-50
ITEM #	17
SIGNED BY	DA March 7/06

BENTELER

Stahl/Rohr

Benteler Stahl AG - Steel

Postfach 17 87

33413 Paderborn

Deutschland

Tele: +49 5254 13 13 Fax: +49 5254 13660

ABNENKUNFTS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1B

CERTIFICAT DE RECEPTION EN 10204-3.1B

Härteprüfung / Hardness test / Essai de dureté

Inspection No.:
No. du certificat:Page:
Page:

Pos. Item	Proben-Nr. Specimen No.	Schmelzen-Nr. Heat No.	Härte Hardness	HRC	HB	HV	HRB
Anforderungen Requirements	Poste No. de l'éprouv.	No. de coulée	Dureté				
Exigences					MAX 200		
0014	000001	524039			147		
0015	000001	523873			143		

Restmagnetismus / Demagnetize / Démagnétiser

Pos. / Item / Poste: 0005, 0013, 0014, 0011, 0012, 0015, 0010
residual magnetic field intensity max 40.0 A/cm

Pos. Item	Ihr Zeichen Your reference	Kundenmaterial Customer's Material No.	Kundenbestell-Nr. Purchase Order No.
Poste No. de référence	No. de matière du client	No. de commande du client	
0005	P.O. 10613474/6350	04-5320	
0010	P.O. 10613474/8735	04-5320	
0011	P.O. 10613474/7447	04-5320	
0012	P.O. 10613474/10292	04-5320	
0013	P.O. 10613474/15637	04-5320	
0014	P.O. 10613474/5590	04-5320	
0015	P.O. 10613474/4747	04-5320	

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0005, 0011, 0012, 0015, 0010, 0013, 0014,

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

Nous attestons que les produits livrés sont conformes aux stipulations de la commande. Ce document a été établi par traitement électronique et est valide sans signature. 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.

BENTELER
Stahl/Rohr

Benteler Stahl/Rohr GmbH
Postfach 13 40
42699 Solingen
Germany
Tel: +49 5254 81-0 Fax: +49 5254 13665

ENTNAHMEPRÜFZEUGNIS
EXTRACT
RECEIPT CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1
EN 10204:2005-01

Benteler Stahl/Rohr GmbH - Postfach 1340 - 42699 Solingen - Deutschland
BHD Tubular Ltd.
6903 - 72nd Ave.,
EDMONTON, AB T6B 3A5
CANADA

Document No.: 45-252167/001/P

Kunden-Bestell-Nr.: 04-5359

Purchase Order No.: 1121399

No. de commande du client:

Benteler Auftrags-Nr.: 6549550

Benteler Order No.: 6549550

No. de commande Benteler:

Versandanzeigen-Nr.: 6549550

Dispatch Note No.: 6549550

No. d'avis d'expédition:

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

Hersteller: Warmrohrwerk Dinslaken

Manufacturer: ISO 9001:2000 DNV CERT-13705-2003
Producteur: PED 87/23/EC TÜV Cert 07 2024 1117/5001026

Herstellerzeichen: 

Manufacturer's brand:

Marque du producteur:

Stempel des Abnahmebeauftragten: WA

Stamp of the inspection representative:

Timbre du contrôleur:

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

CONFORMING TO SA	
YEAR	2004 ED 2005A
JOB #	2005-7578-50
ITEM #	17
SIGNED BY	28 March 7/06

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

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:

Stahlsorte: GRADE 290, GRADE B, GRADE X 42

Steel grade:

Numéro d'acier:

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	Vielfachlänge
			Length	Weight	Heat No.	Test pressure	Tube number group	Multiple length
Poste	Nombre	Dimensions	Longueur	Poids	No. de coulées	Pression d'épreuve	Série de no. des tubes	Longueurs mult
		feet	feet	lbs		PSI		
0007	100	1 1/2" NPS * Sched. 40 18 FT - 22 FT	2061,06	5518	734219	3000	5	
0008	188	1 1/2" NPS * Sched. 80 18 FT - 22 FT	4006,50	14315	734288	3000	5	

BENTELER

Stahl/Rohr

Deutscher Stahlrohr GmbH
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42699 Solingen
Tel: +49 5254 81-0 Fax: +49 5254 13666

Produkt-Nr. 102167001/P
Inspektion No. 10204-3.1
Document No. 10204-3.1
No. du document

Pos.	Stück	Maße	Länge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vielfachlänge
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 mult
			feet	lbs		PSI		
0010	50	1 1/4" NPS * Sched. 80	1064,14	3126	734252	3000	5	
		18 FT - 22 FT						

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													
0007	734219	0,130	0,210	0,83	0,007	0,004	0,17	0,06	0,10	0,15	0,001	0,010	0,003	0,0001
0008	734288	0,140	0,225	0,84	0,009	0,005	0,13	0,04	0,11	0,18	0,001	0,010	0,003	0,0001
0010	734252	0,135	0,205	0,83	0,010	0,006	0,12	0,03	0,12	0,20	0,001	0,010	0,002	0,0001

1. Formel: $CEI W = C + (Mn/6) + ((Cr + Mo + V)/5) + ((Cu + Ni)/15) < 0,40 \%$
2. Formel: $CEV = C + F + ((Mn/6) + (Si/24) + (Ni/15) + (Cr + Mo + V + Nb)/5) + (S/8) < 0,40$
3. Formel: $Mn/C > 3/1$
4. Formel: $Cr + Cu + Mo + Ni + V < 1,00 \%$

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
0007	734219	0,331	0,299	6,385	0,481
0008	734288	0,334	0,313	6,000	0,461
0010	734252	0,325	0,304	6,148	0,471

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

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
Item	Heat No.													
Poste	No. de coulée													
0007	734219	0,120	0,180	0,82	0,008	0,005	0,18	0,07	0,11	0,16	0,002	0,010	0,002	0,0002

CONFORMING TO SA 106.5

YEAR 2004 ED 2005A

JOB # 2005-7578-5D

ITEM # 17

SIGNED BY 28 March 7/06

Benteler Stahlrohr GmbH
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32423 Bad Salzig
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Tel.: +49 5254 31-0 Fax: +49 5254 130-6

ABSAHMENPRÜFZEUGNIS
INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1
Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]
Document No. 075167001/P
Date 31.03.06

Pos.	Schmelzen-Nr.	Item	Heat No.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
Poste	No. de coulée															
0007	734219			0,120	0,180	0,82	0,008	0,005	0,18	0,07	0,12	0,16	0,002	0,010	0,002	0,0001
0008	734288			0,150	0,220	0,84	0,008	0,004	0,11	0,03	0,10	0,15	0,001	0,009	0,002	0,0001
0008	734288			0,140	0,220	0,83	0,008	0,004	0,11	0,03	0,10	0,15	0,001	0,008	0,002	0,0001
0010	734252			0,140	0,160	0,84	0,010	0,005	0,11	0,04	0,11	0,18	0,001	0,010	0,002	0,0002
0010	734252			0,140	0,160	0,83	0,010	0,005	0,11	0,04	0,11	0,19	0,001	0,010	0,002	0,0001

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

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr.	Item	Heat No.	1. Formel	2. Formel	3. Formel	4. Formel
Poste	No. de coulée			1. Formule	2. Formule	3. Formule	4. Formule
0007	734219			0,325	0,280	6,833	0,522
0007	734219			0,326	0,280	6,833	0,532
0008	734288			0,335	0,321	5,600	0,391
0008	734288			0,323	0,304	5,929	0,391
0010	734252			0,330	0,308	6,000	0,441
0010	734252			0,329	0,306	5,929	0,451

CONFORMING TO SA 106-D
YEAR 2004 ED 2005A
JOB # 2005-7578-50
ITEM # 17
SIGNED BY 29 March 7/06

Definitionen / Définitions / Définitions 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	Maßkontrolle: Dimensions examination: Vérification des dimensions:	PASSED
Augensichtkontrolle: Visual inspection: Examen visuel:	Bliegeversuch: Bending test: Essai de cintrage:	PASSED		PASSED

Benteler StahlRohr GmbH
Postfach 13 40
33043 Bad Salzig
Deutschland
Tel.: +49 5254 31-0 Fax: +49 5254 13655

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

Blatt: 4 /
Page: 4 /
Page: 4 /

Produkt:
Inspection No.:
No. du certificat:

65-200-10-10100

Document No.:
Inspection No.:
No. du document:

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'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 striction	Re/Rm
Anforderungen			mm	ReH	Rm	A2"	1. Formel	Re/Rm
Requirements			mm	PSI	PSI	%	1. Formula	Re/Rm
Exigences			mm	PSI	PSI	MIN 30	1. Formule	Re/Rm
0007	000001	734219	12,70 X 3,60	55985	69618	37,00		
0007	000002	734219	12,70 X 3,60	54389	69908	36,00		
0008	000001 → 734288	734288	12,70 X 5,00	50618	70198	41,00		
0008	000002	734288	12,70 X 5,00	51053	69618	40,00		
0010	000001	734252	12,70 X 4,70	49603	68748	41,00		
0010	000002	734252	12,70 X 4,70	52069	68893	41,00		

Härteprüfung / Hardness test / Essai de dureté

Pos.	Proben-Nr.	Schmelzen-Nr.	Härte
Item	Specimen No.	Heat No.	Hardness
Poste	No. de l'éprouv.	No. de coulée	Dureté
Anforderungen			HRC
Requirements			HRC
Exigences			HRC
0007	000001	734219	MAX 200
0008	000001	734288	146
0010	000001	734252	147

CONFIRMING TO SA 106-B

YEAR 2004 ED 2005A

JOB # 2005-7578-50

ITEM # 17

SIGNED BY DA March 7/06

BENTELER

Stahl/Rohr

Benteler Stahlrohr GmbH
Postfach 13 40
42699 Solingen
Germany
Tel.: +49 5254-81-0 Fax: +49 5254-13656

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

Restmagnetismus / Demagnetize / Démagnétiser

Pos. / Item / Poste: 0007, 0010, 0008
residual magnetic field intensity max 3,5 millitesla

Pos. Item Poste	Ihr Zeichen Your reference Vostre référence	Kundenmaterial Customer's Material No. No. de matière du client	Kundenbestell-Nr. Purchase Order No. No. de commande du client
0007	P.O. 103677		04-5359
0008	P.O. 103677		04-5359
0010	P.O. 103677		04-5359

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0007, 0008, 0010, 0008, 0010, 0008
NACE Standard: hardness acc. to NACE Standard MR0175 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

Beilicht / Produktkennzeichnung / Attachment / product marking / Supplément marquage du produit

Pos. Item Poste	Produktkennzeichnung Product marking Marquage du produit
0007, 0008, 0010	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. 103677

FS = Farbmarkierung, markierung par couleur FS = Farbmärkdrucker, Colour jet printer, imprimante à jet d'encre de couleur LS = Längsachsbearbeitung, longitudinal standing, mal longitudinal par palette PKE = Elsterkennzeichnung, tag marking, marquage au électricité PS = Prägestempel, die emp. marquage par poinçonnage TS = Thienstahlkennzeichnung, inkjet spray marking, imprimante à jet d'encre

Werkzeuginf. / Salesman / vendeur in charge / Personne chargée : Mr Seelbach, Tel.: 05254/81-4281, Fax: 4289

Dinslaken, 15.02.2005, TEL.: 02064.623-572 FAX: 02064.623-575

Abnahmebeauftragter
Inspection representative

Contrôleur
JAN FREERKS / WAG

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. 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 stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.



V & M DEUTSCHLAND GMBH

V & M DEUTSCHLAND GMBH - Postfach 33 02 33 - 40435 Düsseldorf

701 / 00000000/00/04/04/1 (A02)

VEREINIGTE VERKEHRSGESAMTSCHAFTEN (A03)

MATERIAL TEST REPORT (INSP. C.A.C. 3.1 ACC. TO EN 10044: 2001)		Nr./No 35589	Status 2
Zur Lieferfrist: 18.04.04 To delivery: 18.04.04 At l'avis d'expédition		Delivery Date Data d'expédition 24.04.04	

(A06)

VAN LEEUWEN
PIPE & TUBE LTD.
2875-64TH AVENUE

CDN-T6P1R1 EDMONTON/ALBERTA



Lieferant
Supplier
Usine expéditrice
ZEITHAIN

(B01 - B04)

V&M-Auftrags-Nr.
V&M-order no
No. de commande V&M
(A08)
856/3725 8
Kunden-Bestell-Nr.
Customer-order no
No. de commande client
(A07)
VM1483
Bestell-Datum
Date of order
Date de commande
Verwender
User
Utilisateur

Verwender-Bestell-Nr.
User-order no
No de commande utilisateur
45000238

Bestimmungsland
Destination
Pays de destination
CANADA

COMPARAIS 10 34	
VSAN	2004 ED 2005A
VSAN	2006-7578-80
VSAN	18
RECEIVED BY 24 March 7/06	

HOT FINISHED SEAMLESS LINE PIPE #
API SPEC. 5 L, PSL 1, 03.2004 # ASTM A 106 - 04 A /
ASTM A 530 - 04 / ASME SA 106, EDITION 2004 /
ASME SA 530, EDITION 2004 /
ASME BOILER AND PRESSURE VESSEL CODE, SECTION II, PART A,
EDITION 2004 / CSA Z 245.1:2002 /
NACE STANDARD MR 0175-2003, PARAGRAPH 3.2 #
VAN LEEUWEN SPEC. NO.: VLN-3, REV D, 07.2002 # GRADE B
/ ASTM A 106 / ASME SA 106 / GRADE 290 (CSA Z245.1, CAT. I)
IN RANDOM MILL LENGTH 18 - 22 FT #
RESIDUAL MAGNETISM DOES NOT EXCEED 30 GAUSS #
ENDS PLAIN, SQUARED TO TUBE AXIS # INSIDE
WITHOUT RUST PROTECTION # OUTSIDE DRY VARNISH

(B09)

(B10)

(B14)

Item	Deliv.	Dimension / Item text	Quantity/pcs	kg/lbs	Total length m/ft
3	Complt.	1 X 160,000 ITEM NO 461 V & M FRANCE NO/ITEM LA1059/03 IN BUNDLES OF MAX. 4000 KG, WITH 6 STEEL BANDS AND 2 SLINGS (NYLON) FOR CONTAINER	140	3.970 8.752	931.00 3.054,46



VALLOUREC & MANNESMANN TUBES

V&M-NC/IN:

Kunden-Nr./Purchaser no./client no.

456/3725 8

VM1483

Nr./No

3658

Blatt/Pages

3

- HYDROSTATIC TEST: 3000 PSI,
- HOLDING TIME 5 SEC.: SATISFACTORY
- FLATTENING TEST: SATISFACTORY (C50)
- BENDING TEST: SATISFACTORY (C50)
- VISUAL AND DIMENSIONAL INSPECTION SATISFACTORY (D01)
- VERIFICATION TEST SATISFACTORY
- HARDNESS TEST: HRC MAX. 22
- PIPE PRODUCTION METHOD: SEAMLESS, HOT-ROLLED
- EDDY CURRENT TEST ACC. TO CSA Z 245.1:2002: SATISFACTORY
- KILLED STEEL

VALLOUREC & MANNESMANN
API-MONOGRAM
5L0150.5
YEAR (YYYY) / MONTH
NW 1 X SCHED.160
TERMS OF DELIVERY PSL1/A106/SA106/Z245.1
B / 290 CAT I
PROCESS OF MANUFACTURE SMLS
HEAT-NO.
TEST PRESSURE PSI 3000
NDE
TUBE/PIPE LENGTH FT
WA
GERMANY
CUSTOMER ORDER-NO. VM1483
ORDER-NO. USER 45000238
DATE: 2005/09

INDICATIONS IN PARENTHESES CORRESPOND TO THE IDENTIFICATION ACC. TO EN 168-86.
SYMBOL OF THE MANUFACTURER'S WORK (A04) RECEIVING AGENT'S STAMP (202)

THE SUPPLIED PRODUCTS ARE IN COMPLIANCE WITH THE REQUIREMENTS OF THE ORDER

(A05) V & M DEUTSCHLAND GMBH, WERK ZEITHAIN, ABNAHME
01619 ZEITHAIN, GLAUBITZERSTRASSE 1
(201) SIGNED RACZ, INSPECTION REPRESENTATIVE
ZEITHAIN, 24.10.2005, TELEPHONE: (03525) 792318
TELEFAX: (03525) 791146
E-MAIL: ULRIKE.RACZ@VMTUBES.DE

This testimonial and certification respectively is recorded by
computer-system and is valid without signature. Alteration or use
for other products are regarded as falsification of documents and
will be subject to criminal prosecution.

Zeugnisverteller
3 X VALLOUREC TUBES CANADA
1141 KING ROAD
CDN-U7R3X5 BURLINGTON/ONTARIO

VERIFIED BY	10613
VERIFIED	
DATE	
ITEM #	
SIGNED BY	



V & M DEUTSCHLAND GmbH

V & M DEUTSCHLAND GmbH - Postfach 33 02 30 - 40435 Düsseldorf

(A06)

CCTF DIVISION OF EMCO
LTD.
5407-53RD AVENUE

CDN-T6B3G2 EDMONTON, AB/CANADA

Lieferant
Supply-plant
Usine expéditrice
(R03) - (R04)

(A01)
ZEITHAIN



HOT FINISHED SEAMLESS LINE PIPE #

API SPEC. 5 L, PSI. 1, 03.2004 # ASTM A 106 - 04 A /

ASTM A 530 - 04 / ASME SA 106, EDITION 2004 /

ASME SA 530, EDITION 2004 /

ASME BOILER AND PRESSURE VESSEL CODE, SECTION II, PART A,

EDITION 2004, ADDENDA 2005 / CSA 2 245.1:2002 /

NACE STANDARD MR 0175-2003, PARAGRAPH 3.2 #

CCTF SPEC. CECN-3, REV. D, 06.2002 # GRADE B

/ ASTM A 106 / ASME SA 106 / GRADE 290 (CSA 2245.1, CAT. I)

FIXED LENGTH 20 FT # SINGLE LENGTH TOLERANCE IN IN

+ 4,00 / - 0,00 #

RESIDUAL MAGNETISM DOES NOT EXCEED 30 GAUSS #

ENDS PLAIN, SQUARED TO TUBE AXIS # INSIDE

WITHOUT RUST PROTECTION # OUTSIDE DRY VARNISH

(B11 - B13)

(B09)

Item	Deliv.	Dimension / Item text	Quantity/pcs	Kg/lbs	Total length m/ft
5	Compl.	NPS SCHEDULE 1 X 160,000 ITEM NO 6	435	11.450 25.243	2.651,75 8.700,00
V & M FRANCE NO/ITEM LA1107/05 IN BUNDLES OF MAX. 4000 KG, WITH 6 STEEL BANDS AND 2 SLINGS (NYLON) FOR CONTAINER					

F01/

/00000000/00/01/00/1

VERTEILER: SIEHE UNTEN

(A02)

(A03)

MATERIAL TEST REPORT

(INSP. CERT. 3.1 ACC. TO EN 10204: 2004)

Nr./ No

37900

Blatt/Page

1/3

Zur Lieferanten-Nr.
To delivery note no
At l'avis d'expédition

(A09)

47/ 56/0004

Lieferdatum
Delivery Date
Date d'expédition

4.01.06

V&M-Auftrag-Nr.
V&M-order no

(A08)
No. de commande V&M 856/3840 8

Kunden-Bestell-Nr.
Purchaser-order-no

(A07)
No. de commande client VM1549

Bestell-Datum
Date of order

20.10.05

Verwender
User

Utilisateur

Bestimmungsort
Destination
Pays de destination

CANADA

Verwender-Bestell-Nr.
Last-order no
No de commande utilisateur

4874807-00

CONFORMS TO SA

YEAR 2004 ED 2005A

JOB 2006-7578-50

ITEM # 18

SIGNED BY DA March 7/06

1/60



VALIÖHRAC & MANNESMANN TUBES

V&M-Nr./No	856/3840 8	Nr./No	37900	Blatt/Page	2/ 3
Kunden-Nr./Purchaser no./client No	VM1549				

Results of ladle analysis (S) / check analysis (K) %

(B08) (C70) (C71 - C92)

HEAT NO	STEELMAK. PROCESS	C	SI	MN	P	S	CU	CR	NI	MO	V
MINIMUM		0,260	0,100	0,29	0,030	0,0350	0,400	0,400	0,400	0,150	0,080
MAXIMUM		0,190	0,500	1,06	0,006	0,0020	0,030	0,060	0,050	0,020	<0,004
330315	S	0,220	0,200	0,74	0,006	0,0029	0,028	0,061	0,053	0,012	0,002
K		0,214	0,202	0,75	0,006	0,0028	0,029	0,062	0,058	0,013	0,002
K											

HEAT NO	STEELMAK. PROCESS	TI	NB/CB	CO	B	CAE1	EF1	EF2
MINIMUM		0,040	0,110	0,003	0,0010	0,40	1,00	0,15
MAXIMUM		0,003	0,001	0,0040	0,0001	0,34	0,16	0,01
330315	S	0,002	0,002	0,0040	0,0001			
K		0,002	0,002	0,0040	0,0001			
K								

CAE1 = C + F X MN SI CU NI CR+MO+V+CO EF1 = CR + MO + NI + CU + V EF2 = V + TI + NB
6 24 15 20 5

EF=NB+V= MAX. 0,03%

EF=0,005% (HEAT 330315)

CHECK ANALYSIS ON 2 TUBES PER HEAT

Tensile test results

Sample no	Heat	(B08)	(C00)	(C01)	(C02)	(C03)	(C11)	(C12)	(C13)	Y/T	Ratio
			Test piece dimension	Test piece type	Test piece direction	Test piece loc. orient.	Yield/proof strength R _{GH}	Tensile strength R _m	Elongation A _L 2"		
MINIMUM							42000	60000	24,0		
MAXIMUM							51922	110000	51,1	0,71	
82923	330315	33,40	6,50	03	longit	RT	52357	73241	49,5	0,71	
82924	330315	33,40	6,50	03	longit	RT		73677			

Code references to the tensile test

TYPE OF TEST PIECE : 03 FULL SECTION TEST SPECIMEN

HARDNESS HRC MAX. 22

(WITHOUT TESTING, ONLY CERTIFICATE)

Other test results (D01 - D99)

Identification of the products (B06 - B07)

-HEAT TREATMENT: HOT FINISHED IN THE RANGE OF NORMALIZING

PAINT STENCILED ON ONE SIDE

CONFORMS TO SA	106-A
YEAR	2004 ED 2005 A
JOB	2006-7578-50
ITEM #	18
SIGNED BY	23 March 7/06



VALLOUREC & MANNESMANN TUBES

V&M-Nr./No	856/3840 8	Nr./No	37900	Sheet/Page	3 / 3
Kunden-Nr./Purchaser no./client No	VM1549				

TEMPERATURE

- HYDROSTATIC TEST: 3000 PSI,
HOLDING TIME 5 SEC.: SATISFACTORY
- FLATTENING TEST: SATISFACTORY (C50)
- BENDING TEST: SATISFACTORY (C50)
- VISUAL AND DIMENSIONAL INSPECTION SATISFACTORY (D01)
- VERIFICATION TEST SATISFACTORY
- HARDNESS TEST: HRC MAX. 22
- PIPE PRODUCTION METHOD: SEAMLESS, HOT-ROLLED
- EDDY CURRENT TEST ACC. TO CSA Z 245.1:2002: SATISFACTORY
- KILLED STEEL

V&M47
VALLOUREC & MANNESMANN
API-MONOGRAM
5L0150.5
YEAR (YYYY) / MONTH
NW 1 X SCHED.160
TERMS OF DELIVERY PSL1/A106/SA106/Z245.1
B / 290 CAT I
PROCESS OF MANUFACTURE SMLS
HEAT-NO.
TEST PRESSURE PSI 3000
NDE
TUBE/PIPE LENGTH FT
WA
GERMANY
CUSTOMER ORDER-NO. VM1549
ORDER-NO. USER 4874807-00
DATE: 2005/12

INDICATIONS IN PARENTHESES CORRESPOND TO THE IDENTIFICATION ACC. TO EN 168-86.
SYMBOL OF THE MANUFACTURER'S WORK (A04) RECEIVING AGENT'S STAMP (Z02)

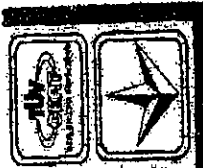
THE SUPPLIED PRODUCTS ARE IN COMPLIANCE WITH THE REQUIREMENTS OF THE ORDER

(A05) V & M DEUTSCHLAND GMBH, WERK ZEITTHAIN, ABNAHME
01619 ZEITTHAIN, GLAUBITZERSTRASSE 1
(Z02) SIGNED RACZ, INSPECTION REPRESENTATIVE
ZEITTHAIN, 9.01.2006, TELEPHONE: (03525) 792318
TELEFAX: (03525) 791146
E-MAIL: ULRIKE.RACZ@VMTUBES.DE

This testimonial and certification respectively is recorded by
computer-system and is valid without signature. Alteration or use
for other products are regarded as falsification of documents and
will be subject to criminal prosecution.

Zeugnisverleiher

3 X VALLOUREC TUBES CANADA
1141 KING ROAD
DON-MIRIAM BURLINGTON/ONTARIO



СЕРТИФИКАТ ПРИЕМОЧНЫХ ИСПЫТАНИЙ
CERTIFICATE OF CHECK TESTS № 2917-Б
в соответствии с / in acc with EN10204/3.1B

ФЕВ 07 2006 10:28 СТР1

Стандарт

Коллечество, Quantity	Коллечество, Quantity
1	1
2	2
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99	99
100	100

Twelve Page 1

1" / 60

СЕРТИФИКАТ ПРИЕМОЧНЫХ ИСПЫТАНИЙ
 CERTIFICATE OF CHECK TESTS № 2917-5
 в соответствии с / in acc with EN10204/3.1B

НИКОПОЛЬСКИЙ ЗАВОД СТАЛЬНЫХ ТРУБ "ЮТИСТ"
 NIKOPOL STEEL PIPE "YUTIST", CJSCO
 56, ТРУБНИКОВ
 NIKOPOL CITY
 Т. НИКОПОЛЬ
 ДНІПРОПЕТРОВСЬКА ОБЛ.
 УКРАЇНА, 53201
 ФАК: +38-05662-25062
 ТЕЛ: +38-05662-25062, 22147
 E-MAIL: info@steel-prom.com

FD

1. УПАКОВАННАЯ СПЕЦИФИКАЦИЯ / PACKING LIST										Количество / Quantity				№ места Bnd #	Лот Lot	
Марка стали Grade of steel	Номер материала № of material	№ партии Batch №	№ главы Heat №	Способ изготовления Method of manufacture	Диаметр O.D.	Толщ. стены W.T.	Длина Length	Норматив размер Средний NPS Inch	Толщ. стенки W.T. Inch	Длина (футы) Length feet	Вес Weight lbs	метров meters	брутто, тн G.W., M.Tons	нетто, тн N.W., M.Tons	футов feet	
20	Gr B	29871	29871	холодн / cold fin	60.3	5.54	6000-8000	2"	0.218"	SRL	80	237.54	1.730	1.725	779.32	36
21	Gr B	29849	29849	холодн / cold fin	60.3	5.54	6000-8000	2"	0.218"	SRL	80	237.54	1.730	1.730	779.32	37
ИТОГО / TOTAL (2 пак / bundles)											74	475.08	3.465	3.455	1558.64	19
22	Gr B	33606	33606	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	234.00	1.275	1.270	767.71	25
23	Gr B	33606	33606	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	117.71	0.645	0.640	386.18	24
24	Gr B	33606	33606	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	131.00	0.715	0.710	423.78	20
25	Gr B	33606	30111	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	294.00	1.440	1.435	866.13	21
26	Gr B	33606	30111	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	285.00	1.445	1.440	869.41	21
27	Gr B	33606	30119	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	236.80	1.325	1.320	776.88	29
28	Gr B	33606	30119	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	241.86	1.320	1.315	793.49	28
29	Gr B	33606	30119	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	125.06	0.685	0.680	410.30	27
30	Gr B	33606	29822	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	235.00	1.280	1.275	770.99	16
31	Gr B	33606	29822	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	209.67	1.145	1.140	687.89	17
32	Gr B	33606	29898	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	246.00	1.345	1.340	807.08	35
33	Gr B	33606	29898	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	241.00	1.315	1.310	790.87	23
34	Gr B	33606	29898	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	252.00	1.375	1.370	826.76	22
35	Gr B	33606	29898	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	236.00	1.285	1.280	774.27	26
36	Gr B	33606	29912	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	144.00	0.800	0.795	472.44	18
37	Gr B	33606	29912	холодн / cold fin	60.3	3.91	6000-8000	2"	0.154"	SRL	40	3420.10	18.710	18.630	11220.66	15
ИТОГО / TOTAL (16 пак / bundles)											517	3420.10	18.710	18.630	11220.66	34
38	Gr B	29849	32223	холодн / cold fin	60.3	8.74	6400	2"	0.344"	21'	160	121.98	1.340	1.335	400.19	33
39	Gr B	29849	32226	холодн / cold fin	60.3	8.74	6400	2"	0.344"	21'	160	121.98	1.340	1.335	400.19	33
40	Gr B	29849	32223	холодн / cold fin	60.3	8.74	6400	2"	0.344"	21'	160	121.98	1.345	1.340	400.19	31
41	Gr B	29849	32226	холодн / cold fin	60.3	8.74	6400	2"	0.344"	21'	160	121.98	1.345	1.340	400.19	32
ИТОГО / TOTAL (4 пак / bundles)											76	487.92	5.370	5.350	1680.77	
ИТОГО / TOTAL (41 пак / bundles)											1616	10870.83	50.395	50.190	35665.04	

CONFORMS TO SA

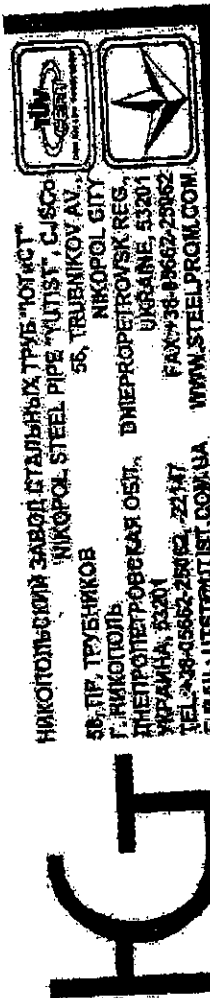
YEAR

JOB

ITEM #

SIGNED BY

СЕРТИФИКАТ ПРИЕМОЧНЫХ ИСПЫТАНИЙ
 CERTIFICATE OF CHECK TESTS №2917-Б.
 в соответствии с / in. acc with EN10204/3.1B



НИКОПОЛЬСКИЙ ЗАВОД СТАЛЬНЫХ ТРУБ "ЮТИСТ"
 NIKOPOL STEEL PIPE "UTIST" CJSC
 56, ТРУБНИКОВ АУ.
 НИКОПОЛЬ ГИТИ
 ДНІПРОПЕТРОВСЬК РЕГ.
 ДНІПРОПЕТРОВСЬКА ОБЛ.
 УКРАЇНА, 51201
 ТЕМ-30-05662-2917-Б. 22147
 FAX: +38-05662-2917-Б.
 E-MAIL: UTIST@UTIST.DONUA WWW.STEELPIPE.COM

2. ХИМИЧЕСКИЙ СОСТАВ / CHEMICAL COMPOSITION

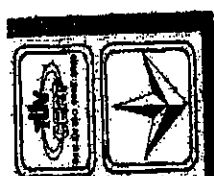
Химический состав стали / Steel chemical composition

№ пробы / Heat No	C	Si	Mn	S	P	Cr	Ni	Cu	Mo	V	AlN	CE=C+Mn+Si+Mo+V	C+Si+Mn+N+V
P510488	0.21	0.24	0.51	0.018	0.010	0.05	0.04	0.04	0.01	0.0	2.4	0.31	0.14
10658	0.20	0.28	0.49	0.005	0.007	0.08	0.05	0.07	0.01	0.0	2.5	0.30	0.21
513067	0.20	0.20	0.50	0.035	0.017	0.02	0.02	0.03	0.01	0.0	2.5	0.29	0.08
5230	0.20	0.19	0.41	0.025	0.012	0.02	0.01	0.02	0.01	0.0	2.1	0.27	0.06
32358	0.18	0.19	0.55	0.016	0.011	0.12	0.13	0.18	0.01	0.0	3.1	0.30	0.44
33608	0.19	0.21	0.48	0.019	0.010	0.07	0.11	0.18	0.01	0.0	2.5	0.29	0.37
512106	0.19	0.23	0.57	0.026	0.012	0.02	0.01	0.03	0.01	0.0	3.0	0.29	0.07
512119	0.19	0.22	0.49	0.023	0.014	0.02	0.03	0.03	0.01	0.0	2.6	0.28	0.09
45017	0.20	0.26	0.43	0.003	0.009	0.08	0.06	0.08	0.01	0.1	2.2	0.29	0.23
28326	0.18	0.24	0.63	0.011	0.011	0.09	0.06	0.09	0.01	0.0	3.5	0.31	0.25
29849	0.20	0.27	0.43	0.002	0.004	0.05	0.03	0.06	0.01	0.0	2.2	0.28	0.15
29671	0.21	0.28	0.41	0.008	0.007	0.12	0.05	0.09	0.01	0.0	2.0	0.30	0.27
33606	0.21	0.26	0.54	0.013	0.015	0.05	0.07	0.10	0.01	0.0	2.6	0.31	0.23
39029	0.20	0.21	0.44	0.010	0.005	0.05	0.08	0.13	0.009	0.0	2.2	0.29	0.27

№ п/п Heat No	Номер заводской партии. Set for testing	№ плавки Heat No	Механические свойства Mechanical properties				Удлинение Elongation A, %
			Предел прочности Tensile strength, Rm		Предел текучести Yield strength, Rp		
			MPa	PSI	MPa	PSI	
1	2765	P510488	484	71500	341	49400	42
2	2419	10658	505	73000	337	48900	40
3	2419	10658	505	73000	337	48900	40
4	2825	513067	472	68000	282	40900	34
5	2811	513067	482	70000	308	44700	35
6	3717	5230	424	61500	245	35500	50
7	4601	32358	462	67000	268	38900	44
8	3142	33608	503	73000	347	50500	34
9	4753	512106	472	68500	318	46100	34
10	2163	512119	486	70500	346	50000	32
11	3747	45017	520	75500	343	49700	32
12	3747	45017	520	75500	343	49700	32
13	3747	45017	520	75500	343	49700	32
14	2120	28326	505	73000	333	48300	32

CONFORMS TO SA 106B
 YEAR 2004 ED 2005A
 JOB 2006-7578-5b
 ITEM # 18
 SIGNED BY 8A March 7/06

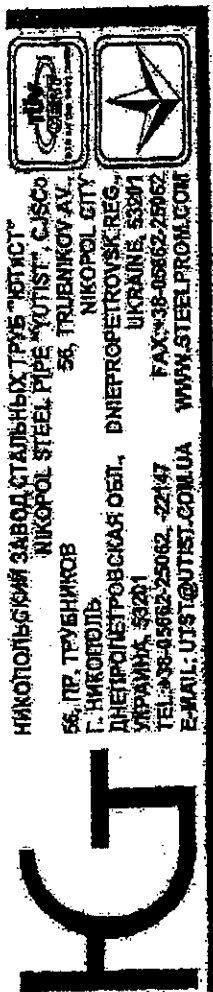
СЕРТИФИКАТ ПРИЕМОЧНЫХ ИСПЫТАНИЙ
 CERTIFICATE OF CHECK TESTS №2917-Б.
 в соответствии с / in. acc with EN10204/3.1B



НИКОПОЛЬСКИЙ ЗАВОД СТАЛЬНЫХ ТРУБ "ЮТИСТ"
 NIKOPOL STEEL PIPE "YUTIST", CJSCO
 56, ТРУБНИКОВ АВ., NIKOPOL CITY
 Г. НИКОПОЛЬ ДНІПРОПЕТРОВСЬКА ОБЛ., ДНІПРОПЕТРОВСЬК РЕГ.
 UKRAINE, 53201
 ТЕЛ: +38-05662-23062, 22147 FAX: +38-05662-23062
 E-MAIL: UTIST@YUTIST.COM.UA WWW.STEELFROM.COM

СТ

№ п/п	Номер запасной части Set for testing	№ инвентаря Heat №	Механические свойства / Mechanical properties			
			Прочность Tensile strength, Rm	Прочность Yield strength, Rp	Удлинение Elongation, A%	
			MPa	MPa		
15	4753	512106	472	68500	318	46100
16	3209	29849	478	69500	327	47400
17	3169	29849	506	73500	354	51500
18	2965	29671	492	71500	342	49600
19	3269	29849	485	70000	321	46500
20	3277	29671	495	72000	341	49400
21	3267	29849	492	71500	355	51500
22	2986	33606	503	73000	340	49300
23	2986	33606	503	73000	340	49300
24	2986	33606	503	73000	340	49300
25	3011	33606	492	71500	347	50500
26	3011	33606	492	71500	347	50500
27	3019	33606	496	72000	360	52000
28	3019	33606	496	72000	360	52000
29	3019	33606	496	72000	360	52000
30	2982	33606	512	74000	360	52000
31	2982	33606	512	74000	360	52000
32	2989	33606	505	73000	365	53000
33	2989	33606	505	73000	365	53000
34	2989	33606	505	73000	365	53000
35	2983	33606	489	71000	342	49600
36	2990	33606	520	75500	378	55000
37	2912	39029	511	74000	350	50500
38	3223	29849	473	68500	323	46500
39	3226	29849	463	67000	326	47300
40	3223	29849	473	68500	323	46500
41	3226	29849	463	67000	326	47300



СЕРТИФИКАТ ПРИЕМОЧНЫХ ИСПЫТАНИЙ
 CERTIFICATE OF CHECK TESTS №2917-Б.
 в соответствии с / in. acc with EN10204/3.1B

4. ПРИМЕЧАНИЯ / NOTES

Система качества производства сертифицирована в соответствии с EN ISO 9001:2000.
 Manufacturer quality system is certified in conformity with EN ISO 9001:2000.

Максимальная твердость не превышает 22HRC в соответствии с NACE MR 0175
 Maximum hardness does not exceed 22HRC in acc. with NACE MR 0175

Трубы произведены в соответствии с техническими требованиями контракта №160 от 03.11.2004
 Pipes are made according to the technical requirements of the contract №160 of 03.11.2004

Трубы позиции 1-15 испытаны на загиб - удовлетворительно.
 Pipes position 1-15 are tested by flanging test - satisfactory.

Трубы позиции 16-41 испытаны на сгибание - удовлетворительно.
 Pipes position 16-41 are tested by bending test - satisfactory.

Допуск по длине (L 6400) : +/-25mm
 Length tolerance (L 6400) : +/-25mm

Трубы покрыты по наружной поверхности грунтовой эмалью "АКРОКОР", два слоя
 Pipes are covered per external surface priming- enamel "AKROKOR", two layer

Концы труб защищены полиэтиленовыми пробками.
 The ends of pipes are protected by polyethylene caps.

Гидроиспытания не проводились. Взамен гидроконтроль (HDE) по методу завода - удовлетворительно
 Hydrostatic test are not carried out. Instead of hydrostatic per plant method

Нондеструктивный размер продольного поперечного образца для испытания на растяжение:
 Ширина, мм - 19 ±0,76
 Расчетная длина, мм -50
 Nominal size of longitudinal strip sample for stretching test

Width, mm: 19 ±0,76

Calculated length, mm:50

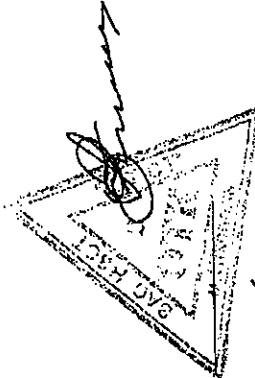
Вес пакета до 2,5 тн.

Weight of bundle is up to 2,5 tons.

Трубы Ø 60,3 - фаска

Pipes Ø 60,3 - bevel

Осматривалось/экспертом
 Witnessed by expert



Старший контрольный мастер
 Senior control foreman

Сертификатор
 Prepared by

AUG 17 2005

Contract No: 05HGC01016
L/C NO. 5FAHDS-00449

Name of Customer: CE FRANKLIN
P.O.NO.: PO.1233731-OR-2100

HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

MILL TEST REPORT

DESCRIPTION : SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE

Date: JUN. 27. 2005

TOTAL: 2043PIECES, 15BUNDLES, 27.884MT, 40860FT

Page: 1/5

Add: 10 Dalixincun, Hongyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942
Cable: 6993
P.C. 421001

SPEC: ASTM A53B-2002/A106B-2002a, ASME SA53B/SA106B-2004, API 5LB-2004, NACE MR-0175-1999										CERTIFICATE NO: 0506030				
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEET	QUANTITY (MT)	ACTUAL WEIGHT(MT)					
1	555300986	05104596-3	B	1/2" * 0.109" * 20FT	1	81	1620	0.625						
2	556200813	05105598-1	B	1/2" * 0.147" * 20FT	3	660	13200	6.526						
3	555100557	05303297-3	B	1/2" * 0.188" * 20FT	1	55	1100	0.653						
4	555301206	05104594-3	B	3/4" * 0.113" * 20FT	1	109	2180	1.127						
5	555301023	05104599-3	B	3/4" * 0.154" * 20FT	3	495	9900	6.646						
6	756307207	0501136	B	3/4" * 0.219" * 20FT	1	82	1640	1.451						
7	556500042	05105611-1	B	1" * 0.133" * 20FT	1	53	1060	0.808						
8	555500064	05303305-3	B	1" * 0.179" * 20FT	4	508	10160	10.048						
NONDESTRUCTIVE TEST				CHEMICAL COMPOSITION %										
NO.	DELIVERY CONDITION	EDDY CURRENT TEST	ULTRASONIC TEST	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	CE
1	NORMALIZED	OK		0.20	0.22	0.47	0.023	0.023	0.01	0.02	0.05	0.01	0.001	0.29
2	NORMALIZED	OK		0.22	0.26	0.50	0.023	0.018	0.01	0.02	0.05	0.01	0.001	0.32
3	NORMALIZED	OK		0.19	0.25	0.53	0.024	0.019	0.03	0.01	0.04	0.01	0.001	0.29
4	NORMALIZED	OK		0.19	0.21	0.49	0.026	0.016	0.01	0.01	0.05	0.01	0.001	0.29
5	NORMALIZED	OK		0.20	0.24	0.47	0.013	0.016	0.01	0.02	0.04	0.01	0.001	0.29
6	NORMALIZED	OK		0.18	0.30	0.45	0.009	0.008	0.16	0.01	0.02	0.01	0.001	0.27
7	NORMALIZED	OK		0.19	0.26	0.52	0.015	0.018	0.03	0.02	0.03	0.01	0.001	0.29
8	NORMALIZED	OK		0.21	0.25	0.52	0.018	0.026	0.03	0.01	0.03	0.01	0.001	0.31
MECHANICAL TEST				HYDROSTATIC TEST								BEND TEST		
NO.	TENSILE STRENGTH	YIELD STRENGTH	ELONGATION	δ (%)	Ak (J)			HARDNESS		TEST		FLATTEN TEST		
1	67425	42775	50					HRC 4.5		2800 PSI		OK		
2	66700	42050	52					HRC 4		2800 PSI		OK		
3	70325	45675	46					HRC 6		2800 PSI		OK		
4	68150	44225	44					HRC 4.0		2800 PSI		OK		
5	69600	44950	43					HRC 5.0		2800 PSI		OK		
6	71775	46400	43					HB 158		2800 PSI		OK		
7	70325	45675	40					HRC 4		2800 PSI		OK		
8	66700	46400	41					HRC 4		2800 PSI		OK		

REMARKS: 1. We hereby certify that the material has been manufactured, sampled, tested and inspected in accordance with the required standards.

2. Properties compliance to DIN 50049 3.1.B/UNI EN 10204 3.1B.

3. BRINELL /Rockwell hardness certified to NACE MR-0175-99.

4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2")

A. For pipes ≤ 1" full length specimen were used;

B. For pipes > 1" longitudinal strip specimen were used; the width of the gauge length portion is 3/4".

5. MATERIALS CONFIRM TO ANSI B36.10, A-530/A530M

6. Origin: Made in China.

QUALITY MANAGER:

[Signature]

CONFORM TO SA	106-B
YEAR	2004 ED 2005A
JOB	2006-7578-50
ITEM #	19
SIGNED BY	22 March 7/06

1" Sch 80

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

BENTELER

Stahl/Rohr

NAHMEPRÜFZEUGNIS EN 10204.3.1.8
INSPECTION CERTIFICATE EN 10204.3.1.8
CERTIFICAT DE RECEPTION EN 10204.3.1.8
EN 10204-1991 + A1: 1995

Benteler Stahl/Rohr GmbH - Postfach 1340 - 33043 Paderborn - Deutschland

Van Leeuwen Pipe and Tube
(Canada) Inc.
2875-64th Avenue
EDMONTON, AB T6P 1R1
KANADA

Dokument-Nr.: 51-237769/001/P

Document No.:
No. du document:

4140287

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

1116880

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

4140287

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

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

Herstellerzeichen:
Manufacturer's brand:
Marque du producteur:



Stempel des Sachverständigen: WA
Inspector's stamp:
Poignon de l'expert:
Stahlschweißverfahren:
STEELMAKING PROCESS:
Procédé d'élaboration de l'acier: FOUR ELECTRIQUE

Lieferbedingungen: CSA Z245.1-98, Category I, API Specification 5L, Forty-Second Edition, January 2000 PSL 1, ASTM-A 106-2002a,
S5, ASME SA-106, ASME Section II Part A Edition 2001 Addenda 2003, S5, NACE Standard MR0175-03

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

Dimensions-tolerances:
Dimensions-tolerances:

Stahlsorte: GRADE 290, GRADE B, GRADE X 42

Steel grade:

Nuance d'acier:

Lieferzustand: Hot rolled

Delivery condition:

État de livraison:

Produktkennzeichnung: FS: BENTELER Z.245.1, API 5L - PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSURE RE
Product marking: DIMENSIONS SCHEDULE WA GERMANY P.O. 45030075

Marquage du produit:

FS = Farbkennzeichnung, colour marking, marquage par couleur FS = Farbschablonierung, paint stencilling, marquage par peinture FSD = Farbschablonierung, Colours jet printer, imprimante à jet d'encre de couleur LS = Längsschablonierung, longitudinal stencilling, marquage longitudinal par peinture PKE = Etikettenkennzeichnung, tag marking, marquage sur étiquette PS = Prägtemappe, die stamp, marquage par poinçonnage TS = Tintenstrahlkennzeichnung, ink jet spray marking, imprimante à jet d'encre

Pos.	Stück	Maße	Länge	Gewicht	Schmelzen-Nr.	Prüddruck	Rohr-Nr.-Gruppe	Vielfachlängen
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		
G004	3311	1" NPS * Sched. 80 18 FT - 22 FT	64386,03	139348	134821	3000	5	460

YEAR	2004	ED	2005A
DATE	2006	75	78-50
1750	19	25	March 7/06

ABNAHMEPRÜFZEUGNIS EN 10204-3.1.B Dokument-Nr.: 41-237709/001/P
INSPECTION CERTIFICATE EN 10204 3.1.B Document No.:
CERTIFICAT DE RECEPTION EN 10204-3.1.B No. du document:

Blatt: 2 / 4
Page:
Page:

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

Pos.	Schmelzen-Nr.	Item	Heat No.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0004	134821			0,140	0,230	0,80	0,009	0,005	0,13	0,05	0,10	0,15	0,002	0,003	0,003	0,0001

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

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr.	Item	Heat No.	1. Formel	2. Formel	3. Formel	4. Formel
				1. Formula	2. Formula	3. Formula	4. Formula
				1. Formule	2. Formule	3. Formule	4. Formule
0004	134821			0,326	0,306	5,714	0,432

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

Pos.	Schmelzen-Nr.	Item	Heat No.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0004	134821			0,130	0,230	0,80	0,009	0,005	0,13	0,03	0,11	0,14	0,001	0,002	0,002	0,0002
0004	134821			0,120	0,230	0,80	0,009	0,005	0,13	0,03	0,11	0,14	0,001	0,002	0,002	0,0002

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

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr.	Item	Heat No.	1. Formel	2. Formel	3. Formel	4. Formel
				1. Formula	2. Formula	3. Formula	4. Formula
				1. Formule	2. Formule	3. Formule	4. Formule
0004	134821			0,312	0,283	6,154	0,411

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CONTRACT NO. 106B	2004 ED 2005A		
TRUCK		2006 - 7578-50	
JOB #		19	
ITEM #			
SERIAL #			7A March 7/06

NOTES

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 Nous attestons que les produits livrés sont conformes aux stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.

TOTAL: 6090PIECES, 77BUNDLES, 133.233MT, 121800 FT

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p.c. 421001

Cable: 6993

APR 08 2005

Add: 10 Dalixincun, Hengyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942

MILL TEST REPORT

SPEC: ASTM A53B-2001/A106B-99/A530-99/ASME SA53B-2001/SA106B-99, NACE MR-0175													CERTIFICATE NO: 04000102	
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	QUANTITY (MT)	ACTUAL WEIGHT(MT)								
6	6373-6377	67U	B	1" X 0.179" X 20FT	30	54600								
	6378-6380	68U	B	1" X 0.179" X 20FT	20	35800								
7	6383	69U	B	1" X 0.250" X 20FT	9	10980								
8	6384	69U	B	1-1/4" X 0.140" X 20FT	3	5320								
9	6385	69U	B	1-1/2" X 0.145" X 20FT	5	6080								
10	6386	69U	B	1-1/2" X 0.200" X 20FT	5	5740								
11	6387	69U	B	1-1/2" X 0.281" X 20FT	5	7246								
NONDESTRUCTIVE TEST				CHEMICAL COMPOSITION %										
NO.	DELIVERY CONDITION	EDDY CURRENT TEST	ULTRASONIC TEST	C	Mn	Si	S	P	Cr	Ni	Cu	Mo	V	
6	COLD-DRAWN(780°C)	OK		0.18	0.50	0.22	0.013	0.016	0.04	0.01	0.01	0.001	0.001	
	COLD-DRAWN(780°C)	OK		0.21	0.50	0.22	0.016	0.015	0.05	0.02	0.01	0.001	0.001	
7	COLD-DRAWN(780°C)	OK		0.19	0.52	0.23	0.015	0.017	0.04	0.02	0.03	0.001	0.001	
8	COLD-DRAWN(780°C)	OK		0.19	0.52	0.23	0.015	0.017	0.04	0.02	0.03	0.001	0.001	
9	COLD-DRAWN(780°C)	OK		0.19	0.52	0.23	0.015	0.017	0.04	0.02	0.03	0.001	0.001	
10	COLD-DRAWN(780°C)	OK		0.19	0.52	0.23	0.015	0.017	0.04	0.02	0.03	0.001	0.001	
11	COLD-DRAWN(780°C)	OK		0.19	0.52	0.23	0.015	0.017	0.04	0.02	0.03	0.001	0.001	
NO.	TENSILE STRENGTH		σ _s (PSI)	YIELD STRENGTH	δ (%)	IMPACT		HARDNESS		HYDROSTATIC TEST		FLATTEN TEST	BEND TEST	
6	66700			42775	38			9		2800 PSI			OK	
	70325			45675	33			11		2800 PSI			OK	
7	68150			44950	32			10		2800 PSI			OK	
8	65975			44950	35			8		2800 PSI			OK	
9	67425			44225	35			8		2800 PSI			OK	
10	71050			46400	31			10		2800 PSI			OK	
11	66700			45675	32			8		2800 PSI			OK	

1. We herby certify that the above of 4, 100 manufactured, sampled, tested and approved in conformity with the relevant standards.

The figure consists of eight vertically stacked plots sharing a common x-axis representing time \$t\$.
 - Plot 1 (top): Shows the number of particles \$N(t)\$ on a logarithmic scale, starting at 0 and rising to about \$10^4\$.
 - Plot 2: Shows a quantity decreasing from 1 to 0.
 - Plot 3: Shows a quantity oscillating between 0 and 1.
 - Plot 4: Shows a quantity increasing from 0 to 1.
 - Plot 5: Shows a quantity decreasing from 1 to 0.
 - Plot 6: Shows a quantity increasing from 0 to 1.
 - Plot 7: Shows a quantity decreasing from 1 to 0.
 - Plot 8 (bottom): Shows a quantity increasing from 0 to 1.

filed to NACF. MR-0174-00

[illegible][illegible]

3. The following are the names of the persons who have been appointed to the various committees of the Board of Directors:

QUALITY MANAGER: Zuo Jianqun

2004 ED 2005A

2006-7578-50

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March 7/06

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

NOV 28 2005

BENTELER

Stahl/Rohr

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

Dokument-Nr.:
Document No.: 41-293884/001/P

Kunden-Bestell-Nr.:
Purchase Order No.: 06-5498

Benteler Stahl/Rohr GmbH - Postfach 1340 - 33043 Paderborn - Deutschland

CE Franklin Ltd.
10050 29th Ave.
EDMONTON, AB T6N 1A8
KANADA

No. de commande du client:

Benteler Auftrags-Nr.: 1133760

Benteler Order No.:
No. de commande Benteler:

Varianten-Nr.: 4171452

Dispatch Note No.:
No. d'avis d'expédition:

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

Hersteller:
Manufacturer: Warmrohrwerk/Zieherei
ISO/TS 16949 (ISO 9001) DNV CERT. 13755-2003
PED 87/23/EC TÜV Cert 07 202 3937 Z 0001/4/H

Herstellerzeichen:
Manufacturer's brand:
Marque du producteur:

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

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

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

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

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

Lieferzustand:
Delivery condition: Hot rolled

Produktkennzeichnung:
Product marking: see attachment product marking

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1/2" Sch 80

Pos.	Stück	Maße	Länge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vierfachlängen
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	feet	lbs		bar		
0001	88	3/4" NPS * Sched. 40 18 FT - 22 FT	1882,41	2200	529912	207	5	
0004	200	1/2" NPS * Sched. 80 18 FT - 22 FT	4199,48	4685	→ 529912	207	5	

113715

113558

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ABNAHMEPRÜFZEUGNIS EN 10204-3.1

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

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Inspection No.:
No. du certificat: Blatt: 2 / 5

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

Pos.	Schmelzen-Nr.	Item	Heat No.	Poste	No. de coulée	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0001	529912					0,130	0,240	0,79	0,009	0,003	0,12	0,03	0,11	0,22	0,002	0,003	0,002	0,0002
0004	529912					0,130	0,240	0,79	0,009	0,003	0,12	0,03	0,11	0,22	0,002	0,003	0,002	0,0002

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

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr.	Item	Heat No.	Poste	No. de coulée	1. Formel	2. Formel	3. Formel	4. Formel
0001	529912					0,314	0,285	6,077	0,482
0004	529912					0,314	0,285	6,077	0,482

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

Pos.	Schmelzen-Nr.	Item	Heat No.	Poste	No. de coulée	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0001	529912					0,140	0,240	0,82	0,010	0,002	0,12	0,03	0,11	0,22	0,002	0,003	0,002	0,0003
0001	529912					0,140	0,240	0,82	0,010	0,002	0,12	0,03	0,11	0,22	0,002	0,004	0,002	0,0003
0004	529912					0,140	0,240	0,82	0,010	0,002	0,12	0,03	0,11	0,22	0,002	0,003	0,002	0,0003
0004	529912					0,140	0,240	0,82	0,010	0,002	0,12	0,03	0,11	0,22	0,002	0,004	0,002	0,0003

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

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ABNAHMEPRÜFZEUGNIS EN 10204-3.1
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No. du document:

Prüf-Nr.:
Inspection No.:
No. du certificat: 3 / 5

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr. Heat No.	1. Formel 1. Formula 1. Formule	2. Formel 2. Formula 2. Formule	3. Formel 3. Formula 3. Formule	4. Formel 4. Formula 4. Formule
0001	529912	0,329	0,309	5,857	0,482
0001	529912	0,329	0,310	5,857	0,482
0004	529912	0,329	0,309	5,857	0,482
0004	529912	0,329	0,310	5,857	0,482

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SIGNED BY 789 March 7/06

Prüfergebnisse / Test results / Résultats des essais

Die Röhre 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

Augensichtkontrolle:
Visual inspection:
Examen visuel:

PASSED

Biegeversuch:
Bending test:
Essai de cintrage:

PASSED

Maßkontrolle:
Dimensions examination:
Vérification des dimensions:

PASSED

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'échantillonnage était réalisé aux longueurs multiples.

Zugversuch Vollprobe / Tensile test Full section test specimen / Essai de traction Eprouvette a section complete

Pos.	Proben-Nr. Specimen No.	Schmelzen-Nr. Heat No.	Probenabmessung Specimen dimensions Dimensions de l'éprouv.	Streckgrenze Yield strength Limite élastique	Zugfestigkeit Tensile strength Résistance à la traction	Dehnung Elongation Allongement	Einschnürung Area reduction Coefficient de striction	Re/Rm Re/Rm Re/Rm
Anforderungen Requirements Exigences								
0001	000001	529912	mm 26,70 X 2,80	ReH N/mm ² 290-495	Rm N/mm ² 415-760	A2" % MIN 30	1. Formel 1. Formula 1. Formule	
				369	520	40,00		
0001	000002	529912	26,70 X 2,80	372	515	42,00		
0004	000001 → 529912	529912	21,40 X 3,90	340	493	40,00		
0004	000002	529912	21,40 X 3,90	337	491	38,00		

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Deutschland
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BENTELER
Stahl/Rohr

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

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Härteprüfung / Hardness test / Essai de dureté

Pos. Item	Proben-Nr. Specimen No.	Schmelzen-Nr. Heat No.	Härte Hardness
Poste	No. de l'éprouv.	No. de coulée	Dureté
Anforderungen			
			HRC HB HV HRB
Requirements			MAX 200
0001	000001	529912	149
0004	000001 →	529912	143

Resmagnetismus / Demagnetize / Démagnétiser

Pos. / Item / Poste: 0001, 0004
residual magnetic field intensity max 3,5 millitesla

CONFORMING TO SA	106-B
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Pos. Item	Ihr Zeichen Your reference	Kundenmaterial Customer's Material No.	Kundenbestell-Nr. Purchase Order No.
Poste	Votre référence	No. de matière du client	No. de commande du client
0001		1370107-OR2100/1131715	05-5498
0004		1370107-OR2100/1132558	05-5498

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0001, 0004

NACE Standard: hardness acc. to NACE Standard MR0175 HRC max 22. The material meets the requirements of NACE MR0103; 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

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

BENTELER

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ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1

CERTIFICAT DE RECEPTION EN 10204-3.1

Beiblatt Produktkennzeichnung / Attachment product marking / Supplément marquage du produit

41-293884/001/P

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Prüf-Nr.:

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No. du certificat:

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Pos. Produktkennzeichnung

Item Produktkennzeichnung

Poste Marquage du produit

0001 FS: BENTELER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
1370107-OR2100/1131715

0004 FS: BENTELER Z.245.1, Spec.5L-PSL1, A/SA-106 S5 B/X42/290 HEAT-NO. TEST PRESSUR E DIMENSIONS SCHEDULE WA GERMANY
1370107-OR2100/1132558

FK = Farbkennzeichnung, colour marking, marquage par couleur / FS = Farbschablonierung, paint stencilling, marquage par politure FSD = Farbstrahldrucker, Colour jet printer, imprimants à jet d'encre de couleur / LS = Längsschablonierung, longitudinal stencilling, marquage longitudinal par peinture / PKE = Etikettenkennzeichnung, tag marking, marquage sur étiquette / PS = Prägestempel, die stamp, marquage par poinçonnage / TS = Tintenstrahlkennzeichnung, ink jet spray marking, imprimante à jet d'encre

Verkäufer(in) / Salesman/ woman in charge / Personne chargée :

Mr Seelbach, Tel.: 05254/81-4281, Fax: 4289

Paderborn Schloß Neuhaus, 10.10.2005, TEL.: 05254.81-1765 FAX: 05254.81-1991

Abnahmebeauftragter
Inspection Engineer
Controlleur

DIETER KELLE / DIE

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. 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 stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.

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Stahl/Rohr

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ABNAHMEPRÜFZEUGNIS EN 10204-3.1.B

INSPECTION CERTIFICATE EN 10204-3.1.B
CERTIFICAT DE RELEVÉ EN 10204-3.1.B

Dokument-Nr.: 41-214171/001/P

Prüf-Nr.:
Inspection No.:
N° de contrôle:

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

Pos.	Schmelzen-Nr.	Item	Heat No.	Poste	No. de coulée	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0001	520981					0,140	0,200	0,82	0,006	0,003	0,08	0,03	0,08	0,15	0,001	0,003	0,003	0,0001
0005	126388					0,135	0,225	0,82	0,009	0,004	0,13	0,04	0,10	0,15	0,001	0,003	0,003	0,0001

1. Formel: $CEV = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Cu+Ni)/15) \leq 0,40 \%$
2. Formel: $CEV = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Cu+Ni)/15) \leq 0,40 \%$
3. Formel: $W = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Cu+Ni)/15) \leq 0,40 \%$
4. Formel: $Cr + Cu + Ni + Ti + V \leq 1,00 \%$

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr.	Item	Heat No.	Poste	No. de coulée	1. Formel	2. Formel	3. Formel	4. Formel
0001	520981					0,314	0,295	5,857	0,341
0005	126388					0,323	0,302	6,074	0,421

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

Pos.	Schmelzen-Nr.	Item	Heat No.	Poste	No. de coulée	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0001	520981					0,140	0,190	0,83	0,007	0,001	0,07	0,03	0,08	0,15	0,001	0,003	0,002	0,0002
0001	520981					0,140	0,190	0,83	0,007	0,001	0,07	0,03	0,08	0,15	0,001	0,003	0,002	0,0002
0005	126388					0,140	0,210	0,83	0,012	0,001	0,14	0,05	0,09	0,12	0,002	0,003	0,002	0,0002
0005	126388					0,136	0,210	0,82	0,012	0,001	0,14	0,05	0,09	0,12	0,002	0,003	0,002	0,0002

1. Formel: $CEV = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Cu+Ni)/15) \leq 0,40 \%$
2. Formel: $CEV = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Cu+Ni)/15) \leq 0,40 \%$
3. Formel: $W = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Cu+Ni)/15) \leq 0,40 \%$
4. Formel: $Cr + Cu + Ni + Ti + V \leq 1,00 \%$

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34082A

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Stahl/Rohr

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Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr. Heat No.	1. Formel 1. Formula	2. Formel 2. Formula	3. Formel 3. Formula	4. Formel 4. Formula	Formel Formula
0001	520981	0,314	0,295	5,929	0,331	
0001	520981	0,314	0,295	5,929	0,331	
0005	126388	0,331	0,310	5,929	0,402	
0005	126388	0,331	0,288	6,308	0,402	

CONFORMING TO SA 106-B
YEAR 2004 ED 2005A
JCR# 2005-7578-50
ITEM# 20
SIGNED BY DA March 7/06

Hydrostatic test acc. to EN 10204-3.1.B, holding time min 5 seconds, Test
The tubes have been submitted to a leak tightness test by:
Les tubes ont passé un contrôle d'étanchéité par:

Augensichtkontrolle: PASSED
Visual inspection:
Examen visuel:

Biegeversuch: PASSED
Bending test
Essai de cintrage:

Maßkontrolle: PASSED
Dimensions examination:
Vérification des dimensions:

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'échantillonnage était réalisé aux longueurs multiples.

Pos.	Proben-Nr. Specimen No.	Schmelzen-Nr. Heat No.	Probenabmessung Specimen dimensions Dimensions de l'éprouv.	Streckgrenze Yield strength Limite élastique	Zugfestigkeit Tensile strength Résistance à la traction	Dehnung Elongation Allongement	Einschnürung Area reduction Coefficient de striction	Re/Rm Re/Rm Re/Rm
Anforderungen								
Requirements								
Exigences								
0001	520981	520981	11,40 X 3,40	358	590	MIN 30	48,00	
0001	520981	520981	11,40 X 3,40	358	590	MIN 30	48,00	

34082B

Benteler Stahl/Rohr GmbH
Postfach 13 40
33043 Paderborn
Deutschland
Tel.: + 49.5254.81-0 Fax: +



Stahl/Rohr

ABNAHMEPRÜFZEUGNIS
INSPECTION CERTIFICATE EN 10204,3.1.1
CERTIFICAT DE RECEPTION EN 10204,3.1.1

ABNAHMEPRÜFZEUGNIS EN 10204-3.1.B

INSPECTION CERTIFICATE EN 10204.3.1.B

Härteprüfung / Hardness test / Essai de dureté

Dokument-Nr.:
Document No.:

44-24471-001/P

Prüf-Nr.:

Inspection No.:
No. of certificates:

B|att: 4/ 5

Page:

Pos.	Proben-Nr.	Schmelzen-Nr.	Härte		
Item	Specimen No.	Heat No.	Hardness		
Postle	No. de l'éprouv.	No. de coulée	Dureté		
Anforderungen			HRC	HB	HV
Requisitements					HRB
Exigences				MAX 220	
0001	000001	325981		150	
0005	000001	125388		142	
			CONFORMING TO SA 106-B		
			2004 F D 2005A		
			ITEM# 20		
			JOB# 2006-7578-50		
			SIGNED BY 25 March 7/06		

Keywords: children; adolescents; parents; teachers; self-esteem

residual magnetic field intensity: max 10.0 A/cm

Pos. Item	Ihr Zeichen Your reference	Kundenmaterial Customer's Material No.	Kundenbestell-Nr. Purchase Order No.
0001		No. de matière du client	
		P.O. 10524670/5865	03-5129
0005		P.O. 10524670/7815	03-5129

Vermerk / Remark / Remarque

NACE Standard: hardness acc. to NACE Standard MR0175 HRC max 22; Certificate remarks: The seamless line pipes meet the requirement; for micro hardness of max 248 HV 500; Bond test: mandrel diameter 12D, bending angle 180 degree

2008

Beiblatt Produktkennzeichnung / Attachment product marking / Supplément marquage du produit

[illegible]

BENTELER
Stahl/Rohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1.B

Dokument-Nr.:
Document No.:
Als dr. document

41-214171/001/P

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

Blatt: 5 / 5
Page:
Page:

PK = Färbekennzeichnung, colour marking, marquage par couleur
 FSD = Farbstrichdruck, colour stencilling, marquage par pointure
 LS = Längschablonierung, longitudinal stencilling, marquage longitudinal par peinture
 PKE = Etikettenkennzeichnung, tag marking, marquage sur étiquette
 PS = Prägestempel, die stamp, marquage par poinçonnage
 IS = Infenstralienkennzeichnung, ink jet spray marking, imprimante à jet d'encre

Mr Seelbach, Tel.: 05254/81-4281, Fax: 4289

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SYNOPSIS • 127 • MATH

Der Werkssachverständige:

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

—

77734 HELL

DILTER KELLE *CEO*

the 1990s and beyond. The authors argue that the current emphasis on the importance of the family in the child's development is a result of the increasing awareness of the role of the family in the child's development. The authors also argue that the current emphasis on the importance of the family in the child's development is a result of the increasing awareness of the role of the family in the child's development.



SILCOTUB SA

Quality and Service
8.D. MIHAI VITEAZU NO. 93
0700 ZALAU
ROMANIA

125-001-88#107948

QUALITY CERTIFICATE

ACCORDING TO EN 10243.1.5 + NACE MR 01-76

COPY

PS
1/2" 80

CONFORMS TO SA 106-B
2004 ED 2005A
YEAR 2006-7578-50
JOB 2D
ITEM 7A March 7/06
SIGNED BY

DATE		DUFERCO PO 1103014650		BUYER:		SPECIFICATION		MATERIAL		No.		PAGE	
01.06.2004		CUSTOMER PO A1288 D								48		1 OF 1	
NPS/DIA (inch/mm)		ASTM A 106/A 106M		GRADE B/CX 4U/ GRADE 290		QUANTITY IN TONS		QUANTITY IN FEET		LENGTH IN FEET		ITEM	
1 1/2" SCH 80 (21.30 x 3.73)		32844		2415		15457.93		50715		21		14	
DESCRIPTION		PIECES		TOTAL		QUANTITY (WEIGHT)		QUANTITY		BUNDLES		LOT	
2 1/2" SCH 80 (21.30 x 3.73)		2415		2415		24.570		50715		21		3	

2 1/2" SCH 80 (21.30 x 3.73) OF SEAMLESS STEEL PIPES
SEAMLESS CARBON STEEL PIPES MADE TO ASTM A 106/A 106M PL 1 CSA Z 245.1
OR B/CX 42/GR. 290 ASHME SA 106 + NACE MR-01-76
TOTAL VALUES REPORTED IN THE LAST PAGE
INTERNAL CODE: 8007 / DL

CUSTOMER CODE 73.04.10.10

LADLE ANALYSES

CHEMICAL COMPOSITION %													
HEAT	Si	P	S	Cr	Ni	Mo	Cu	V	Al	Fe	As	Se	Bi
32844	0.260	0.005	0.004	0.040	0.050	0.005	0.070						

PRODUCT ANALYSES

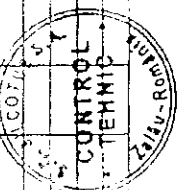
ACTUAL RESULTS OF CHEMISTRY %													
HEAT	Si	P	S	Cr	Ni	Mo	Cu	V	Al	Fe	As	Se	Bi
32844	0.263	0.006	0.005	0.037	0.046	0.004	0.073	0.001	0.003	0.003	0.001	0.280	0.160
32844	0.265	0.006	0.005	0.037	0.047	0.004	0.073	0.001	0.003	0.003	0.001	0.283	0.161
32844	0.266	0.008	0.005	0.036	0.046	0.004	0.072	0.001	0.003	0.003	0.001	0.289	0.159
32844	0.264	0.006	0.005	0.037	0.046	0.004	0.072	0.001	0.003	0.003	0.001	0.280	0.159
32844	0.265	0.006	0.005	0.037	0.046	0.004	0.073	0.001	0.003	0.003	0.001	0.290	0.160
32844	0.263	0.006	0.005	0.037	0.047	0.004	0.072	0.001	0.003	0.003	0.001	0.288	0.160
32844	0.274	0.007	0.005	0.037	0.047	0.004	0.074	0.001	0.003	0.003	0.001	0.283	0.162
32844	0.273	0.007	0.005	0.037	0.046	0.004	0.074	0.001	0.003	0.003	0.001	0.284	0.162
32844	0.273	0.007	0.005	0.037	0.047	0.004	0.074	0.001	0.003	0.003	0.001	0.283	0.162
32844	0.276	0.007	0.005	0.037	0.047	0.004	0.075	0.001	0.003	0.003	0.001	0.284	0.163
32844	0.277	0.007	0.005	0.037	0.046	0.004	0.074	0.001	0.003	0.003	0.001	0.285	0.163
32844	0.273	0.007	0.005	0.037	0.047	0.004	0.074	0.001	0.003	0.003	0.001	0.283	0.162

MECHANICAL PROPERTIES

TENSILE				YIELD STRENGTH				ELONGATION				OTHER TESTS			
HEAT	Sample no.	Dimensions inch x inch	Section inch ²	Required	Result	Required	Result	Required	Result	Required	Result	Bending	Hardness	Microstatic	Pal
32844	12524	0.84 x 0.14	0.30	70000	74615	42000	55014	30.00	44.40	GOOD	139.00	GOOD	max 244 HV	3000	3000
32844	12526	0.84 x 0.14	0.30	70000	74059	42000	53613	30.00	45.90	GOOD	139.00	GOOD	max 244 HV	3000	3000
32844	12528	0.84 x 0.14	0.30	70000	77647	42000	52135	30.00	46.70	GOOD	139.00	GOOD	max 244 HV	3000	3000
32844	12528	0.85 x 0.14	0.31	70000	76591	42000	49152	30.00	46.30	GOOD	150.00	GOOD	max 244 HV	3000	3000
32844	12660	0.85 x 0.14	0.31	70000	72572	42000	49150	30.00	44.70	GOOD	150.00	GOOD	max 244 HV	3000	3000
32844	12662	0.85 x 0.14	0.31	70000	73935	42000	49341	30.00	44.70	GOOD	149.00	GOOD	max 244 HV	3000	3000

QUALITY DEPT. CHIEF
Ing. LASZLO MORENT

SIGNATURE



CERTIFIED MILL TEST REPORT



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

LOG NO. 225414 PAGE 2

BONNEY FORGE
P.O. BOX 330 • U.S. RTE 522 SOUTH • MOUNT UNION, PA 17066-0330
(814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906
www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 01/09/06

CUSTOMER'S Order No.: 9105703-00

Bonney Order No. 024279

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

337855 (2) 7578-56
(2) 7553-08
125-001

EDMONTON ALBERTA
EDMONTON ALBERTA, T6E5S5 CANAD

Po + 116 738

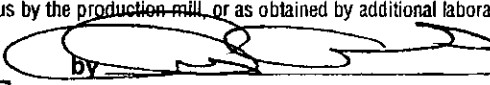
ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
			SA/A105N
052	25	56297	7551096 4 -31/2X 2 XS A105N WELD B C .190 MN 1.010 P .013 S .023 SI .250 NI .020 CU .090 CO .002 CR .050 MO .008 V .022 AL .001 NB .000 CE(LONG FORMULA) = 0.38 T/S 80500 Y/S 52750 EL 30.05 RA 66.75 BRINELL HARDNESS1: 153 HARDNESS2: 150
054	25	56504	7551118 10-B X 2 XS A105N WELD B C .190 MN 1.060 P .010 S .016 SI .180 NI .040 CU .150 CO .004 CR .050 MO .020 V .004 AL .024 NB .010 CE(LONG FORMULA) = 0.39 T/S 74750 Y/S 52875 EL 33.60 RA 71.40 BRINELL HARDNESS1: 139 HARDNESS2: 135
055	6	56293	7551126 18-12X2 XS A105N WELD B C .190 MN 1.020 P .011 S .020 SI .240 NI .020 CU .100 CO .002 CR .040 MO .007 V .025 AL .001 NB .000 CE(LONG FORMULA) = 0.38 T/S 77375 Y/S 51125 EL 31.10 RA 67.70 BRINELL HARDNESS1: 141 HARDNESS2: 139
059	100	55747	7551622 2X1 3M A105N THRD T C .200 MN 1.020 P .012 S .023 SI .250 NI .040 CU .180 CR .040 MO .011 V .025 NB .000 CE(LONG FORMULA) = 0.40 T/S 77000 Y/S 54250 EL 32.65 RA 65.85 BRINELL HARDNESS1: 150 HARDNESS2: 150

***** 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.

CMTR: REV 1

CONFORMS TO SA	105N
YEAR	2004-07-2005
JOB #	2006-7578-50
ITEM #	21
SIGNED BY	AL 06-03-06

by 
Cris Childers

QUALITY PROCESS MANAGER

HEAT NUMBER : 56645
TRANS AM PIPING PRODUCTS - REV'D BY: JB
S 6 - 1020 3

1X3-36 3000# FS THREADED PIPET
A105N



Manufacturer of Piping & Pressure Vessel Components

4407 Haygood St - Houston, TX 77012
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

MTR #: 103927

PO #: CI-05-820

SALES ORDER #: C512295 DATE: 01/06/2006

CERTIFIED MATERIAL TEST REPORT

HEAT CODE: 56645

MATERIAL: A/SA105N 01

ITEM Quantity

13

Description

36 - 3 X 1 3000 THP
A/SA105N

CHEMICAL COMPOSITION:

LADLE	C	MN	P	S	SI	CU	NI	CR
	0.190	1.100	0.010	0.019	0.210	0.120	0.040	0.040
	MO	V	NB					
	0.020	0.000	0.014					

CARBON EQUIVALENCY: LADLE 0.396

MECHANICAL PROPERTIES:

	TENSILE PSI	YIELD PSI	ELONG %	RA %	HARDNESS
PRODUCT	75,750	52,125	33.00%	69.00%	132 BHN 137 BHN

Normalized

Marie Dehmer
Quality Assurance Representative

CONFORMS TO SA	105N
YEAR	2004 A-2005
JOB	7578-50
ITEM #	22
SIGNED BY	06-2-24

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICATE D'ENTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

ORDINE
Purchase order
Commande

45000174

125-001

COMMESSA
Job N.
Confirmation de commande

75840

26.4 109646

PROVA Test Epreuve	ANALISI E REQUISITI / Analyses et exigences	COLATA Heat / Coulee	C %	Si %	Mn %	S %	Cr %	Ni %	Mo %	1 %	Cu %	V %	Al %	CE %	
URS	ASTM A105/02	AQ3708	0.190 ---->	0.190 Nb % = 0.000	0.880	0.007	0.008	00.10	00.10	0.030	0.100	0.220	0.000	0.008	0.383
BDA	ASTM A105/02	4497/04	0.170 ---->	0.190 Nb % = 0.001	0.980	0.010	0.009	00.07	00.10	0.018	0.105	0.180	0.005	0.023	0.369
URC	ASTM A105/02	4497/04	0.170 ---->	0.190 Nb % = 0.001	0.980	0.010	0.009	00.07	00.10	0.018	0.100	0.180	0.001	0.023	0.369
LS	ASTM A105/02	4498/04	0.170 ---->	0.160 Nb % = 0.001	0.940	0.009	0.008	00.08	00.11	0.022	0.100	0.200	0.001	0.020	0.367
BB	ASTM A105/02	4498/04	0.170 ---->	0.160 Nb % = 0.001	0.940	0.009	0.035	00.08	00.11	0.022	0.100	0.200	0.000	0.020	0.367
DN	ASTM A105/02	7298/04	0.160 ---->	0.180 Nb % = 0.003	0.920	0.010	0.011	00.09	00.09	0.024	0.100	0.220	0.002	0.026	0.357

PROVA Test Epreuve	PROVITA Test specimen / Epreuve		SNERVAMENTO N/mm ² Yield point Limite d'élasticité	ROTTURA N/mm ² Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHIACC. Flat. test Aplattiss.	RESILIENZA Impact test / Résilience			
	SEZIONE Section / Sec.	LUNGHEZZA Length / Longueur								UNITÀ M.S. Unit syst. m	TIPO Type	T °C Test temp	VALORE / Value / Données
URS	1	30.6	25.0	362.0	556.0	26.8	60.1	179-184		J	KV	0	46-44-40
BDA	1	40.1	35.0	315.0	521.0	28.5	66.2	149-156		J	KV	0	46-44-46
URC	1	30.6	25.0	313.0	531.0	29.4	66.9	149-156	OK	J	KV	0	44-48-46
LS	1	30.6	25.0	325.0	543.0	29.6	67.4	150-160		J	KV	-5	48-50-44
BB	1	30.6	25.0	298.0	513.0	30.3	68.6	146-153		J	KV	0	42-48-38
DN	1	30.6	25.0	313.0	536.0	28.2	65.6	154-159		J	KV	0	46-36-38

PROVA Test Epreuve EN10204/3.1

URS	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.125.04 EVASI*247555 MEGA*
BDA	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.02.05 EVASI*247572 MEGA*
URC	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.114.04 EVASI*247541 MEGA*
LS	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.75.04 EVASI*247481 MEGA*
BB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.81.04 EVASI*247496 MEGA*
DN	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.07.05 EVASI*247582 MEGA*

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
URS	025	1676	23725	MEGALET S. 3000 NPT A/SA105N 1/2x3-36	OK
BDA	025	274	23725	MEGALET S. 3000 NPT A/SA105N 1/2x3-36	OK
URC	026	1650	23732	MEGALET S. 3000 NPT A/SA105N 3/4x4-36	OK
LS	027	111	23711	MEGALET S. 3000 NPT A/SA105N 1x2-2-1/2	OK
BB	026	111	23723	MEGALET S. 3000 NPT A/SA105N 1x1-5	OK
DN	028	111	23723	MEGALET S. 3000 NPT A/SA105N 1x1-5	OK

CONFORMING TO SA 105N

YEAR 2004 A-2005

JOB # 7578-50

ITEM # 23

SIGNED BY 06-2-240

NOTE / Remarks / Notes

ENTE UFFICIALE DI COLLAUDO
Inspection Authority
Service Inspection Officiel

CAPO COLLAUDO
Chief Inspection OPT
Responsable assurance qualité

MATERIAL ACCORDING TO NACE MR0175-03
AND "SOUR SERVICE".

DOC. CERT. N. 2. A
Sergio Apptani

MEGA

CUSTOMER
Client
VAN LEEUWEN PIPE & TUBE
(CANADA) INC.
2875-64th AVENUE
EDMONTON, ALBERTA T6B 1R1

CERTIFICATE NO. 251913
Certificat N°
DATA / Date 14/12/04

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

ORDER
Purchase order
Commande 43126688

CONNE: 1A 73748
Job N°
Confirm Bon de commande

P6.4 107646

PROVA Test	MATERIALE Material	COLATA Heat / Cooled	C%	S%	Mn%	S%	P%	Si%	N%	Mo%	Ti%	CL%	V%	AT%	CE%
1015	A350/001 LF2 CL1	74808	0.190	0.250	0.910	0.004	0.009	0.006	0.006	0.010	0.022	0.170	0.019	0.021	0.374
1016	A350/024 LF2 CL1	03830	0.130	0.260	1.200	0.003	0.007	0.009	0.012	0.040	0.007	0.200	0.037	0.030	0.384
1017	A350/024 LF2 CL1	17436	0.185	0.250	0.860	0.003	0.010	0.026	0.012	0.030	0.002	0.360	0.002	0.025	0.418
1018	A350/001 LF2	A03944	0.200	0.250	0.950	0.002	0.008	0.003	0.007	0.020	0.000	0.120	0.000	0.025	0.380
1019	ASTM A105N/01	AR0003	0.200	0.250	0.960	0.008	0.008	0.006	0.008	0.020	0.000	0.180	0.000	0.024	0.393
1020	ASTM A105N/01	129809	0.172	0.216	1.070	0.005	0.008	0.009	0.016	0.025	0.000	0.274	0.001	0.035	0.402

PROVA Test	PROVETTA Test specimen / Epreuve	SNERAMENTO Yield point Limite d'élasticité	ROTTURA Tensile strength Rupture	ALLUNGAMENTO Elongation Allongement	CONTRAZIONE Reduction of area Striction	DUREZZA Hardness Dureté	MEGA Send test Phage	SCHAC Flat test Appliss	RESILLENZA Impact test / Résilience
1015	30.8 x 25.0	372.0	534.0	30.0	66.1	156-163			KV -50 74-78-68
1016	30.8 x 25.0	327.0	500.0	31.7	72.0	150-152			KV -50 210-100-290
1017	30.8 x 25.0	402.5	577.0	32.0	73.2	179-183			KV -54 172-176-188
1018	30.8 x 25.0	374.0	565.0	27.2	62.4	163-170			KV -50 58-64-64
1019	30.8 x 25.0	317.0	531.0	28.8	67.4	149-156			KV 0 52-50-52
1020	30.8 x 25.0	306.0	534.0	29.2	65.8	149-156			KV 0 44-52-38

EN10204/3.1B ** DIN 50049 3.1B

FORMA
Shape / Forme 1 = 0 2 = 1

ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.25.03 EVASI*236859 MEGA
ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /38489.01 ABS*209484 MEGA*NB= .013*SP=.012*B=.00114
ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.185.04 JSMA*247487 MEGA*
ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.04.04 EVASI*241964 MEGA
ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.76.04 EVASI*247491 MEGA*
ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.117.02 EVASI*209850 MEGA

POS. Pos.	QUANTITA' Quantity	CODICE CLIENTE Customer code	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
017	35	25094	UNION (MALE+FEMALE+NUT) S. 6000 NPT LF2 CL1 3/4	OK
018	6	22302	CAP S. 3000 NPT LF2 CL1 1	OK
019	60	27001	90 DEG. ELBOW S. 3000 SW LF2 CL1 1	OK
020	10	27001	MEGALET Sch.160 LF2 CL1 1x4 -24	OK
021	10	27001	MEGALET S. 3000 NPT A/SA105N 1/2x3-36	OK
022	10	27001	MEGALET S. 3000 NPT A/SA105N 3/4x4-36	OK
023	10	27001	MEGALET S. 3000 NPT A/SA105N 3/4x4-36	OK

COMPLIES WITH
SOUR SERVICE:
APPROVED BY



QUALITY ASSURANCE

DATE: 1 Mar 05

COMPLIES WITH
CSA Z245.11 Gr.241 CUI

CONFORMING TO SA 105N
YEAR 2004 A-2005
JOB # 7578-50
ITEM # 24
SIGNED BY 06-2-24

NOTE / Remarks / Notes

EMERGENCY SERVICE
Emergency Service
Service d'urgence

CAP. COLLAUDO
Chief of position DPT
Responsable

MAINTENANCE ACCORDING TO PAGE MR0175-03
AND "SOUR SERVICE".

DOC. CERT. M.E.G.A.
001910-001911

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

PRODUCTION EQUIPMENT LTD.

CUSTOMER: <u>CORDERO</u>		DESCRIPTION: <u>HOOKUP 24" SWEET DEHY UNIT</u>	ALCO JOB NUMBER: <u>2006-757856</u>
DATE: <u>MAR 1, 2006</u>	TECHNIQUE # USED: <u>RT P#2</u>	CODE: <u>B31-3</u>	
MATERIAL: <u>P1</u>	MAT'L THICKNESS: <u>Sd 80</u>	EDITION: <u>2004</u> ADDENDA: <u>-</u>	
		ACCEPTANCE: <u>5% RAN P.M.</u>	

LEGEND:	* - WELDER SYMBOL	HL - HI LO	S - SLAG	CRACK
	IP - INCOMPLETE PENETRATION	LC - LOW COVER	P - POROSITY	(1) SLIGHT
	BT - BURN THROUGH	UC - UNDER CUT	I - ICICLE	(2) MEDIUM
	IC - INTERNAL CONCAVITY	AS - ARC STRIKE	C - CRATER	(3) SEVERE

[illegible]

SOURCE TYPE: <u>IR192</u>		COSTING		Hrs.	@					
STRENGTH: <u>450</u>				8" Film	@					
S.F.D.: <u>2 3/8</u>				17" Film	@					
O.F.D.: <u>218"</u>				pipe	@					
FILM TYPE: <u>AGFA D40</u>		<u>1</u>	<u>4" SL 80</u>	pipe	@					
FOCAL SPOT SIZE: <u>.11"</u>		<u>4</u>	<u>2" SL 80/10</u>	pipe	@					
NO. OF FILM PER CASSETTE <u>1</u>				pipe	@					
COMMENTS: <u>SINGLE WALL VIEWING.</u>				TOTAL EXPOSURES: <u>15</u>						
				TOTAL COSTS						
PAGE	<u>1</u>	OF	<u>1</u>	INSPECTOR	<u>[Signature]</u>	LEVEL	<u>II</u>	ASNT	<u>II</u>	CGSB

PRODUCTION EQUIPMENT LTD.

CUSTOMER: <u>CORDERO</u>		DESCRIPTION: <u>HOOKUP 24" SWEET DEHY UNIT</u>	ALCO JOB NUMBER: <u>2006-7578-50</u>
DATE: <u>MAR 1, 2006</u>	TECHNIQUE # USED: <u>RT P#2.</u>	CODE: <u>B31-3</u>	
MATERIAL: <u>PI</u>	MAT'L THICKNESS: <u>Sd 80</u>	EDITION: <u>2004</u> ADDENDA: <u>-</u>	
		ACCEPTANCE: <u>5% RANDOM.</u>	

LEGEND:	* - WELDER SYMBOL	HL - HI LO	S - SLAG	CRACK
	IP - INCOMPLETE PENETRATION	LC - LOW COVER	P - POROSITY	(1) SLIGHT
	BT - BURN THROUGH	UC - UNDER CUT	I - ICICLE	(2) MEDIUM
	IC - INTERNAL CONCAVITY	AS - ARC STRIKE	C - CRATER	(3) SEVERE

[illegible]

SOURCE TYPE: <u>IR192</u>		COSTING		Hrs.	@	
STRENGTH: <u>45ca</u>			8" Film	@		
S.F.D.: <u>4 1/2"</u>			17" Film	@		
O.F.D.: <u>.331"</u>		<u>3 4" S/L 80</u>	pipe	@		
FILM TYPE: <u>AGFA D40</u>			pipe	@		
FOCAL SPOT SIZE: <u>.11"</u>			pipe	@		
NO. OF FILM PER CASSETTE <u>1</u>			pipe	@		
COMMENTS: <u>SINGLE WALL VIEWING.</u>			TOTAL EXPOSURES: <u>9</u>			
PAGE <u>1</u> OF <u>1</u>			INSPECTOR <u>[Signature]</u>		LEVEL <u>II</u> ASNT <u>II</u> CGSB	
					TOTAL COSTS	

LEGEND:	* - WELDER SYMBOL	HL - HI LO	S - SLAG	CRACK
	IP - INCOMPLETE PENETRATION	LC - LOW COVER	P - POROSITY	(1) SLIGHT
	BT - BURN THROUGH	UC - UNDER CUT	I - ICICLE	(2) MEDIUM
	IC - INTERNAL CONCAVITY	AS - ARC STRIKE	C - CRATER	(3) SEVERE

[illegible]ALCO - 004

CUSTOMER: CORDERO	DESCRIPTION: HOOKEUP 24 " SWEET DEHY UNIT	ALCO JOB NUMBER: 2006-7578-50
DATE: MAR 14, 2006	TECHNIQUE # USED: RT P#2.	CODE: B31.3
MATERIAL: P1	MAT'L THICKNESS: SELF	EDITION: 2004 ADDENDA: -
		ACCEPTANCE: 5% RANDOM.

LEGEND:	* - WELDER SYMBOL	HL - HI LO	S - SLAG	CRACK
	IP - INCOMPLETE PENETRATION	LC - LOW COVER	P - POROSITY	(1) SLIGHT
	BT - BURN THROUGH	UC - UNDER CUT	I - ICICLE	(2) MEDIUM
	IC - INTERNAL CONCAVITY	AS - ARC STRIKE	C - CRATER	(3) SEVERE

[illegible]

SOURCE TYPE: <u>IR192</u>		COSTING		Hrs.	@					
STRENGTH: <u>40ci</u>			8" Film	@						
S.F.D.: <u>2 3/8"</u>			17" Film	@						
O.F.D.: <u>2 1/8"</u>		<u>1</u>	<u>2" S.L 80</u>	pipe	@					
FILM TYPE: <u>AGFA D40</u>			pipe	@						
FOCAL SPOT SIZE: <u>.11'</u>			pipe	@						
NO. OF FILM PER CASSETTE <u>1</u>			pipe	@						
COMMENTS: <u>RT P#2 SINGLE WALL VIEWING.</u>				TOTAL EXPOSURES:	<u>3</u>					
						TOTAL COSTS				
PAGE	<u>1</u>	OF	<u>1</u>	INSPECTOR	<u>[Signature]</u>	LEVEL	<u>IR</u>	ASNT	<u>IR</u>	CGSB



MERCER VALVE CANADA

TEST REPORT

BRANCH: Edmonton

Work Order: 407345

Serial #: 215250

Customer PO#: 110751

Date: 2/23/2006

Facility: EDMONTON

LSD:

A#:

Cust. Ref.: JOB # 7578-50 A / 7554-02 A / T-710

Customer: Alco Gas and Oil

PSV Location:

Cust Id: PSV-710

Valve PO: 110751

VALVE DATA

Man.: Mercer

Model: 8134251P27G21

Serial: 215250

Conn: Threaded

Inlet: 1.5 inch MNPT

Orifice: .472

Outlet: 2 inch FNPT

Set Pres: 1440 PSI

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 11527 SCFM

Lift Lever: ☐

Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: 0G8841.5C

CUSTOMER INSTRUCTIONS

Valve Instruct. Reset Only

Instructions: Sold New Valve

Reset Required? ☒

RESET INFORMATION: New Pressure: 1415 PSI

New Cold/Diff Set:

New Capacity: 11328 SCFM

COMPONENTS INSPECTION

Components Installed

Components Removed

New Model #:

Spring #: 05-027

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly:

Inspection: Rod Melnychuk

Reassembly:

FINAL TEST:

Test Medium: Air

Simmer: 1410 PSI

Set Pressure: 1415 PSI

Reseat: 1270 PSI

Leakage: 0 BPM

B.P. Test: 60 PSI

Cold/Diff Set: N/A PSI

Test Gauge: MVE-09

Tested by: Clint Finkbeiner

FINAL INSPECTION:

SEAL Installed: ☒

End Protectors Installed: ☒

Painted: ☐

Palletized: ☐

Ship Container: ☒

Flex Gaskets Supplied: ☐

Final Inspection: Rod Melnychuk

Customer Inspection

INSPECTION ID#: 5606

Comments:

**MERCER VALVE CANADA****TEST REPORT**

BRANCH: Edmonton

Serial #: 233399

Work Order: 407345

Customer PO#: 110751

Date: 2/23/2006

Customer: Alco Gas and Oil

Facility: EDMONTON

LSD:

PSV Location:

A#:

Cust Id: PSV-711

Cust. Ref.: JOB#7578-50 A

Valve PO: 110751

VALVE DATA

Man.: Mercer

Model: 9134H51T82U1

Serial: 233399

Conn: Threaded

Inlet: 1.5 inch MNPT

Orifice: .865

Outlet: 2 inch FNPT

Set Pres: 300 PSI

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 4474 SCFM

Lift Lever: ☐

Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: 0G8841.5C

CUSTOMER INSTRUCTIONS

Valve Instruct. Modify

Instructions: Sold New Valve

Reset Required?



RESET INFORMATION: New Pressure: 150 PSI

New Cold/Diff Set:

New Capacity: 2332 SCFM

COMPONENTS INSPECTION**Components Installed**

2H1V1U1 VITON KIT

05-080 STD.SPRING

Components Removed

2H1T1U1 TEFLON KIT

05-082 STD.SPRING

New Model #: 9134H51V80U1

Spring #: 05-080

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly: Clint Finkbeiner

Inspection: Clint Finkbeiner

Reassembly: Clint Finkbeiner

FINAL TEST:

Test Medium: Air

Simmer: 148 PSI

Set Pressure: 150 PSI

Reseat: 133 PSI

Leakage: 0 BPM

B.P. Test: 60 PSI

Cold/Diff Set: N/A PSI

Test Gauge: MVE-05

Tested by: Clint Finkbeiner

FINAL INSPECTION:SEAL Installed: ☒End Protectors Installed: ☒Painted: ☐Palletized: ☐Ship Container: ☒Flex Gaskets Supplied: ☐

Final Inspection: Rod Melnychuk

Customer Inspection

INSPECTION ID#: 5611

Comments:



MERCER VALVE CANADA

TEST REPORT

BRANCH: Edmonton

Work Order: 407345

Serial #: 222171

Customer PO#: 110751

Date: 2/23/2006

Facility: EDMONTON

LSD:

A#:

Cust. Ref.: JOB#7578-50 A / 7517-013 / V-110

Customer: Alco Gas and Oil

PSV Location:

Cust Id: PSV-110

Valve PO: 110751

VALVE DATA

Man.: Mercer

Model: 8117151V09G11

Serial: 222171

Conn: Threaded

Inlet: 1 inch MNPT

Orifice: .212

Outlet: 1 inch FNPT

Set Pres: 150 PSI

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 557 SCFM

Lift Lever: ☐

Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: 0G8841.5C

CUSTOMER INSTRUCTIONS

Valve Instruct. Reset Only

Instructions: Sold New Valve

Reset Required? ☒

RESET INFORMATION: New Pressure: 125 PSI

New Cold/Diff Set:

New Capacity: 472 SCFM

COMPONENTS INSPECTION

Components Installed

Components Removed

New Model #:

Spring #: 05-009

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly:

Inspection: Rod Melnychuk

Reassembly:

FINAL TEST:

Test Medium: Air

Simmer: 124 PSI

Set Pressure: 125 PSI

Reseat: 111 PSI

Leakage: 0 BPM

B.P. Test: 60 PSI

Cold/Diff Set: N/A PSI

Test Gauge: MVE-06

Tested by: Clint Finkbeiner

FINAL INSPECTION:

SEAL installed: ☒

End Protectors Installed: ☒

Painted: ☐

Palletized: ☐

Ship Container: ☒

Flex Gaskets Supplied: ☐

Final Inspection: Rod Melnychuk

Customer Inspection

INSPECTION ID#: 5607

Comments:



MERCER VALVE CANADA

TEST REPORT

BRANCH: Edmonton

Work Order: 407345

Serial #: 212454

Customer PO#: 110751

Date: 2/23/2006

Facility: EDMONTON

LSD:

Customer: Alco Gas and Oil

PSV Location:

A#:

Cust Id: PSV-910

Cust. Ref.: JOB# 7578-50 A / FL-910

Valve PO: 110751

VALVE DATA

Man.: Mercer

Model: 9112D51V07E1

Serial: 212454

Conn: Threaded

Inlet: .75 inch MNPT

Orifice: .122

Outlet: 1 inch FNPT

Set Pres: 150 PSI

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 329 SCFM

Lift Lever: ☐

Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: 0G8841.5C

CUSTOMER INSTRUCTIONS

Valve Instruct. Modify

Instructions: Sold New Valve

Reset Required? ☒

RESET INFORMATION: New Pressure: 25 PSI

New Cold/Diff Set:

New Capacity: 78 SCFM

COMPONENTS INSPECTION

Components Installed

05-003 STD.SPRING

Components Removed

05-007 STD.SPRING

New Model #: 9112D51V03E1

Spring #: 05-003

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly: George J. Roach

Inspection: George J. Roach

Reassembly: George J. Roach

FINAL TEST:

Test Medium: Air

Simmer: 24 PSI

Set Pressure: 25 PSI

Reseat: 21 PSI

Leakage: 0 BPM

B.P. Test: 60 PSI

Cold/Diff Set: N/A PSI

Test Gauge: MVE-02.2

Tested by: Clint Finkbeiner

FINAL INSPECTION:

SEAL Installed: ☒

End Protectors Installed: ☒

Painted: ☐

Palletized: ☐

Ship Container: ☒

Flex Gaskets Supplied: ☐

Final Inspection: Rod Melnychuk

Customer Inspection

INSPECTION ID#: 5608

Comments:



MERCER VALVE CANADA

TEST REPORT

BRANCH: Edmonton

Work Order: 407336

Serial #: 210169

Customer PO#: 110751

Date: 2/21/2006

Facility: EDMONTON

LSD:

A#:

Cust. Ref.: JOB#7578-50 B / 7529-01 B / T-710

Customer: Alco Gas and Oil

PSV Location:

Cust Id: PSV-710

Valve PO: 110751

VALVE DATA

Man.: Mercer

Model: 8134251P27G21

Serial: 210169

Conn: Threaded

Inlet: 1.5 inch MNPT

Orifice: .472

Outlet: 2 inch FNPT

Set Pres: 1440 PSI

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 11527 SCFM

Lift Lever: ☐

Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: 0G8841.5C

CUSTOMER INSTRUCTIONS

Valve Instruct. Reset Only

Instructions: Sold New Valve

Reset Required? ☒

RESET INFORMATION: New Pressure: 1415 PSI

New Cold/Diff Set: N/A

New Capacity: 11328 SCFM

COMPONENTS INSPECTION

Components Installed

Components Removed

New Model #:

Spring #: 05-027

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly:

Inspection: Rod Melnychuk

Reassembly:

FINAL TEST:

Test Medium: Air

Simmer: 1409 PSI

Set Pressure: 1415 PSI

Reseat: 1268 PSI

Leakage: 0 BPM

B.P. Test: 60 PSI

Cold/Diff Set: N/A PSI

Test Gauge: MVE-09

Tested by: George J. Roach

FINAL INSPECTION:

SEAL Installed: ☒

End Protectors Installed: ☒

Painted: ☐

Palletized: ☐

Ship Container: ☒

Flex Gaskets Supplied: ☐

Final Inspection: Rod Melnychuk

Customer Inspection

INSPECTION ID#: 5582

Comments:



MERCER VALVE CANADA

TEST REPORT

BRANCH: Edmonton

Work Order: 407336

Serial #: 225521

Customer PO#: 110751

Date: 2/21/2006

Facility: EDMONTON

A#:

Cust. Ref.: JOB#7578-50 B

Customer: Alco Gas and Oil

PSV Location:

Cust Id: PSV-711

Valve PO: 110751

LSD:

VALVE DATA

Man.: Mercer

Model: 9134H51V80U1

Serial: 225521

Conn: Threaded

Inlet: 1.5 inch MNPT

Orifice: .865

Outlet: 2 inch FNPT

Set Pres: 150 PSI

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 2332 SCFM

Lift Lever: ☐

Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: 0G8841.5C

CUSTOMER INSTRUCTIONS

Valve Instruct. Factory Set

Instructions: Sold New Valve

Reset Required? ☐

RESET INFORMATION: New Pressure:

New Cold/Diff Set:

New Capacity:

COMPONENTS INSPECTION

Components Installed

Components Removed

New Model #:

Spring #: 05-080

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly:

Inspection: Rod Melnychuk

Reassembly:

FINAL TEST:

Test Medium:

Simmer:

Set Pressure:

Reseat:

Leakage: BPM

B.P. Test:

Cold/Diff Set:

Test Gauge:

Tested by:

FINAL INSPECTION:

SEAL Installed: ☒

End Protectors Installed: ☒

Painted: ☐

Palletized: ☐

Ship Container: ☒

Flex Gaskets Supplied: ☐

Final Inspection: Rod Melnychuk

Customer Inspection

INSPECTION ID#: 5591

Comments:



MERCER VALVE CANADA

TEST REPORT

BRANCH: Edmonton

Work Order: 407336

Serial #: 222170

Customer PO#: 110751

Date: 2/21/2006

Facility: EDMONTON

LSD:

A#:

Cust. Ref.: JOB#7578-50 B/7517-DIB/V-110

Customer: Alco Gas and Oil

PSV Location:

Cust Id: PSV-110

Valve PO: 110751

VALVE DATA

Man.: Mercer

Model: 8117151V09G11

Serial: 222170

Conn: Threaded

Inlet: 1 inch MNPT

Orifice: .212

Outlet: 1 inch FNPT

Set Pres: 150 PSI

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 557 SCFM

Lift Lever: ☐

Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: 0G8841.5C

CUSTOMER INSTRUCTIONS

Valve Instruct. Reset Only

Instructions: Sold New Valve

Reset Required? ☒

RESET INFORMATION: New Pressure: 125 PSI

New Cold/Diff Set:

New Capacity: 472 SCFM

COMPONENTS INSPECTION

Components Installed

Components Removed

New Model #:

Spring #: 05-009

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly:

Inspection: Rod Melnychuk

Reassembly:

FINAL TEST:

Test Medium: Air

Simmer: 123 PSI

Set Pressure: 125 PSI

Reseat: 111 PSI

Leakage: 0 BPM

B.P. Test: 60 PSI

Cold/Diff Set: N/A PSI

Test Gauge: MVE-05

Tested by: George J. Roach

FINAL INSPECTION:

SEAL Installed: ☒

End Protectors Installed: ☒

Painted: ☐

Palletized: ☐

Ship Container: ☒

Flex Gaskets Supplied: ☐

Final Inspection: Rod Melnychuk

Customer Inspection

INSPECTION ID#: 5583

Comments:

**MERCER VALVE CANADA****TEST REPORT**

BRANCH: Edmonton

Serial #: 212450

Work Order: 407336

Customer PO#: 110751

Date: 2/21/2006

Facility: EDMONTON

LSD:

Customer: Alco Gas and Oil

PSV Location:

A#:

Cust Id: PSV-910

Cust. Ref.: JOB#7578-50 B / FL-910

Valve PO: 110751

VALVE DATA

Man.: Mercer

Model: 9112D51V07E1

Serial: 212450

Conn: Threaded

Inlet: .75 inch MNPT

Orifice: .122

Outlet: 1 inch FNPT

Set Pres: 150 PSI

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 329 SCFM

Lift Lever: ☐

Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: 0G8841.5C

CUSTOMER INSTRUCTIONS

Valve Instruct. Modify

Instructions: Sold New Valve

Reset Required? ☒

RESET INFORMATION: New Pressure: 25 PSI

New Cold/Diff Set:

New Capacity: 78 SCFM

COMPONENTS INSPECTION**Components Installed**

05-003 STD.SPRING

Components Removed

05-007 STD.SPRING

New Model #: 9112D51V03E1

Spring #: 05-003

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly: George J. Roach

Inspection: George J. Roach

Reassembly: George J. Roach

FINAL TEST:

Test Medium: Air

Simmer: 24 PSI

Set Pressure: 25 PSI

Reseat: 20 PSI

Leakage: 0 BPM

B.P. Test: 60 PSI

Cold/Diff Set: N/A PSI

Test Gauge: MVE-02.2

Tested by: George J. Roach

FINAL INSPECTION:SEAL Installed: ☒End Protectors Installed: ☒Painted: ☐Palletized: ☐Ship Container: ☒Flex Gaskets Supplied: ☐

Final Inspection: Rod Melnychuk

Customer Inspection

INSPECTION ID#: 5584

Comments:

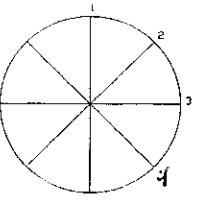
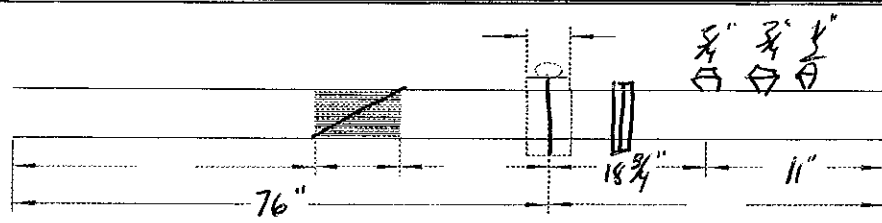
Phase # : 2006-7578-02A
Phase Title: 4" Meter Run

TABLE OF CONTENTS

Title	Availability	
	Yes	No
1. Data Reports	X	
2. CRN's		N/A
3. Nameplate Copy	X	
4. Travel Sheet	X	
5. Impact Test Reports		N/A
6. Material Control	X	
7. Material Reports	X	
8. MTR's	X	
9. NDE MPT		N/A
LPT		N/A
RADIOGRAPHY	X	
ULTRA SONIC		N/A
10. Stress Relieve Charts		N/A
11. Hydrotest Report(s)	X	
12. Hydro Chart		N/A
13. PSV & Valve Cert.		N/A

ALCO Gas & Oil Production Equipment Ltd

ORIFICE METER TUBE INSPECTION REPORT

For: CORDERO ENERGY						Report No #4664		District EDMONTON				
						Date: MAR 19 2006						
Nominal Pipe Size 4.000"		Published Inside Diam. 3.826"		Tolerance for 0.7 Beta Factor 0.01913/0.03826		Diameter Max 3.836" Min 3.816"						
B Factor if Less than 0.7		If Less ,Max. Orifice Plate for Run		Meter Run Marked ID 3.824/3.825		Plate That May be Used Max. 2.625" Min 0.625"						
		MEASUREMENTS OF INSIDE TUBE DIAMETERS & SURFACE ROUGHNESS <i>Note: When the tube is made up of more than one part, such as a pipe, a flange, and a fitting the 2nd and 3rd diameter measurements should be made in the different parts or the equivalent</i>										
UPSTREAM						DOWNSTREAM						
POSITION	1" from Plate		2nd Diameter		3rd Diameter		1" From Plate		2nd Diameter		3rd Diameter	
	Diam	Roughness	Diam	Roughness	Diam	Roughness	Diam	Roughness	Diam	Roughness	Diam	Roughness
1	3.823"		3.827"		3.825"		3.824"		3.820"		3.825"	
2	3.823"		3.824"		3.822"		3.827"		3.822"		3.826"	
3	3.822"		3.829"		3.823"		3.823"		3.824"		3.824"	
4	3.824"		3.822"		3.822"		3.824"		3.824"		3.822"	
Avarage	3.823"		3.826"		3.823"		3.825"		3.823"		3.825"	
Total Avarage	UPSTREAM						DOWNSTREAM					
	Diameter		Roughness				Diameter		Roughness			
	3.824"						3.825"					
B Factor if Results Makes it Less than 0.7								Fitting CANALTA SENIOR		Serial No. DO40294		
TAP MEASUREMENTS						Fitting Marked I.D.						
Up : 1.000"		Down: 1.000"										
Vanes N/A		Drain Taps ON FITTING				Therm. Taps 3/4"-3/4"-1/2"		Pipe Wall Thickness 80				
DIMENSIONS SKETCH												
Results: A.G.A. Figure (2-7)						Code API 1991 -3rd Edition		Custody Transfer No *				
						API 2000 - 4th Edition		Yes				
Remarks 7578-02 A						Gives B Factor of: 0.70 BATA RATIO						
						Inspector Name & Signiture BARRY RASMUSSEN						

 GAS & OIL PRODUCTION EQUIPMENT LTD. EDMONTON, ALBERTA		A.G.A. RECOMMENDATIONS GUARANTEED		SER. NO. 2006-7578-02A
AVR. INT. DIA.	UPSTREAM	MAX. ORIFICE SIZE	DOWNSTREAM	
PIPE SIZE 200	SCH. 40	E & G INSPECTION		
A.G.A. CASE	FOR d/D	DEPT. CONSUMER & CORP. AFFAIRS		
DRWG. NO.	DATE	ALCO		

2006-7578-02A

2006-7578-50A

TRAVEL SHEET

Authorized Inspector (Signature) _____

Date _____

CUSTOMER / LOCATION		SERIAL NUMBER / UNIT		(A) NUMBER / CRN			
CORDERO ENERGY		2006-7578-02A		B-2006-7578-02-001/001			
MALMO							
ITEMS: 4" 600# METER RUN C/W CANALTA SENIOR "FLANGWELD" ORIFICE FITTING SCH80		COMMENTS:		INITIALS			
				HOLD QC	CUSTOMER HOLD (AGENT)		HOLD A.I.
Repair Procedure Approved							
Approved Drawings							
Material Checked Against Drawing Bill of Material		REVIEWED		<i>h</i>			
Mill Test Checked		REVIEWED		<i>h</i>			
Impact Test							
Unit Layout				<i>h</i>			
Weld Procedure Approved		REVIEWED		<i>h</i>			
Welder(s) Qualifications		REVIEWED		<i>h</i>			
Fit-Up: Shell & Heads							
Nozzles & Fittings							
Internals							
Externals							
Connections: Location							
Rating		600# 3000#		<i>h</i>			
Internal Inspection				<i>h</i>			*
Internals Installed							
Weld Profile, Sizes & ID		CHECKED		<i>h</i>			
Radiographs							*
Other NDE							
Stamping							
External Upon Completion of Welding, when PWHT		CHECKED		<i>h</i>			*
Alternative Test							
PWHT Charts Checked		N/R					
Hydrostatic Test/Chart		2123 PSIG <i>K17, K19</i>		<i>h</i> <i>MAR 24/06</i>			*
MDR							
Name Plate							

PART	MATERIAL SPEC	THICKNESS	HEAT NO.	PART	MATERIAL SPEC	THICKNESS	HEAT NO.
Heads				Repads			
Shell							
				Tubes			
Tubesheet							

* INDICATES HOLD POINTS TO BE SIGNED OFF BY THE APPLICABLE INSPECTOR.

ALCO
III

SERIAL NUMBER: 2006-7578-02A
CUSTOMER: CORDERO ENERGY
DATE: FEBRUARY 22, 2006

MATERIAL CONTROL & NDE LIST

NONDESTRUCTIVE TESTING WHEN REQUIRED

[illegible]

Bill

MAR 21 06

TYPE OF VESSEL:

TITLE	DIA.

ITEM NO:

HEAT NO:

SLAB NO. -

MAT'1 SPEC

85 N

77

34

3168

316071 ✓

0 101-113

107

SHELL:

PADS:

SKIRT:

SADDLES:

7578-02x2

1

Navy

31

374

 Q_c

3RUNNING 40-105

DWG. D-2900

OIL & GAS PRODUCTION EQUIPMENT LTD

MATERIAL REPORT

98/814

Appendix L



Orifice Body / Meter Run Test Report

Serial #: D040294 Lower Housing Heat #: 2563B
Line Size: 4" Schedule: 80 Top Housing Heat #: 805C
Material: WCB Flange Type: RFFW Date: Mar. 2/06
Length: 13 1/4" ANSI Class: 600
Customer: ALCO Customer PO#: 110667-7578-02

TEST TYPE	V	LV	RV	H	INT	Q.C.
a) 1 Diameter From Upstream Weldpoint						
b) Upstream Weldpoint						
c) 1 Diameter From Upstream Tap Location	3.825	4	4	3.825	ET	
d) 1" From Upstream Orifice Plate	3.824	4	4	3.824	ET	
e) 1" From Downstream Orifice Plate	3.827	4	4	3.827	ET	
f) 1 Diameter From Downstream Tap Location	3.825	4	4	3.825	ET	
g) Downstream Flange						
h) Downstream Weldpoint						
i) 1 Diameter From Downstream Weldpoint						

Average Diameter @ 1" U/S (D/M) = 3.824 (DR) = Temperature: 60

Roughness Test: C: 60 D: 60 E: 60 F: 60 Average: 60

Pressure Tap Test Results:

TAP SIZE (+/- .015")

☐ 0.375"

☒ 0.500"

	Tap Size		Tap Location		Tap Pressure Test	
	Pass	Fail	Pass	Fail	Pass	Fail
Top U/S Left	✓		✓		✓	
Top U/S Right	✓		✓		✓	
Top D/S Left	✓		✓		✓	
Top D/S Right	✓		✓		✓	
Bott. U/S Left						
Bott. U/S Right						
Bott. D/S Left						
Bott. D/S Right						
INSPECTOR'S INITIALS	ET		ET		ET	

Plate Carrier:

Height: 6.994

Width: 6.370

Inspector:

Orifice Plate

Material:

Bore Dia.:

Plate Thickness:

Cylinder Length:

Inspector:

Plate Seal Gap: ☒ 0.562" ☐ 0.688" ☐ 0.813" ☐ 0.875"

Plate Seal Gap:	Pass	Fail
Top	✓	
Bottom	✓	
Right	✓	
Left	✓	
INSPECTOR'S INITIALS	ET	

Eccentricity Test:

Vert. Max. Allowed: 0.049 Actual: 0.005

Horz. Max. Allowed: 0.012 Actual: 0.005

Operator: W Inspector: ET

Meter Run Length Specifications:

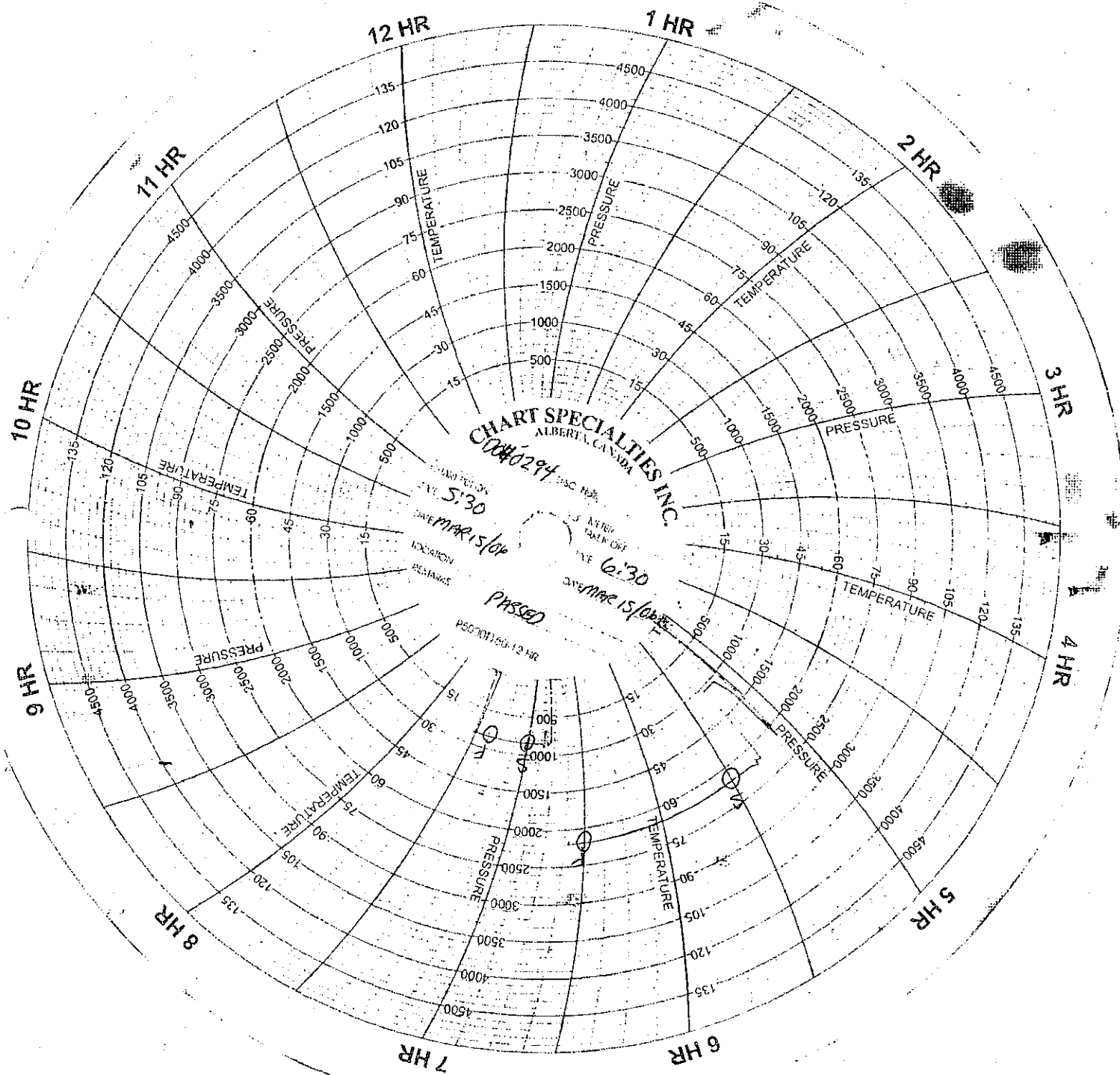
U/S From Plate to D/S Side Of Vane / Flow Cond.:

D/S Side Of Plate To 1st Outlet:

D/S Side Of Vane / Flow Cond to U/S End Of Run: N/A

Overall Length

Inspector





HYDRO TEST CHECKSHEET

SN #: D040294
DATE: MAR 15 / 06
TEST PRESSURE: 2200 PSI
ANSI RATING: ☐ 150 ☐ 300 ☒ 600 ☐ 900 ☐ 1500
DURATION: ☐ 30 Min. ☒ 60 Min. ☐ Other (Specify): _____
TEST FLUID: ☒ Water ☐ Other (Specify): _____
RESULTS: ☒ Pass ☐ Fail

Jeanie Lh
Technician (Signature)

IGG
Witness (Signature)

TEST WITNESSED BY CUSTOMER INSPECTOR
(Signature)

(Name- Please Print)

Comments: _____



PNEUMATIC-TEST REPORT

NOTE: FOR SAFETY REASONS, ORIFICE / METER RUNS ARE TO SUCCESSFULLY PASS A HYDRO TEST AT 1.5 TIMES DESIGN WORKING PRESSURE BEFORE A PNEUMATIC TEST IS PERFORMED.

SN #: D040294

DATE: MAR 15/06

TEST PRESSURE: 850 PSI

TEST MEDIUM: ☐ Air ☒ Nitrogen ☐ Other (Specify): _____

DURATION: ☒ 15 Min. ☐ Other (Specify): _____

RESULTS: ☒ Pass ☐ Fail

Jessie Sh
Technician (Signature)

T. Gay
Witness (Signature)

TEST WITNESSED BY CUSTOMER INSPECTOR
(Signature)

(Name- Please Print)

Comments: _____

 VELMURUGAN ALLOYS (P) LTD., 65 / 2 - A,B & C, PUDUPALAYAM B.P.O., AVINASHI Tk, COIMBATORE - 641 654.		TEST CERTIFICATE (EN 10204 - 3.1)		TC NO. : VM/C/3690 DATE : 23.08.05								
CUSTOMER TRADEWIND PARTS CORP., UNIT # 1, 6759 - 65 AVENUE, RED DEER, ALBERTA - T4P 1X5, CANADA.		SPECIFICATION REFERENCE 1.ASTM A216 WCB - 2005 Edition 2.NACE MR0175		MELT No. 2563B VENDOR MARK VM								
PURCHASE ORDER NO. TWP - 0508A		ORDER ACCEPTANCE NO. OC - 009 - A1		DATE OF POURING 31.12.04								
CHEMICAL COMPOSITION %												
SPECIFICATION	C	Si	S	P	Mn	Ni	Cr	Mo	V	Cu	*RE	
Minimum	—	—	—	—	—	—	—	—	—	—	—	
Maximum	0.30	0.60	0.045	0.040	1.00	0.50	0.50	0.20	0.03	0.30	1.0	
Achieved	0.20	0.42	0.014	0.020	0.95	0.04	0.10	0.01	0.003	0.03	0.18	
HEAT TREATMENT NORMALISING : Temperature raised to 920°C, Soaked for 3 hours and then atmospheric air cooled.												
MECHANICAL PROPERTIES												
SPECIFICATION	Y.S (ksi)	UTS (ksi)	% ELONG.	% RED. IN AREA	CVN - 2mm Impact (J) at °C Size(mm):10x10x55		BEND TEST		HARDNESS (BHN)			
					Values	Avg.	ANGLE	D				
Minimum	36	70	22	35	—	—	—	—	—			
Maximum	—	95	—	—	—	—	—	—	237			
Achieved	45.6	74.4	35.4	65.8	—	—	—	—	145			
Sl.No	DESCRIPTION			DRAWING No./ REV.		PART No.		POURED QTY.				
1	4"Model DC Body			460DC04 - TT / 08		-		4 Nos.				
2	4"Model DC Top Housing			460DC14 / 07		-		1 No.				
REMARKS : 1. The above stated ksi values have been calculated based on original tested Kg/mm ² values. 2. * RE = Ni + Cr + Mo + V + Cu .												
CERTIFIED THAT 1. THE ABOVE GIVEN DETAILS ARE CORRECT. 2. THE MATERIAL CONFIRMS TO ABOVE SPECIFICATION					A.A.NATARAJAN AUTHORISED WORK'S INSPECTOR/ MANAGER - QUALITY ASSURANCE							
Prepared by:			Checked by : Chemist									

 VELMURUGAN ALLOYS (P) LTD., 65 / 2 - A,B & C, PUDUPALAYAM B.P.O., AVINASHI TK, COIMBATORE - 641 654.		TEST CERTIFICATE (EN 10204 - 3.1)		TC NO. : VM/C/4528 DATE : 23.10.05								
CUSTOMER TRADEWIND PARTS CORP., UNIT # 1, 6759 - 65 AVENUE, RED DEER, ALBERTA - T4P 1X5, CANADA.		SPECIFICATION REFERENCE 1. ASTM A352 LCC - 2005 Edition 2. NACE MR0175		MELT No. 0805C								
PURCHASE ORDER NO. TWP - 0510A		ORDER ACCEPTANCE NO. OC - 009 - A1		VENDOR MARK VM								
DATE OF POURING 09.05.05												
CHEMICAL COMPOSITION %												
SPECIFICATION	C	Si	S	P	Mn	Ni	Cr	Mo	V	*RE		
Minimum	-	-	-	-	-	-	-	-	-	-		
Maximum	0.25	0.60	0.045	0.040	1.20	0.50	0.50	0.20	0.03	1.00		
Achieved	0.19	0.50	0.015	0.022	0.87	0.35	0.06	0.006	0.003	0.42		
HEAT TREATMENT QUENCHING : Temperature raised to 920°C, Soaked for 4 hours and then water-quenched. TEMPERING : Temperature raised to 680°C, Soaked for 8 hours and then atmospheric air-cooled.												
MECHANICAL PROPERTIES												
SPECIFICATION	Y.S (ksi)	UTS (ksi)	% ELONG.	% RED. IN AREA	CVN - 2mm Impact (J) at - 46 °C Size(mm):10x10x55		BEND TEST		HARDNESS (BHN)			
					Values	Avg.	ANGLE	D				
Minimum	40	70	22	35	16	20	-	-	-			
Maximum	-	95	-	-	-	-	-	-	237			
Achieved	49.3	73.6	34.0	70.7	40, 40, 26	35.3	-	-	144			
DETAILS OF CASTINGS												
Sl.No	DESCRIPTION			DRAWING No./ REV.			PART No.		POURED QTY.			
1	4" Model DC Top Housing			460DC14 / 07					8 Nos.			
REMARKS : 1. The above stated ksi values have been calculated based on original tested N/mm ² values. 2. * RE = Ni + Cr + Mo + V.												
CERTIFIED THAT 1. THE ABOVE GIVEN DETAILS ARE CORRECT. 2. THE MATERIAL CONFIRMS TO ABOVE SPECIFICATION						A.A.NATARAJAN AUTHORISED WORK'S INSPECTOR/ MANAGER - QUALITY ASSURANCE						
Prepared by:			Checked by : Chemist									



(A04)

vallourec

precision

Vallourec Precision Eclairage

(A00)BP77 ZI VITRY MAROILLÉS

51303 Vitry-le-François France

tél: 03 26.41.23.00

MATERIAL TEST REPORT

INSPECTION CERTIFICATE EN 10204 3.1.B

(A02)

APPN° V.R. : 214482/01

(A00)Purchaser : SCOT INDUSTRIES INC.

(A01)Order n° : 113-1307 DU 16.05.2005

(A02)SEAMLESS STEEL TUBES COLD DRAWN (KILLED STEEL)

(A03)NORMALIZED 925°C - TIME 10'

(A04)Specification : ASTM A 106 + ASME SA 106 - GRADE B - DANIEL SPEC. MS 00022H

(A05)Marking in continuous : < ORDER NR - SIZE - HEAT NR - FRANCE - V - VF - VALLOUREC - ASTM A 106 - GRADE B - ASME SA 106 - GRADE B >

(A06)Marking on labels :

NO REPAIR BY WELDING HAS BEEN CARRIED OUT

QUANTITY PER ITEM

Y/R	(B1) O/R	(B11-E12) Size	(B13) single length	(B10) Quantity	length in	length ft	Weight kg	(B14) weight lb	(B09) item ref.	dispatch
01		DE 114.360 X DI 97.180 4.500 X 3.876"	7M620 A 2M144 25 TO 30'	82	663.950	2178.314	15054	33.188	Q400	20337988

(C71-C92)

LADLE ANALYSIS

034: CR+CU+MO+NI+V												
(B08)												
Heat	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V		
MIN.	0.30	0.10	1.06	0.035	0.035	0.40	0.15	0.40	0.40	0.08	1.00	
MAX.	%	%	%	%	%	%	%	%	%	%	%	
316071	0.15	0.25	0.95	0.014	0.004	0.09	0.01	0.04	0.06	0.00	0.20	

CONFORME : 106.B

2004ED-2005A

2006-7578-02

3/4

2006-05-19



**vallourec
precision**

Vallourec Précision Étréage

BP77 ZI VITRY MAROLLES
51303 Vitry-le-François France
tel: 03.26.41.23.00

FAX: 03.26.41.23.10

MATERIAL TEST REPORT

INSPECTION CERTIFICATE EN 10204 3.1.B

AnnRef: 45-05-260003 212
AnnN°VIR: 21448201

FULL SECTION LONGITUDINAL TENSILE TEST AT ROOM TEMPERATURE

(C00)	(B08)	(C11)	(C12)	(C13)
Test	Heat	Y.S.	T.S.	Elong 2"
MIN		35000	60000	30
MAX				
01	316071	psi	psi	%
		47995	70760	38

FLATTENING TEST

specification	result
ASTM A 530	OK

NON DESTRUCTIVE TESTS

(D01-D99)

test	test rate	specification	result
APPEARANCE & DIMENSIONS	100% LOT		OK
EDDY CURRENT TEST	100% LOT	ASTM A 450	OK

ROCKWELL C HARDNESS : WE GUARANTEE THE FOLLOWING VALUES : 22 MAXI.
WE GUARANTEE 2800 PSI HYDRAULIC TEST
OILING SKINFILM

2012/09/2005

(Z02)

Original computer copy - Authenticity is guaranteed by the Vallourec logo.
All the pipe/tubes conform to the requirements of the order and standard regarding the grade, quality and heat treatment throughout their whole length.

(A05)

The agent of the service Quality
Mme. BRATONNIER

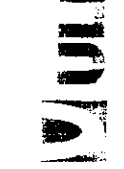
CONFORME TO SA 106B
YEAR 2004EN 2005A
JOB : 2006-7578-02
ITEM # 3,4
SIGNED BY: 06-05-12

HEAT NUMBER : 338A5
 TRANS AM PIPING PRODUCTS - REV'D BY: 7
 4" 600# W/N FLANGE RF XII BORE

CLIENTE / Customer: TRANS AM PIPING PRODUCTS LTD.
 7025 - 44TH STREET S.E.
 CALGARY, ALBERTA T2C 1A8
 CANADA

CERTIFICADO DE INSPECCION
 Works Certificate - Certificat d'Usine

DIN 50049 / 3.1.B
 EN 10204 / 3.1.B
 ISO 10474 / 3.1.B



ULMA FORJA, S.COOP.

PROCESO / Process: Forja - Forge
 Artículo - Piece

NORMAS APLICABLES / Norms Applicable: ASME B16.5-96

MATERIAL CORRESPONDIENTE / Material Correspondent - Qualité: ASTM A105N-03
 ASME SA105N

CUPEL / Your Order No.: 125-001

NACE MR-01-7503

125-001
 P.B. #110107

25/10/2005

25/10/2005

25/10/2005

25/10/2005

MARCA DEL FABRICANTE / Mark of factory: ULMA

DEPARTAMENTO / Department: QUALITY ASSURANCE

43408

PARTIDA / Item / Poste	CANTIDAD / Quantity / Quantité	DESCRIPCION / Description / Description	OBSERVACIONES / Remarks / Observations	COLADA N° / Heat No. / N° Coulee	RESISTENCIA / Tensile Strength / Résistance	LONGITUD / Length / Longueur	ALARGAMIENTO / Elongation / Allongement	RESILIENCIA / Impact test / Résilience	DUREZA / Hardness / Dureté
15	15	WN 4 800LB S80 RF A105N	NE	322A5	519	314	32.00	64.60	151
15	15	WN 4 800LB S80 RF A105N	NE	325A5	520	318	33.00	65.80	151
15	15	WN 4 800LB S80 RF A105N	NE	338A5	518	314	31.70	63.00	150
21	21	WN 3 900LB SXXXS RF A105N	NE	340A5	515	312	33.00	67.20	150

COMPOSICION QUIMICA - STEEL MARKER'S - ANALYSE CHIMIQUE

C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	CU %	CEQ %
0.180	0.230	0.880	0.015	0.003	0.190	0.130	0.050	0.007	0.005	0.240	0.397
0.180	0.230	0.840	0.016	0.004	0.180	0.110	0.080	0.007	0.002	0.250	0.406
0.180	0.240	0.850	0.011	0.004	0.180	0.130	0.060	0.007	0.002	0.220	0.393
0.190	0.280	0.640	0.011	0.001	0.080	0.130	0.040	0.007	0.002	0.240	0.379

(*) OBSERVACIONES / Remarks / Observations

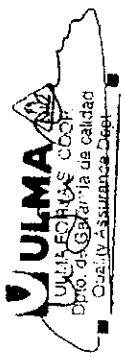
N, NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR

CONFORMING TO SA 105N
 YEAR 2004-2005
 JOB # 2006-7578-02
 ITEM # 5
 SIGNED BY PL 06 03 06

Las dimensiones y la forma son superiores a las especificaciones.
 Dimension and surface condition were found acceptable.
 Les dimensions et état de surface sont satisfaisants.

Los materiales, creados cumplen las normas aplicables.
 Manufacturing requirements are satisfied.
 Les matériaux appliqués sont respectés.

EL INSPECTOR / Works Inspector: L. INSPECTOR



CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

ORDINE
Purchase order
Commande

125-001

COMMESSA
Job N
Confirmation de commande

75840

125-001

PROVA Test Epreuve	PROVA Test Epreuve	COLATA Heat / CeuMe	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
URS	ASTM A105/00	AQ3708	0.190	0.190	0.880	0.007	0.008	0.010	0.010	0.030	0.100	0.220	0.000	0.008	0.383
			--->	Nb % = 0.000											
BDA	ASTM A105/00	4497/04	0.170	0.190	0.980	0.010	0.009	0.007	0.010	0.018	0.105	0.180	0.005	0.023	0.369
			--->	Nb % = 0.001											
IRC	ASTM A105/00	4497/04	0.170	0.190	0.980	0.010	0.009	0.007	0.010	0.018	0.100	0.180	0.001	0.023	0.369
			--->	Nb % = 0.001						B % = 0.004					
LS	ASTM A105/00	4498/04	0.170	0.160	0.940	0.009	0.008	0.008	0.011	0.022	0.100	0.200	0.001	0.020	0.367
			--->	Nb % = 0.001		B % = 0.000									
BB	ASTM A105/00	4498/04	0.170	0.160	0.940	0.009	0.008	0.008	0.011	0.022	0.100	0.200	0.000	0.020	0.367
			--->	Nb % = 0.001		B % = 0.000									
DN	ASTM A105/00	7298/04	0.160	0.180	0.920	0.010	0.011	0.009	0.009	0.024	0.100	0.220	0.002	0.026	0.357
			--->	Nb % = 0.003											

PROVA Test Epreuve	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur	SNERVAMENTO N/mm ² Yield point Limite d'élasticité	ROTTURA N/mm ² Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA H3 Hardness Dureté	PFGA Bend test Pliage	SCHIACCI Flat. test Aplattiss.	RESILLENZA Impact test / Resilience			
										UNITA' M. S. Unit syst. m	TIPO Type	T °C Test temp	VALORE / Value / Données
URS	1	30.6	25.0	362.0	556.0	26.8	60.1	179-184	OK	J	KV	0	46-44-40
BDA	1	30.1	35.0	315.0	521.0	28.5	66.2	149-156		J	KV	0	46-44-46
IRC	1	30.6	25.0	313.0	531.0	29.4	66.9	149-156		J	KV	0	44-48-46
LS	1	30.6	25.0	325.0	543.0	29.6	67.4	150-160		J	KV	-5	48-50-44
RBB	1	30.6	25.0	298.0	513.0	30.3	68.6	146-153		J	KV	0	42-48-38
DN	1	30.6	25.0	313.0	536.0	28.2	65.6	154-159		J	KV	0	46-36-38

PROVA Test Epreuve NOTE / Remarks / Notes EN10204/3.1 FORMA Shape / Form : 1 = ☐ 2 = ☐

URS	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR. /CERT.125.04 EVASI*247555 MEGA*
BDA	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR. /CERT.02.05 EVASI*247572 MEGA*
IRC	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR. /CERT.114.04 EVASI*247541 MEGA*
LS	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.75.04 EVASI*247481 MEGA*
BB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.81.04 EVASI*247496 MEGA*
DN	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.07.05 EVASI*247582 MEGA*

PROVA Test Epreuve	POS. Part Pos.	QUANTITA' Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
URS	025	1676	23725	MEGALET S. 3000 NPT A/SA105N 1/2x3-36	OK
BDA	025	274	23725	MEGALET S. 3000 NPT A/SA105N 1/2x3-36	OK
IRC	026	1650	23732	MEGALET S. 3000 NPT A/SA105N 3/4x4-36	OK
LS	027	780	23711	MEGALET S. 3000 NPT A/SA105N 1x2-2.1/2	OK
BB	028	214	23723	MEGALET S. 3000 NPT A/SA105N 1x3-5	OK
DN	028	1100	23723	MEGALET S. 3000 NPT A/SA105N 1x3-5	OK

CONFORMING TO SA 105N
YEAR 2004/2005
JOB # 2006-7578-02
ITEM # 8
SIGNED BY 06-03-06

NOTE / Remarks / Notes

ENTE UFFICIALE DI COLLAUDO
Inspection Authority
Service Inspection Office

CAPO COLLAUDO
Chief Inspection DPT
Responsable assurance qualité

MATERIAL ACCORDING TO NACE MR0175-03
AND "SOUR SERVICE".

DOC. CERT. N. 2. A
Sott. Apptanti

MEGA

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

CERTIFICATO N. 251913
Certific. n.
Certific. N.
DATA / Date 14/12/04

CERTIFICATO DI CONFORMITÀ
CERT. CONFORME
CERTIFICATE OF CONFORMANCE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

ORDINE
Purchase order
Commande
43126698

CONFERMA
Job N.
Confirmation de commande
73748

ITEM	DESCRIPTION	QTY	ST	SI	MI	S	P	NI	MO	TI	CU	V	AT	CE
1	A350/005 LF2 CL1	74808	0.190	0.250	0.910	0.004	0.009	0.006	0.010	0.022	0.170	0.019	0.021	0.374
2	A350/025 LF2 CL1	08830	0.130	0.260	1.200	0.003	0.007	0.009	0.012	0.040	0.007	0.200	0.037	0.384
3	A350/025 LF2 CL1	17436	0.185	0.250	0.860	0.003	0.010	0.026	0.012	0.030	0.002	0.360	0.002	0.418
4	A350/005 LF2 CL1	A03944	0.200	0.250	0.950	0.002	0.008	0.003	0.007	0.020	0.000	0.120	0.000	0.380
5	ASTM A15002	AR0003	0.200	0.250	0.960	0.008	0.008	0.006	0.008	0.020	0.000	0.180	0.000	0.393
6	ASTM A150N/01	129809	0.172	0.216	1.070	0.005	0.008	0.009	0.016	0.025	0.000	0.274	0.001	0.402

ITEM	DESCRIPTION	QTY	ST	SI	MI	S	P	NI	MO	TI	CU	V	AT	CE
1	30.5	25.0	372.0	534.0	30.0	66.1	156-163				KV	-50	74-78-68	
2	59.4	35.0	327.0	500.0	31.7	72.0	150-152				KV	-50	210-100-290	
3	30.6	25.0	402.5	577.0	32.0	73.2	179-183				KV	-54	172-176-188	
4	30.6	25.0	374.0	565.0	27.2	62.4	163-170				KV	-50	38-64-64	
5	30.5	25.0	317.0	531.0	28.8	67.4	149-156				KV	0	52-50-52	
6	30.6	25.0	306.0	534.0	29.2	65.8	149-156				KV	0	54-52-38	

NOTE / Remarks / Notes	EN10204/3.1B ** DIN 50049 3.1B.	FORMA Shape / Forme	1 = 0 2 = 1
ELECT. FURNACE - NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.25.03 EVASI*236859 MEGA		
ELECT. FURNACE - NORMALIZED AT 900 C COOLED IN STILL AIR.	/38489.01 ABS*209484 MEGA*NB=.013*Sn=.012*B=.0011x		
ELECT. FURNACE - NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.185.04 ISMA*247487 MEGA*		
ELECT. FURNACE - NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.04.04 EVASI*241964 MEGA		
ELECT. FURNACE - NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.76.04 EVASI*247491 MEGA*		
ELECT. FURNACE - NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.117.02 EVASI*209850 MEGA		

ITEM	DESCRIPTION	QTY	ST	SI	MI	S	P	NI	MO	TI	CU	V	AT	CE
017	35	125094	UNION (MALE+FEMALE+NUT) S. 6000 NPT LF2 CL1 3/4											OK
018	5	22302	CAP S. 3000 NPT LF2 CL1 1											OK
019	50	22321	90 DEG. ELBOW S. 3000 SW LF2 CL1 1											OK
020	30	25000	MEGALET Sch.160 LF2 CL1 1x4 -24											OK
021	100	23305	MEGALET S. 3000 NPT A/SA105N 1/2x3-36											OK
022	16	23305	MEGALET S. 3000 NPT A/SA105N 3/4x4-36											OK
022	8	23305	MEGALET S. 3000 NPT A/SA105N 3/4x4-36											OK

COMPLIES WITH
SOUR SERVICE:
APPROVED BY



QUALITY ASSURANCE

DATE: 1 Mar 05

COMPLIES WITH
CSA Z245.11 Gr. 241 C II

CONFORMING TO SA 105N
YEAR 200400-2008A
JOB # 2006-7578-02
ITEM # 9
SIGNED BY [Signature] 06-03-06

NOTE / Remarks / Notes

ENTE DI FIDELIA DI COLLAUDO
Inspection Institute
Service Inspection Office

CAP. COLLAUDO
Chief Inspection Officer
Responsibility assurance quality

MADE IN ITALY ACCORDING TO EN 10204-3.1B
OUR CERTIFICATE

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

CUSTOMER: <u>CORDERO</u>		DESCRIPTION: <u>4" METAL RUN.</u>	ALCO JOB NUMBER: <u>2006-7578-02</u>
DATE: <u>MAR 15, 2006</u>	TECHNIQUE # USED: <u>RT P#2.</u>	CODE: <u>B31-3</u>	
MATERIAL: <u>PI</u>	MAT'L THICKNESS: <u>SL80</u>	EDITION: <u>2004</u> ADDENDA: <u>-</u>	ACCEPTANCE: <u>5% RANDOM.</u>

LEGEND:				
* - WELDER SYMBOL	HL - HI LO	S - SLAG	CRACK	
IP - INCOMPLETE PENETRATION	LC - LOW COVER	P - POROSITY	(1) SLIGHT	
BT - BURN THROUGH	UC - UNDER CUT	I - ICICLE	(2) MEDIUM	
IC - INTERNAL CONCAVITY	AS - ARC STRIKE	C - CRATER	(3) SEVERE	

[illegible]

SOURCE TYPE:	IR192	Hrs.	@	
STRENGTH:	40ci	8" Film	@	
S.F.D.:	48"	17" Film	@	
O.F.D.:	337"	pipe	@	
FILM TYPE:	AGFA D40	pipe	@	
FOCAL SPOT SIZE:	.11"	pipe	@	
NO. OF FILM PER CASSETTE	1	pipe	@	

COMMENTS: SINGLE WALL VIEWING. TOTAL EXPOSURES: 3 TOTAL COSTS

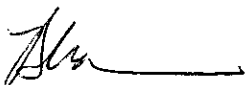
PAGE 1 OF 1 INSPECTOR SPH LEVEL II ASNT II CGSB

CERTIFICATE OF HYDROSTATIC TEST

UNIT SERIAL NUMBER: 2006-7578-02A

PART DESCRIPTION: 4" Meter Run

WE CERTIFY THAT THE UNIT BEARING THE ABOVE SERIAL NUMBER WAS
HYDROSTATICALLY TESTED TO A PRESSURE OF 2123 PSIG AND HELD AT
THAT PRESSURE FOR A PERIOD OF ONE HOUR AND NO LEAKS OR OTHER
DEFECTS WERE FOUND. GAUGE NUMBERS: K17 / K19



ALCO GAS & OIL PRODUCTION EQUIPMENT LTD
QUALITY CONTROL INSPECTOR

March 20, 2006

DATE

CUSTOMER REPRESENTATIVE

DATE

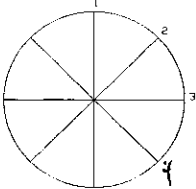
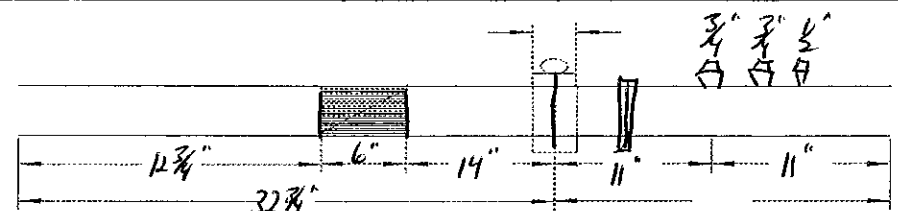
Phase # : 2006-7578-03B
Phase Title: 2" Meter Run

TABLE OF CONTENTS

Title	Availability	
	Yes	No
1. Data Reports	X	
2. CRN's		N/A
3. Nameplate Copy	X	
4. Travel Sheet	X	
5. Impact Test Reports		N/A
6. Material Control	X	
7. Material Reports	X	
8. MTR's	X	
9. NDE MPT		N/A
LPT		N/A
RADIOGRAPHY	X	
ULTRA SONIC		N/A
10. Stress Relieve Charts		N/A
11. Hydrotest Report(s)	X	
12. Hydro Chart		N/A
13. PSV & Valve Cert.		N/A

ALCO Gas & Oil Production Equipment Ltd

ORIFICE METER TUBE INSPECTION REPORT

For: CORDERO ENERGY							Report No #4670		District EDMONTON			
							Date: MAR 14 2006					
Nominal Pipe Size 2.000"		Published Inside Diam. 1.939"		Tolerance for 0.7 Beta Factor 0.009695/0.01939			Diameter Max 1.944" Min 1.934"					
B Factor if Less than 0.7		If Less ,Max. Orifice Plate for Run			Meter Run Marked ID 1.938"/1.940"			Plate That May be Used Max. 1.250" Min 0.375"				
		MEASUREMENTS OF INSIDE TUBE DIAMETERS & SURFACE ROUGHNESS <i>Note: When the tube is made up of more than one part, such as a pipe, a flange, and a fitting the 2nd and 3rd diameter measurements should be made in the different parts or the equivalent</i>										
UPSTREAM							DOWNSTREAM					
POSITION	1" from Plate		2nd Diameter		3rd Diameter		1" From Plate		2nd Diameter		3rd Diameter	
	Diam	Roughness	Diam	Roughness	Diam	Roughness	Diam	Roughness	Diam	Roughness	Diam	Roughness
1	1.939"		1.937"		1.938"		1.939"		1.938"		1.937"	
2	1.938"		1.938"		1.937"		1.938"		1.938"		1.939"	
3	1.939"		1.937"		1.937"		1.939"		1.940"		1.941"	
4	1.938"		1.936"		1.936"		1.938"		1.940"		1.943"	
Avarage	1.939"		1.937"		1.937"		1.939"		1.939"		1.940"	
Total Avarage	UPSTREAM						DOWNSTREAM					
	Diameter		Roughness				Diameter		Roughness			
	1.938"						1.940"					
B Factor if Results Makes it Less than 0.7								Fitting DANIEL SYMPLEX		Serial No. #05420123		
TAP MEASUREMENTS							Fitting Marked I.D.					
Up : 1.000"			Down: 1.000"									
Vanes 6" LONG			Drain Taps ON FITTING			Therm. Taps 3/4"-3/4"-1/2"			Pipe Wall Thickness 80			
DIMENSIONS SKETCH												
Results: A.G.A. Figure (2-5)							Code API 1991 -3rd Edition		Custody Transfer No *			
							API 2000 - 4th Edition		Yes			
Remarks 7578-03							Gives B Factor of: 0.70 BATA RATIO					
							Inspector Name & Signature BARRY RASMUSSEN 					

 GAS & OIL PRODUCTION EQUIPMENT LTD. EDMONTON, ALBERTA		A.G.A. RECOMMENDATIONS GUARANTEED		SER. NO. 2006-7578-03	
AVR. INT. DIA.		UPSTREAM 1.500		MAX. ORIFICE SIZE 1.500	
PIPE SIZE 1.500		SCH. 60		DOWNSTREAM 1.500	
A.G.A. CASE 200		FOR d/D 10.70		E & G INSPECTION 1.500	
DRWG. NO. 2006-7578-50B		DATE 06/05/74		DEPT. CONSUMER & CORP. AFFAIRS 1.500	

2006-7578-03

2006-7578-50B

TRAVEL SHEET

Authorized Inspector (Signature) _____

Date _____

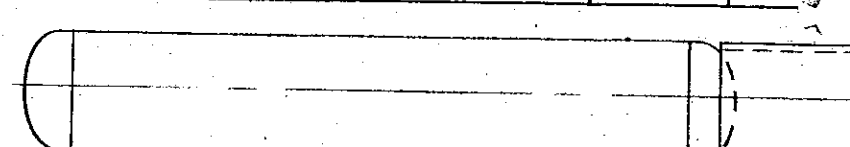
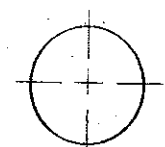
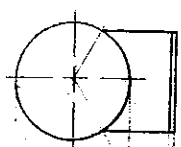
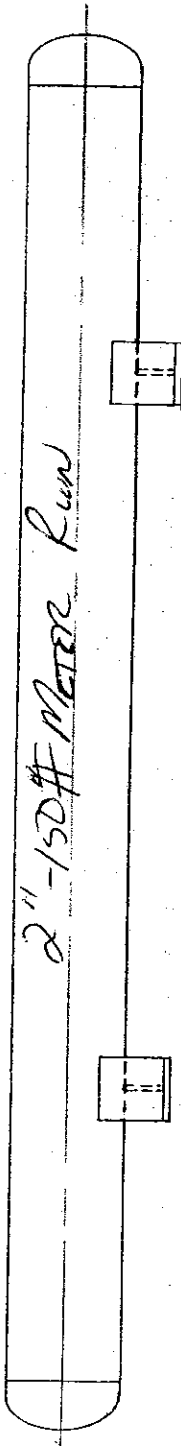
CUSTOMER / LOCATION		SERIAL NUMBER / UNIT		(A) NUMBER / CRN			
CORDERO ENERGY		2006-7578-03		B-2006-7578-03-001/001			
MALMO		LSD: 13-20-43-22 W4M					
ITEMS: 2" 150# METER RUN C/W DANIEL SIMPLEX "FLANGNEK" ORIFICE FITTING SCH80		COMMENTS:		INITIALS			
				HOLD QC	CUSTOMER HOLD (AGENT)		HOLD A.I.
Repair Procedure Approved							
Approved Drawings							
Material Checked Against Drawing Bill of Material		REVIEWED		✓			
Mill Test Checked		REVIEWED		✓			
Impact Test							
Unit Layout				✓			
Weld Procedure Approved		REVIEWED		✓			
Welder(s) Qualifications		REVIEWED		✓			
Fit-Up: Shell & Heads							
Nozzles & Fittings							
Internals							
Externals							
Connections: Location							
Rating		150# 3000#		✓			
Internal Inspection				✓			
Internals Installed							
Weld Profile, Sizes & ID		CHECKED		✓			
Radiographs							
Other NDE							
Stamping							
External Upon Completion of Welding, when PWHT		CHECKED		✓			
Alternative Test							
PWHT Charts Checked		N/R					
Hydrostatic Test/Chart		405 PSIG GAGE#		✓			
MDR							
Name Plate							
PART	MATERIAL SPEC	THICKNESS	HEAT NO.	PART	MATERIAL SPEC	THICKNESS	HEAT NO.
Heads				Repads			
Shell							
				Tubes			
Tubesheet							

* INDICATES HOLD POINTS TO BE SIGNED OFF BY THE APPLICABLE INSPECTOR.

NONDESTRUCTIVE TESTING WHEN REQUIRED

[illegible]

CUSTOMER: CORDERO ENERGY
 SERIAL No: B-2006-7578-03-001/001



DATE: 24 FEB 06 FILLED BY: Vic M. DRWG. NO.: 7578-03

TYPE OF VESSEL:

TITLE	DIA.	ITEM NO.	HEAT NO.	SLAB NO.	MAT'L. SPEC.	MIN.
HEAD:						
SHELL:	2"	3+4	23541 ✓		SA-106-B	X 17
PADS:						
SKIRT:						
SADDLES:						

7578-03

DRAWN	DOUG	DATE	7/8/86	SCALE	NTS	APP'D	
MATERIAL REPORT				A. GAS & OIL PRODUCTION EQUIPMENT LTD.			
Appendix L		REV.		DWG. D-2900		RUNNING 40-105	



valloire
précision
étirage

Valloire, France

COMPETITIF VALLOIRE MANUFACTURING

2001 Valloire France

tel: 03 40 00 23 40

valloire@valloire.fr

VALLOIRE, FRANCE

INSPECTION CERTIFICATE EN 10204 - 1.1B

2007-01-23

CAPROL PIPE & STEEL PRODUCTS

100% Purchaser: CAPROL PIPE & STEEL PRODUCTS

Order n°: VR0766702705 DU 05.01.2004

(80) SEAMLESS STEEL TUBES, COLD DRAWN (KILLED STEEL)

(804) NORMALIZED 925°C

(812) Specification: ASTM A585/SA 106 (last edition) - GRADE B - API 5L - NACE MR 01.75

(816-807)

Marking in continuums: VF - VALLOUREC - A/SA 106 - API 5L - GRADE B - SIZE - ***** - HEAT - FRANCE

Marking on labels: *

McTer Kan

- **** item 01 = NPS 2 XS SCH 80
- **** item 02 = NPS 4 STD SCH 40
- **** item 04 = NPS 4 XS SCH 80

QUANTITY PER ITEM

Y/R	Q/R	(B11-B12) Size	(B13) single length	(B10) Quantity	length ft	(B14) Weight lbs	dispatch lbs	(B08) Heat
1	01	60.300 X 5.540 MM NPS 2" X SCH 80	5486/6706 MM 18 to 22 ft	430	8595.801	4497.240	20330507	23541
2	02	114.300 X 6.020 MM NPS 4" X SCH 40	5486/6706 MM 18 to 22 ft	54	1050.908	11553.801		23727
3	04	114.300 X 8.560 MM NPS 4" X XS	5486/6706 MM 18 to 22 ft	48	960.696	14574.772		23233 : 28 tub 23542 : 20 tub

(C71-C92)

LADLE ANALYSIS

034: CR+CU+MO+NI+V											
(C70) (B08)											
Process	Heat	C	Si	Mn	P	S	Cr	Mo	Ni	Co	V
MIN.		0.30	0.10	0.29	0.035	0.035	0.40	0.15	0.40	0.40	0.080
MAX.		%	%	%	%	%	%	%	%	%	%
E	23233	0.16	0.18	0.76	0.013	0.003	0.14	0.02	0.09	0.19	0.000
E	23541	0.15	0.18	0.75	0.012	0.006	0.14	0.04	0.08	0.13	0.001
E	23542	0.15	0.18	0.75	0.014	0.006	0.13	0.03	0.07	0.15	0.001
E	23727	0.16	0.22	0.86	0.014	0.002	0.08	0.03	0.07	0.16	0.001

CONFORMING TO SA 106-B

YEAR 2004-01-23

JOB# 2006-2578-03

ITEM# 344

SIGNED BY 06-03-06



vallourec
precision
étriage

SAISON 2020-2021
Séances de 15 minutes
à 18h30 et 20h30

SAISON 2020-2021

SAISON 2020-2021

15.000
19000
15.000
19000

15.000
19000

(C10-C02-C03)

ROCKWELL C HARDNESS

(C00)	(B08)	Heat	lot	(C11)	(C12)	(C13)
Test				Y.S.	T.S	Elong. 2"
MIN.				35000	60000	30
MAX.						
01	23541		ITEM 01	47254	67793	32
01	23727		ITEM 02	50774	69667	38
02	23727			52431	70669	38
01	23233		ITEM 04	50031	69015	38
02	23233			49039	70090	38
01	23542			50533	68997	38
02	23542			50072	69021	40

(C30)HRB

ROCKWELL B HARDNESS

(C00)	(B08)	Heat	lot	(C30)	(C31)
Test				Hardness 1 HRB	Hardness 2 HRB
01	23541		ITEM 01	75.0	76.5
01	23727		ITEM 02	78.0	77.0
02	23727			79.0	79.0
01	23233		ITEM 04	77.5	78.0
02	23233			78.0	78.5
01	23542			77.0	78.0
02	23542			78.0	78.0

**** ROCKWELL C HARDNESS MAX. 22 GUARANTEED ****

(D01-D99)

NON DESTRUCTIVE TESTS

test	test rate	specification	conditions	result
APPEARANCE & DIMENSIONS	100% LOT			OK
EDDY CURRENT TEST	100% LOT	E109		OK
ULTRASONIC TEST	100% LOT	A450	DEPTH 5%	OK



vallourec
précision
équilibrée

COMPTE D'ENTREE MEMBRE
7 rue Vallourec-Henry 4
63 000 VICHY 03 25 41 23 43

03 25 41 23 43

03 25 41 23 43

INSTRUMENTATION (0203) 11

15/06/2004 15:00:00

15/06/2004 15:00:00

(C50-C69)

03 25 41 23 43

test	conditions	result
MANDREL BEND TEST	ITEM 01	OK
FLATTENING TEST	ITEM 02-04	OK

(Zm) 16/04/2004

(Z02)

Original computer copy - Authenticity is guaranteed by the Vallourec logo.

All the pipes/tubes conform to the requirements of the order and standard regarding the grade, quality and heat treatment throughout their whole length.

(A05)

The agent of the service Quality

MME SICARD Véronique

Sicard

03 25 41 23 43

03 25 41 23 43

2" 150# W/N FLANGE RF XH BORE
A105N

HEAT NUMBER
26495
TRANS AM PILING PRODUCTS - REV'D BY: 3 5 - 1566
2

MILL TEST CERTIFICATE

SAW ENG STEEL FORGING CO., LTD.
SAM ENG STEEL FORGING CO., LTD.

EN10204-3.1.B(DIN50049/3.1.B)
CUSTOMER : SEYBOLD INTERNATIONAL CORP.

NO. 22 LANE 50, WAN SING STREET
SAN MIN DISTRICT, KAOHSIUNG,
TAIWAN, R.O.C.
Tel: 07-372 4249 07-371 2934
Fax: 07-371 2923 07-371 2846
URL: http://www.saneng.com.tw
e-mail: saneng@ksts.seed.net.tw

20 HOLLY STREET, SUITE 205
TORONTO, M4S 3B1, CANADA
TEL: 416-4810191 FAX: 416-4811790

CERT NO.: SE-4713FN
DATE : 08/29/2005

ORDER NO.: 4713(6)TRANS AM
L/C NO. : 110107

PAGE :

PRODUCT			SPECIFICATION FOR MATERIAL				SPECIFICATION FOR FITTINGS									
FORGED CARBON STEEL FLANGES			ASTM A-105-03/ASME SA-105 / (2245.12 CAT 1 GR.248 SOUR SERVICE-01)				ASME B16.5-98a									
ITEM NO.	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)												C.E.	
			C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N		
1.	150# WNR XS	2" A105N	0.200	0.210	1.050	0.014	0.009	0.060	0.110	0.040	0.008	0.003	0.005	0.008	0.411	
2.	300# WNR XS	10" A105N	0.190	0.250	0.870	0.015	0.011	0.190	0.110	0.290	0.050	0.006	0.005	0.007	0.400	
3.	300# BLRF	16" A105N	0.220	0.200	1.100	0.017	0.010	0.060	0.060	0.040	0.005	0.003	0.005	0.009	0.424	
4.	800# BLRF	18" A105N	0.200	0.140	1.130	0.014	0.010	0.090	0.060	0.050	0.005	0.003	0.005	0.008	0.412	
5.	150# SORF	3" A105N	0.210	0.190	1.070	0.017	0.016	0.090	0.070	0.060	0.005	0.003	0.005	0.008	0.414	
6.	150# SORF	3" A105N	0.240	0.200	0.840	0.015	0.011	0.100	0.100	0.090	0.019	0.008	0.001	0.000	0.417	
ITEM	HEAT	TENSILE STRENGTH (MPa)	YIELD STRENGTH (MPa)	ELONGATION (%)	HARDNESS (HRC)	REDUCTION OF AREA (%)	HEAT TREATMENT	MATERIAL SUPPLIER	REMARKS							
1.	28495	508.00	325.60	35.0	150	66.4	NORMALIZED	OEK	NORMALIZATION: 880°C X2HRS CONFORMS TO MEET FACE HR-01-75 LATEST EDITION CONFORMING TO SA 105N YEAR 2004/2005 JOB# 2006-7575-03 ITEM# 5 SIGNED BY KAC 03-06							
2.	57359	511.90	325.60	34.8	148	64.9	NORMALIZED	OEK								
3.	35733	501.10	325.60	34.6	157	64.9	NORMALIZED	OEK								
4.	17869	511.90	321.70	37.0	154	66.8	NORMALIZED	OEK								
5.	45728	513.90	329.50	35.2	157	65.9	NORMALIZED	OEK								
6.	37210	520.00	315.80	37.0	152	65.9	NORMALIZED	OEK								

WE HEREBY CERTIFY THAT THE MATERIAL PROVIDED HEREON IS IN FULL COMPLIANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR BY THE ABOVE ORDER AND IS THAT WHICH HAS BEEN TESTED TO THE SATISFACTION OF THE CERTIFYING

11/11/2005

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTRÔLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

ORDINE
Purchase order
Commande

45000174

125-001

COMMESSA
Job N
Confirmation de commande

75840

16.4 109646

PROVA Test Epreuve	SEZIONE / Section / Sect.	LUNGHEZZA / Length / Longueur	COLATA Heat / Cauté	C %	Si %	Mn %	S %	P %	Ni %	Mo %	Cr %	Cu %	V %	Al %	CE %
IRS	ASTM A105		AQ3708	0.190	0.190	0.880	0.007	0.002	0.10	0.10	0.030	0.100	0.220	0.008	0.383
				--->	Nb % = 0.000										
DA	ASTM A105/02		4497/04	0.170	0.190	0.980	0.010	0.009	0.07	0.10	0.018	0.105	0.180	0.005	0.369
				--->	Nb % = 0.001										
RC	ASTM A105/02		4497/04	0.170	0.190	0.980	0.010	0.009	0.07	0.10	0.018	0.100	0.180	0.001	0.369
				--->	Nb % = 0.001						B % = 0.004				
LS	ASTM A105/02		4498/04	0.170	0.160	0.940	0.009	0.008	0.08	0.11	0.022	0.100	0.200	0.001	0.367
				--->	Nb % = 0.001										
RBB	ASTM A105/02		4498/04	0.170	0.160	0.940	0.009	0.008	0.08	0.11	0.022	0.100	0.200	0.000	0.367
				--->	Nb % = 0.001										
DN	ASTM A105/02		7298/04	0.160	0.180	0.920	0.010	0.011	0.09	0.09	0.024	0.100	0.220	0.002	0.357
				--->	Nb % = 0.003										

PROVA Test Epreuve	SEZIONE / Section / Sect.	LUNGHEZZA / Length / Longueur	SMERVAMENTO	ROTTURA	ALLUNGAMENTO	CONTRAZIONE	DUREZZA	PIEGA Bend test Pliage	SCHIACC. Flat. test Aplatisse.	RESILLENZA Impact test / Résilience			
			N/mm ² Yield point Limite d'élasticité	N/mm ² Tensile strength Rupture	% Elongation Allongement	% Reduction of area Striction	H3 Hardness Dureté			UNITÀ M.S. Unit syst. m	TPO Type	T °C Test temp	VALORE / Value / Données
URS	1	30.6	25.0	362.0	556.0	26.8	60.1	179-184	OK	J	KV	0	46-44-40
BOA	1	30.1	35.0	315.0	521.0	28.5	66.2	149-156		J	KV	0	46-44-46
RRC	1	30.6	25.0	313.0	531.0	29.4	66.9	149-156		J	KV	0	44-48-46
LS	1	30.6	25.0	325.0	543.0	29.6	67.4	150-160		J	KV	-5	48-50-44
RBB	1	30.6	25.0	298.0	513.0	30.3	68.6	146-153		J	KV	0	42-48-38
BDN	1	30.6	25.0	313.0	536.0	28.2	65.6	154-159		J	KV	0	46-36-38

NOTE / Remarks / Notes

EN10204/3.1

FORMA
Shape / Form : 1 = ☐ 2 = ☐

IRS	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.125.04 EVASI*247555 MEGA*
DA	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.02.05 EVASI*247572 MEGA*
RC	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.114.04 EVASI*247541 MEGA*
LS	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.75.04 EVASI*247481 MEGA*
RBB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.81.04 EVASI*247496 MEGA*
DN	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.07.05 EVASI*247582 MEGA*

PROVA Test Epreuve	POS. diam. Ø	QUANTITÀ quantity qte	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
IRS	025	1674	23725	MEGALET S. 3000 NPT A/SA105N 1/2x3-36	OK
BOA	025	274	23725	MEGALET S. 3000 NPT A/SA105N 1/2x3-36	OK
RRC	026	1650	23732	MEGALET S. 3000 NPT A/SA105N 3/4x4-36	OK
LS	027	249	23711	MEGALET S. 3000 NPT A/SA105N 1x2-2.1/2	OK
RBB	028	249	23723	MEGALET S. 3000 NPT A/SA105N 1x3-5	OK
DN	028	111	23723	MEGALET S. 3000 NPT A/SA105N 1x3-5	OK

CONFORMING TO SA 105N
YEAR 2004/05 2005A
JOB # 2006-75 78-03
ITEM # 8
SIGNED BY 06-03-06

NOTE / Remarks / Notes

INTE. UFFICIALE DI COLLAUDO
Inspection Authority
Service Inspection Official

CAPO COLLAUDO
Chief Inspection OPT
Responsible ass. force qualité

MATERIAL ACCORDING TO NACE MR0175-03
AND "SOUR SERVICE".

DOC. CERT. MEGA
Sergio Apptani

MEGA

CLIENTE
Customer
Client
VAN LEEUWEN PIPE & TUBE
(CANADA) INC.
2875-64th AVENUE
EDMONTON, ALBERTA T6P 2R1

CERTIFICATO N. 251913
Foglio 4
Geniale e N.
Geniale N.
DATA / Date
14/12/04

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

ORDINE
Purchase order
Commande
43126688

COMMITTEE
Job N.
Confirmation de commande
73748

125-001
P6.4 107646

NOVA	TEST QUALITY / Essai	CDLATA	C%	Si%	Min%	S%	P%	Si%	Min%	Mo%	Ti%	Cl%	V%	AT%	CE%
8	A350/00 LF2 CL1	74808	0.190	0.250	0.910	0.004	0.009	0.06	0.06	0.010	0.022	0.170	0.019	0.021	0.374
			---	Nb% = 0.000											
12	A350/02b LF2 CL1	08830	0.130	0.260	1.200	0.003	0.007	0.09	0.12	0.040	0.007	0.200	0.037	0.030	0.384
14	A350/02b LF2 CL1	17436	0.185	0.250	0.860	0.003	0.010	0.26	0.12	0.030	0.002	0.360	0.002	0.025	0.418
			---	Nb% = 0.001											
18	A350/00 LF2 CL1	AQ3944	0.200	0.250	0.950	0.002	0.008	0.03	0.07	0.020	0.000	0.120	0.000	0.025	0.380
			---	Nb% = 0.000											
20	ASTM A105N/01	AR0003	0.200	0.250	0.960	0.008	0.008	0.06	0.08	0.020	0.000	0.180	0.000	0.024	0.393
			---	Nb% = 0.000											
22	ASTM A105N/01	129809	0.172	0.216	1.070	0.005	0.008	0.09	0.16	0.025	0.000	0.274	0.001	0.035	0.402
			---	Nb% = 0.001											

NOVITA		SHERVAMENTO		ROTTURA		ALLUNGAMENTO		CONTRAZIONE		DUREZZA		PIEGA		SCHACC		RESISTENZA			
DATA	Test equipment / Equipement	SEZIONE	LUNGHEZZA	Yield point	N/mm ²	Tensile strength	% Elongation	% Reduction of area	Hardness	mm	mm	mm	mm	mm	mm	mm	mm		
		Section	Length	Limite d'elasticità	N/mm ²	Rupture	Allogement	Striction	Chiffre										
0003	1	30.0	25.0	372.0	534.0	30.0	66.1	156-163											
0004	1	30.0	35.0	327.0	500.0	31.7	72.0	150-152											
0005	1	30.0	25.0	402.5	577.0	32.0	73.2	179-103											
0006	1	30.0	25.0	374.0	565.0	27.2	62.4	163-170											
0007	1	30.0	25.0	317.0	531.0	28.8	67.4	149-156											
0008	1	30.0	25.0	306.0	534.0	29.2	65.8	149-156											
																UNITA MIS.	TIPO	TEMP	VALORE / Value / Données
																Unit system	Type	Test tm	
																KV	-50	74-78-68	
																KV	-50	210-100-290	
																KV	-54	172-176-188	
																KV	-50	30-64-64	
																KV	0	32-50-52	
																KV	0	34-52-38	

EN10204/3.1B ** DIN 50049 3.1B.

FORMA
Shape / Forme
1 = 0 2 = 1

ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.25.03 EVASI*236859 MEGA
ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /38489.01 ABS*209484 MEGA*NB=.013*Sn=.012*B=.0011x
ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.185.04 ISMA*247487 MEGA*
ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.04.04 EVASI*241964 MEGA
ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.76.04 EVASI*247491 MEGA*
ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.117.02 EVASI*209850 MEGA

NOVA	POS.	QUANTITA'	CODICE CLIENTE	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
017	35	25004		UNION (MALE+FEMALE+NUT) S. 6000 NPT LF2 CL1 3/4	OK
018	5	22362		CAP S. 3000 NPT LF2 CL1 1	OK
019	33	22363		90 DEG. ELBOW S. 3000 SW LF2 CL1 1	OK
020	33	25007		MEGALET Sch.160 LF2 CL1 1x4 -24	OK
021	35	25008		MEGALET S. 3000 NPT A/SA105N 1/2x3-36	OK
022	35	25009		MEGALET S. 3000 NPT A/SA105N 3/4x4-36	OK
022	35	25010		MEGALET S. 3000 NPT A/SA105N 3/4x4-36	OK

COMPLIES WITH
SOUR SERVICE
APPROVED BY



QUALITY ASSURANCE

DATE: 1 Mar 05

COMPLIES WITH
CSA Z245.11 Gr. 241 C & I

CONFORMING TO SA 105N
YEAR 2004-2005
JOB 2006-7578-03
ITEM # 9
SIGNED BY 2006.03-06

NOTE / Remarks / Notes

ENTE DI PROVA DI COLLAUDO
Inspection Authority
Service Inspection Office

ENTE DI PROVA DI COLLAUDO
Inspection Authority
Service Inspection Office

DOC. CERT. M.E.G.A.
50910-00101

MATERIAL ACCORDING TO PAGE HR0175-03
AND "SOUR SERVICE".

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

PRODUCTION EQUIPMENT LTD.

CUSTOMER: <u>CORDERO</u>		DESCRIPTION: <u>1" METER RUN.</u>	ALCO JOB NUMBER: <u>2006-7578-03</u>
DATE: <u>MAR 13, 2006</u>	TECHNIQUE # USED: <u>RT P#2.</u>	CODE: <u>B31.3</u>	
MATERIAL: <u>P1</u>	MAT'L THICKNESS: <u>sch 80</u>	EDITION: <u>2004</u>	ADDENDA: <u>2005</u>
		ACCEPTANCE: <u>5% RANDOM</u>	

LEGEND:	* - WELDER SYMBOL	HL - HI LO	S - SLAG	CRACK
	IP - INCOMPLETE PENETRATION	LC - LOW COVER	P - POROSITY	(1) SLIGHT
	BT - BURN THROUGH	UC - UNDER CUT	I - ICICLE	(2) MEDIUM
	IC - INTERNAL CONCAVITY	AS - ARC STRIKE	C - CRATER	(3) SEVERE

[illegible]

SOURCE TYPE: IR192 COSTING Hrs. @ _____
STRENGTH: 41ci 8" Film @ _____
S.F.D.: 2 3/8 17" Film @ _____
O.F.D.: A-218" 1 2" Sch 80 pipe @ _____
FILM TYPE: ACFA D4 @ pipe @ _____
FOCAL SPOT SIZE: .11" pipe @ _____
NO. OF FILM PER CASSETTE 1 pipe @ _____

COMMENTS: SINGLE WALL VIEWING. TOTAL EXPOSURES: 3

PAGE 1 OF 1 INSPECTOR DRK LEVEL III ASNT II CGSB

TOTAL COSTS

CERTIFICATE OF HYDROSTATIC TEST

UNIT SERIAL NUMBER: **2006-7578-03**

PART DESCRIPTION: **2" Meter Run (Upstream)**

WE CERTIFY THAT THE UNIT BEARING THE ABOVE SERIAL NUMBER WAS
HYDROSTATICALLY TESTED TO A PRESSURE OF **413 PSIG** AND HELD AT
THAT PRESSURE FOR A PERIOD OF **ONE** HOUR AND NO LEAKS OR OTHER
DEFECTS WERE FOUND. GAUGE NUMBERS: **G2 / G13**



ALCO GAS & OIL PRODUCTION EQUIPMENT LTD
QUALITY CONTROL INSPECTOR

March 15, 2006

DATE

CUSTOMER REPRESENTATIVE

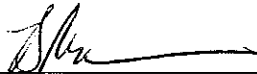
DATE

CERTIFICATE OF HYDROSTATIC TEST

UNIT SERIAL NUMBER: 2006-7578-03

PART DESCRIPTION: 2" Meter Run (Downstream)

WE CERTIFY THAT THE UNIT BEARING THE ABOVE SERIAL NUMBER WAS
HYDROSTATICALLY TESTED TO A PRESSURE OF 413 PSIG AND HELD AT
THAT PRESSURE FOR A PERIOD OF ONE HOUR AND NO LEAKS OR OTHER
DEFECTS WERE FOUND. GAUGE NUMBERS: G2 / G13



ALCO GAS & OIL PRODUCTION EQUIPMENT LTD
QUALITY CONTROL INSPECTOR

March 15, 2006

DATE

CUSTOMER REPRESENTATIVE

DATE

Phase # : 2005-7529-01B Sold to 2006-7578-50B
Phase Title: 3Ph. Glycol Contactor

TABLE OF CONTENTS

Title	Availability	
	Yes	No
1. Data Reports	X	
2. CRN's	X	
3. Nameplate Copy	X	
4. Travel Sheet	X	
5. Impact Test Reports		N/A
6. Material Control	X	
7. Material Reports	X	
8. MTR's	X	
9. NDE MPT		N/A
LPT		N/A
RADIOGRAPHY	X	
ULTRA SONIC		N/A
10. Stress Relieve Charts		N/A
11. Hydrotest Report(s)	X	
12. Hydro Chart		N/A
13. PSV & Valve Cert.		N/A

FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Code Rules, Section I, Division 1

①598812

1. Manufactured and certified by Alco Gas & Oil Production Equipment LTD. 5203-75th STREET EDMONTON, ALBERTA
 (Name and address of Manufacturer)
2. Manufactured for Cordero Energy Inc. c/o Seidlitz Engineering Ltd 1700 840 7th Ave SW Calgary AB T2P 3G2
 (Name and address of Purchaser)
3. Location of installation MALMO (LSD: 10-29-43-22 W4M / 13-20-43-22 W4M)
 (Name and address)
4. Type: Vertical 3 PHASE GLYCOL CONTACTOR 2005-7529-01B
 (Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.)
- L-9110.213 A-24264 R0 N/A 2006
 (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)
5. ASME Code, Section VIII, Div. 1 2004 ED 2005 ADD N/A N/A
 [Edition and Addenda (date)] (Code Case No.) [Special Service per UG-120(d)]

Items 6 - 11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels.

6. Shell (a) No. of course(s): 3 (b) Overall length (ft & in.): 28'-0" SM/SM

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft. & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	22"	8'-0"	SA-516Gr.70MT		1"	1/16"	1	Full	100%	1	SPOT	70%	N/A	N/A
2	22"	10'-0"	SA-516Gr.70MT		1"	1/16"	1	Full	100%	1	SPOT	70%	N/A	N/A

7. Heads: (a) SA-516Gr.70MT (b) SA-516Gr.70MT
 (Mat'l Spec. No., Grade or Type) (H.T.-Time & Temp.) (Mat'l Spec. No., Grade or Type) (H.T.-Time & Temp.)

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	Top	1.068"	1/16"	N/A	N/A	2:1	N/A	N/A	N/A	N/A	Concave	N/A	N/A	N/A
(b)	Bottom	1.068"	1/16"	N/A	N/A	2:1	N/A	N/A	N/A	N/A	Concave	N/A	N/A	N/A

- If removable, bolts used (describe other fastening) N/A
 (Mat'l Spec. No., Grade, size, No.)

- pe of jacket N/A Jacket closure N/A
 (Describe as ogee & weld, bar, etc.)

- If bar, give dimensions N/A If bolted, describe or sketch.

9. MAWP 1600 N/A psi at max. temp. 150 N/A °F Min. design metal temp. -20 °F at 1600 psi.
 (internal) (external) (internal) (external)

10. Impact test Shell, nozzles, repads & heads exempt per UCS-66 Curve (d); Flanges exempt per UCS-66(c) at test temperature of N/A °F.
 (Indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. test press. Hydrostatic 2080 PSIG Proof test N/A
 Items 12 and 13 to be completed for tube sections.

12. Tubesheet: N/A N/A N/A N/A N/A
 [Stationary (Mat'l Spec. No.)] [Dia., in. (subject to press.)] (Nom. thk., in.) (Corr. Allow., in.) [Attachment (welded or bolted)]
- N/A N/A N/A N/A N/A
 [Floating (Mat'l Spec. No.)] (Dia., in.) (Nom. thk., in.) (Corr. Allow., in.) (Attachment)

13. Tubes: N/A N/A N/A N/A N/A
 (Mat'l Spec. No., Grade or Type) (O.D., in.) (Nom. thk., in. or gauge) (Number) [Type (Straight or U)]

Items 14 - 18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 6'-0"

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	3/4"	6'-0"	SA-312-TP-304L		.154"	NIL	S	NIL	100	NIL	---	N/A	N/A	N/A

15. Heads: (a) SA-105N COUPLING (b) SA-105N COUPLING
 (Mat'l Spec. No., Grade or Type) (H.T.-Time & Temp.) (Mat'l Spec. No., Grade or Type) (H.T.-Time & Temp.)

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	COUPLING	CL60000	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(b)	COUPLING	CL60000	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

- If removable, bolts used (describe other fastening) N/A
 (Mat'l Spec. No., Grade, size, No.) Platcom 01-02E01

FORM U-1 (Back)

16. MAWP 1600 1600 psi at n 150 150 °F. Min. design temp. -20 °F at 1600 psi.
(internal) (external) (internal) (external)

17. Impact test NO-EXEMPT PER UHA-51(d)(1) at test temperature of N/A °F.

(Indicate yes or no and the component(s) impact tested)

18. Hydro., pneu., or comb. test press. Hydrostatic 2239 PSIG Proof test N/A

19. Nozzles, inspection, and safety valve openings:

Purpose (inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
GAS INLET	1	4"	CL900 RFWN	SA-106B	SA105N	.674"	1/16"	SA-516Gr.70MT	UW 16.1(c)	TYPE1	SHELL
GAS OUTLET	1	4"	CL900 RFWN	SA-106B	SA105N	.674"	1/16"	N/A	UW 16.1(c)	TYPE1	Top Head
Relief	1	2"	TOL	SA-105N	N/A	CL6000	1/16"	N/A	UW16.1(a)	N/A	SHELL
PRESS IND	1	1/2"	TOL	SA-105N	N/A	CL6000	1/16"	N/A	UW16.1(a)	N/A	SHELL
TEMP IND	1	3/4"	TOL	SA-105N	N/A	CL6000	1/16"	N/A	UW16.1(a)	N/A	SHELL
WATER OUT	1	1"	COUPLING	SA-105N	N/A	CL6000	1/16"	N/A	UW16.1(c)	N/A	SHELL
GLYCOL OUT	1	1"	TOL	SA-105N	N/A	CL6000	1/16"	N/A	UW16.1(a)	N/A	SHELL

20. Supports: Skirt Yes Lugs NO Legs NO Others Welded to bottom head Attached Welded to bottom head
(Yes or No) (No.) (No.) (Describe) (Where and how)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:

(List the name of part, item number, mfg's. name and identifying number)

N/A

22. Remarks:

VOLUME 2.09 M³

SEE ATTACHED U4 DATA REPORT

AS BUILT DRAWING D-2006-7578-01-001/001R0 / SOLD TO 2006-7578-01

CERTIFICATE OF SHOP 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. 14259

Expires OCT.7, 2007

Date MAR 9, 2006 Name Alco Gas & Oil Production Equipment LTD.

(Manufacturer)

Signed

(Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of ALBERTA and employed by ABSA of ALBERTA have inspected

the pressure vessel described in this Manufacturer's Data Report on 2006, 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 March 17, 2006 Signed

(Authorized Inspector)

Commissions ALBERTA 94A

(Nat'l Board incl. endorsement, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1.

U Certificate of Authorization No. _____

Expires _____

Date _____

Name _____

Signed _____

(Assembler)

(Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of _____ and employed by _____ of _____

have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of _____ psi. 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 _____ Signed _____

(Authorized Inspector)

Commissions _____

(Nat'l Board incl. endorsement, State, Province and No.)

① 548812

(Name and address of Manufacturer)

(Name and address of Purchaser)

(Name and address)

(Mfg's serial No.)

(Drawing No.)

(Nat'l. Bd. No.)

(Year built)

Remarks

2007

(representative)

ALBERTA 94A

(Nat'l. Board incl. endorsement, state, province and no.)



#200, 4208 - 97 Street
Edmonton, Alberta, Canada T6E 5Z9
Tel: (780) 437-9100 / Fax: (780) 437-7787

March 03, 2006

Attention: Magdi Ghobrial
ALCO GAS & OIL PRODUCTION EQUIPMENT LTD
5203 75 STREET
EDMONTON, AB T6E 5S5

Re: Design registration

The design submission, tracking number 2006-00830, originally received on February 01, 2006 was surveyed and accepted for registration as follows:

CRN : L9110.2

Accepted on: March 03, 2006

Reg Type: Revision To accepted Design

Drawing No. : A-24264 (C.A. 1/16IN) Rev 8

Description	MAWP	Design Temperature	MDMT
Internal Pressure	11032 kPa	66°C	-29°C
Heating coil	11032 kPa	66°C	-29°C

An acceptance letter and a copy of the stamped drawing will be sent to you.

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

If you have any question don't hesitate to contact me by phone at (780) 433-0281 ext 367 or fax (780) 437-7787 or e-mail Onshchenko@absa.ca.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tetyana', followed by a horizontal line.

ONSHCHENKO, TETYANA
Design Surveyor



Alberta Boilers Safety Association

#200, 4208 - 97 Street
Edmonton, Alberta, Canada T6E 5Z9
Tel: (780) 437-9100 / Fax: (780) 437-7787

February 24, 2000

John Wolansky
ALCO GAS & OIL
PRODUCTION EQUIPMENT LTD.
5203 - 75 STREET
EDMONTON, AB T6E 5S5

Dear John Wolansky,

The drawings, specifications and/or information received on February 09, 2000 are accepted for registration as follows:

CRN : L9110.2

Drawing No. : A-24264 Rev 0 As Noted

Fee : \$ 240.00

Add. Prints: \$ 0

Accepted on : February 23, 2000

Reg Type : New Design

Track No. : 2000-00915

Description	Design Pressure	Design Temperature	MDMT
Internal Pressure	11032 kPa	66°C	-29°C
COIL I	8963 kPa	93°C	-29°C

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

Enclosed are stamped prints for your reference.

Sincerely,

PO FOK
Design Survey Engineer



Municipal Affairs,
Culture and Housing

Municipal Services Division

Protection Services Branch
Boiler & Pressure Vessel Safety
330 - 1855 Victoria Avenue
Regina, Saskatchewan
S4P 3V7

PLEASE DO NOT SEND REMITTANCE
WITHOUT A COPY OF THIS INVOICE
WHICH IS DUE WITHIN 30 DAYS.

TEL : (306)787-4490 / 787-4514
FAX : (306)787-9273

APPROVAL AND INVOICE

Friday, March 10, 2000

Alco Gas & Oil Production Equipment Ltd.

5203 - 75 Street

Edmonton, Alberta T6E 5S5

Our File

28034[0 V]

ATTENTION : John Wolansky

With reference to your submission respecting the registration of the item below, for legal use in the province, please note we have surveyed, approved and registered this design as noted.

MANUFACTURER :	Alco Gas & Oil Production Equipment Ltd.	
ITEM :	DRAWING NUMBER :	CRN :
Glycol Contactor	A-24264 Rev 1	L9110.23
REGISTRATION FEE: \$130.00 (CANADIAN FUNDS ONLY)		

We wish to point out that every vessel must be constructed strictly in accordance with the registered design.

In addition to stamping every vessel with the registration number given above and as required in CSA Code B51, a Manufacturer's Data Report must be forwarded to this office immediately at the time a vessel is shipped. Such forms may be obtained upon request.

Sincerely,

Brian Krasiun, P. Eng.

Design and Registration

#327 Reg. of Design

REMARKS: CRN registered under reciprocal agreement.



FILE COPY

TO: ALCO GAS & OIL PRODUCTION EQUIPMENT LTD
5203 75TH ST
EDMONTON AB
T6E 5S5

188140
Registered: 2000/03/22
Journal #: 23370
Account #: 213

Attn: JOHN WOLANSKY (S/O: 6267-01)

Re: ALCO GAS & OIL PRODUCTION EQUIPMENT LTD

DESIGN REGISTRATION

C.R.N.

L9110.21

Drawings / Documents	Description			
24"OD GLYCOL CONTACTOR A-24264 REV 1	MDMT -----	MAWT -----	MAWP -----	EXT PRESS -----
REGISTERED	Contactor	-20 F	150 F	1600 psi
Stock / Inventory	24" O.D. X 28'-0" S/S Glycol Contactor C.A.: 0.0625" 3 Phase w/ 8 Trays at 24" Spacing Volume: 74 ft^3 Hydro Test Pressure: 2080 psig specified Code: ASME Sec VIII, Div 1, 1998 Edition, 1999 Addenda, UW-11(a) (5) (b) .			

Remarks: This design has been registered as noted above. An invoice for survey will follow in the amount of \$ 114.00

- Note: 1) The Province of Alberta (ABSA) issued
CRN L9110.2 on February 23, 2000.
2) Registered by way of Reciprocal Agreement in B.C.
3) Final site location may require consideration of
seismic loadings per UG-22(f). Please reference
NBC-90 and forward calculations if or as needed
to demonstrate compliance once a final site
location has been identified.

Yours truly,

H. KLAVER
Design Surveyor

dc

Ministry of
Municipal Affairs

Safety Engineering
Services Division
Boiler Gas & Railway
Safety Branch

Suite 400 88 - 6th Street
New Westminster, BC V3L 5B3

Telephone: (604) 660-6254
Facsimile: (604) 660-3460

{U}

812

2066

1-9110-235

PH GLYCOL CO-TRACTOR

SA-316-70MI 1.668

20625

SQ1 D TQ 2006-7578 01

{U}

2066

1-9110-2

GLYCOL COIL

SA-1050 CRIG C16000

MTL

ALCO

E

1690

1690

1690

1690

1690

2005-7529-01B

(A) 548812

1-710

SA-316-70MI 1.6

2086

ALCO

E

1690

1690

1690

1690

1690

1690

1690

2005-7529-01B

(A)

1-710

SA-3121P 3041 G.134

HYDRO

2239

TRAVEL SHEET

Authorized Inspector (Signature)

NR

AB

Date Jan 04/06

CUSTOMER/LOCATION		SERIAL NUMBER/UNIT		(A) NUMBER/C.R.N.	
ALCO		2005-7529-01 B		D-2005-7529-01-001/001	
ITEMS: 3PH GLYCOL contactor 24" ODA 28'-0"		COMMENTS: SOLD TO 2006-7578-01A		DATE FUNCTION IS COMPLETED AND INSPECTORS INITIALS	
Repair Procedure Approved				HOLD O.C.	CUSTOMER HOLD (AGENT)
Approved Drawings		L 9110.213		MA	
Material Checked Against Drawing Bill of Material		REVIEWED		MA	RB 06-03-17
Mill Test Checked		KTH Certified NR 2006-03-08		NE	
Impact Test FLG'S UCS 66(C) EXEMPT UCS 66		curve (d) HDS Repairs 05-11-3		B	R 06-03-17
Unit Layout		2006/01/10		hm/mh	
Weld Procedure Approved		Reviewed 05-11-3		B	
Welder(s) Qualifications					
Fit-Up: Shell & Heads		Type 1		NE	
Nozzles & Fittings					
Internals					
Externals					
Connections: Location					
Rating		900' 6000'		R	
Internal inspection				R	
Internals Installed		Course 2/3 H Jun 11/06 02 TH Jun 19/06 02		NE	H 06 Jun 19/06
Weld Profile & Sizes & ID		CHECKED 06-03-08		NE	
Radiographs		spot LW-112-SB		R	06-03-17
Other N.O.E.					
Stamping		CHECKED 06-03-08		NE	
External Upon Completion of Welding, when PWHT		CHECKED 06-03-08		NE	1002 06-03-08
Alternative Test					
P.W.H.T. Charts Checked		NIR 05-11-3		B	
Hydrostatic Test/Chart Gauge # K17/K10 COIL 2239		Gauge # K2/K3 VESSEL 2080 PSIG		COIL 06-01-13 VESSEL 06-02-09	11 coil Jan 13/06 RD Mon 8/06 06-03-17 RDC-03-17
M.D.R.		06-03-09		NE	
Name Plate		06-03-16		NE	

PART	MAT'L SPEC	THK	HEAT NO.	PART	MAT'L SPEC	THK	HEAT NO.
Heads	SA-516-70MT	1.068"	2108 77586	Repads	SA-516-70MT	0.625"	79675 2537B
		1.068"	00793 235461-1				
Shell	SA-516-70MT	1.0"	16452 448655				
		1.0"	5878446 10875805				
				Tubes			
Tubesheet							

* INDICATES HOLD POINTS TO BE SIGNED OFF BY THE APPLICABLE INSPECTOR.

ALCO GAS & OIL PRODUCTION EQUIPMENT LTD.

QC FORM K-2

MATERIAL CONTROL & NDE LIST

SERIAL NUMBER: 2005-2529-01B

CUSTOMER: ALCO Steel

DATE: Nov 3, 2005

NONDESTRUCTIVE TESTING WHEN REQUIRED

ITEM	MATERIAL	HEAT NUMBER	MTR	RT	UT EDGE	UT "D"	MPI ROOT	MPI FINISH	BHN
Top Head	SA 516-70 MT	21103 77586	NZ						
Shell	SA 516-70 MT	58/8446 10875805	NZ						
Shell	SA 516-70 MT	58/8446 10875805	NZ						
Shell	SA 516-70 MT	16452 448655	NZ						
Bottom Head	SA 516-70 MT	00793 235461-1	NZ						
Repad	SA 516-70 MT	79675 2537B	NZ						
N1 4" REWD 900 XXH	SA 105N	06869	NZ						
N2 4" REWD 900 XXH	SA 105N	35981	NZ						
C1 2" Tol 6000	SA 105N	ABZ	NZ						
C2 1/2" Tol 6000	SA 105N	FLLR	NZ						
C3 3/4" Tol 6000	SA 105N	DLVV	NZ						

ALCO GAS & OIL PRODUCTION EQUIPMENT LTD.

QC FORM K-2

MATERIAL CONTROL & NDE LIST

SERIAL NUMBER: 2005-7529-01 B

CUSTOMER: ALCO

DATE: Nov 3, 2005

NONDESTRUCTIVE TESTING WHEN REQUIRED

ITEM	MATERIAL	HEAT NUMBER	MTR	RT	UT EDGE	UT "D"	MPI ROOT	MPI FINISH	BHN
C4 1" CPLG 6000	SA 105N	2017	NE						
C5A 1" CPLG 6000	SA 105N	2017	NE						
C5B 1" CPLG 6000	SA 105N	2017	NE						
C6 1" Tol 6000	SA 105N	FTCF	NE						
C7 1" Tol 6000	SA 105N	FTCF	NE						
C8 2" Tol 6000	SA 105N	ABZ	NE						
C9A 3/4" Tol 6000	SA 105N	DLUU	NE						
C9B 3/4" Tol 6000	SA 105N	DLUU	NE						
C10A 3/4" Tol 6000	SA 105N	DLUU	NE						
C10B 3/4" Tol 6000	SA 105N	DLUU	NE						
C11 2" Tol 6000	SA 105N	ABZ	NE						
C12 1" Tol 6000	SA 105N	FTCF	NE						
C13 1" Tol 6000	SA 105N	FTCF	NB						

ALCO **GAS & OIL**
PRODUCTION EQUIPMENT LTD.

MATERIAL CONTROL & NDE LIST

SERIAL NUMBER: 2005-7529-01 B

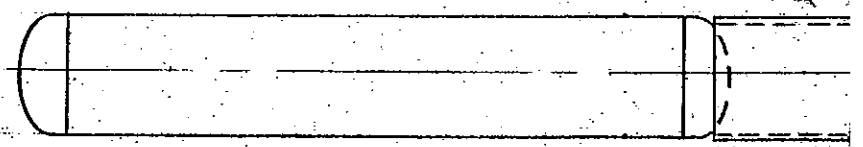
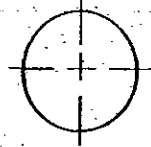
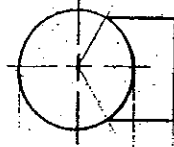
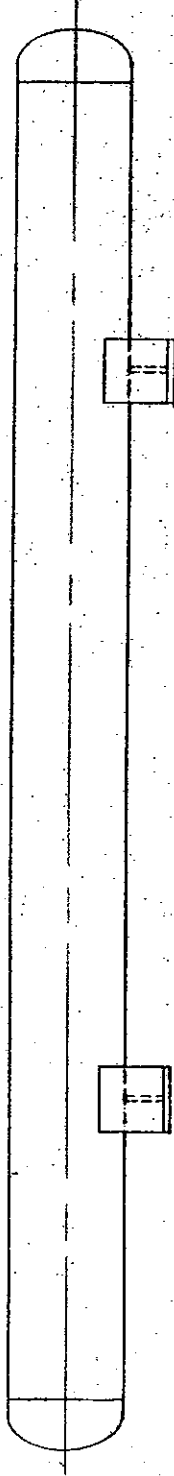
CUSTOMER: Alce

DATE: NOV 3, 2003

NONDESTRUCTIVE TESTING WHEN REQUIRED

ITEM	MATERIAL	HEAT NUMBER	MTR	RT	UT EDGE	UT "D"	MPI ROOT	MPI FINISH	BHN
C14A 1/2" Tol 6000	SA 105N	FLLR	NE						
C14B 1/2" Tol 6000	SA 105N	FLLR	NE						
C14C 1/2" Tol 6000	SA 105N	FLLR	NE						
C14D 1/2" Tol 6000	SA 105N	FLLR	NE						
C14E 1/2" Tol 6000	SA 105N	FLLR	NE						
C14F 1/2" Tol 6000	SA 105N	FLLR	NE						
C14G 1/2" Tol 6000	SA 105N	FLLR	NE						
C14H 1/2" Tol 6000	SA 105N	FLLR	NE						
C15A 2" Tol 6000	SA 105N	ABZ	NE						
C15B 2" Tol 6000	SA 105N	ABZ	NE						
C16 1" Tol 6000	SA 105N	FTCF	NE						
C17 3/4" Tol 6000	SA 105N	DLUU	NE						

CUSTOMER: ALCO STOCK
 SERIAL NO: 2005-7529-01



TITLE	DIA.	ITEM NO.	HEAT NO.	SLAB NO.	MAT'L. SPEC.	MIN.
HEAD:	24"	1	00793	235461-1	SA516-70	1 1/8"
	24"	1	21108	77586	"	"
	24"	1	18337	516076	"	"
	24"	2	16462	448635	"	"
SHELL:	24"	3	5205236N	6514916	"	"
	24"	3	5818442	1087E805	"	"
	4"	21,22	525549		SA106B	XXH
	1"	31	143635		SA106B	51H80
PADS:	3/4"	32	J0412-102		SA-312-TP-304L	50H XH
	8 1/2"	47	79675	2537B	SA516-70	5/8"
SKIRT:						
SADDLES:						

DATE: JAN 17/06 FILLED BY: B.II DRWG. NO: 752901x2

APP'D	SCALE	DATE	DRAWN
	NTS	7/8/86	DOUG
MATERIAL REPORT			
REV <u>0</u>			
Appendix 1			
DWG. D-2900			
ALCO GAS & OIL PRODUCTION EQUIPMENT LTD.			

Edmonton Exchanger & Manufacturing Ltd.

45-89 Street, Edmonton, Alberta T6E 5...
Telephone (780) 468-6722 Fax (780) 466-5155

QCC-001
Rev.7
Date: April 1, 2005
Approved By: S.Z.

Certificate of Compliance

Customer ALCO GAS & OIL PRODUCTION

Purchase Order 109665

Work Order C60690

Date 2005/11/02

Page 1 of 1

Item#	Description	Qty	Heat#	Certified Min Thk	Form. Proc.
H60690-1	HEAD(S) - Semi-Elliptical 2:1 - 1.1250" NOM (1.0680" _MIN) X 24" OD (Material Spec: SA 516-70 N)	1	2110B-77586	1.0690"	1
		1	00793-235461-1	1.0680"	1
		2	18337-516076	1.0680"	1

Forming Procedure:

1. Hot Formed @ 1650F/899C and Air Cooled

The heads listed above comply with the requirements of ASME Code Section I (PG-29 & 81), and Section VIII, Div. 1, including Paragraphs UG-79 and UG-81. Material being supplied conforms to the latest ASME Code Section II, Part A, 2004-07-01 Edition.

Steve Zubryckj (QAM)

Supplementary Examination - Items

CONFORM TO SPEC	516-70 MT
YEAR	2004/2005
JOB	7529-01
ITEM	1
SIGNED	05-11-15

ALGOMA STEEL INCORP. 105 West St., Sault Ste. Marie, Ontario, Canada, P6A 7B4

CUSTOMER PURCHASE ORDER NUMBER		ENTRY DATE		SHIP DATE		TALLY NUMBER		SHIPPER'S NUMBER		CARRIER		MILL ORDER	
E10051-J1010 LG		2003/03/19		2003/05/08		294006		02-7714		ACR - OBA - CNR		-605627 4222	

CHARGE TO CUSTOMER NAME & ADDRESS

EDMONTON EXCHANGER & MANUFACTURING LTD
5545 - 89TH STREET
EDMONTON, ALBERTA
T6E 5W9

SHIP TO CUSTOMER NAME & ADDRESS

EDMONTON EXCHANGED & MANUFACTURING LTD
5545 89TH STREET
EDMONTON, ALBERTA

MILL TEST REPORTS

ALGOMA STEEL INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN HEREIN AS CONTAINED IN THE COMPANY RECORDS AND WITHIN THE SCOPE OF ACCREDITATION OF ISO/IEC GUIDE 25:199 AS CONTAINED IN THE COMPANY RECORD

H. Haldenby
MANAGING METALLURGIST

THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ALGOMA STEEL. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705) 945-2624 COLLECT FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT.

TEST REPORTS REQ'D - INCL C.E. & BORON PRODUCT ANALYSIS

FABRICATION

CUSTOMER ITEM 3 OUR ITEM 003 DIMENSIONS 1.125 X 120 X 480 "

PLATES NORMALIZED FOR A MINIMUM OF 15 MINUTES @ 1650F.

PLATE NUMBER	HEAT	NO. PIECES	WEIGHT	PLATE NUMBER	HEAT	NO. PIECES	WEIGHT
77584	2110B-04	1	18377	77586	2110B-54	1	18377
77588	2112B-52	1	18377	77590	2112B-53	1	18377
77593	2112B-55	1	18377				

*** MECHANICAL PROPERTIES ***

TENSILE TESTS:

PLATE NUMBER	HEAT	SAMPLE SRCE	GAUGE IN	COND N	TEST METH	DIR	YIELD KSI	TENSILE KSI	% ELONG
2110B 77584	166"	1.1250	N	.2	T	T	49.7	76.0	28 (2")
2110B 77586	166"	1.1250	N	.2	T	T	50.5	77.0	33 (2")
2112B 77588	166"	1.1250	N	.2	T	T	50.5	78.0	32 (2")
2112B 77590	166"	1.1250	N	.2	T	T	50.5	77.0	32 (2")
2112B 77593	166"	1.1250	N	.2	T	T	50.0	76.5	32 (2")

IMPACT TESTS:

PLATE NUMBER	HEAT	SAMPLE SRCE	GAUGE IN	COND N	TEST METH	DIR	SIZE TEMP	FULLSIZE ENERGY	AVG
2110B 77584	166"	1.1250	N	N	CVN	L	-50F	80	94
2110B 77586	166"	1.1250	N	N	CVN	L	-50F	75	91
2112B 77588	166"	1.1250	N	N	CVN	L	-50F	73	71
2112B 77588	166"	1.1250	N	N	CVN	L	-50F	73	59

WARNING

THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE CHEMICAL ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

CONFORMS TO SA SL6-2047
 YEAR 2004
 JOB 7529-01
 ITEM 1
 SIGNED BY 05-11-15

LI AI AI AI AI AI

LI AI AI AI AI AI



ALGOA STEEL INCORP. 105 West St., Sault Ste. Marie, Ontario, Canada, P6A 7B4

CUSTOMER PURCHASE ORDER NUMBER **E10051-J1010 LG** ENTRY DATE **2003/03/19** SHIP DATE **2003/05/08** TALLY NUMBER **294006** SHIPPER NUMBER **02-7714** CARRIER **ACR - OBA - CNR** MILL ORDER **42223** -605627

MILL TEST REPORTS

ALGOA STEEL INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN HEREIN AS CONTAINED IN THE COMPANY RECORDS AND WITHIN THE SCOPE OF ACCREDITATION OF ISO/IEC GUIDE 25:1999 AS CONTAINED IN THE COMPANY RECORD

H. Haldenby
MANAGING METALLURGIST

THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ALGOA STEEL IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705) 945-2624 COLLECT FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT.

SHIP TO CUSTOMER NAME & ADDRESS

EDMONTON EXCHANGED & MANUFACTURING LTD
5545 89TH STREET
EDMONTON, ALBERTA
T6E 5W9

SHIP TO CUSTOMER NAME & ADDRESS

EDMONTON EXCHANGER & MANUFACTURING LTD
5545 - 89TH STREET
EDMONTON, ALBERTA
T6E 5W9

CUSTOMER SPECIFICATION

HR PLATE - CARBON - ASME SA 516 70 (2001) - CVNL 15/12 FT LBS AT -50 F - AS
PER SA20 - ESP-03 REV1.03-02-28 - NORMALIZED 1650F NOM FOR 5 MIN/INCH MIN. -
PVO - NORMALIZED - TO ISO 9002 DIN 50049 3.1.B/EN 10204 3.1.B (91) - SULPHIDE
SHAPE CONTROL

SUPPLEMENTARY INSTRUCTIONS

TEST REPORTS REQ'D - INCL C.E. & BORON PRODUCT ANALYSIS

FABRICATION

***** MECHANICAL PROPERTIES *****

HEAT NUMBER PLATE SRCE GAUGE IN COND METH DIR SIZE TEMP * FULLSIZE ENERGY * FTLB * AVG

2112B 77590 166" 1.1250 N CVN L FULL -50F 45 29 70 48
2112B 77593 166" 1.1250 N CVN L FULL -50F 52 62 64 59

PRODUCT ANALYSIS TESTS:

HEAT C MN P S SI CR NI MO AL CB V B TI SN N D-O:
2110B .19 1.11 .009 .005 .33 .02 .14 .01 .053 .003 .022 .001
***** PLATE # OF PRAN IS 77584 *****
2112B .18 1.04 .006 .004 .33 .02 .14 .01 .060 .003 .023 .002
***** PLATE # OF PRAN IS 77587 *****

***** CHEMICAL PROPERTIES *****

HEAT C MN P S SI CR NI MO AL CB V B TI SN N D-O:
2110B .19 1.11 .009 .005 .33 .02 .14 .01 .053 .003 .022 .001
2112B .20 1.07 .006 .005 .32 .02 .14 .01 .048 .048 .022 .008 .008 .40 .40



CONFORMS TO SA 516-70M7
YEAR 2004 A-2005
JOB 7529-01
ITEM
SIGNED BY 05-11-15

WARNING

THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THIS PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE CHEMICAL ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THIS STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.



**ILSENBURGER
GROBBLECH**

Ein Unternehmen der Salzgitter Gruppe

**Inspection certificate 3.1/3.1.B
DIN EN 10204**

(A02)

No. (A03) **380455**
Page **1/4**
Date **16.08.2005**

No. (A07) **PO 8663** 16.06.2005 No. (A07)
Purchaser **Olbert Metal Sales Limited** Customer **Kanada**
(A06) **CDN- Mississauga, Ont. L5T 2J8** (A06) **CDN- Kanada**

Product **Heavy plate**
(B01)

Works order No. **0000009391**
(A08)

Dispatch note No. **0080555931**
28.07.2005

Steel grade and terms of delivery **Grade 70 MT LTV**
(B02-B03) **ASME SA 516, SA 20**
ASTM A 516 00/03, A 20 00/03
Grade 537 Cl.1 MT LTV
ASME SA 537, SA 20
ASME SECT. II Part A ed.2004
HOT ROLLED CARBON STEEL PLATES CERTIFIED TO
ASME SA 516 GRADE 70,
P.O. No. 8663

Inspection **WS**
(A05)

Marking of the product (B06)
Trademark/Steelgrade/Heat-No/Product-No/
inspector's stamp



11691

Material data (B01-B39)

Item	Quantity (B08)	Product No. (B07)	Heat No. (B07)	Cond. of delivery (B04)	Thickness x Width x Length (B09-B11)	in x in x in
21	1	235454 1	50643	N	1,125 x 121,000 x 480,000	
21	1	235455 1	00794	N	1,125 x 121,000 x 480,000	
21	1	235457 1	00793	N	1,125 x 121,000 x 480,000	
21	1	235458 1	50643	N	1,125 x 121,000 x 480,000	
21	1	235459 1	00794	N	1,125 x 121,000 x 480,000	
21	1	235460 1	00793	N	1,125 x 121,000 x 480,000	
21	1	235461 1	00793	N	1,125 x 121,000 x 480,000	
Σ	7	Weight (B12)	58.828	kgs	N: normalized	

Dimensional check and visual examination of the surface condition:
without objection

Ladle analysis (C70-C99)

Manufacturer standard

Heat No. (B07)	C %	Si %	Mn %	P %	S %	N %	Al %	Cu %	Cr %	Ni %
	≤0,21	0,15-0,40	0,85-1,20	≤0,020	≤0,003		≤0,08	≤0,10	≤0,10	≤0,25
00793	0,19	0,24	1,18	0,016	0,003	0,004	0,04	0,03	0,04	0,04
00794	0,19	0,24	1,18	0,010	0,003	0,005	0,04	0,03	0,04	0,04
50643	0,20	0,24	1,17	0,009	0,002	0,004	0,03	0,02	0,03	0,03
Heat No. (B07)	Mo %	V %	Nb %	Ti %	Sn %	B %	H ppm	Cr+Mo %	EV1 1) %	EV2 2) %
	≤0,08	≤0,03	≤0,02	≤0,03			≤5	≤0,32	≤0,70	≤0,40
00793	0,00	0,00	0,02	0,00	0,01	0,0002	4	0,04	0,11	0,40
00794	0,00	0,00	0,02	0,00	0,01	0,0001	4	0,04	0,11	0,40
50643	0,00	0,00	0,02	0,00	0,00	0,0002	4	0,03	0,08	0,40

1) EV1: Cr+Cu+Mo+Ni

2) EV2: CEV=C+Mn/5+Mo/5+Ni/15+Cr/5+V/5+Cu/15

We hereby certify that the delivered material complies with the terms of the order.

(Z01)

QM-System: Certification as per ISO 9001 since 28 February 1990

Trademark
(A04)

Ilseburger Grobblech GmbH
Veckenstedter Weg 10
D-38871 Ilseburg
(A01)

Inspection
(Z03)

Inspection Representative
(Z02)

Cyron



**ILSENBURGER
GROBBLECH**

Ein Unternehmen der Salzgitter Gruppe

**Inspection certificate 3.1/3.1.B
DIN EN 10204**

(A02)

No. (A03)

380455

Page

2/4

Date

16.08.2005

No. (A07) PO 8663 16.06.2005
Purchaser Olbert Metal Sales Limited
(A08) CDN- Mississauga, Ont. L5T 2J8

No. (A07) Canada
Customer (A08) CDN- Canada

Product Heavy plate
(B01)

Works order No. 0000009391
(A08)

Dispatch note No. 0080555931
28.07.2005

Steel grade and terms of delivery Grade 70 MT LTV
(B02-B03) ASME SA 516, SA 20
ASTM A 516 00/03, A 20 00/03
Grade 537 Cl.1 MT LTV
ASME SA 537, SA 20
ASME SECT. II Part A ed.2004
HOT ROLLED CARBON STEEL PLATES CERTIFIED TO
ASME SA 516 GRADE 70,
P.O. No. 8663

Inspection
(A05)

WS

Steelmaking process: Basic oxygen process

(C70)

"Hydrogen content less than 0,0005%."

"Produced with sulfid shape control."

Material is vacuum degassed

Check analysis (C70-C99)

Specimen No. (C00)	Heat No. (B07)	C %	Si %	Mn %	P %	S %	N %	Al %	Cu %
		≤0,21	8,13 - 8,45	0,79 - 1,38	≤0,020	≤0,003		≤0,08	≤0,10
235467 *)	00793	0,18	0,24	1,24	0,018	0,002	0,004	0,04	0,02
235284 *)	00794	0,19	0,25	1,14	0,013	0,003	0,006	0,05	0,03
235475 *)	50643	0,20	0,23	1,13	0,009	0,002	0,004	0,02	0,02
Specimen No. (C00)	Heat No. (B07)	Cr %	Ni %	Mo %	V %	Nb %	Ti %	Sn %	B %
		≤0,10	≤0,25	≤0,88	≤0,03	≤0,02	≤0,04		
235467 *)	00793	0,04	0,03	0,00	0,01	0,02	0,00	0,00	0,0006
235284 *)	00794	0,03	0,03	0,00	0,00	0,02	0,01	0,02	0,0000
235475 *)	50643	0,03	0,03	0,00	0,00	0,02	0,00	0,01	0,0006
Specimen No. (C00)	Heat No. (B07)	Cr+Mo %	EV1 1) %	EV2 2) %					
			≤0,78	≤0,40					
235467 *)	00793	0,04	0,09	0,40					
235284 *)	00794	0,03	0,09	0,39					
235475 *)	50643	0,03	0,08	0,40					

1) EV1: Cr+Cu+Me+Ni

*) The sample product is net part of the delivery

2) EV2: CEV=C+Mn/6+Mo/5+Ni/15+Cr/5+V/5+Cu/15

We hereby certify that the delivered material complies with the terms of the order.

(Z01)

QM-System: Certification as per ISO 9001 since 28 February 1998



Trademark
(A04)

Ilseburger Grobblech GmbH
Veckenstedter Weg 18
D-38871 Ilseburg
(A01)

Aj

Inspection Stamp
(Z03)

Inspection Representative
(Z02)

Cyron

Inspection certificate 3.1/3.1.B		No. (A03)	380455
DIN EN 10204		Page	3/4
(A02)		Date	16.08.2005
No. (A07)	PO 8663	16.06.2005	No. (A07)
Purchaser	Olbert Metal Sales Limited	Customer	Kanada
(A06)	CDN- Mississauga, Ont. L5T 2J8	(A06)	CDN- Kanada
Product	Heavy plate	Works order No.	0000009391
(B01)		(A08)	
Steel grade and terms of delivery	Grade 70 MT LTV	Dispatch note No.	0080555931
(B02-B03)	ASME SA 516, SA 20		28.07.2005
	ASTM A 516 00/03, A 20 00/03	Inspection	WS
	Grade 537 Cl.1 MT LTV	(A06)	
	ASME SA 537, SA 20		
	ASME SECT. II Part A ed. 2004		
	HOT ROLLED CARBON STEEL PLATES CERTIFIED TO		
	ASME SA 516 GRADE 70,		
	P.O. No. 8663		

Tensile test (C10-C29)										
Specimen No. (C00)	Heat No. (B07)	Location (C01)	Direct. (C02)	Cond. (B05)	Type (C10)	Yield strength (C11) Rp0,2 N/mm2 ≥345	Tensile strength (C12) Rm N/mm2 485 - 620	Elongation (C13) 8in % ≥10		
235454	50643	K6G	Q	N	P	351	517	27		
235454	50643	K6G	Q	NN	P	346	505	30		
235455	00794	K6G	Q	N	P	348	506	29		
235455	00794	K6G	Q	NN	P	353	503	31		
235457	00793	K6G	Q	N	P	348	518	27		
235457	00793	K6G	Q	NN	P	348	509	28		
235458	50643	K6G	Q	N	P	359	519	29		
235458	50643	K6G	Q	NN	P	349	508	31		
235459	00794	K6G	Q	N	P	351	513	29		
235459	00794	K6G	Q	NN	P	349	501	30		
235460	00793	K6G	Q	N	P	349	520	26		
235460	00793	K6G	Q	NN	P	354	514	30		
235461	00793	K6G	Q	N	P	348	519	27		
235461	00793	K6G	Q	NN	P	356	512	28		
1) K: Top 2) G: 1/6 Width 3) G: Thickness of product 4) Q: transversal 5) N: normalized NN: normalized twice 6) P: prismatic										

Impact test (C40-C49)										
Specimen No. (C00)	Heat No. (B07)	Location (C01) 1) 2) 3)	Direct (C02) 4)	Cond. (B05) 5)	Type of specimen (C40-C41)	Temperature (C03) °F	Impact energy (C42-C43)			
							1 ftlb ≥ 12	2 35	3 37	MW 6) ftlb ≥ 15
235454	50643	K6V	L	N	Charpy V-notch	-051	90	35	37	54
235454	50643	K6V	L	NN	Charpy V-notch	-051	49	49	58	52
1) K: Top 2) 6: 1/6 Width 3) V: 1/4 Thickness 4) L: longitudinal 5) N: normalized NN: normalized twice 6) MW: Average										

We hereby certify that the delivered material complies with the terms of the order.
(Z01)

DM-System: Certification as per ISO 9001 since 28 February 1990

 Trademark
(A04)

Ilsenburger Grobblech GmbH
Veckenstedter Weg 10
D-38071 Ilsenburg
(A01)

 Inspection Stamp
(Z03)

Inspection Representative
(Z02)

Cyron



**ILSENBURGER
GROBBLECH**

Ein Unternehmen der Salzgitter Gruppe

**Inspection certificate 3.1/3.1.B
DIN EN 10204**

(A02)

No. (A03)

380455

Page

4/4

Date

16.08.2005

No. (A07) PO 8663

16.06.2005

No. (A07)

Purchaser Olbert Metal Sales Limited

Customer Kanada

(A06) CDN- Mississauga, Ont. L5T 2J8

(A06) CDN- Kanada

Product Heavy plate
(B01)

Works order No. 0000009391
(A08)

Dispatch note No. 0080555931
(A09)

28.07.2005

Steel grade and terms of delivery Grade 70 MT LTV
(B02-B03) ASME SA 516, SA 20
ASTM A 516 00/03, A 20 00/03
Grade 537 Cl.1 MT LTV
ASME SA 537, SA 20
ASME SECT. II Part A ed.2004
HOT ROLLED CARBON STEEL PLATES CERTIFIED TO
ASME SA 516 GRADE 70,
P.O. No. 8663

Inspection WS
(A05)

Impact test (C40-C49)

Specimen No. (C00)	Heat No. (B07)	Location (C01)	Direct (C02)	Cond. (B05)	Type of specimen (C40-C41)	Temperature (C03) °F	Impact energy (C42-C43)			
							1 ftlbf ≥ 12	2	3	MW 6) ftlbf ≥ 15
235455	00794	K6V	L	N	Charpy V-notch	-051	74	86	98	86
235455	00794	K6V	L	NN	Charpy V-notch	-051	108	32	38	59
235457	00793	K6V	L	N	Charpy V-notch	-051	79	57	58	65
235457	00793	K6V	L	NN	Charpy V-notch	-051	45	74	54	58
235458	50643	K6V	L	N	Charpy V-notch	-051	73	70	49	64
235458	50643	K6V	L	NN	Charpy V-notch	-051	82	40	100	74
235459	00794	K6V	L	N	Charpy V-notch	-051	105	97	83	95
235459	00794	K6V	L	NN	Charpy V-notch	-051	100	75	183	119
235460	00793	K6V	L	N	Charpy V-notch	-051	62	89	96	82
235460	00793	K6V	L	NN	Charpy V-notch	-051	53	83	80	72
235461	00793	K6V	L	N	Charpy V-notch	-051	77	38	34	49
235461	00793	K6V	L	NN	Charpy V-notch	-051	105	49	60	72

- 1) K: Top
2) 6: 1/6 Width
3) V: 1/4 Thickness
4) L: longitudinal

- 5) N: normalized
NN: normalized twice
6) MW: Average

Specimen size:

5,0 x 10 x 55 mm (from 5,00 mm up to 8,99 mm plate thickness)
7,5 x 10 x 55 mm (from 9,00 mm to 11,99 mm plate thickness)
10 x 10 x 55 mm (from 12,00 mm plate thickness)

Heat treatment: Temperature : 910 +/-10°C
Soaking time: 30 min/inch
Cooling in still air

Condition of testcoupons, taken from normalised plates:

1. Renormalizing
temperature: 1650+/-10°F
holding time: 25 min./inch (min. 25 minutes)
cooling in still air

We hereby certify that the delivered material complies with the terms of the order.

(Z01)

QMS-System: Certification as per ISO 9001 since 28 February 1998



Trademark
(A04)

Ilsenburg Grobblech GmbH
Veckenstedter Weg 10
D-38871 Ilsenburg
(A01)



Inspection Stamp
(Z03)



Inspection Representative
(Z02)

Cyron

Edmonton Exchanger & Manufacturing Ltd.

45-89 Street, Edmonton, Alberta T6E 5V
Telephone (780) 468-6722 Fax (780) 466-5155

QCC-004
Rev.4
Date: April 1, 2005
Approved By: S.Z.

Certificate of Compliance

Customer ALCO GAS & OIL PRODUCTION

Purchase Order 109665

Work Order C60690

Date 2005/12/01

Page 1 of 1

Item#	Description	Qty	Heat#	Weld Proc.	Form. Proc.
S60690-2-1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (Material Spec: SA 516-70 Normalized)	1	16452-448655	WP600	4
S60690-2-2	SHELL(S) - 1.0000" NOM X 24" OD X 96" (Material Spec: SA 516-70 Normalized)	→ 1	16452-448655	WP600	4
S60690-3-1	SHELL(S) - 1.0000" NOM X 24" OD X 120" (Material Spec: SA 516-70 Normalized)	→ 1	S8/8446-1087E805	WP600	4
S60690-3-2	SHELL(S) - 1.0000" NOM X 24" OD X 120" (Material Spec: SA 516-70 Normalized)	1	S8/8446-1087E805	WP600	4
S60690-3-3	SHELL(S) - 1.0000" NOM X 24" OD X 120" (Material Spec: SA 516-70 Normalized)	1	S8/8446-1087E805	WP600	4
S60690-3-4	SHELL(S) - 1.0000" NOM X 24" OD X 120" (Material Spec: SA 516-70 Normalized)	→ 1	5205236N-C514916	WP600	4

Forming Procedure: 4. Cold Formed

Supplementary Requirements

The items listed above comply with the requirements of ASME Code Section I (PG-80) and Section VIII, Div. 1, UCS-79(d), UG-79 & UG-80. All welders and procedures are qualified to ASME Code Section IX. For tacking carbon steel items, roundbar used is 1018 Cold Rolled. Material being supplied conforms to the latest ASME Code Section II, Part A, 2004-07-01 Edition.

Steve Zubrycky] (QAM)

Supplementary Examination - Items

CONFORMING TO SA	516-70MT
YEAR	2004 ED 05A
JOB #	2005-7529-01
ITEM #	2, 3
SIGNED BY	05-12-02



A02	A09	A08/ Manufacturer's order/ A03 Certificate No.	A09 Advice of dispatch No./ Date of dispatch	Sheet
ABNAHMEPRUEFZEUGNIS	3.1.B	DIN EN 10204 - EN 10204 - DIN 50049		
CERTIFICAT DE RECEPTION	3.1.B	NF EN 10204		
INSPECTION CERTIFICATE	3.1.B	BS EN 10204 - ISO 10474	5438431-10.01.05	1/...
MATERIAL TEST REPORT			289112-002	

A05 Established inspecting body	A06 Purchaser	ARCELOR CANADA, BURLI	A07.1 No.	40826	B01 Product HOT ROLLED PLATES
GTS	Final receiver	EDMONTON STEEL, EDMON	A07.2 No.	E10309-J1010-LG	

B02/	Steel grade	SA516-70	SA20-S5
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803	Specifications
ASME-2A:01+A02	
DIL-HUE-2:31.10	



B01-B99 Product description

B09 Item No.	B10 Quantity	B11 Thickness	B12 Width	B13 Length	B14 Mass theoretical KG	B04 Delivery condition	B08 Heat No.	B07 Rolled plate No./ Test No.	B16 Customer reference
01	1	0,7500 X	120,50000 X	480,00000 X	5580	N	16169	446420-02	ITEM 1
02	1	0,8750 X	120,50000 X	480,00000 X	6510	N	15961	450089-01	ITEM 2
02	1	0,8750 X	120,50000 X	480,00000 X	6510	N	15961	450089-02	ITEM 2
02	1	0,8750 X	120,50000 X	480,00000 X	6510	N	15961	450090-01	ITEM 2
02	1	0,8750 X	120,50000 X	480,00000 X	6510	N	15961	450090-02	ITEM 2
**	4				26040				
03	1	1,0000 X	96,50000 X	480,00000 X	5959	N	16452	448560-01	ITEM 3
03	1	1,0000 X	96,50000 X	480,00000 X	5959	N	16452	448560-02	ITEM 3
03	1	1,0000 X	96,50000 X	480,00000 X	5959	N	16452	448655-01	ITEM 3
03	1	1,0000 X	96,50000 X	480,00000 X	5959	N	16452	448655-02	ITEM 3
03	1	1,0000 X	96,50000 X	480,00000 X	5959	N	16461	449155-01	ITEM 3
03	1	1,0000 X	96,50000 X	480,00000 X	5959	N	16461	449155-02	ITEM 3
03	1	1,0000 X	96,50000 X	480,00000 X	5959	N	16461	451429-01	ITEM 3
03	1	1,0000 X	96,50000 X	480,00000 X	5959	N	16461	451429-02	ITEM 3
**	8				47672				
04	1	1,0000 X	120,50000 X	480,00000 X	7440	N	16448	447603-01	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440	N	16448	447603-02	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440	N	16448	447605-01	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440	N	16448	447605-02	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440	N	16448	447607-01	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440	N	16448	447607-02	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440	N	16448	448551-01	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440	N	16448	448551-02	ITEM 4

CONFIDENTIAL 316-10M1

2004ED 05A

2005-7529-01

231

05-02-02

SECRET

ADD

2021/01/202 We hereby certify that the above mentioned materials have been delivered in accordance with the terms of order.

THE

QM-System: Certification as per ISO 9001

GTS Industries

B.P 6-317 59379 Dunkerque cedex 1

Service Quality-Essals

Trademark

Test House Manager

Date 09.02.05

AN 2



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/ce/notice)

A02 ABNAHMEPRUEFZEUGNIS CERTIFICAT DE RECEPTION INSPECTION CERTIFICATE		3.1.B DIN EN 10204 - EN 10204 - DIN 50049 3.1.B NF EN 10204 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT	A09 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
A05 Established inspecting body GTS		A06 Purchaser ARCELOR CANADA, BURLI A07.1 No. 40826 Final receiver EDMONTON STEEL, EDMON A07.2 No. E10309-J1010-LG SA20-S5	5438431-10.01.05	289112-002	2/...
B02/ Steel grade SA516-70					
B03 Specifications ASME-2A:01+A02 DIL-HUE-2:31.10.03					
		B01 Product HOT ROLLED PLATES			

B01-B99 Product description

B09 Item No.	B10 Quantity	B11 Thickness	B12 Width	B13 Length	B14 Mass theoretical KG	B04 Delivery condition	B08 Heat No.	B07 Rolled plate No./ Test No.	B16 Customer reference
04	1	1,0000 X	120,50000 X	480,00000 X	7440 N	N	16448	448553-01	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440 N	N	16448	448553-02	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440 N	N	16460	449521-01	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440 N	N	16460	449521-02	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440 N	N	16460	449522-01	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440 N	N	16460	449522-02	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440 N	N	16461	450557-01	ITEM 4
04	1	1,0000 X	120,50000 X	480,00000 X	7440 N	N	16461	450557-02	ITEM 4
**	16				119040				
05	1	1,1250 X	97,00000 X	480,00000 X	6738 N	N	16448	448214-01	ITEM 5
05	1	1,1250 X	97,00000 X	480,00000 X	6738 N	N	16452	448207-01	ITEM 5
05	1	1,1250 X	97,00000 X	480,00000 X	6738 N	N	16452	448208-01	ITEM 5
05	1	1,1250 X	97,00000 X	480,00000 X	6738 N	N	16452	448209-01	ITEM 5
05	1	1,1250 X	97,00000 X	480,00000 X	6738 N	N	16452	448210-01	ITEM 5
05	1	1,1250 X	97,00000 X	480,00000 X	6738 N	N	16452	448211-01	ITEM 5
05	1	1,1250 X	97,00000 X	480,00000 X	6738 N	N	16452	448212-01	ITEM 5
05	1	1,1250 X	97,00000 X	480,00000 X	6738 N	N	16452	448213-01	ITEM 5
**	8				53904				
06	1	1,1250 X	121,00000 X	480,00000 X	8405 N	N	16448	448531-01	ITEM 6
06	1	1,1250 X	121,00000 X	480,00000 X	8405 N	N	16448	448532-01	ITEM 6
06	1	1,1250 X	121,00000 X	480,00000 X	8405 N	N	16448	448533-01	ITEM 6
06	1	1,1250 X	121,00000 X	480,00000 X	8405 N	N	16452	447524-01	ITEM 6
06	1	1,1250 X	121,00000 X	480,00000 X	8405 N	N	16452	447525-01	ITEM 6

Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

TFK

Trademark

A01

GTS Industries

B.P 6-317 59379 Dunkerque cedex 1

Service Qualité-Essais

Houssin
HOUSSIN

Test House Manager

QM-System: Certification as per ISO 9001

Date 09.02.05

AN 2



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/certificate)

A02 ABNAHMEPRUEFZEUGNIS CERTIFICAT DE RECEPTION INSPECTION CERTIFICATE		3.1.B DIN EN 10204 - EN 10204 - DIN 50049 3.1.B NF EN 10204 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT	A09 Advice of dispatch No./ Date of dispatch 5438431-10.01.05	A08/ Manufacturer's order/ A03 Certificate No. 289112-002	Sheet 3/...
A05 Established inspecting body GTS		A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. 40826 A07.2 No. E10309-J1010-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade SA516-70					
B03 Specifications ASME-2A:01+A02 DIL-HUE-2:31.10.03		SA20-S5			

B01-B99 Product description

B09 Item No.	B10 Quantity	B11 Thickness	B12 Width	B13 Length	B14 Mass theoretical	B04 Delivery condition	B08 Heat No.	B07 Rolled plate No./ Test No.	B16 Customer reference
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16460	449526-01	ITEM 6
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16461	449111-01	ITEM 6
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16461	449112-01	ITEM 6
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16461	449157-01	ITEM 6
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16461	449158-01	ITEM 6
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16461	449159-01	ITEM 6
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16525	449523-01	ITEM 6
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16525	449524-01	ITEM 6
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16525	449525-01	ITEM 6
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16527	449109-01	ITEM 6
06	1	1,1250 x	121,00000 x	480,00000 x	8405	N	16527	449110-01	ITEM 6
**	16				134480				
***	53				386716				

B04 Delivery condition / Heat treatment of plates

ITEM NO.: 01-06

N: HT: 1670 GR.F +27 -27 GR.F

SOAKING TIME TO ATTAIN THE TARGET TEMPERATURE OVER THE WHOLE SECTION: 1-1,75 MIN/MM (25-45 MIN/INCH)
COOLING IN STILL AIR

B06 Marking

ITEM NO.: 01-06

STEEL GRADE SA516 70 MTLTV SA516 60 MTLTV

HEAT NO. / TRADEMARK / ROLLED PLATE NO. - TEST NO.

A04		Z01/202 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.		GTS Industries B.P 6-317 59379 Dunkerque cedex 1 Service Qualité-Essais	A01
		QM-System: Certification as per ISO 9001			
Trademark		HOUSSIN Test House Manager		Date 09.02.05	AN 2



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/certificate)

A02	ABNAHMEPRUEFZEUGNIS CERTIFICAT DE RECEPTION INSPECTION CERTIFICATE	3.1.B DIN EN 10204 - NF EN 10204	3.1.B DIN EN 10204 - EN 10204	5438431-10.01.05	A08/ Manufacturer's order/ A03 Certificate No.	289112-002	4/...
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A05	Established inspecting body GTS	A06 Purchaser Final receiver	ARCELOR CANADA, BURLI EDMONTON STEEL, EDMON	A07.1 No. 40826 A07.2 No. E10309-J1010-LG	B01 Product HOT ROLLED PLATES
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B02	Steel grade	SA516-70
B03	Specifications	ASME-2A:01+A02 DIL-HUE-2:31.10.03

C10-C29 Tensile test

B09 Item No.	B08 Heat No.	B07 Rol. plate/ Test No.	B05 Reference condition	C01 C02/ C03 C01 Temp. GR.F	C10 C11 KSI RP02	C12 RM	C13 A %	C14-C15 LO=8IN
01	16169	446420		K1 Q0 RT	54,1	72,6	26,7	
02	15961	450089		K1 Q0 RT	55,0	75,5	28,4	
02	15961	450090		K1 Q0 RT	54,4	76,3	29,2	
03	16452	448560		K1 Q0 RT	52,8	75,4	28,1	
03	16452	448655		K1 Q0 RT	53,9	76,4	27,9	
03	16461	449155		K1 Q0 RT	50,3	73,8	29,4	
03	16461	451429		K1 Q0 RT	52,1	73,8	29,0	
04	16448	447603		K1 Q0 RT	52,6	75,8	29,3	
04	16448	447605		K1 Q0 RT	52,2	75,4	28,6	
04	16448	447607		K1 Q0 RT	51,9	75,7	31,8	
04	16448	448551		K1 Q0 RT	53,8	75,7	29,4	
04	16448	448553		K1 Q0 RT	53,1	75,0	28,0	
04	16460	449521		K1 Q0 RT	51,0	73,1	29,4	
04	16460	449522		K1 Q0 RT	51,9	73,8	30,7	
04	16461	450557		K1 Q0 RT	51,8	73,5	29,9	
05	16448	448214		K1 Q0 RT	52,5	75,5	31,9	
05	16452	448207		K1 Q0 RT	53,2	76,0	29,0	
05	16452	448208		K1 Q0 RT	53,9	75,8	31,0	
05	16452	448209		K1 Q0 RT	53,4	75,7	29,5	
05	16452	448210		K1 Q0 RT	52,6	75,1	30,0	
05	16452	448211		K1 Q0 RT	53,1	75,4	30,8	
05	16452	448212		K1 Q0 RT	53,9	76,0	29,5	
05	16452	448213		K1 Q0 RT	53,1	75,5	32,7	

CONFORMING TO SA 516-70MT
YEAR 2004ED QSA
JOB # 2005-7529-01
ITEM # 2,3
SIGNED BY 05-12-02 NZ

A04	TFK	201/202 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	A01
QM-System: Certification as per ISO 9001		GTS Industries B.P 6-317 59379 Dunkerque cedex 1 Service Qualité-Essais	
Trademark	HOUSIN Test House Manager	Date 09.02.05	AN 2



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/certificate)

A02 ABNAHMEPRUEFZEUGNIS CERTIFICAT DE RECEPTION INSPECTION CERTIFICATE		3.1.B DIN EN 10204 - EN 10204 - DIN 50049 3.1.B NF EN 10204 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT		A09 Advice of dispatch No./ Date of dispatch	5438431-10.01.05	A08/ Manufacturer's order/ A03 Certificate No.	289112-002 B01 Product	Sheet 5/...	
A05 Established inspecting body GTS		A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON		A07.1 No. 40826 A07.2 No. E10309-J1010-LG		HOT ROLLED PLATES			
B02/ Steel grade SA516-70									
B03 Specifications ASME-2A:01+A02 DIL-HUE-2:31.10.03									
C10-C29 Tensile test									
B09 Item No.	B07 Heat No.	B05 Rot.plate/ Test No.	B05 Reference condition	C01 C02/ C03 C01	C01 Temp. GR.F	C10 C11 KSI RP02	C12 RM	C13 A % L0=8IN	C14-C15
06 16448	448531	K1 QO	RT	51,9	75,4	29,5	30,6	29,5	
06 16448	448532	K1 QO	RT	52,1	75,4	30,6	29,6	28,1	
06 16448	448533	K1 QO	RT	52,2	75,4	28,0	28,6	33,8	
06 16452	447524	K1 QO	RT	52,8	76,0	30,2	29,1	32,1	
06 16452	447525	K1 QO	RT	53,2	76,0	31,5	29,0	29,3	
06 16460	449526	K1 QO	RT	51,2	73,7	28,6	28,6	35,5	
06 16461	449111	K1 QO	RT	50,8	73,2	28,6	28,6	28,5	
06 16461	449112	K1 QO	RT	50,8	74,1	28,6	28,6	28,5	
06 16461	449157	K1 QO	RT	51,2	74,1	28,6	28,6	28,5	
06 16461	449158	K1 QO	RT	50,0	73,4	28,6	28,6	28,5	
06 16461	449159	K1 QO	RT	50,6	73,8	28,6	28,6	28,5	
06 16525	449523	K1 QO	RT	51,8	76,0	28,6	28,6	28,5	
06 16525	449524	K1 QO	RT	51,8	75,7	28,6	28,6	28,5	
06 16525	449525	K1 QO	RT	52,5	76,1	28,6	28,6	28,5	
06 16527	449109	K1 QO	RT	51,5	76,0	28,6	28,6	28,5	
06 16527	449110	K1 QO	RT	52,8	76,6	28,6	28,6	28,5	
C40-C49 Impact test									
B09 Item No.	B08 Heat No.	B07 Rot.plate/ Test No.	B05 Reference condition	C01 C02/ C03 C01	C01 Temp. GR.F	C10 C11 KSI RP02	C12 RM	C13 A % L0=8IN	C14-C15
01 16169	446420	K1 LV	-51	51,9	75,4	29,5	30,6	29,5	
02 15961	450089	K1 LV	-51	52,1	75,4	30,6	29,6	28,1	
02 15961	450090	K1 LV	-51	52,2	75,4	28,0	28,6	33,8	
03 16452	448560	K1 LV	-51	51,2	73,7	28,6	28,6	35,5	
A04 Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.									
TFK		QM-System: Certification as per ISO 9001		GTS Industries B.P 6-317 59379 Dunkerque cedex 1 Service Qualité-Essais		Date 09.02.05			
Trademark		HOUSIN Test House Manager		Date 09.02.05		AN 2			



DILLINGER HÜTTE

Eidunterlagen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/certificate)

A02 ABNAHMEPRUEFZEUGNIS CERTIFICAT DE RECEPTION INSPECTION CERTIFICATE		3.1.B DIN EN 10204 - EN 10204 - DIN 50049 3.1.B NF EN 10204 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT	A09 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
A05 Established inspecting body GTS		A06 Purchaser ARCELOR CANADA, BURLI EDMONTON STEEL, EDMON	5438431-10.01.05	289112-002	6/...
B02/ Steel grade B03 Specifica- tions		SA516-70 ASME-2A: 01+A02 DIL-HUE-2: 31.10.03	B01 Product HOT ROLLED PLATES		

C40-C49 Impact test

B09 Item No.	B08 Heat No.	B07 Rol. plate/ Test No.	B05 Reference condition	C01	C02/ C01	C03 Temp. GR.F	C41 Specimen width	C40 Type of specimen	C44 Testing method	C46 Energy	C45 Individual values AV=FT.LBF	C43 Average value
03	16452	448655		K1	LV	-51	51	CHP-V			AV 116	114
03	16461	449155		K1	LV	-51	51	CHP-V			AV 130	114
03	16461	451429		K1	LV	-51	51	CHP-V			AV 121	113
04	16448	447603		K1	LV	-51	51	CHP-V			AV 89	96
04	16448	447605		K1	LV	-51	51	CHP-V			AV 122	111
04	16448	447607		K1	LV	-51	51	CHP-V			AV 87	101
04	16448	448551		K1	LV	-51	51	CHP-V			AV 98	110
04	16448	448553		K1	LV	-51	51	CHP-V			AV 110	114
04	16460	449521		K1	LV	-51	51	CHP-V			AV 117	109
04	16460	449522		K1	LV	-51	51	CHP-V			AV 149	151
04	16461	450557		K1	LV	-51	51	CHP-V			AV 117	111
05	16448	448214		K1	LV	-51	51	CHP-V			AV 104	107
05	16452	448207		K1	LV	-51	51	CHP-V			AV 128	128
05	16452	448208		K1	LV	-51	51	CHP-V			AV 95	109
05	16452	448209		K1	LV	-51	51	CHP-V			AV 139	136
05	16452	448210		K1	LV	-51	51	CHP-V			AV 129	129
05	16452	448211		K1	LV	-51	51	CHP-V			AV 111	116
05	16452	448212		K1	LV	-51	51	CHP-V			AV 66	101
05	16452	448213		K1	LV	-51	51	CHP-V			AV 125	121
06	16448	448531		K1	LV	-51	51	CHP-V			AV 103	93
06	16448	448532		K1	LV	-51	51	CHP-V			AV 107	103
06	16448	448533		K1	LV	-51	51	CHP-V			AV 114	115
06	16452	447524		K1	LV	-51	51	CHP-V			AV 111	99
06	16452	447525		K1	LV	-51	51	CHP-V			AV 115	114

CONFORMING TO SA 516-70MT
2004 60 05A
2005-7579-01
2.3
25-012-02 NF

A04		ZD1202 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.		GTS Industries		A01
TFK		QM-System: Certification as per ISO 9001		B.P 6-317 59379 Dunkerque cedex 1		
Trademark		HOUSSIN		Service Qualité-Essais		
		Test House Manager		Date 09.02.05		AN 2

CONFORMING TO SA 516-70M7
 YEAR 2001 20 05A
 JOB # 2005-7529-01
 ITEM # 05-12-02 NZ



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/certificate)

A02 ABNAHMEPRUEFZEUGNIS 3.1.B DIN EN 10204 - EN 10204 - DIN 50049
 CERTIFICAT DE RECEPTION 3.1.B NF EN 10204
 INSPECTION CERTIFICATE 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT

A05 Established inspecting body A08 Purchaser ARCELOR CANADA, BURLI A071 No. 40826
 GTS Final receiver EDMONTON STEEL, EDMON A072 No. E10309-J1010-LG
 SA20-S5

B02 Steel grade SA516-70
 B03 Specifications ASME-2A:01+A02
 DIL-HUE-2:31.10.03

A09 Advice of dispatch No./ Date of dispatch 5438431-10.01.05
 A08 Manufacturer's order/ Certificate No. 289112-002
 B01 Product HOT ROLLED PLATES
 Sheet 7/...

C40-C49 Impact test

B09 Item No.	B08 Heat No.	B07 Rol./plate/ Test No.	B05 Reference condition	C01	C02/ C01	C03 Temp. GR.F	C41 Specimen width	C40 Type of specimen	C44 Testing method	C46 Energy	C45 C42 Individual values AV=FT.LBF	C43 Average value
06	16460	449526		K1	LV	-51		CHP-V			AV 131 105	123
06	16461	449111		K1	LV	-51		CHP-V			AV 89 111	106
06	16461	449112		K1	LV	-51		CHP-V			AV 130 134	138
06	16461	449157		K1	LV	-51		CHP-V			AV 107 115	113
06	16461	449158		K1	LV	-51		CHP-V			AV 147 136	140
06	16461	449159		K1	LV	-51		CHP-V			AV 139 105	127
06	16525	449523		K1	LV	-51		CHP-V			AV 94 45	82
06	16525	449524		K1	LV	-51		CHP-V			AV 61 110	93
06	16525	449525		K1	LV	-51		CHP-V			AV 100 70	73
06	16527	449109		K1	LV	-51		CHP-V			AV 108 119	103
06	16527	449110		K1	LV	-51		CHP-V			AV 108 103	95

C70-C99 Chemical composition % - Heat analysis

B08 Heat	C70	C	SI	MN	P	S	N	AL	CU	MO	NI	CR	V	NB	SN
15961	Y	0,163	0,327	1,16	0,011	0,0006	0,0038	0,032	0,021	0,024	0,047	0,065	0,000	0,017	0,000
16169	Y	0,147	0,362	1,14	0,012	0,0012	0,0042	0,039	0,015	0,024	0,035	0,069	0,001	0,019	0,000
16448	Y	0,173	0,347	1,16	0,011	0,0020	0,0051	0,041	0,017	0,006	0,027	0,028	0,000	0,017	0,000
16452	Y	0,174	0,306	1,15	0,012	0,0010	0,0046	0,045	0,028	0,059	0,028	0,097	0,000	0,015	0,000
16460	Y	0,158	0,348	1,12	0,010	0,0008	0,0051	0,032	0,029	0,011	0,027	0,046	0,000	0,020	0,000
16461	Y	0,158	0,353	1,12	0,011	0,0007	0,0042	0,038	0,022	0,009	0,042	0,045	0,000	0,019	0,000
16525	Y	0,184	0,335	1,11	0,012	0,0009	0,0045	0,036	0,021	0,006	0,026	0,030	0,001	0,017	0,000
16527	Y	0,187	0,344	1,13	0,012	0,0008	0,0038	0,031	0,028	0,010	0,040	0,046	0,000	0,017	0,000

A04 TFK Trademark

Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001

GTS Industries
 B.P 6-317 59379 Dunkerque cedex 1
 Service Qualité-Essais

HOUSSIN
 Test House Manager

Date 09.02.05 AN 2

A01



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/certificate)

A02 ABNAHMEPRUEFZEUGNIS CERTIFICAT DE RECEPTION INSPECTION CERTIFICATE	3.1.B 3.1.B 3.1.B	DIN EN 10204 - NF EN 10204 BS EN 10204 - ISO 10474	EN 10204 - DIN 50049 MATERIAL TEST REPORT	A09 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
A05 Established inspecting body GTS	A06 Purchaser Final receiver	ARCELOR CANADA, BURLI EDMONTON STEEL, EDMON	A07.1 No. 40826 A07.2 No. E10309-J1010-LG	5438431-10.01.05	289112-002 B01 Product HOT ROLLED PLATES	8/...
B02/ Steel grade	SA516-70					
B03 Specifications	ASM E-2A:01+A02 DIL-HUE-2:31.10.03					

C70-C99 Chemical composition % - Heat analysis

B08 Heat	C70				B	
		TI				
15961	Y	0,002		0,0001		
16169	Y	0,003		0,0002		
16448	Y	0,003		0,0002		
16452	Y	0,002		0,0002		
16460	Y	0,002		0,0001		
16461	Y	0,004		0,0002		
16525	Y	0,002		0,0001		
16527	Y	0,003		0,0002		

C04 Heat analysis		Carbon equivalent / Allowing restrictions	
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C94 Heat analysis Carbon equivalent / Alloying restrictions

B08 Haat	C94										FO-91=
	C94										
15961	FO-02=	0,38	FO-55=	0,16	FO-78=	0,09	FO-91=	7,1			
16169	FO-02=	0,36	FO-55=	0,14	FO-78=	0,09	FO-91=	7,8			
16448	FO-02=	0,38	FO-55=	0,08	FO-78=	0,03	FO-91=	6,7			
16452	FO-02=	0,40	FO-55=	0,21	FO-78=	0,16	FO-91=	6,6			
16460	FO-02=	0,36	FO-55=	0,11	FO-78=	0,06	FO-91=	7,1			
16461	FO-02=	0,36	FO-55=	0,12	FO-78=	0,05	FO-91=	7,1			
16525	FO-02=	0,38	FO-55=	0,08	FO-78=	0,04	FO-91=	6,0			
16527	FO-02=	0,39	FO-55=	0,12	FO-78=	0,06	FO-91=	6,0			

CONFIRMING TO SA											
YEAR 2004											
JOB # 2005-7529-01											
ITEM # 2,3											
SIGNED BY 05-12-02											

C95 Ladle treatment

ITEM NO.: 01-06										
HEAT OF THE INDICATED ITEM:	VACUUM DEGASSED / SULPHIDE SHAPE CONTROL									

CONFORMING TO SA 516-70M7
YEAR 2004 ED 05 A
JOB # 2005-7529-01
ITEM # 2,3
SIGNED BY 05-12-02 NZ

A04	TFK	QM-System: Certification as per ISO 9001				GTS Industries B.P 6-317 59379 Dunkerque cedex 1 Service Qualité-Essais				A01
Trademark		HOUSSIN Test House Manager				Date 09.02.05				AN 2



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/certificate)

A02 ABNAHMEPRUEFZEUGNIS CERTIFICAT DE RECEPTION INSPECTION CERTIFICATE		3.1.B DIN EN 10204 - EN 10204 - DIN 50049 3.1.B NF EN 10204 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT	A09 Advice of dispatch No./ Date of dispatch 5438431-10.01.05	A08/ Manufacturer's order/ A03 Certificate No. 289112-002	Sheet 9/...
A05 Established inspecting body GTS		A06 Purchaser ARCELOR CANADA, BURLI A07.1 No. 40826 Final receiver EDMONTON STEEL, EDMON A07.2 No. E10309-J1010-LG	B01 Product HOT ROLLED PLATES		
B02/ Steel grade SA516-70		SA20-S5			
B03 Specification ASME-2A:01+A02 DIL-HUE-2:31.10.03					

C70-C99 Chemical composition % - Product analysis

B08 Heat	B07 Test No.	C01	C	SI	MN	P	S	N	AL	CU	MO	NI	CR	V	NB	SN
15961	450089	K1	0,171	0,314	1,14	0,011	0,0004	0,0041	0,033	0,021	0,025	0,047	0,066	0,001	0,016	0,001
16169	446024	K1	0,147	0,342	1,11	0,010	0,0012	0,0042	0,040	0,015	0,024	0,033	0,068	0,002	0,018	0,001
16169	446420	K1	0,151	0,345	1,12	0,010	0,0012	0,0044	0,039	0,015	0,023	0,032	0,068	0,001	0,019	0,001
16448	447607	K1	0,178	0,330	1,16	0,010	0,0020	0,0049	0,040	0,020	0,022	0,027	0,048	0,001	0,017	0,001
16448	448533	K1	0,178	0,325	1,15	0,010	0,0020	0,0056	0,041	0,018	0,005	0,026	0,038	0,001	0,017	0,001
16452	447525	K1	0,175	0,303	1,14	0,011	0,0008	0,0036	0,046	0,028	0,060	0,027	0,095	0,001	0,015	0,001
16452	448560	K1	0,173	0,302	1,14	0,012	0,0010	0,0043	0,045	0,030	0,059	0,027	0,094	0,001	0,015	0,001
16460	449521	K1	0,159	0,341	1,09	0,010	0,0007	0,0042	0,038	0,026	0,008	0,031	0,043	0,001	0,019	0,002
16460	449526	K1	0,162	0,345	1,10	0,010	0,0009	0,0041	0,039	0,030	0,008	0,024	0,042	0,001	0,020	0,002
16461	449112	K1	0,161	0,342	1,08	0,010	0,0005	0,0042	0,042	0,022	0,008	0,042	0,044	0,001	0,017	0,001
16461	451429	K1	0,165	0,346	1,10	0,010	0,0007	0,0047	0,042	0,023	0,009	0,042	0,045	0,002	0,017	0,001
16525	449524	K1	0,188	0,337	1,11	0,012	0,0012	0,0043	0,041	0,023	0,006	0,024	0,029	0,002	0,017	0,001
16527	449109	K1	0,186	0,341	1,11	0,010	0,0009	0,0045	0,033	0,032	0,009	0,039	0,038	0,002	0,016	0,002
B08 Heat	B07 Test No.	C01	TI	B												
15961	450089	K1	0,002	0,0001												
16169	446024	K1	0,003	0,0001												
16169	446420	K1	0,003	0,0001												
16448	447607	K1	0,003	0,0002												
16448	448533	K1	0,003	0,0001												
16452	447525	K1	0,002	0,0001												
16452	448560	K1	0,002	0,0001												
16460	449521	K1	0,003	0,0001												
16460	449526	K1	0,002	0,0001												
16461	449112	K1	0,004	0,0001												

201/202 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

A01

GTS Industries
B.P 6-317 59379 Dunkerque cedex 1
Service Qualité-Essais

TFK

QM-System: Certification as per ISO 9001

Trademark

HOUSSIN

Test House Manager

Date 09.02.05

AN 2



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/certificate)

A02 ABNAHMEPRUEFZEUGNIS CERTIFICAT DE RECEPTION INSPECTION CERTIFICATE		3.1.B DIN EN 10204 - EN 10204 - DIN 50049 3.1.B NF EN 10204 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT	A09 Advice of dispatch No./ Date of dispatch 5438431-10.01.05	A08/ Manufacturer's order/ A03 Certificate No. 289112-002	Sheet 10/...
A06 Established inspecting body GTS		A06 Purchaser ARCELOR CANADA, BURLI Final receiver. EDMONTON STEEL, EDMON	B01 Product HOT ROLLED PLATES		
B02/ Steel grade SA516-70		SA20-S5			
B03 Specifications ASME-2A:01+A02 DIL-HUE-2:31.10.03					

C70-C99 Chemical composition % - Product analysis

B08 Heat	B07 Test No.	C01	Ti	B
16461	451429	K1	0,004	0,0001
16525	449524	K1	0,003	0,0001
16527	449109	K1	0,003	0,0001

C94 Product analysis Carbon equivalent / Alloying restrictions

B08 Heat	B07 Test No.	C01	K1 FO-02=	0,38	FO-55=	0,16
15961	450089	K1	FO-02=	0,35	FO-55=	0,14
16169	446024	K1	FO-02=	0,36	FO-55=	0,14
16169	446420	K1	FO-02=	0,39	FO-55=	0,12
16448	447607	K1	FO-02=	0,38	FO-55=	0,08
16448	448533	K1	FO-02=	0,40	FO-55=	0,21
16452	447525	K1	FO-02=	0,40	FO-55=	0,21
16452	448560	K1	FO-02=	0,35	FO-55=	0,11
16460	449521	K1	FO-02=	0,36	FO-55=	0,10
16460	449526	K1	FO-02=	0,36	FO-55=	0,12
16461	449112	K1	FO-02=	0,36	FO-55=	0,12
16461	451429	K1	FO-02=	0,38	FO-55=	0,08
16525	449524	K1	FO-02=	0,39	FO-55=	0,12
16527	449109	K1	FO-02=			

C94 Carbon equivalent formula / Alloying restrictions

FO-02 =	C + (MN/6) + (CR+MO+V) / 5 + (NI+CU) / 15
FO-55 =	CU+MO+NI+CR
FO-78 =	CR+MO
FO-91 =	MN/C

A04	TFK	201/202 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	A01
QM-System: Certification as per ISO 9001		GTS Industries B.P 6-317 59379 Dunkerque cedex 1 Service Qualité-Essais	
Trademark		HOUSIN Test House Manager	AN 2
		Date 09.02.05	



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/certificate)

A02 ABNAHMEPRUEFZEUGNIS CERTIFICAT DE RECEPTION INSPECTION CERTIFICATE		3.1.B DIN EN 10204 - NF EN 10204	3.1.B DIN EN 10204 - EN 10204	5438431-10.01.05	A09 Advice of dispatch Date of dispatch	A03/ Manufacturer's order/ A03 Certificate No.	Sheet
A05 Established inspecting body GTS		A06 Purchaser Final receiver		A07.1 No. 40826 A07.2 No. E10309-J1010-LG		B01 Product HOT ROLLED PLATES	289112-002 11
B02/ Steel grade B03 Specifications		SA516-70 ASME-2A:01+A02 DIL-HUE-2:31.10.03		SA20-S5			
D01 Checking of marking, surface, shape and dimensions							
ITEM NO.: 01-06							
RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS							
SURFACE AS PER ASME-SA20							
THICKNESS AS PER ASME-SA20							
LENGTH AND WIDTH AS PER ASME-SA20							
FLATNESS AS PER 1/2-ASME-SA20							
Z01-Z99 Further information about checking of confirmations							
ITEM NO.: 01-06							
REV.2 : IMPACT TEST BY -51 GR.F							
							
A04		201/202 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.				A01	
TFK		QM-System: Certification as per ISO 9001				GTS Industries B.P 6-317 59379 Dunkerque cedex 1 Service Qualité-Essais	
Trademark		HOUSSIN Test House Manager				Date 09.02.05 AN 2	



Al

INSPECTION CERTIFICATE

25

In Accordance with EN10204 3.1

Customer

CORUS AMERICA INC
(EDMONTON EXCHANGER VANCOUVER)
475 NORTH MARTINGALE ROAD
SUITE 400, 55CHAUMBURG,
ILLINOIS, 60173
USA (INCLUDING PUERTO RICO)



Consignee EDMONTON EXCHANGER

EXPORT TO
VANCOUVER CANADA

A8	Managemat System
----	------------------

Cert. Ref. No.

697970

Specification/Product
A5ME/ASTM SA516/A516 2004 GR 70

STEEL PLATE 40' X 120.5" X 1" Piece Weight 7.629Tonnnes
"N"- Normalised at +920C for 39 mins.

Inspection	All
OWN	

B8/A30

ORDER MARKS	:: EE/PO#E10536-J1010 LG/ VAN/S IZE/WEIGHT/LENGTH/SPEC/ HEAT

11248

[illegible]

CONFORMING TO SA 106 106m
YEAR 2004EN 05 A
JOB # 2005-7529-01
ITEM # 2.3
SIGNED BY 05-12-02

N-NORMALISED AT 1634/1706 DEGREES F FOR A MINIMUM OF 40 MINUTES PER INCH OF THICKNESS.

On behalf of Corus UK Limited, the manufacturer.
These results are certified by Corus UK Limited and comply with the requirements of the Product Description.

121

All original Inspection Certificates issued by Cerus UK Limited will contain either an embossed seal, or be impregnated with a Cerus watermark, without either the seal or watermarking should arrive from the supplier that it is a true and accurate reproduction of the original.

R.D.Loagbottom, Test House Manager, Scunthorpe
JK Limited Inspection Certificate A5

1603



721

INDUSTRIA MECCANICA LIGURE SPA

THEY (GREGORY) AT: Camara, Poly, P. 13, 2, 200. Copyright, (c) (1988) by FBI. This document contains neither recommendations nor conclusions of the FBI. It is the property of the FBI and is loaned to your agency; it and its contents are not to be distributed outside your agency.

INSPECTION OF THE QUALITY OF THE PRODUCT

DECLASSIFIED BY
60378 UCBAW/STP/KWA

DATE: 04/15/56.
CITY: ALBUQUERQUE NM 428

Case No.	Case Name	Case Type	Case Status
100	Case 100	Case 100	Case 100
200	Case 200	Case 200	Case 200
300	Case 300	Case 300	Case 300
400	Case 400	Case 400	Case 400
500	Case 500	Case 500	Case 500
600	Case 600	Case 600	Case 600
700	Case 700	Case 700	Case 700
800	Case 800	Case 800	Case 800
900	Case 900	Case 900	Case 900
1000	Case 1000	Case 1000	Case 1000

[illegible]

NOTES: ASME B10.11-01 - BG 3795 - ANSI B31.1/B31.3 - MIL STD - ANSI
B1.1-81-22 - NACE L80175 ISO 15156/1

1052

YEAR	2004	ED	2005	A
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2005-7529-01

19

2019

RODRIG FIZZOTT!

مجلس شورای اسلامی
تاسیس ۱۳۵۷

Ε

4" 900# W/N FLANGE RF XXH
BORE A-105
HEAT # 90612

REF# 12

SHIPMENT S 2 - 323

REV'D BY

TRANS AM
PIPING
PRODUCTS

MILL TEST CERTIFICATE

EN10204-3.1.3(DIN50049/3.1.1.B1
CUSTOMER : SEYBOLD INTERNATIONAL CORP.

三英鋼鐵股份有限公司
SAN ENG STEEL FORGING CO., LTD.

NO. 22 LANE 50, WAN SING STREET
SAN MIN DISTRICT, KAHSIUNG, -
TAIWAN, R. D. C.

3080 YONGE ST, SUITE 2044
TORONTO, ONT. M4N 3N1
CANADA TEL: 416 481 0191

CERT NO.: SE-3657D

DATE : 09/13/20

ORDER NO.: 3657(4) TRANS AM

TEL : 07-372 4249 07-371 2934

FAX : 07-371 2923

FAX : 07-371 2846

PAGE : 2

L/C NO. :

PRODUCT		SPECIFICATION FOR MATERIAL		SPECIFICATION FOR FITTINGS										
FORGED CARBON STEEL FLANGES		ASTM A-105-01/ASME SA-105		ASME B16.5-98a										
ITEM NO.	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)										REMARKS	
			C	SI	MN	P	S	CU	CR	NI	MO	V		Nb
11.	900# WNF S160	4" A105N	PCE 0.200	0.270	1.090	0.018	0.007	0.020	0.110	0.050	0.001	0.020	0.002	0.000
12.	900# WNF XXS	4" A105N	PCE 0.210	0.220	1.040	0.018	0.011	0.010	0.150	0.010	0.002	0.002	0.001	0.002
13.	150# HUB THRF	2" X1" A105N	PCE 0.220	0.210	1.020	0.015	0.014	0.080	0.090	0.060	0.007	0.003	0.005	0.007
14.	300# HUB THRF	1" X3/4" A105N	PCE 0.210	0.220	0.930	0.014	0.011	0.090	0.070	0.050	0.010	0.000	0.005	0.007
15.	600# HUB THRF	3" X2" A105N	PCE 0.220	0.230	0.980	0.011	0.008	0.050	0.040	0.030	0.008	0.003	0.005	0.007
16.	600# HUB THRF	4" X2" A105N	PCE 0.200	0.210	0.950	0.005	0.007	0.050	0.040	0.030	0.006	0.003	0.005	0.005
17.	150# SORF	3/4" A105N	PCE 0.230	0.230	1.000	0.013	0.010	0.070	0.070	0.040	0.010	0.002	0.005	0.005
18.	150# SORF	6" A105N	PCE 0.210	0.220	0.980	0.013	0.008	0.040	0.040	0.030	0.004	0.002	0.005	0.005
19.	300# SORF	1 1/2" A105N	PCE 0.220	0.240	0.980	0.019	0.024	0.050	0.040	0.030	0.002	0.001	0.002	0.000
20.	150# THRF	2 1/2" A105N	PCE 0.200	0.200	0.980	0.011	0.010	0.070	0.040	0.050	0.001	0.003	0.005	0.008
ITEM	TENSILE STRENGTH (MPA)	YIELD STRENGTH (MPA)	ELONGATION (%)	HARDNESS (HB)	REDUCTION OF AREA (%)	HEAT TREATMENT	MATERIAL SUPPLIER							
HEAT	485 MIN	250 MIN	22.0 MIN	187 MAX	30.0 MIN		HTWK KAWASAKI STEEL							
11.	25017	516.50	37.2	147	71.3	NORMALIZED								
12.	80612	502.80	37.0	152	68.6	NORMALIZED								
13.	30720	525.30	38.6	157	66.8	NORMALIZED								
14.	45359	289.30	34.8	162	64.4	NORMALIZED								
15.	36814	523.40	31.4	166	64.0	NORMALIZED								
16.	35442	491.00	39.6	157	69.5	NORMALIZED								
17.	10776	511.90	33.8	149	60.0	NORMALIZED								
18.	16201	509.60	33.4	157	64.0	NORMALIZED								
19.	431N	537.10	34.0	162	61.1	NORMALIZED								
20.	30721	495.20	35.5	145	64.9	NORMALIZED								
NORMALIZATION: 880°C X2HRS T/A P.O. NO. 54733 CONFORMS TO ASME NR-01-75 LATEST EDITION							CONFORMING TO SA 105 N YEAR 2004 ED 2005A JCS# 2005-7529-01 ITEM# 20 SIGNED BY 20 Nov 19/03							

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR BY THE ABOVE ORDER AND IS THAT WHICH HAS BEEN TESTED TO THE SATISFACTION OF THE INSPECTOR.

DeSole

MANAGER

TEST CHIEF



MATERNAL TEST DEPARTMENT

= ISO 9001 : 2000 =

7529-01

CALGARY-ALBERTA

DA:	2195/	23/06/2005
S:	420KK	
A:	3R26/	23/06/2005

BORE A105N

L

Shipment/Seq #: S 5 - 1380

L

HEAT CODE COD. COLATA	HEAT COLATA	ITEM POS.	YOUR P.O. VS. ORDINE	OUR REFERENCE NS. ORDINE	QUANTITY QUANTITA	DESCRIPTION DESCRIZIONE	DIM. ACCORDANCE TO DIM. IN ACCORDO A	VISUAL & DIMENSIONAL VISIVO E DIMENSIONALE											
35881	↓	0070	C104-565	04004161 0077		W/B 900 RP 4" XRS	ASME/ANSI B16.5	SATISFACTORY											
35780		0020	C105-432	85002304 0028		W/A 300 RP 3" XS	ASME/ANSI B16.5	SATISFACTORY											
35689		0059	C185-432	05002304 0067		BLIND 300 RP 4"	ASME/ANSI B16.5	SATISFACTORY											
35689		0059	C105-432	05002304 0067		BLIND 300 RP 4"	ASME/ANSI B16.5	SATISFACTORY											
35689		0059	C105-432	05002304 0067		BLIND 300 RP 4"	ASME/ANSI B16.5	SATISFACTORY											
35689		0059	C105-432	05002304 0067		BLIND 300 RP 4"	ASME/ANSI B16.5	SATISFACTORY											
35689		0059	C105-432	05002304 0067		BLIND 300 RP 4"	ASME/ANSI B16.5	SATISFACTORY											
HEAT CODE COD. COLATA	HEAT COLATA	ITEM POS.	MATERIAL MATERIALE	C %	SI %	Mn %	S %	P %	Cr %	Mo %	TI %	Cu %	V %	Nb %	IN %	AL %	C.E. %	ORIGIN ORIGINE	
35881	↓	0070	ASTM A 105	0.185	0.248	1.180	0.013	0.014	8.120	0.070	0.010	0.017	0.180	8.021	0.000	0.000	0.025	0.415	EUROPE
35780		0020	ASTM A 105	0.190	0.220	1.100	0.015	0.811	0.100	0.060	0.010	0.020	0.130	0.023	0.000	0.000	0.075	0.412	EUROPE
35689		0059	ASTM A 105	0.195	0.210	1.100	0.015	0.015	0.140	0.070	0.020	0.016	0.170	0.025	0.000	0.000	0.075	0.430	EUROPE
35689		0059	ASTM A 105	0.195	0.210	1.100	0.015	0.015	0.140	0.070	0.020	0.016	0.170	0.025	0.000	0.000	0.075	0.430	EUROPE
35689		0059	ASTM A 105	0.195	0.210	1.100	0.015	0.015	0.140	0.070	0.020	0.016	0.170	0.025	0.000	0.000	0.075	0.430	EUROPE
35689		0059	ASTM A 105	0.195	0.218	1.100	0.015	0.015	0.140	0.070	0.020	0.016	0.170	0.025	0.000	0.000	0.075	0.430	EUROPE
HEAT CODE COD. COLATA	HEAT COLATA	ITEM POS.	TEST SPECIMEN SECTION SOTTOSEZIONE	YIELD POINT TENSILE NOMI 2 x 1/2"	ELONGATION Allungamento % 2"	REDUCTION OF AREA Riduzione Area % 4"	HARDNESS Durezza HB	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft	IMPACT TEST Toughness 50-50 ft
35881	↓	0070	126.60	50.80	377.0	526	29.0	57.8	152-168	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35780		0020	126.60	50.80	372.0	533	29.0	59.8	163-168	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35689		0059	126.60	50.80	376.0	537	28.0	57.0	164-168	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35689		0059	126.60	50.80	376.0	537	28.0	57.0	164-168	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35689		0059	126.60	50.80	376.0	537	28.0	57.0	164-168	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35689		0059	126.60	50.80	376.0	537	28.0	57.0	164-168	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEAT CODE COD. COLATA	HEAT COLATA	ITEM POS.	MATERIAL IN ACCORDANCE TO MATERIALE IN ACCORDO A	HEAT TREATMENT TRATTAMENTO TERMICO															
35881	↓	0070	ASTM/ASME A 105/SA 105 M - 02	CONFORMING TO SA 105 N		NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE												
35780		0020	ASTM/ASME A 105/SA 105 M - 02	2004 ED 2005A		NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE												
35689		0059	ASTM/ASME A 105/SA 105 M - 02	YEAR		NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE												
35689		0059	ASTM/ASME A 105/SA 105 M - 02	JOB#		NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE												
35689		0059	ASTM/ASME A 105/SA 105 M - 02	2005- 7529-01		NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE												
35689		0059	ASTM/ASME A 105/SA 105 M - 02	ITEM#		NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE												
35689		0059	ASTM/ASME A 105/SA 105 M - 02	20		NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE												
NOTE	MATERIAL IN ACCORDANCE WITH NACE MR-0175/2003																		
SIGNED BY 02 Nov 19/05 QUALITY CONTROL DEPARTMENT																			
BRACCHI PLAVIO																			
MANUFACTURER'S SYMBOL																			
MFT																			

三英鋼鐵股份有限公司
SAN ENG STEEL FORGING CO., LTD.

NO. 22 LANE 50, WAN SING STREET
SAN NIN DISTRICT, KAOHSIUNG,
TAIWAN, R.O. C.
Tel: 07-372 4249 07-371 2934
Fax: 07-371 2923 07-371 2846
URL: <http://www.saneng.com.tw>
e-mail: saneng@ksts.seed.net.tw

EN10204-3.1.B(DIN50049/3.1.B)
CUSTOMER :SEYBOLD INTERNATIONAL CORP.

20 HOLLY STREET, SUITE 205
TORONTO, M4S 3B1, CANADA
TEL: 416-481 0191 FAX: 416-481 1790

ORDER NO.: 4650(3) TRANS AM

L/C NO. :

CERT NO.: SE-465QCN

DATE : 05/09/2005

PAGE : 2 OF 2

SPECIFICATION FOR FITTINGS

ASME B16.5-98a

ASTM A-105-03/ASME SA-105
(Z245.12 CAT I GR.248 SOUR SERVICE-01)

FORGED CARBON STEEL FLANGES

ITEM NO.	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)												
			C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N	C.E.
11.	600# WNRF XXS	3" A105N	0.200	0.200	1.080	0.013	0.006	0.050	0.110	0.040	0.005	0.003	0.005	0.007	0.410
12.	900/1500# WNRF XS	1" A105N	0.200	0.210	1.050	0.011	0.006	0.050	0.030	0.030	0.015	0.003	0.005	0.007	0.392
13.	900/1500# WNRF XS	1 1/2" A105N	0.200	0.220	0.980	0.009	0.007	0.060	0.060	0.030	0.005	0.003	0.005	0.007	0.383
14.	900/1500# WNRF XS	2" A105N	0.200	0.180	1.100	0.010	0.007	0.080	0.080	0.050	0.005	0.003	0.005	0.008	0.412
15.	900# WNRF XXS	4" A105N	0.220	0.250	0.950	0.016	0.005	0.036	0.026	0.032	0.003	0.007	0.002	0.000	0.389
16.	900# WNRF XS	4" A105N	0.210	0.220	1.040	0.018	0.011	0.010	0.150	0.010	0.002	0.002	0.001	0.002	0.415
17.	500# WNRF XXS	1" A105N	0.230	0.230	0.970	0.012	0.005	0.200	0.050	0.040	0.008	0.002	0.002	0.000	0.422

ITEM	WEAT	TENSILE STRENGTH (MPA)	YIELD STRENGTH (MPA)	ELONGATION (%)	HARDNESS (HR)	REDUCTION OF AREA (%)	HEAT TREATMENT	MATERIAL SUPPLIER	REMARKS
		485 MIN	250 MIN	22.0 MIN	187 MAX	30.0 MIN			NORMALIZATION: 880°C X 2HRS CONFORMS TO MEET NACE MR-01-75 LATEST EDITION T/A P.O. NO. CI-04-478
11.	16993	501.10	308.90	35.0	148	63.0	NORMALIZED	OEKK	CONFORMING TO SA 105N YEAR 2004 EP 2005A JCB # 2005-7529-01 ITEM # 20 SIGNED BY DA Nov 19/05
12.	38794	504.70	329.30	33.0	157	64.0	NORMALIZED	OEKK	
13.	10669	487.10	335.20	36.2	149	69.5	NORMALIZED	OEKK	
14.	31089	513.60	345.00	37.0	162	64.0	NORMALIZED	OEKK	
15.	06869	500.80	331.30	36.0	171	67.7	NORMALIZED	PANZHINUA IRON	
16.	90612	502.80	269.50	37.0	152	68.6	NORMALIZED	KAWASAKI STEEL	
17.	41582	504.70	345.00	36.4	152	68.6	NORMALIZED	JIANGYIN	

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR BY THE ABOVE ORDER AND IS THAT WHICH HAS BEEN TESTED TO THE SATISFACTION OF THE CERTIFICATION BOARD.

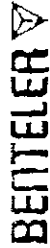
MANAGER

TEST CHIEF

4" 900# W/N FLANGE RF XXH

BORE A105N

HEAT NUMBER : 06869
TRANS AM PIPING PRODUCTS - REV'D BY:
shipment/seq # : S 5 - 1294 30



Stahl/Rohr

Produktions-Nr. 00000000000000000000

Produktions-Nr. 00000000000000000000

Produktions-Nr. 00000000000000000000

Produktions-Nr. 00000000000000000000

ABNAHMEPRUFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1

CERTIFICAT DE RECEPTION EN 10204-3.1

UNIKUMMER

Decremental

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Schmelzanalyse [%] / Metal analysis [%] / Analyse au produit [%]

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0002	734300	0.130	0.210	0.82	0.010	0.004	0.16	0.04	0.11	0.20	0.001	0.010	0.001	0.0002
0007	525549	0.140	0.210	0.84	0.007	0.004	0.12	0.04	0.10	0.13	0.002	0.010	0.001	0.0001

1. Formel: $CE \leq 0.43$ / $CE \leq 0.43$ / $CE \leq 0.43$

2. Formel: $CE \leq 0.43$ / $CE \leq 0.43$ / $CE \leq 0.43$

3. Formel: $Mo \leq 0.01$

4. Formel: $Cr \leq 0.01$ / $Mo \leq 0.01$

Schmelzanalyse [%] / Metal analysis [%] / Analyse au produit [%]

Pos.	Schmelzen-Nr.	1. Formel	2. Formel	3. Formel	4. Formel
0002	734300	0.130	0.210	0.82	0.010
0007	525549	0.140	0.210	0.84	0.007

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

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0002	734300	0.150	0.200	0.79	0.002	0.003	0.13	0.03	0.09	0.18	0.002	0.008	0.002	0.0001
0007	525549	0.140	0.200	0.80	0.002	0.003	0.13	0.03	0.09	0.17	0.001	0.009	0.002	0.0001
0007	525549	0.140	0.200	0.81	0.007	0.003	0.11	0.04	0.10	0.13	0.002	0.010	0.002	0.0001
0007	525549	0.150	0.200	0.81	0.007	0.003	0.12	0.04	0.11	0.13	0.002	0.010	0.002	0.0001

1. Formel: $CE \leq 0.43$ / $CE \leq 0.43$ / $CE \leq 0.43$

2. Formel: $CE \leq 0.43$ / $CE \leq 0.43$ / $CE \leq 0.43$

3. Formel: $Mo \leq 0.01$

4. Formel: $Cr \leq 0.01$ / $Mo \leq 0.01$

CONFORME TO SA 106-B
 2005-7529-01
 21, 22
 06-03-09

Benteler Stahl Service
 Postfach 13 43
 42699 Solingen
 Germany
 Tel: 0455/6411-111 Fax: 0455/6411-222

BENTELER

Stahl/Rohr

Seite 4/1
 Page 4/1
 Page 4/1

Produktions-Nr.
 1002552330101/P

Inspektion-Nr.
 1002552330101/P

Inspektion-Nr.
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Inspektion-Nr.
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Inspektion-Nr.
 1002552330101/P

Pos.	Problem-Nr.	Schmelz-Nr.	Problemabmessung	Stoßprüfung	Zugfestigkeit	Dehnung	Einschnürung	Re/Rm
Item	Specimen No.	Heat No.	Specimen diameter	Yield strength	Tensile strength	Elongation	Area reduction	Re/Rm
Pos.	No. dell'ispezione	Chiusura	Dimensione del specimen	ReH	Rm	A2	Coefficient de réduction	Re/Rm
Anforderungen	Requisita		mm	PSI	PSI	%		
Exigences				MPa	MPa	%		
0002	000001	734300	19,00 X 5,50	50763	60131-110228	44,00		
0002	000002	734300	19,00 X 5,50	50763	70053	44,00		
0007	000003	525515	25,50 X 17,50	57427	70343	31,00		
0007	000004	525515	25,50 X 17,50	57427	67315	30,00		
			25,50 X 17,50	46112	55862	48,00		

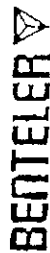
Härtung / Hardness / Essai de dureté

Pos.	Problem-Nr.	Schmelz-Nr.	Hardness
Item	Specimen No.	Heat No.	Hardness
Pos.	No. dell'ispezione	Chiusura	Durezza
Anforderungen	Requisita		
Exigences			
0002	000001	734300	MAX 200
0007	000001	525515	166
			164

Residualmagnetismus / Prima magnetizzazione / Remanence

Pos./Item/Pos.	0002, 0007
residual magnetic field intensity max 0,0 mT/0,02	

Pos.	Item	Zeichen	Kundenmaterial	Kundenbestell-Nr.
Item	Specimen No.	Heat No.	Customer's Material No.	Customer's Order No.
Pos.	No. dell'ispezione	Chiusura	Requisita magnetica	Requisita cliente
0002			P.O. 100711	04-5376
0007			P.O. 100711	04-5376



Stahl/Rohr

Benteler Canada Corp.
P.O. Box 113 90
2540 Park Road
Calgary, Alberta
T2C 1E6
Tel: 403-242-0100 Fax: 403-242-1575

ASNÄHMERPROZESS EN 10204-3.1
INSPECTION CERTIFICATE EN 10204-3.1

Docu. No.
Inspection No.
Benteler No.

Vermerk / Remark / Remarque

Pos. / Item / Pos.: 0002

NACE Standard: hardness acc. to NACE Standard MR0175 HRC max 22. The material meets the requirements of NACE MR0103. 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 / Pos.: 0007

NACE Standard: hardness acc. to NACE Standard MR0175 HRC max 22. The material meets the requirements of NACE MR0103. Certificate remarks: The seamless line pipes meet the requirement for micro hardness of max 248 HV 500

Befallt Produktkennzeichnung / Représentation produit / Représentation du produit

Pos. / Position / Pos.: 0002

Pos. / Position / Pos.: 0007

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Pos. / Position / Pos.: 0007

BENTELER CANADA

PRO TUBULAR

02.02.2006



Aluminiumbeauftragter
Inspektion / Inspection
Calgary

JAN FREERKS / 0007

Ordnungen, 28.02.2006, TEL.: 62564-623-572 FAX: 62564-623-575

Verkaufter (n) / Soldé (s) / Représentation du produit / Représentation du produit

Mr. Seelbach, Tel: 62564-623-572, Fax: 62564-623-575



Manufacturers 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: 1

SOLD TO: C E FRANKLIN LTD. (EDM)
P. O. BOX 6776
STATION "D"
CALGARY, ALB., (N T2P 2E8)

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

MTR #: 101261

PO #: 1571172-SP-4900

SALES ORDER #: C511142 DATE: 11/07/2005

CERTIFIED MATERIAL TEST REPORT

HEAT CODE: 56405

MATERIAL: A/SA105N 01

ITEM	Quantity	Description
1	75	36 - 8 X 2 5000 THP A/SA105N

TOL
2" 6000#

CHEMICAL COMPOSITION:

LADLE	C	MN	P	S	SI	CU	N	CR
	0.210	1.160	0.009	0.019	0.220	0.100	0.020	0.040
	MO	V	NB					
	0.008	0.022	0.001					

CARBON EQUIVALENCY: LADLE 0.425

	TENSILE PSI	YIELD PSI	ELONG %	RA %	HARDNESS
PRODUCT	61,375	54,875	33.25%	69.70%	150 BHN 156 BHN

Normalized

Marie Dehmer
Quality Assurance Representative

CONFORMING TO SA	105N
YEAR	200400 2005A
JOB #	2005-7529-01
ITEM #	25
SIGNED BY	MA 05-11-14

DELCORTE S.A.
RACCORDS ACIER-STEEL FITTINGS



17, Avenue du Corbeau - BP 597
59605 MAU BEUGE CEDEX FRANCE
Tél : 27 69.14.14 Fax : 27.64.25.69

CERTIFICAT DE RECEPTION - ACCEPTANCE CERTIFICATE (DIN 50049 3.1.b - EN 10 204 3.1.b)

TUBE FITTINGS AG
RUTSCHELENSTRASSE 15
4932 LOTZWIL
SUISSE

Order : NCR 5059

MY 24 2005

Code de lot : 121343 / 1

23/12/2004 Dispatch note 121343

21/12/2004

Material specification

ASME/ASTM SA105N/A105N-02 CONF NACE MR0175-03

Heat treatment

NORMALIZED T° C 843-927

DESCRIPTION

125-001-AB#107857

Item	Qty	Designation	Heat N°	Identification	Spec dimension	Localisation
1		30 THREADOLET 6000 2 X 8-36	03/75041	ABZ	ASME B31.1/92	02/04 1655

CHEMICAL ANALYSIS

Item	Identif.	C%	Si%	Mn%	P%	S%	Cr%	Mo%	V%	Ni%	Cu%	Co%	Fe%	Cr+Mo	Cu+Ni+Cr+Mo
min			0.100	0.600											
max		0.250	0.350	1.350	0.035	0.040								0.47	1.0
1	ABZ	0.205	0.190	0.880	0.008	0.009	0.060	0.010	0.017	0.060	0.170	0.000	0.38	0.070	0.3

CONFORMING TO SA 105 N
YEAR 2004ED 2005A
JOB # 2005-7529-01
ITEM # 25
SIGNED BY Nov. 19/05

MECHANICAL TESTS

Item	Identif.	Re 0.2%	Rm	A%	Z%	HB
		N/mm²	N/mm²			
min		250.0	485.0	22.0	30.0	187
max						
1	ABZ	320.0	517.0	32.4	56.5	155-156

VISA DE DÉPART
le 04.01.05
 Service AQ

Je certifie que les produits énumérés ci-dessous sont conformes aux prescriptions de la commande et des spécifications et ont subi, sans objection, les contrôles d'aspect et de dimensions.
We hereby certify that above mentioned products are in accordance with the requirements of the order and specifications and have been checked without objection for surface and dimensionnel control

Par le département



I.M.L.

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE DIN 50043-13 - EN 10204-3.1B
COMPANY WITH QUALITY SYSTEM ISO 9001:2016
CERTIFIED BY RINA

SEYBOLE INTERNATIONAL CORP
20 Hwy Street, Unit 201
TORONTO, ONTARIO M4S 1A1 CANADA

Certificate No. 14324
Invoice No. 14324
Date: 11-22-2004
Rel. Note No. 1593

11/22/2005

16039 CASALDI/26 LIGURE, Genova - Italy - P.zza Marco Caporali, 3 Tel. 010.55.46.7441 Fax 010.55.46.5510 - MATERIAL TEST DEPARTMENT - This certificate has been generated by computer and should not be used as a basis for liability. According to DIN EN 10204 Page 13 - 14

HEAT CODE	HEAT	ITEM	YOUR P.O.	DUR. REFERENCE	Q.TY	DESCRIPTION	QIM. ACC. TO	VISUAL & DIMENS.
ABZ	37678	045	4591	2004-2E209-0003024-045	50	WELDOLET BW STD 2"x8" A105N	SEE NOTE	SATISFACTORY
ABZ	105133	047	4581	2004-2E209-0003024-047	19	WELDOLET BW STD 3"x10" A105N	SEE NOTE	SATISFACTORY
ABZ	37678	085	4581	2004-2E209-0003024-085	50	THREADDLET NPT 6M 2"x14"-24" A105N	SEE NOTE	SATISFACTORY
ABZ	37678	086	4581	2004-2E209-0003024-086	20	THREADDLET NPT 6M 2"x4" A105N	SEE NOTE	SATISFACTORY
ACK	75863	080	4581	2004-2E209-0003024-080	50	THREADDLET NPT 6M 3/4"x3" A105N	SEE NOTE	SATISFACTORY
ECF	89819	088	4591	2004-2E209-0003024-088	175	THREADDLET NPT 6M 3/4"x3" A350LF2	SEE NOTE	SATISFACTORY
ABZ	37678	089	4581	2004-2E209-0003024-089	20	WELDOLET BW S-160 2"x8" A105N	SEE NOTE	SATISFACTORY
ECG	105303	100	4581	2004-2E209-0003024-100	170	WELDOLET BW S-160 2"x8" A350LF2	SEE NOTE	SATISFACTORY
AWX	75779	103	4581	2004-2E209-0003024-103	30	WELDOLET BW S-XS 2"x8"-10" A105N	SEE NOTE	SATISFACTORY
AEV	025066	105	4581	2004-2E209-0003024-105	9	WELDOLET BW S-XS 1"x2" A105N	SEE NOTE	SATISFACTORY

HEAT CODE	HEAT	ITEM	MATERIAL	C%	Si%	Mn%	S%	P%	Cu%	Mo%	Ti%	V%	Nb%	N%	Al%	C.E.%	OTHER ELEMENTS
ABZ	37678	045	ASTM A105	0.180	0.240	0.180	0.023	0.012	0.000	0.070	0.000	0.180	0.001	0.001	0.000	0.378	
ABZ	105133	047	ASTM A105	0.162	0.231	1.210	0.008	0.008	0.110	0.046	0.000	0.232	0.005	0.000	0.000	0.423	
ABZ	37678	085	ASTM A105	0.180	0.240	0.980	0.023	0.012	0.000	0.070	0.000	0.180	0.001	0.001	0.000	0.378	
ACK	75863	080	ASTM A105	0.185	0.270	2.800	0.010	0.011	0.120	0.070	0.000	0.180	0.001	0.001	0.000	0.378	
ECF	89819	088	ASTM A350 LF2 cl 1	0.180	0.240	1.080	0.005	0.014	0.270	0.050	0.000	0.180	0.001	0.001	0.000	0.435	
ABZ	37678	089	ASTM A105	0.180	0.240	0.980	0.023	0.012	0.000	0.070	0.000	0.180	0.001	0.001	0.000	0.378	
ECG	105303	100	ASTM A350 LF2 cl 1	0.185	0.270	1.150	0.007	0.005	0.070	0.130	0.000	0.180	0.001	0.001	0.000	0.378	
AWX	75779	103	ASTM A105	0.200	0.250	0.990	0.023	0.013	0.030	0.060	0.000	0.180	0.001	0.001	0.000	0.382	
AEV	025066	105	ASTM A105	0.200	0.255	0.970	0.027	0.034	0.112	0.067	0.000	0.180	0.001	0.001	0.000	0.391	

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT MINOR 2016	TENSILE STRENGTH 60002, 2016	ELONGATION 2016	REDUCTION OF AREA 2016	HARDNESS HRC	BEND TEST	FLATTENING TEST	TYPE TOYEM	IMPACT TEST - 50JELPM2	SHAPE	YIELD POINT MINOR 2016		
ABZ	37678	045	ASME SA 312	122.65	50.00	31.13	32.0	150 - 153	0.0	0.0	KV	20	87	35	101	0.0
ABZ	105133	047	ASME SA 312	122.65	50.00	31.10	32.0	149 - 154	0.0	0.0	KV	20	87	35	86	0.0
ABZ	37678	085	ASME SA 312	122.65	50.00	31.10	32.0	150 - 153	0.0	0.0	KV	20	87	35	101	0.0
ACK	75863	080	ASME SA 312	122.65	50.00	31.10	32.0	150 - 153	0.0	0.0	KV	20	87	35	101	0.0
ECF	89819	088	ASME SA 312	122.65	50.00	31.10	32.2	150 - 155	0.2	0.0	KV	20	79	35	89	0.0
ABZ	37678	089	ASME SA 312	122.65	50.00	31.10	32.0	150 - 158	0.0	0.0	KV	46	50	52	58	0.0
ECG	105303	100	ASME SA 312	122.65	50.00	31.10	32.0	150 - 163	0.0	0.0	KV	20	87	95	101	0.0
AWX	75779	103	ASME SA 312	122.65	50.00	33.00	30.0	160 - 168	0.0	0.0	KV	48	54	56	60	0.0
AEV	025066	105	ASME SA 312	122.65	50.00	34.0	34.0	158 - 161	0.0	0.0	KV	20	88	97	89	0.0

HEAT CODE	HEAT	ITEM	MATERIAL IN ACCORDANCE TO	HEAT TREATMENT	QUALITY CONTROL DEPARTMENT	MANUFACTURER'S SYMBOL	MANUFACTURER'S SYMBOL	STUD BOLTS
ABZ	37678	045	ASME SA ASTM A105 02	Normalized at 880°-920°C / Air Cool	BORIS FIZZOTTI	IML	IML	STUD BOLTS
ABZ	105133	047	ASME SA ASTM A105-02	Normalized at 880°-920°C / Air Cool				
ABZ	37678	085	ASME SA ASTM A105-02	Normalized at 880°-920°C / Air Cool				
ACK	75863	080	ASME SA ASTM A105-02	Normalized at 880°-920°C / Air Cool				
ECF	89819	088	ASME SA ASTM A350-02b Gr. LF2 cl 1	Normalized at 880°-920°C / Air Cool				
ABZ	37678	089	ASME SA ASTM A105-02	Normalized at 880°-920°C / Air Cool				
ECG	105303	100	ASME SA ASTM A350-02b Gr. LF2 cl 1	Normalized at 880°-920°C / Air Cool				
AWX	75779	103	ASME SA ASTM A105-02	Normalized at 880°-920°C / Air Cool				
AEV	025066	105	ASME SA ASTM A105-02	Normalized at 880°-920°C / Air Cool				

NOTES: ASME B16.11.96 - BS 3799 - ANSI B31.1/3.1.3 - IML STD - NACE MR0175-02
ANSI B1.1-B18.2.2 - NACE MR0175-02

CONFORMING TO SA 105N
YEAR 2004 ED 2005A
JOB # 2005-75729-01
ITEM # 25
SIGNED BY 28 Nov 19/05



STUD BOLTS

IML

FITTINGS

BORIS FIZZOTTI

QUALITY CONTROL DEPARTMENT

MANUFACTURER'S SYMBOL

MANUFACTURER'S SYMBOL

STUD BOLTS

125-001-Po#107701

CLIENTE CE FRANKLIN LTD.

CLASSIFICATION 525443 FEGLI14
CLASSIFICATION 9 3-221
CLASSIFICATION 1 Excluded
CLASS. DATE 21/02/05

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
==ISO 9001==

CADLINE 1169057-OR-2100
FILED IN: 1169057-OR-2100
COURT: 1169057-OR-2100

CI 4MESSA 74522
P. N
C: firmation de commande

PROVA
des
espécies

NOTA - Remarques / Notes

EN10204/3.1B ** DIN 50049 3.1B.

FORMA
Shape / Forme : 1 : 0 2 = ☐

PROVA Test Specimen	POS Item Pos	QUANTITA Quantity Quantity	COOICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
FRUS	054	100	1092576	9D DEG. ELBOW S. 3000 SW A/SA105N 3/4	OK
FRXU	021	96	1096374	90 DEG. ELBOW S. 3000 NPT A/SA105N 1.1/2	OK
FSL5	213	12	1098889	BUSHING M/F NPT LF2 CL1 3x2	OK
FSLT	150	4R	1097983	TEE S. 3000 NPT LF2 CL1 1/4	OK
FTCF	119	136	1550872	MEGALET S. 6000 NPT A/SA105N 1x4 - 24	OK
FT02	033	60	1095232	CROSS S. 3000 NPT A/SA105N 2	OK

CONFORMING TO SA 105N

YEAR 2004 ED 2005A

JOB # 2005-7529-01

CONFIRMING TO SA 105N
YEAR 2004 ED 2005A
JOB # 2005-7529-01
ITEM # 27
SIGNED BY DA Nov 19/05

NOTE: Remarks / Notes

CNIE OFFICIALE D. COLLAUDO
 71. 9 30 2 80
 72. 9 30 2 80

CAPO COLLAUDO
[phot inspection DPT
[sponsaire assurance qualite

MAR 18 2005

DOC CERT. M.E.S.A.
JAN 1964

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

2

M.E.G.A.

Q. AMESSA 74522
A. M
C. Immatriculation de commande

ORDINE 1269037-08-2100

DATE	TIME	DESCRIPTION	STATUS	REMARKS
EN10204/3.1B	**	DIN 50049 3.1B.		
DATE	TIME	FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.03.04	EVASI*241956MEGA
DATE	TIME	FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.05.04	EVASI*241956 MEGA*
DATE	TIME	FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.12046.04	DAIRINEF
DATE	TIME	FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.2534.04	RIVA*241959 MEGA
DATE	TIME	FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.9242.04	RIVA*241975 MEGA
DATE	TIME	FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.22343.04	RIVA*241992 MEGA

QTY	UNIT	QUANTITY	PRICE	DESCRIPTION	VISUAL	ANAL
FA:G	117	300	1550856	MEGALET S. 6000 NPT A/SA105N 3/4x3.1/2 -24		OK
FA:D	113	72	1552958	MEGALET S. 3000 NPT A/SA105N 2x8-12		OK
FB:CF	339	480	1092630	HALF COUPLING S. 3000 NPT A/SA105N 2		OK
FB:FA	121	18	1550801	MEGALET S. 6000 NPT A/SA105N 2 X5-8		OK
FB:FA	120	30	1550910	MEGALET S. 6000 NPT A/SA105N 2 X10-24		OK
FB:FB	046	12	1090577	CAP S. 3000 NPT A/SA105N 1.1/4		OK
FB:FB	080	200	1090925	COUPLING S. 6000 NPT A/SA105N 1		OK
FB:FC	084	48	1092728	HALF COUPLING S. 6000 NPT A/SA105N 2		OK
FB:FC	025	15	1094011	CAP S. 6000 NPT A/SA105N 2		OK

TRANSFORM TO SA 105N
 YEAR 2004EP-2005A
 CASE # 2005-7529-01
 ITEM # 28
 SIGNED BY PH05-11-14

DAPO COLLAUD
Chief Inspection DP
DAPO DINE ASSAULT QUART

00C CERN M.F.G.A.
Threats

SEGA S.p.A. - VIA DALLA CHIESA, 3 - SCANZOROSCIATE (BG) ITALY - TEL. +39 035 661280 - TEL/FAX +39 035 665535

CERTIFIED MILL TEST REPORT



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LOG NO. 213583 PAGE 1
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www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

Date 04/15/05

CUSTOMER'S Order No.: 4872767-00

Bonney Order No. 008826

SHIPPED TO: CCTF CORPORATION

Mat# 0434

5407 - 53 AVENUE

EDMONTON ALBERTA, T6B 3G2 CANA

ITEM	QUANTITY	LOT NO.	DESCRIPTION
------	----------	---------	-------------

SA/A105N

024 725 3120 7525E49 1 5000 A105N COUP T
C .190 MN 1.020 P .008 S .023 SI .250
NI .020 CU .070 CD .002 CR .050 MD .007
V .025 AL .001 NB .001
CE(LONG FORMULA) = 0.36
T/S 74E75 Y/S 52625 EL 32.40 RA 58.80
BRINELL HARDNESS1: 141 HARDNESS2: 144

037 1000 3057 7521217 1X1/4 3M/6M A105N HXBU T
C .190 MN 1.020 P .010 S .023 SI .260
NI .020 CU .080 CD .002 CR .050 MD .009
V .025 AL .001 NB .001
CE(LONG FORMULA) = 0.38
T/S 77000 Y/S 49100 EL 36.00 RA 71.00
BRINELL HARDNESS1: 153 HARDNESS2: 150

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 A105-03 / ASME SA105-04 EDITION.
4. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 0 INCH OR 50 MM GAGE LENGTH.

ITEM NO.	105N
DATE	2004-09-20
BY	2005-7-29-01
REV	27
APPROVED BY	05-11-14

***** 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 [Signature]
Chris Childers

QUALITY CONTROL MANAGER

MAY 03 2005

125-001-P6#107701

M.E.G.A.CLIENTE
Customer
Client

CE FRANKLIN LTD.

1900 - 300 - 5th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 3C4CER. FICATO N. 247441 FOLIO 9
Cert. date N. Sheet
Cert. date N. Sheet

DAT / Date 23/06/04

COM. NISSA 72407
Com. NISSA 72407
Com. NISSA 72407CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLECOMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001ORDINE
Purchase order
Commande 1038480-CR-2100

PROVA Test Essai	MATERIALE Material Matériau	COLATA Heat / Cast Fonderie	CV	SA	MA	SA	MA	SA	MA	SA	MA	SA	MA	SA	MA	SA	MA
CLRA	A350/90c LF2 CL1	1T 9883	0.190	0.250	0.890	0.008	0.009	0.004	0.009	0.010	0.000	0.10	0.001	0.022	0.365		
				Nb1=	0.001												
CLRC	A350/90c LF2 CL1	30910	0.180	0.160	0.950	0.011	0.009	0.003	0.011	0.030	0.000	0.20	0.000	0.000	0.384		
				Nb1=	0.000												
CLUA	A350/92 LF2 CL1	1T 8178	0.180	0.240	0.910	0.009	0.011	0.005	0.009	0.010	0.000	0.10	0.000	0.021	0.357		
				Nb1=	0.001												
CLUC	A350/90c LF2 CL1	78108	0.185	0.200	0.920	0.010	0.009	0.007	0.004	0.010	0.000	0.10	0.000	0.022	0.365		
				Nb1=	0.000												
CLLU	ASTM A105/01	1T 8178	0.180	0.240	0.910	0.009	0.011	0.005	0.009	0.010	0.000	0.10	0.000	0.021	0.357		
				Nb1=	0.001	Ca1=	0.050										
CLXN	A350/02b LF2 CL1	79160	0.180	0.210	0.870	0.007	0.011	0.009	0.006	0.010	0.000	0.10	0.000	0.025	0.359		
				Nb1=	0.000												

PROVA Test Essai	PROVETTA Test Specimen / Essai Specimen	SVERNAMENTO Nimonic Test Specimen / Essai Specimen	ROTTURA Rupture Rupture	ALLUNGAMENTO Elongation Allongement	CONTRAZIONE Contraction Contraction	DUREZZA Hardness Dureté	PIEZA Specimen Pièce	SCHIACCI Compression Schacci	RESISTENZA Tensile Strength Résistance	VALORI Values Valeurs
CLRA	1 60.8 35.0	370.0	490.5	33.0	74.5	149-152	J	KV	-50	136-162-140
CLRC	1 59.4 35.0	410.0	536.0	30.2	69.5	170-175	J	KV	-50	48-56-60
CLUA	1 60.1 35.0	372.0	538.0	27.6	61.1	165-170	J	KV	-50	68-62-62
CLUC	1 60.1 35.0	409.0	533.3	35.2	72.8	152-156	J	KV	-50	38-66-50
CLLU	1 30.6 25.0	318.0	533.0	29.4	67.3	150-160	J	KV	-12	50-46-42
CLXN	1 30.6 25.0	406.0	574.0	25.5	57.3	174-178	J	KV	-50	62-66-60

NOTE: Remarks / Remarques

EN10204/3.18 ** DIN 50049 3.18.

FIRMA
Signature / Signature

CLRA ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT. 270.03 ISMA*236896 MEGA

CLRC ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT. 256.03 ISMA*236896 MEGA

CLUA ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT. 69.03 EVASI*236913 MEGA

CLUC ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT. 74.03 EVASI*236913 MEGA

CLLU ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /67.03 EVASI*236848 MEGA

CLXN ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT. 80.03 EVASI*241947 MEGA

PROVA Test Essai	POS. Pos. Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Descripção	VISUAL AND DIMENSIONAL
CLRA	113	20	1096761	TEE S. 3000 SW LF2 CL1 1	OK
CLRA	120	5	1097457	TEE S. 6000 NPT LF2 CL1 1/2	OK
CLRC	091	227	1098433	TEE S. 3000 NPT LF2 CL1 1/2	OK
CLUA	127	30	1097406	HEX. HEAD PLUG NPT LF2 CL1 1.1/2	OK
CLUC	133	15	1097553	BUSHING M/F NPT LF2 CL1 2x1	OK
CLLU	071	360	1550856	MEGALET S. 6000 NPT A/SA105N 3/4x3.1/2 -24	OK
CLXN	140	375	1550936	MEGALET S. 3000 NPT LF2 CL1 3/4x4 -36	OK

MATERIAL ACCORDING TO NACE MR0175 Ed. 2003

ENTE UFFICIALE DI COLLAUDO
Inspection Authority
Service Inspection AuthorityCAPO COLLAUDO
Chief Inspection DPT
Responsable assurance qualitéOGG. CERT. M.E.G.A.
Signed / Signed

JAN 11 2005

M.E.G.A. S.p.A. - VIA DALLA CHIESA, 3 - SCANZOROSCIATE (BG) ITALY - TEL. +39 035 661280 - TELEX +39 035 665585

MAY 03 2005

125-001-P6#107701

M.E.G.A.CLIENTE
Customer
Client

CE FRANKLIN LTD

1930 - 300 - 5th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 3C4CERTIFICATO N. 525443 foglio 11
D. Denominazione N
C. Clienti N

D. A. Data 21/02/05

D. IMMESSA 74522
D. N. N.
D. Distributore di competenzaCERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLECOMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001ORDINE
Purchase order
Commande 1169057-OR-2100

PROVA Test Essai	MATERIALE Steel / Acier / Matière	COLATA Heat / Coulee	C%	S%	Al%	S%	P%	Si%	N%	Mn%	Tr%	Cu%	V%	Al%	CE%
FLLC	ASTM A105/02	04776899	0.180	0.220	0.920	0.010	0.008	00.07	00.05	0.010	0.000	0.10	0.000	0.023	0.383
				Nb%	0.000								B %	0.0005	
FLLR	ASTM A105/02	4498/04.3	0.170	0.160	0.940	0.009	0.008	00.08	00.11	0.022	0.000	0.20	0.001	0.020	0.367
				Nb%	0.001	N %	0.005			B %	0.0005				
FLLS	ASTM A105/02	4498/04	0.170	0.160	0.940	0.009	0.008	00.08	00.11	0.022	0.000	0.20	0.001	0.020	0.367
				Nb%	0.001	0 %	0.000								
FLLX	ASTM A105/02	AR0003	0.200	0.250	0.960	0.008	0.008	00.06	00.08	0.020	0.000	0.10	0.000	0.024	0.393
				Nb%	0.000	B %	0.0005								
FLRA	ASTM A105/02	1T 13540	0.180	0.220	0.900	0.019	0.017	00.16	00.07	0.010	0.000	0.10	0.001	0.029	0.378
				Nb%	0.002	B %	0.0005								
FLRD	ASTM A105/02	0341405	0.185	0.175	1.070	0.001	0.009	00.12	00.00	0.003	0.000	0.09	0.002	0.029	0.391
				Nb%	0.002	B %	0.0003	N %	0.008						

PROVA Test Essai	PROVETTA Incorporamento / Essai	SEZIONE Section (Steel)	LUNGHEZZA Length (mm)	SVERNAMENTO N° 1 Yield point Limite d'élasticité	ROTTURA Rupture Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Contraction	DUREZZA HB Hardness Brinell	MEGA Rec test Kilog.	SCHIACC Flat test Appareil	RESILIENZA Flat test / Resilience		
				UNITA MIS Unit system	TPO Type	T °C °F	VALORE / Value - D-values						
FLLC	1	30.6	25.0	306.0	532.0	29.3	67.9	149-156	OK	J	KV	0	50-52-52
FLLR	1	30.6	25.0	311.0	533.0	28.9	67.5	148-152		J	KV	-5	48-38-40
FLLS	1	30.6	25.0	325.0	543.0	29.6	67.4	150-160		J	KV	0	48-50-44
FLLX	1	30.6	25.0	317.0	531.0	28.8	67.4	149-156		J	KV	0	62-50-52
FLRA	1	30.7	25.0	302.7	498.5	35.0	66.4	146-140		J	KV	0	96-90-96
FLRD	1	60.1	35.0	313.0	536.0	29.3	67.6	149-159		J	KV	0	40-40-48

PROVA Test Essai	NOTE - Remarks - Notes
FLLC	ELECT. FURNACE - NORMALIZED AT 900 °C COOLED IN STILL AIR. / CERT. 64.04 EVASI*242023 MEGA*B:0.0005
FLLR	ELECT. FURNACE - NORMALIZED AT 900 °C COOLED IN STILL AIR. / CERT. 74.04 EVASI*247474 MEGA*Nb:0.001*
FLLS	ELECT. FURNACE - NORMALIZED AT 900 °C COOLED IN STILL AIR. / CERT. 75.04 EVASI*247481 MEGA*
FLLX	ELECT. FURNACE - NORMALIZED AT 900 °C COOLED IN STILL AIR. / CERT. 76.04 EVASI*247491 MEGA*
FLRA	ELECT. FURNACE - NORMALIZED AT 900 °C COOLED IN STILL AIR. / CERT. 274.04 ISMA*247495 MEGA*
FLRD	ELECT. FURNACE - NORMALIZED AT 900 °C COOLED IN STILL AIR. / CERT. 288.04 ISMA*247490 MEGA*

PROVA Test Essai	POS Pos Place	QUANTITA' Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE Description Description	VISUAL AND DIMENSIONAL
FLLC	101	20	1126393	MEGALET Sch. XS A/SA105N 2x3.1/2-4	OK
FLLC	102	35	1553029	MEGALET Sch. XS A/SA105N 2x5-6	OK
FLLC	112	75	1552931	MEGALET S. 3000 NPT A/SA105N 2x3.1/2-4	OK
FLLC	114	75	1550750	MEGALET S. 3000 NPT A/SA105N 2x14-36	OK
FLLC	128	15	1550830	MEGALET S. 3000 SW A/SA105N 2x14-36	OK
FLLR	116	600	1550848	MEGALET S. 6000 NPT A/SA105N 1/2x2.1/2-24	OK
FLLR	129	40	1127839	MEGALET S. 6000 SW A/SA105N 3/4x3.1/2-24	OK
FLLS	099	50	1551120	MEGALET Sch. XS A/SA105N 1x6-36	OK
FLLS	110	515	1550688	MEGALET S. 3000 NPT A/SA105N 1x6-36	OK
FLLS	126	147	1550792	MEGALET S. 3000 SW A/SA105N 1x6-36	OK
FLLX	106	640	1550637	MEGALET S. 3000 NPT A/SA105N 1/2x3-36	OK
FLLX	123	150	1550768	MEGALET S. 3000 SW A/SA105N 1/2x3-36	OK
FLRA	097	10	1451181	MEGALET Sch. STD A/SA105N 3x6	OK
FLRD	096	50	1548995	MEGALET Sch. STD A/SA105N 3x8-10	OK

CONFORMING TO SA 105N
YEAR 2004 ED 2005A
JOB # 2005-7529-01
ITEM # 29
SIGNED BY 28 Nov 11/05

NOTE - Remarks - Notes

ENTE UFFICIALE DI COLLAUDO
OFFICIAL INSPECTION DPT
OFFICE OF INSPECTIONCAPO COLLAUDO
Chief Inspection DPT
F. Responsable assurance qualitéMATERIAL ACCORDING TO:
NACE MR. 0175 Ed. 2003.

MAR 18 2005

DOC. CERT. M.E.G.A.
Doc. Certificat

Benteler Stahl/Rohr GmbH
Wegmann 1340
52433 Waderborn
Deutschland
Tel.: +49 5254 81-0 Fax: +49 5254 13665

BENTELER
Stahl/Rohr

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

Benteler Stahl/Rohr GmbH · Postfach 1340 · D-52433 Waderborn · Deutschland
National-Oilwell Canada Ltd.
7127 · 56 Avenue
EDMONTON, AB T6B 3L3
KANADA

Dokument-Nr.: 1277386/001/P

Document No.:
No. du document:

Kunden-Bestell-Nr.: 05-5446
Purchase Order No.:
No. de commande du client:

Benteler Auftrags-Nr.: 1129689
Benteler Order No.:
No. de commande Benteler:

Versandanzeigen-Nr.: 4161022
Dispatch Note No.:
No. d'avis d'expédition:

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

Lieferbedingungen:

Terms of delivery:
Conditions de livraison:

Maße - Toleranzen:
Dimensions-tolerances:
Dimensions-tolerances:

Stahlsorte:
Steel grade:
Nuance d'acier:

Lieferzustand:
Delivery condition:
Etat de livraison:

Produktkennzeichnung:
Product marking:
Marquage du produit:

CSA Standard Z245.1-02 Category I, API Specification 5L Forty-Third Edition, March 2004, PSL 1, ASTM-A 106-2004b, S5, ASME SA-106, ASME Section II Part A Edition 2004, S5, NACE Standard MR0175-03

ASME B36.10M-1996, ASME SA-530, ASME Section II Part A Edition 2004, ASTM-A 530-2004a

GRADE 290, GRADE B, GRADE X 42

Hot rolled

see attachment product marking

QUALITÄTSGRUPPE ITEM A	106-B
YR NR	200400-200501
DATE	2005-12-29-01
SIGNED BY	11-06-03-07

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

Hersteller:
Manufacturer:
Producteur:
WarmrohrwerkZieherei
ISO/RS 16949 (ISO 9001) DIN/CERT-13755-2003
PEO 9722/EC TÜV Cert 07 202 3937 2.0001/AM

Herstellerzeichen:
Manufacturer's brand:
Marque du producteur:

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

Stahlerschmelzungsverfahren:
Steelmaking process:
Procédé d'élaboration de l'acier:

Pos.	Stück Item	Maße Dimensions	Länge Longueur	Gewicht Poids	Schmelzen-Nr. No. de coulée	Prüfdruck Pression d'épreuve	Rohr-Nr.-Gruppe Tube number group	Vielfachlanger Longueurs multiples
0001	135	1" NPS * Sched. 40 18 FT - 22 FT	2719,49 feet	4647 lbs	528184	3000 PSI	Série de no. des tubes	Longueurs multiples
0005	480	3/4" NPS * Sched. 80 18 FT - 22 FT	9448,82 feet	14374 lbs	528105	3000 PSI	Série de no. des tubes	Longueurs multiples

Benteler Stahl/Rohr GmbH
Postfach 13 40
33013 Fadderborn
Deutschland
Tel.: +49 5254 81-0 Fax: +49 5254 13805

BENTELER
Stahl/Rohr

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

Document No.: 41-277386/001/P
No. du document:

Inspection No.:
No. du certificat:

Sheet: 2
Page:

Pos.	Stück	Maße	Länge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vielfachlänge
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 multi
			feet	lbs		PSI		
0006	1493	1" NPS * Sched. 80 18 FT - 22 FT	29389,76	65169	143635	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.													
Poste	No. de coulée													
0001	528184	0,120	0,190	0,83	0,009	0,004	0,13	0,03	0,08	0,16	0,001	0,003	0,002	0,0001
0005	528105	0,130	0,210	0,82	0,014	0,004	0,13	0,02	0,09	0,13	0,001	0,004	0,002	0,0001
0006	143635	0,130	0,205	0,83	0,009	0,003	0,12	0,04	0,09	0,16	0,001	0,003	0,003	0,0001

1. Formel: $CE_{IIW} = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Cu+Ni)/15) \leq 0,40 \%$
2. Formel: $CE_{EV} = C + F \cdot ((Mn/6) - (Si/24) + (Cu/15) + (Ni/20) + ((Cr+Mo+V+Ni)/5) + (5 \cdot B)) \leq 0,40$
3. Formel: $Mn/C \geq 3/1$
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
Item	Heat No.	1. Formula	2. Formula	3. Formula	4. Formula
Poste	No. de coulée	1. Formule	2. Formule	3. Formule	4. Formule
0001	528184	0,307	0,266	6,917	0,401
0005	528105	0,312	0,282	6,308	0,371
0006	143635	0,317	0,286	6,385	0,411

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

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
Item	Heat No.													
Poste	No. de coulée													
0001	528184	0,130	0,180	0,83	0,009	0,003	0,14	0,03	0,08	0,18	0,001	0,003	0,002	0,0002

88757A

MTR-View

Benteler Stahlrohr GmbH
Postfach 13 43
33043 Bad Lippringen
Deutschland
Tel.: +49 52 94 81-0 Fax: +49 52 94 13556

BENTELER
Stahlrohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1

CERTIFICAT DE RECEPTION EN 10204-3.1

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

Dokument-Nr.:
Document No.:

No. du document:

+1-277-930-401P

Prüf-Nr.:
Inspection No.:

No. du certificat:

Blatt:
Page:

Page:

Pos. Schmelzen-Nr.

Item Heat No.

Poste No. de coulée

C

SI

MN

P

S

CR

MO

NI

CU

V

NB

TI

B

0001	528184	0,120	0,180	0,85	0,009	0,003	0,14	0,03	0,08	0,18	0,001	0,003	0,002	0,0002
0005	528105	0,130	0,210	0,83	0,013	0,003	0,13	0,03	0,08	0,14	0,001	0,003	0,002	0,0002
0005	528105	0,130	0,210	0,83	0,013	0,003	0,13	0,03	0,09	0,14	0,001	0,003	0,002	0,0002
0006	143635	0,140	0,210	0,84	0,009	0,001	0,12	0,05	0,09	0,17	0,001	0,003	0,002	0,0002
0006	143635	0,140	0,210	0,85	0,009	0,001	0,12	0,05	0,09	0,17	0,001	0,003	0,002	0,0002

1. Formel: $CE_{IIW} = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Cu+Ni)/15) \leq 0,40 \%$

2. Formel: $CEV = C + F \cdot ((Mn/6) + ((Si/24) + ((Cu/15) + ((Ni/20) + ((Cr+Mo+V+Nb)/5) + (S \cdot B))) \leq 0,40$

3. Formel: $Mn/C \geq 3/1$

4. Formel: $Cr+Cu+Mo+Ni+V \leq 1,00 \%$

Formelergebnisse / Formula results / Résultats des formules

Pos. Schmelzen-Nr.

Item Heat No.

Poste No. de coulée

1. Formel

2. Formel

3. Formel

4. Formel

Formule

Formule

0001 528184 0,320 0,288 6,385 0,431

0001 528184 0,313 0,271 7,083 0,431

0005 528105 0,315 0,285 6,385 0,381

0005 528105 0,316 0,286 6,385 0,391

0006 143635 0,332 0,310 6,000 0,431

0006 143635 0,333 0,312 6,071 0,431

Formelergebnisse / Test results / Résultats des essais

Die Röhre 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

Augensichtkontrolle:

Visual inspection:

Examen visuel:

PASSED

Biegeversuch:

Bending test:

Essai de cintrage:

PASSED

Maßkontrolle:

Dimensions examination:

Vérification des dimensions:

PASSED

88757 B

Benteler Stahl/Rohr GmbH
Postfach 13 40
33243 Paddeborn
Deutschland
Tel.: +49 5254 81-0 Fax: +49 5254 13230

BENTELER
Stahl/Rohr

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

Document No.: 41-277386/001/P
No. du document:

Inspection No.:
No. du certificat:

Seite:
Page:

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'échantillonnage était réalisé aux longueurs multiples.

Zugversuch / Tensile test / Essai de traction

Pos. Item	Proben-Nr. Specimen No.	Schmelzen-Nr. Heat No.	Probenabmessung Specimen dimensions Dimensions de l'éprouv.	Streckgrenze Yield strength Limite élastique	Zugfestigkeit Tensile strength Résistance à la traction	Dehnung Elongation Allongement	Einschnürung Area reduction Coefficient de striction	Re/Rm Re/Rm
Anforderungen Requirements Exigences	mm		ReH N/mm ² 290-495	Rm N/mm ² 415-760	A2" % MIN 30	1. Formel 1. Formula 1. Formule		
0001	000001	528184	33,40 X 3,50	330	480	46,00		
0001	000002	528184	33,40 X 3,50	333	481	46,00		
0005	000001	528105	26,70 X 4,00	309	486	42,00		
0005	000002	528105	26,70 X 4,00	311	483	40,00		
0006	000001	143635	33,40 X 4,70	338	466	48,00		
0006	000002	143635	33,40 X 4,70	324	484	48,00		
0006	000003	143635	33,40 X 4,70	335	488	50,00		

Härteprüfung / Hardness test / Essai de dureté

Pos.	Proben-Nr.	Schmelzen-Nr.	Härte
Item	Specimen No.	Heat No.	Hardness
Poste	No. de l'éprouv.	No. de coulée	Dureté
Anforderungen			HRC
Rendicimento			HB
Exigences			HV
			HRB
0001	000001	528184	MAX 200
			143
0005	000001	528105	
			137
0006	000001	143635	
			143
0006	000002	143635	
			141

88757C

Benteler Stahl/Rohr GmbH
Postfach 12 45
33043 Paderborn
Deutschland
Tel.: +49 5254 81-0 Fax: +49 5254 13698

BENTELER
Stahl/Rohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1
INSPECTION CERTIFICATE EN 10204-3.1
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Residualmagnetismus / Demagnetize / Démagnétiser
residual magnetic field intensity max 3.5 millitesla

Pds. Item	Ihr Zeichen Your reference	Kundenmaterial Customer's Material No.	Kundenbestell-Nr. Purchase Order No.
Paste votre référence	No. de matière du client	No. de commande du client	
0001	P.O. 10718482/5865	05-5446	
0005	P.O. 10718482/6154	05-5446	
0006	P.O. 10718482/6103	05-5446	

Vermerk / Remark / Remarque

NACE Standard: hardness acc. to NACE Standard MR0175 HRC max 22. The material meets the requirements of NACE MR0103; 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. Item	Produktkennzeichnung Product marking
Poste Marquage du produit	
0001	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. 10718482/5865
0005	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. 10718482/6154
0006	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. 10718482/6103

FS = Farbschablenzeichnung, colour marking, marquage par couleur FS = Farbschablenzeichnung, paint stencilling, marquage par peinture PSD = Farbschablenzeichnung, Colour spray marking, marquage par pulvérisation TS = Tinnenspritzschablenzeichnung, ink spray marking, imprimante à jet d'encre
longitudinal par peinture PSK = Eutenkennzeichnung, tag marking, marquage sur étiquette PS = Prägemark, die stamp, marquage par poinçonnage

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

MTR-VIEW

88757D

Benteler Stahl/Rohr GmbH
Postfach 13 40
33043 Paderborn
Deutschland
Tel.: +49 5254 81-1300 +49 5254 13666

BENTELER
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:
41-2773669-1-0

Prüfung:
Inspection No.:
No. du certificat:
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Page:
Page:

Paderborn Schloß Neuhaus, 27.06.2005, TEL.: 05254.81-1765 FAX: 05254.81-1991


Abnahmebeauftragter
Inspection representative
Contrôleur

DIETER KELLE / DIE
Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. Lieferbedingungen des Auftrages entsprechen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechts gültig.
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 stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.

88757 E



CPI INDUSTRIES CO., LTD

MILL TEST REPORT

CRYSTAL PALACE

ISO9001:2000 ; PED CERTIFICATE (Certificate No.:C021058)

DATE OF ISSUE: 2005/7/30

CONFORMING TO SA 312-307/304L
2004/00-2005A
2005-7529-01
32
06-03-07

CUSTOMER: NORCA	CERTIFICATE NO.: 2005-5-3-6					
P.O. NO.: 27419	ORDER NO.: 2005-5-003					
COMMODITY: STAINLESS STEEL SEAMLESS PIPES ASTM A312.	GRADE: ASTM A312-04b TP304/TP304L					
CONDITION: COLD FINISH / SOLUTION TREATED / PICKLED / PLAIN END.	HEAT NO.: J0412-102					
CHEMICAL CONTENTS (WT%)						
ELEMENTS						
C	Si	S	P	Mn	Ni	Cr
<0.035	<1.00	<0.030	<0.045	<2.00	8.0-13.0	18.0-20.0
0.026	0.42	0.002	0.033	0.64	8.41	18.32

PHYSICAL PROPERTIES

NPS	Dimensions		Bundle No.	Pieces	Weight (kg)	0.2%YS (Mpa)	T S (Mpa)	EL (%)	FLARING TEST	FLATTENING TEST	HARDNESS HRB	EDDY CURRENT TEST (100%)
	W.T (SCH)	Length (feet)										
3/4"	80S	20	05-6-248	165	2230	270	570	69.5	OK	OK	66	OK
1 1/4"	80S	20	05-6-249	28	769	330	585	56.0	OK	OK	75	OK
1 1/2"	80S	20	05-7-61	110	1097	275	580	67.0	OK	OK	68	OK

REMARKS:

AS PER ASTM A312/ASME SA312-04b
WALL THICKNESS TOLERANCE AS PER ASTM A312-04b
SOLUTION HEAT TREATMENT :1050°C X 1.5min/min.
NO WELD REPAIR WAS PERFORMED
FREE FROM MERCURY CONTAMINATION
FREE OF RADIATION CONTAMINATION
MEASUREMENT & SURFACE: OK
CONFORMANCE TO NACE AND EN 10204-3.1B
UNS S30400/30403

1.WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND THE TEST RESULTS ARE IN COMPLIANCE WITH THE TERMS OF THE PURCHASE ORDER OR CONTRACT
2.THE CERTIFICATE SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE COMPANY.
CPI INDUSTRIES CO., LTD

Diagm...

MANAGER OF QUALITY ASSURANCE DEPARTMENT

15-001

HEAD NUMBER : 2017 *PD. # 115596*
 TRANS AM PIPING PRODUCTS REV'D BY: *[Signature]*
 Shipment/Seq #: S 4 1129 48

1" 6000# FS SCRD COUPLING
 A105N



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

KAHSIUNG HSIEN, TAIWAN R.O.C.81405:

TEL: (07) 371-0497, 371-1556, 372-0263 FAX: (886-7) 371-8864, 371-3882

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

An ISO-9001 Registered Manufacturer



MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN10204/EN50470/3.1.5

CUSTOMER: SEMBLY INTERNATIONAL CORP

INVOICE NO: BWH39210065A

DATE: 02/27/04

Part Number

ORDER NO: 4388(CI-03-835)

C/C NO:

PAGE: 8

ITEM	BAR MATERIAL HEAT NO.	BOTH WELL HEAD	DESCRIPTION	QUANTITY	SPECIFICATION: ASTM / ASME A/SA 105N -01 DIMENSION: ASME B16.11 - 2001 SURFACE: BY VISUAL... GOOD
044	307379	2043	RED.TEE 1"x 3/4" 3000# NPT	100 PC	
049	307374	2040	RED.TEE 1-1/2"x 1/2" 3000# NPT	50 PC	
050	307374	2043	RED.TEE 1-1/2"x 3/4" 3000# NPT	25 PC	
051	20404	3008	RED.TEE 2"x 1/2" 3000# NPT	50 PC	
063	204132	2017	FULL CPLG 1" 6000# NPT	300 PC	
065	20413	992	FULL CPLG 2" 6000# NPT	100 PC	
067	204090	362	CAP 1/2" 6000# NPT	25 PC	

CHEMICAL COMPOSITION (%)

ITEM	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N
Min	-	0.100	0.500	-	-	-	-	-	-	-	-	-
Max	0.250	0.350	1.050	0.035	0.040	0.400	0.320	0.400	0.120	0.05	0.020	-
044	0.200	0.220	0.850	0.020	0.013	0.250	0.120	0.070	0.010	0.00	0.001	-
049	0.170	0.220	0.870	0.015	0.009	0.230	0.110	0.066	0.010	0.00	0.002	-
050	0.200	0.270	0.840	0.016	0.010	0.230	0.110	0.060	0.010	0.00	0.001	-
051	0.200	0.230	0.850	0.018	0.007	0.230	0.010	0.030	0.000	0.00	0.000	-
063	0.190	0.20	0.800	0.014	0.008	0.170	0.110	0.050	0.010	0.01	0.004	-
065	0.190	0.240	0.900	0.018	0.009	0.020	0.010	0.010	0.000	0.00	0.000	-
067	0.220	0.250	0.810	0.019	0.012	0.010	0.040	0.020	0.010	0.00	0.000	-

MECHANICAL TEST

ITEM	Tensile Strength (ksi)	Yield Strength (ksi)	Elong- ation (%)	R of A (%)	Hardness (HRC)	Remarks: NORMALIZED : 900°C ± 14°C
Min	70.0	58.0	22.0	30.0	-	
Max	-	-	-	-	187	
044	72.8	51.8	27.8	67.6	146	WE CERTIFY THE ABOVE MENTIONED FITTINGS HAVE BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS SHOWN <i>S.C. Lee</i> <i>C.C. Huang</i> MGR. MANAGER INSPECTOR SHENG CHENG LEE CHON CHIEH HUANG
049	71.0	51.1	31.6	65.9	143	
050	73.1	53.2	34.0	66.8	146	
051	73.4	52.0	29.6	65.5	143	
063	73.1	55.4	32.6	66.4	143	
065	73.2	62.4	32.8	65.5	150	
067	73.3	47.9	36.4	67.3	148	

CONFORM TO SA *105N*

YEAR *2004 ED 2005A*

JOB # *2005-7529-01*

ITEM # *35*

SIGNED BY *28 Nov 19/05*

ALGOMA STEEL INC. 105 West St., Sault Ste. Marie, Ontario, Canada, P6A 7B4

CUSTOMER PURCHASE ORDER NUMBER	ENTRY DATE	SHIP DATE	TALLY NUMBER	SHIPPER'S NUMBER	CARRIER	MILL ORDER
W31963	2003/04/08	2003/05/06	293257	02 -	CP	42850

CHARGE TO CUSTOMER NAME & ADDRESS

SAMUEL, SON & CO. LIMITED
701 - 15 AVENUE
NISKU, ALBERTA
T9E 7L5

SHIP TO CUSTOMER NAME & ADDRESS

SAMUEL, SON & CO. LIMITED
C/O CPR TRANSFER FACILITY
EDMONTON, ALBERTA

MILL TEST REPORTS

ALGOMA STEEL INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN HEREIN AS CONTAINED IN THE COMPANY RECORDS AND WITHIN THE SCOPE OF ACCREDITATION OF ISO/IEC GUIDE 25:1990 AS CONTAINED IN THE COMPANY RECORDS.

H. Haldenby
MANAGING METALLURGIST

THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITH WRITTEN APPROVAL OF ALGOMA STEEL. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705) 945-2624 COLLECT FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT.

SUPPLEMENTARY INSTRUCTIONS

FAX SM/TR TO D HLADY (780-955-4774) FAX BL TO BATES EQUIP. (780-437-3713) - MRK BL "FOR TRUCK DEL'Y" TO SAMUEL, SON & CO LTD 701 - 15TH AVE., NISKU, ALBERTA

INSP T/R TEST REPORTS REQUIRED

CUSTOMER USE RESALE

CUSTOMER ITEM 2 OUR ITEM 002 DIMENSIONS .625 X 120 X 480 " SHIPPER'S NUMBER 02 -

PLATES NORMALIZED FOR A MINIMUM OF 15 MINUTES @ 1650F.

PLATE NUMBER	HEAT	NO. PIECES	WEIGHT	PLATE NUMBER	HEAT	NO. PIECES	WEIGHT
79671	2537B-04	1	10209	79672	2537B-04	1	10209
79673	2537B-54	1	10209	79674	2537B-54	1	10209
79677	2537B-54	1	10209	79676	2537B-54	1	10209
				79678	2537B-56	1	10209

TENSILE TESTS: * SAMPLE * * * * * MECHANICAL PROPERTIES * * * * *

HEAT

PLATE NUMBER	SRCE	GUAGE	COND	TEST	METH	DIR	YIELD	TENSILE	% ELONG
2537B 79671	166"	.6250	N	.2	T	T	52.5	77.0	25.8"
2537B 79672	166"	.6250	N	.2	T	T	54.0	78.5	28.8"
2537B 79673	166"	.6250	N	.2	T	T	54.0	78.0	26.8"
2537B 79674	166"	.6250	N	.2	T	T	53.0	78.0	26.8"
2537B 79675	166"	.6250	N	.2	T	T	52.5	77.5	26.8"
2537B 79677	166"	.6250	N	.2	T	T	54.0	78.0	27.8"
2537B 79678	166"	.6250	N	.2	T	T	54.0	78.5	27.8"

CONFORMS TO SA	516-70N
YEAR	2004/10-2008/1
JOB	2005-7527-01
ITEM	47
SIGNED BY	AL 06-03-07

LAJ
ALC
ALC
ALC
ALC
ALC
ALC

THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE SPECIFIED YIELD STRENGTH AND (2) THE CHEMICAL ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

CUSTOMER PURCHASE ORDER NUMBER
W31903

ENTRY DATE
2003/04/08

SHIP DATE
2003/05/06

TALLY NUMBER SHIPRESS NUMBER CARRIER
293257 02 - CP

SHIP TO CUSTOMER NAME & ADDRESS
SAMUEL, SON & CO. LIMITED
C/O CPR TRANSFER FACILITY
EDMONTON, ALBERTA

CUSTOMER NAME & ADDRESS
SAMUEL, SON & CO. LIMITED
701 - 15 AVENUE
NISKU, ALBERTA
T9E 7L5

CUSTOMER SPECIFICATION
HR PLATE - CARBON - ASME SA 516 70 (2001) - CVNL 20 FT LBS AT -50 F -
NORMALIZED 1650F NOM FOR 5 MIN/INCH MIN. - PVQ - NORMALIZED

SHIP TO CUSTOMER NAME & ADDRESS
SAMUEL, SON & CO. LIMITED
C/O CPR TRANSFER FACILITY
EDMONTON, ALBERTA

SUPPLEMENTARY INSTRUCTIONS
FAX SM/TR TO D HLADY (780-955-4774) FAX BL TO BATES EQUIP. (780-437-3713) - MRK BL "FOR TRUCK DEL'Y" TO SAMUEL, SON & CO LTD 701 - 15TH AVE., NISKU, ALBERTA

TEST REPORTS REQUIRED

INSP T/R
CUST USE
RESALE

MECHANICAL PROPERTIES

HEAT	PLATE	SRCE	GAUGE	COND	METH	DIR	TEST	SIZE	TEMP	FULL	SIZE	ENERGY
2537B	79671	166"	.6250	N	CVN	L	L	FULL	-50F	68	90	73
2537B	79672	166"	.6250	N	CVN	L	L	FULL	-50F	84	96	83
2537B	79673	166"	.6250	N	CVN	L	L	FULL	-50F	95	88	96
2537B	79674	166"	.6250	N	CVN	L	L	FULL	-50F	95	105	84
2537B	79675	166"	.6250	N	CVN	L	L	FULL	-50F	94	98	89
2537B	79676	166"	.6250	N	CVN	L	L	FULL	-50F	94	90	81
2537B	79677	166"	.6250	N	CVN	L	L	FULL	-50F	108	101	91
2537B	79678	166"	.6250	N	CVN	L	L	FULL	-50F	93	77	81

HEAT	C	MN	P	S	SI	CR	NI	CU	MO	ALT	ALS	CB	V	TI	SN
2537B	.21	1.12	.010	.006	.34	.02	.15	.04	.01	.043	.039	<.005	.028	<.0005	<.008

CONFORMING TO SA 516-70

YEAR

JOB

ITEM

SIGNED BY

5" PLATE

LAE
ALC
ALC
ALC
ALC
ALC
ALC

MILL TEST REPORTS

ALGOMA STEEL INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN HEREIN AS CONTAINED IN THE COMPANY RECORDS AND WITHIN THE SCOPE OF ACCREDITATION OF ISO/IEC GUIDE 25:1990 AS CONTAINED IN THE COMPANY RECORDS.

H. Haldenby
MANAGING METALLURGIST

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THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE FACTORY AS SUPPLIED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE CHEMICAL ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

PRODUCTION EQUIPMENT LTD.

CUSTOMER: <u>ALCO STOCK</u>		DESCRIPTION: <u>24"X28' CONTACTOR TOWER</u>	ALCO JOB NUMBER: <u>2005-7529-01A</u>
DATE: <u>JAN 22, 2006</u>	TECHNIQUE # USED: <u>RT P# 7</u>	CODE: <u>SECTION UMDW UW-51</u>	
MATERIAL: <u>P1</u>	MAT'L THICKNESS: <u>1"</u>	EDITION: <u>2004</u> ADDENDA: <u>2005</u>	
		ACCEPTANCE: <u>UW-11a-5b SPOT</u>	

LEGEND:	* - WELDER SYMBOL	HL - HI LO	S - SLAG	CRACK
	IP - INCOMPLETE PENETRATION	LC - LOW COVER	P - POROSITY	(1) SLIGHT
	BT - BURN THROUGH	UC - UNDER CUT	I - ICICLE	(2) MEDIUM
	IC - INTERNAL CONCAVITY	AS - ARC STRIKE	C - CRATER	(3) SEVERE

[illegible]

COSTING			
SOURCE TYPE: <u>IR192</u>		Hrs. @ _____	
STRENGTH: <u>29ci</u>	4	8" Film @ _____	
S.F.D.: <u>12"</u>		17" Film @ _____	
O.F.D.: <u>1"</u>		pipe @ _____	
FILM TYPE: <u>AGFA D40</u>		pipe @ _____	
FOCAL SPOT SIZE: <u>.15"</u>		pipe @ _____	
NO. OF FILM PER CASSETTE <u>1</u>		pipe @ _____	
COMMENTS: <u>SINGLE WALL EXPOSURE</u>		TOTAL EXPOSURES: <u>4</u>	
		TOTAL COSTS	
PAGE <u>1</u> OF <u>1</u>	INSPECTOR <u>[Signature]</u>	LEVEL <u>III</u>	ASNT <u>II</u> CGSB

CUSTOMER: <u>ALCO STOCK</u>		DESCRIPTION: <u>24" x 28' CONTACTOR Towers</u>		ALCO JOB NUMBER: <u>2005-7529-01-B</u>
DATE: <u>DEC 18, 2005</u>	TECHNIQUE # USED: <u>RT P# 4</u>		CODE: <u>SECTION UMDW GW-51</u>	
MATERIAL: <u>P1</u>	MAT'L THICKNESS: <u>1"</u>		EDITION: <u>2004</u>	ADDENDA: <u>2005</u>
ACCEPTANCE: <u>UW-11a</u> <u>FULL</u>				

LEGEND: * - WELDER SYMBOL
IP - INCOMPLETE PENETRATION
BT - BURN THROUGH
IC - INTERNAL CONCAVITY
HL - HI LO
LC - LOW COVER
UC - UNDER CUT
AS - ARC STRIKE
S - SLAG
P - POROSITY
I - ICICLE
C - CRATER
CRACK
(1) SLIGHT
(2) MEDIUM
(3) SEVERE

FILM #	LOCATION	*	IP	S	C	BT	LC	UC	HL	P	I	IC	REMARKS	OK	REJECT
L1	0-14	30/6												✓	
	14-28													✓	
	28-42													✓	
	42-56													✓	
	56-70													✓	
	70-84													✓	
	84-END													✓	
L2	0-14	10/6												✓	
	14-28													✓	
	28-42													✓	
	42-56													✓	
	56-70													✓	
	70-84													✓	
	84-98													✓	
	98-112													✓	
	112-END													✓	
L3	0-14	10/6												✓	
	14-28													✓	
	28-42													✓	
	42-56													✓	
	56-70													✓	
	70-84													✓	
	84-98													✓	
	98-112													✓	
	112-END													✓	

COSTING

SOURCE TYPE: IR192 Hrs. @ _____
 STRENGTH: 40 8" Film @ _____
 S.F.D.: 20 17" Film @ _____
 O.F.D.: 1 pipe @ _____
 FILM TYPE: AGFA D70 pipe @ _____
 FOCAL SPOT SIZE: .15 pipe @ _____
 NO. OF FILM PER CASSETTE 1 pipe @ _____

COMMENTS: SINGLE WALL EXPOSURE

TOTAL EXPOSURES: 25

TOTAL COSTS

PAGE

1 OF 1

INSPECTOR

BAH

LEVEL

II

ASNT

II

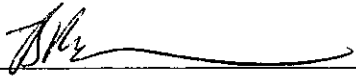
CGSB

CERTIFICATE OF HYDROSTATIC TEST

UNIT SERIAL NUMBER: **2005-7529-01B**

PART DESCRIPTION: **3 PH Glycol Contactor (Coil)**

WE CERTIFY THAT THE UNIT BEARING THE ABOVE SERIAL NUMBER WAS
HYDROSTATICALLY TESTED TO A PRESSURE OF **2239 PSIG** AND HELD AT
THAT PRESSURE FOR A PERIOD OF **ONE** HOUR AND NO LEAKS OR OTHER
DEFECTS WERE FOUND. GAUGE NUMBERS: **K17 / K10**



ALCO GAS & OIL PRODUCTION EQUIPMENT LTD
QUALITY CONTROL INSPECTOR

06-01-13

DATE

CUSTOMER REPRESENTATIVE

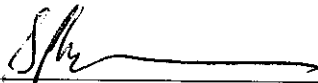
DATE

CERTIFICATE OF HYDROSTATIC TEST

UNIT SERIAL NUMBER: **2005-7529-01B**

PART DESCRIPTION: **3 PH Glycol Contactor (Vessel)**

WE CERTIFY THAT THE UNIT BEARING THE ABOVE SERIAL NUMBER WAS
HYDROSTATICALLY TESTED TO A PRESSURE OF **2080 PSIG** AND HELD AT
THAT PRESSURE FOR A PERIOD OF **ONE** HOUR AND NO LEAKS OR OTHER
DEFECTS WERE FOUND. GAUGE NUMBERS: **K17 / K10**



ALCO GAS & OIL PRODUCTION EQUIPMENT LTD
QUALITY CONTROL INSPECTOR

06-02-08

DATE

CUSTOMER REPRESENTATIVE

DATE

Phase # : 2005-7554-07C Sold to 2006-7578-50B
Phase Title: Gas/Glycol Heat Exchanger

TABLE OF CONTENTS

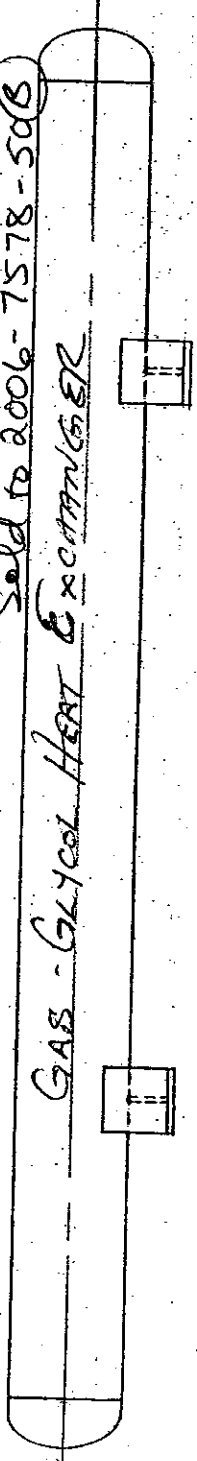
Title	Availability	
	Yes	No
1. Data Reports		N/A
2. CRN's		N/A
3. Nameplate Copy		N/A
4. Travel Sheet		N/A
5. Impact Test Reports		N/A
6. Material Control		N/A
7. Material Reports	X	
8. MTR's	X	
9. NDE MPT		N/A
LPT		N/A
RADIOGRAPHY	X	
ULTRA SONIC		N/A
10. Stress Relieve Charts		N/A
11. Hydrotest Report(s)	X	
12. Hydro Chart		N/A
13. PSV & Valve Cert.		N/A

CUSTOMER: STOCK

SERIAL No: B-2005-7554-07000/001

Sold to 2006-7578-508

GAS - GLYCOL HEAT EXCHANGER



DATE: 21 FEB 06

FILLED BY: WIC M

DRWG. NO: 7554-07

TYPE OF VESSEL:

TITLE	DIA.	ITEM NO.	HEAT NO.	SLAB NO.	MAT'L. SPEC.	MIN.
HEAD:	6"	2	04M30005		SA-234-WPB	STD
SHELL:	6"	1	16249		SA-106-B	STD
PADS:						
SKIRT:						
SADDLES:						

7554-07 (x5)

MATERIAL REPORT

DRAWN: DOUG
DATE: 7/8/86
SCALE: NTS
APP'D:

A' GAS & OIL PRODUCTION EQUIPMENT LTD.

DWG. D-2900

Appendix 1
REV: 0

MILL TEST CERTIFICATE

Customer / Cliente	VAN LEEUWEN PIPE & TUBE (CANADA) INC.	Customer's Order / Cliente Order - Item N°	00011479	Page / Página	1 / 5
Manufacturer / Fabricante	SEAMLESS HOT ROLLED	Customer's Reference / Referencia del cliente	003924/02	Date / Dia	14/11/2005
Product Type / Tipo de producto	LINE PIPE SEAMLESS	Manufacturer's Works Order N° / Confirmación de Venta	003924/02		
Standard / Norma	SEAMLESS HOT ROLLED	Surface / Superficie	VARNISHED		
Standard of Specification / Normas de especificaciones	SEAMLESS HOT ROLLED	Ends / Extremos	NORMAL BEVEL		
API 5L	SEAMLESS HOT ROLLED	Normal Weight / Peso Nominal	28.29 KG/M		
Dimensions / Dimensiones	SEAMLESS HOT ROLLED	Weight / Peso	18.99 LB/FT		

Quantity / Cantidad	165 Pcs/pz
Steel Grade / Grado de acero	B/X42/290
Length / Longitud	11.59 / 13.41 MTS
Weight / Peso	38.00 / 44.00 FT

TENSILE TEST / ENSAYOS DE TENSION

Lot / Lote	Specimen / Muestra	Orientation / Orientación	Test Temp / Temp de Prueba	Y.S. / Yield Strength	UTS / Tensile Strength	Elongation / Alargamiento
				PSI	MPa	%
16249	20643	N 00017	TA	52,714.14	76,866.50	0.69
16249	20644	N 00025	TA	48,006.00	75,543.66	0.64
16250	20641	N 00006	TA	49,399.95	76,297.54	0.65
16250	20642	N 00007	TA	51,803.81	76,980.29	0.67

CHINA FORMER / FORMA	106-B
YEAR	2004-2005
ITEM	2005-7574-07
SIGNED BY	06-03-06

Lot / Lote	16249	Specimen / Muestra	20643	Orientation / Orientación	N 00017	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	52,714.14	UTS / Tensile Strength	76,866.50	Elongation / Alargamiento	0.69
Lot / Lote	16249	Specimen / Muestra	20644	Orientation / Orientación	N 00025	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	48,006.00	UTS / Tensile Strength	75,543.66	Elongation / Alargamiento	0.64
Lot / Lote	16250	Specimen / Muestra	20641	Orientation / Orientación	N 00006	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	49,399.95	UTS / Tensile Strength	76,297.54	Elongation / Alargamiento	0.65
Lot / Lote	16250	Specimen / Muestra	20642	Orientation / Orientación	N 00007	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	51,803.81	UTS / Tensile Strength	76,980.29	Elongation / Alargamiento	0.67

Lot / Lote	16249	Specimen / Muestra	20643	Orientation / Orientación	N 00017	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	52,714.14	UTS / Tensile Strength	76,866.50	Elongation / Alargamiento	0.69
Lot / Lote	16249	Specimen / Muestra	20644	Orientation / Orientación	N 00025	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	48,006.00	UTS / Tensile Strength	75,543.66	Elongation / Alargamiento	0.64
Lot / Lote	16250	Specimen / Muestra	20641	Orientation / Orientación	N 00006	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	49,399.95	UTS / Tensile Strength	76,297.54	Elongation / Alargamiento	0.65
Lot / Lote	16250	Specimen / Muestra	20642	Orientation / Orientación	N 00007	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	51,803.81	UTS / Tensile Strength	76,980.29	Elongation / Alargamiento	0.67

Lot / Lote	16249	Specimen / Muestra	20643	Orientation / Orientación	N 00017	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	52,714.14	UTS / Tensile Strength	76,866.50	Elongation / Alargamiento	0.69
Lot / Lote	16249	Specimen / Muestra	20644	Orientation / Orientación	N 00025	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	48,006.00	UTS / Tensile Strength	75,543.66	Elongation / Alargamiento	0.64
Lot / Lote	16250	Specimen / Muestra	20641	Orientation / Orientación	N 00006	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	49,399.95	UTS / Tensile Strength	76,297.54	Elongation / Alargamiento	0.65
Lot / Lote	16250	Specimen / Muestra	20642	Orientation / Orientación	N 00007	Test Temp / Temp de Prueba	TA	Y.S. / Yield Strength	51,803.81	UTS / Tensile Strength	76,980.29	Elongation / Alargamiento	0.67

MILL TEST CERTIFICATE

Customer / Cliente VAN LEEUWEN PIPE & TUBE (CANADA) INC. PO # 050004	Number / Número 00011479	Page / Página 2 / 5
Date / Dia 14/11/2005		

Manufacturer's Works Order N° / Confirmación de Venta 003924/02	Customer's Reference / Referencia del cliente 00011479
Surface / Superficie VARNISHED	Ends / Extremos NORMAL BEVEL
Surface / Superficie VARNISHED	Ends / Extremos NORMAL BEVEL
Steel Grade / Grado de acero B/X42/290	Quantity / Cantidad 165 Pcs/pz
Length / Longitud 11.59 / 13.41 MTS	Weight / Peso Nominal 28.29 KG/M
Width / Ancho 6.63 X 0.280 INCH	Weight / Peso 18.99 LB/FT

HARDNESS TEST / ENSAYOS DE DUREZA

Superficial Hardness / Dureza superficial

Point / Puntos	Depth / Profundidad	Type / Tipo	Value / Valor	External / Externa	
				Unit / Unidad	HRN
16249	20643	N	00017	C/B	156
16249	20644	N	00025	C/B	156
16250	20641	N	00006	C/B	156
16250	20642	N	00007	C/B	159

Customer's Reference / Referencia del cliente 00011479	Quantity / Cantidad 165 Pcs/pz
Steel Grade / Grado de acero B/X42/290	Weight / Peso Nominal 28.29 KG/M
Length / Longitud 11.59 / 13.41 MTS	Weight / Peso 18.99 LB/FT

Let Location of the sample / Localización de la muestra Min: Minimum / Mínimo Max: Maximum / Máximo	Req: Required / Requerido Min: Minimum / Mínimo Max: Maximum / Máximo
Let Location of the sample / Localización de la muestra Min: Minimum / Mínimo Max: Maximum / Máximo	Req: Required / Requerido Min: Minimum / Mínimo Max: Maximum / Máximo

This certificate is valid only for the material and process specified herein. Any alteration of the material or process without the written approval of the manufacturer will void this certificate. This certificate is not valid for use as a warranty or guarantee of performance. The manufacturer is not responsible for any damage or loss resulting from the use of this certificate. The manufacturer is not responsible for any damage or loss resulting from the use of this certificate. The manufacturer is not responsible for any damage or loss resulting from the use of this certificate.

MILL TEST CERTIFICATE

Number/Numero
00011479

Page / Pagina
4 / 5

Date/Dia: 14/11/2005

Customer / Cliente: VAN LEEUWEN PIPE & TUBE (CANADA) INC.
Product Type / Tipo de producto: LINE PIPE SEAMLESS
LAMINADO EN CALIENTE SIN COSTURA

Customer's Order / Cliente Orden: Item N°
Steel Grade / Grado de acero: B/X42/290

Quantity / Cantidad: 165 Pcs/pz

Length / Longitud: 11.59 / 13.41 MTS
6.63 X 0.280 INCH

Surface / Superficie: VARNISHED
Ends / Extremos: NORMAL BEVEL

Manufacturer's Works Order N° / Confirmación de Venta: 003924/02

CHEMICAL COMPOSITION / COMPOSICION QUIMICA

				Composition, % / Composición %																						
				Wt.	Si	Cr	Mn	S	P	Ni	V	Cu	Al	Sn	As	Nb	Ti	Co	B	N	CE	CSA	CMN			
				2.100																			2.100			
Heat				2.100																			2.100			
Celda				2.100																			2.100			
Sample N°				2.100																			2.100			
Muestra N°				2.100																			2.100			
16249				17	107	38	6	5	1	15	33	1	78	25	7	4	1	2	17	1	38	38.1	39.7	643.1		
→ 20643				17	107	38	6	5	1	12	30	2	71	27	7	3	0	2	10	8	38	37.7	39.2	629.4		
20644				16	104	37	6	5	1	9	56	2	75	24	5	1	3	0	2	10	5	38				
16250				17	107	40	5	6	2	12	64	1	50	24	10	4	1	3	17	1	53	38	39.6	629.4		
20641				17	108	38	6	5	1	8	59	2	77	25	10	3	0	3	10	0	53					
20642				17	106	37	6	5	1	11	29	2	72	26	7	2	0	2	10	0	53					

CONFIRMING TO SA 106-B

YEAR 2004 ED 2005A

WMA 2005-7554-07

ITEM 1

SIGNED BY 06-03-06

HYDROSTATIC TEST / PRUEBA HIDRAULICA

Pressure / Presión	Time / Tiempo	Results / Resultados
2660	S	Satisfactory / Satisfactorio

SUPPLEMENTARY INFORMATION / INFORMACION SUPLEMENTARIA

Manufactured by / Fabricado por: ALCONA TUBES

Steel making process / Fabricación de acero: Electric Arc Furnace-Ladle Furnace-Continuous Casting Machine. Fully Killed Steel / Horno de Arco

For further information, please contact the nearest sales office or the manufacturer's representative. This certificate is valid only for the material specified herein. It does not constitute a warranty of fitness for a particular purpose. The user assumes all responsibility for the proper use of the material. This certificate is not valid if it is altered or if it is not signed by the manufacturer's representative.

100008

Purchaser : NATIONAL OILWELL INC.

INSPECTION CERTIFICATE

EN 10204 3.1B

E-No. M-974 Purchase Order No. 10619274 Job No.



D M Y Certificate No.

03/12/2004 T- 2004201123

No.	MFG. No. (Heat Identification No.)	Specification for Material Made from SA234 WPB PLATE										Specification for Inspection		Visual Examination	Dimensional Inspection		
		ASTM A234-03/ASME SA234 WPB CSA Z246.11 GR241 CAT 1 NACE MR0175-2000										ASME / ANSI B16.9	Good			Good	
		Product & Size		(T*1)		Quantity		Heat Treatment (Note 1)		Symbol No.							
1	04M30007	C WPB 3 S40				508		N		7515588		COLD FORMING					
2	04M30008	C WPB 4 S40				353		N		7515626		COLD FORMING					
3	04N30016	C WPB 6 S40				463		N		7515669		COLD FORMING					
4	04M30018	C WPB 12 STD				22		N		7511370		COLD FORMING					
5	04N30009	C WPB 4 S80				92		N		7511477		COLD FORMING					
Specification Min. Max. Material Heat No.		Chemical Composition %										Tension Test #2					
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	C.E.	YS	TS	E	
		X 100	X 100	X 100	X 1000	X 1000	X 100	X 100	X 100	X 100	X 1000	X 1000	X 100		MPa.	%	
			10	29											240	415	30
1	601900	23		106	50	58	40	40	40	15	80	20			585		
2	129560	6	28	34	12	6	26	6	7	<0.4	<2	2	15	323	434	44	
3	128180	6	27	34	12	6	20	10	5	<0.4	<2	2	15	313	423	49	
4	119480	6	27	36	18	9	26	8	6	<0.4	<2	3	15	291	423	45	
5	119480	6	19	35	9	5	34	6	7	<0.4	<2	2	16	296	416	46	
6	119480	6	19	35	9	5	34	6	7	<0.4	<2	2	16	296	416	46	

(NOTE 1) A 1 HOT FINISH. WITH FINAL TEMPERATURE BETWEEN 540 C - 560 C. AIR COOLING
N : NORMALIZING 810 C X 0.5 HR. AIR COOLING S : STRESS RELIEVING 675 C X 0.5 HR. AIR COOLING
C : COLD CHILLING 100 C X 0.5 HR. AIR COOLING

THESE RESULTS ARE THE PROPERTY OF BKL. THEY ARE NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF BKL. THE RESULTS ARE VALID FOR THE SPECIFIED QUANTITY AND SIZE. THE RESULTS ARE VALID FOR THE SPECIFIED QUANTITY AND SIZE. THE RESULTS ARE VALID FOR THE SPECIFIED QUANTITY AND SIZE.

1. If the results are not as specified, the purchaser shall be notified immediately. The results are valid for the specified quantity and size. The results are valid for the specified quantity and size. The results are valid for the specified quantity and size.

Form 17-68

85553
2004/12-2005/1
2005-7554-07
2
SIGNED BY: 06-03-06

125-001
109330

6" STD BW CAPS A234-WPB

HEAT NUMBER : 04M30005
TRANS AM PIPING PRODUCTS - REV'D BY: 3
Shipment/Seg #: S 4 - 1509

EN 10204 3.1B

INSPECTION CERTIFICATE

Purchaser: TRANS AM PIPING PRODUCTS LTD.

D M Y Certificate No.
09/10/2004 T-2004180239



E.No. M 795
Purchase Order No. CI-04-154
Job No.

No.	MFG. No. (Heat Identification No.)	Specification for Material Made from SA234 WPB PL 511 ASTM A234-03/ASME SA234 WPB NACE MR0175-2000		Specification for Inspection ASME B16.9		Visual Examination	Dimensional Inspection
		Product & Size	Quantity	Heat Treatment (Note 1)			
1	04H30007	C WPB 4 S40			N	GOOD FORMING	
2	04K30014	C WPB 4 S40			N	COLD FORMING	
3	04K30013	C WPB 6 S40			N	COLD FORMING	
4	04M30006	C WPB 6 S40			N	COLD FORMING	
5	04E30006	C WPB 8 S40			N	COLD FORMING	

Specification

Min.

Max.

Material Heat No.

No.	MFG. No. (Heat Identification No.)	Chemical Composition, %										Tension Test, *2		Visual Examination	Dimensional Inspection	
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Cu			YS
		0.25	0.10	0.10	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.01	240	415	80	
1	5-8359	16	15	86	12	6	1	2	2	1	1	0.01	394	477	36	
2	4-2907	13	18	108	18	6	1	2	2	1	1	0.02	329	482	36	
3	4-2907	13	18	108	18	6	1	2	2	1	1	0.02	329	482	36	
4	58861	15	21	100	10	4	1	1	2	0	0	0.02	285	425	33	
5	62	13	27	63	7	11	2	2	1	1	1	0.02	309	453	30	

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(Note 1) A: Hot formed with final temperature between 620°C-980°C, Air Cooling. N: Normalizing 910°C/30.5 HR, Air Cooling. S: Stress Relieving 675°C/0.5 HR, Air Cooling.

C.C. = Chemical Composition, %

MAGNETIC PARTICLE EXAMINATIONS FOR TYP. UNSY.

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

* 1: * P: * S: * T: * Y: * YS: Yield strength. TS: Tensile strength. E: Elongation.

Form 12-A

Quality Assurance Manager

Trans Am Piping Co., Ltd.

38 Sun Wookwan, Hongdae, P.O. Box 111

Samgukdam, Hwaseong, Gyeonggi-do

234 WPB

2004180239

2005.7554-07

2

06-01-06

M.E.G.A.

CLIENTE
Customer
ClientVAN LEEUWEN PIPE & TUBE
(CANADA) INC.
2875-64th AVENUE,
EDMONTON, ALBERTA T6P 1R1CERTIFICATO N. 248358 Foglio 1
Certificate N. Sheet
Certificat N. Feuille
DATA / Date 08/07/04CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLECOMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001ORDINE
Purchase order
Commande

45028703

125-001

COMMESSA
Job N.
Confirmation de commande

72094

PROVA Test Epreuve	MATERIALE Steel quality / Matiere	COCATO Heat / Couteur	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
DDSD	ASTM A105/01	71127	0.195	0.190	0.940	0.008	0.014	0.08	0.05	0.000	0.000	0.150	0.000	0.023	0.380
DXDF	ASTM A105/01	AQ5268	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
FALD	ASTM A105/02	03/74601	0.185	0.180	0.910	0.006	0.010	0.06	0.05	0.010	0.000	0.160	0.015	0.020	0.364
FCCA	ASTM 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
FOXN	ASTM A105/01	AR0447	0.200	0.230	0.980	0.006	0.010	0.07	0.08	0.020	0.000	0.130	0.000	0.024	0.395
FDXT	ASTM A105/02	04/76899	0.180	0.220	0.920	0.010	0.008	0.07	0.05	0.010	0.000	0.160	0.000	0.023	0.363

PROVA Test Epreuve	PROVETTA Test specimen / Essaiépreuve			SMEZZAMENTO Minim. 2 Yield point Limite d'élasticité	ROTTURA W/mm. 2 Tensile strength Rupture	ALLUNGAMENTO % 2 Elongation Allongement	CONTRAZIONE % 2 Reduction of area Striction	DUREZZA HV Hardness Dureté	MEGA Bend test Plage	SCHACCO Flat test Aplattiss.	RESISTENZA Impact test / Résistance			
	SEZIONE Section / Sect	LUNGHEZZA Length / Longueur	TPO Type								T. °C Test temp	VALORE / Value / Données		
DSD0	1	30.6	50.0	304.0	513.0	31.4	68.9	143-156			J	KV	0	48-56-42
OXDF	1	30.6	25.0	298.0	506.0	31.2	67.4	140-146			J	KV	0	36-34-36
FALD	1	30.1	25.0	302.0	512.0	31.0	69.5	150-155			J	KV	0	36-36-38
FCCA	1	30.6	25.0	322.0	534.0	29.3	67.6	156-163			J	KV	0	52-50-52
FOXN	1	30.6	25.0	331.0	534.0	27.3	64.3	150-170			J	KV	0	48-40-42
FDXT	1	60.1	35.0	300.0	528.3	33.6	69.4	140-152			J	KV	0	54-62-46
PROVA														

NOTE / Remarks / Notes	EN10204/3.1B ** DIN 50049 3.1B.	FORMA Shape / Forme	1 = Ø 2 = □
------------------------	---------------------------------	------------------------	-------------

DDSD	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.35.03 EVASI*209970 MEGA
DXDF	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.120.03 EVASI*241956 MEGA
FALD	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.05.04 EVASI*241956 MEGA*
FCCA	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.18.04 EVASI*241963 MEGA
FOXN	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.33.04 EVASI*241984 MEGA
FDXT	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.36.04 EVASI*241999 MEGA

PROVA Test Epreuve	POS. Item Pos	QUANTITA' Quantity Quantite	GRUPPO CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
DDSD	23	1367	23739	MEGALET S. 3000 NPT A/SA105N 1x6-36	OK
DXDF	24	2317	23723	MEGALET S. 3000 NPT A/SA105N 1x3-5	OK
FALD	72	126	23656	MEGALET Sch. XS A/SA105N 2x8-12	OK
FCCA	23	933	23739	MEGALET S. 3000 NPT A/SA105N 1x6-36	OK
FCCA	24	609	23723	MEGALET S. 3000 NPT A/SA105N 1x3-5	OK
FOXN	24	2074	23723	MEGALET S. 3000 NPT A/SA105N 1x3-5	OK
FDXT	72	34	23656	MEGALET Sch. XS A/SA105N 2x8-12	OK

COMPLIES WITH
SOUR SERVICE
APPROVED BY

QUALITY ASSURANCE

DATE: 4 Jan 05

COMPLIES WITH
CSA Z245.11 - 3rd 241 Cat I

CONFORMING TO	105N
YEAR	2004-2005A
JOB #	2005-7554-07
ITEM #	3
SIGNED BY	06-01-06

NOTE / Remarks / Notes

ENTE UFFICIALE DI COLLAUDO
Inspection Authority
Service Inspection Office!CAPO COLLAUDO
Chief Inspection DPT
Responsible assurance qualityDOC. CERT. M.E.G.A.
M. E. G. A.

CUSTOMER: <u>ALCO STOCK</u>		DESCRIPTION: <u>4"X6"X10' GAS/GLYCOL HEX</u>	ALCO JOB NUMBER: <u>2005-7554-07</u>
DATE: <u>FEB 22, 2006</u>	TECHNIQUE # USED: <u>RT P#2.</u>	CODE: <u>B31-3</u>	
MATERIAL: <u>PI</u>	MAT'L THICKNESS: <u>STD</u>	EDITION: <u>2004</u> ADDENDA: <u>-</u>	
		ACCEPTANCE: <u>20% RANDOM.</u>	

LEGEND:	* - WELDER SYMBOL	HL - HI LO	S - SLAG	CRACK
	IP - INCOMPLETE PENETRATION	LC - LOW COVER	P - POROSITY	(1) SLIGHT
	BT - BURN THROUGH	UC - UNDER CUT	I - ICICLE	(2) MEDIUM
	IC - INTERNAL CONCAVITY	AS - ARC STRIKE	C - CRATER	(3) SEVERE

[illegible]

SOURCE TYPE: IR192 COSTING

STRENGTH: 50 u Hrs. @ _____

S.F.D.: 6 3/8" 8" Film @ _____

O.F.D.: .280" 17" Film @ _____

FILM TYPE: AGFA D40 pipe @ _____

FOCAL SPOT SIZE: .14" pipe @ _____

NO. OF FILM PER CASSETTE 1 pipe @ _____

COMMENTS: SINGLE WALL VIEWING. TOTAL EXPOSURES: 4

PAGE 1 OF 1 INSPECTOR ZMK LEVEL III ASNT III CGSB

TOTAL COSTS

CUSTOMER: <u>ALCO STOCK</u>		DESCRIPTION: <u>4"X6"X10' GAS/GLYCOL HEX</u>	ALCO JOB NUMBER: <u>2005-7584-07</u>
DATE: <u>FEB 23, 2006</u>	TECHNIQUE # USED: <u>RT P# 2.</u>	CODE: <u>B3/3</u>	
MATERIAL: <u>P1</u>	MAT'L THICKNESS: <u>STD</u>	EDITION: <u>2004</u> ADDENDA: <u>-</u>	
		ACCEPTANCE: <u>20% Random.</u>	

LEGEND:	* - WELDER SYMBOL	HL - HI LO	S - SLAG	CRACK
	IP - INCOMPLETE PENETRATION	LC - LOW COVER	P - POROSITY	(1) SLIGHT
	BT - BURN THROUGH	UC - UNDER CUT	I - ICICLE	(2) MEDIUM
	IC - INTERNAL CONCAVITY	AS - ARC STRIKE	C - CRATER	(3) SEVERE

[illegible]

SOURCE TYPE:	IR192								
STRENGTH:	47ci								
S.F.D.:	6 5/8								
O.F.D.:	280"								
FILM TYPE:	ASAFA D40								
FOCAL SPOT SIZE:	.11"								
NO. OF FILM PER CASSETTE	1								

COMMENTS: SINGLE WALL VIEWING.

TOTAL EXPOSURES: 4

TOTAL COSTS

PAGE 1 OF 1 INSPECTOR [Signature] LEVEL III ASNT II CGSB

CUSTOMER: <u>ALCO STOCK</u>	DESCRIPTION: <u>4"x6"x10' GAS/GLYCOL HEX.</u>	ALCO JOB NUMBER: <u>2005-7554-07</u>
DATE: <u>MAR 7, 2006</u>	TECHNIQUE # USED: <u>RT P#2.</u>	CODE: <u>B31-3</u>
MATERIAL: <u>PI</u>	MAT'L THICKNESS: <u>STO</u>	EDITION: <u>2004</u> ADDENDA: <u>-</u>
		ACCEPTANCE: <u>20% RANDOM.</u>

LEGEND:	* - WELDER SYMBOL	HL - HI LO	S - SLAG	CRACK
	IP - INCOMPLETE PENETRATION	LC - LOW COVER	P - POROSITY	(1) SLIGHT
	BT - BURN THROUGH	UC - UNDER CUT	I - ICICLE	(2) MEDIUM
	IC - INTERNAL CONCAVITY	AS - ARC STRIKE	C - CRATER	(3) SEVERE

[illegible]

SOURCE TYPE: <u>IR192</u>		Hrs. @ _____	
STRENGTH: <u>74 ci</u>		8" Film @ _____	
S.F.D.: <u>6 5/8"</u>		17" Film @ _____	
O.F.D.: <u>280"</u>		pipe @ _____	
FILM TYPE: <u>AGFA D40</u>		pipe @ _____	
FOCAL SPOT SIZE: <u>.11"</u>		pipe @ _____	
NO. OF FILM PER CASSETTE <u>1</u>		pipe @ _____	

COMMENTS: SINGLE WALL VIEWING. TOTAL EXPOSURES: 4 TOTAL COSTS

PAGE 1 OF 1 INSPECTOR DSM LEVEL II ASNT II CGSB

CERTIFICATE OF HYDROSTATIC TEST

UNIT SERIAL NUMBER 2005-7554-07 C

PART
DESCRIPTION GAS/GLYCOL HEAT EXCHANGER SHELL SIDE

WE CERTIFY THAT THE UNIT BEARING THE ABOVE SERIAL NUMBER WAS
HYDROSTATICALLY TESTED TO A PRESSURE OF 2160 PSIG AND HELD AT THAT
PRESSURE FOR A PERIOD OF 1 HOUR(S) AND NO LEAKS OR OTHER DEFECTS
WERE FOUND. GAUGE NUMBERS 53, 57


ALCO GAS & OIL PRODUCTION EQUIPMENT LTD.
QUALITY CONTROL INSPECTOR

MAR 16 2006
DATE

CUSTOMER REPRESENTATIVE

DATE

PLANT & HEAD OFFICE
5203 - 75 STREET, EDMONTON, ALBERTA T6E 5S5 ■ TELEPHONE: (780) 465-9061 ■ FAX: (780) 466-8110

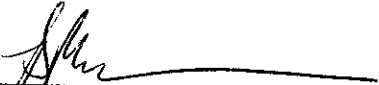
SALES OFFICE
#310, 4014 MACLEOD TRAIL S.E., CALGARY, ALBERTA T2G 2R7 ■ TELEPHONE: (403) 243-5055 ■ FAX: (403) 287-1562

CERTIFICATE OF HYDROSTATIC TEST

UNIT SERIAL NUMBER 2005-7554-07C

PART
DESCRIPTION GAS/GLYCOL HEAT EXCHANGER TUBE SIDE

WE CERTIFY THAT THE UNIT BEARING THE ABOVE SERIAL NUMBER WAS
HYDROSTATICALLY TESTED TO A PRESSURE OF 2200 PSIG AND HELD AT THAT
PRESSURE FOR A PERIOD OF 1 HOUR(S) AND NO LEAKS OR OTHER DEFECTS
WERE FOUND. GAUGE NUMBERS K23, K19


ALCO GAS & OIL PRODUCTION EQUIPMENT LTD.
QUALITY CONTROL INSPECTOR

MAR 6 2006
DATE

CUSTOMER REPRESENTATIVE

DATE

PLANT & HEAD OFFICE
5203 - 75 STREET, EDMONTON, ALBERTA T6E 5S5 ■ TELEPHONE: (780) 465-9061 ■ FAX: (780) 466-8110

SALES OFFICE
#310, 4014 MACLEOD TRAIL S.E., CALGARY, ALBERTA T2G 2R7 ■ TELEPHONE: (403) 243-5055 ■ FAX: (403) 287-1562

Phase # : 2005-7517-01B Sold to 2006-7578-50B
Phase Title: Fuel Gas Scrubber

TABLE OF CONTENTS

Title	Availability	
	Yes	No
1. Data Reports	X	
2. CRN's	X	
3. Nameplate Copy	X	
4. Travel Sheet	X	
5. Impact Test Reports		N/A
6. Material Control	X	
7. Material Reports	X	
8. MTR's	X	
9. NDE MPT	X	
LPT		N/A
RADIOGRAPHY		N/A
ULTRA SONIC		N/A
10. Stress Relieve Charts		N/A
11. Hydrotest Report(s)	X	
12. Hydro Chart		N/A
13. PSV & Valve Cert.		N/A

FORM U-3 MANUFACTURER'S CERTIFICATE OF COMPLIANCE
COVERING PRESSURE VESSELS TO BE STAMPED WITH THE UM SYMBOL, SEE U-1(j)
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by Alco Gas & Oil Production Equipment LTD. 5203-75th STREET EDMONTON, ALBERTA
 (Name and address of Manufacturer)
 2. Manufactured for Cordero Energy Inc. c/o Seidlitz Engineering Ltd 1700, 840 7th Ave SW Calgary AB T2P 3G2
 (Name and address of Purchaser)

3. Location of installation MALMO (LSD: 10-29-43-22 W4M)
 (Name and address)

4. Type: VERTICAL FUEL GAS SCRUBBER 0.04 M³ 2005-7517-01B
 (Horiz., vert., or sphere) (Tank, separator, etc.) (Capacity) (Mfg's serial No.)
C-4262.213 C-178 2005
 (CRN) (Drawing No.) (Year built)

5. ASME Code, Section VIII, Div. 1 2004 N/A
 (Edition and Addenda (date)) (Code Case No.)

6. Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 2'5" SM/SM

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft. & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	10.02"	2'-5"	SA-53B ERW		0.365"	---	E	N/A	70%	7	See Remarks	---	N/A	N/A

7. Heads: (a) SA-516Gr.70MT (b) SA-516Gr.70MT
 (Mat'l Spec. No., Grade or Type) (H.T., Time & Temp.) (Mat'l Spec. No., Grade or Type) (H.T., Time & Temp.)

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical	Conical	Hemispherical	Flat	Side to Pressure		Category A	
		Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type Full, Spot, None	Eff.
(a)	Top	0.750"	NIL	N/A	N/A	N/A	N/A	N/A	10.02"	N/A	FLAT	N/A	NIL
(b)	Bottom	0.750"	NIL	N/A	N/A	N/A	N/A	N/A	10.02"	N/A	FLAT	N/A	NIL

If removable, bolts used (describe other fastening) N/A
 (Mat'l Spec. No., Grade, Size, No.)

8. Type of Jacket N/A Jacket Closure N/A
 (Describe as ogee & weld, bar, etc.)

If bar, give dimensions, if bolted describe or sketch N/A

9. MAWP 150 N/A psi at max. temp. 150 N/A °F Min. design metal temp. -20 °F at 150 psi.
 (internal) (external) (internal) (external)

10. Impact test IMPACT TEST EXEMPT PER UG 20 (f) at test temperature of N/A
 [Indicate yes or no and the component(s) impact tested]

11. Hydro., pneu., or comb. test press. 225 PSIG Proof test N/A

12. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement	How Attached		Location (Insp. Open)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
INLET	1	1"	COUPLING	SA-105N	N/A	cl6000	NIL	N/A	UW 16.1 (c)	N/A	SHELL
OUTLET	1	2"	COUPLING	SA-105N	N/A	cl3000	NIL	N/A	UW 16.1 (c)	N/A	Top Head
DRAIN	1	1/2"	COUPLING	SA-105N	N/A	cl6000	NIL	N/A	UW 16.1 (c)	N/A	SHELL

13. Supports: Skirt No Lugs NO Legs -- Others WELDED TO Attached Skid Base Plate
 (Yes or no) (No.) (No.) (Describe) (Where and how)

14. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:
 (List the name of part, item number, mfg's. name and identifying number)

N/A

15. Remarks: *MPE TOP & BOTTOM FLAT HEADS PER UG 93 (d)

PSV LOCATED IN PIPING

SOLD TO 2006-7578-50B / AS BUILT DRAWING B-2005-7517-01-001/001 R0

CERTIFICATE OF SHOP 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.

Certificate of Authorization No. 15959 Expires OCT7 2006
 Date Nov8, 2005 Name Alco Gas & Oil Production Equipment LTD. Signed [Signature]
 (Certified Individual) (Manufacturer) (Representative)



10th Floor, 10808 - 99 Avenue

Edmonton, Alberta

TSK 065

Tel (403) 427-6855

Fax (403) 422-3562

C-4262.2 REV

1995 08 17

Alco Gas & Oil Production Equipment Ltd.
5203 - 75 Street
Edmonton, AB T6E 5S5

Attention: Mr. K. Weir

Dear Sir:

The drawings, specifications and/or information submitted on 1995-06-08 and 1995-07-31 are accepted for registration as follows:

Reg. No.	Drawing No.	Design Pressure	Design Temperature	Fee
M-8788.2	A-19390 Rev 0	7957 kPa	-29/+66°C	\$66.00
M-9242.2	A-19419 Rev 0	9929 kPa	-29/+54°C	\$66.00

REF: CRN: M-8788.2

Please note that this drawing has not been reviewed for previously accepted CRNs.

The drawings, specifications and/or information submitted on 1995-08-16 are accepted for registration under the original CRN as follows:

Reg. No.	Drawing No.	Design Pressure	Design Temperature	Fee
C-4262.2	C-178 Rev 3	1034 kPa	-29/+66°C	\$66.00

Enclosed are stamped prints for your reference.

An Invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

Yours truly,

M.V.S. Shaikh, P.Eng.
Design Survey Engineer

MVSS/bp
Encl.

14" B.C.

BRITISH COLUMBIA
MINISTRY OF LABOUR

SAFETY ENGINEERING SERVICES DIVISION
FULL BOILERS BRANCH

TOP HEAD

C.R.N. C-4262-21

FILE No. E-7685

Design

Design

Press.

Press.

Shell 50 THICK 150 PSI 150°F

Tubes (316)

APPROVED
Signed: *Nov 2 1979*
ALAN C. [Signature]

WELD
OPTION

NOTE: THIS DWG
ALL OTHER STANDARDS
C175, C177, ALL FC
SCHEMATIC D-150 I

HEAD

ALBERTA LABOUR
General Safety Services Division
THE BOILERS & PRESSURE VESSELS ACT, 1975
REG. NO. C-4262-2

Yr.	Mo.	Day	Signed	REV	DETAILS	KEY
1981	JAN	9	<i>[Signature]</i>	1	REV	DETAILS
			<i>M. J. MARTENS</i>	2	REV	DETAILS

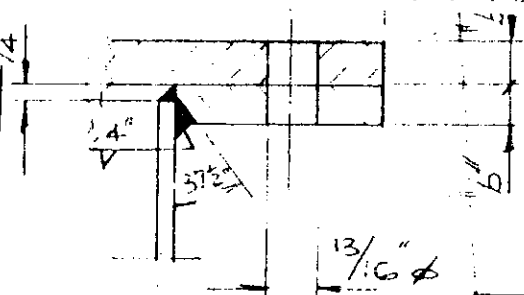
DESCRIPTION	REV	DATE	BY	DESCR
REFERENCE DRAWINGS				
REVISIONS				

SASKATCHEWAN
DEPARTMENT OF LABOUR — REGINA

Registration No. (C.R.N.) C-4262-213
Date NOVEMBER 1-1979
Accepted for a design pressure of 150 p.s.i.,
subject to material, fabrication, shop inspection and
all detail conforming to the A.S.M.E. Code and
Saskatchewan regulations.

R. V. CURRY, Chief Inspector

by ENG. SURVEYOR *F. M. Patterson*
BOILER AND PRESSURE VESSEL SAFETY UNIT



NOTE:
DESIGN PRESSURE

DESIGN DATA
DESIGN PRESSURE
TEST PRESSURE
RADIOGRAPHY
WORK ALLOWANCE
C.R.N. - C-4262-21
PAINTING - SEE SHOP



Saskatchewan
Environment and
Public Safety

Boiler and Pressure
Vessel Safety Unit

Saskatchewan

1870 Albert Street
Regina, Canada
S4P 3V7

August 3, 1989

To: Alco Gas & Oil Production
Equipment Ltd.
P.O. Box 5853. Postal Stn. L.
Edmonton. Alberta
T6C 4G3



Dear Sirs:

According to information received from our inspection staff and the examination of our files, we do not appear to have received the legally required Manufacturer's Affidavit for the following vessel:

Type of Vessel	Fuel Gas Scrubber
C.R.N.	C4262-213
Serial Number:	88C-4061-011
Model Name & No.:	
Manufactured by:	Alco Gas & Oil
Supplied by:	North Canadian Oils
Installed at	Maple Creek Comp Stn. - LSD 5-24-12-25-W3
Field inspected by	John Gosselink

Will you therefore please forward us the above affidavit along with the enclosed copy of this letter, or, if you are unable to forward same, explain briefly on the copy why the affidavit is not available.

Affidavit not available because:

Thank you for your co-operation in this matter.

Yours truly,

Henry Bergey
Henry Bergey
Design Survey
Boiler and Pressure Vessel Safety Branch

for
sent Oct 6/89



W

2005

Year Built

C-4262 213

CRN

FUEL GAS SCRUBBER

N/A

SA-516-70MT

750

HEAD

NTL

C.A

Certified By

ALCO E GAS & OIL

PRODUCTION EQUIPMENT LTD.

Manufactured in Canada

150

150

20

150

Manufactured Design Model Identification

2005-7517-01B

Serial Number

SA-53B FRW

365

SHLL

225

HYDRO

2006-7578-50 B

H3**Date**

* INDICATES HOLD POINTS TO BE SIGNED OFF BY THE APPLICABLE INSPECTOR.

MATERIAL CONTROL & NDE LIST

SERIAL NUMBER: 2005-7517-01 B

CUSTOMER: ALCO

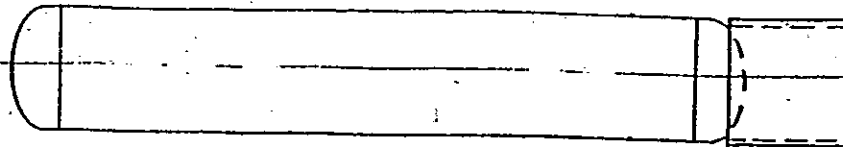
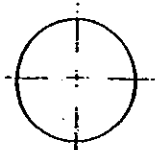
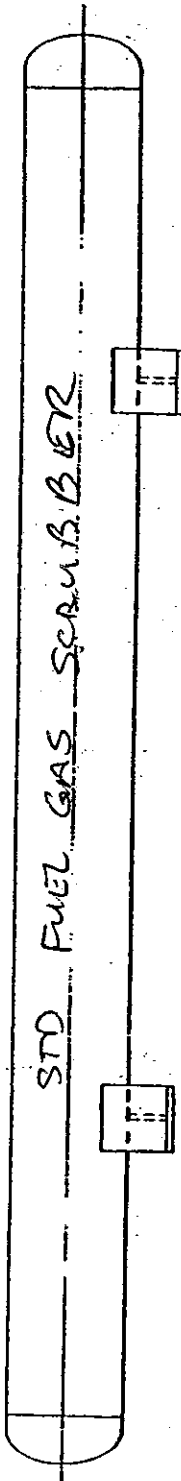
DATE: Oct 7/03

NONDESTRUCTIVE TESTING WHEN REQUIRED

[illegible]

CUSTOMER: ALCO STOCK

SERIAL No: B-2005-7517-01-001/001



DATE: 25 OCT 05
TYPE OF VESSEL:
FILLED BY: Vic M.
DRWG. NO: 7517-01

TYPE OF VESSEL:

TITLE	DIA.	ITEM NO:	HEAT NO:	SLAB NO:	MAT'L. SPEC.	MIN.
HEAD:	11 1/2"	2	1730C 53128		SA-576-70	34"
SHELL:	10 1/4"	1	(A-B) M1043261 (C-J) 033D6610		SA-53-B " "	SEA 40 "
PADS:						
SKIRT:						
SADDLES:						

7.5/7-01 x10

DWG.D-2900

Appendix L

MATERIAL REPORT

8/17/83
DOUG

NAV

31

37

Q. 5

ALCO GAS & OIL PRODUCTION EQUIPMENT LTD.

ORIGINAL

SHANGHAI ALISON STEEL PIPE CO., LTD

MILL'S INSPECTION CERTIFICATE

Consignee: SUMITOMO CANADA LIMITED

This is to certify that the newly produced prime quality ERW STEEL PIPE with bevelled ends produced and tested in accordance with ASTM A53B, ASME A53B, API 5L GRADE 10X42, as per ORDER NO. 04-MVGA-123405

PO No: 486932

Description: ERW STEEL PIPE

The pipes were tested qualified by our Quality Control Department, the relative full chemical composition, physical properties and heat numbers are as stated below.

Mat.	Heat No.	Size	Quantity		Surface Weight (kg)	Surface and size	Pipe chemical Composition										Pipe mechanical properties				Weld Tensile Strength (psi)	Hydraulic Test PSI-Mpa	Flu- iding Test	Ultra- sonic Test	Qualified Items
			pcs	Tot. Wt			C	Mn	P	S	Cu	Al	Cr	Mo	V	Yield Point (psi)	Tensile Strength (psi)	Elong- ation (%)							
	04701485	8 INCHES X STD X 21 FEET	385	8983	104833	OK	0.18	0.24	0.008	0.005	0.006	0.026	0.013	0.003	0.002	50036	70345	41.0	73866	16.3	OK	OK	7		
	04701486	8 INCHES X STD X 40 FEET	125	5906	64832	OK	0.17	0.26	0.011	0.008	0.006	0.028	0.014	0.003	0.002	50013	71791	38.0	70318	16.3	OK	OK	7		
	M1844630	10 INCHES X STD X 21 FEET	231	4977	91456	OK	0.15	0.26	0.010	0.013	0.006	0.023	0.012	0.003	0.002	51005	82568	34.0	82668	16.8	OK	OK	7		
	M100361	10 INCHES X STD X 40 FEET	64	2560	91017	OK	0.07	1.08	0.017	0.000	0.006	0.029	0.040	0.003	0.002	68165	81943	33.0	81943	16.8	OK	OK	7		
	04701474	12 INCHES X STD X 21 FEET	110	2100	91859	OK	0.16	0.45	0.008	0.005	0.006	0.018	0.015	0.003	0.002	53862	66816	30.0	71005	14.5	OK	OK	7		
	34002951	12 INCHES X STD X 40 FEET	75	3909	65390	OK	0.18	0.24	0.008	0.003	0.006	0.018	0.037	0.003	0.002	51490	71006	36.0	71006	14.5	OK	OK	7		

Manager of Q.C. Dept : shh.

Inspector : 戚海波

Issuing Date: JUL 27 2004

125-001-00 #107831

MAY 11 2005

P3121222002

SHANGHAI ALISON STEEL PIPE CO., LTD

MILL TEST CERTIFICATE

Consignee: FERROSTAL INC.

Description: ERW STEEL PIPE

This is to certify that the ERW STEEL PIPE in accordance with order No 1010012600 were tested qualified by our Quality Control Department.

The pipes are tested according to ASTM A530(99)DYNASME SAS30(E95)API 5L D/ X42 PSL1 (Version 42) The tensile test and chemical values are as stated below

P. O. NO. 1010012600

Shipping Marks: 1010012600
COLOR: WHITE

Pipe	Item No	Size	Quantity	Weight (kg)	Mechanical Properties										Tensile Strength (N/mm²)	Yield Strength (N/mm²)	Elongation (%)	Charpy (J)	Impact Test	Hydrostatic Test (MPa)	Flare Test	Quenching Test
					C	Mn	P	S	Si	Cu	Al	Cl	Fe	Other								
0120258	0120258	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120259	0120259	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120260	0120260	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120261	0120261	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120262	0120262	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120263	0120263	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120264	0120264	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120265	0120265	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120266	0120266	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120267	0120267	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120268	0120268	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120269	0120269	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
0120270	0120270	4" X 0.117" X 40'	147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK
			147	11520	OK	0.16	0.37	0.002	0.002	0.002	0.002	0.002	0.002	0.002	510	275	21	10	OK	OK	OK	OK

Manager of Q.C. Dept: 816

Inspector: 416

HT # 033D6610

10' Sch 40

We state the material has been procured through a recognized source and is of the quality specified in the purchase order.

COMPARED TO SA	53 P
YEAR	2004 A-2005
NO.	7517-01 (7504-04)
ITEM	1
SIGNED BY	DS-1

For PO # 107831-125-001

ALOMA STEEL INC.

105 West St., Sault Ste. Marie, Ontario, Canada, P6A 7B4

CUSTOMER PURCHASE ORDER NUMBER	ENTRY DATE	SHIP DATE	TALLY NUMBER	SHIPPER NUMBER	CARRIER
W32691E	2004/02/13	2004/04/20	273136	02 -	CP

CHARGE TO CUSTOMER NAME & ADDRESS

SAMUEL, SON & CO. LIMITED
701 15 AVENUE
NISKU, ALBERTA
T9E 7L5

SHIP TO CUSTOMER NAME & ADDRESS

SAMUEL, SON & CO. LIMITED
C/O CPA TRANSFER FACILITY
EDMONTON, ALBERTA

MILL TEST REPORTS

ALOMA STEEL INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED, MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION, SHOWN HEREIN, AS CONTAINED IN THE COMPANY RECORDS AND WITHIN THE SCOPE OF ACCREDITATION OF ISO/IEC GUIDE 25-19 AS CONTAINED IN THE COMPANY RECORDS.

A. Haldenby
H. Haldenby
MANAGING METALLURGIST

THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITH WRITTEN APPROVAL OF ALOMA STEEL. IF YOU RECEIVE THIS DOCUMENT AND A NOT THE INTENDED RECEIVER, PLEASE CALL 1705/945-2624 COLLECT FOR INSTRUCTIVE ON METHOD OF DISPOSAL OF DOCUMENT.

CUSTOMER SPECIFICATION

HR PLATE - CARBON - ASME SA516 GR 70 (01) - CVNL 10 FT LBS AT -50 F - NORMALIZED 1650F NOM FOR 5 MIN/INCH MIN. - PVO - NORMALIZED - FLATNESS TOLERANCE TO 1/2 A-6 - ASME SECTION IIA (2001) LATEST ADDENDA

125-001-Po# 104549

SUPPLEMENTARY INSTRUCTIONS

FAX SM/TR TO D HLADY (780-955-4774) FAX SM TO BATES EQUIP. (780-437-3713) - MRK BL "FOR TRUCK DEL'Y" TO SAMUEL, SON & CO LTD 701 - 15TH AVE. NISKU, ALBERTA

INSF TR 2004-05-26 SUPPLEMENTAL TO: ALSO MEETS CVNL 20/16 FT LBS AT -50F
CUST USE RESALE

MEETS EN 10204 3.1.B AND DIN 50049 3.1.B
MEETS ISO 9001:2000 REGISTERED
ALL HEATS FULLY KILLED
HEATS INDICATED WITH (*) FINE GRAINED

CUSTOMER ITEM 2 OUR ITEM 002 DIMENSIONS .750 X 120 X 480 " SHIPPED *****

PLATE NUMBER	HEAT	NO. PIECES	WEIGHT	PLATE NUMBER	HEAT	NO. PIECES	WEIGHT
53126	1729C-06	1	12251	53127	1729C-54	1	12251
53128	1730C-01	1	12251	53129	1730C-01	1	12251
53130	1730C-01	1	12251	53131	1730C-52	1	12251
53132	1730C-52	1	12251	53133	1730C-52	1	12251

***** MECHANICAL PROPERTIES *****

TENSILE TESTS:

HEAT	PLATE NUMBER	SAMPLE	SOURCE	GAUGE	COND METH	TEST	YIELD TENSILE	% ELONG
1729C	53126	166"	166"	.7500	N	.2	51.5	27.8
1729C	53127	166"	166"	.7500	N	.2	52.5	27.8
1730C	53128	166"	166"	.7500	N	.2	52.0	27.8
1730C	53129	166"	166"	.7500	N	.2	51.5	28.8
1730C	53130	166"	166"	.7500	N	.2	50.5	26.8
1730C	53131	166"	166"	.7500	N	.2	52.0	29.8
1730C	53132	166"	166"	.7500	N	.2	51.0	29.8
1730C	53133	166"	166"	.7500	N	.2	51.0	29.8

CONFORMS TO SA	S/6-70N
YEAR	2004 - A-2003
JOB	2517-01
ITEM	2
SIGNED BY	OS-10-14

L A A A A A A A A

WARNING

THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE CHEMICAL ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

A YOMA STEEL INC.
 105 West St., Sault Ste. Marie, Ontario, Canada, P6A 7B4
 ENTRY DATE 2004/02/13 SHIP DATE 2004/04/20
 CUSTOMER PURCHASE ORDER NUMBER W32691E TALLY NUMBER 273136 SHIPPERS NUMBER 02- CARRIER CP
 CHARGE TO CUSTOMER NAME & ADDRESS SHIP TO CUSTOMER NAME & ADDRESS

SAMUEL, SON & CO. LIMITED
 701 - 15 AVENUE
 NISKU, ALBERTA
 T9E 7L5

SAMUEL, SON & CO. LIMITED
 C/O CPR TRANSFER FACILITY
 EDMONTON, ALBERTA

MILL TEST REPORTS

ALGOMA STEEL INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN HEREIN AS CONTAINED IN THE COMPA RECORDS AND WITHIN THE SCOPE OF ACCREDITATION OF ISO/IEC GUIDE 23-19 AS CONTAINED IN THE COMPANY RECORD

A. Haldenby
H. Haldenby
 MANAGING METALLURGIST

THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITH WRITTEN APPROVAL OF ALGOMA STEEL. IF YOU RECEIVE THIS DOCUMENT AND A NOT THE INTENDED RECEIVER, PLEASE CALL (705)945-2824 COLLECT FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT

SUPPLEMENTARY INSTRUCTIONS

FAX SM/TR TO D HLADY (780-955-4774). FAX SM TO BATES EQUIP. (780-437-3713) - MRK BL "FOR TRUCK DEL'Y" TO SAMUEL, SON & CO LTD 701 - 15TH AVE., NISKU, ALBERTA

2004-05-26 SUPPLEMENTAL TO: ALSO MEETS CVNL 20/16 FT LBS AT -50F
 RESALE

IMPACT TESTS: PLATE NUMBER

HEAT	PLATE	NUMBER	SRCE	GAGE IN	COND	METH	TEST DIR	SIZE	TEMP	FULL SIZE	ENERGY
1729C		53126	166"	.7500	N	CVN	L	FULL	-50F	58	57
1729C		53127	166"	.7500	N	CVN	L	FULL	-50F	72	56
1730C		53128	166"	.7500	N	CVN	L	FULL	-50F	65	56
1730C		53129	166"	.7500	N	CVN	L	FULL	-50F	32	50
1730C		53130	166"	.7500	N	CVN	L	FULL	-50F	51	44
1730C		53131	166"	.7500	N	CVN	L	FULL	-50F	57	57
1730C		53132	166"	.7500	N	CVN	L	FULL	-50F	54	51
1730C		53133	166"	.7500	N	CVN	L	FULL	-50F	48	33

HEAT	C	MN	P	S	SI	CR	NI	CU	MO	ALT	ALS	CB	V	SN
1729C*	.24	1.09	.006	.006	.29	.14	.02	.02	.02	.036	.026	<.005	.004	N
1730C*	.23	1.10	.009	.007	.27	.14	.02	.02	.01	.031	.022	<.005	.004	N

WARNING

THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE CHEMICAL ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

HEAT NUMBER : 2017 *PD. # 115596*
 TRANS AM PIPING PRODUCTS REV'D BY: *[Signature]*
 Shipment/Seq #: S 4 1129 48

1" 6000# FS SCDR COUPLING
 A105N



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

KAHSIUNG HSIEN, TAIWAN R.O.C.(81405)

TEL: (07) 371-0497, 371-1536, 372-0260 FAX: (886-7) 371-3864, 371-3882

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

An ISO-9001 Registered Manufacturer



MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN10204/DIN50042/3.1.B

CUSTOMER: SEYBOLD INTERNATIONAL CORP

INVOICE NO: 89039210068A

DATE: 02/27/04

DEST: NJ403.0

ORDER NO: 4288(CI-03-838)

L/C NO:

PAGE: 3

ITEM	SAR MATERIAL HEAT NO.	BOTH WELL HT. CD	DESCRIPTION	QUANTITY	SPECIFICATION: ASTM / ASME A/SA 105N -G1 DIMENSION: ASME B16.11 - 2001 SURFACE: BY VISUAL...GOOD
048	367279	2043	RED.TEE 1"x 3/4" 3000# NPT	100 PC	
049	367524	2040	RED.TEE 1-1/2"x 1/2" 3000# NPT	50 PC	
050	367925	2045	RED.TEE 1-1/2"x 3/4" 3000# NPT	25 PC	
051	2X819	3008	RED.TEE 2"x 1/2" 3000# NPT	50 PC	
063	366122	2017	FULL CPLG 1" 6000# NPT	300 PC	
065	2X817	992	FULL CPLG 2" 6000# NPT	100 PC	
067	AF065D	362	CAP 1/2" 6000# NPT	25 PC	

CHEMICAL COMPOSITION (%)												
ITEM	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N
Min	-	0.100	0.500	-	-	-	-	-	-	-	-	-
Max	0.350	0.350	1.050	0.035	0.040	0.400	0.300	0.400	0.120	0.05	0.020	-
048	0.200	0.220	0.850	0.020	0.013	0.250	0.100	0.070	0.010	0.00	0.001	-
049	0.210	0.220	0.870	0.016	0.009	0.230	0.110	0.006	0.010	0.00	0.002	-
050	0.200	0.170	0.840	0.016	0.010	0.190	0.130	0.060	0.010	0.001	0.001	-
051	0.200	0.230	0.850	0.018	0.007	0.020	0.010	0.020	0.000	0.001	0.000	-
063	0.190	0.190	0.800	0.014	0.008	0.170	0.110	0.050	0.010	0.011	0.004	-
065	0.200	0.240	0.900	0.018	0.009	0.020	0.010	0.010	0.000	0.001	0.000	-
067	0.200	0.180	0.810	0.019	0.012	0.010	0.040	0.020	0.010	0.001	0.000	-

MECHANICAL TEST						REMARKS: NORMALIZED . 900°C ± 14°C	CONFORM TO SA <i>A105N</i> YEAR <i>2004 A-2005</i> JOB # <i>7517-01</i> ITEM # <i>5</i> SIGNED BY <i>05-10-14</i>
ITEM	Tensile Strength (KSI)	Yield Strength (KSI)	Elong- ation (%)	R of A (%)	Hardness (HB)		
Min	30.0	36.0	22.0	30.0	-		
Max	-	-	-	-	187		
048	72.8	51.8	27.8	67.6	146	WE CERTIFY THE ABOVE MENTIONED FITTINGS HAVE BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS SHOWN	<i>SC Lee</i> O.C. MANAGER SEBING CHENG LEE
049	71.9	51.1	31.6	65.9	143		
050	75.1	53.2	34.0	66.8	146		
051	78.4	53.5	29.6	65.5	143		
063	79.1	55.4	32.6	66.4	143		
065	76.7	62.4	30.8	65.5	152		
067	72.3	47.9	36.4	67.3	148		<i>Chieh Huang</i> INSPECTOR CHUN CHIEH HUANG

CERTIFIED MILL TEST REPORT



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

LOG NO. 209794 PAGE 1
BONNEY FORGE
P.O. BOX 330 • U.S. RTE 522 SOUTH • MOUNT UNION, PA 17066-0330
(814) 542-2545 • (800) 345-7516 • FAX (814) 542-4906
www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 09/13/04

CUSTOMER'S Order No.: 9196789-00

Bonney Order No. 99183

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

270094

125-001

EDMONTON ALBERTA
EDMONTON ALBERTA, T6E5S5 CANAD

Part 106284

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

SA/A105N-02

013 340 2821 7523696 2 3M A105N COUP T
C .190 MN 1.070 P .009 S .027 SI .250
NI .020 CU .060 CO .003 CR .060 MO .025
V .024 AL .001 NB .001
CE(LONG FORMULA) = 0.40
T/S 76375 Y/S 51625 EL 31.50 RA 53.00
BRINELL HARDNESS1: 141 HARDNESS2 139

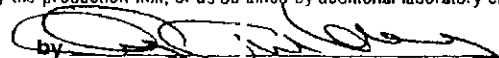
- 1 THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- 2 THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- 3 CERTIFYING ASTM A105-02 / ASME SA105-02 EDITION.
- 4 ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD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

CONFORMS TO SA	<u>A105N</u>
YEAR	<u>2004 A-2005</u>
JOB #	<u>7517-01</u>
ITEM #	<u>6</u>
SIGNED BY	<u>05-10-14 P</u>

***** 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 PROCESS MANAGER



INDUSTRIA MECCANICA LIGURE SPA

100-501

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•

Page 2 of 2

USUAL & DIMINIS

OTHER ELEMENTS

Year	Value	Year	Value
1990	0.0	2000	0.0
1991	0.0	2001	0.0
1992	0.0	2002	0.0
1993	0.0	2003	0.0
1994	0.0	2004	0.0
1995	0.0	2005	0.0
1996	0.0	2006	0.0
1997	0.0	2007	0.0
1998	0.0	2008	0.0
1999	0.0	2009	0.0
2000	0.0	2010	0.0

MILL	Our Re
031444	031444
042356	042356
031443	031443
031444	031444

56-51074 JCVI

MANUFACTURER'S SYMBOL

CONFORMS TO SA	105N
YEAR	2004 ED
JOB #	2005-7517-01
ITEM #	7
SIGNED BY	JA Oct 14/05



STUDENTS

VL

FITTINGS

111

ROKIS RUM

2

750

10

1

PO#: Item#: Tag: Comco SO#: H.at#: DALU

M.E.G.A.		W.F.F. FITTINGS & FLANGES (CANADA) LTD. 7004K-5TH. STREET S.E. CALGARY, ALBERTA T2H 2G3		CERTIFICATE NO. 251208 Date of Issue 16/11/04	
CERTIFICATO DI COLLAUDO TEST CERTIFICATE CERTIFICAT DE CONTROLE		COMPANY WITH QUALITY SYSTEM CERTIFIED BY ISO 9001		EB 4108 KD	
PROVA Test Esame		MATERIALE Material / Matière		CODICE Code / Code	
77BN	ASTM A 85N/01	0023955	0.200	0.160	0.920
DALU	ASTM A 05/02	934905	0.200	0.250	1.050
DBBE	ASTM A 05/02	84498	0.180	0.200	0.832
DCTT	ASTM A 05N/02	34910	0.180	0.160	0.950
FBCB	ASTM A 75N/02	940939	0.180	0.250	0.940
FBCF	ASTM A 15N/02	941648	0.190	0.250	0.950

PROVA Test Esame	TIME Temps	TEMPERATURE Température	STRESS Tension	ELONGATION Élongation	REDUCTION OF AREA Réduction de surface	POUNCE Poids	FORCE Force	STRENGTH Résistance	YIELD Limite d'élasticité	TENSILE Tension	COMPRESSION Compression	BENDING Flexion	IMPACT Impact	WELDING Soudage	OTHER Autres
77BN	1	30.0	25.0	302.0	518.0	31.4	67.2	146-150							
DALU	1	60.0	35.0	358.0	574.0	30.2	67.4	145-150							
DBBE	1	122.0	50.0	410.0	557.0	27.7	60.9	180-184							
DCTT	1	30.0	25.0	314.0	532.0	29.4	67.4	149-157							
FBCB	1	226.0	50.0	313.0	516.0	39.0		149-152							
FBCF	1	213.0	50.0	309.0	522.0	40.0		156-160							

PROVA Test Esame	NOTE / Remarque / Note	EN10204/3.16	DN 50049 3.16	FORMA Shape / Forme	1 = B	2 = C
77BN	ELECT. F. RNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.66551.97 LUCCHINI*100577 MEGA*NB:0.0021*				
DALU	ELECT. F. RNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.29713.83 DALMINE*236921 MEGA				
DBBE	ELECT. F. RNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.05869/1.96 RODACCIAI*209962 MEGA				
DCTT	ELECT. F. RNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.252.03 ISMA*236884 MEGA				
FBCB	ELECT. F. RNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.07950.04 DALMINE				
FBCF	ELECT. F. RNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.12046.04 DALMINE				

PROVA Test Esame	POS. Item Pos. / Pos.	QTY Qty	UNIT Unit	CODE CLIENTE Customer code	DESCRIPTION / Description	VISUAL AND DIMENSIONAL
77BN	017	144		111016201	TEE S. 3000 NPT A/SA105N 1/2x1/4	OK
DALU	005	300		11A008201	COUPLING S. 3000 NPT A/SA105N 2	OK
DBBE	042	300		11R025300	BUSHING H/F NPT A/SA105N 1x1/2	OK
DCTT	017	156		111016201	TEE S. 3000 NPT A/SA105N 1/2x1/4	OK
FBCB	009	344		11B008201	HALF COUPLING S. 3000 NPT A/SA105N 2	OK
FBCF	009	55		11B008201	HALF COUPLING S. 3000 NPT A/SA105N 2	OK

CONFORMING TO SA 105N

YEAR 2004 A-2005

JOB # 7517-01

ITEM # 9

SIGNED BY 05-10-14

MATERIALE ACCORDING TO: MATER. 6175 d. 2003.	ESTRUTTORE DI QUALITÀ Structure Quality	CONFORMITÀ Conformity

CUSTOMER: <u>ALCO STOCK</u>	DESCRIPTION: <u>10 3/4" x 2'-5" FUEL GAS SCRUBBER</u>	ALCO JOB NUMBER: <u>2005-751701</u>
DATE: <u>NOV 18 2005</u>	TECHNIQUE # USED: <u>MPT P²1</u>	CODE: <u>SECTION UMDW DW-B.2e</u>
MATERIAL: <u>PI</u>	MAT'L THICKNESS: <u>3/4"</u>	EDITION: <u>2004</u> ADDENDA: <u>2005</u>
		ACCEPTANCE: <u>Appendix 6 UG 93d3</u>

MAGNETIC PARTICLE INSPECTION	LIQUID PENETRANT INSPECTION
PROCEDURE #: <u>MPT P²1</u>	PROCEDURE #: _____
EQUIPMENT:	LOT #: _____
Y6 YOKE: s/n <u>43530 TAG #128</u>	CLEANER: _____
BLACK LIGHT: s/n _____	PENETRANT: _____
	DEVELOPER: _____
METHOD:	DWELL TIME: _____
DRY POWDER ☒ <u>Red</u>	PENETRANT: _____
WET FLUORESCENT ☐	DEVELOPER: _____

NOTES:

MAGNETIC PARTICLE EXAMINATION OF HEADS AFTER WELDING.
NO RELEVANT INDICATIONS WERE FOUND AT TIME OF EXAMINATION.

SKETCH:

2005-7517-01-A to J
10 VESSELS ACCEPTED

COSTING

PAGE 1 OF 1 INSPECTOR DM LEVEL: ASNT II CGSB _____ TIME: 1 hr

/ hr

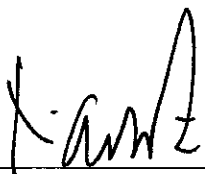
TOTAL COST _____

CERTIFICATE OF HYDROSTATIC TEST

UNIT SERIAL NUMBER: 2006-7517-01B Sold to 2006-7578-50 Unit B

PART DESCRIPTION: Fuel Gas Scrubber

WE CERTIFY THAT THE UNIT BEARING THE ABOVE SERIAL NUMBER WAS
HYDROSTATICALLY TESTED TO A PRESSURE OF 225 PSIG AND HELD AT
THAT PRESSURE FOR A PERIOD OF ONE HOUR AND NO LEAKS OR OTHER
DEFECTS WERE FOUND. GAUGE NUMBERS: F5 /15



ALCO GAS & OIL PRODUCTION EQUIPMENT LTD
QUALITY CONTROL INSPECTOR

November 8, 2005

DATE

CUSTOMER REPRESENTATIVE

DATE

Phase # : 2005-7529-03B Sold to 2006-7578-50B
Phase Title: 250,000 BTU Reboiler

TABLE OF CONTENTS

Title	Availability	
	Yes	No
1. Data Reports	X	
2. CRN's		N/A
3. Nameplate Copy	X	
4. Travel Sheet	X	
5. Impact Test Reports		N/A
6. Material Control		N/A
7. Material Reports		N/A
8. MTR's	X	
9. NDE MPT		N/A
LPT		N/A
RADIOGRAPHY		N/A
ULTRA SONIC		N/A
10. Stress Relieve Charts		N/A
11. Hydrotest Report(s)	X	
12. Hydro Chart		N/A
13. PSV & Valve Cert.		N/A

Pressure Testing Inspection Report

Type of Pressure Testing (indicate) ☒ Hydrostatic
☐ Pneumatic
☐ Gas and Bubble Formation
☐ Freon
☐ Vacuum
☐ Other (describe) _____

Item Description for Testing 2005-7529-03B

Testing Performed: Prior _____ Subsequent _____ None _____ To P.W.H.T.
Medium Used For Testing H₂O
Required Pressure for Test 0 PSIG _____ KPA _____ OTHER _____

Temperature of Medium WATER
Duration of Pressurizing Pressure ATMOSPHERIC Hold Time ONE HOUR
Pressure _____ Hold Time _____
Pressure _____ Hold Time _____
Pressure _____ Hold Time _____

Examination Procedure (Describe)
FILLED WITH WATER AND CHECKED FOR LEAKS

Pressure Gauge Identification No. _____ Range _____ Last Calibration Date _____
No. _____ Range _____ Last Calibration Date _____

Chart Identification _____

Other Equipment Used for Recording (Describe) _____

Equipment Used For Freon Leak Testing (Describe) _____

Results of Pressure Test Accept OK Reject _____
Describe Other _____
Test Witnessed and Accepted By X. G. 2 QC Inspector
Test Witnessed and Accepted By FEB 7, 2006 Customer's Agent

Test Witnessed and Accepted By _____

Authorizing Inspection Agency _____

ALCO ENGINEERING

1000 W. 10TH AVE. S.W.
ALBUQUERQUE, N.M. 87102

WATER TIGHTNESS TESTING

2006

2005-7529-03B

SOLD TO 2005-7578-00B

250-2000 BTL REBOTLER

H-416

SA-36

0.254

STRUCTURAL

0.254

NTL

WATER TIGHT CHECK FOR LEAKS

TRAVEL SHEET

Authorized Inspector (Signature) _____

Date _____

CUSTOMER / LOCATION		SERIAL NUMBER / UNIT		(A) NUMBER / CRN			
CORDERO ENERGY		2006-7578-04A		D-2006-7578-04-001/001			
MALMO							
ITEMS: 250,000 BTU/HR GLYCOL REBOILER C/W 24"OD X 6'-5"LG REBOILER 20"OD X 4'-9"LG SURGE TANK		COMMENTS:		INITIALS HOLD QC CUSTOMER HOLD (AGENT) HOLD A.I.			
Repair Procedure Approved							
Approved Drawings							
Material Checked Against Drawing Bill of Material		REVIEWED		✓			
Mill Test Checked		REVIEWED		✓			
Impact Test							
Unit Layout				✓ Jan 26/06			
Weld Procedure Approved		REVIEWED		✓			
Welder(s) Qualifications		REVIEWED		✓			
Fit-Up: Shell & Heads							
Nozzles & Fittings							
Internals							
Externals							
Connections: Location							
Rating		3000#		✓			
Internal Inspection				✓ *			
Internals Installed				✓			
Weld Profile, Sizes & ID		CHECKED		✓			
Radiographs				✓ *			
Other NDE							
Stamping							
External Upon Completion of Welding, when PWHT		CHECKED		✓ *			
Alternative Test							
PWHT Charts Checked		N/R					
Hydrostatic Test/Chart <i>2006-846 R</i> <i>Feb 2/06</i>		GLYCOL/FUEL GAS COIL GAGE# K3, K15 ATMOSPHERIC		✓ Feb 7/06			
MDR							
Name Plate							

PART	MATERIAL SPEC	THICKNESS	HEAT NO.	PART	MATERIAL SPEC	THICKNESS	HEAT NO.
Heads	SA-36	0.250"		Repads			
Shell	SA-36	0.250"					
				Tubes			
Tubesheet							

* INDICATES HOLD POINTS TO BE SIGNED OFF BY THE APPLICABLE INSPECTOR.

Authorized Inspector (Signature)

Date

CUSTOMER/LOCATION		SERIAL NUMBER/UNIT		(A) NUMBER/C.R.N.			
ALCO stock		2005-7529-03 B		D. 2005-7529-03-001/001			
ITEMS: 250,000 BTU REBOILER, 24" OD X 6'-5"		COMMENTS:		DATE FUNCTION IS COMPLETED AND INSPECTORS INITIALS			
Repair Procedure Approved				HOLD Q.C.	CUSTOMER HOLD (AGENT)	HOLD A.I.	
Approved Drawings							
Material Checked Against Drawing Bill of Material							
Mill Test Checked							
Impact Test							
Unit Layout							
Weld Procedure Approved		Reviewed 05-10-31		2006/01/20 for			
Welder(s) Qualifications							
Fit-Up: Shell & Heads							
Nozzles & Fittings							
Internals							
Externals							
Connections: Location							
Rating		3000'					
Internal Inspection							
Internals Installed							
Weld Profile & Size & ID							
Radiographs		N/R. 05-10-31					
Other N.D.E.							
Stamping							
External Upon Completion of Welding, when PWHT							
Alternative Test							
P.W.H.T. Charts Checked							
Hydrostatic Test/Chart FUEL GAS/GLYCOL COIL 2000		ATMOSPHERIC					
M.D.R.							
Name Plate							

PART	MAT'L SPEC	THK	HEAT NO.	PART	MAT'L SPEC	THK	HEAT NO.
Heads	SA-36	.250		Reps			
Shell	STRUCTURAL						
				Tubes			
Tubesheet							

* INDICATES HOLD POINTS TO BE SIGNED OFF BY THE APPLICABLE INSPECTOR.

OCT 26 2005

Purchaser: CCTF CORPORATION

INSPECTION CERTIFICATE

EN 10204 3.1B



D M Y Certificate No.

05/08/2005 T-2005200584

Order No. 4873881

No.	MFG. No. (Heat Identification No.)	Specification for Material		Quantity	Heat Treatment (Nuke 1)	Visual Examination	Dimensional Inspection
		Product & Size	ASTM A334-03/ASME SA334 WPB				
1	05C00005	90 EL WPB 3/4 S40	CSA Z245.11 GR341 CAT 1 NACE MR0175-7000	200	A	Good	Good
2	04M00024	90 EL WPB 2 S40		80/500	A	7510348	
3	04M00208	90 EL WPB 2 S40		10/500	A	7510348	
4	05F00084	90 EL WPB 2 S40		344/500	A	7510348	
5	02300064	90 CS WPB 1 S40		100	A	7510594	

Specification	Chemical Composition %														Tensile Test %	
	C	Si	Mn	P	S	Cr	Ni	Mo	V	Nb	Cu	Al	Fe	YS	TS	E
Min.	100	100	100	1000	1000	100	100	100	100	1000	100	100	100	100	N/mm ²	%
Max.	10	29	106	50	50	40	40	15	80	20				240	415	30
Material Heat No.	23														586	GOOD
1 J4KB085	20	20	70	18	7	1	2	4	0	0	0	33	305	475	43	
2 76488	14	22	85	7	3	18	11	7	2	1	0	29	307	487	32	
3 75586	18	23	71	18	4	35	14	11	4	1	0	34	348	525	34	
4 J5KA451	20	21	70	12	8	2	2	6	1	0	0	33	322	504	53	
5 3-62027	13	24	88	15	2	1	1	2	<1	2	<1	29	368	481	55	

(Note 1) A: Heat treated with final temperature between 620°C - 980°C. Air Cooling. N: Normalizing 910°C (1675°F) for 1 hour. Air Cooling.

CCTF CORPORATION 25-01-2005

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

A: Tensile strength. YS: Yield strength. TS: Tensile strength. E: Elongation.

Quality Assurance Manager

Tai Benan Co., Ltd.

Sri Wacana, Bangkok, Thailand

ITEM: 26

DATE: 2005-11-08



INSPECTION CERTIFICATE

AWAJI SANGYO (THAILAND) CO., LTD.

81 MOO 4, PRAKASA ROAD, TAMBOL BANGHUANG, AMPHUR MUANG

SAMUTPRAKARN THAILAND 10270. Tel: (662) 701-5216

MADE FROM SEAMLESS STEEL PIPE

Purchaser: ALLIED FITTING CANADA

Date: SEPTEMBER 29, 2003

Certificate No.: T03-92133

Order No.	Job No.	Product				Raw Pipe Maker											
73203AAW/2		CARBON STEEL BUTT WELDING FITTINGS				NIPPON STEEL											
Inspection Standard	Material Standard	Appearance	GOOD	Dimension	GOOD												
ASME B16.9-01 ASTM A900-02 NACE MR-0175-03	ASTM A234-02 WPB ASME SA214 except nuclear usage																
Manufacturing No.	Product code	Material	Article & Size			Note											
33147		WPB	XS 90 LONG RADIUS ELBOW 3/4"	200 Pcs.	"ALL FITTING MANUFACTURED BY AWAJI SANGYO (THAILAND) CO., LTD. ARE PRODUCED FROM A106 SEAMLESS PIPE"												
Specification	Chemical Composition (%)					Hardness											
Min.	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Al	C.E.	Y.S.	T.S.	E	
	x100	x100	x100	x1000	x1000	x100	x100	x100	x100	x100	x1000	x1000	x100	MPa		(HID)	%
Max.																	
Pipe Charge No.																	
M37626	20	22	44	10	4	4	4	1	2	2	0	0	2	29	309	480	46

Carbon Equivalent: $C.E. = C + \frac{Mn}{6} + \frac{Cr+Mo+V}{5} + \frac{Ni+Cu}{15}$

Inspection Certificate: ISO 9002 CERTIFICATE No. 103310

CONFORMS TO SA 234-WPB

YEAR 2004-01-2005-01

API 2005-7529-03

ITEM 33, 76

SIGNED BY 2005-11-08

ELBOW / Fluting temperature 750°C - 850°C and cooled in still air

TEE REDUCER & CAP / Normalizing: 900°C

We hereby certify that the material described herein has been duly inspected and conforms to the standard as specified above

* Y.S. = Yield Strength, T.S. = Tensile Strength, E = Elongation.

AT-24031



Signature

Chief of Inspection Section S. THANEER

Sur-eyor to

APR 27 2005

125-001-96# 107526



MATERIAL TEST REPORT

SPECIFICATION:	ASTM A-350 LF2 SA-350 LF2
MANUFACTURED TO:	CSA B51 & ASME B16.11
HEAT NO:	→ 14512
SIZE:	Ø 1.750"

9624 - 35 Avenue Edmonton, Alberta T6E 5S3 Phone: (780) 434-3402 Fax: (780) 437-3507

CHEMICAL PROPERTIES

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb
0.208	0.980	0.007	0.005	0.250	0.050	0.090	0.220	0.030	0.005	0.002
AL	CE									
	0.431									

MECHANICAL PROPERTIES

TENSILE	YIELD	EL %	RA %	HARDNESS BHN
82 K.S.I. KGmm ² PSI N/mm ²	60 K.S.I. KGmm ² PSI N/mm ²	33.0	77.0	169

HEAT TREATMENT

Normalized

IMPACT TESTS AT: - 50° F

1	2	3
J 131 Ft.Lbs.	J 118 Ft.Lbs.	J 142 Ft.Lbs.

DESCRIPTION

A_{MW} 1/2" 3000# Coupling
 1/2" 6000# Coupling

 A_{MW} → 3/4" 3000# Coupling
 → 3/4" 6000# Coupling

 A_{MW} → 1" 3000# Coupling

WE HEREBY CERTIFY THAT THE PRODUCTS DESCRIBED PASSED ALL OF THE TESTS REQUIRED BY THE SPECIFICATIONS. ORIGINAL TEST REPORTS ARE AVAILABLE ON REQUEST

Jake van Lange
QUALITY ASSURANCE
MANAGER

CONFORMS TO SA	350-LF2
YEAR	2004/00 2005-1
FIG #	2005-7529-03
ITEM #	45, 51
SIGNED IN	16-05-11-08
DATE	September 2, 2004

Committed to Quality!

ISO 9001-2000

CSA-B51

CSA IV47.1-2003

MATERIAL TEST REPORT

SPECIFICATION:	ASTM A-350 LF2 SA-350 F2
MANUFACTURED TO:	CSA B51 & ASME B16.11
HEAT NO:	88634
SIZE:	Ø 1.500"

9624 - 35 Avenue Edmonton, Alberta T6E 5S3 Phone: (780) 434-3402 Fax: (780) 437-3507

CHEMICAL PROPERTIES

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb
0.171	1.069	0.007	0.017	0.177	0.180	0.114	0.117	0.030	0.020	0.000
AL	CE									
0.023	0.403									

MECHANICAL PROPERTIES

TENSILE	YIELD	EL %	RA %	HARDNESS BHN
K.S.I. KGmm2 PSI 538 N/mm2	K.S.I. KGmm2 PSI 414 N/mm2	30.0	67.0	153/187

HEAT TREATMENT

Normalized

IMPACT TESTS AT: - 50°

1	2	3
J 142 Ft.Lbs.	J 135 Ft.Lbs.	J 148 Ft.Lbs.

DESCRIPTION

A_{MW} 3/4" 3000# Coupling

A_{MW}

A_{MW}

WE HEREBY CERTIFY THAT THE PRODUCTS DESCRIBED PASSED ALL OF THE TESTS REQUIRED BY THE SPECIFICATIONS. ORIGINAL TEST REPORTS ARE AVAILABLE ON REQUEST.



QUALITY ASSURANCE
MANAGER

350 LF2
200420-200574
2005-7529-03
43
1605-16-08

DATE: April 27, 2004

Committed to Quality!

ISO 9001-2000

CSA-B51

CSA W47.1-2003

MATERIAL TEST REPORT

SPECIFICATION:	ASTM A-350 LF2 SA-350 LF2
MANUFACTURED TO:	CSA B51 & ASME B16.11
HEAT NO:	88634
SIZE:	Ø 1.500"

3625 - 35 Avenue Edmonton, Alberta T6E 5S3 Phone: (780) 434-3402 Fax: (780) 437-3507

CHEMICAL PROPERTIES

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb
0.171	1.069	0.007	0.017	0.177	0.180	0.114	0.117	0.030	0.020	0.000
AL	CE									
0.023	0.403									

MECHANICAL PROPERTIES

TENSILE	YIELD	EL %	RA %	HARDNESS BHN
K.S.I. KGmm2 PSI 538 N/mm2	K.S.I. KGmm2 PSI 414 N/mm2	30.0	67.0	153/187

HEAT TREATMENT

IMPACT TESTS AT: - 50° F

Normalized	1 J 142 Ft.Lbs.	2 J 135 Ft.Lbs.	3 J 148 Ft.Lbs.
------------	--------------------------	--------------------------	--------------------------

DESCRIPTION

AMW 3/4" 3000# Coupling

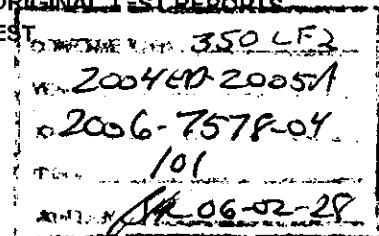
AMW

AMW

WE HEREBY CERTIFY THAT THE PRODUCTS
DESCRIBED PASSED ALL OF THE TESTS REQUIRED
BY THE SPECIFICATIONS. ORIGINAL TEST REPORTS
ARE AVAILABLE ON REQUEST.



QUALITY ASSURANCE
MANAGER



DATE: April 27, 2004

Committed to Quality!

ISO 9001-2000

CSA-B51

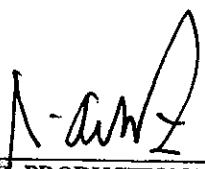
CSA W47.1-2003

CERTIFICATE OF HYDROSTATIC TEST

UNIT SERIAL NUMBER 2005-7529-03B

PART
DESCRIPTION GLYCOL / FUEL GAS PREHEAT COIL

WE CERTIFY THAT THE UNIT BEARING THE ABOVE SERIAL NUMBER WAS
HYDROSTATICALLY TESTED TO A PRESSURE OF 2000 PSIG AND HELD AT THAT
PRESSURE FOR A PERIOD OF ONE HOUR(S) AND NO LEAKS OR OTHER DEFECTS
WERE FOUND. GAUGE NUMBERS K3/K15


ALCO GAS & OIL PRODUCTION EQUIPMENT LTD.
QUALITY CONTROL INSPECTOR

FEB 3, 2006
DATE

CUSTOMER REPRESENTATIVE

DATE

PLANT & HEAD OFFICE
5203 - 75 STREET, EDMONTON, ALBERTA T6B 5S5 ■ TELEPHONE: (780) 465-9061 ■ FAX: (780) 466-8110

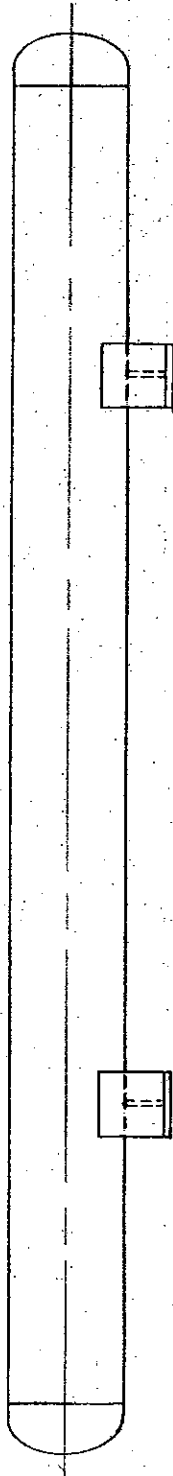
SALES OFFICE
#310, 4014 MACLEOD TRAIL S.E., CALGARY, ALBERTA T2G 2R7 ■ TELEPHONE: (403) 243-5055 ■ FAX: (403) 287-1562

Phase # : 2005-7529-05B Sold to 2006-7578-01A
Phase Title: Air/Glycol Exchanger

TABLE OF CONTENTS

Title	Availability	
	Yes	No
1. Data Reports		N/A
2. CRN's		N/A
3. Nameplate Copy		N/A
4. Travel Sheet		N/A
5. Impact Test Reports		N/A
6. Material Control		N/A
7. Material Reports	X	
8. MTR's	X	
9. NDE MPT		N/A
LPT		N/A
RADIOGRAPHY		N/A
ULTRA SONIC		N/A
10. Stress Relieve Charts		N/A
11. Hydrotest Report(s)		N/A
12. Hydro Chart		N/A
13. PSV & Valve Cert.		N/A

CUSTOMER: ALCO STOCK
 SERIAL No: 7529.05B



DATE: <u>Dec. 16, 2008</u>		FILLED BY: <u>Am KET</u>		DRWG. NO:	
TYPE OF VESSEL: <u>1 1/2" x 4'-0" Air/Gas Cool EXCHANGERS</u>					
TITLE	DIA.	ITEM NO:	HEAT NO:	SLAB NO:	MAT'L. SPEC.
HEAD:					
SHELL:	<u>1 1/2"</u>	<u>4</u>	<u>734288</u>		<u>SA-106.8</u>
					<u>X4</u>
PADS:					
SKIRT:					
SADDLES:					

7529.05x2

MATERIAL REPORT

DRAWN: DOUG
 DATE: 7/8/86

SCALE: NTS

APP'D:

ALCO GAS & OIL PRODUCTION EQUIPMENT LTD.

DWG. D-2900

Appendix L

REV. 0

	1	8	FF	-	22	FF
	1	8	FF	-	22	FF

RENNER

Stahl

Gründungs- und Stahlbau GmbH
Postfach 13 00
34109 Kassel
Deutschland

Tele: +49-5254-81-0 Fax: +49-5254-13066

ABNATELPHON ZUGANGS LE 02-11 Dokument-Nr. 10167801P Prof.Nr. 10167801P
INSPECTION CERTIFICATE EN 10204-3.1 No. du document: No. du certificat: 10167801P

Pos.	Stück	Maße	Länge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vielfachlänge
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 mult
			feet	lbs		PSI		
0010	50	1 1/4" NPS * Sched. 80 18 FT - 22 FT	1064,14	3126	734252	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.													
Poste	No. de coulée													
0007	734219	0,130	0,210	0,83	0,007	0,004	0,17	0,06	0,10	0,15	0,001	0,010	0,003	0,0001
0008	734288	0,140	0,225	0,84	0,009	0,005	0,13	0,04	0,11	0,18	0,001	0,010	0,003	0,0001
0010	734252	0,135	0,205	0,83	0,010	0,006	0,12	0,03	0,12	0,20	0,001	0,010	0,002	0,0001

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

Formelerggebnisse / 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
0007	734219	0,331	0,299	6,385	0,481
0008	734288	0,334	0,313	6,000	0,461
0010	734252	0,325	0,304	6,148	0,471

Produktanlyse [%] / Product analysis [%] / Analyses sur produit [%]

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
Item	Heat No.													
Poste	No. de coulée													
0007	734219	0,120	0,180	0,82	0,008	0,005	0,18	0,07	0,11	0,16	0,002	0,010	0,002	0,0002

CONFORMING TO SA 10 G.D

YEAR 2004-01 2005A

JOB # 2005-75289-05

ITEM # 4

SIGNED BY 05-01-23

Benteler Stahlrohr GmbH
Postfach 13 40
33203 Padernborn
Deutschland
Tel.: +49 5254 81-0 Fax: +49 5254 13600

Blatt: 3 /
Page: 3

Produktions-
No. du produit

05-2521

Document No.
No. du document

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

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

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
Item	Heat No.													
Poste	No. de coulée													
0007	734219	0,120	0,180	0,82	0,008	0,005	0,18	0,07	0,12	0,16	0,002	0,010	0,002	0,0001
0008	734288	0,150	0,220	0,84	0,008	0,004	0,11	0,03	0,10	0,15	0,001	0,009	0,002	0,0001
0008	734288	0,140	0,220	0,83	0,008	0,004	0,11	0,03	0,10	0,15	0,001	0,008	0,002	0,0001
0010	734252	0,140	0,160	0,84	0,010	0,005	0,11	0,04	0,11	0,18	0,001	0,010	0,002	0,0002
0010	734252	0,140	0,160	0,83	0,010	0,005	0,11	0,04	0,11	0,19	0,001	0,010	0,002	0,0001

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

CONFIRMING TO SA 106-8
YEAR 2004-05 A
JOB # 2005-7528-05
ITEM # 4
SIGNED BY 05-01-23

Formelergebnisse / Formule results / Résultats des formules

Pos.	Schmelzen-Nr	1. Formel	2. Formel	3. Formel	4. Formel
Item	Heat No.	1. Formula	2. Formula	3. Formula	4. Formula
Poste	No. de coulée	1. Formula	2. Formula	3. Formula	4. Formula
0007	734219	0,325	0,280	6,833	0,522
0007	734219	0,326	0,280	6,833	0,532
0008	734288	0,335	0,321	5,600	0,391
0008	734288	0,323	0,304	5,929	0,391
0010	734252	0,330	0,308	6,000	0,441
0010	734252	0,329	0,306	5,929	0,451

Driftformeln / Formules / 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:

PASSED

Augensichtkontrolle:

PASSED

Bliegeversuch:

PASSED

Maßkontrolle:

PASSED

Visual inspection:
Examen Visuel:

Bending test:
Essai de cintrage:

Dimensions examination:
Vérification des dimensions:

Benteler StahlRohr GmbH

Postfach 13 40

33043 Paderborn

Deutschland

Tel.: +49 5254 8140 Fax: +49 5254 18288

ABNAHMEZERTIFIKAT

INSPECTION CERTIFICATE EN 10204-3

CERTIFICAT DE RECEPTION EN 10204-3

Page 1
Page 2
Page 3

Document No.
N.º. du document

00001075

00001075

00001075

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'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 striction	Re/Rm
Anforderungen			mm	ReH	Rm	A2"	1. Formel	
Requirements				PSI	PSI	%	1. Formula	
Exigences				42061-71794	60191-110229	MIN 30	1. Formule	
0007	000001	734219	12,70 X 3,60	55985	69618	37,00		
0007	000002	734219	12,70 X 3,60	54389	69908	36,00		
0008	000001	734288	12,70 X 5,00	50618	70198	42,00		
0008	000002	734288	12,70 X 5,00	51053	69618	40,00		
0010	000001	734252	12,70 X 4,70	49603	68748	41,00		
0010	000002	734252	12,70 X 4,70	52069	68893	41,00		

Härteprüfung / Hardness test / Essai de dureté

Pos.	Proben-Nr.	Schmelzen-Nr.	Härte
Item	Specimen No.	Heat No.	Hardness
Poste	No. de l'éprouv.	No. de coulée	Dureté
Anforderungen			HRC
Requirements			HRC
Exigences			HRC
0007	000001	734219	MAX 200
0008	000001	734288	146
0010	000001	734252	147

CONFORMING TO SA 106-B

YEAR 2004-08 2005A

JCB # 2005-7529-05

ITEM # 4

SIGNED BY 05-01-23

Benteler Stahlbau AG
Postfach 13 40
35213 Pödingen
Deutschland
Tel.: +49 5254 81-0 Fax: +49 5254 13608

Blatt 5 /
Gesamt
Seiten

Bestell-Nr.
01 252167
Druck-Nr.
No. du document

ABNAHMEPROTOKOLL 3.1

INSPECTION CERTIFICATE 3.1

CERTIFICAT DE RECEPTION EN 10204-3.1

Restmagnetismus / Demagnetize / Démagnétiser

Pos. / Item / Poste: 0007, 0010, 0008

residual magnetic field intensity max 3.5 millitesla

Pos. Item Poste	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
0007		P.O. 103677	04-5359
0008		P.O. 103677	04-5359
0010		P.O. 103677	04-5359

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0007, 0008, 0010, 0008, 0010, 0008
NACE Standard: hardness acc. to NACE Standard MR0175 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

Beiblatt Produktkennzeichnung / Attachment product marking / Supplément marquage du produit

Pos. Item Poste	Produktkennzeichnung Product marking Marquage du produit
-----------------------	--

0007, 0008, 0010

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. 103677

FS = Farbezeichnung, colour marking, marquage par couleur FS = Farbezeichnung, paint pencilling, marquage par peinture FSD = Farbezeichnung, colour jet printer, imprimante à jet d'encre de couleur FS = Farbezeichnung, longitudinal bending, mar
longitudinal per peinture FKE = Ebenezeichnung, tag marking, marquage sur étiquette PS = Plattenzeichnung, die stamp, marquage par poinçonnage TS = Tintenstrahlzeichnung, ink jet spray marking, imprimante à jet d'encre

Unterschrift / Signature / Signature en chaine / Personne chargée : Mr Seelbach, Tel.: 05254/81-4281, Fax: 4289

Dinslaken, 15.02.2005, TEL.: 02064.623-572 FAX: 02064.623-575

Abnahmebeauftragter
Inspection representative

Contrôleur

JAN FREERKS / WAG

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. 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 stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.