Travel Sheet

Authorized Inspector to be given travel sheet prior to construction so that he can indicate hold points and Inspection Points.

"A"-Hold Point, "I"- Inspection Point, "R"-Revision, "W"- Witness Point

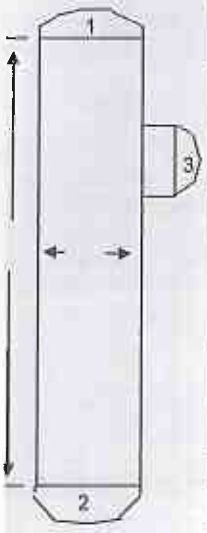
Hold Points established - Sign & Date _____

(Authorized Inspector)

Vessel Serial # 12771 DWG # V85-05 (A) #

Vessel Title: 8" Fuel Gas Scrubber CRN # F6388.231

ITEM		COMMENTS	AUTH Insp.,Hold Rev.,Witness POINTS	DATE FUNCTION COMPLETE & INSPECTORS INITIALS	
				QC INSPECTOR	AUTHORIZED INSPECTOR
APPROVED DRAWING				Nov 29,2012	
CALCULATIONS ON FILE				Nov 29,2012	
MATERIAL CHECKED AGAINST DRAWING MATERIAL LIST				Nov 29,2012	
MTR'S CHECKED				Nov 29,2012	
VESSEL LAYOUT				Nov 29,2012	
NOZZLES & FITTINGS	ORIENTATION			Dec 3,2012	
	RATINGS			Dec 3,2012	
FIT UP	NOZZLES&FITTINGS			Dec 6,2012	
	SHELL & HEAD			Dec 19,2012	
INTERNALS (tray,baffles,etc)				Dec 18,2012	
INTERNAL INSPECTION				Dec 18,2012	
WELD SIZES				Dec 20,2012	
WELDERS I.D.				Dec 20,2012	
EXTERNAL AFTER COMPLETION OF ALL WELDING				Dec 20,2012	
RADIOGRAPHS					
OTHER N.D.E.					
IMPACT TESTS					
POST WELD HEAT TREATMENT		YES: NO: √			
EXTERNAL BEFORE PWHT					
PWHT CHART CHECKED					
NAMEPLATE				Dec 28,2012	
HYDROSTATIC TEST				Dec 28,2012	
DATA REPORT				Dec 28,2012	
NONCONFORMANCES					



		SPECIFICATIONS	HEAT NUMBER	VERIFIED THICKNESS
SHELL	C1	SA-106-B	**1233174V**	8.1mm
	C2			
HEADS	1	SA-234-WPB	**55A-300-15-2**	7.16mm
	2	SA-516-70	**350401-15560**	19.05mm
	3			
REPADS	1			
	2			
	3			
	4			

	SPECIFICATIONS	SIZE	SCHEDULE
NOZZLES			
FITTINGS	SA-105	1", 2",3/4"	#3000 cplg.
TUBES			

540

6" Pipe A106

1233174V
B63L21092
B63L21092

HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST CERTIFICATE

(ACCORDING TO EN10204 3.1)

Add: 10 Dalixincun, Hengyang City, Hunan, P.R.China
P.C.:421001
Tel and Fax: +86 734 8873739
E-mail: hsiec@hysteeltube.com

CUSTMER	BHD TUBULAR LIMITED		CERTIFICATE NO.	C201224941-1	
CONTRACT-ITEM NO.	2211000445-01	P.O.NO. 110745	DATE:	2012-7-16	PAGE: 2/3
PRODUCT	SEAMLESS STEEL LINE PIPE		DELIVERY CONDITION	HR	
SPECIFICATION	SEE SPECIFICATION NOTE	HEAT TREATMENT			
GRADE	ASTM/ASME A106/SA106 B/API 5LB/NACE MR 0175/ISO 15156-2/MR-0103Soure Service/CSA Z245.1 GRADE290		DIMENSIONS	8"*STD*20FT	
TOTAL BUNDLES:	TOTAL PIECES:	TOTAL LENGTH: FT		TOTAL WEIGHT: MT	

NO.	HEAT No. LOT No.	Type	C	Si	Mn	Cr	Mo	W	Cu	Ni	P	Al	Sn	As	Pb	Sb	Nb	Ti	Zr	N	Bi	S	V	B	Ca	CEIIW	CEPCM	SUM1	SUM2	SUM3	R1	R2	R3
			*100								*1000											*10000				*100		*1000					
	P																																
1	1233174V	H	12	21	102	5	1		7	3	14	33					30	33				19	30	2		19		163	33	66			
	B63L21092	P	14	24	104	5	1		7	2	15	34					34	34				20	35	2		33		154	37.5	71.5			
	B63L21092	P	14	25	104	5	1		7	2	15	34					34	34				20	35	2		33		154	37.5	71.5			
		H																															
		P																															
		P																															
		H																															
		P																															
		P																															
		H																															
		P																															
		P																															
		H																															
		P																															
		P																															

NON-DESTRUCTIVE TEST				
POSITION	PIPE BODY	PIPE END	END SURFACE(GROOVE)	BEVELLING
NDT Type(Level)	EMI	MPI		ACCEPTABLE
				VISUAL & DIMENSION
LAMINAR				ACCEPTABLE
TEST RESULT	ACCEPTABLE	ACCEPTABLE	N/A	COATING
RESIDUAL MAGNETISM		N/A		
UT THICKNESS MEASUREMENT (50%)		N/A		
HYDROSTATIC TEST Min(psi/s)	2400/6	ACCEPTABLE		ACCEPTABLE

NOTES: H--HEAT ANALYSIS P--PRODUCT ANALYSIS CE--EQUIVALENT CARBON R--RATIO R1=Ca /S R2=Al /N R3=Mn/C

CEIIW=C+Mn/6+(Cr+Mo+V)/5+(Cu+Ni)/15 CEPCM=C+Si/30+(Mn+Cr+Cu)/20+Ni/60+Mo/15+V/10+5*B

SUM1=Cr+Cu+Mo+Ni+V SUM2=Nb+V SUM3=Nb+V+Ti

L4/L3/L2--ACCEPT LEVEL L4/L3/L2,NOTCH DEPTH IS 12.5% /10% /5% THE SPECIFIED WALL THICKNESS.

HENGYANG VALIN STEEL TUBE CO., LTD HUNAN CHINA

Ht#55A30015-2 8" STD WPB WELD CAP

INSPECTION CERTIFICATE

TO EN10204 3.1

Thai Benkan Co., Ltd.
58 Soi Wattanasi, Bangkru, Prapadaeng,
Samutprakarn, 10130 Thailand.

Purchaser : OCTF CORPORATION

E-No. MC-709 | Purchase Order No. 4910268 | Job No. | D M Y 11/05/2012 | Certificate No. T- 2012200406

No.		MFG. No.	Specification for Material Made from Seamless Pipe: ASTM A234-11/ASME SA234-10 Gr.WPB CSA Z245.1-09 Gr.290 CAT I SS — Product & Size (T*1)	Quantity	Heat Treatment (Note 1)	Specification for Inspection: ASME B16.9-2007,B16.25-2007 — Visual Examination: Good — Item No.	Dimensional Inspection: Good — Item No.
1		55A30012-1	C WPB 3 STD	13/795	N	0.0002	7515593
2		55A30015-2	C WPB 8 STD	77/230	N	0.0001	7515595
3		55A30015-1	C WPB 8 STD	18/230	N	0.0002	7515595
4		55A30012	C WPB 3 STD	237/795	N	0.0002	7515593
5		55A30015	C WPB 8 STD	98/230	N	0.0000	7515595

Specification / Material Heat No.		Chemical Composition % C (x100)	Si (x100)	Mn (x100)	P (x1000)	S (x1000)	Cu (x100)	Ni (x100)	Cr (x100)	Mo (x100)	V (x1000)	Nb (x1000)	C.E. (x100)	Tension Test *2 YS MPa	TS MPa	E %	HARDNESS MAX
Min.																	
Max.			10	29										240	416	30	197 HB : GOOD
		30		106	50	58	40	40	40	15	80	20			655		
1	J0L2773	19	22	86	15	7	1	2	4	7	0	0	38	318	500	39	
2	7-05725	19	23	83	6	2	3	2	2	1	3	<3	34	340	484	42	
3	J0L4905	19	22	78	15	4	1	1	5	7	<3	4	35	343	495	43	
4	81711	16	24	82	8	1	5	4	5	8	2	2	32	318	479	37	
5	J1KB093	20	18	76	24	9	2	1	4	1	<3	<3	34	319	473	47	

(Note 1) A : Hot formed with final temperature between 600 °C-980°C, Air Cooling N : Normalizing 910°C±0.5 HR. Air Cooling *N : Normalizing 910°C±0.5 HR. Air Cooling (Specification for material made from plate) S : Stress Relieving 675° C±0.5 HR. Air Cooling
NACE MR0175/ISO 15156-2 RS-2005 & MR0103-2010. The fittings was manufactured, sampled, tested and inspected in accordance with the specification, and was found to meet the requirements.

C.E. = C+[Mn/6+Si/24+Cu/15+Ni/20]/[C+1.5Mo+V+5(Nb)/5+5B] (CSA Spec.)

MAGNETIC PARTICLE EXAMINATION FOR TEE ONLY :

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

Quality Assurance Manager
Thai Benkan Co., Ltd.

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

Form TZ-6A/3

CERTIFICATE OF COMPLIANCE

edmonton exchanger
& manufacturing ltd.

5545-89 Street Edmonton, Alberta Canada T6E 5W9 www.edmontonexchanger.com tel 780.468.6722 • QC fax 780.466.4668 • sales fax 780.466.5155

Customer RJV GASFIELD LTD. PO 2918 Work Order C96097 Date 2012/09/17 CofC# 35910 Page 1 of 1

Item#	Description	Qty	Heat#	Brinell Hardn.
P96097-1	DISC(S) - 0.7500" NOM X 12" OD (Material Spec: SA 516-70 Normalized) Conforms to NACE MR0175 / ISO 15156-2 2009 Annex A Conforms to NACE MR0103 2007	7	G4225-275240623	MTR
		4	M13158-PA08203901	151
		21	M13160-PA08204002	151
		5	M13158-PA08267901	145
		13	350401-15560	MTR

Brinell Equipment: Newage Calibrated Pin
Brinell Hardness Tester

Material being supplied conforms to the latest ASME Code Section II, Part A, 2010 Edition, Addenda July 1, 2011. All welders and procedures are qualified to ASME Code Section IX.

Supplementary Examination - Items

Checked By _____
Conforms to
ASME Section VIII, Div. 1
2011a Edition
SEP 20 2012 Date

edmonton exchanger
& manufacturing ltd.
5545-89 Street Edmonton, Alberta Canada T6E 5W9 www.edmontonexchanger.com tel 780.468.6722 • QC fax 780.466.4668 • sales fax 780.466.5155

CERTIFICATE OF COMPLIANCE

MTR List

Customer RJV GASFIELD LTD. PO 2918 Work Order C96097 Date 2012/09/17 CofC# 35910

MTR ID	Pages	Heat#	Thickness	Material Grades
15709	5	350401-15560	.75"	SA 516-70 N
15933	5	M13158-PA08203901	.75"	SA 516-70 N
		M13160-PA08204002	.75"	SA 516-70 N
15934	1	M13158-PA08267901	.75"	SA 516-70 N
16082	11	G4225-275240623	.75"	SA 516-70 N

Heat#	Material Grades	MTR ID
350401-15560	SA 516-70 N	15709
G4225-275240623	SA 516-70 N	16082
M13158-PA08203901	SA 516-70 N	15933
M13158-PA08267901	SA 516-70 N	15934
M13160-PA08204002	SA 516-70 N	15933

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

DILLINGER HÜTTE

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991
MATERIAL TEST REPORT (MTR)

A10 Advice of dispatch No./ Date of dispatch: 368578-09.09.10

A08/ Manufacturer's order/ A03 Certificate No.: 357359-001

Sheet: 1/...

A05 Established inspecting body: DH

A06 Purchaser: EDMONTON STEEL,EDMON A07.1 No. ED10551-J1010-ER

Final receiver: EDMONTON STEEL,EDMON A07.2 No.

B01 Product: HOT ROLLED PLATES

B02/ Steel design.: SA516-70 SA20-S5

B03 Any suppl. requirements: ASME-II-A:07+A09
DIL-HUE-2:R30-2010-01-31

15709

B01-B99 Description of the product

B14 Item No.	B08 Number of pieces	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass KG	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
			INCH						
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350401	15517-01	
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350401	15517-02	
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350401	15517-03	
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350401	15560-01	
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350401	15560-02	
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350401	15560-03	
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350401	15608-02	
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350401	15608-03	
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350401	15626-03	
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350402	15169-01	
02	1	0,7500 x	120,50000 x	480,00000	5580	N	350402	15169-02	
**	11				61380				
***	11				61380				

B04 Product delivery condition

ITEM NO.: 02,05
N: HT: 1670 GR.F +36 -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 of the product

ITEM NO.: 02,05
STEEL DESIGNATION SA516 70 MTLTV SA516 60 MTLTV
HEAT NO. / TRADEMARK / ROLLED PLATE NO.-TEST NO. / INSPECTOR'S STAMP

A04 D H Manufacturer's mark

Z01/Z02/Z03 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

B. BALDAUF
Test House Manager

A H B Inspector's stamp

A01 AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Date 09.09.10 BM 1

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

DILLINGER HÜTTE

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991
MATERIAL TEST REPORT (MTR)

A10 Advice of dispatch No./ Date of dispatch: 368578-09.09.10

A08/ Manufacturer's order/ A03 Certificate No.: 357359-001 Sheet: 2/...

A05 Established inspecting body: DH

A06 Purchaser: EDMONTON STEEL,EDMON A07.1 No. ED10551-J1010-ER

Final receiver: EDMONTON STEEL,EDMON A07.2 No.

B01 Product: HOT ROLLED PLATES

B02/ Steel design.: SA516-70 SA20-S5

B03 Any suppl. requirements: ASME-II-A:07+A09
DIL-HUE-2:R30-2010-01-31

B07-B99 Further information about the product

ITEM NO.: 02,05
THICKNESS REDUCTION RATIO >= 3,0 IS FULFILLED (CF. A/SA20 PAR. 5.3)

C10-C29 Tensile test

B14 Item No.	B07.2 Heat No.	B07.1 Rol.plate/ Test No.	B05 Reference (heat) treatment	C01	C02/ C01	C03 Temp. GR.F	C10 KSI RP02	C11	C12 RM	C13	A % L0=8IN	C14-C15
02	350401	15517		K1	Q	RT	47,1		73,1		29	
02	350401	15560		K1	Q	RT	48,6		73,4		30	
02	350401	15608		K1	Q	RT	49,0		74,2		26	
02	350401	15626		K1	Q	RT	49,2		74,2		28	
02	350402	15169		K1	Q	RT	49,2		75,1		28	

C30-C39 Hardness test

B14 Item. No.	B07.2 Heat No.	B07.1 Rol.plate/ Test No.	B05 Reference (heat) treatment	C01	C02/C01	C03 Temp. GR.F	C30 Method of test	C35	C31 Individual values			C32 Mean value
02	350401	15517		K1	O	RT	HBW 10/3000	HB	137	137	135	136
02	350401	15560		K1	O	RT	HBW 10/3000	HB	137	137	138	137
02	350401	15608		K1	O	RT	HBW 10/3000	HB	141	140	139	140
02	350401	15626		K1	O	RT	HBW 10/3000	HB	138	139	139	139
02	350402	15169		K1	O	RT	HBW 10/3000	HB	141	142	140	141

A04 D H Manufacturer's mark

Z01/Z02/Z03 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

B. BALDAUF
Test House Manager

AHB Inspector's stamp

A01 AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Date 09.09.10 BM 1

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

DILLINGER HÜTTE

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991
MATERIAL TEST REPORT (MTR)

A10 Advice of dispatch No./ Date of dispatch: 368578-09.09.10

A08/ Manufacturer's order/ A03 Certificate No.: 357359-001 Sheet: 3/...

A05 Established inspecting body: DH

A06 Purchaser: EDMONTON STEEL,EDMON A07.1 No. ED10551-J1010-ER

Final receiver: EDMONTON STEEL,EDMON A07.2 No.

B01 Product: HOT ROLLED PLATES

B02/ Steel design. SA516-70 SA20-S5

B03 Any suppl. requirements ASME-II-A:07+A09
DIL-HUE-2:R30-2010-01-31

C40-C49 Impact test

B14 Item No.	B07.2 Heat No.	B07.1 Rol.plate/ Test No.	B05 Reference (heat) treatment	C01	C02/ C01	C03 Temp. GR.F	C41 Width of test piece	C40 Type of test piece	C44 Testing method	C46 Energy	C45	C42 Individual values AV=FT.LBF			C43 Mean value
02	350401	15517		K1	LV	-51		CHP-V			AV	98	113	201	137
02	350401	15560		K1	LV	-51		CHP-V			AV	195	205	162	187
02	350401	15608		K1	LV	-51		CHP-V			AV	137	131	130	133
02	350401	15626		K1	LV	-51		CHP-V			AV	122	212	190	175
02	350402	15169		K1	LV	-51		CHP-V			AV	159	118	201	159

C70-C99 Chemical composition % - Heat analysis

B07.2 Heat	C70	C	SI	MN	P	S	N	CU	MO	NI	CR	V	NB	SN	TI
350401	Y	0,170	0,364	1,17	0,008	0,0013	0,0085	0,036	0;011	0,055	0,026	0,001	0,000	0,001	0,002
350402	Y	0,174	0,386	1,18	0,010	0,0012	0,0075	0,037	0,011	0,064	0,027	0;001	0,000	0,001	0,003

B07.2 Heat	C70	B	CA	AL-T
350401	Y	0,0000	0,0020	0,044
350402	Y	0,0002	0,0013	0,033

C94 Heat analysis Carbon equivalent / Alloying restrictions

B07.2 Heat									
350401	FO-02=	0,38	FO-51=	0,001	FO-55=	0,13	FO-78=	0,04	FO-91= 6,9
350402	FO-02=	0,39	FO-51=	0,001	FO-55=	0,14	FO-78=	0,04	FO-91= 6,8

C95 Ladle treatment

ITEM NO.: 02,05
HEAT OF THE INDICATED ITEM: VACUUM DEGASSED / SULPHIDE SHAPE CONTROL

A04 D H Manufacturer's mark

Z01/Z02/Z03 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

B. BALDAUF
Test House Manager

A H B Inspector's stamp

A01 AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Date 09.09.10 BM 1

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

DILLINGER HÜTTE

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991
MATERIAL TEST REPORT (MTR)

A10 Advice of dispatch No./ Date of dispatch: 368578-09.09.10

A08/ Manufacturer's order/ A03 Certificate No.: 357359-001

Sheet: 4/...

A05 Established inspecting body: DH

A06 Purchaser: EDMONTON STEEL,EDMON — A07.1 No.: ED10551-J1010-ER

Final receiver: EDMONTON STEEL,EDMON — A07.2 No.:

B01 Product: HOT ROLLED PLATES

B02/ Steel design.: SA516-70 SA20-S5

B03 Any suppl. requirements: ASME-II-A:07+A09
DIL-HUE-2:R30-2010-01-31

C95 Further information about ladle treatment

ITEM NO.: 02,05
CALCIUM TREATED

C70-C99 Chemical composition % - Product analysis

B07.2 Heat	B07.1 Test No.	C01	C	SI	MN	P	S	N	CU	MO	NI	CR	V	NB	SN	TI
350401	15608	K1	0,165	0,361	1,16	0,008	0,0015	0,0079	0,035	0,010	0,054	0,026	0,001	0,000	0,001	0,001
350402	14890	K1	0,168	0,389	1,17	0,010	0,0011	0,0065	0,036	0,011	0,065	0,027	0,001	0,001	0,001	0,003
350402	15169	K1	0,172	0,376	1,15	0,009	0,0010	0,0068	0,036	0,010	0,061	0,027	0,001	0,000	0,000	0,002

B07.2 Heat	B07.1 Test No.	C01	B	CA	AL-T
350401	15608	K1	0,0002	0,0019	0,045
350402	14890	K1	0,0002	0,0017	0,032
350402	15169	K1	0,0002	0,0015	0,035

C94 Product analysis Carbon equivalent / Alloying restrictions

B07.2 Heat	B07.1 Test No.	C01						
350401	15608	K1	FO-02=	0,37	FO-51=	0,001	FO-55=	0,13
350402	14890	K1	FO-02=	0,38	FO-51=	0,002	FO-55=	0,14
350402	15169	K1	FO-02=	0,38	FO-51=	0,001	FO-55=	0,13

C94 Carbon equivalent formula / Alloying restrictions

FO-02 = C+(MN/6)+(CR+MO+V)/5+(NI+CU)/15
FO-51 = V +NB
FO-55 = CU+MO+NI+CR
FO-78 = CR+MO
FO-91 = MN/C

A04 D H Manufacturer's mark

Z01/Z02/Z03 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

B. BALDAUF
Test House Manager

A H B Inspector's stamp

A01 AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Date 09.09.10 BM 1

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DILLINGER HÜTTE

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991
MATERIAL TEST REPORT (MTR)

A10 Advice of dispatch No./ Date of dispatch: 368578-09.09.10

A08/ Manufacturer's order/ A03 Certificate No.: 357359-001 Sheet: 5

A05 Established inspecting body: DH

A06 Purchaser: EDMONTON STEEL,EDMON A07.1 No. ED10551-J1010-ER

Final receiver: EDMONTON STEEL,EDMON A07.2 No.

B01 Product: HOT ROLLED PLATES

B02/ Steel design. SA516-70 SA20-SS

B03 Any suppl. requirements: ASME-II-A:07+A09
DIL-HUE-2:R30-2010-01-31

D01 Marking and identification, surface appearance, shape and dimensional properties

ITEM NO.: 02,05
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

MTR APPROVED EDMONTON EXCHANGER

A04 D H Manufacturer's mark

Z01/Z02/Z03 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

B. BALDAUF
Test House Manager

A H B Inspector's stamp

A01 AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Date 09.09.10 BM 1

검 사 증 명 서
MILL TEST CERTIFICATE

현대제철주식회사
HYUNDAI STEEL COMPANY
당진공장 : 충남 당진군 송악면 고대리 167-32
Godae-Ri, Songak-Myun, Dangjin-Gun, Chungnam, Korea

주문번호 Our Order No : F101200028

품 명 Commodity : Hot Rolled Steel Plate

고객사 Customer : EDMONTON EXCHANGER

증명서 번호 Certificate No : 20110113-PS-001-008

제품규격 Specification : SA516-70-N

주문자 Contractor : HYUNDAI CORPORATION

발행일자 Date of Issue : 2011-02-10

제품치수 Dimension	수량 Quantity	중량 Weight (LBS)	제강번호 Heat NO	제품번호 Product NO	Position	인장시험 Tensile Test							충격시험 Impact Test V-Notch -50°F		화학성분 Chemical Composition(%)																		
						YP	TS	EL	YP-EL	RA	YR	N	Energy	SF	Division	C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	N	Nb	Ti	V	Sol-Al	CEQ
						(KSI)		(%)	(%)	(%)	(%)		(Ft-Lbs)	(%)		.4	.3	.3	.4	.4	.2	.2	.4	.3	.2	.4	.3	.3	.3	.3	.3
** Heat Treatment : Normalized : 1634.0°F 32 Min.																															
0.75" x 120.5" x 480"	1	12,299	M13158	PA08203901	T	54.0	78.1	28					1: 107 2: 139 3: 181 A: 142		L C	1,542 1,588	338 310	1,131 1,116	152 163	14 32	19 18	15 16	2 4	126 132	0 0	35 41	13 12	1 1	1 1	35 30	399 400
0.75" x 120.5" x 480"	1	12,299	M13158	PA08203902	T	54.0	78.1	28					1: 107 2: 139 3: 181 A: 142		L C	1,542 1,588	338 310	1,131 1,116	152 163	14 32	19 18	15 16	2 4	126 132	0 0	35 41	13 12	1 1	1 1	35 30	399 400
0.75" x 120.5" x 480"	1	12,299	M13158	PA08203903	T	54.0	78.1	28					1: 107 2: 139 3: 181 A: 142		L C	1,542 1,588	338 310	1,131 1,116	152 163	14 32	19 18	15 16	2 4	126 132	0 0	35 41	13 12	1 1	1 1	35 30	399 400
0.75" x 120.5" x 480"	1	12,299	M13160	PA08204001	T	52.8	77.0	28					1: 142 2: 249 3: 211 A: 200		L C	1,562 1,508	310 304	1,143 1,169	149 147	28 30	20 19	17 17	2 2	141 139	0 0	31 37	13 12	1 1	1 1	29 31	408 404

NOTE
- Division – C:Check analysis, L:Ladle analysis
- Position – T:Top, M:Middle, B:Bottom
- Tensile test – Direction:Transverse, Gauge length:200mm (Rectangular), YP method : 0.2% off-set
- Impact test – Direction:Longitudinal, Size:10mmX10mm, SF:Shear fracture

- The plate is fully killed and fine grained steel. Basic oxygen process and Vacuum degassing process were applied.
- Applicable Code is ASME Section II Part A 2010 Edition. The Certificate has been issued in compliance with EN 10204(2004) 3. 1.

상기의 제품은 검사의 결과 지정된 규격에 합격한 것을 증명합니다.
WE HEREBY CERTIFY THAT THE MATERIAL HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND THE REQUIREMENTS

Signature

SURVEYOR TO : CHIEF OF QUALITY ASSURANCE TEAM

15933

검 사 증 명 서
MILL TEST CERTIFICATE

연대제철주식회사
HYUNDAI STEEL COMPANY
당진공장: 충남 당진군 송악면 고대리 167-32
Godae-ri, Songak-Myun, Danglin-Gun, Chungnam, Korea

주문번호 Our Order No : F101200028

품 명 Commodity : Hot Rolled Steel Plate

고객사 Customer : EDMONTON EXCHANGER

증명서 번호 Certificate No : 20110113-PS-001-009

제품규격 Specification : SA516-70-N

주문자 Contractor : HYUNDAI CORPORATION

발행일자 Date of Issue : 2011-02-10

Unit 2:x10 3:x1,000 4:x10,000 5:x100,000

제품치수 Dimension	수량 Quantity	중량 Weight (LBS)	제강번호 Heat NO	제품번호 Product NO	Position	인장시험 Tensile Test							충격시험 Impact Test V-Notch -50°F		Division	화학성분 Chemical Composition(%)															
						YP	TS	EL	YP-EL	RA	YR	N	Energy	SF		C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	N	Nb	Ti	V	Sol -Al	CEQ
						(KSI)		(%)	(%)	(%)	(%)		(Ft-Lbs)	(%)		4	3	3	4	4	2	2	4	3	2	4	3	3	3	3	3
0.75"x120.5"x480"	1	12,299	M13160	PA08204002	T	52.8	77.0	28					1: 142		L	1,562	310	1,143	149	28	20	17	2	141	0	31	13	1	1	29	408
													2: 249		C	1,508	304	1,169	147	30	19	17	2	139	0	37	12	1	1	31	404
													3: 211																	
													A: 200																	
0.75"x120.5"x480"	1	12,299	M13160	PA08204003	T	52.8	77.0	28					1: 142		L	1,562	310	1,143	149	28	20	17	2	141	0	31	13	1	1	29	408
													2: 249		C	1,508	304	1,169	147	30	19	17	2	139	0	37	12	1	1	31	404
													3: 211																	
													A: 200																	
0.75"x120.5"x480"	1	12,299	M13160	PA08204101	T	52.7	77.2	29					1: 151		L	1,562	310	1,143	149	28	20	17	2	141	0	31	13	1	1	29	408
													2: 243		C	1,491	314	1,182	140	25	19	16	1	135	0	38	12	1	1	33	404
													3: 47																	
													A: 147																	
0.75"x120.5"x480"	1	12,299	M13160	PA08204102	T	52.7	77.2	29					1: 151		L	1,562	310	1,143	149	28	20	17	2	141	0	31	13	1	1	29	408
													2: 243		C	1,491	314	1,182	140	25	19	16	1	135	0	38	12	1	1	33	404
													3: 47																	
													A: 147																	

NOTE

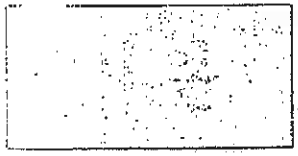
* Division - C:Check analysis, L:Ladle analysis
* Position - T:Top, M:Middle, B:Bottom
* Tensile test - Direction:Transverse, Gauge length:200mm (Rectangular), YP method : 0.2% off-set
* Impact test - Direction:Longitudinal, Size:10mmX10mm, SF:Shear fracture

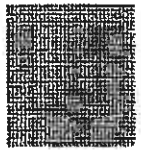
* The plate is fully killed and fine grained steel. Basic oxygen process and Vacuum degassing process were applied.
*Applicable Code is ASME Section II Part A 2010 Edition. The Certificate has been issued in compliance with EN 10204(2004):3. 1.

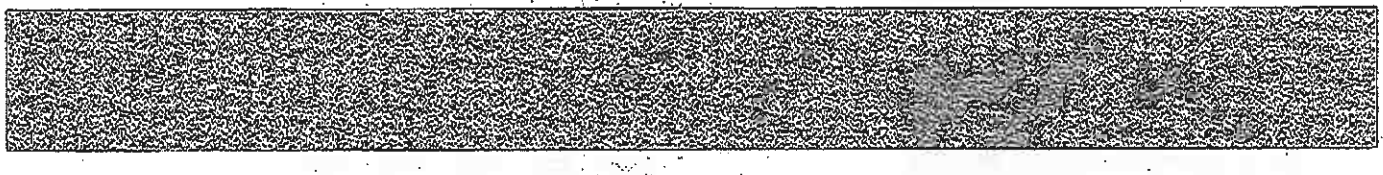
상기의 제품은 검사의 결과 지정된 규격에 합격한 것을 증명합니다.
WE HEREBY CERTIFY THAT THE MATERIAL HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND THE REQUIREMENTS

Signature

SURVEYOR TO : CHIEF OF QUALITY ASSURANCE TEAM







검 사 증 명 서
MILL TEST CERTIFICATE

연대제철주식회사
HYUNDAI STEEL COMPANY
당진공장 : 충남 당진군 송악면 고대리 157-32
Godae-Ri, Songak-Myun, Dangjin-Gun, Chungnam, Korea

주문번호 Our Order No : F101200028

품 명 Commodity : Hot Rolled Steel Plate

고객사 Customer : EDMONTON EXCHANGER

증명서 번호 Certificate No : 20110113-PS-001-010

제품규격 Specification : SA516-70-N

주문자 Contractor : HYUNDAI CORPORATION

발행일자 Date of Issue : 2011-02-10

단위 Unit 1:kg 2:MT 3:×1,000 4:×10,000 5:×100,000

제품치수 Dimension	수량 Quantity	중량 Weight (LBS)	제강번호 Heat NO	제품번호 Product NO	Position	인장시험 Tensile Test							충격시험 Impact Test V Notch -50 °F		Division	화학성분 Chemical Composition(%)															
						YP	TS	EL	YP-EL	RA	YR	N	Energy	SF		C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	N	Nb	Ti	V	-50°F -N	CEQ
						(KSI)		(%)	(%)	(%)	(%)		(Ft-Lbs)	(%)		4	3	3	4	4	2	2	4	3	2	4	3	3	3	3	3
0.75"x120.5"x480"	1	12,299	M13160	PA08204103	T	52.7	77.2	29					1:151 2:243 3:47 A:147		L C	1,582 1,491	310 314	1,143 1,182	149 140	28 25	20 19	17 16	2 1	141 135	0 0	31 38	13 12	1 1	1 1	29 33	406 404
0.75"x120.5"x480"	1	12,299	M13158	PA08204201	T	53.6	78.0	29					1:147 2:224 3:200 A:190		L C	1,542 1,484	338 321	1,131 1,128	152 142	14 20	19 18	15 15	2 1	126 124	0 0	35 35	13 12	1 1	1 1	35 33	399 391
0.75"x120.5"x480"	1	12,299	M13158	PA08204202	T	53.6	78.0	29					1:147 2:224 3:200 A:190		L C	1,542 1,484	338 321	1,131 1,128	152 142	14 20	19 18	15 15	2 1	126 124	0 0	35 35	13 12	1 1	1 1	35 33	399 391
0.75"x120.5"x480"	1	12,299	M13158	PA08204203	T	53.6	78.0	29					1:147 2:224 3:200 A:190		L C	1,542 1,484	338 321	1,131 1,128	152 142	14 20	19 18	15 15	2 1	126 124	0 0	35 35	13 12	1 1	1 1	35 33	399 391

NOTE

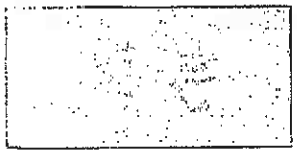
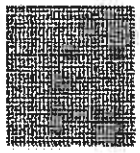
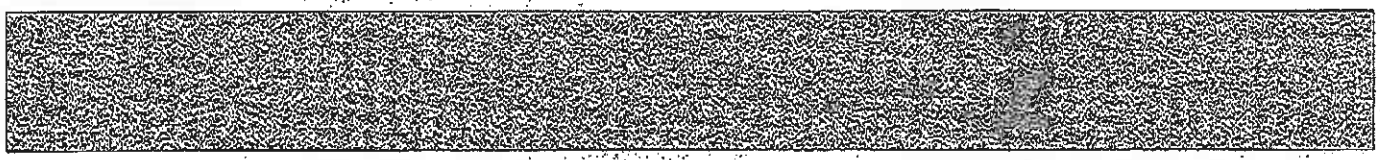
* Division – C:Check analysis, L:Ladle analysis
* Position – T:Top, M:Middle, B:Bottom
* Tensile test – Direction:Transverse, Gauge length:200mm (Rectangular), YP method : 0.2% off-set
* impact test – Direction:Longitudinal, Size:10mmX10mm, SF:Shear fracture

* The plate is fully killed and fine grained steel. Basic oxygen process and Vacuum degassing process were applied.
* Applicable Code is ASME Section II Part A 2010 Edition. The Certificate has been issued in compliance with EN 10204(2004) 3. 1.

상기의 제품은 검사의 결과 지정된 규격에 합격한 것을 증명합니다.
WE HEREBY CERTIFY THAT THE MATERIAL HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND THE REQUIRSMENTS

Signature

SURVEYOR TO : CHIEF OF QUALITY ASSURANCE TEAM

검 사 증 명 서
MILL TEST CERTIFICATE

연대제철주식회사
HYUNDAI STEEL COMPANY
당진공장 : 충남 당진군 송악면 고대리 167-32
Godae-Ri, Songak-Myun, Dangjin-Gun, Chungnam, Korea

주문번호 Our Order No : F101200028

품 명 Commodity : Hot Rolled Steel Plate

제품규격 Specification : SA516-70-N

고객사 Customer : EDMONTON EXCHANGER

주문자 Contractor : HYUNDAI CORPORATION

증명서 번호 Certificate No : 20110113-PS-001-011

발행일자 Date of Issue : 20[illegible] ORIGINAL

제품치수 Dimension	수량 Quantity	중량 Weight (LBS)	제강번호 Heat NO	제품번호 Product NO	Position	인장시험 Tensile Test YP (KSI)	TS	EL (%)	YP-EL (%)	RA (%)	YR (%)	N	충격시험 Impact Test V Notch -50°F Energy (Ft-Lbs)	SF (%)	Division	화학성분 Chemical Composition(%) 단위 Unit 2:x100 3:x1,000 4:x10,000 5:x100,000 C 4	Si 3	Mn 3	P 4	S 4	Cr 2	Ni 2	B 4	Cu 3	Mo 2	N 4	Nb 3	Ti 3	V 3	Sol-Al 3	CEQ 3
0.75"x120.5"x480"	1	12,299	M13158	PA08204301	T	53.1	77.8	31					1:214		L	1,542	338	1,131	152	14	19	15	2	126	0	35	13	1	1	35	399
													2:232		C	1,553	333	1,158	143	16	18	15	1	122	0	37	13	1	2	35	403
													3:210																		
													A:218																		
0.75"x120.5"x480"	1	12,299	M13158	PA08204302	T	53.1	77.8	31					1:214		L	1,542	338	1,131	152	14	19	15	2	126	0	35	13	1	1	35	399
													2:232		C	1,553	333	1,158	143	16	18	15	1	122	0	37	13	1	2	35	403
													3:210																		
													A:218																		
0.75"x120.5"x480"	1	12,299	M13158	PA08204303	T	53.1	77.8	31					1:214		L	1,542	338	1,131	152	14	19	15	2	126	0	35	13	1	1	35	399
													2:232		C	1,553	333	1,158	143	16	18	15	1	122	0	37	13	1	2	35	403
													3:210																		
													A:218																		
0.75"x120.5"x480"	1	12,299	M13158	PA08204401	T	53.6	77.9	28					1:207		L	1,542	338	1,131	152	14	19	15	2	126	0	35	13	1	1	35	399
													2:216		C	1,575	323	1,142	156	23	19	16	2	129	0	39	13	1	1	32	405
													3:217																		
													A:213																		

NOTE

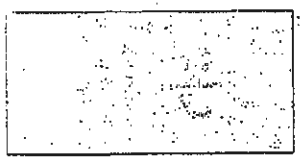
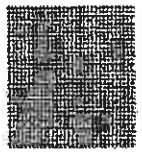
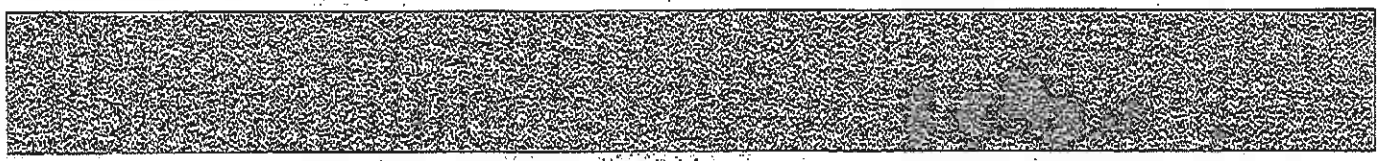
* Division – C:Check analysis, L:Ladle analysis
* Position – T:Top, M:Middle, B:Bottom
* Tensile test – Direction:Transverse, Gauge length:200mm (Rectangular), YP method : 0.2% off-set
* Impact test – Direction:Longitudinal, Size:10mmX10mm, SF:Shear fracture

* The plate is fully killed and fine grained steel. Basic oxygen process and Vacuum degassing process were applied.
* Applicable Code is ASME Section II Part A 2010 Edition. The Certificate has been issued in compliance with EN 10204(2004) 3. 1.

상기의 제품은 검사의 결과 지정된 규격에 합격한 것을 증명합니다.
WE HEREBY CERTIFY THAT THE MATERIAL HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND THE REQUIREMENTS

Signature C. S. Ha

SURVEYOR TO : CHIEF OF QUALITY ASSURANCE TEAM

검 사 증 명 서
MILL TEST CERTIFICATE

연대제철주식회사
HYUNDAI STEEL COMPANY
당진공장 : 충남당진군 송악면 고대리 167-32
Godae-Ri, Songak-Myun, Dangjin-Gun, Chungnam, Korea

주문번호 Our Order No : F101200028

품 명 Commodity : Hot Rolled Steel Plate

제품규격 Specification : SA516-70-N

고객사 Customer : EDMONTON EXCHANGER

주문자 Contractor : HYUNDAI CORPORATION

증명서 번호 Certificate No. : 20110113-PS-001-012

발행일자 Date of Issue : 20-Jan-11

ORIGINAL

제품치수 Dimension	수량 Quantity	중량 Weight (LBS)	제강번호 Heat NO	제품번호 Product NO	Position	인장시험 Tensile Test YP (KSI)	TS (KSI)	EL (%)	YP-EL (%)	RA (%)	YR (%)	N	충격시험 Impact Test V Notch -50°F Energy (Ft-Lbs)	SF (%)	Division	화학성분 Chemical Composition(%) 단위환산 2:x100 3:x1,000 4:x10,000 5:x100,000 C 4	Si 3	Mn 3	P 4	S 4	Cr 2	Ni 2	B 4	Cu 3	Mo 2	N 4	Nb 3	Ti 3	V 3	Sol -Al 3	CEQ 3
0.75" x 120.5" x 480"	1	12,299	MI3158	PA08204402	T	53.6	77.9	28					1:207		L	1,542	338	1,131	152	14	19	15	2	126	0	35	13	1	1	35	399
													2:216		C	1,575	323	1,142	156	23	19	16	2	129	0	39	13	1	1	32	405
													3:217																		
													A:213																		
0.75" x 120.5" x 480"	1	12,299	MI3158	PA08204403	T	53.6	77.9	28					1:207		L	1,542	338	1,131	152	14	19	15	2	126	0	35	13	1	1	35	399
													2:216		C	1,575	323	1,142	156	23	19	16	2	129	0	39	13	1	1	32	405
													3:217																		
													A:213																		

*** Sub Total(004) *** 18 221,382(LBS)

** Heat Treatment : Normalized : 1634.0°F 37 Min.

*** Grade Total *** 45 446,171(LBS) Ceq. G=C+Mn/6+(Ni+Cu)/15+(Cr+Mo+V)/5

*** Last Item ***

MTR APPROVED EDMONTON EXCHANGER

NOTE

* Division - C:Check analysis, L:Ladle analysis
* Position - T:Top, M:Middle, B:Bottom
* Tensile test - Direction:Transverse, Gauge length:200mm (Rectangular), YP method : 0.2% off-set
* Impact test - Direction:Longitudinal, Size:10mmX10mm, SF:Shear fracture

* The plate is fully killed and fine grained steel. Basic oxygen process and Vacuum degassing process were applied.
* Applicable Code is ASME Section II Part A 2010 Edition, The Certificate has been issued in compliance with EN 10204(2004) 3. 1.

상기의 제품은 검사의 결과 지정된 규격에 합격한 것을 증명합니다.
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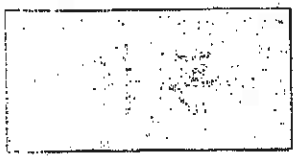
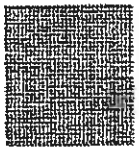
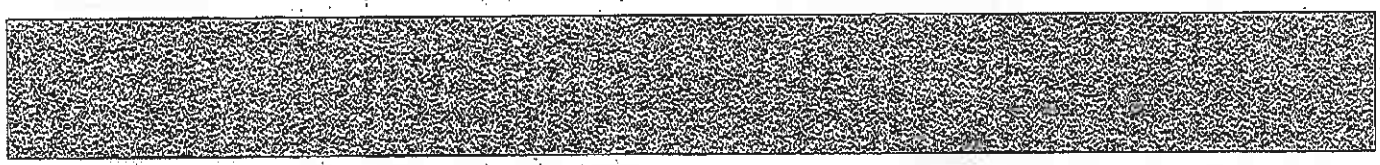
Signature C.S. Ha

SURVEYOR TO : CHIEF OF QUALITY ASSURANCE TEAM







검 사 증 명 서
MILL TEST CERTIFICATE

연대제철주식회사
HYUNDAI STEEL COMPANY
당진공장 : 충남 당진군 송악면 고대리 167-32
Godae-Ri, Songak-Myun, Dangjin-Gun, Chungnam, Korea

주문번호 Our Order No : F101200026
품 명 Commodity : Hot Rolled Steel Plate
제품규격 Specification : SA516-70-N
고객사 Customer : EDMONTON EXCHANGER
주문자 Contractor : HYUNDAI CORPORATION
증명서 번호 Certificate No : 20110129-PS-004-015
발행일자 Date of Issue : 2011-02-10

제품치수 Dimension	수량 Quantity	중량 Weight (LBS)	제강번호 Heat NO	제품번호 Product NO	Position	인장시험 Tensile Test YP (KSI)	TS (KSI)	EL (%)	YP-EL (%)	RA (%)	YR (%)	N	충격시험 Impact Test V-Notch,-50°F Energy (Ft-Lbs)	SF (%)	Division	C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	Nb	Ti	V	Sol -Al	CEQ
																단위 Unit 2:x100 3:x1,000 4:x10,000 5:x100,000														
**Heat Treatment : Normalized : 1634.0°F 32 Min.																														
0.75" x 120.5" x 480"	1	12,299	M13158	PA08267901	T	54.6	79.4	27					1: 148		L	1,542	338	1,131	152	14	19	15	2	126	0	35	13	1	1	35	399
													2: 89		C	1,733	320	1,181	168	33	16	14	3	127	0	29	16	1	3	29	421
													3: 88																	
													A: 108																	
0.75" x 120.5" x 480"	1	12,299	M13158	PA08267902	T	54.6	79.4	27					1: 148		L	1,542	338	1,131	152	14	19	15	2	126	0	35	13	1	1	35	399
													2: 89		C	1,733	320	1,181	168	33	16	14	3	127	0	29	16	1	3	29	421
													3: 88																	
													A: 108																	
0.75" x 120.5" x 480"	1	12,299	M13158	PA08267903	T	54.6	79.4	27					1: 148		L	1,542	338	1,131	152	14	19	15	2	126	0	35	13	1	1	35	399
													2: 89		C	1,733	320	1,181	168	33	16	14	3	127	0	29	16	1	3	29	421
													3: 88																	
													A: 108																	
***Sub Total(004) ***	3	36,897(LBS)																												
**Heat Treatment : Normalized : 1634.0°F 37 Min.																														

NOTE
* Division - C:Check analysis, L:Ladle analysis
* Position - T:Top, M:Middle, B:Bottom
* Tensile test - Direction:Transverse, Gauge length:200mm (Rectangular), YP method : 0.2% off-set
* Impact test - Direction:Longitudinal, Size:10mmX10mm, SF:Shear fracture

* The plate is fully killed and fine grained steel. Basic oxygen process and Vacuum degassing process were applied.
*Applicable Code is ASME Section II Part A 2010 Edition. The Certificate has been issued in compliance with EN 10204(2004) 3.1.

MTR APPROVED EDMONTON EXCHANGER

상기의 제품은 검사의 결과 지정된 규격에 합격한 것을 증명합니다.
WE HEREBY CERTIFY THAT THE MATERIAL HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND THE REQUIREMENTS

Signature C. S. Ha
SURVEYOR TO : CHIEF OF QUALITY ASSURANCE TEAM

15934

B

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

{ AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1 }

注文者 SHIPPER : HANWA CO., LTD.
注文者照合番号 REFERENCE No. : 228-38501090
契約番号 CONTRACT No. : 1-831-H1-5-4-AT01
商品名 COMMODITY : HOT ROLLED STEEL PLATES
規格 SPECIFICATION : ASME SA-516 GRADE 70-E10
文書番号 DOCUMENT No. :
需要家 CUSTOMER : EDMONTON EXCHANGER GROUP OF COMPANIES
需要家管理番号 CUSTOMER'S CONTROL No. :

本社 HEAD OFFICE : 〒100-8071 東京都千代田区丸の内二丁目6番1号 2-6-1, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8071, JAPAN
君津製鐵所 KIMITSU WORKS : 〒299-1141 千葉県君津市君津1番地 1, KIMITSU, KIMITSU-CITY, CHIBA-PREF. 299-1141 JAPAN

証明書番号 CERTIFICATE No. : P-13163 頁 PAGE : 51
発行年月日 DATE OF ISSUE : 2011-04-06
1001 2**DM***** *****CE** E3001P0701 E07

寸法 DIMENSION mm,":inch,':feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	位置 LOCATION ORIENTATION ※1	引張試験 TENSILE TEST 位置 LOCATION ORIENTATION ※1	耐力 降伏点 YS 0.2% KSI	引張強さ TS KSI	伸び EL %	% ※2	試験片 TEST PIECE ※1	衝撃試験 IMPACT TEST 位置 LOCATION ORIENTATION ※1	2V - 50F FT. LB 平均値 AVG	個々値 EACH	HBW	C ×100	Si ×100	Mn ×100	P ×1000	S ×1000	Cu ×100	Ni ×100	Cr ×100	Mo ×100	Nb ×1000	V ×100	TAl ×100	Ceq.1 ×100	熱処理状態 CONDITION OF SUPPLY ※7
05			G4028	TESTED-PL										295															
0.75"X96.5"X480"	1	4467	15889	275240525	TC	1	55	76	33		T	L	F301	303	AVG 154	15	37	144	6	1	1	1	2	0	11	0	31	40	
														37				2	4		0	8	0	0					
														305															
																P15	38	145	6	1	1	1	1	0	12	0		40	
																	36		3			15	0	0					
06			G4224	TESTED-PL										304															
0.75"X120.5"X480"	1	5579	11498	275240613	TC	1	56	78	33		T	L	F264	187	AVG 157	16	39	145	8	1	2	1	2	0	12	0	34	41	
														34				2	5		0	8	0	0					
														300															
																P15	39	147	9	1	1	1	2	0	13	0		40	
																	37		4			10	0	0					
06			G4224	FROM										304															
0.75"X120.5"X480"	2	11158	11498	275240614 TO 275240615	TC	1	56	78	33		T	L	F264	187	AVG 157	16	39	145	8	1	2	1	2	0	12	0	34	41	
														34				2	5		0	8	0	0					
														300															
																P15	39	147	9	1	1	1	2	0	13	0		40	
																	37		4			10	0	0					

注 釈 NOTES
※1 Location Orientation 位置・方向, T:頂部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45° 方向 45Deg. to the Longitudinal Axis
※2 GL 標点距離 Gage Length, A: 50mm 平形試験片 Rectangular, B: 50mm 丸形試験片 Round, C: 70mm 平形試験片 Rectangular, D: 70mm 丸形試験片 Round, E: 80mm 平形試験片 Rectangular, F: 80mm 丸形試験片 Round, G: 200mm, H: 2", I: 8", J: $5.65\sqrt{So}$, K: $4.\sqrt{So}$
※3 RA : 絞り Reduction of Area, YR:降伏比 Yield Ratio,
※4 A:合格 Acceptable.
※5 F:標準寸法 FULL SIZE, 2:2.5mm, 3:3.3mm, 4:3.33mm, 5:5.0mm, 6:6.67mm, 7:7.5mm, 8:6.7mm, 9:製品板厚 PlateThickness,
※6 P:製品分析 Product Analysis,
※7 N:焼準 Normalized, Q:焼入れ Quenched, T:焼戻し Tempered, CR: Controlled Rolled, NIC: NIC Process/TMC Process, CLC: CLC Process/TMC Process, AR: As Rolled, TMR: TMR Process/TMC Process, NR: Normalizing Rolled
SH:延性破面率 Shear Fracture, CF:脆性破面率 Crystallinity Fracture, LE:横膨出 Lateral Expansion, AGS:オーステナイト粒度 Austenite Grain Size, FGS:フェライト粒度 Ferrite Grain Size, SR: Stress Relieved/Post Weld Heat Treatment
最低 Temperature C: °C F: °F

上記注文品は御指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

16082

T. Adachi
君津製鐵所厚板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

AY404470702

B

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

本社 : 〒100-8071 東京都千代田区丸の内二丁目6番1号
HEAD OFFICE : 2-6-1, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8071, JAPAN
君津製鉄所 : 〒299-1141 千葉県君津市君津1番地
KIMITSU WORKS : 1, KIMITSU, KIMITSU-CITY, CHIBA-PREF, 299-1141 JAPAN

注文者 SHIPPER : HANWA CO., LTD.
注文者照合番号 REFERENCE No. : 228-38501090
契約番号 CONTRACT No. : 1-831-H1-5-4-AT01
商品名 COMMODITY : HOT ROLLED STEEL PLATES
規格 SPECIFICATION : ASME SA-516 GRADE 70-E10
文書番号 DOCUMENT No. :

(AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)

需要家 CUSTOMER : EDMONTON EXCHANGER GROUP OF C-OMPANIES
需要家管理番号 CUSTOMER'S CONTROL No. :

証明書番号 CERTIFICATE No. : P-13163
頁 PAGE : 52
発行年月日 DATE OF ISSUE : 2011-04-06
1001
2**DM*****
*****CEW**
E3001P07Q1 E07

寸法 DIMENSION mm, ":inch, ':feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	LOCATION ORIENTATION ※1	引張試験 TENSILE TEST GL ※2	耐力 降伏点 YS 0.2% KSI	引張強さ TS KSI	伸び EL %	※3	BENDING TEST DIRECTION ※4	LOCATION ORIENTATION ※1	SIZE ※2	衝撃試験 IMPACT TEST 2V-50F FT.LB 平均値 AVG	個々値 EACH	HBW	化学成分 CHEMICAL COMPOSITION % C ×100	Si ×100	Mn ×100	P ×1000	S ×1000	Cu ×100	Ni ×100	Cr ×100	Mo ×100	Nb ×100 ※1000	V ×100	TAl ×100	Cop ×100	製造方法 MANUFACTURING PROCESS ※7
																	N ×1000	TE3 ※1000	TE1 ×100		SN ※100	CA ×10000	B ×10000	Ti ×100		Pcm ×100	Sol. Al ×100	Ceq. 2 ×100	
06			G4224	TESTED-PL											282	AVG	16	39	145	8	1	2	1	2	0	12	0	34	41	
0.75"X120.5"X480"	1	5579	11499	275240610	TC	56	78	28		TL	F	280	280	277	156		34	2	5		0	8	0	0					
																P	15	39	147	9	1	1	1	2	0	13	0		40	
																		37		4			10	0	0					
06			G4224	FROM											282	AVG	16	39	145	8	1	2	1	2	0	12	0	34	41	
0.75"X120.5"X480"	2	11158	11499	275240611 TO 275240612	TC	56	78	28		TL	F	280	280	277	156		34	2	5		0	8	0	0					
																P	15	39	147	9	1	1	1	2	0	13	0		40	
																		37		4			10	0	0					
06			G4224	TESTED-PL											303	AVG	16	39	145	8	1	2	1	2	0	12	0	34	41	
0.75"X120.5"X480"	1	5579	11502	275240601	TC	56	77	29		TL	F	300	293	305	158		34	2	5		0	8	0	0					
																P	15	39	147	9	1	1	1	2	0	13	0		40	
																		37		4			10	0	0					

注 釈 NOTES
※1 Location Orientation 位置・方向, T:頭部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45° 方向 45Deg. to the Longitudinal Axis
※2 GL 標点距離 Gage Length, A: 50mm 平形試験片 Rectangular, B: 50mm 丸形試験片 Round, C: 70mm 平形試験片 Rectangular, D: 70mm 丸形試験片 Round, E: 80mm 平形試験片 Rectangular, F: 80mm 丸形試験片 Round, G: 200mm, H: 2", I: 8", J: $5.65\sqrt{So}$, K: $4\sqrt{So}$
※3 RA : 絞り Reduction of Area, YR:降伏比 Yield Ratio, ※4 A:合格 Acceptable, ※5 F:標準寸法 FULL SIZE, 2: 2.5mm, 3: 3.3mm, 4: 3.33mm, 5: 5.0mm, 6: 6.67mm, 7: 7.5mm, 8: 8.7mm, 9: 製品板厚 PlateThickness, ※6 P:製品分析 Product Analysis,
※7 N:焼準 Normalized, Q:焼入れ Quenched, T:焼戻し Tempered, CR: Controlled Rolled, NIC: NIC Process/TMC Process, CLC: CLC Process/TMC Process, AR: As Rolled, TMR: TMR Process/TMC Process, NR: Normalizing Rolled
SH:剪断破面率 Shear Fracture, CF:脆性破面率 Crystallinity Fracture, LE:板膨出 Lateral Expansion, AGS:オーステナイト粒度 Austenite Grain Size, FGS:フェライト粒度 Ferrite Grain Size, SR : Stress Relieved/Post Weld Heat Treatment
温度 Temperature C: °C F: °F

上記注文品は御指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

T. Adachi
君津製鉄所厚板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

AX4044897082

B

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

(AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)

注文者 SHIPPER : HANWA CO., LTD.
注文書照合番号 REFERENCE No. : 228-38501090
契約番号 CONTRACT No. : 1-831-H1-5-4-AT01
商品名 COMMODITY : HOT ROLLED STEEL PLATES
規格 SPECIFICATION : ASME SA-516 GRADE 70-E10
文書番号 DOCUMENT No. :
需要家 CUSTOMER : EDMONTON EXCHANGER GROUP OF COMPANIES
需要家管理番号 CUSTOMER'S CONTROL No. :

本社 HEAD OFFICE : 〒100-8071 東京都千代田区丸の内二丁目6番1号 2-6-1, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8071, JAPAN
君津製鐵所 KIMITSU WORKS : 〒299-1141 千葉県君津市君津1番地 1, KIMITSU, KIMITSU-CITY, CHIBA-PREF, 299-1141 JAPAN

証明書番号 CERTIFICATE No. : P-13163
頁 PAGE : 53
発行年月日 DATE OF ISSUE : 2011-04-06
1001
2**DM*****
*****CEW**
E3001P07Q1 E07

寸法 DIMENSION mm,':inch,':feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	LOCATION ORIENTATION ※1	引張試験 TENSILE TEST 耐力降伏点 YS 0.2% KSI	引張強さ TS KSI	伸び EL %	% ※3	BEND TEST BY/AT	LOCATION ORIENTATION ※1	SIZE ※2	衝撃試験 IMPACT TEST 2V - 50F FT.LB 平均値 AVG	個々値 EACH	HBW	化学成分 CHEMICAL COMPOSITION % C	Si	Mn	P	S	Cu	Ni	Cr	Mo	Nb	V	Ti	Ceq.1	HEAT TREATMENT CONDITION ※7
06			G4224	FROM										303		16	39	145	8	1	2	1	2	0	12	0	34	41	
0.75"X120.5"X480"	2	11158	11502	275240602	TC	56	77	29			TL	F	300	293	AVG 158		34	2	5		0	8	0	0					
				TO 275240603										305															
																P15	39	147	9	1	1	1	2	0	13	0		40	
																	37		4			10	0	0					
06			G4224	TESTED-PL										288		16	39	145	8	1	2	1	2	0	12	0	34	41	
0.75"X120.5"X480"	1	5579	11506	275240607	TC	56	77	28			TL	F	291	299	AVG 155		34	2	5		0	8	0	0					
														287															
																P15	39	147	9	1	1	1	2	0	13	0		40	
																	37		4			10	0	0					
06			G4224	FROM										288		16	39	145	8	1	2	1	2	0	12	0	34	41	
0.75"X120.5"X480"	2	11158	11506	275240608	TC	56	77	28			TL	F	291	299	AVG 155		34	2	5		0	8	0	0					
				TO 275240609										287															
																P15	39	147	9	1	1	1	2	0	13	0		40	
																	37		4			10	0	0					

注釈 NOTES
※1 Location Orientation 位置・方向, T:頂部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45° 方向 45Deg. to the Longitudinal Axis
※2 GL 標点距離 Gage Length, A: 50mm 平形試験片 Rectangular, B:50mm丸形試験片 Round, C: 70mm 平形試験片 Rectangular, D: 70mm丸形試験片 Round, E: 80mm 平形試験片 Rectangular, F: 80mm丸形試験片 Round, G: 200mm, H: 2", I: 8", J: 5.65$\sqrt{So}$, K: 4.$\sqrt{So}$
※3 RA: 絞り Reduction of Area, YR:降伏比 Yield Ratio, ※4 A:合格 Acceptable, ※5 F: 標準寸法 FULL SIZE, 2: 2.5mm, 3: 3.3mm, 4: 3.33mm, 5: 5.0mm, 6: 6.67mm, 7: 7.5mm, 8: 6.7mm, 9: 製品部厚 PlateThickness, ※6 P:製品分析 Product Analysis,
※7 N:焼準 Normalized, Q:焼入れ Quenched, T:焼戻し Tempered, CR: Controlled Rolled, NIC: NIC Process/TMC Process, CLC: CLC Process/TMC Process, AR: As Rolled, TMR: TMR Process/TMC Process, NR: Normalizing Rolled
SH:剪性破面率 Shear Fracture, CF:脆性破面率 Crystallinity Fracture, LE:横膨出 Lateral Expansion, AGS:オーステナイト粒度 Austenite Grain Size, FGS:フェライト粒度 Ferrite Grain Size, SR: Stress Relieved/Post Weld Heat Treatment
焼戻 Temperature T: °C F: °F

上記注文品は御指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

T. Adachi
君津製鐵所厚板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

AX4044907082

B

注文者 SHIPPER : HANWA CO., LTD.
注文者照合番号 REFERENCE No. : 228-38501090
契約番号 CONTRACT No. : 1-831-H1-5-4-AT01
商品名 COMMODITY : HOT ROLLED STEEL PLATES
規格 SPECIFICATION : ASME SA-516 GRADE 70-E10
文書番号 DOCUMENT No. :
需要家 CUSTOMER : EDMONTON EXCHANGER GROUP OF C-OMPANIES

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

(AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)

本社 HEAD OFFICE : 〒100-8071 東京都千代田区丸の内二丁目6番1号 2-6-1, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8071, JAPAN
君津製鐵所 KIMITSU WORKS : 〒299-1141 千葉県君津市君津1番地 1, KIMITSU, KIMITSU-CITY, CHIBA-PREF. 299-1141 JAPAN

証明書番号 CERTIFICATE No. : P-13163
頁 PAGE : 54
発行年月日 DATE OF ISSUE : 2011-04-06
需要家管理番号 CUSTOMER'S CONTROL No. : 1001 2**DM***** *****CEW** E3001P07Q1 E07

寸法 DIMENSION mm,":inch,':feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	LOCATION ORIENTATION ※1	CL ※2	引張試験 TENSILE TEST 耐力降伏点 YS 0.2% KSI	引張強さ TS KSI	伸び EL %	% ※3	BEND TEST RESULT	LOCATION ORIENTATION ※1	SIZE	衝撃試験 IMPACT TEST 2V - 50F FT.LB 平均値 AVG	個々値 EACH	HBW	化学成分 CHEMICAL COMPOSITION % C ×100	Si ×100	Mn ×100	P ×1000	S ×1000	Cu ×100	Ni ×100	Cr ×100	Mo ×100	Nb ×100	V ×100	TAl ×100	Ceq.1 ×100	熱処理の状態 CONDITION OF SUPPLY ※7
06			G4224	TESTED-PL																									
0.75"X120.5"X480"	1	5579	11507	275240604	TC	L	56	78	29		T	L	F	285	266	AVG	16	39	145	8	1	2	1	2	0	12	0	34	41	
															308	157		34	2	5		0	8	0	0					
															282															
																	P	15	39	147	9	1	1	1	2	0	13	0		40	
																			37		4			10	0	0				
06			G4224	FROM											266	AVG	16	39	145	8	1	2	1	2	0	12	0	34	41	
0.75"X120.5"X480"	2	11158	11507	275240605	TC	L	56	78	29		T	L	F	285	308	157		34	2	5		0	8	0	0					
				TO 275240606											282															
																	P	15	39	147	9	1	1	1	2	0	13	0		40	
																			37		4			10	0	0				
06			G4224	TESTED-PL											291	AVG	16	39	145	8	1	2	1	2	0	12	0	34	41	
0.75"X120.5"X480"	1	5579	11510	275240616	TC	L	55	77	31		T	L	F	292	303	156		34	2	5		0	8	0	0					
															283															
																	P	15	39	147	9	1	1	1	2	0	13	0		40	
																			37		4			10	0	0				

注 釈 NOTES
※1 Location Orientation 位置・方向, T:頭部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45° 方向 45Deg. to the Longitudinal Axis
※2 CL 標点距離 Gage Length, A:50mm 平形試験片 Rectangular, B:50mm 丸形試験片 Round, C:70mm 平形試験片 Rectangular, D:70mm 丸形試験片 Round, E:80mm 平形試験片 Rectangular, F:80mm 丸形試験片 Round, G:200mm, H:2", I:8", J:5.65$\sqrt{So}$, K:4.$\sqrt{So}$
※3 RA :絞り Reduction of Area, YR:降伏比 Yield Ratio, ※4 A:合格 Acceptable, ※5 F:標準寸法 FULL SIZE, 2:2.5mm, 3:3.3mm, 4:3.33mm, 5:5.0mm, 6:6.67mm, 7:7.5mm, 8:6.7mm, 9:製品板厚 PlateThickness, ※6 P:製品分析 Product Analysis,
※7 N:焼準 Normalized, Q:焼入れ Quenched, T:焼戻し Tempered, CR:Controlled Rolled, NIC:NIC Process/TMC Process, CLC:CLC Process/TMC Process, AR:As Rolled, TMR:TMR Process/TMC Process, NR:Normalizing Rolled
SH:延性破面率 Shear Fracture, CP:脆性破面率 Crystallinity Fracture, LE:横膨出 Lateral Expansion, AGS:オーステナイト粒度 Austenite Grain Size, FGS:フェライト粒度 Ferrite Grain Size, SR:Stress Relieved/Post Weld Heat Treatment
温度 Temperature C: °C P: °F

上記注文品は御指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

J. Adachi

君津製鐵所厚板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

AY4035107002

B

注文者 SHIPPER : HANWA CO., LTD.
注文者照合番号 REFERENCE No. : 228-38501090
契約番号 CONTRACT No. : 1-831-H1-5-4-AJ01
商品名 COMMODITY : HOT ROLLED STEEL PLATES
規格 SPECIFICATION : ASME SA-516 GRADE 70-E10
文書番号 DOCUMENT No. :

新日本製鐵株式會社
Nippon Steel Corporation
本社 HEAD OFFICE : 〒100-8071 東京都千代田区丸の内二丁目6番1号 2-6-1, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8071, JAPAN
君津製鐵所 KIMITSU WORKS : 〒299-1141 千葉県君津市君津1番地 1, KIMITSU, KIMITSU-CITY, CHIBA-PREF. 299-1141 JAPAN

鋼材検査証明書
INSPECTION CERTIFICATE

(AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)

証明書番号 CERTIFICATE No. : P-13163 頁 PAGE : 55
発行年月日 DATE OF ISSUE : 2011-04-06
需要家 CUSTOMER : EDMONTON EXCHANGER GROUP OF COMPANIES
需要家管理番号 CUSTOMER'S CONTROL No. : 1001 2**DM***** *****CEW** E3001P07Q1 E07

寸法 DIMENSION mm,':inch,':feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	引張試験 TENSILE TEST: LOCATION ORIENTATION ※1	耐力降伏点 YS 0.2% KSI	引張強さ TS KSI	伸び EL %	※2	曲げ試験 BEND TEST 合否	衝撃試験 IMPACT TEST: LOCATION ※1	SIZE ※2	2V - 50F FT.LB 平均値 AVG	個々値 EACH	HBW	化学成分 CHEMICAL COMPOSITION %: C ×100	Si ×100	Mn ×100	P ×1000	S ×1000	Cu ×100	Ni ×100	Cr ×100	Mo ×100	Nb ×100	V ×100	Ti ×100	Ceq.1 ×100	熱処理 CONDITION OF SUPPLY ※7
06			G4224	FROM																								
0.75"X120.5"X480"	2	11158	11510	275240617	TC	55	77	31			TL	F292	291	AVG	16	39	145	8	1	2	1	2	0	12	0	34	41	
				TO									303			34	2	5		0	8	0	0					
				275240618									283															
															P15	39	147	9	1	1	1	2	0	13	0		40	
																37		4			10	0	0					
06			G4225	TESTED-PL																								
0.75"X120.5"X480"	1	5579	11512	275240631	TC	56	77	29			TL	F285	289	AVG	16	38	144	9	2	2	2	2	0	13	0	34	41	
													285		155	35	2	6		0	11	0	0					
													282															
															P16	38	144	8	2	2	2	2	0	13	0		41	
																38		6			12	0	0					
06			G4225	FROM																								
0.75"X120.5"X480"	2	11158	11512	275240632	TC	56	77	29			TL	F285	289	AVG	16	38	144	9	2	2	2	2	0	13	0	34	41	
				TO									285		155	35	2	6		0	11	0	0					
				275240633									282															
															P16	38	144	8	2	2	2	2	0	13	0		41	
																38		6			12	0	0					

注釈 NOTES
※1 Location Orientation 位置 - 方向, T:頂部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45° 方向 45deg. to the Longitudinal Axis
※2 GL 標点距離 Gage Length, A: 50mm 平形試験片 Rectangular, B: 50mm 丸形試験片 Round, C: 70mm 平形試験片 Rectangular, D: 70mm 丸形試験片 Round, E: 80mm 平形試験片 Rectangular, F: 80mm 丸形試験片 Round, G: 200mm, H: 2", I: 8", J: 5.65$\sqrt{So}$, K: 4.$\sqrt{So}$
※3 RA : 絞り Reduction of Area, YR:降伏比 Yield Ratio, ※4 A:合格 Acceptable, ※5 F:標準寸法 FULL SIZE, 2:2.5mm, 3:3.3mm, 4:3.33mm, 5:5.0mm, 5:6.67mm, 7:7.5mm, 8:6.7mm, 9:製品板厚 PlateThickness, ※6 P:製品分析 Product Analysis,
※7 N:焼準 Normalized, Q:焼入れ Quenched, T:焼戻し Tempered, CR: Controlled Rolled, NIC: NIC Process/TMC Process, CLC: CLC Process/TMC Process, AR: As Rolled, TMR: TMR Process/TMC Process, NR: Normalizing Rolled
SH:剪性破面率 Shear Fracture, CF:脆性破面率 Crystallinity Fracture, LE:横膨出 Lateral Expansion, AGS:オーステナイト粒度 Austenite Grain Size, FGS:フェライト粒度 Ferrite Grain Size, SR: Stress Relieved/Post Weld Heat Treatment
熱処理 Temperature C: °C F: °F

上記注文品は御指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

T. Adachi
君津製鐵所厚板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

AY4035207082

B

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

本　　社：〒100-8071　東京都千代田区丸の内二丁目6番1号
HEAD OFFICE：2-6-1, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8071, JAPAN
君津製鉄所：〒299-1141　千葉県君津市君津1番地
KIMITSU WORKS：1, KIMITSU, KIMITSU-CITY, CHIBA-PREF. 299-1141 JAPAN

注文者 SHIPPER：HANWA CO., LTD.
注文者照合番号 REFERENCE No.：228-38501090
契約番号 CONTRACT No.：1-831-H1-5-4-AT01
商品名 COMMODITY：HOT ROLLED STEEL PLATES
規格 SPECIFICATION：ASME SA-516 GRADE 70-E10 (AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)
文書番号 DOCUMENT No.：
需要家 CUSTOMER：EDMONTON EXCHANGER GROUP OF COMPANIES
需要家管理番号 CUSTOMER'S CONTROL No.：1001 2**DM***** *****CEW** E3001P07Q1 E07

証明書番号 CERTIFICATE No.：P-13163　PAGE：56
発行年月日 DATE OF ISSUE：2011-04-06

寸法 DIMENSION mm,':inch,':feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	LOCATION ORIENTATION ※1	GL ※2	引張試験 TENSILE TEST 耐力 YS 0.2% KSI	引張強さ TS KSI	伸び EL %	% ※3	BEND TEST 合否	LOCATION ORIENTATION ※1	SIZE ※2	衝撃試験 IMPACT TEST 2V-50F FT.LB 平均値 AVG	個々値 EACH	HBW	化学成分 CHEMICAL COMPOSITION % C ×100	Si ×100	Mn ×100	P ×1000	S ×1000	Cu ×100	Ni ×100	Cr ×100	Mo ×100	Nb ×100	V ×100	TAl ×100	Ceq.1 ×100	CONDITION OF SUPPLY ※7
06			G4225	TESTED-PL																								
0.75"X120.5"X480"	1	5579	11514	275240634	TC	1	56	77	32			TL	F	289	269	AVG	16	38	144	9	2	2	2	2	0	13	0	34	41	
														296	157			35	2	6		0	11	0	0				
														303															
																P	16	38	144	8	2	2	2	2	0	13	0		41	
																		38		6			12	0	0				
06			G4225	FROM																								
0.75"X120.5"X480"	2	11158	11514	275240635	TC	1	56	77	32			TL	F	289	269	AVG	16	38	144	9	2	2	2	2	0	13	0	34	41	
				TO 275240636										296	157			35	2	6		0	11	0	0				
														303															
																P	16	38	144	8	2	2	2	2	0	13	0		41	
																		38		6			12	0	0				
06			G4225	TESTED-PL																								
0.75"X120.5"X480"	1	5579	11518	275240622	TC	1	56	77	29			TL	F	281	277	AVG	16	38	144	9	2	2	2	2	0	13	0	34	41	
														289	156			35	2	6		0	11	0	0				
														278															
																P	16	38	144	8	2	2	2	2	0	13	0		41	
																		38		6			12	0	0				

注釈 NOTES ※1 Location Orientation 位置・方向, T:頂部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45° 方向 45Deg. to the Longitudinal Axis
※2 GL 標点距離 Gage Length, A:50mm 平形試験片 Rectangular, B:50mm 丸形試験片 Round, C:70mm 平形試験片 Rectangular, D:70mm 丸形試験片 Round, E:80mm 平形試験片 Rectangular, F:80mm 丸形試験片 Round, G:200mm, H:2", I:8", J:5.65$\sqrt{So}$, K:4.$\sqrt{So}$
※3 RA:絞り Reduction of Area, YR:降伏比 Yield Ratio, ※4 A:合格 Acceptable, ※5 F:標準寸法 FULL SIZE, 2:2.5mm, 3:3.3mm, 4:3.33mm, 5:5.0mm, 6:6.67mm, 7:7.5mm, 8:6.7mm, 9:製品板厚 PlateThickness, ※6 P:製品分析 Product Analysis,
※7 N:焼準 Normalized, Q:焼入れ Quenched, T:焼戻し Tempered, CR:Controlled Rolled, NIC:NIC Process/TMC Process, CLC:CLC Process/TMC Process, AR:As Rolled, TMR:TMR Process/TMC Process, NR:Normalizing Rolled
SH:延性破面率 Shear Fracture, CF:脆性破面率 Crystallinity Fracture, LE:横拡出 Lateral Expansion, AGS:オーステナイト粒度 Austenite Grain Size, FGS:フェライト粒度 Ferrite Grain Size, SR:Stress Relieved/Post Weld Heat Treatment
温度 Temperature C: °C F: °F

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T. Adachi
君津製鉄所厚板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

AY4035307082

B

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

本　　社：〒100-8071 東京都千代田区丸の内二丁目6番1号
HEAD OFFICE：2-6-1, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8071, JAPAN
君津製鐵所：〒299-1141 千葉県君津市君津1番地
KIMITSU WORKS：1, KIMITSU, KIMITSU-CITY, CHIBA-PREF. 299-1141 JAPAN

注文者 SHIPPER：HANWA CO., LTD.
注文者照合番号 REFERENCE No.：228-38501090
契約番号 CONTRACT No.：1-831-H1-5-4-AT01
商品名 COMMODITY：HOT ROLLED STEEL PLATES
規格 SPECIFICATION：ASME SA-516 GRADE 70-E10 (AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)
文書番号 DOCUMENT No.：
需要家 CUSTOMER：EDMONTON EXCHANGER GROUP OF COMPANIES
需要家管理番号 CUSTOMER'S CONTROL No.：

証明書番号 CERTIFICATE No.：P-13163　頁 PAGE：57
発行年月日 DATE OF ISSUE：2011-04-06
1001　2**DM*****
*****CEW**
E3001P0701 E07

寸法 DIMENSION mm,":inch,':feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	LOCATION ORIENTATION ※1	GL ※2	引張試験 TENSILE TEST 耐力降伏点 YS 0.2% KSI	引張強さ TS KSI	伸び EL %	% ※3	BEND TEST ※4※5	LOCATION ORIENTATION ※1	SIZE ※5	衝撃試験 IMPACT TEST 2V-50F FT.LB 平均値 AVG	個々値 EACH	HBW	化学成分 CHEMICAL COMPOSITION % C ×100 ≤100	Si ×100	Mn ×100	P ×1000	S ×1000	Cu ×100	Ni ×100	Cr ×100	Mo ×100	Nb ×100 ≤1000	V ×100 ≤1000	TAl ×100	Ceq.1 ×100	熱処理条件 CONDITION OF SUPPLY
																	N ×1000 ≤4000	TE3 ×1000	TE1 ×100		SN ×100	CA ×10000	B ×10000	Ti ×100		Pcm ×100	Sol.Al ×100	Ceq.2 ×100	※7
06			G4225	FROM																								
0.75"X120.5"X480"	2	11158	11518	275240623	TC	L	56	77	29		T	L	F	281	277	AVG	16	38	144	9	2	2	2	2	0	13	0	34	41	
				TO										289		156		35	2	6		0	11	0	0					
				275240624										278																
																P	16	38	144	8	2	2	2	2	0	13	0		41	
																		38		6			12	0	0					
06			G4225	TESTED-PL																								
0.75"X120.5"X480"	1	5579	11520	275240625	TC	L	56	77	29		T	L	F	266	253	AVG	16	38	144	9	2	2	2	2	0	13	0	34	41	
														266		156		35	2	6		0	11	0	0					
														280																
																P	16	38	144	8	2	2	2	2	0	13	0		41	
																		38		6			12	0	0					
06			G4225	FROM																								
0.75"X120.5"X480"	2	11158	11520	275240626	TC	L	56	77	29		T	L	F	266	253	AVG	16	38	144	9	2	2	2	2	0	13	0	34	41	
				TO										266		156		35	2	6		0	11	0	0					
				275240627										280																
																P	16	38	144	8	2	2	2	2	0	13	0		41	
																		38		6			12	0	0					

注釈 NOTES
※1 Location Orientation 位置・方向, T:頭部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45° 方向 45Deg. to the Longitudinal Axis
※2 GL 標点距離 Gage Length, A:50mm 平形試験片 Rectangular, B:50mm 丸形試験片 Round, C:70mm 平形試験片 Rectangular, D:70mm 丸形試験片 Round, E:80mm 平形試験片 Rectangular, F:80mm 丸形試験片 Round, G:200mm, H:2", I:6", J:5.65$\sqrt{So}$, K:4.$\sqrt{So}$
※3 RA:絞り Reduction of Area, YR:降伏比 Yield Ratio, ※4 A:合格 Acceptable, ※5 F:標準寸法 FULL SIZE, 2:2.5mm, 3:3.3mm, 4:3.33mm, 5:5.0mm, 6:6.67mm, 7:7.5mm, 8:6.7mm, 9:製品板厚 PlateThickness, ※6 P:製品分析 Product Analysis,
※7 N:焼準 Normalized, Q:焼入れ Quenched, T:焼戻し Tempered, CR:Controlled Rolled, NIC:NIC Process/TMC Process, CLC:CLC Process/TMC Process, AR:As Rolled, TMR:TMR Process/TMC Process, NR:Normalizing Rolled
SH:剪性破面率 Shear Fracture, CF:脆性破面率 Crystallinity Fracture, LE:横膨出 Lateral Expansion, AGS:オーステナイト粒度 Austenite Grain Size, FGS:フェライト粒度 Ferrite Grain Size, SR:Stress Relieved/Post Weld Heat Treatment
温度 Temperature

上記注文品は御指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

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T. Adachi
君津製鐵所厚板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

AX4035407082

B

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

(AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)

注文者 SHIPPER : HANWA CO., LTD.
注文者照合番号 REFERENCE No. : 228-38501090
契約番号 CONTRACT No. : 1-831-H1-5-4-AT01
商品名 COMMODITY : HOT ROLLED STEEL PLATES
規格 SPECIFICATION : ASME SA-516 GRADE 70-E10
文書番号 DOCUMENT No. :
需要家 CUSTOMER : EDMONTON EXCHANGER GROUP OF COMPANIES
需要家管理番号 CUSTOMER'S CONTROL No. :

本社 HEAD OFFICE : 〒100-8071 東京都千代田区丸の内二丁目6番1号 2-6-1, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8071, JAPAN
君津製鐵所 KIMITSU WORKS : 〒299-1141 千葉県君津市君津1番地 1, KIMITSU, KIMITSU-CITY, CHIBA-PREF. 299-1141 JAPAN

証明書番号 CERTIFICATE No. : P-13163 頁 PAGE 58
発行年月日 DATE OF ISSUE : 2011-04-06
1001 2**DM***** *****CEW** E3001P07Q1 E07

寸法 DIMENSION mm,':inch,':feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	LOCATION ORIENTATION ※1	引張試験 TENSILE TEST GL	耐力降伏点 YS 0.2% KSI	引張強さ TS KSI	伸び EL %	% ※3	BEND TEST 曲げ試験	LOCATION ORIENTATION ※1	衝撃試験 IMPACT TEST SIZE	2V - 50F FT. LB 平均値 AVG	個々値 EACH	HBW	化学成分 CHEMICAL COMPOSITION % C ×100	Si ×100	Mn ×100	P ×1000	S ×1000	Cu ×100	Ni ×100	Cr ×100	Mo ×100	Nb ×100	V ×100	TAl ×100	Ceq. I ×100	Ceq. II ×100	熱処理 HEAT TREATMENT
																	N ×1000	TE3	TE1 ×100		SN ×100	CA ×10000	B ×10000	Ti ×100		Pcm ×100	Sol. Al ×100	Ceq. Z ×100	
06			G4225	TESTED-PL																										
0.75'X120.5'X480'	1	5579	11522	275240619	TC1	56	77	28			TLF	289	289	289	AVG 155	16	38	144	9	2	2	2	2	0	13	0	34	41		
														278			35	2	6		0	11	0	0						
																P16	38	144	8	2	2	2	2	0	13	0		41		
																	38		6			12	0	0						
06			G4225	FROM																										
0.75'X120.5'X480'	2	11158	11522	275240620 TO 275240621	TC1	56	77	28			TLF	289	289	289	AVG 155	16	38	144	9	2	2	2	2	0	13	0	34	41		
														278			35	2	6		0	11	0	0						
																P16	38	144	8	2	2	2	2	0	13	0		41		
																	38		6			12	0	0						
06			G4225	TESTED-PL																										
0.75'X120.5'X480'	1	5579	11526	275240628	TC1	55	77	29			TLF	290	288	288	AVG 156	16	38	144	9	2	2	2	2	0	13	0	34	41		
														295			35	2	6		0	11	0	0						
																P16	38	144	8	2	2	2	2	0	13	0		41		
																	38		6			12	0	0						

注釈 NOTES ※1 Location Orientation 位置・方向, T:頂部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45° 方向 45Deg. to the Longitudinal Axis
※2 GL 標点距離 Gage Length, A: 50mm 平形試験片 Rectangular, B: 50mm 丸形試験片 Round, C: 70mm 平形試験片 Rectangular, D: 70mm 丸形試験片 Round, E: 80mm 平形試験片 Rectangular, F: 80mm 丸形試験片 Round, G: 200mm, H: 2", I: 8", J: $5.65\sqrt{So}$, K: $4\sqrt{So}$
※3 RA:絞り Reduction of Area, YR:降伏比 Yield Ratio, ※4 A:合格 Acceptable, ※5 F:標準寸法 FULL SIZE, 2:2.5mm, 3:3.3mm, 4:3.32mm, 5:5.0mm, 6:6.67mm, 7:7.5mm, 8:6.7mm, 9:製品板厚 PlateThickness, ※6 P:製品分析 Product Analysis,
※7 N:焼準 Normalized, Q:焼入れ Quenched, T:焼戻し Tempered, CR: Controlled Rolled, NIC: NIC Process/TMC Process, CLC: CLC Process/TMC Process, AR: As Rolled, TMR: TMR Process/TMC Process, NR: Normalizing Rolled
SH:剪性破面率 Shear Fracture, CF:脆性破面率 Crystallinity Fracture, LE:横膨出 Lateral Expansion, AGS:オーステナイト粒度 Austenite Grain Size, FGS:フェライト粒度 Ferrite Grain Size, SR: Stress Relieved/Post Weld Heat Treatment
試験 Temperature C: F:

上記注文品は御指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

T. Adachi

君津製鐵所厚板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

AX4035507082

B

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

本　　社：〒100-8071 東京都千代田区丸の内二丁目6番1号
HEAD OFFICE：2-6-1, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8071, JAPAN
君津製鐵所：〒299-1141 千葉県君津市君津1番地
KIMITSU WORKS：1, KIMITSU, KIMITSU-CITY, CHIBA-PREF. 299-1141 JAPAN

注文者 SHIPPER：HANWA CO., LTD.
注文者照合番号 REFERENCE No.：228-38501090
契約番号 CONTRACT No.：1-831-H1-5-4-AT01
商品名 COMMODITY：HOT ROLLED STEEL PLATES
規格 SPECIFICATION：ASME SA-516 GRADE 70-E10
文書番号 DOCUMENT No.：

証明書番号 CERTIFICATE No.：P-13163　頁 PAGE：59
発行年月日 DATE OF ISSUE：2011-04-06
1001
2**DM******
*****CE**
E3091P0701 E07

(AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)

需要家 CUSTOMER：EDMONTON EXCHANGER GROUP OF C-OMPANIES
需要家管理番号 CUSTOMER'S CONTROL No.：

寸法 DIMENSION mm, ":inch, ':feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	引張試験 TENSILE TEST: 耐力 YS 0.2% KSI	引張強さ TS KSI	伸び EL %	衝撃試験 IMPACT TEST 2V-50F FT.LB: 平均値 AVG	個々値 EACH	H8	化学成分 CHEMICAL COMPOSITION %: C	Si	Mn	P	S	Cu	Ni	Cr	Mo	Nb	V	Ti	Pcm	Sol.Al	Ceq.1	Ceq.2	熱処理状態 CONDITION OF SUPPLY
06 0.75"X120.5"X480"	2	11158	G4225 11526	FROM 275240629 TO 275240630	55	77	29	TLF290	288 238 295	AVG 156	16	38 35	144 2	9 6	2	2 0	2 11	2 0	0 0	13	0	3	4	41		
										P 156	16	38 38	144	8 6	2	2	2 12	2 0	0 0	13	0			41		
07 0.875"X120.5"X480"	1	6509	G4224 11495	TESTED-PL 275240713	55	77	31	TLF291	288 294 290	AVG 156	16	39 34	145 2	8 5	1	2 0	1 8	2 0	0 0	12	0	3	4	41		
										P 156	16	38 36	146	8 4	2	1	1 11	2 0	0 0	14	0			41		
07 0.875"X120.5"X480"	2	13018	G4224 11495	FROM 275240714 TO 275240715	55	77	31	TLF291	288 294 290	AVG 156	16	39 34	145 2	8 5	1	2 0	1 8	2 0	0 0	12	0	3	4	41		
										P 156	16	38 36	146	8 4	2	1	1 11	2 0	0 0	14	0			41		

注 釈 NOTES
※1 Location Orientation 位置・方向, T:頂部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45° 方向 45Deg. to the Longitudinal Axis
※2 GL 標点距離 Gage Length, A: 50mm 平形試験片 Rectangular, B: 50mm 丸形試験片 Round, C: 70mm 平形試験片 Rectangular, D: 70mm 丸形試験片 Round, E: 80mm 平形試験片 Rectangular, F: 80mm 丸形試験片 Round, G: 200mm, H: 2", I: 8", J: $5.65\sqrt{So}$, K: $4\sqrt{So}$
※3 RA: 絞り Reduction of Area, YR: 降伏比 Yield Ratio, ※4 A: 合格 Acceptable, ※5 F: 標準寸法 FULL SIZE, 2: 2.5mm, 3: 3.3mm, 4: 3.33mm, 5: 5.0mm, 6: 6.67mm, 7: 7.5mm, 8: 6.7mm, 9: 製品板厚 PlateThickness, ※6 P: 製品分析 Product Analysis, 温度 Temperature °C °F
※7 N: 焼準 Normalized, Q: 焼入れ Quenched, T: 焼戻し Tempered, CR: Controlled Rolled, NIC: NIC Process/TMC Process, CLC: CLC Process/TMC Process, AR: As Rolled, TMR: TMR Process/TMC Process, NR: Normalizing Rolled
SH: 板件破面率 Shear Fracture, CF: 脆性破面率 Crystallinity Fracture, LE: 横広出 Lateral Expansion, AGS: オーステナイト粒度 Austenite Grain Size, FGS: フェライト粒度 Ferrite Grain Size, SR: Stress Relieved/Post Weld Heat Treatment

上記注文品は御指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

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J. Adachi
君津製鐵所厚板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

A4 0295807002

B

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

(AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)

本社 HEAD OFFICE : 〒100-8071 東京都千代田区丸の内二丁目6番1号 2-6-1, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8071, JAPAN
君津製鉄所 KIMITSU WORKS : 〒299-1141 千葉県君津市君津1番地 1, KIMITSU, KIMITSU-CITY, CHIBA-PREF. 299-1141 JAPAN

注文者 SHIPPER : HANWA CO., LTD.
注文者照合番号 REFERENCE No. : 228-38501090
契約番号 CONTRACT No. : 1-831-H1-5-4-AT01
商品名 COMMODITY : HOT ROLLED STEEL PLATES
規格 SPECIFICATION : ASME SA-516 GRADE 70-E10
文書番号 DOCUMENT No. :
需要家 CUSTOMER : EDMONTON EXCHANGER GROUP OF COMPANIES
証明書番号 CERTIFICATE No. : P-13163
頁 PAGE : 98
発行年月日 DATE OF ISSUE : 2011-04-06
1001
2**DM*****
*****CEW**
需要家管理番号 CUSTOMER'S CONTROL No. : E3001P0701 E07

寸法 DIMENSION mm, ":inch, ':feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	LOCATION ORIENTATION ※1	引張試験 TENSILE TEST 降伏点又は耐力 YS 0.2% KSI	引張強さ TS KSI	伸び EL %	% ※3	IMPACT TEST LOCATION ORIENTATION SIZE	衝撃試験 IMPACT TEST 2V - 50°F FT. LB 平均値 AVG	各々値 EACH	HBW	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	Nb	V	TiAl	Ceq.1	CONDITION OF MATERIAL
														N	TE3	TE1		SN	CA	B	Ti			Ppm	Sol. Al	Ceq.2
20			G3952	TESTED-PL								303	AVG	16	38	146	6	2	2	2	1	0	12	0	28	41	
2.25"X121"X480"	1	16809	09877	275242002	TCH	49	75	35		TL	F303	310	146		34	1	5		0	13	0	0					
												295															
													P16	38	145	6	2	2	2	1	0	12	0		41	
														35		5			18	2	0					
20			G3953	TESTED-PL								307	AVG	16	37	145	6	2	1	1	2	0	12	0	32	41	
2.25"X121"X480"	1	16809	09894	275242010	TCH	53	75	36		TL	F308	305	146		31	2	4		0	10	1	0					
												311															
													P16	37	146	6	2	1	1	2	0	11	0		41	
														33		4			14	0	0					
TOTAL	46	22349	128																							

HEAT TREATMENT.
PLATE & TEST SPECIMEN NORMALIZING : 910CX 10MIN.
CHARPY IMPACT TEST TEMPERATURE (SI) : -46C
LADLE CEQ1 = C+MN/6+(NI+CU)/15+(CR+MO+V)/5
PRODUCT CEQ1 = C+MN/6+(NI+CU)/15+(CR+MO+V)/5
LADLE TE1 = CU+NI+CR+MO
LADLE TE3 = CR+MO
PRODUCT TE1 = CU+NI+CR+MO

注釈 NOTES ※1 Location Orientation 位置・方向, T:頂部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45°方向 45Deg. to the Longitudinal Axis
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※3 RA:絞り Reduction of Area, YR:降伏比 Yield Ratio, ※4 A:合格 Acceptable, ※5 F:四号寸法 FULL SIZE, 2:2.5mm, 3:3.2mm, 4:3.23mm, 5:5.0mm, 6:6.67mm, 7:7.5mm, 8:6.7mm, 9:製品板厚 PlateThickness, ※6 P:製品分析 Product Analysis, 試験温度 Test Temperature C: F:
※7 N:焼準 Normalized, Q:焼入れ Quenched, T:焼戻し Tempered, CR:Controlled Rolled, NIC:NIC Process/TMC Process, CLC:CLC Process/TMC Process, AR:As Rolled, TMR:TMR Process/TMC Process, NR:Normalizing Rolled
SH:延性破面率 Shear Fracture, CF:脆性破面率 Crystallinity Fracture, LE:横膨出 Lateral Expansion, AGS:オーステナイト粒度 Austenite Grain Size, FGS:フェライト粒度 Ferrite Grain Size, SR:Stress Relieved/Post Weld Heat Treatment

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J. Adachi
君津製鉄所厚板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

B

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

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(AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)

証明書番号 CERTIFICATE No. : P-13163 頁 PAGE : 99E
発行年月日 DATE OF ISSUE : 2011-04-06
1001
2**DM*****
*****CEW**
E3001P0701 E07

需要家 CUSTOMER : EDMONTON EXCHANGER GROUP OF C-OMPANIES
需要家管理番号 CUSTOMERS CONTROL No. :

寸法 DIMENSION mm,″:inch,′:feet	員数 QUANTITY	質量 MASS KG	製鋼番号 CAST No. / 試験番号 TEST No.	製品番号 PLATE No.	引張試験 TENSILE TEST: LOCATION/DIRECTION	耐力(降伏点) YS 0.2% KSI	引張強さ TS KSI	伸び EL %	%	衝撃試験 IMPACT TEST 2V - 50F FT.LB: LOCATION/DIRECTION	SIZE	平均値 AVG	個々値 EACH	化学成分 CHEMICAL COMPOSITION %	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	Nb	V	TAl	Ceq.1	CONDITION OF SUPPLY
				CHEMICAL COMPOSITION % : 'N' X10000																								
				CHEMICAL COMPOSITION % : 'SN' X1000																								
				CHEMICAL COMPOSITION % : 'TE3' X100																								
				LADLE TREATMENT : VACUUM DEGASSED																								
				SULPHIDE SHAPE CONTROL																								
															N	TE3	TE1		SN	CA	B	TI	Pcm	Sol.Al	Ceq.2		
															×10000	×100	×100	×100	×10000	×10000	×10000	×100	×100	×100	×100		

注釈 NOTES
※1 Location Orientation 位置・方向, T:頂部 Top, B:底部 Bottom, L:圧延方向 Longitudinal, C:直角方向 Transverse, Z:板厚方向 Through Thickness, R:45° 方向 45Deg. to the Longitudinal Axis
※2 GL 標点距離 Gage Length, A: 50mm 平形試験片 Rectangular, B: 50mm 丸形試験片 Round, C: 70mm 平形試験片 Rectangular, D: 70mm 丸形試験片 Round, E: 80mm 平形試験片 Rectangular, F: 80mm 丸形試験片 Round, G: 200mm, H: 2", I: 8", J: 5.65√So, K: 4.√So
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※7 N:焼準 Normalized, Q:焼入れ Quenched, T:焼戻し Tempered, CR: Controlled Rolled, NIC: NIC Process/TMC Process, CLC: CLC Process/TMC Process, AR: As Rolled, TMR: TMR Process/TMC Process, NR: Normalizing Rolled
SH:延性破面率 Shear Fracture, CF:脆性破面率 Crystallinity Fracture, LE:横膨出 Lateral Expansion, AGS:オーステナイト粒度 Austenite Grain Size, FGS:フェライト粒度 Ferrite Grain Size, SR: Stress Relieved/Post Weld Heat Treatment
室温 Temperature C: °C F: °F

上記注文品は御指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

PWR APPROVED EDMONTON EXCHANGER

J. Adachi
君津製鉄所鋼板管理グループリーダー
Head of Department
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

AY4039607082

RJV GAS FIELD SERVICES

4901 Bruce Road Vegreville, Alberta T9C 1C3
Phone: (780) 632-7774

PURCHASE ORDER # 2947

DATE Nov 29,2012

VENDOR V.E.G. Oilfield Supply

DATE REQUIRED All

JOB NUMBERS 8" Stock Scrubbers

VESSEL SER#

Item	Quantity	Material Spec.	Description	Nom. Thickness	Min. Head	Mill Test	Q.C. Check	Price
1	25'	SA-106-B	8" Sml's Pipe	.322"	-	yes	✓	
2	10	SA-234-WPB	8" weld cap	0.322	-	yes	✓	
3	10	SA-105	2" N.P.T.Half cplg.	#3000	-			
4	30	SA-105	1" N.P.T. Full Cplg.	#3000	-			

1. The above items are to be formed to meet the requirements of ASME Section VII, Div. 1 USC 79(d).
2. Tack welds that are welded must use procedures and welders qualified to ASME Section IX
3. On all code required material, Markings must be accurately transferred to formed material or cut pieces.

Authorized Signature

RJV GAS FIELD SERVICES

PRESSURE TEST RECORD

Date:	Dec 28, 2012
Vessel Serial Number:	12771
Vessel Design Pressure:	150psi.
Hydro Test Pressure:	225psi
Temperature:	+/6
Test Gauge No.:	#2
Hydro By:	WS
Q.C. Signature:	

Print Clearly

Original to be returned to Q.C. on completion of hydro.

RJV GAS FIELD SERVICES

Vessel Name Plate Travel Sheet

Vessel Serial Number:	12771
Vessel Name:	Fuel Gas Scrubber
Vessel DWG #:	V8505
Vessel C.R.N. #	F6388.231
Vessel Design Pressure:	150psi.
Hydro Pressure:	225psi

Plate Originator:	Wes	Date:	Nov 29,2012
Engraved By:		Date:	Dec-10-12
Picked Up By:		Date:	

Print Clearly

Original to be returned to Q.C.

W

Certified By

RJV GAS FIELD SERVICES

Vegreville, Alberta
Phone (780)632-7774

UNIT NAME

Fuel Gas Scrubber

M.A.W.P. Internal		AT	DESIGN TEMP.		M.A.W.P. External	
1035	Kpa.	@	38	°C		Kpa.
150	Psi.	@	100	°F		p.s.i.

MINIMUM DESIGN METAL TEMPERATURE					YEAR BUILT
-29	°C	@	1035	Kpa.	2012
-20	°F	@	150	p.s.i.	

C.R. NUMBER	SERIAL NO.
F6388.231	12771

CORR. ALLOW.	HEAT TREATMENT	HYDRO TEST	
3.17 mm	NIL	1555	Kpa.
		225	p.s.i.

SHELL THICK.	HEAD THICK.	WEIGHT	
8.1 mm	Top - 7.16 mm	50	Kg.
	Bottom - 19.05 mm		

SHELL MAT'L	HEAD MAT'L	SIZE
SA-106-B	Top- SA-234-WPB	219 X 762mm
	Bottom- SA-516-70	

ALBERTA MUNICIPAL AFFAIRS
ABSA, the pressure equipment safety authority
9410 – 20th Avenue
Edmonton, AB T6N 0A4

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

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

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

Manufactured by *Construit par*	Name and address of Manufacturer/ *Nom et adresse du constructeur* **RJV Gasfield Services 4901 Bruce Road, Vegreville, Alberta, T9C 1C3**
Manufactured for *Construit pour*	Name and address of Purchaser or Consignee/ *Nom et adresse du client ou de son représentant* **RJV Gasfield Services 4901 Bruce Road, Vegreville, Alberta, T9C 1C3**
Ultimate owner *Utilisateur*	Name and address/ *Nom et adresse* **Stock**
Location of installation *Lieu d'installation*	Name and address/ *Nom et adresse* **Stock**

Pressure vessel/ *Appareil*

Type/ *Genre*	Overall Length/*Longeur totale*	Serial No./ *N° de série*	Year built/Année de fabrication
Vertical Fuel Gas Scrubber	**762mm sm/sm**	**12771**	**2012**
Provincial Registration No. – C.R.N./N° d'enregistrement provincial - N.E.C. **F6388.231**			Drawing No./ *N° de dessin* **V85-05 Rev.2**

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

The design, construction and workmanship conform to CSA B51. *La conception, la construction et la façon sont conformes à ACNOR B51.*	ASME	Division	Addenda/*Supplément*	Code case No. *N ° de cas*
	Section VIII	1	**2011a**	**N/A**

Manufacturer's partial data reports properly identified and signed by authorized inspectors have been furnished for the following items of the report, and attached to this report:
Les rapports partiels du constructeur adqéuatement identifiés et signés par les inspecteurs authorisés ont été produits pour les items suivants du rapport, et attachés à ce rapport:

Names of parts/ *Nom de la composante*	Item No./ *N□ d'item*	Manufacturer's Name/ *Nom du constructeur*	Identifying Stamp/ *Estampe d'identification*

Shell/ *Virole*

Description	Material *Matériau*	Thickness *Épaisseur*	Corr. Allow. *Surépais. de corr.*	Diameter *Diamètre*	Longitudinal Joints *Joints longitudinaux*			P.W.H.T. *Traitement therm*		Girth Joints *Joints de circonférence*		Number of courses *Nombre de sections*
					Type	R.T. *Radiog.*	Efficiency *Efficacité*	Temp.	Time *Durée*	Type	R.T. *Radiog.*	
Shell	**SA-106-B**	**8.1mm**	**3.2mm**	**219mm**	**1**	**sml's**	**100%**	---	---	**None**	**None**	**1**

Heads/ *Tetes*

Description	Material *Matériau*	Min. Thickn. *Épais minim.*	Corr. Allow *Surép. Corr.*	Crown. Radius *Rayon couron.*	Knuckle Radius *Petit rayon*	Ellipse Ratio *Rapp. ellipse*	Conical Apex Angle *Angle conique*	Hemisph. Radius *Ray. Hémisph*	Flat Diameter *Diam.plat*	Side to pressure *Côte sous pression*
Top	SA-234-WPB	**7.2mm**	**3.2 mm**	---	---	**Weld Cap**	---	---	---	**Concave**
Bottom	**SA-516-70**	**19.mm**	**3.2 mm**	---	---	---	---	---	**305 mm**	**Flat**

Removable bolts used (describe other fastenings) *Boulons amovible utilisés (décrire tout autre attache)*	Mat'l Spec./ *Spéc. du mat.*	Grade	Size/ *Dimension*

Pressure - Temperature/ *Pression - température*

Pressure Vessel Part *Partie de l'appareil*	Constructed for max. allowable working pressure *Construit pour une pression maximale de marche permise*	At max. temp. *A une temp. max.*	Minimum design metal temp. *Temp. min.*	Test pressure (hydro-pneumatic or combination) *Pression d'épreuvre (hydro-pneumatique ou combinaison)*
Vessel	**1035 Kpa**	**38°**	**-29°**	**1555 kPA**

Tube Section/ *Faisceau tubulaire*

Tubesheet/ *Plaque tubulaire*	Material/ *Matériau*	Diameter/ *Diametre*	Nominal Thickness *Epaisseur nominate*	Corr. Allow. *Surépais. corrosion*	Attachment *Mode d'attachement*
Tube material/ *Materiau des tubes*	Diameter/ *Diamètre*	Nominal Thickness (gauge) *Épaisseur nominale (calibre)*	Number/ *Nbre*	Type (Straight or U) *Type (Droit ou U)*	Heating Surface *Surface de chauffe*

Jacket/ *Chemise*

Type of jacket/ *Genre de chemise*	Jacket closure *Fermeture de chemise*	Proof Test *Pression d'épreuve*	Heating Surface *Surface de chauffe*	Sketch/ *Schéma*

Safety Valve Outlets/ *Soupapes de sûreté*

Number/ *Nombre*	Dimension	Location/ *Endroit*
1	33.4MM	Shell

Nozzles and Openings/ *Tubulures et ouvertures*

Purpose/ *But*	Number *Nombre*	Dimension	Type	Material *Matériau*	Nominal Thickness *Épaisseur nominale*	Reinforcement material *Matériau de renfort*	How attached *Genre d'attaches*	Location/ *Endroit*
Outlet	1	60.3mm	Coupling	SA-105	CL3000	N/A	UW16.1{c}	Top Head
Inlet/Drain/P.S.V.	3	33.4mm	Coupling	SA-105	CL3000	N/A	UW16.1{c}	Shell

Supports/ *Supports*

Skirt/ *Jupe* Yes/ *Oui* No/ *Non*	Lugs/ Oreilles *No./ Nbre*	Legs/ Pieds *No./ Nbre*	Other/ *Autres* (Description)	Attached/ *Attaches* (Where and How/ *Méthode et endroit*)
☐ ☒	No	No	N/A	Flat bottom head welded to shell

Remarks/ *Observations* (Cubical capacity/ Volume)

Volume-(.022 cubic meters)
Exempt from impact test requirements as per UG 20(f) 1 to 5
Flat head o.d. is 203mm
Hydrostatically tested in the Vertical Position

Certificate of Compliance/ *Certificat de conformité*

We certify that the statements made in this data report are correct and that the said vessel has been constructed in accordance with the Provincial Registered design below and the requirements of standard CSA B51.

Nous certifions que les données de la déclaration de conformité sont correctes et que l'appareil a été construit en accord avec l'enregistrement provincial ci-dessous et les exigences de la norme ACNOR B51.

Provincial Registered Design
Enregistrement provincial F6388.231

Manufacturer
Constructeur RJV Gasfield Services

Signature _____ Date DEC 2 8 2012
(Représentative)

Signature _____ Date DEC 2 8 2012
(Certified Individual)