

2331-121 Avenue NE  
Edmonton, AB  
T6S 1B2



Ph: (780) 475-8801  
Fx: (780) 475-8892  
[www.rushton.ca](http://www.rushton.ca)

# Ovintiv Canada ULC

## c/o Fuelled Inc.

### Condensate Conditioner Package (SR)

Customer PO.:	<u>10092</u>
LSD:	<u>UNKNOWN</u>
Rushton Job No.:	<u>C-4353 A (S/N: C2245A.HS)</u>
Date:	<u>February 7, 2024</u>

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## 1.0 Identification

### 1.1 Manual Revision Log





## 1.2 Equipment Identification

2331-121 Avenue NE  
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**EQUIPMENT IDENTIFICATION  
FOR RUSHTON**

**HORIZONTAL SEPARATOR**

**CUSTOMER:** Ovintiv Canada ULC

**RUSHTON JOB NO.:** C-4353 A

**LOCATION:** UNKNOWN

**P.O. #:** 10092

**HORIZONTAL SEPARATOR**

**DESCRIPTION:** 24" O.D. x 8'-0" S/S x 1480 PSIG x -20/100°F, 0.125" C.A.

**SERIAL NO.:** C2245A.HS

**C.R.N. NO.:** R8362.21

**A#:** 488592



2.0 Quality Control  
2.1 Travel Sheet

# TRAVEL SHEET - VESSELS

Exhibit #7A

Authorized Inspector to be given Travel Sheet prior to construction so that he can indicate hold points with an asterisk (\*) in Function Completed Column.

C.R.N. #	SERIAL #	DATE FUNCTION COMPLETED & INSPECTOR'S INITIALS		
R8362.2	C2245A.HS			
ITEM	COMMENTS	Q.C.	A.I.	3RD PARTY
Travel Sheet Accepted			OK Aug 5, 2004	
Material Checked Against Bill of Materials		OK SEPT. 09/04		
Mill Test Checked		OK SEP 10 04	Ref: A-Lite SEPT. 10, 2004	
Impact Tests				
Head to Shell Fit Up				
Internal Inspection		OK AUG 5 04	* OK Aug 5, 2004	OK
Welder's I.D.		OK SEP 10 04		
Weld Sizes		OK SEP 10 04		
Radiographs		OK SEP 10 04	OK Sept 13, 2004	
Other N.D.E.				
External Prior to P.W.H.T.		OK AUG 20 04	* OK Aug 20, 2004	OK
P.W.H.T. Chart Checked		OK SEPT. 03/04		
Hydrostatic Test		OK SEP 10 04	* Ref: A-Lite SEPT. 10, 2004	* OK
Nameplates		August 04/04	Ref: A-Lite SEPT. 10, 2004	
Data Reports		August 04/04	Ref: A-Lite SEPT. 10, 2004	
Approved Drawings	C-2245-A REV.0	July 09/04		

Notes: NSI JULY 26 04      CS1 CS2 AUG 23 04  
BOOT CS1 CS2 AUG 23 04



2.2 U-1A



**ALBERTA MUNICIPAL AFFAIRS**

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

④ 488592

AB-25 (side 1) 00/07

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

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

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

<b>Manufactured by Construit par</b>	Name and address of Manufacturer/ <i>Nom et adresse du constructeur</i> <b>Rushton Gas &amp; Oil Equipment (1991) Ltd. 2331-121 Avenue NE Edmonton, AB T6S 1B2</b>
<b>Manufactured for Construit pour</b>	Name and address of Purchaser or Consignee/ <i>Nom et adresse du client ou de son représentant</i> <b>EnCana Resources P.O. Box 2850 Station "M" Calgary, AB T2P 2S5</b>
<b>Ultimate owner Utilisateur</b>	Name and address/ <i>Nom et adresse</i> <b>EnCana Resources P.O. Box 2850 Station "M" Calgary, AB T2P 2S5</b>
<b>Location of installation Lieu d'installation</b>	Address/ <i>Adresse</i> <b>STOCK</b>

**Pressure vessel/ Appareil**

Type/ <i>Genre</i> <b>Horizontal Separator</b>	Overall Length/ <i>Longueur totale</i> <b>9'-9" OAL</b>	Serial No./ <i>N° de série</i> <b>C2245A.HS</b>	Year built/ <i>Année de fabrication</i> <b>2004</b>
Provincial Registration No. - C.R.N./ <i>N° d'enregistrement provincial - N.E.C.</i> <b>R8362.21</b>	National Board No./ <i>N° National Board</i>	Drawing No./ <i>N° de dessin</i> <b>C-2245-A, Rev. 0</b>	

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

The design, construction and workmanship conform to CSA B51. <i>La conception, la construction et la façon sont conformes à ACNOR B51.</i>	ASME Section VIII 2001 Edition	Division <b>1</b>	Addenda/Supplément <b>2003</b>	Code case No. <i>N° de cas</i>
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Manufacturer's partial data reports properly identified and signed by authorized inspectors have been furnished for the following items of the report, and attached to this report.  
*rapports partiels du constructeur adéquatement identifiés et signés par les inspecteurs autorisés ont été produits pour les items suivants du rapport, et attachés à ce rapport:*

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

**Shell/ Virole**

Description	Material <i>Matériau</i>	Thickness <i>Épaisseur</i>	Corr. Allow. <i>Surépais. de corr.</i>	Diameter <i>Diamètre</i>	Longitudinal Joints <i>Joints longitudinaux</i>			P.W.H.T. <i>Traitement therm</i>		Girth Joints <i>Joints de circonférence</i>		Number of courses <i>Nombre de sections</i>
					Type	R.T. Radiog.	Efficiency <i>Efficacité</i>	Temp.	Time <i>Durée</i>	Type	R.T. Radiog.	
Shell	SA-516-70N	1.00"	0.125"	24" OD	1	Full	100%	620 °C	60 min.	1	Full	1
Boot Shell	SA-333-GR6	0.718"	0.125"	10 3/4" OD	1	Sm's	100%	620 °C	60 min.	1	Full	1

**Heads/ Tetes**

Description	Material <i>Matériau</i>	Min. Thicken. <i>Épais min.</i>	Corr. Allow <i>Surép. Corr.</i>	Crown. Radius <i>Rayon couron.</i>	Knuckle Radius <i>Petit rayon</i>	Ellipse Ratio <i>Rapp. ellipse</i>	Conical Apex Angle <i>Angle conique</i>	Hemisph. Radius <i>Ray. Hémisph</i>	Flat Diameter <i>Diam.plat</i>	Side to pressure <i>Côte sous pression</i>
Head	SA-516-70N	0.96"	0.125"			2:1				Concave
Boot Head	SA-516-70N	0.5625"	0.125"			2:1				Concave
Removable bolts used (describe other fastenings) <i>Boulons amovible utilisés (décrire tout autre attache)</i>			16	Mat'l Spéc./ <i>Spéc. du mat.</i> SA-193 / SA-194			Grade B7M / 2HM	Size/ <i>Dimension</i> 1 1/4" x 8 1/2"		

**Pressure - Temperature/ Pression - température**

Pressure Vessel Part <i>Partie de l'appareil</i>  <b>Vessel</b>	Constructed for max. allowable working pressure <i>Construit pour une pression maximale de marche permise</i> <b>10204 Kpa</b>	At max. temp. <i>A une temp. max.</i> <b>38 °C</b>	Min. Temp. (when less than -29°C) <i>Temp. min. (inférieure à -29°C)</i> <b>-29 °C</b>	Test pressure (hydro-pneumatic or combination) <i>Pression d'épreuve (hydro-pneumatique ou combinaison)</i> <b>15307 Kpa</b>
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**Tube Section/ Faisceau tubulaire**

Tubesheet/ Plaque tubulaire	Material/ Matériau	Diameter/ Diametre	Nominal Thickness Epaisseur nominale	Corr. Allow. Surépais. corrosion	Attachment Mode d'attachement
Tube material/ Matériau des tubes	Diameter/ Diamètre	Nominal Thickness (gauge) Epaisseur nominale (calibre)	Number/ Nbre	Type (Straight or U) Type (Droit ou U)	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
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**Safety Valve Outlets/ Soupapes de sûreté**

Number/ Nombre 1	Dimension 2"	Location/ Endroit Located on shell.
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**Nozzles and Openings/ Tubulures et ouvertures**

Purpose/ But	Number Nombre	Dimension	Type	Material Matériau	Nominal Thickness Epaisseur nominale	Reinforcement material Matériau de renfort	How attached Genre d'attaches	Location/ Endroit

**Supports/ Supports**

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

Volume = 0.6608 m3  
 Impact test not required as per UG-20(f), 1-5, & UCS-66(c).  
 \*\*\*\*\* See Supplementary Form No. AB-25A for Nozzles and openings.  
 Vessel tested in horizontal position.  
 Construction Drawing # C-2245-A, Rev. 0.  
 RT - Full as per UW-11(a)  
 PSV installed by Rushton.

**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 R8362.21

Manufacturer  
 Constructeur Rushton Gas & Oil Equipment (1991) Ltd.

Signature [Signature] Date SEPT. 09, 2009

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

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

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

Installer's Name  
 Nom de l'installateur \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

**Certificate of Shop Inspection/ Certificat d'inspecton en usine**

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector  
 Je, soussigné, inspecteur autorisé de chaudières et appareil sous pression  
 employed by  
 employé par Alberta Boilers Safety Association

of/ de Alberta  
 have inspected the above vessel and state that to the best of my knowledge and belief, the manufacturer has constructed the vessel in accordance with the Provincial registration CRN R8362.21  
 and the requirements of standard CSA B51.

*ai inspecté l'appareil précité et autant que je sache, crois que le constructeur a construit l'appareil en accord avec l'enregistrement provincial NEC \_\_\_\_\_ et les exigences de la norme ACNOR B51.*

Inspector's Name  
 Nom de l'inspecteur ROBIN ANTONIUK AB-139A

Signature [Signature] Date SEPT. 10, 2009

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

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector  
 Je, soussigné, inspecteur autorisé de chaudières et appareil sous pression  
 employed by \_\_\_\_\_

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

*ai inspecté les composantes non couvertes par le certificat d'inspection en usine et l'installation de l'appareil et, autant que je sache, la construction et l'assemblage de l'appareil sont en accord avec les règlements provinciaux.*

Inspector's Name  
 Nom de l'inspecteur \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

A 488592

ALBERTA MUNICIPAL AFFAIRS

Alberta Boilers Safety Association

200, 4208 - 97 Street

Edmonton AB T6E 5Z9

MANUFACTURER'S DATA REPORT

SUPPLEMENTARY SHEET

Manufactured by <i>Construit par</i>	Name and address of Manufacturer/ <i>Nom et adresse du constructeur</i> Rushton Gas & Oil Equipment (1991) Ltd. 2331-121 Avenue NE Edmonton, AB T6S 1B2
Manufactured for <i>Construit pour</i>	Name and address of Purchaser or Consignee/ <i>Nom et adresse du client ou de son représentant</i> EnCana Resources P.O. Box 2850 Station "M" Calgary, AB T2P 2S5
Ultimate owner <i>Utilisateur</i>	Name and address/ <i>Nom et adresse</i> EnCana Resources P.O. Box 2850 Station "M" Calgary, AB T2P 2S5
Location of installation <i>Lieu d'installation</i>	Address/ <i>Adresse</i> STOCK

Pressure vessel/ *Appareil*

Type/ <i>Genre</i> Horizontal Separator	Serial No./ <i>N° de série</i> C2245A.HS	Year built/ <i>Année de fabrication</i> 2004
Provincial Registration No. - C.R.N./ <i>N° d'enregistrement provincial - N.E.C.</i> R8362.21	National Board No./ <i>N° National Board</i>	Drawing No./ <i>N° de dessin</i> C-2245-A, Rev. 0

Nozzles and Openings/ *Tubulures et ouvertures*

Purpose/ <i>But</i>	Number <i>Nombre</i>	Dimension	Type	Material <i>Matériau</i>	Nominal Thickness <i>Épaisseur nominale</i>	Reinforcement material <i>Matériau de renfort</i>	How attached <i>Genre d'attaches</i>	Location/ <i>Endroit</i>
INLET	N1	2" NPS	PIPE / 600# REWN	SA-106-B/SA-105-N /SA-234-WPB	0.343"	N/A	FIG UW 16.1(c)	SHELL
OUTLET	N2	2" NPS	PIPE / 600# REWN	SA-106-B/SA-105-N /SA-234-WPB	0.343"	N/A	FIG UW 16.1(c)	SHELL
H2O OUT / DRAIN	N3	2" NPS	PIPE / 600# REWN	SA-106-B/SA-105-N	0.343"	N/A	FIG UW 16.1(c)	BOOT SHELL
COND. OUT	N4	2" NPS	PIPE / 600# REWN	SA-106-B/SA-105-N	0.343"	N/A	FIG UW 16.1(c)	SHELL
BRIDLE	N5A	2" NPS	PIPE / 600# REWN	SA-106-B/SA-105-N /SA-234-WPB	0.343"	N/A	FIG. UW- 16.1(c)	SHELL
BRIDLE	N5B	2" NPS	PIPE / 600# REWN	SA-106-B/SA-105-N	0.343"	N/A	FIG. UW- 16.1(c)	BOOT SHELL
PSV	N6	2" NPS	600# RFWN	SA-105-N	0.343"	N/A	TYPE 1	NOZZ. "N1"
BOOT CONN.	N7	10" NPS	PIPE / 600# REWN	SA-333-GR6/ SA-105-N	1.125" / 1.000"	SA-516-70N	FIG. UW- 16.1(c)	BOOT SHELL
PI	C1	1/2" NPS	TOL	SA-105-N	6000#	N/A	FIG. UW- 16.1(a)	NOZZ. "N1"
SPARE	C2	1/2" NPS	TOL	SA-105-N	6000#	N/A	FIG. UW- 16.1(a)	NOZZ. "N1"
SPARE	C3	1/2" NPS	TOL	SA-105-N	6000#	N/A	FIG. UW- 16.1(a)	NOZZ. "N1"
HTG COIL	C4 A/B	1/2" NPS	FULL CPLG	SA-105-N	6000#	N/A	FIG UW 16.1(c)	BOOT SHELL
MANWAY	M1	24" NPS	FLANGE	SA-105-N	1.00"	N/A	TYPE 1	SHELL

Other/ *Autres*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Date SEPT. 09, 2004

Date SEPT. 10, 2004

Name Rushton Gas & Oil Equipment (1991) Ltd.  
(Manufacturer/ *Constructeur*)

Name ROBIN ANTONIUK AB-139A  
(Print Inspector's Name/ *Nom de l'inspecteur*)

Signed [Signature]  
(Representative)

Inspector's Signature [Signature]



2.3 CRN AB

**Alberta Boilers Safety Association**

#200, 4208 - 97 Street

Edmonton, Alberta, Canada T6E 5Z9

Tel: (780) 437-9100 / Fax: (780) 437-7787

August 04, 2004

**Attention:** Tito Sune Jr.

RUSHTON GAS &amp; OIL EQUIPMENT (1991) LTD

2331 121 AVENUE NE

EDMONTON, AB T6S 1B2

Re: Design registration

The design submission, tracking number 2004-05179, originally received on July 12, 2004 was surveyed and accepted for registration as follows:

**CRN :** R8362.2**Accepted on:** August 04, 2004**Reg Type:** New Design**Drawing No. :** C-2245-A Rev 0 As Noted

Description	Design Pressure	Design Temperature	MDMT
Internal Pressure	10204 kPa	38°C	-29°C

**The registration is conditional on your compliance with the following notes:**

- It is our understanding that the internal coils are not Code governed.
- Removable pressure parts shall be marked as per UG-116(L) requirements.

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 369 or fax (780) 437-7787 or e-mail Radisavljevic@albertaboilers.com.

Sincerely,

A handwritten signature in black ink that reads "Zana Radisavljevic". The signature is written in a cursive, flowing style.

RADISAVLJEVIC, ZANA, R.E.T.

Design Surveyor



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

Phone: (604) 660 - 6286  
Toll Free: 1-866-566-SAFE  
Fax: (604) 660 - 6215  
www.safetyauthority.ca

RUSHTON GAS & OIL EQUIPMENT (1991) LTD  
2331 121ST AVENUE NE  
EDMONTON AB T6S 1B2

**Date:** August 23, 2004  
**Account #:** 29085  
**Journal #:** 34520  
**Our File #:** 2813789

**Attn:** TITO SUNE JR

**Re:** Application for Design Registration

The design, as detailed in your, REF# C-2245, for a Pressure Vessel is accepted for registration as follows:

**Registered To:** RUSHTON GAS & OIL EQUIPMENT (1991) LTD **CRN:** R8362.21

**MDMT:** -20 deg F

**MAWT:** 100 deg F

**MAWP:** 1480 psig

**Drawing #:** C-2245-A

**Drawing Revision:** 0 (As Noted)

**Conditions Of Registration:**

- 1. CRN is based on condition that coil is non-code.

	<u>Amount</u>	<u>GST</u>	<u>Total</u>
Total fee for reviewing your design:	\$67.00	\$0.00	\$67.00
Amount received with submission:	\$0.00		

An invoice for \$67.00 will follow.

Contact me if you have any questions.

ROMEO TUAZON  
(604) 660-6246  
romeo.Tuazon@safetyauthority.ca  
Design Engineer

cc:



## 2.4 Name Plate

CERTIFIED BY		GAS & OIL EQUIPMENT LTD		CONST	W
<b>RUSHTON</b>		EDMONTON ALBERTA		HT	
				RT	1
JOB #	C2245 A	SERIAL #	C2245A.HS		
YR BT	2004	CRN	R8362.21		
MAWP	10204 Kpa	AT	38	°C	
MDMT	-29 °C	AT	10204	Kpa	
A#	Ⓐ 488592				
MIN HD	0.96"	NOM SH	1.00"	CA	0.125



CERTIFIED BY		GAS & OIL EQUIPMENT LTD		CONST	W
<b>RUSHTON</b>		EDMONTON ALBERTA		HT	
				RT	1
JOB #	C2245 A	SERIAL #	C2245A.HS		
YR BT	2004	CRN	R8362.21		
MAWP	10204 Kpa	AT	38	°C	
MDMT	-29 °C	AT	10204	Kpa	
A#	Ⓐ 488592				
MIN HD	0.96"	NOM SH	1.00"	CA	0.125





2.5 NDT Report(s)



602 - 15A Avenue  
 Calgary, Alberta T9E 7R9  
 Ph: 955-8601, Fax: 955-8603

(1991) REPORT No. **A 25590**  
 CUSTOMER RUSHTON GAS OIL EQUIP DATE Aug. 13/2004  
 BILLING ADDRESS \_\_\_\_\_ Job No. C2245 H.S.  
 JOB LOCATION EDMONTON YARD APPLICABLE CODE ASME VIII UWS1  
 INSPECTION ON \_\_\_\_\_ MATERIAL TYPE P-1 P.O. \_\_\_\_\_

DAY	SUBSISTENCE	TYPE & SIZE OF FILM	TRAVEL TO	IN	OUT	TRAVEL FROM	MILEAGE	HOURS	PAGE
FRI		D5/4 1/2 x 17							1 OF 1

WS — Welders Symbol # — Procedure    NF — Non Fusion IP — Incomp Pen    S — Slag BT — Bum Thru    LC — Low Cover UC — Undercut    W — Windows HL — High Low    C — Crater P — Porosity    I — Icicles CK — Crack    1 — Slight 2 — Medium 3 — Severe    Reject

Film No.	Size	WS	#	NF	IP	S	BT	LC	UC	W	HL	C	P	I	CK	OK	REMARKS	Reject
A																	<del>24 x 1</del>	
CS2	0-15	P	F 1													✓		
	15-30															✓		
	30-45															✓		
	45-60															✓		
	60-70															✓		
	70-80															✓		
CS1	0-15	P	F 1													✓		
	15-30															✓		
	30-45															✓		
	45-60															✓		
	60-75															✓		

*Ron Ogan*

I AM IN FULL AGREEMENT WITH ALL ABOVE DETAILS  ONE MAN UNIT  TWO MAN UNIT  
 CUSTOMER'S REPRESENTATIVE \_\_\_\_\_ RADIOGRAPHER Ron Ogan  
 QUALIFIED OPERATOR DARR ELL PRITTON



602 - 15A Avenue  
 isku, Alberta T9E 7R9  
 Ph: 955-8601, Fax: 955-8603

(1991)

REPORT No. **A** 25579

CUSTOMER Rushton GAS OIL EQUIP. DATE AUG. 11/2004  
 BILLING ADDRESS \_\_\_\_\_ Job No. C 2245 H.S  
 JOB LOCATION EDMONTON YARD APPLICABLE CODE ASME VIII UWSI  
 INSPECTION ON \_\_\_\_\_ MATERIAL TYPE P-1 P.O. \_\_\_\_\_

DAY	SUBSISTENCE	TYPE & SIZE OF FILM	TRAVEL TO	IN	OUT	TRAVEL FROM	MILEAGE	HOURS	PAGE
WED		D5/4 1/2" x 17"							1 OF 1

WS — Welders Symbol # — Procedure    NF — Non Fusion IP — Incomp Pen    S — Slag BT — Bum Thru    LC — Low Cover UC — Undercut    W — Windows HL — High Low    C — Crater P — Porosity    I — Icicles CK — Crack    1 — Slight 2 — Medium 3 — Severe

Film No.	Size	WS	#	NF	IP	S	BT	LC	UC	W	HL	C	P	I	CK	OK	REMARKS	Reject
A																	Boat / 10 x sch 100	
CS1																		
	0-14	P	1															
	14-28																	
	28-0																	
CS2																		
	0-12	P	Aa														"OBSTRUCTION"	
	12-24																	
	24-0																	

*Rushton*

I AM IN FULL AGREEMENT WITH ALL ABOVE DETAILS

ONE MAN UNIT

TWO MAN UNIT

CUSTOMER'S REPRESENTATIVE \_\_\_\_\_ RADIOGRAPHER Rushton

QUALIFIED OPERATOR DARREN PRUTTON



602 - 15A Avenue  
 isku, Alberta T9E 7R9  
 Ph: 955-8601, Fax: 955-8603

(1991)

REPORT No. **A** 25543

CUSTOMER Rushton GAS OIL EQUIP DATE July 28/2004  
 BILLING ADDRESS \_\_\_\_\_ Job No. C 2245 H.S.  
 JOB LOCATION EDMONTON YARD APPLICABLE CODE ASME VIII UWS1  
 INSPECTION ON \_\_\_\_\_ MATERIAL TYPE P.1 P.O. \_\_\_\_\_

DAY	SUBSISTENCE	TYPE & SIZE OF FILM	TRAVEL TO	IN	OUT	TRAVEL FROM	MILEAGE	HOURS	PAGE
WED		D4/2 3/4" x 17"							1 OF 1

WS — Welders Symbol # — Procedure    NF — Non Fusion IP — Incomp Pen    S — Slag BT — Bum Thru    LC — Low Cover UC — Undercut    W — Windows HL — High Low    C — Crater P — Porosity    I — Icicles CK — Crack    1 — Slight 2 — Medium 3 — Severe    Reject

Film No.	Size	WS	#	NF	IP	S	BT	LC	UC	W	HL	C	P	I	CK	OK	REMARKS	Reject
A																	Noz.	
N6	2 1/2	P	46													✓		
N5B																✓		
N4																✓		
N3																✓		
N2 x1																✓		
x2																✓		
N1 x1																✓		
x2																✓		
NSA x1																✓		
x2																✓		

*Ron Egan*

I AM IN FULL AGREEMENT WITH ALL ABOVE DETAILS

CUSTOMER'S REPRESENTATIVE \_\_\_\_\_

ONE MAN UNIT

TWO MAN UNIT

RADIOGRAPHER \_\_\_\_\_

QUALIFIED OPERATOR \_\_\_\_\_

*Ron Egan*  
*DARREN PRUTTON*



602 - 15A Avenue  
Edmonton, Alberta T9E 7R9  
Ph: 955-8601, Fax: 955-8603

(1997)

REPORT No. **A 25551**  
DATE JULY 29/2004  
Job No. C 2245 H.S  
APPLICABLE CODE ASME VIII UWSI  
MATERIAL TYPE P-1 PO. \_\_\_\_\_

CUSTOMER RUSHTON GAS OIL EQUIP  
BILLING ADDRESS \_\_\_\_\_  
JOB LOCATION EDMONTON YARD  
INSPECTION ON \_\_\_\_\_

DAY	SUBSISTENCE	TYPE & SIZE OF FILM	TRAVEL TO	IN	OUT	TRAVEL FROM	MILEAGE	HOURS	PAGE
TUR		D5/2 3/4" X 17"							1 OF 1

- WS — Welders Symbol # — Procedure  
 NF — Non Fusion IP — Incomp Pen  
 S — Slag BT — Bum Thru  
 LC — Low Cover UC — Undercut  
 W — Windows HL — High Low  
 C — Crater P — Porosity  
 I — Icicles CK — Crack  
 1 — Slight  
 2 — Medium  
 3 — Severe

Film No.	Size	WS	#	NF	IP	S	BT	LC	UC	W	HL	C	P	I	CK	OK	REMARKS	Reject
<u>A</u>																	<u>Noz</u>	
<u>N7</u>																		
<u>10 1/2 5/160 P 2</u>								<u>1</u>	<u>1</u>							<u>✓</u>		

*Ron Dyan*

I AM IN FULL AGREEMENT WITH ALL ABOVE DETAILS

CUSTOMER'S REPRESENTATIVE \_\_\_\_\_ RADIOGRAPHER Ron Dyan QUALIFIED OPERATOR PARREN PRITTON

ONE MAN UNIT  TWO MAN UNIT



602 - 15A Avenue  
 Edmonton, Alberta T9E 7R9  
 Ph: 955-8601, Fax: 955-8603

(1991)

REPORT No. **A** 25379

CUSTOMER Rushton GAS OIL EQUIP DATE JULY 12/2004  
 BILLING ADDRESS \_\_\_\_\_ Job No. C2245 H.S.  
 JOB LOCATION EDMONTON YARD APPLICABLE CODE ASME VIII UW 51  
 INSPECTION ON \_\_\_\_\_ MATERIAL TYPE P-1 P.O. \_\_\_\_\_

DAY	SUBSISTENCE	TYPE & SIZE OF FILM	TRAVEL TO	IN	OUT	TRAVEL FROM	MILEAGE	HOURS	PAGE
Mon		D5/ 4 1/2' x 17'							1 of 1

WS — Welders Symbol    NF — Non Fusion    S — Slag    LC — Low Cover    W — Windows    C — Crater    I — Iicles    1 — Slight  
 # — Procedure    IP — Incomp Pen    BT — Bum Thru    UC — Undercut    HL — High Low    P — Porosity    CK — Crack    2 — Medium  
 3 — Severe

Film No.	Size	WS	#	NF	IP	S	BT	LC	UC	W	HL	C	P	I	CK	OK	REMARKS	Reject
A																	24" Ø x 1"	
LS1	0-15		2															
	15-30																	
	30-45																	
	45-60																	
	60-75																	
	75-90																	
	90-∞																	

Ron Ogan

I AM IN FULL AGREEMENT WITH ALL ABOVE DETAILS  ONE MAN UNIT  TWO MAN UNIT  
 CUSTOMER'S REPRESENTATIVE \_\_\_\_\_ RADIOGRAPHER Ron Ogan  
 QUALIFIED OPERATOR DARREN PRUTTON



602 - 15A Avenue  
 sku, Alberta T9E 7R9  
 Ph: 955-8601, Fax: 955-8603

(1991)

REPORT No. **A** 25975

CUSTOMER Rushton GAS OIL EQUIP DATE SEPT. 14/2004

BILLING ADDRESS \_\_\_\_\_ JOB No. C2245

JOB LOCATION EDMONTON YARD APPLICABLE CODE \_\_\_\_\_

INSPECTION ON \_\_\_\_\_ MATERIAL TYPE P P.O. \_\_\_\_\_

DAY	SUBSISTENCE	TYPE & SIZE OF FILM	TRAVEL TO	IN	OUT	TRAVEL FROM	MILEAGE	HOURS	PAGE
<u>TUES</u>		<u>D5/2 1/4 x 17</u>							<u>1 OF 1</u>

WS — Welders Symbol # — Procedure   
 NF — Non Fusion IP — Incomp Pen   
 S — Slag BT — Bum Thru   
 LC — Low Cover UC — Undercut   
 W — Windows HL — High Low   
 C — Crater P — Porosity   
 I — Icicles CK — Crack   
 1 — Slight 2 — Medium 3 — Severe

Film No.	Size	WS	#	NF	IP	S	BT	LC	UC	W	HL	C	P	I	CK	OK	REMARKS	Reject
																	"GAP" SHOTS	
<u>X-1</u>	<u>1"</u>		<u>2</u>													<u>✓</u>		
<u>X-2</u>	<u>1"</u>		<u>2</u>													<u>✓</u>		
<u>X-3</u>	<u>1"</u>		<u>2</u>													<u>✓</u>		
<u>X-4</u>	<u>1"</u>		<u>2</u>													<u>✓</u>		

I AM IN FULL AGREEMENT WITH ALL ABOVE DETAILS

ONE MAN UNIT   
 TWO MAN UNIT

CUSTOMER'S REPRESENTATIVE \_\_\_\_\_ RADIOGRAPHER Gregg  
 QUALIFIED OPERATOR GREGG



602 - 15A Avenue  
 isku, Alberta T9E 7R9  
 Ph: 955-8601, Fax: 955-8603

(1991)

REPORT No. **A 25586**

CUSTOMER Rushton GAS OIL EQUIP DATE Aug. 13/2004  
 BILLING ADDRESS \_\_\_\_\_ Job No. C2245 Sp  
 JOB LOCATION EDMONTON YARD APPLICABLE CODE ANSI B31.3CS  
 INSPECTION ON \_\_\_\_\_ MATERIAL TYPE P-1 P.O. \_\_\_\_\_

DAY	SUBSISTENCE	TYPE & SIZE OF FILM	TRAVEL TO	IN	OUT	TRAVEL FROM	MILEAGE	HOURS	PAGE
FR		D4/2 3/4 x 17							1 OF 1

WS — Welders Symbol # — Procedure    NF — Non Fusion IP — Incomp Pen    S — Slag BT — Bum Thru    LC — Low Cover UC — Undercut    W — Windows HL — High Low    C — Crater P — Porosity    I — Icicles CK — Crack    1 — Slight 2 — Medium 3 — Severe

Film No.	Size	WS	#	NF	IP	S	BT	LC	UC	W	HL	C	P	I	CK	OK	REMARKS	Reject
A																	<del>* NO BRIDGE</del>	
x-1	2x160	P	4B													✓		
x 2																✓		
x 3																✓		
x 4																✓		
x 5																✓		
x 6																✓		
x 7																✓		
x 8																✓		
x 9	1x160		4B													✓		
x 10	2x160		4B													✓	(2'xs)	
x 11	3'xs		4B													✓		
x 12	3'xs		4B													✓		
x 13	1x160	P	5													✓		

*Ron Oja*

I AM IN FULL AGREEMENT WITH ALL ABOVE DETAILS

ONE MAN UNIT     TWO MAN UNIT

CUSTOMER'S REPRESENTATIVE \_\_\_\_\_ RADIOGRAPHER *Ron Oja*  
 QUALIFIED OPERATOR DARREN PRUTTON





602 - 15A Avenue  
 Lisku, Alberta T9E 7R9  
 Ph: 955-8601, Fax: 955-8603

(1997)

REPORT No. **A 25578**

CUSTOMER RUSHTON GAS OIL EQUIP DATE Aug. 11/2004

BILLING ADDRESS \_\_\_\_\_ Job No. C 2255 SP

JOB LOCATION EDMONTON YARD APPLICABLE CODE ANSI B 31.3 (S)

INSPECTION ON \_\_\_\_\_ MATERIAL TYPE P-1 P.O. \_\_\_\_\_

DAY	SUBSISTENCE	TYPE & SIZE OF FILM	TRAVEL TO	IN	OUT	TRAVEL FROM	MILEAGE	HOURS	PAGE
Wed		D4, D5/2 3/4 x 17							1 OF 1

WS — Welders Symbol # — Procedure  
 NF — Non Fusion IP — Incomp Pen  
 S — Slag BT — Bum Thru  
 LC — Low Cover UC — Undercut  
 W — Windows HL — High Low  
 C — Crater P — Porosity  
 I — Icicles CK — Crack  
 1 — Slight 2 — Medium 3 — Severe

Film No.	Size	WS	#	NF	IP	S	BT	LC	UC	W	HL	C	P	I	CK	OK	REMARKS	Reject
																	"BRIDLE"	
X-1	2x160	P	4b													✓		
X 2																✓		
X 3																✓		
X 4																✓		
X 5																✓		
X 6																✓		
X 7																✓		
X 8																✓		
X 11	4x5	P	4b													✓		
X 12	4x5	P	4b													✓		
X 9	2x160	P	4b													✓		
X 10	2x160	P	4b													✓		

*Ron Owen*

I AM IN FULL AGREEMENT WITH ALL ABOVE DETAILS  ONE MAN UNIT  TWO MAN UNIT

CUSTOMER'S REPRESENTATIVE \_\_\_\_\_ RADIOGRAPHER Ron Owen

QUALIFIED OPERATOR DARREN PRUTTON

# Tony Hewitt Consulting Services

2505 - 38A STREET

EDMONTON, ALBERTA T6L 4L6

TELEPHONE: (780) 940-4101

[tony@thcs.net](mailto:tony@thcs.net)

## ULTRASONIC INSPECTION REPORT

Client RUBICON

Location EDMONTON

Test Method ASME II

Acceptance Criteria SA 578 LB.

Object C2245 AH.

Scope 4" GRID.

Page	<u>1 - 1</u>
Date	<u>19 July 04</u>
P.O. No.	
Job. No.	<u>C2245 AH</u>

Instrument Panametrics EPOCH 4 S/No.011031806

Couplant WATER

Calibration Standards 1.1.W. & 1/16" N 1" T

Serial Nos

Transducer	Frequency	Size	Gain	Scan	Range
<u>0</u>	<u>2.25</u>	<u>19</u>	<u>80</u>	<u>+6</u>	<u>50</u>
<u>45</u>	<u>2.25</u>	<u>12.5</u>	<u>80</u>	<u>+6</u>	<u>100</u>

A BETTER THAN 4" GRID WAS SCANNED ON THE FOLLOWING.

- 1 - SHELL 24"  $\phi$
- 1 - HEAD 24"  $\phi$
- 1 - BOOT 10"  $\phi$
- 1 - BOOT HEAD 0"
- 1 - BOOT NOZZLE 10"  $\phi$

NO RECORDABLE INDICATIONS WERE FOUND.

Operator

A. Hewitt

*A. Hewitt*

ASNT III  
CGSB II

ST

2 1/2

OT

Km

Clients Representative

# Tony Hewitt Consulting Services

2505 - 38A STREET

EDMONTON, ALBERTA T6L 4L6

TELEPHONE: (780) 940-4101

tony@thcs.net

## ULTRASONIC INSPECTION REPORT

Client RUSHTON  
Location EDMONTON  
Test Method ASME V  
Acceptance Criteria ASME VIII DIV 1 APP 12  
Object C2245A-HS P.W.H.T.  
Scope CAT D

Page	1 - 1
Date	8 SEPT 04
P.O. No.	
Job. No.	C2245A - HS

Instrument Panametrics EPOCH 4 S/No.011031806 Couplant LIGHT OIL

Calibration Standards ASME 1" T 1/16" N Serial Nos

Transducer	Frequency	Size	Gain	Scan	Range
0	2.25	12.5	80	+6	50
60	2.25	12.5	80	+6	200
70	2.25	12.5	80	+6	250

THE FOLLOWING CAT D WELDS WERE TESTED P.W.H.T.

0° SCAN  
60° } FULL & HALF SKIP AS AVAILABLE.  
70° }

N1 N2 N3 N4 N5A N5B

NO RECORDABLE INDICATIONS WERE FOUND.

Operator <u>A. Hewitt</u>	ASNT III CGSB II	ST 1	OT	Km	Clients Representative
---------------------------	---------------------	---------	----	----	------------------------

# Tony Hewitt Consulting Services

2505 - 38A STREET  
 EDMONTON, ALBERTA T6L 4L6  
 TELEPHONE: (780) 940-4101  
 tony@thcs.net

## ULTRASONIC INSPECTION REPORT

Client RUSTON  
 Location EDMONTON  
 Test Method ASME V  
 Acceptance Criteria ASME VIII DIV 1 APP 12  
 Object C2245A - HS.  
 Scope CAT D WELDS

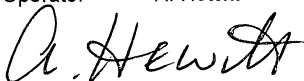
Page	1 - 1
Date	12 AUG 04
P.O. No.	
Job. No.	C2245A - HS

Instrument				Panametrics EPOCH 4 S/No.011031806		Couplant		LIGHT OIL	
Calibration Standards					ASME 1" T 1/16" N				
Serial Nos									
Transducer	Frequency	Size	Gain	Scan	Range				
0	2.25	19	80	+6	50				
60	2.25	12.5	80	+6	200				
76	2.25	12.5	80	+6	250				

THE FOLLOWING CAT D WELDS WERE TESTED.  
 0° LAMINATION SCAN  
 60° } FULL & HALF SKIP AS AVAILABLE.  
 76° }

N1 N2 N3 N4 NSA NSB N7

NO RECORDABLE INDICATIONS WERE FOUND.

Operator	A. Hewitt	ASNT III	CGSB II	ST	OT	Km	Clients Representative
		1					

# Tony Hewitt Consulting Services

2505 - 38A STREET  
EDMONTON, ALBERTA T6L 4L6  
TELEPHONE: (780) 940-4101  
[tony@thcs.net](mailto:tony@thcs.net)

## MAGNETIC PARTICLE INSPECTION REPORT

Client RUSHTON  
Location EDMONTON  
Test Method ASTM E709. 01 & ASME V  
Acceptance Criteria ASME VIII DIVI APP 6  
Object C-2245-HS

Page	1 - 1
Date	13 SEPT 04
P.O. No.	
Job. No.	C-2245-HS

Procedure:-	<input type="checkbox"/> Pre Heat Treatment	<input type="checkbox"/> Post Heat Treatment	<input checked="" type="checkbox"/> Post Hydrotest			
Test Equipment - Magnaflux Y-6 Serial Number 14765	Medium: - Magnaflux	Type: - <input checked="" type="checkbox"/> 14 A	<input type="checkbox"/> 8R <input type="checkbox"/> Other			
<input type="checkbox"/> Dry	<input checked="" type="checkbox"/> Wet	<input checked="" type="checkbox"/> Fluorescent	<input type="checkbox"/> Red	<input type="checkbox"/> Grey	<input type="checkbox"/> B/White	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> Yoke	<input type="checkbox"/> Prod	<input type="checkbox"/> Coil	<input checked="" type="checkbox"/> A/C	<input type="checkbox"/> D/C	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Residual
<input checked="" type="checkbox"/> Base Metal	<input type="checkbox"/> Ground	<input type="checkbox"/> Machined	<input type="checkbox"/> Painted	<input type="checkbox"/> Shot Blasted	<input type="checkbox"/> Central Cond.	<input type="checkbox"/> Demag

ALL AVAILABLE PRESSURE RETAINING WELDS WERE TESTED P.W.H.T.

NO RECORDABLE INDICATIONS WERE FOUND.

Operator A. Hewitt

*A. Hewitt*

ASNT III  
CGSB II

ST

2

OT

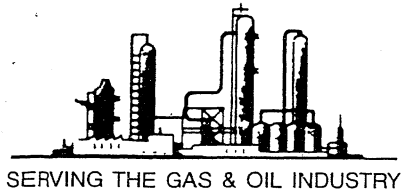
Km

Clients Representative





## 2.6 Material Traceability Sheet & MTR's

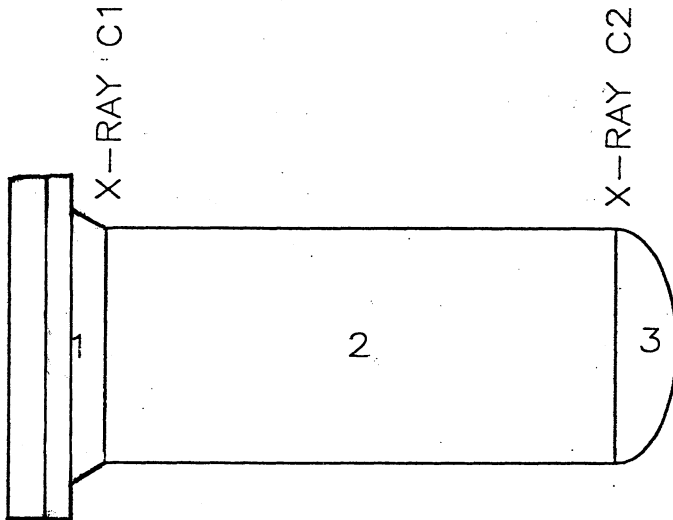


# RUSHTON

GAS & OIL EQUIPMENT (1991) LTD.

2331 - 121 Ave. N.E.  
 Edmonton, Alberta  
 T6S 1B2  
 Tel: (780) 475-8801  
 Fax: (780) 475-8892  
 E-mail: rushton@telusplanet.net

DATE: JUNE 18, 2004  
 CUSTOMER: ENCANA RESOURCES  
 SERIAL NUMBER: C2245A.HS  
 TYPE OF VESSEL: HORIZ. SEPARATOR  
 DRAWING NUMBER: C-2245-A REV. 0



ITEM	DIA	ITEM NO.	HEAT NO.	SLAB NO.	MAT'L SPEC.	MIN.
MANWAY FLANGE	24"	1	✓ A2M		SA-105-N	1.000"
SHELL	24"	2	✓ 39497-45067		SA-516-70N	1.000"
HEAD	24"	3	✓ 41199-67018		SA-516-70N	0.9510"
BOOT SHELL	10"		✓ J2K9460		SA-333-GR6	0.718"
BOOT HEAD	10 <sup>3</sup> / <sub>4</sub> "		✓ 21629		SA-516-70N	0.693"
N7 NECK	10"		✓ J836045		SA-333-GR6	1.125"
N7 REPAD	17 <sup>3</sup> / <sub>4</sub> "		✓ 49077-79061		SA-516-70N	0.8750"



24" 600# W/N FLANGE RF SCH 100  
BORE A-105 (SQ. CUT)

C2245 VS

P.O. 8225

JULY 13/04

HEAT NUMBER : A2M  
TRANS AM PIPING PRODUCTS - REV'D BY:  
Shipmt/Seq #: S 3 - 1366 21

Certificate No. 3908001A-0819588  
(성적서번호)

Customer SEYBOLD  
(수문자)

Material SA/A105-01  
(재질)

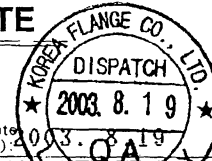
P.O.No. 4101(CI-03-581)  
(발주번호)

# INSPECTION CERTIFICATE

(시험성적서)

W/O No. 3908001A  
(직업지시번호)

Issued date 2003. 8. 19  
(발행일)



**KOREA FLANGE CO., LTD.**  
한국프랜지공업주식회사  
194, DongBu-Dong, Dong-Ku,  
Ulsan-Metropolitan, KOREA  
울산광역시 동구 동부동 194번지

Item No. (품번)	Article (품명)	Quantity (수량)	Mechanical Properties (기계적성질) Lot No. (롯데번호) (Control No)	Tension Test (인장시험)				Impact Test(Charpy) (충격시험)	Hardness Test (경도시험)	CODE NO (제품번호)
				Y.S (항복강도) psi Min(최소)	T.S (인장강도) psi MIN	E.L (연신율) %	R.A (단면수축율) %			
011	AN 600 WNSQ RF S100 18		A6Q	46800	75800	33.8	66.5		MAX 187 146 143	
012	AN 600 WNSQ RF S100 24		A2M	51600	77100	34.3	70.2	←	143 146	✓
015	AN 600 BL RF 24		A6N	47800	75300	34.9	68.2		141 143	
***** B L A N K *****										

Chemical Composition (화학적성분)(%) Lot No. (롯데번호) (Control No)	C	Si	Mn	P	S	Ni	Cr	Mo	V	Cu	Cb	N	Ceq	Heat treatment (열처리)		
	1/100	1/100	1/100	1/1000	1/1000	1/100	1/1000	1/1000	1/1000	1/1000	1/1000	1/1000	1/100			
Requirements(시량)	MAX	10	60	MAX	MAX	MAX	MAX	MAX	MAX	MAX	MAX			Normalizing (소둔)	900 °C 3.5 h A.C	
35	35	105	35	40	40	300	120	80	400	20				Quenching (소입)	°C h	
A6Q	20	28	106	14	5	2	20 <.02%		3	10 <.02%				Annealing (소둔)	°C h	
A2M	19	28	106	19	4	3	40 <.02%	<.02%		10 <.02%				←	Tempering (소려)	°C h
A6N	19	27	105	17	5	1	20 <.02%	<.02%		10 <.02%					Solution (고용해열처리)	°C
***** B L A N K *****																

Others (기타)	Works Test Certificate to EN 10204/3.1B Flanges supplied to ASME B16.5.	Visual & Dimension Inspection (치수 및 외관검사) GOOD
		B. G. Ceef.

Surveyor To:  
(검사관)

We hereby certify that material described herein has been tested and satisfied as above in accordance with the specifications. (본 성적서에 명시된 소재는 상거 사양에 의거 위와같이 시험되었으며 그 결과가 만족함을 증명함.)

QA Department Manager  
(품질보증부장)

KOFS-CAO-035EN(3) 2001. 10

**RUSHTON GAS & OIL EQUIP. LTD.**  
MTR CONCO  
ASME DEC 1000 ED: ADD:  
QA: Jackson  
DATE: July 22/04

CE = 0.317 ✓  
Mn/C = 5.579  
C + Mn/4 = 0.455  
C + Mn/6 = 0.367

2503

**EDMONTON EXCHANGER & MANUFACTURING LTD.**  
 5545 - 89 STREET, EDMONTON, ALBERTA T6E 5W9  
 TELEPHONE (780) 468-6722 FAX (780) 466-5155

QCC-004  
 REV. 3  
 DATE: APR. 12/00  
 APPROVED BY: S.Z.

**CERTIFICATE OF COMPLIANCE**

*B.M. Lee 8/03*

<b>CUSTOMER</b> RUSHTON GAS & OIL	<b>PURCHASE ORDER</b> 5994-5010	<b>WORK ORDER</b> C48484	<b>DATE</b> 2003/12/08	<b>PAGE</b> 1 OF 2
--------------------------------------	------------------------------------	-----------------------------	---------------------------	--------------------

ITEM #	QTY	DESCRIPTION	HEAT #	TAG BRINELL		WELD	FORMING
				CODE	HARDN		
S48484-3-1	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39495-45079		145	WP600	4
S48484-3-2	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39495-45079		145	WP600	4
S48484-3-3	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45070		138	WP600	4
S48484-3-4	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45070		138	WP600	4
S48484-3-5	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45070		138	WP600	4
S48484-3-6	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45070		138	WP600	4
S48484-3-7	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45070		138	WP600	4
S48484-3-8	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45070		138	WP600	4
S48484-3-9	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39495-45080		158	WP600	4
S48484-3-10	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	[REDACTED]		151	WP600	4
S48484-3-11	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45067		151	WP600	4
S48484-3-12	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45067		151	WP600	4
S48484-3-13	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45067		151	WP600	4
S48484-3-14	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45067		151	WP600	4
S48484-3-15	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45068		151	WP600	4
S48484-3-16	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45068		151	WP600	4
S48484-3-17	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45068		151	WP600	4
S48484-3-18	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45068		151	WP600	4
S48484-3-19	1	SHELL(S) - 1.0000" NOM X 24" OD X 96" (MATERIAL SPEC: SA 516-70 N)	39497-45068		145	WP600	4

2503

**EDMONTON EXCHANGER & MANUFACTURING LTD.**  
 5545 - 89 STREET, EDMONTON, ALBERTA T6E 5W9  
 TELEPHONE (780) 468-6722 FAX (780) 466-5155

QCC-004  
 REV. 3  
 DATE: APR. 12/00  
 APPROVED BY: S.Z.

**CERTIFICATE OF COMPLIANCE**

<b>CUSTOMER</b> RUSHTON GAS & OIL	<b>PURCHASE ORDER</b> 5994-5010	<b>WORK ORDER</b> C48484	<b>DATE</b> 2003/12/08	<b>PAGE</b> 2 OF 2
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**FORMING PROCEDURE:**

1. HOT FORMED @ 1650F/899C AND AIR COOLED
2. HOT FORMED @ 1975F/1080C AND AIR COOLED
3. NORMALIZED @ 1650F/899C FOR 25 MIN/INCH AND AIR COOLED
4. COLD FORMED
5. RENORMALIZED @ 1650F/899C AND AIR COOLED AFTER FORMING
6. SOLUTION ANNEALED @ 1950F/1065C AFTER FORMING
7. STRESS RELIEVED @ 1150F/621C PER UCS-56 OR PW-39(where applicable)

**NOTE:** ALL ITEMS WHICH WERE HEAT TREATED DURING OR AFTER FORMING SHALL BE INCLUDED ON THE FORMING PROCEDURE LISTED ABOVE AS PER UCS-79(e).

**BRINELL EQUIPMENT:** NEWAGE CALIBRATION PIN  
 BRINELL HARDNESS TESTER

**SUPPLEMENTARY REQUIREMENTS:**

S48484-3: conforms to NACE MR 01 75

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, ROUND BAR USED IS 1018 COLD ROLLED. MATERIAL BEING SUPPLIED CONFORMS TO THE LATEST ASME CODE SECTION II, PART A, 2001 EDITION, JULY 1, 2002 ADDENDA.

STEVE ZUBRYCKYJ (QAM)  
 EDMONTON EXCHANGER & MANUFACTURING LTD.

**SUPPLEMENTARY EXAMINATION - ITEMS**



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/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		A09 Advice of dispatch No./ Date of dispatch 96939-03.03.03	A08/ Manufacturer's order/ A03 Certificate No. 262170-002	Sheet 6/...
A05 Established inspecting body DH	A06 Purchaser Final receiver ARCELOR CANADA, BURLI EDMONTON STEEL, EDMON	A07.1 No. PS5742 A07.2 No. E10241-J1010LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade	SA516-70			
B03 Specifica- tions	ASME-2A:01+A02 +SA20-S5			

B01-B99 Product description

B09 Item No.	B10 Quantity	B11 Thickness	B12 Width	B13 Length	B14 Mass theoretical LBS	B04 Delivery condition	B08 Heat No.	B07 Rolled plate No./ Test No.	B16 Customer reference
INCH									
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39495	45076-02	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39495	45077-01	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39495	45079-01	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39495	45079-02	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39495	45079-03	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39495	45080-01	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45062-01	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45062-02	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45062-03	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45063-01	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45063-02	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45063-03	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45064-01	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45064-02	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45064-03	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45065-01	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45065-02	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45065-03	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45067-01	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45067-02	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45067-03	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45068-01	PS5742
07	1	1,0000 x	96,00000 x	480,00000	13069	N	39497	45068-02	PS5742

A04	Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	A01
	<p>QM-System: Certification as per ISO 9001 since 14 March 1990</p> <p style="text-align: center;"><i>B. Mueller</i> B. MUELLER Der Werkssachverständige</p> <p style="text-align: center;"> AHB Inspector's stamp</p>	<p>AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department</p> <p>Date 04.03.03</p>
Trademark	PA	1



DILLINGER HÜTTE

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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		A09 Advice of dispatch No./ Date of dispatch 96939-03.03.03	A08/ Manufacturer's order/ A03 Certificate No. 262170-002	Sheet 11/...
A05 Established inspecting body DH	A06 Purchaser Final receiver ARCELOR CANADA, BURLI EDMONTON STEEL, EDMON	A07.1 No. PS5742 A07.2 No. E10241-J1010LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade SA516-70	B03 Specifica- tions ASME-2A:01+A02 +SA20-S5			

C10-C29 Tensile test

B09 Item No.	B08 Heat No.	B07 Rol.plate/ Test No.	B05 Reference condition	C01	C02/ C01	C03 Temp. GR.F	C11 KSI RP02	C12 RM	C13 A % L <sub>0</sub> =2IN	C14-C15 LO=8IN
05	39495	45081		K4	Q	RT	50,6	74,4		29,9
05	39501	46892		K4	Q	RT	51,0	74,4		28,9
06	39493	45084		K4	Q	RT	49,9	74,4		30,4
06	39493	45094		K4	Q	RT	49,4	74,2		29,4
06	39493	45100		K4	Q	RT	48,7	74,2		32,9
06	39493	45101		K4	Q	RT	51,0	75,3		29,4
06	39493	45102		K4	Q	RT	48,7	74,1		31,4
06	39493	45103		K4	Q	RT	51,2	75,0		29,4
07	39275	47277		K4	Q	RT	50,8	73,8		29,9
07	39495	45071		K4	Q	RT	49,2	74,1		31,4
07	39495	45072		K4	Q	RT	50,2	73,7		31,9
07	39495	45073		K4	Q	RT	49,0	73,5		29,9
07	39495	45074		K4	Q	RT	49,9	74,7		29,4
07	39495	45076		K4	Q	RT	49,4	74,1		31,4
07	39495	45077		K4	Q	RT	49,0	73,7		30,9
07	39495	45079		K4	Q	RT	49,4	74,1		30,4
07	39495	45080		K4	Q	RT	49,2	73,8		31,4
07	39497	45062		K4	Q	RT	50,0	73,8		31,4
07	39497	45063		K4	Q	RT	49,3	73,1		28,0
07	39497	45064		K4	Q	RT	49,6	73,2		30,9
07	39497	45065		K4	Q	RT	49,9	73,2		30,9
07	39497	45067		K4	Q	RT	50,5	73,2		28,4
07	39497	45068		K4	Q	RT	50,9	73,7		28,9

A04	Z01/Z02 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 since 14 March 1990	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department
Trademark	 B. MUELLER Der Werkssachverständige	 Inspector's stamp Date 04.03.03 PA 1

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DILLINGER HÜTTE

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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		A09 Advice of dispatch No./ Date of dispatch 96939-03.03.03	A08/ Manufacturer's order/ A03 Certificate No. 262170-002	Sheet 15/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. PS5742 A07.2 No. E10241-J1010LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade SA516-70	B03 Specifica- tions ASME-2A:01+A02 +SA20-S5			

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	C45 AV	C42 Individual values AV=FT.LBF	C43 Average value
07	39495	45074		K4	LV	-51		CHP-V		95	191 128	138
07	39495	45076		K4	LV	-51		CHP-V		128	109 206	148
07	39495	45077		K4	LV	-51		CHP-V		209	192 111	171
07	39495	45079		K4	LV	-51		CHP-V		193	194 187	191
07	39495	45080		K4	LV	-51		CHP-V		193	113 126	144
07	39497	45062		K4	LV	-51		CHP-V		92	113 100	102
07	39497	45063		K4	LV	-51		CHP-V		153	115 98	122
07	39497	45064		K4	LV	-51		CHP-V		106	83 86	92
07	39497	45065		K4	LV	-51		CHP-V		175	117 82	125
07	39497	45067		K4	LV	-51		CHP-V		123	125 185	144
07	39497	45068		K4	LV	-51		CHP-V		125	204 137	155
07	39497	45069		K4	LV	-51		CHP-V		114	111 110	112
07	39497	45070		K4	LV	-51		CHP-V		166	185 195	182
07	39498	45059		K4	LV	-51		CHP-V		181	187 105	158
07	39498	45061		K4	LV	-51		CHP-V		113	201 190	168
07	39498	46608		K4	LV	-51		CHP-V		86	98 189	124
08	39498	45056		K4	LV	-51		CHP-V		86	209 188	161
08	39498	45057		K4	LV	-51		CHP-V		122	136 112	123
08	39498	45058		K4	LV	-51		CHP-V		196	117 129	147
08	39498	45060		K4	LV	-51		CHP-V		165	198 114	159
09	39500	45044		K4	LV	-51		CHP-V		24	50 90	55
09	39500	45045		K4	LV	-51		CHP-V		84	76 86	82
09	39500	45047		K4	LV	-51		CHP-V		78	92 104	91
09	39500	45048		K4	LV	-51		CHP-V		146	93 105	115

A04	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 since 14 March 1990			A01
		B. MUELLER Der Werkssachverständige	Inspector's stamp	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department Date 04.03.03 PA 1



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/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		A09 Advice of dispatch No./ Date of dispatch 96939-03.03.03	A08/ Manufacturer's order/ A03 Certificate No. 262170-002	Sheet 16/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. PS5742 A07.2 No. E10241-J1010LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade	SA516-70			
B03 Specifica- tions	ASME-2A:01+A02 +SA20-S5			

C40-C49 Impact test

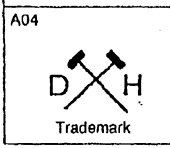
B09 Item No.	B08 Heat No.	B07 Rol.plate/ Test No.	B05 Reference condition	C01	C02/ C01	C03 Temp. GR.F	C41 Specimen width	C40 Type of specimen	C44 Testing method	C45	C42 Individual values AV=FT.LBF	C43 Average value	
09	39500	45049		K4	LV	-51		CHP-V		AV 153	46	101	100
09	39500	45050		K4	LV	-51		CHP-V		AV 192	116	193	167
09	39500	45051		K4	LV	-51		CHP-V		AV 198	155	149	167
09	39500	45052		K4	LV	-51		CHP-V		AV 122	83	87	97
09	39500	45053		K4	LV	-51		CHP-V		AV 195	134	96	142
09	39500	45054		K4	LV	-51		CHP-V		AV 207	108	90	135
09	39500	45055		K4	LV	-51		CHP-V		AV 100	190	118	136

C70-C99 Chemical composition % - Heat analysis

B08 Heat	C70	C	SI	MN	P	S	N	AL	CU	MO	NI	CR	V	NB	TI
39270	Y	0,170	0,362	1,16	0,008	0,0015	0,0059	0,039	0,038	0,008	0,065	0,038	0,001	0,000	0,002
39271	Y	0,180	0,362	1,18	0,007	0,0006	0,0059	0,034	0,033	0,009	0,044	0,024	0,001	0,000	0,003
39272	Y	0,173	0,372	1,18	0,009	0,0010	0,0062	0,038	0,050	0,005	0,066	0,022	0,001	0,000	0,001
39275	Y	0,177	0,316	1,19	0,010	0,0012	0,0060	0,035	0,023	0,007	0,044	0,037	0,001	0,000	0,001
39463	Y	0,178	0,327	1,15	0,008	0,0013	0,0067	0,038	0,013	0,019	0,031	0,047	0,000	0,000	0,001
39493	Y	0,170	0,366	1,17	0,009	0,0008	0,0058	0,035	0,029	0,015	0,044	0,052	0,001	0,000	0,002
39495	Y	0,171	0,369	1,17	0,010	0,0017	0,0059	0,033	0,032	0,013	0,038	0,035	0,000	0,000	0,002
39497	Y	0,178	0,360	1,14	0,007	0,0007	0,0057	0,038	0,024	0,006	0,035	0,025	0,000	0,000	0,002
39498	Y	0,171	0,342	1,16	0,007	0,0007	0,0067	0,037	0,019	0,043	0,041	0,062	0,000	0,000	0,002
39500	Y	0,174	0,323	1,13	0,012	0,0012	0,0069	0,037	0,023	0,014	0,042	0,042	0,001	0,000	0,002
39501	Y	0,178	0,328	1,16	0,011	0,0011	0,0081	0,035	0,013	0,021	0,027	0,049	0,000	0,000	0,002

CE = .38  
Min C = 0.40  
C/Mn/A = 1.12  
S/N/A = 0.37

EDMONTON STEEL LTD.  
DILLINGER  
ASME SEC III  
DATE: Dec 15/03



A04 Z01/20 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.  
QM-System, Certificate as per ISO 9001 since 14 March 1990  
B. MUELLER  
Der Werksachverständige

A01 AG der Dillinger Hüttenwerke  
Postfach 1580, D-66748 Dillingen/Saar  
Inspection department  
Inspector's stamp  
Date 04.03.03  
PA 1



DILLINGER HÜTTE

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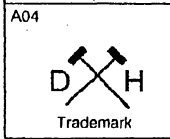
A02 ABNAHMEPRUEFZEUGNIS 3.1.B DIN EN 10204 - EN 10204 - DIN 50049 CERTIFICAT DE RECEPTION 3.1.B NF EN 10204 INSPECTION CERTIFICATE 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT		A09 Advice of dispatch No./ Date of dispatch 96939-03.03.03	A08/ Manufacturer's order/ A03 Certificate No. 262170-002	Sheet 17/...
A05 Established inspecting body DH	A06 Purchaser Final receiver ARCELOR CANADA, BURLI EDMONTON STEEL, EDMON	A07.1 No. PS5742 A07.2 No. E10241-J1010LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade	SA516-70			
B03 Specifications	ASME-2A:01+A02 +SA20-S5			

C70-C99 Chemical composition % - Heat analysis

B08 Heat	C70	B	SN
39270	Y	0,0000	0,002
39271	Y	0,0002	0,000
39272	Y	0,0000	0,002
39275	Y	0,0000	0,002
39463	Y	0,0000	0,002
39493	Y	0,0000	0,002
39495	Y	0,0001	0,001
39497	Y	0,0001	0,001
39498	Y	0,0000	0,000
39500	Y	0,0001	0,001
39501	Y	0,0001	0,000

C94 Heat analysis Carbon equivalent / Alloying restrictions

B08 Heat	FO-02=	FO-55=	FO-78=	FO-91=
39270	0,38	0,15	0,05	6,8
39271	0,39	0,11	0,03	6,6
39272	0,38	0,14	0,03	6,8
39275	0,39	0,11	0,04	6,7
39463	0,39	0,11	0,07	6,5
39493	0,38	0,14	0,07	6,9
39495	0,38	0,12	0,05	6,8
39497	0,38	0,09	0,03	6,4
39498	0,39	0,17	0,11	6,8
39500	0,38	0,12	0,06	6,5
39501	0,39	0,11	0,07	6,5



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 since 14 March 1990

*B. Mueller*

B. MUELLER

Der Werkssachverständige



Inspector's stamp

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

Date 04.03.03

PA 1

A01

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DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/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		A09 Advice of dispatch No./ Date of dispatch 96939-03.03.03	A08/ Manufacturer's order/ A03 Certificate No. 262170-002	Sheet 20
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. PS5742 A07.2 No. E10241-J1010LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade	SA516-70			
B03 Specifica- tions	ASME-2A:01+A02 +SA20-S5			

C94 Product analysis Carbon equivalent / Alloying restrictions

B08 Heat	B07 Test No.	C01
39495	45074	K4 FO-02= 0,38 FO-55= 0,12 FO-91= 6,6
39495	45078	K4 FO-02= 0,38 FO-55= 0,11 FO-91= 6,8
39497	45064	K4 FO-02= 0,38 FO-55= 0,09 FO-91= 6,4
39498	45057	K4 FO-02= 0,39 FO-55= 0,17 FO-91= 6,7
39500	45049	K4 FO-02= 0,37 FO-55= 0,11 FO-91= 7,0
39501	46892	K4 FO-02= 0,39 FO-55= 0,11 FO-91= 6,3

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

D01 Checking of marking, surface, shape and dimensions

ITEM NO.: 01-09  
RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS  
SURFACE AS PER ASME-SA20  
THICKNESS AS PER ASME-SA20:01+A02  
LENGTH AND WIDTH AS PER ASME-SA20:01+A02  
FLATNESS AS PER 1/2ASME-SA20:01+A02



A04	Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	A01
	QM-System: Certification as per ISO 9001 since 14 March 1990	 B. MUELLER Der Werkssachverständige	 Inspector's stamp Date 04.03.03 PA 1

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**EDMONTON EXCHANGER & MANUFACTURING LTD.**  
 5545 - 89 STREET, EDMONTON, ALBERTA T6E 5W9  
 TELEPHONE (780) 468-6722 FAX (780) 466-5155

2531

QCC-001  
 REV. 6  
 DATE: APR. 12/00  
 APPROVED BY: S.Z.

**CERTIFICATE OF COMPLIANCE - HEADS**

*Bm* *4/03*

CUSTOMER RUSHTON GAS & OIL	PURCHASE ORDER 5994-5010	WORK ORDER C48484	DATE 2003/11/26	PAGE 1 OF 1
-------------------------------	-----------------------------	----------------------	--------------------	-------------

ITEM #	QTY	DESCRIPTION	HEAT #	CERTIFIED	BRINELL	WELD	FORMING
				MIN. THK.	HARDN	PROCEDURE	PRDC
H48484-7	1	HEAD(S) - Semi-Elliptical 2:1 - 0.5000" NOM (0.4375" MIN) X 12.75" OD (MATERIAL SPEC: SA 516-70 N)	77901-23144 ✓	0.4680"	145	-	1
	2		6423A-46771 ✓	0.4470"	164	-	1
	1		6423A-46780 ✓	0.4560"	158	-	1
H48484-10	4	HEAD(S) - Semi-Elliptical 2:1 - 1.0000" NOM (0.9375" MIN) X 24" OD (MATERIAL SPEC: SA 516-70 N)	16230-05788 ✓	0.9500"	138	-	1
	7		<del>41199-67018</del> HT# 41199 67018	0.9510"	138	-	1
	6		4017B-09402 ✓	0.9375"	138	-	1
	1		44367-13286 ✓	0.9480"	138	-	1
	11		44367-13280 ✓	0.9580"	138	-	1
	9		44367-13284	0.9550"	138	-	1

**FORMING PROCEDURE:**

- HOT FORMED @ 1650F/899C AND AIR COOLED
- HOT FORMED @ 1975F/1080C AND AIR COOLED
- NORMALIZED @ 1650F/899C FOR 25 MIN/INCH AND AIR COOLED
- COLD FORMED
- RENORMALIZED @ 1650F/899C FOR 25 MIN/INCH AND AIR COOLED AFTER FORMING
- SOLUTION ANNEALED @ 1950F/1065C AFTER FORMING
- STRESS RELIEVED @ 1150F/621C PER UCS-56 OR PW-39(where applicable)

**NOTE:** ALL ITEMS WHICH WERE HEAT TREATED DURING OR AFTER FORMING SHALL BE INCLUDED ON THE FORMING PROCEDURE LISTED ABOVE AS PER UCS-79(e).

**SUPPLEMENTARY EXAMINATION - ITEMS**

**BRINELL EQUIPMENT:** NEWAGE CALIBRATION PIN  
 BRINELL HARDNESS TESTER

**SUPPLEMENTARY REQUIREMENTS:**


H48484-7: conforms to NACE MR 01 75  
 H48484-7: conforms to NACE MR 01 75  
 H48484-7: conforms to NACE MR 01 75  
 H48484-10: conforms to NACE MR 01 75  
 H48484-10: conforms to NACE MR 01 75  
 H48484-10: conforms to NACE MR 01 75  
 H48484-10: conforms to NACE MR 01 75  
 H48484-10: conforms to NACE MR 01 75  
 H48484-10: conforms to NACE MR 01 75  
 H48484-10: conforms to NACE MR 01 75

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. COLD FORMED HEADS COMPLY WITH PARAGRAPH UCS-79(d). MATERIAL BEING SUPPLIED CONFORMS TO THE LATEST ASME CODE SECTION II, PART A, 2001 EDITION, JULY 1, 2002 ADDENDA.  
 STEVE ZUBRYCKYJ (QAM)  
 EDMONTON EXCHANGER & MANUFACTURING LTD.



# DILLINGER HÜTTE


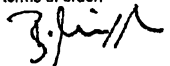

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.biz/certificate)

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 103633-30.04.03	A08/ Manufacturer's order/ A03 Certificate No. 265754-003	Sheet 1/...
A05 Established inspecting body DH	A06 Purchaser Final receiver	ARCELOR CANADA, BURLI EDMONTON STEEL, EDMON	A07.1 No. SAP 10030566 A07.2 No. E10249-J1010-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade	SA516-70		SA20-S5		
B03 Specifica- tions	ASME-2A:01+A02		 08891		

### 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
			INCH		KG				
01	1	1,0000	x 96,00000	x 480,00000	5928	N	41200	67009-01	SAP10030566-1
01	1	1,0000	x 96,00000	x 480,00000	5928	N	41200	67009-02	SAP10030566-1
01	1	1,0000	x 96,00000	x 480,00000	5928	N	41200	67010-01	SAP10030566-1
01	1	1,0000	x 96,00000	x 480,00000	5928	N	41200	67010-02	SAP10030566-1
01	1	1,0000	x 96,00000	x 480,00000	5928	N	41202	67002-01	SAP10030566-1
01	1	1,0000	x 96,00000	x 480,00000	5928	N	41202	67002-02	SAP10030566-1
**	6				35568				
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41199	67017-01	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41199	67017-02	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41199	67018-01	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41199	67018-02	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41199	67019-01	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41199	67019-02	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41199	67020-01	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41199	67020-02	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41200	67013-01	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41200	67013-02	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41200	67014-01	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41200	67014-02	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41200	67015-01	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41200	67015-02	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41200	67016-01	SAP10030566-2
02	1	1,0000	x 120,00000	x 480,00000	7410	N	41200	67016-02	SAP10030566-2

CPKA 052005

A04	Z01/Z02 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 since 14 March 1990	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department
	 B. MUELLER Der Werkssachverständige	 Inspector's stamp Date 02.05.03 PP 1

RECEIVED MAY 05 2003

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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		A09 Advice of dispatch No./ Date of dispatch 103633-30.04.03	A08/ Manufacturer's order/ A03 Certificate No. 265754-003	Sheet 3/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. SAP 10030566 A07.2 No. E10249-J1010-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade SA516-70	SA20-S5			
B03 Specifications	ASME-2A:01+A02			

C10-C29 Tensile test

B09 Item No.	B08 Heat No.	B07 Rol.plate/ Test No.	B05 Reference condition	C01	C02/ C01	C03 Temp. GR.F	C10 KSI RPO2	C11	C12 RM	C13	A % LO=2IN	A % LO=8IN	C14-C15
02	41199	67018		K4	Q	RT	49,4		73,5			30,4	
02	41199	67019		K4	Q	RT	48,7		73,4			30,9	
02	41199	67020		K4	Q	RT	48,4		73,4			31,4	
02	41200	67013		K4	Q	RT	48,0		73,5			29,4	
02	41200	67014		K4	Q	RT	48,3		73,5			31,4	
02	41200	67015		K4	Q	RT	48,7		73,7			30,4	
02	41200	67016		K4	Q	RT	48,9		72,9			31,9	
03	41198	67041		K4	QV	RT	50,8		74,2		35,5		
03	41199	67022		K4	QV	RT	50,5		74,2		38,1		

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	C42	C43 Average value
01	41200	67009		K4	LV	-51		CHP-V			AV 138	139	114
01	41200	67010		K4	LV	-51		CHP-V			AV 107	123	111
01	41202	67002		K4	LV	-51		CHP-V			AV 103	114	111
02	41199	67017		K4	LV	-51		CHP-V			AV 134	150	79
02	41199	67018		K4	LV	-51		CHP-V			AV 127	124	136
02	41199	67019		K4	LV	-51		CHP-V			AV 162	109	131
02	41199	67020		K4	LV	-51		CHP-V			AV 131	148	142
02	41200	67013		K4	LV	-51		CHP-V			AV 134	105	113
02	41200	67014		K4	LV	-51		CHP-V			AV 118	129	96
02	41200	67015		K4	LV	-51		CHP-V			AV 46	94	113
02	41200	67016		K4	LV	-51		CHP-V			AV 61	81	94

A04	Z01/Z02 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 since 14 March 1990		AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department
		B. MUELLER Der Werksachverständige	Inspector's stamp Date 02.05.03
			PP 1

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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 - EN 10204 - DIN 50049 NF EN 10204 BS EN 10204 - ISO 10474	MATERIAL TEST REPORT	A09 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
					103633-30.04.03	265754-003	5/...

A05 Established inspecting body DH	A06 Purchaser Final receiver	ARCELOR CANADA, BURLI EDMONTON STEEL, EDMON	A07.1 No. SAP 10030566 A07.2 No. E10249-J1010-LG	B01 Product HOT ROLLED PLATES
---------------------------------------	---------------------------------	--	---	----------------------------------

B02/ Steel grade	SA516-70	SA20-S5
B03 Specifica- tions	ASME-2A:01+A02	

C95 Ladle treatment

ITEM NO.: 01-03

HEAT OF THE INDICATED ITEM: VACUUM DEGASSED / SULPHIDE SHAPE CONTROL

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
41198	67031	K4	0,168	0,318	1,12	0,009	0,0012	0,0062	0,030	0,022	0,026	0,084	0,063	0,001	0,000	0,000
41199	67018	K4	0,166	0,356	1,15	0,009	0,0007	0,0080	0,035	0,018	0,005	0,029	0,023	0,000	0,000	0,000
41199	67021	K4	0,166	0,351	1,14	0,011	0,0011	0,0084	0,034	0,018	0,005	0,030	0,022	0,000	0,000	0,000
41200	67007	K4	0,166	0,375	1,13	0,007	0,0012	0,0060	0,037	0,016	0,021	0,035	0,042	0,000	0,000	0,001
41202	67005	K4	0,165	0,367	1,13	0,008	0,0008	0,0055	0,038	0,017	0,011	0,040	0,036	0,001	0,000	0,002

B08 Heat	B07 Test No.	C01	TI	B
41198	67031	K4	0,002	0,0001
41199	67018	K4	0,002	0,0000
41199	67021	K4	0,003	0,0002
41200	67007	K4	0,004	0,0000
41202	67005	K4	0,002	0,0000

CE = 0,31  
Mn/C = 6,93  
C+Mn/8 = 45  
C+Mn/8 = 36

EDMONTON STEEL EQUIP LTD.  
ASME SEC. VIII DIV 2 ADD. 2002  
DATE: Dec 11 03

C94 Product analysis Carbon equivalent / Alloying restrictions


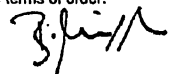

B08 Heat	B07 Test No.	C01	FO-02=	FO-55=	FO-91=
41198	67031	K4	0,38	0,20	6,7
41199	67018	K4	0,37	0,08	6,9
41199	67021	K4	0,36	0,08	6,9
41200	67007	K4	0,37	0,11	6,8
41202	67005	K4	0,37	0,10	6,8

A04	Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillinger/Saar Inspection department	A01
	QM-System: Certification as per ISO 9001 since 14 March 1990	 B. MUELLER Der Werkssachverständige	 Inspector's stamp Date 02.05.03
			PP 1



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		A09 Advice of dispatch No./ Date of dispatch 103633-30.04.03	A08/ Manufacturer's order/ A03 Certificate No. 265754-003	Sheet 6
A05 Established inspecting body DH	A06 Purchaser Final receiver ARCELOR CANADA, BURLI EDMONTON STEEL, EDMON	A07.1 No. SAP 10030566 A07.2 No. E10249-J1010-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade SA516-70	SA20-S5			
B03 Specifica- tions ASME-2A:01+A02				
<b>C94 Carbon equivalent formula / Alloying restrictions</b>				
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				
<b>D01 Checking of marking, surface, shape and dimensions</b>				
ITEM NO.: 01-03 RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS SURFACE AS PER ASME-SA20 THICKNESS AS PER ASME-SA20:01+A02 LENGTH AND WIDTH AS PER ASME-SA20:01+A02 FLATNESS AS PER 1/2 ASME-SA20:01+A02				
A04	Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.			A01
 Trademark	QM-System: Certification as per ISO 9001 since 14 March 1990	 B. MUELLER Der Werkssachverständige	 Inspector's stamp	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department Date 02.05.03 PP 1



2531

C2245 A  
BOOT SHELL

Heat # 7395 C2202-1500

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INSPECTION CERTIFICATE



SUMITOMO METAL INDUSTRIES, LTD.  
PIPE & TUBE WORKS  
1850, MINATO, WAKAYAMA, JAPAN

CERTIFICATE NO.: WYYK0270U PAGE: 1 DATE: 2002-10-23

CUSTOMER : COMCO PIPE AND SUPPLY LTD.  
ORDER NO. : 4598 ITEM NO. 22  
SHIPPER : SUMITOMO CORPORATION 057 KEQ 0804 1 2P16S121522  
COMMODITY : SEAMLESS HOT FINISHED CARBON STEEL PIPE WITH BEVELED ENDS

STANDARD : ASTM A333-99 / ASME 1998(A00) ~~SA-106~~ - not SA-106-B  
SPECIFICATION :

MILL WORK NO. : WYYK0270 O.D. : NPS10 W.T. : SCH100 LENGTH : 40feet QUANTITY : 3pcs. MASS : 4206kg

HEAT NO. PRODUCTS PCS.  
J2K9460 3

HEAT TREATMENT: QUENCHED & TEMPERED (920°C X 5min. W.C. & 630°C X 30min. A.C.)  
MELTING METHOD: BASIC OXYGEN  
DEOXIDATION: KILLED

CHEMICAL COMPOSITION(%)

	C	Si	Mn	P	S
SPEC. MIN.	0.30	0.10	0.29	0.025	0.005
MAX.	0.30	0.10	1.06	0.025	0.005
HEAT NO.					
J2K9460	0.25	0.25	1.23	0.14	0.003
	0.05	0.25	1.22	0.13	0.003

C = 0.27  
Mn/C = 0.15  
C+Mn/4 = 0.37  
C+Mn/6 = 0.27

\*1 R: LADLE & PRODUCT ANALYSIS  
L: LADLE ANALYSIS  
P: PRODUCT ANALYSIS  
  
\*2: X1000  
OTHER: X100

FOR EACH REDUCTION OF 0.01% CARBON BELOW 0.30%, AN INCREASE OF 0.05% MANGANESE ABOVE 1.06% IS PERMITTED TO A MAXIMUM OF 1.35% MANGANESE.

TENSILE TEST HARDNESS TEST

	YS			TS	EL %	HRB		TYPE OF SPECIMEN
	*1	*2	*3			*5	*4	
SPEC. MIN.	L	B	P	P	30	C	-	STRIP 1-1/2" (38mm)
MAX.	L	B	P	P	-	C	99	WIDTH
HEAT NO.								GAUGE LENGTH
J2K9460	L	B	P	P	72.5	C	83	2.0"
	L	B	P	P	75.9			KIND OF YS
								0.5% EXTENSION UNDER LOAD

\*1 DIRECTION  
L: LONGITUDINAL  
\*2 SAMPLING POSITION  
B: BASE METAL  
\*3 UNIT  
P: ksi  
\*4 LOCATION  
C: CROSS SECTION  
\*5 HRB 99 = HRC 22

Sumitomo Metal Industries  
Inspected by  
M. B. 23104

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED, SAMPLED, TESTED, AND INSPECTED IN ACCORDANCE WITH ABOVE STANDARD AND SPECIFICATION AND SATISFIES THE REQUIREMENTS.

J. Komsto  
MANAGER QUALITY ASSURANCE SECTION

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INSPECTION CERTIFICATE



SUMITOMO METAL INDUSTRIES, LTD.  
PIPE & TUBE WORKS  
1850. MINATO. WAKAYAMA. JAPAN

CERTIFICATE NO. : WYYK0270U PAGE: 2 DATE: 2002-10-23

IMPACT TEST

		-50.0°F 2V 10x10								*1 DIRECTION
		*1	*2	*3	*4	(1)	(2)	(3)	AVG.	L:LONGITUDINAL
SPEC. MIN.	L	B	E	F		10	13	13	13	*2 SAMPLING POSITION
MAX.	L	B	E	F		-	-	-	-	B:BASE METAL
HEAT NO. J2K9460	L	B	E	F		261	259	269	263	*3 CONTENTS OF TEST
										E:ABSORBED ENERGY
										*4 UNIT
										F:ft·lbf

FLATTENING TEST:ACCEPTABLE  
 VISUAL & DIMENSIONS:ACCEPTABLE  
 HYDROSTATIC TEST 2800psi:ACCEPTABLE  
 WE HERE STATE "EN10204-3.1.B" BY CUSTOMER'S REQUIREMENT  
 NACE MR0175 (LATEST):SATISFACTORY

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED, SAMPLED, TESTED, AND INSPECTED IN ACCORDANCE WITH ABOVE STANDARD AND SPECIFICATION AND SATISFIES THE REQUIREMENTS.

*Y. Komoto*

MANAGER QUALITY ASSURANCE SECTION



# CESSCO

FABRICATION & ENGINEERING

Rushton Gas & Oil Equipment  
2331-121 Ave NE  
Edmonton, AB T6M 1B2

## Material Certification Cover Sheet

Date: July 13, 2004

Attention: Quality Control Manager

These items shipped on our sales order:

Subject: Customer P.O.: 8241-C2245

S16043

Please find the enclosed Documents & Reports covering items supplied, as detailed below, for the above noted purchase order.

Quantity	Item & Size	Heat/Log Number
1	10 3/4" OD x 3/4" nom .5625" min HEAD	21629

**We Certify that the conditions stated below have been met as applicable.**

The above items were formed to meet the requirements of ASME Section VIII, Division 1, UCS 79 (d)

Tack welds were welded using procedures and welders qualified to ASME Section IX.

Parts are supplied and identified in accordance with ASME Section VIII, Div. 1, Para UG 11 (b).

Shells Cold formed NO

Stress relieved NO

Hot Formed Above 900°F YES

Yours truly,



Glennis Baker  
Q.C. Documentation

An Affiliate of Canadian Erectors Limited

# CESSCO

FABRICATION & ENGINEERING

**SOLD TO**

Rushton Gas & Oil Equipment  
2331-121 Ave NE  
Edmonton, AB T6M 1B2

**SHIP TO**

Same

10 3/4" OD x 3/4" nom .5625" min HEAD

CUSTOMER P.O. NO.	8241-C2245
CESSCO W.O. NO.	S16043
DATE CERT. ORIGINATED	13-Jul-04

CODE NO	QTY	NOM THK	PRODUCING MILL	HEAT NO.	SLAB / PIECE NO.	RAW MATERIAL GRADE
21629	1	3/4"	Ilsenburger	55802	636897 3	SA-516 70N

**MILL TEST REPORTS ATTACHED**

The chemical and physical properties as indicated on the attached report are the results of the Mill Tests of the raw material used in the manufacture of these products and are certified to meet only the minimum requirements of the ASME and ASTM specifications for this material

- The items listed above were formed in strict accordance with all applicable requirements of the ASME Boiler and Pressure Vessel Code Section VIII, Div 1.
- We hereby certify that these heads were heated to 1950°F and water quenched in strict accordance with all applicable specifications
- We hereby certify that these heads were hot formed at the required normalizing temperature and air cooled, in accordance with all applicable specifications.
- We hereby certify that these heads were heated to 1950°F and rapid air cooled in strict accordance with all applicable specifications
- We hereby certify that these heads were cold formed in compliance with ASME Boiler and Pressure Vessel Code, Section VIII, Div. 1 paragraph UCS - 79 (d).
- We hereby certify that these heads comply with tolerances of UG - 81 of ASME Section VIII, Div. 1.

HOT FORMING (NORMALIZING) TEMP. OF 1650° F IS HELD FOR 1 HOUR/INCH OF THICKNESS PRIOR TO FORMING

WE HEREBY CERTIFY THAT THIS REPORT COVERING THE ABOVE AND ATTACHED INFORMATION IS TRUE AND CORRECT AS SHOWN AND CONTAINED IN OUR RECORDS.

**RUSHTON GAS & OIL EQUIP. LTD.**

MTR CONFORM TO:

ASME SEC. II-A ED:      ADD:

QA: Richard

DATE: July 22/04

CE = 0.396 ✓  
Mn/C = 6.158  
● + Mn/4 = 0.4825  
C + Mn/6 = 0.385

*Glenn Baker*

**GLENN BAKER**  
QUALITY CONTROL

An Affiliate of Canadian Erectors Limited

**NO BHN TEST**

<b>Inspection certificate 3.1.B</b>		No. <b>218511</b>
<b>DIN EN 10204 - ISO 10474</b>		Page <b>1/5</b>
		Date <b>07.06.2002</b>
No. <b>OMS 8177</b>	15.04.2002	No.
Purchaser <b>Olbert Metals Sales Ltd.</b>		Customer <b>Kanada</b>
<b>CDN- Mississauga Ontario L5T 2</b>		<b>CDN- Kanada</b>
Product <b>HOT ROLLED CARBON STEEL PLATES CERTIFIED TO ASME SA 5 TOLERANCE TO ASME SA 20. NORMALIZED WITH CHARPY IMPAC</b>	Works order No. <b>00460038/13</b>	Inspection <b>WS</b>
Steel grade and terms of delivery <b>Grade 70 MT LTV</b>		
<b>ASME SA 516, SA 20</b>		
<b>ASTM A 516 00/01, A 20 00/01</b>		
<b>Grade 537 Cl.1 MT LTV</b>		
<b>ASME SA 537, SA 20</b>		
<b>ASME sect.II part A, last ed., last ad.</b>		
<b>OMS 8177</b>		
<b>L/C No. 504-01-0133750</b>		

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


**PLATE LOG**  
**NO:**
**Material data**

Item	Quantity	Product No.	Heat No.	Cond. of delivery	Thickness x Width x Length	in x in x in
07	1	636890 1	55803	N	0,750 x 96,000 x 384,000-21631	
07	1	636890 2	55803	N	0,750 x 96,000 x 384,000-21615	
07	1	636891 1	55802	N	0,750 x 96,000 x 384,000-21632	
07	1	636891 2	55802	N	0,750 x 96,000 x 384,000-21619	
07	1	636891 3	55802	N	0,750 x 96,000 x 384,000-21620	
07	1	636892 1	55802	N	0,750 x 96,000 x 384,000-21635	
07	1	636892 2	55802	N	0,750 x 96,000 x 384,000-21624	
07	1	636892 3	55802	N	0,750 x 96,000 x 384,000-21626	
07	1	636893 1	55802	N	0,750 x 96,000 x 384,000-21625	
07	1	636893 2	55802	N	0,750 x 96,000 x 384,000-21625	
07	1	636893 3	55802	N	0,750 x 96,000 x 384,000-21617	BHN 151
07	1	636894 1	55802	N	0,750 x 96,000 x 384,000-21633	
07	1	636894 2	55802	N	0,750 x 96,000 x 384,000-21622	
07	1	636894 3	55802	N	0,750 x 96,000 x 384,000-21627	
07	1	636895 1	55803	N	0,750 x 96,000 x 384,000-21636	
07	1	636895 2	55803	N	0,750 x 96,000 x 384,000-21630	
07	1	636896 1	55802	N	0,750 x 96,000 x 384,000-21638	
07	1	636896 2	55802	N	0,750 x 96,000 x 384,000-21623	
07	1	636896 3	55802	N	0,750 x 96,000 x 384,000-21628	
07	1	636897 1	55802	N	0,750 x 96,000 x 384,000-21639	
07	1	636897 2	55802	N	0,750 x 96,000 x 384,000-21621	
07	1	636897 3	55802	N	0,750 x 96,000 x 384,000-21629	
07	1	636898 1	55802	N	0,750 x 96,000 x 384,000-21637	
07	1	636898 2	55802	N	0,750 x 96,000 x 384,000-21618	
07	1	636898 3	55802	N	0,750 x 96,000 x 384,000-21616	
<b>Σ</b>	<b>25</b>	Weight <b>88.925</b>	<b>kgs</b>	N: normalized		

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

**CESSCO**  
**FABRICATION & ENGINEERING**

 We hereby certify that the delivered material complies with the terms of the order.  
 DIN-System Certification as per ISO 9001 since 28 February 1990


Trademark

 Ilseburger Grobblech GmbH  
 Veckenstedter Weg 10  
 D-38871 Ilseburg

AJ

Inspector's Stamp

JCB

W. J. LACEY

 APPROVED  NOT APPROVED 

 Qualitätswesen  
 Abnahme  
 Works Inspector

Cyron



Ilsenburg der 08.10.2002

**Olbert Metals Sales Ltd.**  
CDN- Mississauga Ontario L5T 2

**Woks order No. 460030 / 460035 / 460038**

**We hereby confirm, that the material have be performed as per  
ASME Code sect.II part A ed 2001 addendum 2001**

**Best regards**

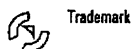
**Ilsenburger Grobblech GmbH**  
**TGQ-Qualitätswesen**

**Cyrol**

<b>Inspection certificate 3.1.B</b>		No.	218511
DIN EN 10204 - ISO 10474		Page	2/5
		Date	07.06.2002
No.	OMS 8177	15.04.2002	No.
Purchaser	Olbert Metals Sales Ltd.	Customer	Kanada
	CDN- Mississauga Ontario L5T 2		CDN- Kanada
Product	HOT ROLLED CARBON STEEL PLATES CERTIFIED TO ASME SA 5 TOLERANCE TO ASME SA 20. NORMALIZED WITH CHARPY IMPAC		Works order No. 00460038/13
Steel grade and terms of delivery	Grade 70 MT LTV ASME SA 516, SA 20 ASTM A 516 00/01, A 20 00/01 Grade 537 Cl.1 MT LTV ASME SA 537, SA 20 ASME sect.II part A, last ed., last ad.		Inspection WS
	OMS 8177 L/C No. 504-01-0133750		

Ladle analysis										
Manufacturer standard										
Heat No.	C %	Si %	Mn %	P %	S %	N %	Al %	Cu %	Cr %	Ni %
	≤0,21	0,15-0,40	0,85-1,20	≤0,020	≤0,003		≤0,06	≤1,10	≤0,10	≤0,25
55802	0,19	0,25	1,17	0,009	0,003	0,003	0,04	0,03	0,03	0,04
55803	0,20	0,27	1,15	0,008	0,002	0,004	0,05	0,02	0,03	0,04
Heat No.	Mo %	V %	Nb %	Ti %	Sn %	B %	H ppm	Cr+Mo %	EV1 1) %	EV2 2) %
	≤0,06	≤0,03	≤0,02				≤5	≤0,32	≤0,70	≤0,40
55802	0,00	0,00	0,02	0,00	0,01	0,0001	3	0,03	0,10	0,40
55803	0,00	0,00	0,02	0,00	0,01	0,0001	4	0,03	0,09	0,40
1) EV1: Cr+Cu+Mo+Ni						2) EV2: CEV=C+Mn/6+Mo/5+Ni/15+Cr/5+V/5+Cu/15				
Steelmaking process: Basic oxygen process										
"Hydrogen content less than 0,0005%."										
"Produced with sulfid shape control."										
Material is vacuum degassed										

We hereby certify that the delivered material complies with the terms of the order.  
 QM-System: Certification as per ISO 9001 since 28 February 1990



Ilseburger Grobblech GmbH  
 Veckenstedter Weg 10  
 D-38871 Ilseburg



Inspector's Stamp

Qualitätswesen  
 Abnahme  
 Works Inspector

Cyron

<b>Inspection certificate 3.1.B</b>		No.	218511
<b>DIN EN 10204 - ISO 10474</b>		Page	3/5
		Date	07.06.2002
No.	OMS 8177	15.04.2002	No.
Purchaser	Olbert Metals Sales Ltd. CDN- Mississauga Ontario L5T 2	Customer	Kanada CDN- Kanada
Product	HOT ROLLED CARBON STEEL PLATES CERTIFIED TO ASME SA 5 TOLERANCE TO ASME SA 20. NORMALIZED WITH CHARPY IMPAC		Works order No. 00460038/13
Steel grade and terms of delivery	Grade 70 MT LTV ASME SA 516, SA 20 ASTM A 516 00/01, A 20 00/01 Grade 537 Cl.1 MT LTV ASME SA 537, SA 20 ASME sect.II part A, last ed., last ad.		Inspection WS
OMS 8177 L/C No. 504-01-0133750			

### Check analysis

Specimen No.	Heat No.	C % ≤0,22	Si % 0,13-0,40	Mn % 0,79-1,20	P % ≤0,020	S % ≤0,003	N %	Al %	Cu % ≤0,13
636898 637037 *)	55802 55803	0,20 0,19	0,25 0,24	1,14 1,16	0,010 0,008	0,002 0,002	0,004 0,003	0,040 0,039	0,03 0,03
Specimen No.	Heat No.	Cr % ≤0,14	Ni % ≤0,25	Mo % ≤0,09	V % ≤0,04	Nb % ≤0,03	Ti %	Sn %	B %
636898 637037 *)	55802 55803	0,03 0,03	0,03 0,04	0,00 0,00	0,00 0,00	0,02 0,02	0,00 0,00	0,01 0,01	0,0001 0,0001
Specimen No.	Heat No.	Cr+Mo %	EV1 1) %	EV2 2) %					
636898 637037 *)	55802 55803	0,03 0,03	0,09 0,10	0,40 0,39 ✓					

1) EV1: Cr+Cu+Mo+Ni  
\*) The sample product is not part of the delivery

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

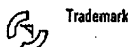
### Tensile test

Specimen No.	Heat No.	Location	Direct.	Cond.	Type	Yield strength Rp0,2 N/mm2 ≥345	Tensile strength Rm N/mm2 485-620	Elongation B1n %		
		1)2)3)	4)	5)	6)			≥18		
636890	55803	K6G	Q	N	P	371	532	28		
636890	55803	K6G	Q	NN	P	369	530	27		
636891	55802	K6G	Q	N	P	367	521	23		
636891	55802	K6G	Q	NN	P	364	518	22		
636892	55802	K6G	Q	N	P	374	525 ✓	24		

1) K: Top  
2) 6: 1/8 Width  
3) G: Thickness of product  
4) Q: transversal

5) N: normalized  
NN: normalized twice  
6) P: prismatic

We hereby certify that the delivered material complies with the terms of the order.  
QM-System: Certification as per ISO 9001 since 28 February 1990



Trademark

 Ilsenburger Grobblech GmbH  
 Veckenstedter Weg 10  
 D-38871 Ilsenburg

 Inspector's Stamp  


 Qualitätswesen  
 Abnahme  
 Works Inspector

Cyron

<b>Inspection certificate 3.1.B</b>		No. <b>218511</b>
<b>DIN EN 10204 - ISO 10474</b>		Page <b>4/5</b>
		Date <b>07.06.2002</b>
No. <b>OMS 8177</b>	15.04.2002	No.
Purchaser <b>Olbert Metals Sales Ltd.</b>		Customer <b>Kanada</b>
<b>CDN- Mississauga Ontario L5T 2</b>		<b>CDN- Kanada</b>
Product <b>HOT ROLLED CARBON STEEL PLATES CERTIFIED TO ASME SA 5</b>	Works order No. <b>00460038/13</b>	
<b>TOLERANCE TO ASME SA 20. NORMALIZED WITH CHARPY IMPAC</b>	Inspection <b>WS</b>	
Steel grade and terms of delivery <b>Grade 70 MT LTV</b>		
<b>ASME SA 516, SA 20</b>		
<b>ASTM A 516 00/01, A 20 00/01</b>		
<b>Grade 537 Cl.1 MT LTV</b>		
<b>ASME SA 537, SA 20</b>		
<b>ASME sect.II part A, last ed., last ad.</b>		
<b>OMS 8177</b>		
<b>L/C No. 504-01-0133750</b>		

<b>Tensile test</b>										
Specimen No.	Heat No.	Location	Direct.	Cond.	Type	Yield strength	Tensile strength	Elongation		
		1)2)3)	4)	5)	6)	Rp0,2 N/mm2 ≥345	Rm N/mm2 485-620	8 in %	≥18	
636892	55802	K6G	Q	NN	P	375	524	25		
636893	55802	K6G	Q	N	P	374	525	26		
636893	55802	K6G	Q	NN	P	373	524	26		
636894	55802	K6G	Q	N	P	379	528	28		
636894	55802	K6G	Q	NN	P	377	526	27		
636895	55803	K6G	Q	N	P	376	537	22		
636895	55803	K6G	Q	NN	P	378	539	22		
636896	55802	K6G	Q	N	P	377	532	22		
636896	55802	K6G	Q	NN	P	381	536	22		
636897	55802	K6G	Q	N	P	381	532	21		
636897	55802	K6G	Q	NN	P	380	530	21		
636898	55802	K6G	Q	N	P	373	526	26		
636898	55802	K6G	Q	NN	P	371	524	25		

1) K: Top  
 2) 6: 1/8 Width  
 3) G: Thickness of product  
 4) Q: transversal  
 5) N: normalized  
 NN: normalized twice  
 6) P: prismatic

<b>Impact test</b>										
Specimen No.	Heat No.	Location	Direct.	Cond.	Type of specimen	Temperature	Impact energy			
		1)2)3)	4)	5)			°F	1 ftlbf ≥12	2	3
636890	55803	K60	L	N	Charpy V-notch	-051	88	91	66	82
636890	55803	K60	L	NN	Charpy V-notch	-051	84	86	95	89
636891	55802	K60	L	N	Charpy V-notch	-051	104	59	108	91
636891	55802	K60	L	NN	Charpy V-notch	-051	107	94	102	101
636892	55802	K60	L	N	Charpy V-notch	-051	100	63	63	75

1) K: Top  
 2) 6: 1/8 Width  
 3) D: near surface  
 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.  
 DM-System: Certification as per ISO 9001 since 28 February 1990



Trademark

Ilsenburger Grobblech GmbH  
 Veckenstadter Weg 10  
 D-38871 Ilsenburg



Inspector's Stamp

Qualitätswesen  
 Abnahme  
 Works Inspector

Cyron

<b>Inspection certificate 3.1.B</b>		No.	<b>218511</b>
<b>DIN EN 10204 - ISO 10474</b>		Page	5/5
		Date	07.06.2002
No.	OMS 8177	15.04.2002	No.
Purchaser	Olbert Metals Sales Ltd. CDN- Mississauga Ontario L5T 2	Customer	Kanada CDN- Kanada
Product	HOT ROLLED CARBON STEEL PLATES CERTIFIED TO ASME SA 5 TOLERANCE TO ASME SA 20. NORMALIZED WITH CHARPY IMPAC		Works order No. 00460038/13
Steel grade and terms of delivery	Grade 70 MT LTV ASME SA 516, SA 20 ASTM A 516 00/01, A 20 00/01 Grade 537 Cl.1 MT LTV ASME SA 537, SA 20 ASME sect.II part A, last ed., last ad.		Inspection WS
OMS 8177 L/C No. 504-01-0133750			

Impact test										
Specimen No.	Heat No.	Location (1)2)3)	Direct 4)	Cond. 5)	Type of specimen	Temperature °F	Impact energy			
							1 ftlbf ≥12	2	3	MW 6) ftlbf ≥ 15
636892	55802	K60	L	NN	Charpy V-notch	-051	105	66	84	85
636893	55802	K60	L	N	Charpy V-notch	-051	98	74	95	89
636893	55802	K60	L	NN	Charpy V-notch	-051	94	92	107	98
636894	55802	K60	L	N	Charpy V-notch	-051	55	62	57	58
636894	55802	K60	L	NN	Charpy V-notch	-051	61	64	65	63
636895	55803	K60	L	N	Charpy V-notch	-051	62	66	77	69
636895	55803	K60	L	NN	Charpy V-notch	-051	80	72	71	74
636896	55802	K60	L	N	Charpy V-notch	-051	75	98	80	85
636896	55802	K60	L	NN	Charpy V-notch	-051	105	89	87	94
636897	55802	K60	L	N	Charpy V-notch	-051	80	81	58	73
636897	55802	K60	L	NN	Charpy V-notch	-051	76	74	72	74
636898	55802	K60	L	N	Charpy V-notch	-051	64	83	65	71
636898	55802	K60	L	NN	Charpy V-notch	-051	63	61	69	64

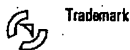
1) K: Top  
 2) 6: 1/8 Width  
 3) 0: near surface  
 4) L: longitudinal  
 5) N: normalized  
 NN: normalized twice  
 6) MW: Average

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: 1670+/-15°F  
 holding time: 30 min./inch (min. 15 min.)  
 cooling in still air  
 2. Renormalizing  
 temperature: 1650+/-10°F  
 holding time: 25 min./inch  
 cooling in still air

We hereby certify that the delivered material complies with the terms of the order.  
 DM-System: Certification as per ISO 9001 since 28 February 1990



Trademark

 Ilsenburger Grobblech GmbH  
 Veckenstedter Weg 10  
 D-38871 Ilseburg

 A<sub>3</sub>

Inspector's Stamp



 Qualitätswesen  
 Abnahme  
 Works Inspector

Cyron





## INSPECTION & TEST PLAN

CUSTOMER: <u>RUSHTON GAS &amp; OIL</u>	JOB NO.: <u>516043</u>
DESCRIPTION: <u>HEADS</u>	TAG NO.:
<u>1 pc 10 3/4" OD x 3/4" nom. (.5625 in) 2:1SE 2SF</u>	P.O. NO. <u>8241-C2245</u>
	PAGE NO. <u>1 of 1</u>

INSP. POINT	INSPECTION, EXAMINATION OR TESTING INSTRUCTIONS AND ACCEPTANCE CRITERIA	CESSCO				
		HOLD	SIGN	DATE	LOG NO.	MIN THK *
1	MATERIAL RECEIVED, INSPECTION COMPLETED		DM	7/13/04	21629	.693
2	MILL TEST REPORTS CHECKED AND TRACEABLE					
3	CHECK HEAD FOR DEFECTS		DM	7/13/04		
4	VERIFY ALL STAMPING ON HEAD		DM	✓		
5	CIRCLE STAMPING ON HEAD		DM	✓		
6	BEVEL DEGREES: IN: _____ OUT: <u>UNTRIMMED</u>					
7	STRAIGHT FLANGE LENGTH REQUIREMENT: _____					
8	CUSTOMER REQUIREMENTS: HIC: _____ SELECT CHEM: _____ U.T. GRID: _____ B.H.N.: _____ MISC.: _____ B.H.N. TEST: IMPRESSION DIA. _____ B.H.N.: _____ TO MATCH: _____ /SCH: _____					
9	CHECK HEAD FOR DEFECTS AFTER MACHINING					
10	CHECK FINISHED BEVEL					
11	FINISHED DIAMETER CHECK					
12	MACHINING TOLERANCE	O.D.	I.D.	HEIGHT		
		+1/8" -1/8"	+1/8" -1/8"	+1" -1/4"		
CLEAR TO SHIP						

\* NOTE: MIN t DETERMINED AFTER HOT FORMING.  
REMARKS: \_\_\_\_\_

C2245  
N7 BOOT NOZZLE

SUMITOMO METAL INDUSTRIES, LTD  
WAKAYAMA STEEL WORKS  
1850, NINATO, WAKAYAMA, JAPAN

INSPECTION CERTIFICATE



CERTIFICATE NO : WYK7912U PAGE : 1 DATE : 1999 03-1

CUSTOMER :  
ORDER NO. : ITEM No 3  
SHIPPER : SUMITOMO CORPORATION 057 KEO D806 1 8P10S4264  
COMMODITY : SEAMLESS HOT FINISHED CARBON STEEL PIPE WITH BEVELED ENDS  
STANDARD : ASTM A333-91A / ASME 1995(A97) SA-333 GR. 6  
SPECIFICATION :

10" View A333-6  
HT# J836045

MILL MARK NO. : WYK7912 O.D. : NB10 W.T. : SCH160 LENGTH : 20feet 0inch QUANTITY : 10pcs MASS : 10196kg

HEAT NO. PRODUCTS PCS. HEAT NO. PRODUCTS PCS.  
J836045 6 J838123 6

2530087

HEAT TREATMENT: QUENCHED & TEMPERED (920°C X 5min. W.C. & 630°C X 30min. A.C.)  
DEOXIDATION: KILLED

CHEMICAL COMPOSITION(%)

	C	Si	Mn	P	S	Sn	*MC	
SPEC. MIN.	-	10	29	-	-	-	3	*1: LADLE ANALYSIS
MAX.	30	-	106	25	10	5	-	*2: Y1000 *3: X1 OTHER: I100
HEAT NO.								*MC: Mn/C
J836045	7	30	125	9	1	0	18	
J838123	6	27	116	12	1	0	19	

FOR EACH REDUCTION OF 0.01% CARBON BELOW 0.30%, AN INCREASE OF 0.05% MANGANESE ABOVE 1.06% IS PERMITTED TO A MAXIMUM OF 1.35% MANGANESE.

TENSILE TEST HARDNESS TEST

	YS			TS	EL	HRB	TYPE OF SPECIMEN
	*1	*2	*3				
SPEC. MIN.	L	B	P	P	30	C	STRIP 1-1/2" (38cm)
MAX.	L	B	P	P	-	C 99	WIDTH
HEAT NO.							GAUGE LENGTH
J836045	L	B	P 63.2	P 79.6	58	C 85	2.0"
J838123	L	B	P 61.9	P 78.6	61		KIND OF YS
	L	B	P 54.7	P 69.0	47		0.5x EXTENSION
	L	B	P 54.7	P 69.6	47		UNDER LOAD

- \*1 DIRECTION  
L: LONGITUDINAL
- \*2 SAMPLING POSITION  
B: BASE METAL
- \*3 UNIT  
P: ksi
- \*4 LOCATION  
C: CROSS SECTION
- \*5 HRB 99 = HRC 22

RUSHTON GAS & OIL EQUIP. LTD.  
MTR CONFORM TO  
ASME SEC. I A ED. ADD.  
QA: *J. Johnson*  
DATE: *July 26/04*

QC APPROVED  
JOB # 6629  
DATE 10/01/02  
SIG: *[Signature]*

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED, SAMPLED, TESTED, AND INSPECTED IN ACCORDANCE WITH ABOVE STANDARD AND SPECIFICATION AND SATISFIES THE REQUIREMENTS.

CE = 0.31  
Mn/C = 17.85  
● + Mn/4 = 0.3825  
C + Mn/6 = 0.278

*J. Sawaguchi*  
MANAGER, SPECIALTY TUBING QUALITY CONTROL SECTION

INSPECTION CERTIFICATE



SUMITOMO METAL INDUSTRIES, LTD.  
WAKAYAMA STEEL WORKS  
1850, MINATO, WAKAYAMA, JAPAN

CERTIFICATE NO. : WYK7912U PAGE : 2 DATE : 1999-03-4

IMPACT TEST

	-50.0°F 2V 10J10				(1)	(2)	(3)	AVG.	*1 DIRECTION L: LONGITUDINAL
	*1	*2	*3	*4					
SPEC. MIN.	L	B	E	F	10	13	13	13	*2 SAMPLING POSITION B: BASE METAL
• MAX.	L	B	E	F	-	-	-	-	*3 CONTENTS OF TEST E: ABSORBED ENERGY
HEAT NO.									*4 UNIT F: ft-lbf
J836645	L	B	E	F	289	262	264	271	
J838123	L	B	E	F	241	217	239	252	

FLATTENING TEST: ACCEPTABLE  
VISUAL & DIMENSIONS: ACCEPTABLE  
HYDROSTATIC TEST 20700kPa: ACCEPTABLE  
NACE MR-01-75 (1990): GUARANTEED

QC APPROVED  
JOB # 6629  
DATE 10/01/02  
SIG: *[Signature]*

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED, SAMPLED, TESTED, AND INSPECTED IN ACCORDANCE WITH ABOVE STANDARD AND SPECIFICATION AND SATISFIES THE REQUIREMENTS

*J. Sawaguchi*

MANAGER, SPECIALTY TUBING QUALITY CONTROL SECTION

PO. 8243

# EDMONTON EXCHANGER & MANUFACTURING LTD.

5545 - 89 STREET, EDMONTON, ALBERTA T6E 5W9  
TELEPHONE (780) 468-6722 FAX (780) 466-5155

QCC-004  
REV. 3  
DATE: APR. 12/00  
APPROVED BY: S.Z.

C 2245HS  
July 21/04

## CERTIFICATE OF COMPLIANCE

CUSTOMER RUSHTON GAS & OIL	PURCHASE ORDER 8243-C2245	WORK ORDER C52448	DATE 2004/07/21	PAGE 1 OF 1
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ITEM #	QTY	DESCRIPTION	HEAT #	TAG BRINELL CODE	WELD HARDN PROCEDURE	FORMING PROC
S52448-1	1	ROLLED REPAD(S) - 0.8750" NOM X 18" X 24" (MATERIAL SPEC: SA 516-70 N)	HT# 49077 79061	151	✓	1

### FORMING PROCEDURE:

1. HOT FORMED @ 1650F/899C AND AIR COOLED
2. HOT FORMED @ 1975F/1080C AND AIR COOLED
3. NORMALIZED @ 1650F/899C FOR 25 MIN/INCH AND AIR COOLED
4. COLD FORMED
5. RENORMALIZED @ 1650F/899C AND AIR COOLED AFTER FORMING
6. SOLUTION ANNEALED @ 1950F/1065C AFTER FORMING
7. STRESS RELIEVED @ 1150F/621C PER UCS-56 OR PW-39(where applicable)

**NOTE:** ALL ITEMS WHICH WERE HEAT TREATED DURING OR AFTER FORMING SHALL BE INCLUDED ON THE FORMING PROCEDURE LISTED ABOVE AS PER UCS-79(e).

BRINELL EQUIPMENT: NEWAGE CALIBRATION PIN  
BRINELL HARDNESS TESTER

### SUPPLEMENTARY REQUIREMENTS:

.2448-1: conforms to NACE MR 01 75

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, ROUND BAR USED IS 1018 COLD ROLLED. MATERIAL BEING SUPPLIED CONFORMS TO THE LATEST ASME CODE SECTION II, PART A, 2001 EDITION, JULY 1, 2003 ADDENDA.

STEVE ZUBRYCKYJ (QAM)  
EDMONTON EXCHANGER & MANUFACTURING LTD.

### SUPPLEMENTARY EXAMINATION - ITEMS

<b>RUSHTON GAS &amp; OIL EQUIP. LTD.</b>	
MTR CONFORM TO:	
ASME SEC. II-A ED. ADD:	
QA: <u>Johnson</u>	
DATE: <u>July 23/04</u>	

CE = 0.3716  
Mn/C = 6.57  
C+Mn/4 = 0.45  
C+Mn/6 = 0.36



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		A09 Advice of dispatch No./ Date of dispatch 129322-14.02.04	A08/ Manufacturer's order/ A03 Certificate No. 275339-002	Sheet 1/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. 31762 A07.2 No. E10272-S48089-1-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade SA516-70	B03 Specifica- tions ASME-2A:01+A02+SA20-S5/DIL-HUB2			



09455

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
		INCH							
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12904-01	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12904-02	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12904-03	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12905-01	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12905-02	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12905-03	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12906-01	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12906-02	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12906-03	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12907-01	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12907-02	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12907-03	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12910-01	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12910-02	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12910-03	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12911-01	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12911-02	ITEM04
01	1	0,6250	x 120,00000	x 480,00000	4631	N	50457	12911-03	ITEM04
**	18				83358				
02	1	0,8750	x 120,00000	x 480,00000	6483	N	49077	79059-01	ITEM05
02	1	0,8750	x 120,00000	x 480,00000	6483	N	49077	79059-02	ITEM05
02	1	0,8750	x 120,00000	x 480,00000	6483	N	49077	79060-01	ITEM05
02	1	0,8750	x 120,00000	x 480,00000	6483	N	49077	79060-02	ITEM05

A04 Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.



Trademark

QM-System: Certification as per ISO 9001 since 14 March 1990

*B. Mueller*  
B. MUELLER

Der Werkssachverständige



Inspector's stamp

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

A01

Date 16.02.04

PP 1



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			A09 Advice of dispatch No./ Date of dispatch 129322-14.02.04	A08/ Manufacturer's order/ A03 Certificate No. 275339-002	Sheet 2/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. 31762 A07.2 No. E10272-S48089-1-LG	B01 Product HOT ROLLED PLATES		
B02/ Steel grade SA516-70			B03 Specifica- tions ASME-2A:01+A02+SA20-S5/DIL-HUE2		

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
INCH									
02	1	0,8750 x	120,00000 x	480,00000	6483	N	49077	79061-01	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	49077	79061-02	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	49987	03930-01	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	49987	03930-02	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50446	13130-01	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50446	13130-02	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50446	13130-03	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50446	13131-01	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50446	13131-02	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50446	13132-01	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50446	13132-02	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50446	13132-03	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50446	13133-01	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50446	13133-02	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50447	13107-03	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50447	13108-01	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50447	13108-02	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50447	13108-03	ITEM05
02	1	0,8750 x	120,00000 x	480,00000	6483	N	50447	13109-01	ITEM05
**	23				149109				
03	1	1,1250 x	120,00000 x	480,00000	8336	N	49077	79071-01	ITEM06
04	1	1,3750 x	120,00000 x	480,00000	10188	N	49074	79094-01	ITEM07
04	1	1,3750 x	120,00000 x	480,00000	10188	N	49076	03562-01	ITEM07

A04	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 since 14 March 1990	A01
	 B. MUELLER Der Werkssachverständige	 AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department Inspector's stamp Date 16.02.04
Trademark		PP 1



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		A09 Advice of dispatch No./ Date of dispatch 129322-14.02.04	A08/ Manufacturer's order/ A03 Certificate No. 275339-002	Sheet 3/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. 31762 A07.2 No. E10272-S48089-1-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade	SA516-70			
B03 Specifica- tions	ASME-2A:01+A02+SA20-S5/DIL-HUE2			

**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
		INCH							
04	1	1,3750 x	120,00000 x	480,00000	10188	N	49987	02445-01	ITEM07
04	1	1,3750 x	120,00000 x	480,00000	10188	N	49987	02445-02	ITEM07
04	1	1,3750 x	120,00000 x	480,00000	10188	N	49987	02446-01	ITEM07
04	1	1,3750 x	120,00000 x	480,00000	10188	N	49987	02446-02	ITEM07
04	1	1,3750 x	120,00000 x	480,00000	10188	N	49987	02448-01	ITEM07
04	1	1,3750 x	120,00000 x	480,00000	10188	N	49987	02448-02	ITEM07
**	8				81504				
***	50				322307				

**B04 Delivery condition / Heat treatment of plates**

ITEM NO.: 01-04

N: HT: 1634 GR.F +27 -27 GR.F

SOAKING TIME TO ATTAIN THE TARGET TEMPERATURE OVER THE WHOLE SECTION: 1-1,5 MIN/MM (25-38 MIN/INCH)

COOLING IN STILL AIR

**B06 Marking**

ITEM NO.: 01-04

STEEL GRADE SA516 70 MTLTV SA516 60 MTLTV

HEAT NO. / TRADEMARK / ROLLED PLATE NO./TEST NO. / INSPECTOR'S STAMP

A04



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 since 14 March 1990

*B. Mueller*

B. MUELLER

Der Werkssachverständige



Inspector's stamp

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

A01

Date 16.02.04

PP 1



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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		A09 Advice of dispatch No./ Date of dispatch 129322-14.02.04	A08/ Manufacturer's order/ A03 Certificate No. 275339-002	Sheet 4/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. 31762 A07.2 No. E10272-S48089-1-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade	SA516-70			
B03 Specifica- tions	ASME-2A:01+A02+SA20-S5/DIL-HUE2			

C10-C29 Tensile test

B09 Item No.	B08 Heat No.	B07 Rol.plate/ Test No.	B05 Reference condition	C01 C02/ C01 Temp. GR.F	C03 Temp. GR.F	C10 KSI RP02	C11	C12 RM	C13 A % LO=2IN	C14-C15 A % LO=8IN
01	50457	12904		K4 Q	RT	50,2		74,1	53,5	30,4
01	50457	12905		K4 Q	RT	50,8		74,5	51,6	30,4
01	50457	12906		K4 Q	RT	51,9		75,3	53,5	27,5
01	50457	12907		K4 Q	RT	51,8		75,0	55,5	29,4
01	50457	12910		K4 Q	RT	51,0		74,8	53,5	28,9
01	50457	12911		K4 Q	RT	51,9		75,3	51,6	28,0
02	49077	79059		K4 Q	RT	49,4		73,5	49,6	31,9
02	49077	79060		K4 Q	RT	48,4		73,1	57,5	28,4
02	49077	79061		K4 Q	RT	59,0		72,8	59,4	30,9
02	49987	03930		K4 Q	RT	47,1		72,5	55,5	28,9
02	50446	13130		K4 Q	RT	48,1		72,9	55,5	29,4
02	50446	13131		K4 Q	RT	50,6		74,4	57,5	29,4
02	50446	13132		K4 Q	RT	48,9		73,8	59,4	31,9
02	50446	13133		K4 Q	RT	48,3		73,7	53,5	28,0
02	50447	13107		K4 Q	RT	47,3		71,8	57,5	30,9
02	50447	13108		K4 Q	RT	46,7		71,8	57,5	32,4
02	50447	13109		K4 Q	RT	47,3		72,1	59,4	32,9
03	49077	79071		K4 Q	RT	46,8		73,2	65,4	31,9
04	49074	79094		K4 QV	RT	48,7		73,8	34,6	
04	49076	03562		K4 QV	RT	49,0		75,1	38,1	
04	49987	02445		K4 QV	RT	47,7		73,5	36,0	
04	49987	02446		K4 QV	RT	48,0		74,2	35,5	
04	49987	02448		K4 QV	RT	48,7		73,7	34,8	

A04	Z01/Z02 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 since 14 March 1990	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department
Trademark	 B. MUELLER Der Werkssachverständige	 Inspector's stamp Date 16.02.04
		PP 1





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		A09 Advice of dispatch No./ Date of dispatch 129322-14.02.04	A08/ Manufacturer's order/ A03 Certificate No. 275339-002	Sheet 5/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. 31762 A07.2 No. E10272-S48089-1-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade SA516-70	B03 Specifica- tions ASME-2A:01+A02+SA20-S5/DIL-HUE2			

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
01	50457	12904		K4	LV	-51		CHP-V		AV 195	198	193
01	50457	12905		K4	LV	-51		CHP-V		AV 181	145	199
01	50457	12906		K4	LV	-51		CHP-V		AV 132	98	200
01	50457	12907		K4	LV	-51		CHP-V		AV 208	195	125
01	50457	12910		K4	LV	-51		CHP-V		AV 199	160	196
01	50457	12911		K4	LV	-51		CHP-V		AV 196	200	150
02	49077	79059		K4	LV	-51		CHP-V		AV 119	124	122
02	49077	79060		K4	LV	-51		CHP-V		AV 76	111	155
02	49077	79061		K4	LV	-51		CHP-V		AV 150	158	148
02	49987	03930		K4	LV	-51		CHP-V		AV 137	88	134
02	50446	13130		K4	LV	-51		CHP-V		AV 94	74	108
02	50446	13131		K4	LV	-51		CHP-V		AV 79	83	107
02	50446	13132		K4	LV	-51		CHP-V		AV 125	86	114
02	50446	13133		K4	LV	-51		CHP-V		AV 108	108	108
02	50447	13107		K4	LV	-51		CHP-V		AV 135	201	117
02	50447	13108		K4	LV	-51		CHP-V		AV 106	141	132
02	50447	13109		K4	LV	-51		CHP-V		AV 161	196	106
03	49077	79071		K4	LV	-51		CHP-V		AV 97	122	97
04	49074	79094		K4	LV	-51		CHP-V		AV 91	116	85
04	49076	03562		K4	LV	-51		CHP-V		AV 137	118	101
04	49987	02445		K4	LV	-51		CHP-V		AV 116	128	151
04	49987	02446		K4	LV	-51		CHP-V		AV 112	150	119
04	49987	02448		K4	LV	-51		CHP-V		AV 86	108	117

A04	Z01/Z02 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 since 14 March 1990	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department
Trademark	 B. MUELLER Der Werkssachverständige	 Inspector's stamp Date 16.02.04
		PP 1



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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		A09 Advice of dispatch No./ Date of dispatch 129322-14.02.04	A08/ Manufacturer's order/ A03 Certificate No. 275339-002	Sheet 6/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. 31762 A07.2 No. E10272-S48089-1-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade	SA516-70			
B03 Specifica- tions	ASME-2A:01+A02+SA20-S5/DIL-HUE2			

C70-C99 Chemical composition % - Heat analysis

B08 Heat	C70	C	SI	MN	P	S	N	AL	CU	MO	NI	CR	V	NB	SN
49074	Y	0,167	0,347	1,13	0,008	0,0009	0,0057	0,034	0,011	0,044	0,081	0,061	0,001	0,000	0,000
49076	Y	0,177	0,380	1,14	0,007	0,0007	0,0058	0,036	0,017	0,015	0,047	0,030	0,000	0,000	0,001
49077	Y	0,175	0,368	1,14	0,006	0,0006	0,0050	0,036	0,029	0,013	0,037	0,023	0,000	0,000	0,001
49987	Y	0,178	0,298	1,14	0,007	0,0011	0,0063	0,036	0,022	0,016	0,034	0,053	0,000	0,000	0,001
50446	Y	0,185	0,317	1,15	0,008	0,0025	0,0083	0,040	0,016	0,022	0,032	0,033	0,001	0,000	0,001
50447	Y	0,169	0,292	1,12	0,008	0,0014	0,0072	0,035	0,013	0,032	0,029	0,045	0,000	0,000	0,001
50457	Y	0,176	0,370	1,17	0,007	0,0007	0,0072	0,038	0,014	0,022	0,033	0,043	0,000	0,000	0,000

B08 Heat	C70	TI	B
49074	Y	0,002	0,0000
49076	Y	0,001	0,0001
49077	Y	0,001	0,0001
49987	Y	0,002	0,0001
50446	Y	0,001	0,0002
50447	Y	0,001	0,0001
50457	Y	0,001	0,0001

C94 Heat analysis Carbon equivalent / Alloying restrictions

B08 Heat	FO-02=	FO-55=	FO-78=	FO-91=
49074	0,38	0,20	0,11	6,8
49076	0,38	0,11	0,05	6,4
49077	0,38	0,10	0,04	6,5
49987	0,39	0,13	0,07	6,4
50446	0,39	0,10	0,06	6,2
50447	0,37	0,12	0,08	6,6

A04 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 since 14 March 1990

B. MUELLER

Der Werkssachverständige



Inspector's stamp

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

A01

Date 16.02.04

PP 1



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		A09 Advice of dispatch No./ Date of dispatch 129322-14.02.04	A08/ Manufacturer's order/ A03 Certificate No. 275339-002	Sheet 7/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. 31762 A07.2 No. E10272-S48089-1-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade SA516-70	B03 Specifica- tions ASME-2A:01+A02+SA20-S5/DIL-HUE2			

C94 Heat analysis Carbon equivalent / Alloying restrictions

B08 Heat 50457	FO-02= 0,39	FO-55= 0,11	FO-78= 0,07	FO-91= 6,6
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C95 Ladle treatment

ITEM NO.: 01-04  
HEAT OF THE INDICATED ITEM: VACUUM DEGASSED / SULPHIDE SHAPE CONTROL

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
49074	79092	K4	0,167	0,346	1,11	0,007	0,0008	0,0057	0,034	0,009	0,043	0,082	0,060	0,000	0,000	0,001
49074	79094	K4	0,163	0,340	1,11	0,008	0,0009	0,0054	0,034	0,010	0,044	0,082	0,058	0,000	0,000	0,001
49076	03562	K4	0,177	0,365	1,13	0,006	0,0009	0,0057	0,035	0,017	0,019	0,050	0,032	0,000	0,000	0,000
<del>49077</del>	<del>79096</del>	K4	0,172	0,361	1,13	0,006	0,0008	0,0055	0,035	0,028	0,012	0,036	0,022	0,001	0,000	0,002
49077	79085	K4	0,174	0,356	1,11	0,006	0,0008	0,0057	0,035	0,027	0,012	0,036	0,023	0,000	0,000	0,001
49077	79090	K4	0,177	0,378	1,13	0,007	0,0008	0,0064	0,036	0,016	0,010	0,043	0,024	0,000	0,000	0,001
49987	02445	K4	0,176	0,323	1,10	0,008	0,0011	0,0062	0,044	0,020	0,019	0,036	0,046	0,000	0,000	0,000
49987	03930	K4	0,173	0,301	1,13	0,007	0,0012	0,0059	0,037	0,022	0,015	0,034	0,050	0,001	0,000	0,003
50446	13132	K4	0,175	0,293	1,12	0,007	0,0024	0,0073	0,038	0,017	0,021	0,029	0,033	0,000	0,000	0,000
50447	13108	K4	0,168	0,292	1,12	0,008	0,0010	0,0066	0,036	0,014	0,032	0,028	0,044	0,000	0,000	0,001
50457	12904	K4	0,168	0,352	1,16	0,006	0,0011	0,0073	0,038	0,014	0,021	0,031	0,041	0,000	0,000	0,001

A04 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 since 14 March 1990

*B. Mueller*  
B. MUELLER

Der Werkssachverständige



Inspector's stamp

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

Date 16.02.04

PP 1

A01



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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		A09 Advice of dispatch No./ Date of dispatch 129322-14.02.04	A08/ Manufacturer's order/ A03 Certificate No. 275339-002	Sheet 8/...
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. 31762 A07.2 No. E10272-S48089-1-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade SA516-70				
B03 Specifica- tions ASME-2A:01+A02+SA20-S5/DIL-HUE2				

**C70-C99 Chemical composition % - Product analysis**

B08 Heat	B07 Test No.	C01	Ti	B
49074	79092	K4	0,002	0,0000
49074	79094	K4	0,002	0,0001
49076	03562	K4	0,001	0,0000
49077	79061	K4	0,001	0,0002
49077	79085	K4	0,002	0,0001
49077	79090	K4	0,001	0,0001
49987	02445	K4	0,003	0,0001
49987	03930	K4	0,002	0,0002
50446	13132	K4	0,001	0,0001
50447	13108	K4	0,001	0,0000
50457	12904	K4	0,002	0,0001

**C94 Product analysis Carbon equivalent / Alloying restrictions**

B08 Heat	B07 Test No.	C01			
49074	79092	K4	FO-02=	0,38	FO-55= 0,19
49074	79094	K4	FO-02=	0,37	FO-55= 0,19
49076	03562	K4	FO-02=	0,38	FO-55= 0,12
49077	79061	K4	FO-02=	0,37	FO-55= 0,10
49077	79085	K4	FO-02=	0,37	FO-55= 0,10
49077	79090	K4	FO-02=	0,38	FO-55= 0,09
49987	02445	K4	FO-02=	0,38	FO-55= 0,12
49987	03930	K4	FO-02=	0,38	FO-55= 0,12
50446	13132	K4	FO-02=	0,38	FO-55= 0,10
50447	13108	K4	FO-02=	0,37	FO-55= 0,12
50457	12904	K4	FO-02=	0,38	FO-55= 0,11

A04

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



Trademark

QM-System: Certification as per ISO 9001 since 14 March 1990

*B. Mueller*

B. MUELLER

Der Werkssachverständige



Inspector's stamp

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

A01

Date 16.02.04

PP 1



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		A09 Advice of dispatch No./ Date of dispatch 129322-14,02.04	A08/ Manufacturer's order/ A03 Certificate No. 275339-002	Sheet 9
A05 Established inspecting body DH	A06 Purchaser ARCELOR CANADA, BURLI Final receiver EDMONTON STEEL, EDMON	A07.1 No. 31762 A07.2 No. E10272-S48089-1-LG	B01 Product HOT ROLLED PLATES	
B02/ Steel grade SA516-70	B03 Specifications ASME-2A:01+A02+SA20-S5/DIL-HUE2			

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

D01 Checking of marking, surface, shape and dimensions

ITEM NO.: 01-04  
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



A04 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 since 14 March 1990

*B. Mueller*

B. MUELLER  
Der Werkssachverständige



Inspector's stamp

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

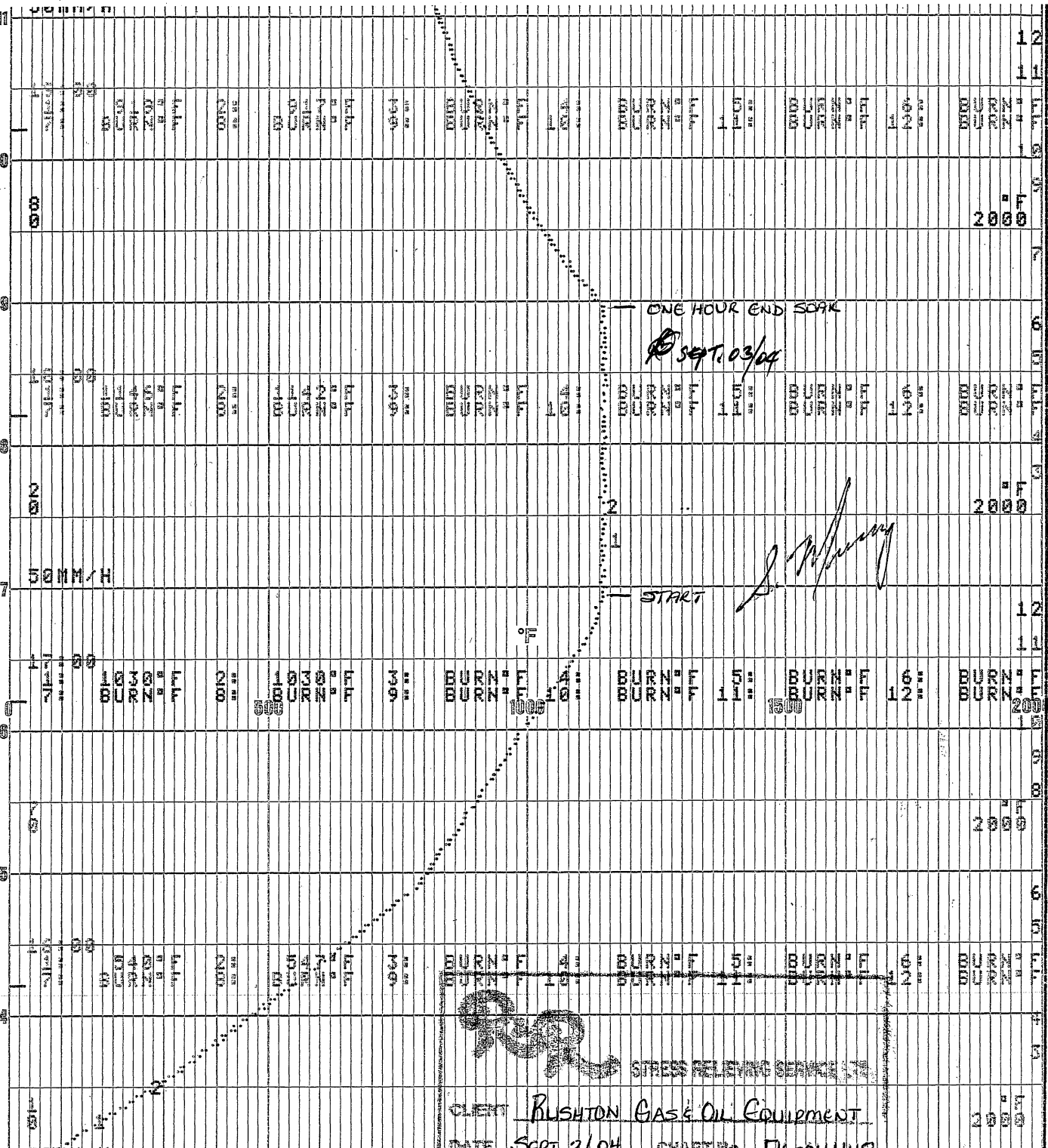
A01

Date 16.02.04

PP 1



## 2.7 PWHT Chart



*Steve Murray*

CLIENT RUSHTON GAS & OIL EQUIPMENT  
 DATE SEPT. 2/04 DRAWING No. Flg-041148  
 CHAIN SPEED 50mm/hr 70 #  
 OPERATOR STEVE MURRAY

REC. NO.	LOCATION	DESCRIPTION & COMMENTS
1B-163	# 112	JOB # 2245
		1 VESSEL (2PCS)
		# C2245AHS
		1 MANWAY BLIND
		6 SPOOLS
		JOB # 2280
		12 SPOOLS.

2004.09.02.15:22



# R & R Stress Relieving Service Ltd.

Nisku: 2103 - 6 Street • T9E 7X8 Tel: (780) 955-7559 • Fax: (780) 955-2903 • 1-800-499-HEAT(4328)  
Blackfalds: #13 Burbank Industrial Park • Tel: (403) 885-2280 • Fax: (403) 885-0177  
Calgary: (403) 236-8986

## CERTIFICATE OF CONFORMANCE OF RECORDING INSTRUMENTS

CERTIFIED BY: R & R Stress Relieving Service Ltd.  
TEST NUMBER: RR0810  
DATE: August 10, 2004  
DATE DUE: February 10, 2005  
INSTRUMENT MFG: Chino  
MODEL NUMBER: AH-3725 N00  
SERIAL NUMBER: AH03ZC073  
RECORDER NUMBER: IR-163

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

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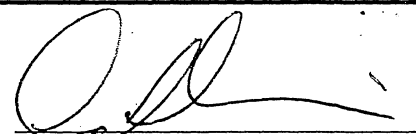
### REFERENCE STANDARDS

DIGI MITE 311600 S/N48430-5522                      CERT DATE NOV 15/03  
DIG. INDICATOR/CALIR. 028-8427113                      CERT DATE NOV 17/03

The calibration of all standards and measuring instruments used in the calibration are traceable to the National Research Council of Canada in Ottawa or to the National Bureau of Standards in Washington, D.C.

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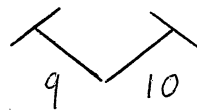
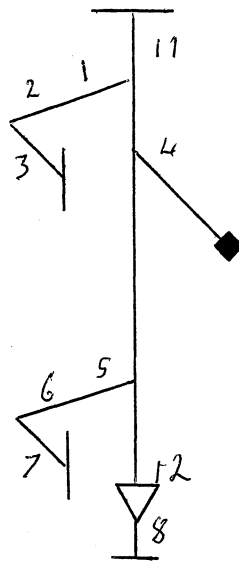
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Dave Siemens

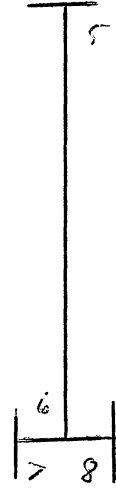




## 2.8 Weld Map



2245 25578



2245 25586



## 2.9 PSV Report



# FARRIS PRESSURE MANAGEMENT

## EDMONTON FACILITY

### INSPECTION TEST REPORT

<b>CUSTOMER:</b>	<b>ORDER#:</b>	<b>SE#:</b>	<b>METAL TAG:</b>
Rushton Gas & Oil		253893-1	
<b>PO:</b> 8260-C2245			

<b>TYPE:</b>	<b>VALVE SIZE:</b>	<b>ORIFICE FACTORY SERIAL #:</b>	<b>CRN#:</b>
26DA13-120	1"600RFx2"150RF	D 469015-1-A10	OG8442.5C

**SPRING:**

**SERVICE:**

SERVICE: GAS STAMP SYMBOL: UV NB

CAPACITY: 3875 SCFM

Set Pressure	Back Pressure	Diff	Cold Diff	Temp. Corr.	Temperature
1480 PSIG	0 PSIG	1480 PSIG	1480 PSIG	0 PSIG	50 F
10205 KPAG	0 KPAG	10205 KPAG	10205 KPAG	0 KPAG	16 C

**MATERIAL/HEAT NUMBER ASSIGNMENT:**

MTR'S REQUIRED Body Y3352 Nozzle 65410 INSPECTION REQUIRED BY

WITNESS TEST REQUIRED Bonnet Y2884 Disc 61227 ALBERT BOUWSEMA

**PERFORMANCE TEST DATA:**

Test Fluid  Air Final Test Pressure

Waters 1480 PSIG Upper B.D.R. Setting: n/a Notches

Air Over Water 10205 KPAG Lower B.D.R. Setting: -10 Notches

Shop Test Gauges Used: 1. 11C 2. 11F

**BACK PRESSURE TEST:**

Not Applicable, (Open Bonnet / Cap Design)

120 PSIG Air

**LEAK TIGHTNESS TEST: API 527**

Test Fluid Air Req'd At 90% Leak Test Pressure 1332 PSIG KPAG

Air  90% No Visible Leakage

Waters  95% Of Set Pressure Leak Rate: 7 B.P.M. Final Inspection / Tech Tested: Chris

Air Over Water Date Completed: 07/15/2004

**FOR WITNESS TESTING ONLY** Tested By: Chris Date: 07/15/2004

Customer Witness: AB Farris Witness:

### CERTIFICATE OF SHOP COMPLIANCE

the signature of the Certified Individual (CI) noted above, we certify that the statements made in this report are correct and all details for design, material, construction, and workmanship of the pressure relief devices conform with the requirements of Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code.

Certificate of Authorization No: 23533

Expires: November 27, 2004

07/15/04

Signed: Chris Taylor  
Responsible Representative

Name: Farris Pressure Management  
Manufacturer or Assembler

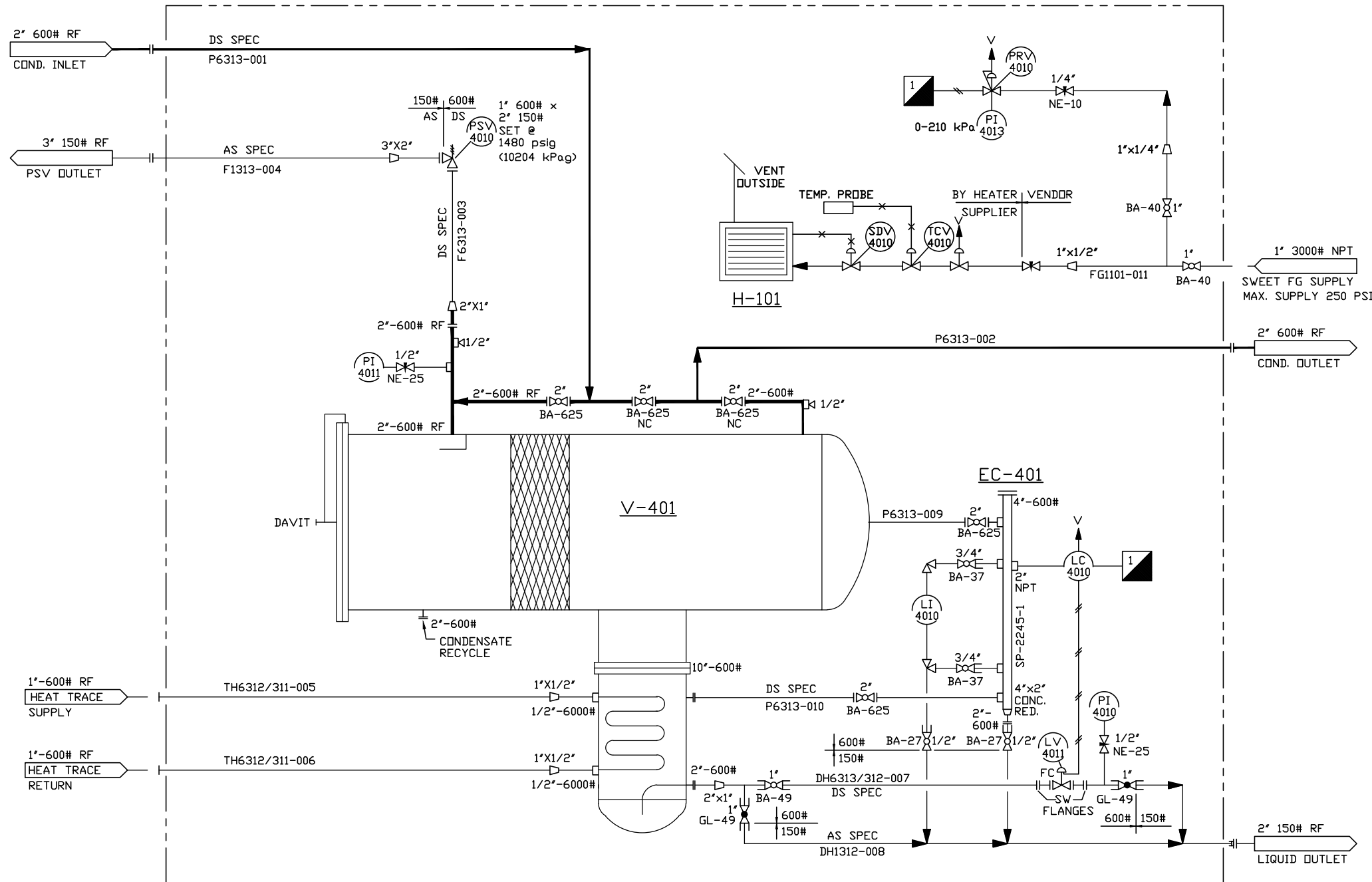


## 2.10 Mechanical Flow Drawing

**H-101**  
**BUILDING HEATER**  
 ONE(1) 24000 BTU/HR CATADYNE HEATERS  
 C/W REGULATOR, THERMOSTAT, SSOV  
 PROTECTION GRILL & VENT HOOD (NATURAL GAS)  
 120VAC STARTER

**V-401**  
**CONDENSATE CONDITIONER**  
 SIZE: 24" (610mm) O.D. X 8'-0" (2438mm) S/S 2-PHASE  
 DPI 1480 psig (10204 kPa) @ 100°F (38°C) MAX  
 CA: 0.125" (3.2mm)  
 BOOT: 10" (254mm) OD X 24" (610mm) S/S  
 ELEMENT: PECD FG-24 WAFER PACK X 18" (457mm) LONG

**EC-401**  
**INSTRUMENT BRIDLE**  
 114.3mm x 914mm S/S



**NOTE:**  
 ALL TUBING TO BE 316 SS C/W 316 SS  
 SWAGELOK TUBE FITTINGS  
 VENT ALL INSTRUMENTS (INCLUDING REGULATOR BONNET)  
 LOCALLY TO OUTSIDE BUILDING WALL.  
 TAG ALL INSTRUMENTS WITH DWG. TAG NUMBERS  
 AND WIRE TO EACH INSTRUMENT.

( 1 ) REQ'D  
 TIME CARD  
 C-2245-PP

DWG. NO.	REFERENCE DRAWINGS	REV	DESCRIPTION	DATE	BY
		Δ	REVISED BRIDLE TO 4"; REVISED AS NOTED.	07/28/04	J.J.
		Δ	REVISED AS PER BUILT	09/28/04	Y.P.



CUSTOMER: ENCANA RESOURCES		LOCATION:	
c/o TUNDRA ENGINEERING LTD.			
<b>MECHANICAL FLOW DIAGRAM</b>			
24" OD CONDENSATE SEPARATOR PACKAGE (SOUR)			
DATE: 06/14/04	DRN BY: Y.P.	SCALE: NTS	CHKD BY: APPRD BY: DWG NO: C-2245-B REV: 2



## 2.11 Line List



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	P.W.H.T./ Preheat Temp °C	R.T. %	Other NDE
C-2245-B Rev. 1												
C-2245-C Rev. 0												
P6313-001	CONDENSATE / H.C. LIQUIDS	10204	-29/38	15307	WATER	SA-106-B	3.2	2" SCH 160	SA-105-N / 600#	60 MINS. @ 620° C	100%	-
P6313-002	CONDENSATE	10204	-29/38	15307	WATER	SA-106-B	3.2	2" SCH 160	SA-105-N / 600#	60 MINS. @ 620° C	100%	-
F6313-003	CONDENSATE	10204	-29/38	15307	WATER	SA-106-B	3.2	2" / 1" SCH 160	SA-105-N / 600#	60 MINS. @ 620° C	100%	-
F1313-004	CONDENSATE	1965	-29/38	2951	WATER	SA-106-B	3.2	3" / 2" SCH 80	SA-105-N / 600#	60 MINS. @ 620° C	100%	-
TH6312/311-005	GLYCOL	10204	-29/38	15307	WATER	SA-106-B	3.2	1" SCH 160 / 1/2" SCH XXH	SA-105-N / 600#	-	SW 10% FOR GAP	-
TH6312/311-006	GLYCOL	10204	-29/38	15307	WATER	SA-106-B	3.2	1" SCH 160 / 1/2" SCH XXH	SA-105-N / 600#	-	SW 10% FOR GAP	-
DH6313/312-007	WATER	10204	-29/38	15307	WATER	SA-106-B	3.2	2" / 1" SCH 160	SA-105-N / 600#	(BW) 60 MINS. @ 620° C	BW 100% SW 10%	-
DH1312-008	WATER	1965	-29/38	2951	WATER	SA-106-B	3.2	1" SCH 80	SA-105-N / 150#	-	SW 10% FOR GAP	-
P6313-009	CONDENSATE	10204	-29/38	15307	WATER	SA-106-B	3.2	2" SCH 160	SA-105-N / 600#	60 MINS. @ 620° C	100%	-
P6313-010	H.C. LIQUIDS	10204	-29/38	15307	WATER	SA-106-B	3.2	2" SCH 160	SA-105-N / 600#	60 MINS. @ 620° C	100%	-
FG1101-011	NATURAL GAS	1724	-29/38	2586	WATER	SA-106-B	1.6	1" SCH 80	-	-	-	-
SP-2245-1	CONDENSATE / H.C. LIQUIDS	10204	-29/38	15307	WATER	SA-106-B	3.2	4" SCH 80 / 2" SCH 160	SA-105-N / 600#	60 MINS. @ 620° C	100%	-