ALBERTA MUNICIPAL AFFAIRS
ABSA-the pressure equipment authority
9410 20th Ave
Edmonton AB T6N 0A4

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

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

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

Manufactured by *Construit par*	Name and address of Manufacturer/ *Nom et adresse du constructeur* Toromont Process Systems , 3615-34th Street NE, Calgary, Alberta, Canada, T1Y 6Z8
Manufactured for *Construit pour*	Name and address of Purchaser or Consignee/ *Nom et adresse du client ou de son représentant* Stock
Ultimate owner *Utilisateur*	Name and address/ *Nom et adresse* Stock
Location of installation *Lieu d'installation*	Name and address/ *Nom et adresse* Unknown

Pressure vessel/ *Appareil*

Type/ *Genre*	Overall Length/*Longeur totale*	Serial No./ *N° de série*	Year built/Année de fabrication
Fuel Gas Filter	3'-9" S/S	80349401F	2008
Provincial Registration No. – C.R.N./N° d'enregistrement provincial - N.E.C. L1488.213			Drawing No./ *N° de dessin* FFT-065-01-CS-001 Rev.0

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

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

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

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

Shell/ *Virole*

Description	Material *Matériau*	Thickness *Épaisseur*	Corr. Allow. *Surépais. de corr.*	Diameter *Diamètre*	Longitudinal Joints *Joints longitudinaux*			P.W.H.T. *Traitement therm*		Girth Joints *Joints de circonférence*		Number of courses *Nombre de sections*
					Type	R.T. *Radiog.*	Efficiency *Efficacité*	Temp.	Time *Durée*	Type	R.T. *Radiog.*	
Shell	SA-106B	0.280"	0.0625"	6"NPS	Type S	-	1.0	-	-	1 & 7	Spot*	2

Heads/ *Tetes*

Description	Material *Matériau*	Min. Thickn. *Épals minim.*	Corr. Allow *Surép. Corr.*	Crown. Radius *Rayon couron.*	Knuckle Radius *Petit rayon*	Ellipse Ratio *Rapp. ellipse*	Conical Apex Angle *Angle conique*	Hemisph. Radius *Ray. Hémisph*	Flat Diameter *Diam.plat*	Side to pressure *Côte sous pression*
Top Head	SA-105	1.0"	0.0625"	-	-	-	-	-	11"	Flat
Bottom Head	SA-516-70N	1.0"	0.0625"	-	-	-	-	-	9.5" x 12"	Flat

Removable bolts used (describe other fastenings) *Boulons amovible utilisés (décrire tout autre attache)*	Mat'l Spec./ *Spéc. du mat.*	Grade	Size/ *Dimension*
8	SA-193	B7	3/4"

Pressure - Temperature/ *Pression - température*

Pressure Vessel Part *Partie de l'appareil*	Constructed for max. allowable working pressure *Construit pour une pression maximale de marche permise*	At max. temp. *A une temp. max.*	Min. Temp. (when less than -29°C) *Temp. min. (inférieure à -29°C)*	Test pressure (hydro-pneumatic or combination) *Pression d'épreuvre (hydro-pneumatique ou combinaison)*
Shell	245 PSIG	250°F	-20°F	319 PSIG

Tube Section/ *Faisceau tubulaire*

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

Jacket/ *Chemise*

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

Safety Valve Outlets/ *Soupapes de sûreté*

Number/ *Nombre*	Dimension	Location/ *Endroit*
See Remarks	-	-

Nozzles and Openings/ *Tubulures et ouvertures*

Purpose/ *But*	Number *Nombre*	Dimension	Type	Material *Matériau*	Nominal Thickness *Épaisseur nominale*	Reinforcement material *Matériau de renfort*	How attached *Genre d'attaches*	Location/ *Endroit*
N1-Service Opening	1	6"NPS	CL150 RFWN	SA-105	0.280"	-	Type 1	Shell
C1/C2-Inlet/Outlet	2	1.5"	NPT 1/2 Cplg	SA-105	CL6000	-	UW-16.1c	Shell
C3-LSHH	1	1.5"	NPT 1/2 Cplg	SA-105	CL6000	-	UW-16.1c	Shell
C4A/C4B-LG	2	0.75"	NPT Cplg	SA-105	CL6000	-	UW-16.1c	Shell
C5A-Drain/C7-Vent	2	0.75"	NPT Cplg	SA-105	CL6000	-	UW-16.1c	Shell
C5B-Drain	1	1"	NPT Cplg	SA-105	CL6000	-	UW-16.1c	Shell
C6-LC	1	2"	NPT 1/2Cplg	SA-105	CL6000	-	UW-16.1c	Shell

Supports/ *Supports*

Skirt/ *Jupe* Yes/ *Oui*	Skirt/ *Jupe* No/ *Non*	Lugs/ Oreilles *No./ Nbre*	Legs/ Pieds *No./ Nbre*	Other/ *Autres* (Description)	Attached/ *Attaches* (Where and How/ *Méthode et endroit*)
☐	☒	-	-	Flat Head	Shell & Welded

Remarks/ *Observations* (Cubical capacity/ Volume)

Item: F-2, Construction Drawing : 80349-401 Rev.2A

*UW-11(a)5(b) on Cat. "B" welds only, Volume: 1.21 Cu. Ft.

Impact Testing: No, per UG-20(f)

Relief valve installed on piping as per UG-125(g)

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.

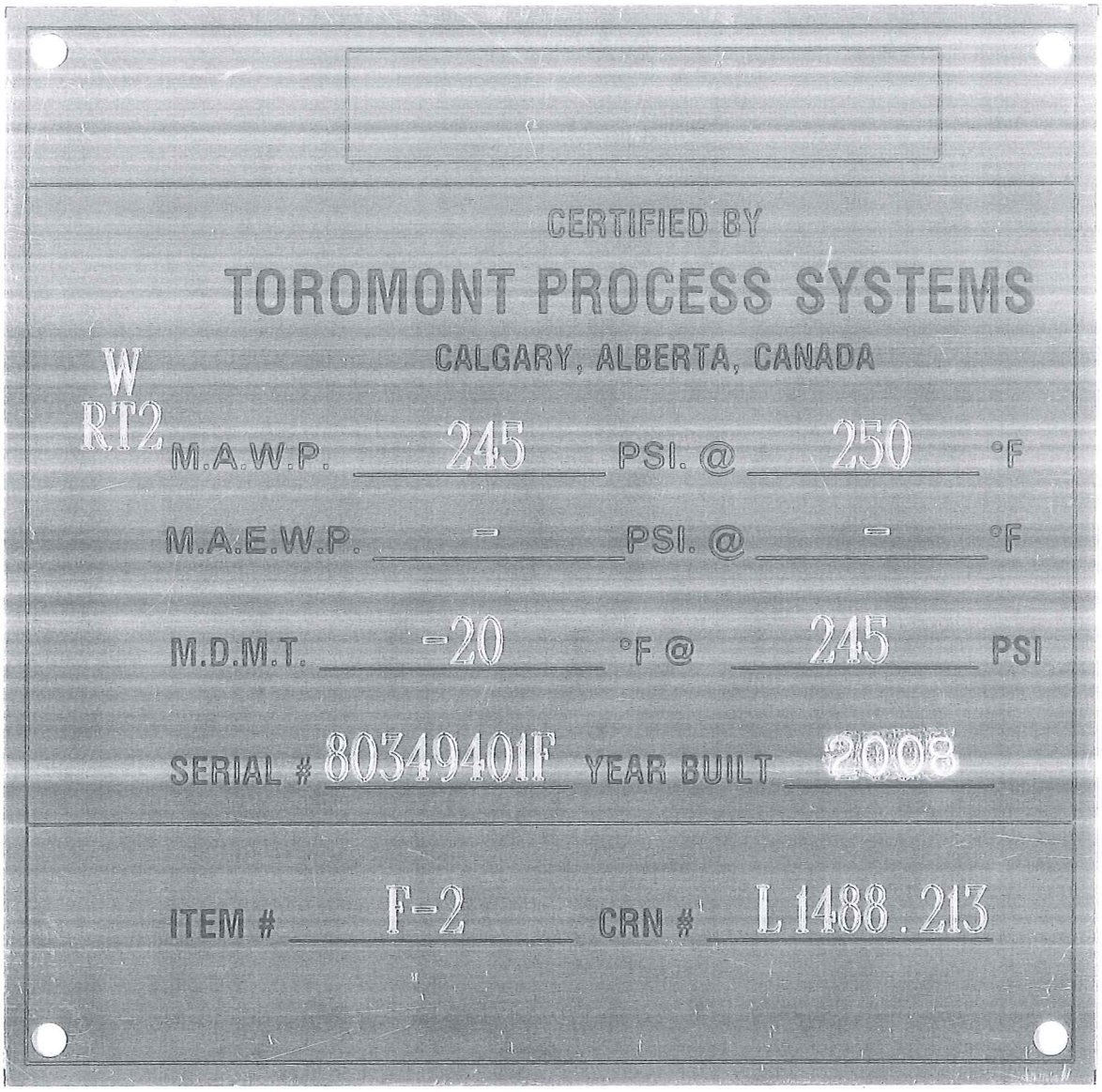
Nous certifions que les données de la déclaration de conformité sont correctes et que l'appareil a été construit en accord avec l'enregistrement provincial ci-dessous et les exigences de la norme ACNOR B51.

Provincial Registered Design
Enregistrement provincial **L1488.213**

Manufacturer
Constructeur Toromont Process Systems

Signature D. GERRAND Date MAR. 17, 2008
(Representative)

Signature Date MAR. 17/08
(Certified Individual)


CERTIFIED BY
TOROMONT PROCESS SYSTEMS
CALGARY, ALBERTA, CANADA
W
RT2
M.A.W.P. 245 PSI. @ 250 °F
M.A.E.W.P. - PSI. @ - °F
M.D.M.T. -20 °F @ 245 PSI
SERIAL # 80349401F YEAR BUILT 2008
ITEM # F-2 CRN # L1488.213

TOROMONT PROCESS SYSTEMS

Customer	STOCK	Vessel	Fuel Gas Filter
Project		Serial No.	80349401F
		Tag No	F-2

PRESSURE VESSEL TRAVELER

OPERATION			Client	DATE	QCI	DATE	CI	DATE
CI review date Hold point** Inspection point*						03/04/08	*	MAR 4/08
Calculations						03/04/08	*	MAR 17/08
Approved Construction Drawing						03/04/08	*	MAR 5/08
MTR's Reviewed & Accepted						03/07/08	*	MAR 17/08
Heat #'s Recorded						03/07/08	*	MAR 17/08
Materials Examined						03/07/08		
WPS (s) Checked						03/04/08		
Welder (s) Qualified						03/07/08		
Thicknesses Verified & Recorded						03/07/08		
Vessel Layout						03/07/08		
Shell (s) & Head (s) Fit-up Inspection						03/07/08	*	MAR 17/08
Nozzles and Fittings	Fit Up Rating					03/04/08		
Internal Welding Inspection						03/04/08	**	MAR. 5/08
Radiography	RT-2					03/10/08	*	MAR 17/08
Other NDE	N/A					—		
Type 1 Joints Verified						03/06/08		
Final External Inspection						03/07/08	*	MAR 17/08
Vessel Released for P.W.H.T.		NA				—	*	
Verification of P.W.H.T. Chart		NA				—	*	
Hydrostatic Test	Gauge # G-7	319 PSIG				03/17/08	**	MAR 17/08
Registered Drawing	No. FFT-065-01-CS-001 Rev.0					03/04/08	*	MAR 17/08
	CRN L1488.213							
Data Report Reviewed and Accepted						03/17/08	**	MAR 17/08
Name Plate Stamped						03/04/08	**	MAR 17/08
Name Plate Installation						03/24/08		
NCR #						—		
OTHER						—		
Vessel drained after Hydro Test						03/17/08		

NOTE: All the above examinations by the Company are mandatory and must be so signed by a Shop Inspector.
The Authorised Inspector will perform and sign where indicated on the required AI inspection.
Additional requirements will be listed on the back of this form.

MATERIAL INSPECTION SHEET

SERIAL NUMBER **80349401F**

MATERIAL IDENTIFICATION			
Description	Material Spec & GR	Heat & Slab # or ID.	Verified Thickness
101-Head #1	9 1/2" OD 1"thk. SA-516-70N	5265767H - C51C0C0 D1	1.0"
Head #2	6" RFBL SA-105	35725 D1	1.0"
102-Shell	6" NOM Std. SA-106B	83C49	0.281", 0.281", 0.280", 0.280"
103-Shell	6" NOM Std. SA-106B	83649	0.281", 0.281", 0.280", 0.280"
Boot Shell	NA		
Boot Head	NA		
Repad	NA		
Repad	NA		

			Material Spec & GR		Heat # or ID.	
Nozzles	Size	Thickness	Flange	Neck	Flange	Neck
N1	6"NPS	0.280"	CL150 RFWN SA-105	-	34951	
C1	1.5"	CL6000	NPT 1/2 Cplg.	SA-105		39167
C2	1.5"	CL6000	NPT 1/2 Cplg.	SA-105		39167
C3	1.5"	CL6000	NPT 1/2 Cplg.	SA-105		39167
C4A	0.75"	CL6000	NPT Cplg.	SA-105		2669
C4B	0.75"	CL6000	NPT Cplg.	SA-105		2669
C5A	0.75"	CL6000	NPT Cplg.	SA-105		2669
C5B	1"	CL6000	NPT Cplg.	SA-105		2631
C6	2"	CL6000	NPT 1/2 CPLG	SA-105		31708
C7	0.75"	CL6000	NPT CPLG	SA-105		2669

Coupling/o'let	Code Markings	Coupling/o'let	Code Markings
3/4" (6M) 6000#	SA-105N B16 TAIWAN	1 1/2" (6M) 6000#	SA-105N B16 INOX ITALY
1" (6M) 6000#	SA-105N B16 TAIWAN	2" 6M/6000#	SA-105N B16

TOROMONT PROCESS SYSTEMS

TOROMONT PROCESS SYSTEMS
HYDROSTATIC TEST REPORT

CUSTOMER	STOCK
TITLE	F-2 Fuel Gas Filter
SERIAL NO.	80349401F

SHELL SIDE HYDROSTATIC TEST @ 319 **PSIG,** ACTUAL 330 PSIG
TUBE SIDE HYDROSTATIC TEST @ NA **PSIG**

SHELL SIDE GAUGE NO. G-7
TUBE SIDE GAUGE NO. NA

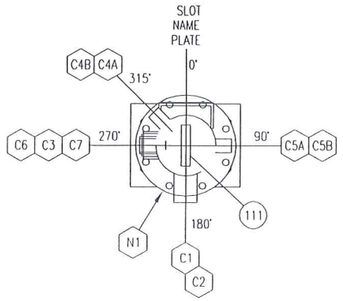
Hydrostatic test was in compliance with the requirements of the ASME Code Section VIII div. 1 latest edition & addenda, as specified by the rule of paragraph UG-99,

REMARKS: Hydrostatic test with water.

Minimum hydrostatic test temperature 35 Deg. F

TOROMONT PROCESS D. BRAND DS. **DATE** 03/17/08

CUSTOMER/AGENT _____ **DATE** _____



ORIENTATION

TOROMONT ENERGY SYSTEMS INC.

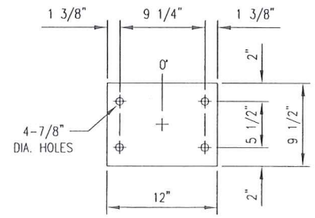
ISSUED FOR CONSTRUCTION

MAR 13, 2008

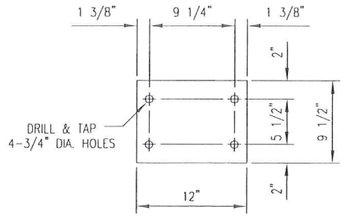
PER P. PAGE

DESTROY PREVIOUS COPIES

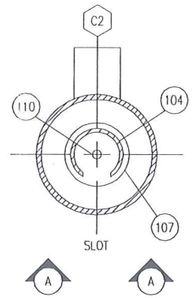
2A



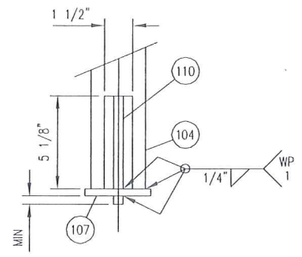
(101) LOWER PLATE DETAIL



(109) BASE DETAIL



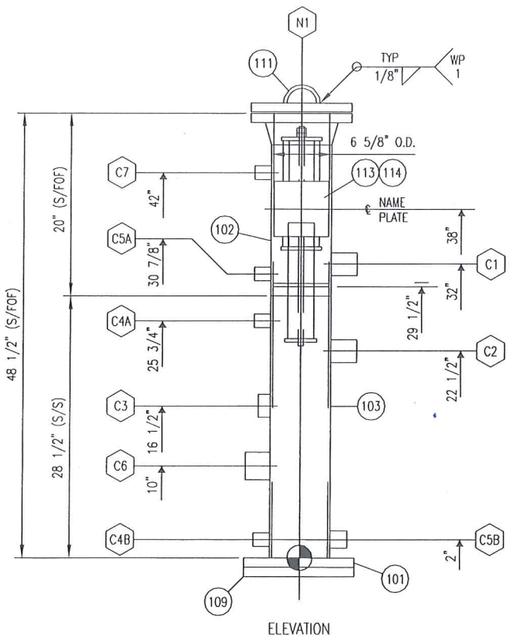
SLOT DETAIL
SCALE: 3" = 1'-0"



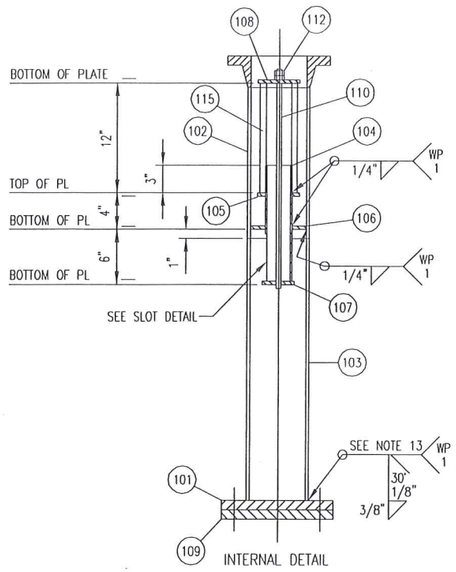
VIEW 'A-A'
SCALE: 3" = 1'-0"

SCHEDULE OF OPENINGS													
MARK	SERVICE	ID#	DESCRIPTION (END CONNECTION TOWARDS VESSEL)		QTY.	LENGTH	WLD	WP	WELD A	WELD B	WELD C	O.S. PROJ.	I.S. PROJ.	I.S. PROF.	HEAT NUMBER
N1	SERVICE OPENING	1	BLIND FLANGE: 6"-150# RF	SA-105	1	–	–	–	–	–	–	–	–	–	
		2	GASKET: 6"-150# RF 1/8" THK FLEX	304SS/NON ASB	1	–									
		3	STUDS: 3/4" DIA.	SA-193-B7	8	4"									
		4	NUTS: 3/4" DIA. UNC	SA-194-2H	16	–									
		5	FLANGE: 6"-150# RFWN STD WT BORE	SA-105	1	–	12	5							
C1	INLET	1	HALF COUPLING:1 1/2"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C2	OUTLET	1	HALF COUPLING:1 1/2"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C3	LSHH	1	HALF COUPLING: 1 1/2"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C4A	LG	1	COUPLING: 3/4"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C4B	LG	1	COUPLING: 3/4"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C5A	DRAIN	1	COUPLING: 3/4"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C5B	DRAIN	1	COUPLING: 1"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C6	LC	2	HALF COUPLING: 2"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C7	VENT	1	PLUG: 3/4" HEX HEAD NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
		2	COUPLING: 3/4"-6000# NPT	SA-105	1	–									

ITEM	DESCRIPTION		QTY	LENGTH	HEAT NUMBER
101	PLATE: 1" THK 9 1/2"	SA-516-70	1	12"	
102	PIPE: 6" NOM STD WT	SMLS SA-106-B	1	16 1/4"	
103	PIPE: 6" NOM STD WT	SMLS SA-106-B	1	28 3/8"	
104	PIPE: 2 1/2" NOM STD WT	SMLS SA-106-B	1	12 5/8"	
105	PLATE: 3/8" THK 4 1/2" O.D. X 3" I.D.	SA-36 MIN.	1	–	
106	PLATE: 3/8" THK 5 15/16" O.D. X 3" I.D.	SA-516-70	1	–	
107	PLATE: 3/8" THK 3 1/2" O.D. X 1/2" I.D.	SA-36 MIN.	1	–	
108	PLATE: 3/8" THK 4 1/2" O.D. X 1/2" I.D.	SA-36 MIN.	1	–	
109	PLATE: 1" THK 9 1/2"	SA-36 MIN.	1	12"	
110	ROUND BAR: 1/2" DIA. (TOE UNC)	SA-36	1	24"	
111	PIPE: 4" NOM STD WT (CUT IN HALF)	SMLS SA-106-B	1	1"	
112	HEX NUT: 1/2" UNC	SA-194-2H	2	–	
113	NAME PLATE: TOROMONT PROCESS SYSTEMS	STAINLESS STEEL	1	–	
114	NAME PLATE BRACKET: 1/4" THK	SA-516-70	1	–	
115	FILTER: PECO MODEL # FG-312	–	1	–	



ELEVATION



INTERNAL DETAIL

GENERAL NOTES:

1. ALL TAIL DIMENSIONS FROM REFERENCE POINT.
2. WELDING PROCEDURE REGISTRATION No. WP 496.2.
3. FLANGE BOLT HOLES TO STRADDLE MAJOR CENTERLINES OF VESSEL, UNLESS OTHERWISE NOTED.
4. ALL FLANGES TO BE ANSI 16.5, ALL FORGED THD & SW FITTINGS PER ANSI B16.11, UNLESS OTHERWISE NOTED.
5. EXTERIOR & INTERIOR OF VESSEL TO BE FREE OF WELD SLAG, SPATTER, GREASE, MOISTURE, ETC.
6. ALL CUT LENGTHS ARE FINISHED LENGTHS, PIPING CUT LENGTHS ARE BASED ON 1/8" (3 mm) WELD GAP.
7. PROJECT NAME PLATE 1" (25 mm) FROM SHELL/INSUL.
8. ALL TACK WELDS TO BE PER WP 1.
9. SURFACE PREPARATION: SSPC-SP 6 INTERNAL ONLY, SP2 ON REST
10. PRIMER: ONE COAT OF PRI-1 RED OXIDE
11. FINISH: ONE COAT FIN-1
12. INSULATION: NONE
13. NDT NOT REQUIRED AS PER UG-93(d)(4)(c).
14. ALLOWABLE MATERIAL SUBSTITUTION: SA-333-6 FOR SA-106B; SA-350-LF2 FOR SA-105N; SA-420-WPL6 FOR SA-234-WPB.
15. VESSEL TOLERANCE FOLLOWS TPS ENG_PRO_003_VES
16. MINIMUM HYDRO VESSEL TEMP SHALL BE 30°F ABOVE MDMT BUT NOT LOWER THAN 35°F
17. REGISTERED UNDER DWG. FFT-065-01-CS-001 REV.0

HYDROSTATIC TEST PRESS.	319	PSIG	2196 KPAG
IMPACT TEST EXEMPT PER	UG-20(f)		
RADIOGRAPHY:			

PART	CODE	TYPE	JE
FLANGE (CAT 'B')	UW-11(a)5(b)/UW-12(d)	SPOT	1.00
F.HEAD (CAT 'C')	N/A	NONE	1.00

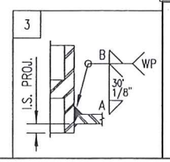
CERTIFIED BY
TOROMONT PROCESS SYSTEMS
CALGARY, ALBERTA, CANADA

W
RT2

M.A.W.P.	245	PSI @	250	°F
M.A.E.W.P.	–	PSI @	–	°F
M.D.M.T.	-20	°F @	245	PSI
SERIAL #	80349401	YEAR BUILT	2008	2

ITEM # F-2 CRN # L-1488.213

3



PERMIT TO PRACTICE STAMP

ENGINEER STAMP

DESIGN AND FABRICATION TO BE IN ACCORDANCE WITH THE PROVINCE OF ALBERTA, BRITISH COLUMBIA, SASKATCHEWAN REGULATIONS AND A.S.M.E. CODE SEC. VIII DIV. 1 2007 EDITION 2A

DESIGN PRESSURE	245	PSIG	1689	KPAG
DESIGN TEMPERATURE	250	DEG.F	121	DEG.C
MIN. DESIGN METAL TEMPERATURE	-20°F @ 245 PSIG		-29°C @ 1689 KPAG	
MAX. ALLOWABLE WORKING PRESS.	245	PSIG	1689	KPAG
LIMITED BY	FLANGE RATING			
CORROSION ALLOWANCE	0.0625"		1.6 MM	
POST WELD HEAT TREATMENT	NO			
SERVICE	NATURAL GAS			
VOLUME	1.21	FT3	0.034	M3
WT. EMPTY (SHIPPING WT.)	285	LBS	129	KGS
WT. FULL OF WATER (TEST WT.)	360	LBS	163	KGS
OPERATING WT.	290	LBS	131	KGS

REV.	DESCRIPTION	DATE	BY	APPR.
2A	ADD ISSUED FOR CONSTRUCTION STAMP	MAR 13/08	PP	
2	REVISED TO ASME 2007 EDITION	MAR 3/08	PP	
1	ISSUED FOR CONSTRUCTION	OCT 21/05	AF	

2 (7) SEVEN COMPLETED IN 2005
(3) THREE TO BE COMPLETED IN 2008

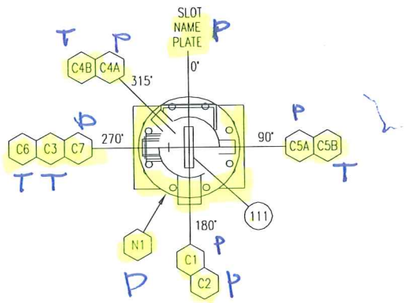
(10) TEN REQUIRED

TOROMONT / TOROMONT PROCESS SYSTEMS

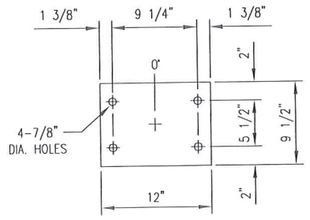
TITLE: F-2 FUEL GAS FILTER
6 5/8" O.D. X 48 1/2" S/FOF

FOR: TOROMONT PROCESS SYSTEMS

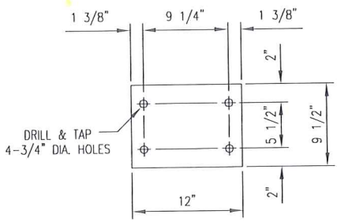
DRAWN BY: ALLEN FOO	DATE: OCT 21, 2005		
CHKD. BY: W. YU	SCALE: 1 1/2" = 1'-0"		
APPR. BY: W. YU	W.O. No: 80349401		
CUST. PO No:	DWG. No: 80349-401	SHEET No: 1 OF 1	REV: 2A



ORIENTATION

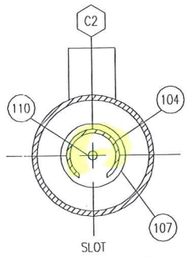


(101) LOWER PLATE DETAIL

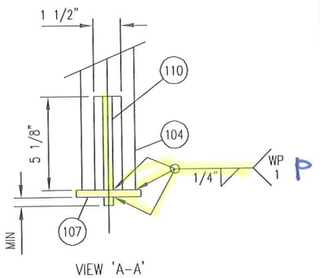


(109) BASE DETAIL

NOTE:
SLOT TO BE 180°
FROM OUTLET.



SLOT DETAIL
SCALE: 3" = 1'-0"



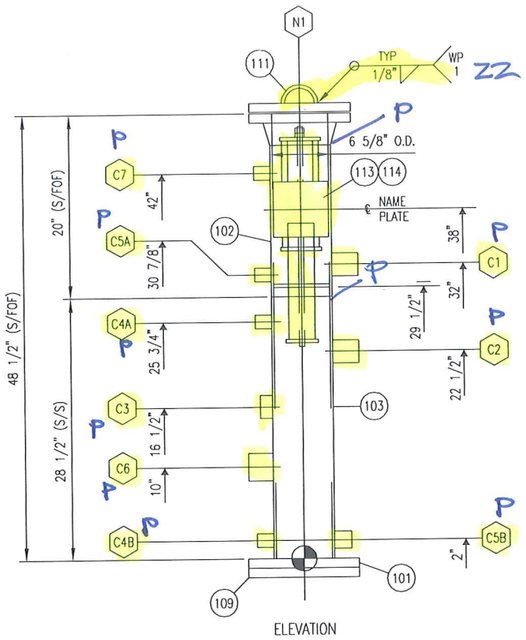
VIEW 'A-A'
SCALE: 3" = 1'-0"

SCHEDULE OF OPENINGS

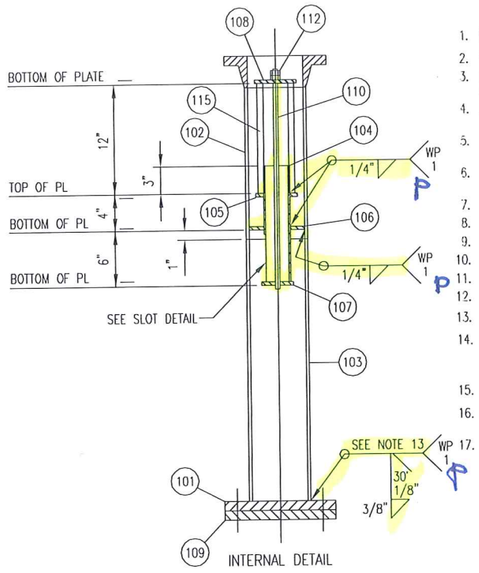
MARK	SERVICE	ID#	DESCRIPTION (END CONNECTION TOWARDS VESSEL)		QTY.	LENGTH	WLD	WP	WELD A	WELD B	WELD C	D.S. PROJ.	I.S. PROJ.	I.S. PROF.	HEAT NUMBER
N1	SERVICE OPENING	1	BLIND FLANGE: 6"-150# RF	SA-105	1	–	–	–	–	–	–	–	–	–	
		2	GASKET: 6"-150# RF 1/8" THK FLEX	304SS/NON ASB	1	–									
		3	STUDS: 3/4" DIA.	SA-193-B7	8	4"									
		4	NUTS: 3/4" DIA. UNC	SA-194-2H	16	–									
		5	FLANGE: 6"-150# RFWN STD WT BORE	SA-105	1	–	12	5							
C1	INLET	1	HALF COUPLING:1 1/2"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C2	OUTLET	1	HALF COUPLING:1 1/2"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C3	LSHH	1	HALF COUPLING: 1 1/2"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C4A	LG	1	COUPLING: 3/4"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C4B	LG	1	COUPLING: 3/4"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C5A	DRAIN	1	COUPLING: 3/4"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C5B	DRAIN	1	COUPLING: 1"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C6	LC	2	HALF COUPLING: 2"-6000# NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
C7	VENT	1	PLUG: 3/4" HEX HEAD NPT	SA-105	1	–	3	1	3/8"	0"	–	–	–	STR	
		2	COUPLING: 3/4"-6000# NPT	SA-105	1	–									

ITEM	DESCRIPTION		QTY	LENGTH	HEAT NUMBER
101	PLATE: 1" THK 9 1/2"	SA-516-70	1	12"	
102	PIPE: 6" NOM STD WT	SMLS SA-106-B	1	16 1/4"	
103	PIPE: 6" NOM STD WT	SMLS SA-106-B	1	28 3/8"	
104	PIPE: 2 1/2" NOM STD WT	SMLS SA-106-B	1	12 5/8"	
105	PLATE: 3/8" THK 4 1/2" O.D. X 3" I.D.	SA-36 MIN.	1	–	
106	PLATE: 3/8" THK 5 15/16" O.D. X 3" I.D.	SA-516-70	1	–	
107	PLATE: 3/8" THK 3 1/2" O.D. X 1/2" I.D.	SA-36 MIN.	1	–	
108	PLATE: 3/8" THK 4 1/2" O.D. X 1/2" I.D.	SA-36 MIN.	1	–	
109	PLATE: 1" THK 9 1/2"	SA-36 MIN.	1	12"	
110	ROUND BAR: 1/2" DIA. (TOE UNC)	SA-36	1	24"	
111	PIPE: 4" NOM STD WT (CUT IN HALF)	SMLS SA-106-B	1	1"	
112	HEX NUT: 1/2" UNC	SA-194-2H	2	–	
113	NAME PLATE: TOROMONT PROCESS SYSTEMS	STAINLESS STEEL	1	–	
114	NAME PLATE BRACKET: 1/4" THK	SA-516-70	1	–	
115	FILTER: PECO MODEL # FG-312	–	1	–	

VOID



ELEVATION

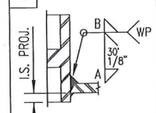


INTERNAL DETAIL

GENERAL NOTES:

1. ⊕ ALL TAIL DIMENSIONS FROM REFERENCE POINT.
2. WELDING PROCEDURE REGISTRATION No. WP 496.2.
3. FLANGE BOLT HOLES TO STRADDLE MAJOR CENTERLINES OF VESSEL, UNLESS OTHERWISE NOTED.
4. ALL FLANGES TO BE ANSI 16.5, ALL FORGED THD & SW FITTINGS PER ANSI B16.11, UNLESS OTHERWISE NOTED.
5. EXTERIOR & INTERIOR OF VESSEL TO BE FREE OF WELD SLAG, SPATTER, GREASE, MOISTURE, ETC.
6. ALL CUT LENGTHS ARE FINISHED LENGTHS, PIPING CUT LENGTHS ARE BASED ON 1/8" (3 mm) WELD GAP.
7. PROJECT NAME PLATE 1" (25 mm) FROM SHELL/INSUL.
8. ALL TACK WELDS TO BE PER WP 1.
9. SURFACE PREPARATION: SSPC-SP 6 INTERNAL ONLY, SP2 ON REST
10. PRIMER: ONE COAT OF PRI-1 RED OXIDE
11. FINISH: ONE COAT FIN-1
12. INSULATION: NONE
13. NDT NOT REQUIRED AS PER UG-93(d)(4)(c).
14. ALLOWABLE MATERIAL SUBSTITUTION: SA-333-6 FOR SA-106B; SA-350-LF2 FOR SA-105N; SA-420-WPL6 FOR SA-234-WPB.
15. VESSEL TOLERANCE FOLLOWS TPS ENG_PRO_003_VES
16. MINIMUM HYDRO VESSEL TEMP SHALL BE 30°F ABOVE MDMT BUT NOT LOWER THAN 35°F
17. REGISTERED UNDER DWG. FFT-065-01-CS-001 REV.0

3



HYDROSTATIC TEST PRESS.	319	PSIG	2196	KPAG
IMPACT TEST EXEMPT PER	UG-20(f)			
RADIOGRAPHY:				
PART	CODE	TYPE	JE	
FLANGE (CAT 'B')	UW-11(a)5(b)/UW-12(d)	SPOT	1.00	
F.HEAD (CAT 'C')	N/A	NONE	1.00	

CERTIFIED BY
TOROMONT PROCESS SYSTEMS
CALGARY, ALBERTA, CANADA

W
RT2

M.A.W.P.	245	PSI @	250	°F
M.A.E.W.P.	–	PSI @	–	°F
M.D.M.T.	-20	°F @	245	PSI
SERIAL #	80349401	YEAR BUILT	2008 /2	
ITEM #	F-2	CRN #	I-1488.213	

PERMIT TO PRACTICE STAMP

ENGINEER STAMP

DESIGN AND FABRICATION TO BE IN ACCORDANCE WITH THE PROVINCE OF ALBERTA, BRITISH COLUMBIA, SASKATCHEWAN REGULATIONS AND A.S.M.E. CODE SEC. VIII DIV. 1 2007 EDITION /2				
DESIGN PRESSURE	245	PSIG	1689	KPAG
DESIGN TEMPERATURE	250	DEG.F	121	DEG.C
MIN. DESIGN METAL TEMPERATURE	-20°F @ 245 PSIG		-29°C @ 1689 KPAG	
MAX. ALLOWABLE WORKING PRESS.	245	PSIG	1689	KPAG
LIMITED BY	FLANGE RATING			
CORROSION ALLOWANCE	0.0625"		1.6 MM	
POST WELD HEAT TREATMENT	NO			
SERVICE	NATURAL GAS			
VOLUME	1.21	FT3	0.034	M3
WT. EMPTY (SHIPPING WT.)	285	LBS	129	KGS
WT. FULL OF WATER (TEST WT.)	360	LBS	163	KGS
OPERATING WT.	290	LBS	131	KGS

REV.	DESCRIPTION	DATE	BY	APPR.
2	REVISED TO ASME 2007 EDITION	MAR 3/08	PP	
1	ISSUED FOR CONSTRUCTION	OCT 21/05	AF	

/2 (7) SEVEN COMPLETED IN 2005
(3) THREE TO BE COMPLETED IN 2008

(10) TEN REQUIRED

TOROMONT / TOROMONT PROCESS SYSTEMS

TITLE: F-2 FUEL GAS FILTER
6 5/8" O.D. X 48 1/2" S/FOF

FOR: TOROMONT PROCESS SYSTEMS

DRAWN BY:	DATE:
ALLEN FOO	OCT 21, 2005
CHKD. BY:	SCALE:
W. YU	1 1/2" = 1'-0"
APPR. BY:	W.O. No:
W. YU	80349401
CUST. PO No:	

DWG. No: 80349-401 | SHEET No: 1 OF 1 | REV: 2

IRISNDT

RADIOGRAPHIC INSPECTION REPORT

498850

Page 2 of 5

Exposure Device #: 50959 Source #: OL0712

Cobalt 60 ☐ IR 192 ☒ X-Ray ☐ EFSS: 0.153

Film Brand: AGFA #Film/cassette: 1

Code: ASME UW -52

(Job) P.O. #: 80349401-J IRISNDT #: 230846 Date: MAR 8 08

Client: TPS

Location: CGY

Item: CIRCSEAM SPOT 6" STD Material: C.S

Film #	Size, Location, Thickness	Welder ID	IRISNDT Proc.	SOD Inches	OFD Inches	# of Exp.	Work Location	Film Type	Type and Location of Discontinuities (circle rejectable discontinuities)	Accept	Reject
CS1	0" - 6"	P	RT3	6.35	.280	1	1	D5		✓	
									USED FOR 80349401-J		
									1 - 6" CIRC SEAM SPOT ON 6" STD		

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

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

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

S.O.D. = Source to object distance (D)
O.F. D. = Distance from source side of object to film (d)

AB - Arc Burns
BT - Burn Through
CK - Crack
EP - Excessive Penetration
P - Porosity
EUC - External Undercut
IUC - Internal Undercut
HB - Hollow Bead
IP - Incomplete Penetration
S - Slag
IC - Internal Concavity
LF - Lack of Fusion
LC - Low Cover
MA - Misalignment

Unit #: 212 Kilometres: _____

In 2245 Out 2300 Hrs. 0.25

In _____ Out _____ Hrs. _____

Personnel: J.G

J.B

Film Quantity:

1 - 2¾" x 8½" D5

Interpretation by: JOSEPH GOMEZ (Print) (Signature)

SNT-TC-1A II

C.G.S.B. I (Level)

C.G.S.B. # 12296

I am in full agreement with report contents:

Client Representative: DS. 03/10/08

Edmonton (780) 437-4747
Calgary (403) 279-6121
Nisku (780) 955-7616
Red Deer (403) 347-1742
Fort McMurray (780) 743-1536
Lloydminster (780) 875-6455
Cold Lake (780) 594-1114
High Level (780) 956-4094
Barrhead (780) 674-3018
Tulsa, OK (918) 446-8773
Deer Park, TX (281) 476-4444
Houston, TX (713) 461-6363
Mailing Address
5311 - 86 Street
Edmonton, Alberta
T6E 5T8

HEAT NUMBER : 35725 6" 150# BLIND FLANGE RF A105N
TRANS AM PIPING PRODUCTS - REV'D BY:
Shipment/Seq #: S 5 - 1274 10

METALFAR

PRODOTTI INDUSTRIALI S.P.A.
23861 CESANA BRIANZA (LC) ITALY
Tel. 031.655441 - Fax 031.655149
MATERIAL TEST DEPARTMENT
SALA PROVE ED ANALISI MATERIALI

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

TRANS AM PIPING PRODUCTS LTD
7025 44TH STREET SE T2C4E8
CALGARY-ALBERTA

INSPECTION CERTIFICATE DIN 50049/3.1B - EN 10204/3.1B ** *CERTIFICATO DI COLLAUDO*

N.: 1828/ 11/05/2005
INVOICE / *FATTURA*: 1673/ 10/05/2005
S.: 41551
DEL. NOTE / *BOLLA*: 3005/ 10/05/2005
PAG.: 1

HEAT CODE *COD. COLATA*	HEAT *COLATA*	ITEM *POS.*	YOUR P.O. *VS. ORDINE*	OUR REFERENCE *NS. ORDINE*	QUANTITY *QUANTITÀ*	DESCRIPTION *DESCRIZIONE*		DIM. IN ACCORDANCE TO *DIM. IN ACCORDO A*	VISUAL & DIMENSIONAL *VISIVO E DIMENSIONALE*
	74064	0069	CI05-155	05000379 0076		BLIND 300 RF 3"	A105	ASME/ANSI B16.5	SATISFACTORY
	35780	0004	CI05-282	05001345 0011		W/N 150 RF 4" STD	A105	ASME/ANSI B16.5	SATISFACTORY
	35725	0054	CI05-100	05000072 0062		BLIND 150 RF 6"	A105	ASME/ANSI B16.5	SATISFACTORY
	35780	0004	CI05-282	05001345 0011		W/N 150 RF 4" STD	A105	ASME/ANSI B16.5	SATISFACTORY
	35780	0004	CI05-282	05001345 0011		W/N 150 RF 4" STD	A105	ASME/ANSI B16.5	SATISFACTORY
	79447.	0003	CI05-330	05001625 0010		W/N 150 RF 2.1/2" STD	LF2	ASME/ANSI B16.5	SATISFACTORY

HEAT CODE *COD. COLATA*	HEAT *COLATA*	ITEM *POS.*	MATERIAL *MATERIALE*	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Nb %	N %	Al %	C.E. %	STEEL MILL *ACCIAIERIA*
	74064	0069	ASTM A 105	0.185	0.220	0.920	0.027	0.020	0.160	0.070	0.020	0.010	0.220	0.002	0.000	0.000	0.007	0.394	ACC. RIVA
	35780	0004	ASTM A 105	0.190	0.220	1.100	0.015	0.011	0.100	0.060	0.010	0.020	0.130	0.021	0.000	0.000	0.025	0.412	ACC. CARONNO
	35725	0054	ASTM A 105	0.185	0.200	1.120	0.019	0.016	0.130	0.060	0.010	0.016	0.170	0.025	0.001	0.000	0.029	0.420	ACC. RIVA
	35780	0004	ASTM A 105	0.190	0.220	1.100	0.015	0.011	0.100	0.060	0.010	0.020	0.130	0.021	0.000	0.000	0.025	0.412	ACC. CARONNO
	35780	0004	ASTM A 105	0.190	0.220	1.100	0.015	0.011	0.100	0.060	0.010	0.020	0.130	0.021	0.000	0.000	0.025	0.412	ACC. CARONNO
	79447.	0003	ASTM A350 LF2 CL1/2	0.185	0.230	1.110	0.010	0.013	0.120	0.070	0.010	0.000	0.200	0.022	0.001	0.000	0.025	0.418	ACC. RIVA

HEAT CODE *COD. COLATA*	HEAT *COLATA*	ITEM *POS.*	TEST SPECIMEN mm² PROVETTA SECTION *Sezione*	TEST SPECIMEN mm LENGHT *Lunghezza*	YIELD POINT *Snervamento* N/mm² ≥ 0,2 %	TENSILE STRENGHT *Rottura* N/mm² ≥	ELONGATION *Allungamento* % ≥	REDUCTION OF AREA *Contrazione* % ≥	HARDNESS *Durezza Hb*	BEND TEST *Piega*	FLATTENING TEST *Schacciam.*	IMPACT TEST - *Resilienza Joule / cm²* U.M.	TYPE / PO 10x10 mm	°C	1	2	3	SHAPE *FORMA* 1 = Ø 2 = □	S	W	X	YIELD POINT *SNERVAMENTO* N/mm² ≥ 1,0%	OUR. REF.
	74064	0069	126.60	50.80	324.0	523	34.0	59.0	159-163	0.0	0.0		KV	20	86	86	81	1				0.0	
	35780	0004	126.60	50.80	372.0	533	29.0	59.0	163-165	0.0	0.0		KV	20	84	86	81	1				0.0	
	35725	0054	126.60	50.80	371.0	530	29.0	58.0	159-163	0.0	0.0		KV	20	81	88	83	1				0.0	
	35780	0004	126.60	50.80	372.0	533	29.0	59.0	163-165	0.0	0.0		KV	20	84	86	81	1				0.0	
	35780	0004	126.60	50.80	372.0	533	29.0	59.0	163-165	0.0	0.0		KV	20	84	86	81	1				0.0	
	79447.	0003	126.60	50.80	319.0	531	30.0	61.0	163-165	0.0	0.0		KV	-50	58	46	50	1				0.0	

HEAT CODE *COD. COLATA*	HEAT *COLATA*	ITEM *POS.*	MATERIAL IN ACCORDANCE TO *MATERIALE IN ACCORDO A*	HEAT TREATMENT *TRATTAMENTO TERMICO*	FURNACE *FORNO*
	74064	0069	ASTM/ASME A 105/SA 105 M - 02	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE
	35780	0004	ASTM/ASME A 105/SA 105 M - 02	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE
	35725	0054	ASTM/ASME A 105/SA 105 M - 02	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE
	35780	0004	ASTM/ASME A 105/SA 105 M - 02	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE
	35780	0004	ASTM/ASME A 105/SA 105 M - 02	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE
	79447.	0003	ASTM/ASME A 350/SA 350 M - 02b	NORMALIZED AT 930 C - COOLED IN STILL AIR	ELECTRIC FURNACE

REPORT MEETS A.S.M.E. REQUIREMENTS
04 ADDENDA

NOTE .

MATERIAL IN ACCORDANCE WITH NACE MR-0175/2003

REC'D NOV 0 9 2005
TORQMONT PROCESS SYSTEMS

QUALITY CONTROL DEPARTMENT *UFFICIO CONTROLLO QUALITÀ*	INSPECTION AUTHORITY *ENTE UFFICIALE COLLAUDO*	MANUFACTURER'S SYMBOL *MARCHIO PRODUZIONE*
BRACCHI FLAVIO		MFF

07 EO
03/07/08

No. 40473499 With
P.O # 504702CY

QR /C07E05

舞阳钢铁有限责任公司
WUYANG IRON AND STEEL CO. LTD.

质 量 证 明 书
QUALITY CERTIFICATE

收货单位 CUSTOMER: ORDER NO. 7608-V
合同编号 CONTRACT NO.: 05WYW-07
技术条件 TECHNICAL CONDITION: ASTM A516 Gr70/ASME A516 Gr70 (EDITION 2001+2003A)

地址:中国河南舞钢 邮编:462500 电话(Tel):0375-8111264
ADDRESS: WUGANG HENAN CHINA ZIPCODE:462500 传真(Fax):0375-8111269

证明书号 CERTIFICATE NO.: 05K22460
许可证号 EXEQUATUR NO.:
车号 TRAIN NO.: 1400798

钢号 STEEL GRADE	炉号 HEAT NO.	批号 BATCH NO.	尺寸 DIMENSIONS, INCHES	块数 PCS	重量 WEIGHT MTS	化学成份 CHEMICAL COMPOSITIONS 0.001%													机械性能 MECHANICAL PROPERTIES			弯曲试验 BEND TEST b=2a 180°	冲击试验 IMPACT TEST Akv		超声波试验 ULTRASONIC TEST	判定结果 JUDGE RESULT
						C	Si	Mn	P	S	Cr	Al	Mo	Ti	Cu	Nb	Ni	V	Ceq	Rs (ksi)	Rm (ksi)	A 2",%		°F	ft.lbf		
A516Gr.70/ SA516Gr.70	6206707K	C616060	1.000*96.00*384.00	1	4.742	170	290	1140	8	4	60	28	8	2	120	19	220	2		58	76	38		-40.0	121 128 126	ASTM A435 合格	合格 PASS

以下空白

合计 TOTAL: 1 块 PCS 4.742 吨 MT

试样状态 CONDITION OF TEST PIECE:

供货状态 CONDITION OF SUPPLY: 正火 NORMALIZED

备注 NOTES:
1. PRIME QUALITY, NEWLY PRODUCED, HOT ROLLED KILLED STEEL P. V. Q PLATES TO ASTM A516 Gr. 70/ASME A516 Gr. 70 (EDITION 2001+2003A)
2. TOLERANCES TO A20, FLATNESS TOLERANCE AS PER 1/2 OF A20, NORMALISED WITH CHARPY V-NOTCH TEST TO A20 CAT. IV. INVOICING ON NOMINAL THEORETICAL WEIGHT OF 7.85 KGS/DM3.
3. ALL MATERIAL HAS TOTALLY VACUUM DEGASSED AND THAT ALL PLATES WERE ULTRASONICALLY INSPECTED ACCORDING TO ASTM A435.
4. COLOR CODE: YELLOW/RED/YELLOW COLOR STRIPE CODE.
5. INFORMATION ON STEEL PLATE NORMALISING CYCLE:
1) SOAKING TEMPERATURE: 900℃ +/- 40℃. 2) SOAKING TIME: 1.5 MINUTES/MM 3) COOLING MEANS: AIR COOLING
6. QUALITY CERTIFICATE ISSUED AS PER EN10204/3.1B

质量检验负责人 PERSON-IN-CHARGE OF QUALITY EXAMINATION: Xie Lianfa
判定员 QUALITY CONTROL INSPECTOR:
审核员 QUALITY CONTROL CHECKER:
证书专用章 SEAL OF CERTIFICATE: Kou Yunpa
日期 DATE: 6 月 MONTH 20 日 DAY 2005 年 YEAR

注:1. 本质量证明书无产品质量证明专用章及判定员专用章无效。
2. 证书复印件无效,涂改处必须加盖判定员专用章。

NOTE: 1. This certificate will not be valid unless marked with special seal of quality certification and quality control inspector.
2. The duplicated copy of the certificate shall be invalid. Corrected area must be marked with special seal of quality control inspector.

REPORT MEETS
A.S.M.E. REQUIREMENTS
05 ADDENDA
PER: 8/8/06
FORCMONT PROCESS SYSTEMS

07 ED
02/07/08

11/15/2005 10:00 FAX 519 669 6629 TRANS STEEL

6" STD. HT# 83649. 0-298" LLR

9C5

Tenaris

INSPECTION CERTIFICATE

(BS EN 10204 3.1: 2004 - ISO 10474 3.1B: 1991)

SIDERCA S.A.I.C.
Dr Jorge A. Simini 250
(B2804MHA) Campana
Buenos Aires, Argentina

(54) 3489 433100 tel.
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Cliente / Customer	Expediente/ Manufacturing Order	Número / Number	Fecha / Date	Pág./Page
VAN LEEUWEN CANADA	5/4228.01	352615	07/11/2006	1 / 5

Producto / Product	Orden de Compra/ Purchase Order	Item	Referencia del Cliente / Customer Reference
SMLS LINE PIPE	45000608	1	

Norma / Standard	Grado / Grade	Extremos / Ends
API 5L/ASTM/ASME A/SA 53/106 +CSA Z245.1-02,REV 01 8/05 + P4.17-01/02	B/X42+290SS	BEVELLED AT 30 DEG. ASTM

Dimensiones / Dimensions	Schedule	Peso Nominal / Nominal Weight	Longitud / Length	Superficie Externa / External Surface	Cantidades / Quantities
168.30 x 7.10 mm 6 5/8 x 0.280 inches	40	28.22 KG/MT 18.99 LB/FT	S.R. (SP)	INT BARE /EXT VARNISHED	1098 Pz 7208.32 m 203302 Kg 1098 Pcs 23649.34 Ft 448204 Lb

ENSAYOS DE TRACCION / TENSILE TEST

Colada	N° de Ensayo	Condición de la probeta						Temp de Ens	Dimensiones	Sección	Fluencia / Yield Strength						Rotura/U.T.S			Relación F/R		Alargamiento Elongation			Red. de area		Dureza / Hardness Tipo / type: BHN			
											Offset Method		EUL Method																	
Heat	Test N°	Specimen condition						Test Temp	Size	Area	Req. Min 0.2%	V. obt.	EUL	Req. Min	V. obt.	Req. Max	Req. Min	V. obt.	Req. Max	YS/UTS Ratio		Lo 2"	Req. Min	V. obt	Area Red.		Req. Min	V. Obt.		Req. Max
		Zona Zone	Estado	Ext.	N° P/T	Tipo Type	Ori	°C	mm	mm2	Mpa		%	Mpa			Mpa			Req. Max	Obt	mm	%		Req. Min	%			
49654	572618	C/B	PRO	M		ST	L	TA/RT	24,98 X 6,89	172,81			0.5	290	308.3		415	496.5	760			50.8	24.2	35.0				140		200
81898	562582	C/B	PRO	M		ST	L	TA/RT	24,98 X 7,29	182,84			0.5	290	308.5		415	496.2	760			50.8	24.2	34.6				151		200
83649	572617	C/B	PRO	M		ST	L	TA/RT	24,99 X 7,20	180,66			0.5	290	306.2		415	505.4	760			50.8	24.2	33.7				139		200
83651	572630	C/B	PRO	M		ST	L	TA/RT	24,98 X 7,08	177,58			0.5	290	302.6		415	498.8	760			50.8	24.2	36.5				141		200

REPORT MEETS A.S.M.E. REQUIREMENTS C6 ADDENDA
PER. 11/16/07
TORQMONT PROCESS SYSTEMS 07 ED
DS · 03/07/08

TEST TECNOLOGICO / TECHNOLOGICAL TEST

Aplastamiento Flattening Test	Curvado Bend test	Abocardado Flaring Test	Pestañado Flange Test	Ens. De anillo expandido Ring expanding Test	Ens. De Tracción de anillo Ring tensile Test
Satisfact.	N.A	N.A	N.A	N.A	N.A

NOTA / NOTE:

Pro = Proceso/ Process PWHT = Post Weld Heat Treatment
N = Normalizada/ Normalized
DIST = Distensionada / Stress Relief
Q & T = Templado y Revenido/ Quenched & Tempered
TA/RT = Temp. Ambiente/ Room Temperature

RE = Rectangular
CI = Cilíndrica/ Cylindrical
ST = Segmento Tubular / Tubular segmen
TU = Transversal

C/B = Cuerpo / Body
R/U = Recalque / Upset
P / A = Promedio / Average
Min = Mínimo / minimum
Max = Máximo / Maximum

L = Longitudinal
T = Transversal
P/T = Tubo/ Pipe
EXT = Extremo/ End
M = Medio/ Middle

V.Obt. = Valor Obtenido / Obtained value
E = Comienzo de marcación/ Stenciling starting
O = Extremo opuesto al E/ Opposite extreme to E
C/H = Ensayos en Caliente / Hot Testing

CALI 175/07

C7

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168.30 x 7.10 mm 6 5/8 x 0.280 inches	40	28.22 KG/MT 18.99 LB/FT	S.R. (SP)	INT BARE /EXT VARNISHED	1098 Pz 7208.32 m 203302 Kg 1098 Pcs 23649.34 Ft 448204 Lb

ENSAYOS QUIMICOS / CHEMICAL ANALYSES

			%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%			
			C	Si	Mn	Cr	Mo	W	Cd	P	S	Ni	V	Al	Sn	Cu	As	Nb	Ti	Pb	Sb	Co	Zr	Bi	Ca	B	N	O	Mg	H	C.e 1	C.e 2	Pcm	Sum 1	Sum 2	Sum 3	R 1	R 2	R 3
						x 100										x 1000										x 10000				*		x 100			x 1000				
Colada Heat	Heat	Max	26	50	116	40	15			30	30	400	80			400		110	110							10					39	39		1000					
		Min		10	29																																3.0		
Ensayo Test	Prod	Max	26	50	116	40	15			30	30	400	80			400		110	110							10					39	39		1000					
		Min		10	29																																3.0		
49654	Heat		16	24	109	4	4	0		14	1	22	1	22	4	35	2	1	2	1	1	6	10	1	12	1	24		1		36	35		138			6.8		
(572618)	Prod		16	25	107	5	4			13	2	21	1	25	4	39	2	3	4	1	2	3	10	1	20	1	30		4		36	35		151			6.6		
	Prod		17	25	108	4	4			13	1	20	1	26	4	38	2	3	4	1	4	3	10	1	14	1	28		4		37	36		139			6.3		
81898	Heat		17	27	108	3	2	0		11	1	46	2	25	12	65	4	1	3	1	1	9	10	3	13	1	47		1		37	36		163			6.3		
(562582)	Prod		17	26	106	4	1	0		12	1	43	1	25	11	74	3	1	3	1	1	5	10	1	11	1	48		4		36	36		168			6.2		
	Prod		17	27	108	4	1	0		12	1	44	1	21	12	66	4	2	4	1	2	6	10	1	12	1	44		4		37	36		161			6.3		
83649	Heat		16	22	109	4	3	0		15	2	33	1	23	5	34	2	1	1	1	1	6	10	1	14	1	53		1		36	34		138			6.8		
(572617)	Prod		16	23	109	5	3	0		15	2	33	1	25	4	38	1	3	3	1	2	3	10	1	15	1	50		4		36	35		152			6.8		
	Prod		16	24	109	5	4			15	1	32	1	27	7	41	2	1	4	2	1	4	10	1	16	1	50		4		36	35		164			6.8		
83651	Heat		16	27	111	3	2	0		14	1	24	1	32	7	33	2	1	2	1	1	6	10	2	9	1	36		1		36	35		108			6.9		
(572630)	Prod		16	26	110	4	2	0		13	2	24	1	33	7	36	2	1	3	1	1	5	10	1	10	1	34		1		36	35		121			6.8		
	Prod		17	25	109	4	2	0		14	2	24	1	31	6	33	1	3	3	1	2	3	10	1	11	1	40		4		37	36		118			6.4		

NOTAS / NOTES: H = Análisis de colada / Heat Analysis. P = Análisis de producto / Product Analysis C.e = Carbono Equivalente/Equivalent Carbon R = Ratio * = PPM / Part per million

CEQ 1 = C+(MN/6)+(CR+MO+V)/5+(NI+CU)/15	CEQ 2 = C+F((MN/6)+(SI/24)+(CU/15)+(NI/20)+(CR+MO+V+NB)/5+(5*B))	PCM =
Sum 1 = CR+CU+MO+NI+V	SUM 2 =	SUM 3 =
R 1 = MN/C	R 2 =	R 3 =

CALI 175/04

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Marcas / Marking

& = Monograma / Monogram SIDERCA **NNNNN** = Número de tubo / Nbr of pipe **LLL** = Longitud / length **PPP** = Peso / Weight **@** = Monograma / Monogram API
MM.YY = Mes / Año Month / Year **Y/T** = Año / Trimestre Year / Quarter **HNXXXXX** = Colada / Heat

Prueba Hidráulica / Hydrostatic Test			
Presión / Pressure		Tiempo / Time	Resultado / Results
Unidad / Unit	Valor / Value	Segundos / Seconds	Satisfactorio / Satisfactory
PSI	2700	5,00	

Estarcido (Tubo) / Stencilling (Pipe)

LLLL TENARIS SD 5L0098 @ MM.YY ASTM/ASME A/SA 53/106 API5L 168,3 7,1 28,22 6 SCH40 STD B/X42PSL1/290 CATI SS S 186KPAX100 NDE CSA Z245.1-02 PO 45000608 MADE IN ARGENTINA HNXXXXX NNNNN PPPPP

FABRICADO POR SIDERCA	*MANUFACTURED BY SIDERCA*
PROCESO DE ACERACIÓN FABRICACIÓN DE ACERO: FUNDICIÓN POR ARCO ELECTRICO Y COLADO CONTINUO - ACERO CALMADO AL ALUMINIO. -LA PRÁCTICA DE AFINO EN EL HORNO - CUCHARA INCLUYE UNA INYECCIÓN FINAL DE UNA VARILLA DE SILICIURO DE CALCIO PARA OBTENER UNA FORMA GLOBULAR DE EVENTUALES MICROINCLUSIONES. -MATERIAL LIBRE DE CONTAMINACIÓN DE MERCURIO.	*ACIERAGE PROCESS* STEEL MAKING PROCESS: E.A.F./L.F. AND CONTINUOUS CASTING - FULL ALUMINIUM KILLED AND FINE GRAIN PRACTICE. -THE LF PRACTICE INCLUDES A FINAL INJECTION OF CALCIUM SILICIDE WIRE FOR MICROINCLUSION SHAPE CONTROL. -MATERIAL FREE FROM MERCURY CONTAMINATION.
PROCESO DE LAMINACIÓN -FABRICACIÓN DE TUBO: LAMINADO EN CALIENTE Y SIN COSTURA.	*ROLLING PROCESS* -MANUFACTURING PROCESS : SEAMLESS HOT ROLLED.
CONTROLES -CONTROL VISUAL Y DIMENSIONAL: SATISFACTORIO.	*CONTROLS* -VISUAL AND DIMENSIONAL INSPECTION : SATISFACTORY.
CONDICIONES DEL MATERIAL -NO REPARADO POR SOLDADURA.	*MATERIAL CONDITIONS* -NOT REPAIRED BY WELDING.
PROPIEDADES DEL MATERIAL -LA DUREZA CUMPLE CON LA NORMA NACE MR 01-75 ULTIMA EDICION.	*MATERIAL PROPERTIES* -HARDNESS ACCORDING TO NACE MR-01-75 LATEST EDITION.

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- EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS CSA Z245.1 GR 241/290 CAT I

-EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS DE MICRODUREZA HV500 MAXIMO 248 VICKERS SEGÚN CSA Z245.1.02.

- MATERIAL COMPLIES WITH CSA Z245.1 GR 241/290 CAT I

-MATERIAL COMPLIES WITH HARDNESS HV500 MAXIMUM 248 VICKERS ACCORDING TO CSA Z245.1.02 REQUIREMENTS.

NORMAS

-EDICION DE LA NORMA : ASME SA 106/01.
-EDICION DE LA NORMA : ASME SA 53/01.
-EDICION DE LA NORMA : NACE MR-01-75 ULTIMA EDICION
-EDICION DE LA NORMA: ASTM A530/A530M-04
-EDICION DE LA NORMA: CSA Z245.1/02.
-EDICION DE LA NORMA: API 5L, 43° Edition 2004.
-EDICION DE LA NORMA: ASTM A53/04a.
-EDICION DE LA NORMA : ASTM A106/04b.

STANDARDS

-EDITION OF REGULATION: ASME SA 106/01.
-EDITION OF REGULATION: ASME SA 53/01.
-EDITION OF REGULATION: NACE MR-01-75 LATEST EDITION
-EDITION OF REGULATION: ASTM A530/A530M-04
-EDITION OF REGULATION: CSA Z245.1/02
-EDITION OF REGULATION: API 5L, 43° Edition 2004.
-EDITION OF REGULATION: ASTM A53/04a.
-EDITION OF REGULATION: ASTM A106/04b.

Observaciones / Remarks

NON DESTRUCTIVE TEST: SATISFACTORY.
INSPECTION METHODS: E.M.I. LONG.(EXT.) NOTCH 5%
+ E.M.I. LONG.(INT.) NOTCH 10%
+ E.M.I. TRANSV.(EXT./INT.) NOTCH 10%
+ M.P.I. LONG.(EXT./INT.).
U.T. 100% LAMINATIONS CONTROL: SATISFACTORY.
ONE BLUE LONGITUDINAL BAND.
END MARKING: ONE ORANGE BAND.
SEE ATTACHED VICKERS HARDNESS TEST REPORT

Protectores / End Protectors:
NON LIFTABLE CLOSED PLASTIC PROTECTOR FOR FLAT / BEVELED PIPE. SUPPLIER METALCENTRO.

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6 5/ 8 x 0.280 inches			18.99 LB/FT			1098 Pcs	23649.34 Ft 448204 Lb

Por la presente certificamos que el material aqui descripto ha sido fabricado de acuerdo con las normas y especificaciones solicitadas en vuestra orden y satisfacen los correspondientes requerimientos.	We hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies the corresponding requirements.
Este certificado se emite mediante un sistema computarizado y es valido con firma electrónica.El certificado original presenta el logo Tenaris (verde claro), impreso en la parte inferior de la hoja. En caso que el poseedor del certificado entregue una copia del mismo, deberá garantizar la conformidad con el original, haciéndose responsable por cualquier uso ilegal o indebido.	This certificate is issued by a computerized system and it is valid with electronic signature. On the original certificate the trade-mark Tenaris light-green coloured at the bottom of the page is stamped. In case the owner of the certificate would release a copy of it, he must attest its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use.
Cualquier alteración y / o falsificación estará sujeta a la ley. Si necesita asegurar la autenticidad de este certificado, contactarse con Siderca SAIC, e-mail: aye@siderca.com	Any alteration and / or falsification will be subject to the law. If you need to assure the authenticity of this certificate, please do not hesitate to contact Siderca SAIC through this e-address:aye@siderca.com

QUALITY CERTIFICATION DEPT.
DTO CERTIFICACION DE CALIDAD
EDUARDO A. AYERBE

CALI 175/04