TORNADO Combustion Technologies Inc. QUALITY CONTROL DATA BOOK



PennWest c/o Pioneer Engineering

TCTI Job No.: 13554-V

Lease: d-55-A/94-P-10 Cordova, AB.

P.O.# PEI-A13370744-04 AFE# A13370744

5'-0" dia. x 10'-0" S/S Above Ground Knockout c/w 12" dia. Inlet Conn.



PennWest c/o Pioneer Engineering TCTI Job# 13554-V P.O. # PEI-A13370744-04 LSD: d-55-A/94-P-10

Jan. 2014

INDEX FOR Q.C. MANUAL AND DRAWINGS

TAB NUMBER	DESCRIPTION
1.0	Vessel ITP
2.0	Vessel Heat Sheet
3.0	Vessel MTR's (Material Test Reports)
4.0	In-House Dimensional Check Report
5.0	Hydrostatic Test Report
6.0	Vessel Blast Profile Report
7.0	Vessel Internal Coating Report
8.0	Vessel Internal Holiday Test Report
9.0	Vessel External Coating Report
10.0	Secondary Containment Blast profile Report
11.0	Secondary Containment Paint Report
12.0	Nameplate Photograph
13.0	As Built Drawings

Prepared By:_

Reviewed By:

TORNADO Combustion Technologies Inc. #200 261200 Wagon Wheel Way Md of Rockyview, AB T4A 0E3 Ph 403-244-3333 Fax 403-275-3740



PennWest c/o Pioneer Engineering TCTI Job# 13554-V P.O. # PEI-A13370744-04 LSD: d-55-A/94-P-10

Jan. 2014

1.0 Vessel ITP

TORNADO Combustion Technologies Inc. #200 261200 Wagon Wheel Way Md of Rockyview, AB T4A 0E3 Ph 403-244-3333 Fax 403-275-3740



TECHNOLOGIES INC.

ATMOSPHERIC VESSEL ITP

MAIN OFFICE #200 261200 Wagon Wheel Way MD od Rockyview, AB T4A 0E3

Ph: 403-244-3333 Fax: 403-275-3740

Penninest	40	Pioneer	Engi	insering

Revie	ew Date:					Date:					
Seria	l No.:	13554-V		-		Job No.:	1355	4-1	Vessel Typ.	HORT:	BONTA
Draw	ring No.:	PennWest	-17	3554			Revision		O		
Seq		Item		Comments	Q.C.	Date	Hold PT		Date	Owner	Date
1	Release o	f App'd Dwg.			100	1/85/1	3	Н			
2	Heat Num	bers Recorded			Al	Docali	\$	V			
3	MTR's Ch	ecked				Doc 2/1:	3	V			
4	W.P.S. Ch	necked			ae	Ox 29/13	3	V			
5	Welders C	tualified			100	Box 29/13	1	V			
6	Thickness	es Recorded			I De	Den 22/13		V			
7	Shell & He	ead Fitted			Al	DIE 17/13		V			
8	Nozzles &	Fittings Fitted			Al	Dec 16/13		V			
9	Nozzle Ori	entation			AL	Dec 19.113		V			
10	Nozzle & F	lange Rating Checked			Al	Diez/13		V			
11	Internals C	Checked			100	Dec19/13	3	V			
12	Final Inter	nal Inspection			AL	Dec 19/13		V			
14	Weld Size	s Checked			AL	Dec 19/1-		V			
15	Welder I.D	. Checked			Al	Decieli	3	V			
16	Final Exter	rnal Inspection			AL	De 19/1		V			
17	Radiograp	hy		N/R				M			
18	M.P.I.			N/R				M			
19	Hardness			N/R				M			
20	Hydrostati	c Test 2295I	Shell	Gauge#	Al	Dec23/1	3	Н			
21	Secondary	Containment Check			Al	Dec30/1-	8	Н			
22	Sandblast	Checked			al	Dec 28/13	3	V			
	SSPC SP#	•		SP6/58/11	Al	Dec 28/10	8	V			
23	Exterior Pa	ainting Checked		'	Ale.	Jan 2/18)	V			
	Primer/Top	Coat			Al	Drass		V			
24	Internal Co	pating Checked			JA	Dec 31/13	3	V			
93	10	Installation			Al	JAMZO	14	H			
26	N.C.R. #			None				X			
Notes:						,					
						A ()					
	17,	norewhitt	e -	Q.C.	-	AK					
				e₹ U							



PennWest c/o Pioneer Engineering TCTI Job# 13554-V P.O. # PEI-A13370744-04 LSD: d-55-A/94-P-10

Jan. 2014

2.0 Vessel Heat Sheet

TORNADO Combustion Technologies Inc. #200 261200 Wagon Wheel Way Md of Rockyview, AB T4A 0E3 Ph 403-244-3333 Fax 403-275-3740



AGKO Heat Sheet

Head Office:

#200, 261200

Wagon Wheel Way

MD of Rockyview, AB

Ph. 403-244-3333

Fax 403-275-3740

Technologies Inc.

TORNADO Combustion

Customer: PennWest c/o Pioneer Engineering

Nolan Lattery

Jan, 2014 Date:

Job#: 13554

Stack Description:

Welder(s):

5'-0" Dia x 10'-0" S/S AGKO c/w 12" Inlet/Outlet Conn.

P.O.#: PEI-A13370744-04

Location: Cordova, AB

LSD: d-55-A/94-P-10

BILL OF MATERIALS

		BILL OF MATERIALS	
NO.	PART#	MATERIAL DESCRIPTION	HEAT NUMBER
1	FLG-0160	12" Dia RFWN 150# SA 105N Flange	13271, 12/34863
2	FLG-0019	2" Dia Sch 80 RFWN 150# SA 105N Flange	A87T3, 11/38305
3	FLG-0019	2" Dia Sch 80 RFWN 150# SA 105N Flange	12/72669
4	FLG-0079	2" Dia RFBL 150# SA 105N Flange	08/75402
5	FLG-0118	4" Dia Sch STD RFWN 150# SA 105N Flange	13/76392
6	FLG-0065	4" Dia RFBL 150# SA 105N Flange	12/34986
7	PFB-0019	2" Sch 80 Weld Welbow 90 deg.SA 234 WPB	12F00018
8	PFB-0034	4" Dia Sch Std 90 Deg SA 234 WPB Weld Elbow	11H00067
9	VES-0055	5'-0" OD x 3/8"thk 2:1 SE SA 516-70N Vessel Heads	G8924-874720280
10	VES-0055	5'-0" OD x 3/8"thk 2:1 SE SA 516-70N Vessel Heads	G9690-5702702341
11	PFT-0186	2" DIA. 3000# NPT SA 105N HCPLG.	K288, 3861
12	PFT-0173	2" DIA. 3000/6000# NPT SA 105N HPLUG	3065
13	PFT-0227	1/2" DIA. 3000# NPT SA 105N HCPLG.	3430, 79144
14	PFB-0038	1/2" Dia 3000# NPT SA 105N ELBOWLET	57618
15	PFT-0158	1/2" DIA. 3000/6000# NPT SA 105N HPLUG	3334
16	PFT-0174	1" DIA. 3000# NPT SA 105N HPLUG	3715
17	PIPE-0080	12" Dia Sch Std SMLS SA 106B Pipe	1333415
18	PIPE-0030	2" Dia Sch 80 SMLS SA 106B Pipe	12228185
19	PIPE-0052	4" Dia Sch Std SMLS SA 106B Pipe	10708253
20	PIPE-0033	20" Dia Sch Std SMLS SA 106B Pipe	BSM-1086
21	ORDER	3/8"thk SA 516-70N CS Plate (KO Shell)	58396
22	VES-0062	6" x 4" x 1/2"thk SA 36 CS Plate ESD Lift Lugs	6251769
23	FGL-0213/214	3/4"thk SA 36 CS Plate (Manway Flg. & Blind)	8351L
24	ORDER	3/8"thk 316L S.S. Deflector Plates	E39571
25	ORDER	3/8"thk SA 36 CS PLATE (Vessel Stand Bases)	LFH9118
26	ORDER	3/8"thk SA 36 CS PLATE (Vessel Stand & Stiffeners & Side)	0166119, R1729
27	ORDER	3/8"thk SA 36 CS PLATE (Vessel Repads)	A3F236
28	ORDER	4"DIA x 2"DIA NPS Sch std/80 SA 234 WPB Conc. Reducers	56G20156
Comments:			
Q.C.	Andrew+Litt	le CET Modeles Luil	



PennWest c/o Pioneer Engineering TCTI Job# 13554-V P.O. # PEI-A13370744-04 LSD: d-55-A/94-P-10

Jan. 2014

3.0 Vessel MTR's (Material Test Reports)

TORNADO Combustion Technologies Inc. #200 261200 Wagon Wheel Way Md of Rockyview, AB T4A 0E3 Ph 403-244-3333 Fax 403-275-3740

METALFAR PRODOTTI INDUSTRIALIS.P.A. STANFACTIO A CAUDO DE ACCIAL COMUNI - LECATO E INDESCIDADEL

quality milt from mancam

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

COMPANY WITH QUALITY MANACEMENT SYSTEM CERTIFIED AT DIVIN

į . E. . CT.

- CERTIFICATO DI COLLANDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

Fattura / Invoice N. Ns.Ord. / Our ref. N. Dol/Dated 16.05.2012 8 TRANS AM PIPING PRODUCTS LTD 9335 ENDEAVOR DRIVE S.E. T3S 0A1 CALGARY, ALBERTA Cortif, N. 2448 DDT / Dol Note N.

VISIVO E DIMENS. SATISFACTORY Pag-1 - 14 ORIGINE / ORIGIN EUROPE OTHER ACTION OF THE PROPERTY O ELECTRIC FURNACE ASME/ANSI B16.5 -2009 FORNO / FURNACE DIM. ACCORDANCE TO C.E.% 0,385 A!% 0,025 , ö RESELECTA/IMPACT TEST - JOULESom2 . 22 0,000 0,000 . B 0,000 Nb% p 8 0,000 NORMALIZED AT 920 C - COOLED IN STILL AIR TPO / TYPE 10x10mm 5 TRAITTAMENTO TERMICO / HEAT TREATMENT 0,200 200°0 NI% Mo% 0,060 0,020 WIN 150 RF 12" STD A105N 163,0 - 165,0 0,012 0,040 REDUCTION OF AREA

SS,0 800 DESCRIZIONE DESCRIPTION % ASTINIASIME A 105/SA 105 IV - 11 ASIME CODE SECT. II, PART A, ED. 2010 50000 00'09 Q.TA. 8% 1,050 Mn% TENSILE STREMGHT 539,0 0,220 81% VS.ORDINE YOUR REFERENCE 0,130 MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO SNEERVANIENTO
YELLO POINT
NIEND > 5226 341,0 CSA Z245.12 GRADE 248 CAT.1 Pos. SIZ mm2 LUNG.mm 3HAPE SIZ.mm2 LUNG.mm 1=0 2=1 MATERIALE / MATERIAL ASTIM A105 (LADLE) COD. COL. COLATA HEAT CODE-HEAT 13271 50,80 126,60

COD, COL COLATA HEAT CODE HEAT 563612	TEM TEM	VS.ORDINE YOUR REFERENCE	ENCE		9.TA 7T.0	202	TIONE TION RF 12"	DESCRIPTION NIN 150 RF 12" STD A105N	8					5 5 5	DIM.IN ACC. A DIM. ACCORD/ ASME/ANSI	DIM.IN ACC. A DIM. ACCORDANCE TO ASME/ANSI B16.5 -2009	VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY
WATERIALE / WATERIAL ASTIM A105 (LADLE)	र्च त	0,190	Sf% 0 0,240	Mn% 1,040	0,007	P% 0,012	03000	0,050	Mo% 0,010	0,000	Cu% 0,070	0,010	Nb% 0,001	000°0	A1% 0,027	C.E.% 0,391	
PROVETTA / TEST SPECIALISM SIZE mind LUNG, men GCCT, mend LUNGH men 126,60 50,80	PORTA DAMA DAMA DAMA DAMA	SYCHOLOGICA VIELD POINT Nimita 2-4234 330,0	ROTTURA TUNSILII STREDNOHT N/mm2 >** 533,0		ALLUNCAMENTO ELONCATION X2= 31,0	REDUCTION OF AREA \$20.0	DF AREA	HAN TANK	DUREZZA HARDNESS HEW 163,0 - 165,0	F	DUTCH 1977 1960 1977 1977 1977 1977 1977 1977 1977 197	कुं .	MIPACT TEST C 1 20 8	5T - JOULETON 1 2 86 84	98 2	SNERWANDATO YIELD POINT Name 74,0% 0,0	איי מני. סחת הפה.
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO ASTINIASME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010 CSA Z245.12 GRADE 248 CAT.1	KDO A / N /SA 105	NATERIAL IN ACC. TO M - 11 ASIME CODI AT.I	E SECT. 1	II. PART	A, ED. 20	2	NORM	TRATTAMENTO TERMICO / HEAT TREATMENT NORMALIZED AT 920 C - COOLED IN STILL AIR	T 920 C	HEAT TRE	EATMENT LITS NI C	LAIR			FORN	FORNO / FURNACE ELECTRIC FURNACE	ORIGINE/ORIGIN EUROPE

NOTE: MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION NOTES MATERIAL IN ACCORDANCE WITH NACE MR-0175/2003 ISO 15156-2009 MATERIAL IN ACCORDANCE WITH NACE MR-0103/2010

UFFICIO CONTROLLO QUALITA' QUALITY CONTROL DEPARTEMENT P. Bracchi

ENTE UFFICIALE DI COLLAUDO INSPECTION AUTHORITY

MARCHIO PRODUZIONE MANUFACTURER'S SYMBOL

METALFAR PRODOTTI INDUSTRIALI S.P.A.

23851 CESANA BRIANZA (LC) - Italy Via G. Parini, 28 7a. -430 001.655441 Fax +39 001.65549 quality-mitiglarmas.com SEDE AMMINISTRATIVA E STABLE MENTO:

QUALITY SYSTEM COMPANY WITH

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

క	×	ALBERT	Avenue Edmonton,	1711 - 65 Avenue TSP 1Y9 Edmo	ð	E S.E. ALBERTA	ENDEAVOR DRIVE S.E. A1 CALGARY, ALBER	9335 ENDEA T3S 0A1 C
	Wanshouse	OJECT.	NS AM "PR	Dest.: TRA		DDUCTS LTD	AM PIPING PRODUCT	TRANS AM PIP
17.05.2013	Del/Deted Del/Deted	1942	Involce N. Dur ref. N.	Fattura / Na.Ord. / 0	Delibrated 20.05.2013 Delibrated 17.05.2013		Certiff, N. 2870 DDT / Del Note N. 2232	DDT/

VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY ORIGINE / ORIGIN OF STEEL Pag. 6 - 10 **EUROPEAN UNION** ELECTRIC FURNACE ASME/ANSI B16.5 -2009 FORNO / FURNACE DIM.IN ACC. A. DIM. ACCORDANCE TO AI% C.E.% 0,028 0,381 "2 85 55 RESILEDIZA / INPACT TEST - JOULE/em2 000°0 . 62 Nb% 0,002 200 0,003 TRATTAMENTO TERMICO / HEAT TREATMENT NORMALIZED AT 920 C - COOLED IN STILL AIR TIPO / TYPE toxtomm TI% Cu% 0,019 0,170 ⋛ NI% Mo% 0,060 0,010 153,0 - 158,0 DESCRIPTION
WIN 150 RF 2.1/2" XS A105N CERTIFIED BY DNV = ISO 9001 = P% Cr% 0,012 0,090 CONTRAZIONE REDUCTION OF AREA 80,0 ASTWASME A 105/SA 105 M - 11a ASME CODE SECT. II, PART A, ED. 2010 0,010 AT.0 2% 0,980 Mn% SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT TEMBLE STRENG Number 510,0 0,190 %18 VS.ORDINE YOUR REFERENCE 0,185 CSA Z245.12 GRADE 248 CAT.I SOUR SERVICE MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO 80 SMERVAMENTO YELD POINT NIMME >=0,2% 311,0 CI-13-133 STAMPADGIO A CALDO DI ACCIAI COMUNI - LEGATI E INOSSIDABILI TEM 011 PROVETTA / TDBT SPECIMEN FORBAN BEZ. mm2 LENONT mm 1-0.2° □ 126,60 50,80 1 13/74587 MATERIALE / MATERIAL ASTM A105 (LADLE) COD. COL. COLATA HEAT CODE MEAT ADD, 2011a

DIM.IN ACC. A DIM. ACCORDANCE TO VIS. & DIMENS. ASMEJANSI B16.5 - 2009 SATISFACTORY		SECTIVATION OF TREE JOURNAL SHARED NEEDS OF THE POINT NAME OF TREE TO THE POINT NAME OF TREE TREE TO THE TREE TREE TREE TREE TREE TREE TREE		AR ELECTRIC FURNACE CORIGINO / STEEL.	
	0,120	GESTLUES / OPET / OPET	≥	TRATTAMENTO TERMICO / HEAT TREATMENT NORMALIZED AT 920 C - COOLED IN STILL AIR	
	71% 0,018	Ę		TRATTAMENTO TERMICO / HEAT TREATMENT NORMIALIZED AT 920 C - COOLED IN ST	
DESCRIZIONE DESCRIPTION MIN 150 RF 12" STD A105N	Mo% 0,010	DUREZZA MANDNEssa NEW	156,0 - 159,0	AT 920 C	
STD	0,040	98	156,0	AMENTO T	
IZIONE IPTION 50 RF 12"	0,080,0	AZIONE I OF AXEA		NORM	
DESCRIZIONE DESCRIPTION W/N 150 RF	P% 0,008	REDUCTION S	67,0	010	
90,08	0,008	ALLUNGAMENTO CONTRADONE NY ELONGATION REDUCTION OF AVEA Now	30'0	7 A, ED. 2	
		A THOME	0	II, PART	
NCE	0,230	TENBILE STRENGHT	208,0	E SECT.	1
VS.ORDINE YOUR REFERENCE CI-13-329	0,190	5 ± 5	352,0	MALIENALE IN ACCORDO A/MATERAL IN ACC. TO ASTIMISAME A 106/SA 105 M - 11a ASME CODE SECT. II, PART A, ED. 2010 ADD. 2011a	TOURSE OF THE OWN THE SECOND
EGS DOS.		FORMA SNAPE 1+O 2+C	-	A 105 M	
COD. COL. COLATA MEAT CODE HEAT 12/34863	(LADLE)	022	ລດ,ຜູບ	E A 105/S	THE SECOND
COD. COL. COLAN MEAT CORE HEAT	MATERIALE TRINTERING ASTM A105 (LADLE)	Ę.	00,021	ASTM/ASME ADD. 2011a	DA SPARE

UFFICIO CONTROLLO QUALITA: QUALITY CONTROL DEPARTEMENT NOTE 100% MANUFACTURED IN ITALY
NOTES MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION
MATERIAL IN ACCORDANCE WITH NACE MR-0175/2009 ISO 15/16-2009 - SOUR SERVICE
MATERIAL IN ACCORDANCE WITH NACE MR-0103/2012 - SOUR SERVICE

MARCHIO PRODUZIONE MANUFACTURER'S SYMBOL N N ENTE UFFICIALE DI COLLAUDO INSPECTION AUTHORITY AS ENEMADOR

3| 4863 94863 Products Ltd. | tem# | er: 12 | plplng | seq #: PO# 23737 Heat Mumb Heat Am I Tranglds 3 цел, ф вй:

PP Zublings, 3 - Applo. 14 20560 ONAT (Cipurica) SPAIN Tel: 34 - 943 780552 Fac: 34 - 543 781605 150 155 148 154 148 154 150 158 150 158 150 158 Marchess Curst HBW S-mail: ulma@ulmapiping.com Las dinorationes y la condición suportícul so haltaron solicipatoriza.
 Dinancion and surfaco conditor were found acceptable.
 Los dimensions es états de surface aons suptichemme. ULMA FORMA, S.COOP Packing List 104498 CHARPTV 10x10mm Los matoriblos obados cumplon las normas aplicables
 Manufacturing requirements are eatlefloc.
 Los normes applicables cont respectfoc. ULMAPOSAS. COOP.
Dpto. de Garantia de calidad
Quality Acquismoe Dopt. Autority Stranger EL INISPECTOR DEPARTAMENTO QUALITY ASSURANCE SOCION
Discontinuori RESTLIENCIA Impact that Adallanca Coallind acc. PED 47729/EC+AD2000-W0 by TOV Rhahland N.º 01 202 EIO 02 744S Management Syntoms contined by LRCAL MARICA DEL FABRICANTE Maric d'Indroy Martire du fabricant Red. Arsa Striction 55.72 57.72 56.83 8.93 8.93 8.93 150 24001 T.Spength Y.Strangth Rept 0.2% COLADA N. MINISTERDACIA LAMIN ELANT.
Hout No T.Shangth Y.Shangth
N. "Couldo Realth Rupt 0.2 % 350 347 DIN EN 10204/3.1 DE of.-de CONCOZOTO 158511 HOLK-ETTAN SETTAN SETTAN SETTAN SETTAN SETTAN CEG 15 Origin of Star Inspection Certificate - Certificat de Réception 0,423 Spath 0,384 Franco 0,359 Franco 0,385 Franco 0,407 Franco Appropriate Control Co CERTIFICADO DE INSPECCION uvations (?) 0 0 0 0 0 0 밀<mark>밀밀</mark>밀밀밀 O28 28 128 88 89999 1 COMPOSICION QUIMICA - STEEL MAKEN'S LADLE ANALYSIS - AMALYSE CHIMIDUE 2 2 NACE MR0175/5015155-2-09 & WR0103-12 CONTRACTOR S 0,260 174749-MOUSTON N_NORMALIZED AT 800 C AND ALLOWED TO COOL IN STILL AIR Mo 76 Mb 76 V 78 FECHA: DESCRIPCION Description Description MATERIAL CORRESPONDIENTE ASME SAUGS-10 mdc.11, ASTIA AJOSN-12.
Material Correspondent - Chuillé
MODO DE FASION (°)
Shoal Madrig- Elaboration de hacie
E # 510c. Y ** Oxigono básico 0,001 SU PEDIDO N.º
Your Order No.
Your Odds N.º WN 2 150LB X500 FF A105N 852222 NX 370,0 371,0 371,0 031,0 8 0,014 0,040 0,013 0,060 0,014 0,080 0,013 0,070 0,012 0,070 0,187 ASME BIRS-13 0,004 25 FOREINGS FLANGESAFTTINGS LLC.
8909 FAILWOOD DRIVE
SUITE B
HOUSTON, TX 77070
USA: 0.000 0.012 0.013 0.013 0.013 FLANGES % CANTIDAD Ottombly Ottombly 350 x 8 4 1 Sis Mass Requirements - Normes Applicables CLIENTE / Gustomer / Glori 0220 0.130 0.130 0.140 0.140 NORMAS APLICABLES (7) OBSSERVACIONES 28 0,210 0,210 0,220 0,200 0,200 0,200 0,210 0,210 PARTICA Itam Posto PRODUCTO Arido - Produž NORTHWAS APP.
Requirements: -|
Requirements: -|
Requirements: -|
Requirements: -|
Requirements: -|
Reduction of the control of COLADA N.º Mout No N.ºCoulóo AASV3 AATT3 ABST3 ABST3 BOST3 PO# EI-13-561; H傑 ;1-186288 #b1O

METALFAR PRODOTTI INDUSTRIALI S.P.A.

23861 CESANA BRIANZA (LC) - Italy SEDE AMMINISTRATIVA E STABILIMENTO: Via G. Parini, 28 Tel. +39 031,655441 Fax +39 031,655149 quality.mif@farmas.com

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

DeVDated 09.03.2012 S Dest.: F.F.F. do TRANS AM PIPING PRODUCTS LTD 9335 Endeavor Drive S.E. T3S OA1 CALGARY, ALBERTA DeliDated 09.03.2012 Fattura / Invoice N. 790 DeliDated 09.03.2012 Ns.Ord. / Our ref. N. S TRANS AM PIPING PRODUCTS LTD 9335 ENDEAVOR DRIVE S.E. T3S 041 CALGARY, ALBERTA Certif. N. 1182 DDT / Del Note N. 914

VISIVO E DIMENS. DIM.IN ACC. A DIM. ACCORDANCE TO

Pag. 5 - 7

SATISFACTORY

ASME/ANSI B16.5 -2009

Wo%

%IN

P% Cr% 0,070

900'0

1,100

0,210

0,193

MATERIALE / MATERIAL

ASTM A105

1419/11

%\$

Mn%

818

CONTRAZIONE
NEDUCTION OF AREA
Now
57,0

ALLUNGAMENTO

TENSILE STRENGHT
N/mm2 >=
578,0

SNERVANENTO YIELD POINT N/mm2 >=0,2% 351,0

PROVETTA / TEST SPECIMEN FORMA SEZ. mm2 LUNG.mm SHAPE SECT. mm2 LENGHT mm 1=0.2=□ 126,60 50,80 1

ASTM/ASME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010

CSA Z245.12 GRADE 248 CAT.1

MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO

COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= 150 9001:2008 =

A105N W/N 150 RF 3" STD

DESCRIZIONE DESCRIPTION

9.TA' 0.TY 392,00

YOUR REFERENCE

VS.ORDINE

POS.

COD. COL. COLATA HEAT CODE HEAT

3876/TRANS AM

0,000 0,025 0,416 CE% , 88 89 AI% RESILIENZA / IMPACT TEST - JOULE/cm2 200 % Z 38 0,003 NP% , 02 Cu% V% 0,090 0,003 NORMALIZED AT 920 C - COOLED IN STILL AIR TIPO / TYPE 10x10mm \leq TRATTAMENTO TERMICO / HEAT TREATMENT 0,017 **%I**L 0,100 0,064 174,0 - 178,0

ORIGINE / ORIGIN EUROPE ELECTRIC FURNACE FORNO / FURNACE

DESCRIZIONE

RESILIENZA/IMPACT TEST - JOULE/emz Nb% 0,001 0,002 Cu% 0,220 NI% Mo% T1% 0,070 0,010 0,009 A105N * W/N 150 RF 2" XS 1,000 0,010 0,013 0,110 820

%

%\$

Mn%

818

0,205

0,250

0.TA' 0.TA' 535,00

YOUR REFERENCE

VS.ORDINE

POS.

COD. COL. COLATA
HEAT CODE-HEAT

11/38305

MATERIALEMENTERIA

ASTM A105

3876/TRANS AM

ALLUNGAMENTO

TENSILE STRENGHT
N/mm2 >=
527,0

SNERVAMENTO YIELD POINT N/mm2 >=0,2% 349,0

PROVETTA / TEST SPECIMEN FORMA SEZ. mmz LUNG. mm SHAPE SECT. mmz LENGNT. mm 1=0.2=□ 126,80 50,80

50,80

SATISFACTORY VISIVO E DIMENS.

ASME/ANSI B16.5 -2009

N% AI% C.E.% 0,000 0,010 0,415

82

38

28

202

DIM.IN ACC. A DIM. ACCORDANCE TO

TIPO / TYPE 10x10mm 159,0 - 163,0 CONTRAZIONE
REDUCTION OF AREA
%>=
58,0

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

ASTMIASME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010

MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO

CSA Z245.12 GRADE 248 CAT.1

ORIGINE / ORIGIN EUROPE ELECTRIC FURNACE FORNO / FURNACE

NOTE MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION NOTES MATERIAL IN ACCORDANCE WITH NACE MR-0175/2003 ISO 15155-2009 MATERIAL IN ACCORDANCE WITH NACE MR-0103/2010

i

MANUFACTURER'S SYMBOL MARCHIO PRODUZIONE

ENTE UFFICIALE DI COLLAUDO INSPECTION AUTHORITY

UFFICIO CONTROLLO QUALITA' QUALITY CONTROL DEPARTEMENT

MFF

9 0 c 1 5 2 7 . 1 5 2 7 . 1 5 5 7 . 1 5 6 9 . Bev'd

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

STAMPAGGIO A CALDO DI ACCIAI COMUNI - LEGATI E INOSSIDABILI

	2	020
	_	
	21	
1		7

ETALFAR

23861 CESANA BRIANZA (LC) - Italy SEDE AMMINISTRATIVA E STABILIMENTO Tel. +39 051.855441 Va Q. Parini, 20

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

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

DeliDated 28.10.2009 DeliDated 28.10.2009 DeliDated 28.10.2009 DeliDated VISINO E DIMENS.
VIS. & DIMENS.
SATISFACTORY Pag. 6 - 7 ORIGINE / ORIGIN BUROPE Certiff, N. 5365 Fathura / Involce N. 2832 DDT / Del Note N. 5052 Ns.Ord. / Our rof. N. ELECTRIC FURNACE Cartificato ganarato da un aletama informatico sacondo la norma EN10264, valido sanza firma / This cartificato has been ganarated by computer and need not to be algued for validity acc. to EN10204 FORNO / FURNACE DIM. ACCORDANCE TO ASME/ANSI B16.6 0,033 0,398 CE.% DIM.IN ACC. A A1% 5 0,000 Sex. 台 9335 ENDEAVOR DRIVE S.E. T3S 041 CALGARY, ALBERTA (CA. TRANS AM PIPING PRODUCTS LTD 0,000 NESLIENZA/IMPACT TEST - JOULEANS 30 _8 0,002 NORMALIZED AT 920 C - COOLED IN STILL AIR p 8 0,220 TRATTAMENTO TERMICO / HEAT TREATMENT manage southern NA 0,000 0,010 Mo% A-105 0,050 DUMEZZA NIS MARDNIESS 184 - 166 N1% BLIND 160 RF 2" 0,090 Cr% DESCRIZIONE DESCRIPTION 58,0 0,012 80 0,015 ALLINGAMENTO BLONGATION AT.0 83% 0,990 quality militarmes.com Mn% SALA PROVE E AMALISI MATERALI / MATERIAL TEST DEPARTMENT NOTTURA TENSEL STRENGAT NEWS >= 641,0 Fax +30 031.555140 SP% 0,220 YOUR REFERENCE 0,195 MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO PI-00-35073 VS.ORDINE SNEED FORT WITH STATE ST DOTTH INDUSTRIAL! S.P.A. THMPAGGIO A CALIDO DI ACCIAI CONUNI - LEGACI E MODUSIDABILI ASTIMASME A 105/SA 105 M - 06 VITEM 0024 FORMA SPARPE 1= O 2= □ POS 08/75402 MATERIALE / MATERIAL PROVETTA / TEST SPECIALS
SEZ rand
LUNG. mm
SECT. mm
LENGOT mm
126,60 50,80 COLATA HEAT CODE HEAT ASTM A105 COD. COJ.

SATISFACTORY VISIVO E DIMENS. VIS. & DIMENS. Na.FEF. ORIGINE / ORIGIN EUROPE ELECTRIC FURNACE FORNO / FURNACE DIM:IN ACC. A DIM: ACCORDANCE TO ASMEJANSI B16.5 0,021 0,400 CE.% SOUTHWANDSTO YIBLD POINT Weed >~1,6% Z, 0,000 0,000 100 0,001 .. 63 NP% RESULDIZA FEMPACT TEST - JOULES ..0 0,002 NORMALIZED AT 920 C - COOLED IN STILL AIR 20 0,150 TRATTAMENTO TERMICO / HEAT TREATMENT TIPO / TYPE 10x10mm 0,000 ₹ 13% 0,010 MD% A105 0,040 164 - 166 DUMEZZA MA NP BLIND 150 RF 3" 6,100 CONTRAZIONE RECUCTION OF AREA DESCRIZIONE DESCRIPTION 0,011 86 0,008 AT.0 8 1,030 Mn% 0,230 35150 VS.ORDINE YOUR REFERENCE TEMES 0,195 MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO É PI-09-35073 MEMBER SALES ASTIMASME A 105/SA 105 M - 05 POS. 0025 MATERIALE / MATERIAL 9700VETTA / TEST SPECIALISM SEZ stend LUNO, em: BEST, sweet LUNOVT mm: 1-126,60 60,80 COLATA 74582 HEAT CODE HEAT ASTM A105 COD. COL.

		7								*						
COD. COL. COLATA POS. HEAT CODE HEAT ITEM 08/24/150 0027	VS.ORDINE YOUR REFERENCE PI-09-35073	RENCE	Sir.	0.TA' 0.TY	DESCRIZIONE DESCRIPTION BLIND 160 R	ESCRIZIONE ESCRIPTION LIND 160 RF 6"	A405	10		Ŷ		ŭ,		DIM: IN ACC. A DIM: ACCORDA SEMIE/ANELS	DIM: N ACC. A DIM: ACCORDANCE TO ASIMEJANS: SAR	VISIVO E DIMENS.
WTERIALE/MATERIAL.	0,100	6 31% 00 0,250	Mn% 0,960	9%	P% 0,043	0,000	0,060	Mo% 0,010	700,0	0,190	0,002	000°C	0,000 0,000	A7% 0,007	C.E.%.	SATISTACION
Esi PONUM		AUTTON MENTE BENEVET	ALLIN CLO	ALLUNGABERTO ELONGATION	CONTRAZK	DE DE	DUREZZA (46)		REST	NEWLENZA/BIPACT TRET - JOULEANS	CT TEST	OULDIAM		CANTERVA	OTHER	
0 %	Minute 2-0,2%	S18,0		32,0	50,08	-	168 - 159	1097	TPO / TYPE 18x10mm KV	P S	~ 88	" es	. 8	Manual	YIBLD PORT Minera >=1,0% G.0	OUR REP.
MATERIALE IN ACCORDO A / MATERIA ASTINIASME A 105/55A 105 M - 05	MATERALE IN ACCORDO A / MATERAL IN ACC. TO STIM/ASME A 105/ISA 105 IN - 05	ρ.				NORMA	RATTAMENTO TERMICO	RMICO/H	IICO / HEAT TREATMENT 20 C - COOLED IN STILL AIR	IN STIL	LAIR			FORN	FORNO / FURNACE	OPIGINE / ORIGIN EUROPE

NOTE MATERIAL IN ACCORDANCE WITH NACE MR-0178/2003 ISO 18158 NOTES	ET.	UFFICIO CONTROLLO QUALITA' QUALITY CONTROL DEPARTEMENT	ENTE UFFICIALE DI COLLAUDO INSPECTION AUTHORITY	MARCHO PRODUZIONE MANUFACTURER'S SYMBOL
	e 5	S. Corti	2	H
			* *	a magazine
				34.6

91 By: p

611 701 9

1 tem# 5 08 / 75 402 ing Product rorer *.o.q ned Wulber Iq mA enerT skipment/se bd :

STAMPAGDIO 14 CALDO 101 ACCIA COMUNI - LEGADIE 1910531DADEL MELALFAR PRODOTTI INDUSTRIAL SPA

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

petre adamentation a statement of

pages Cesava Branza (LC) - Italy Virgo: Parint 23 Tal. x99 Otol 165644 Fax-k90 prin 165649 qualify,cartefantaix cjori

CERTIFIED BY DNV ... ISO 3001 ... COMPANY WITH QUALITY SYSTEM

CERTIFICATO DI COLLAUDO SECONDO EN 10204-3.1 INSPECTION CERTIFICATE

Dol/Dated 07.08.2013 Fattura / Involce N. 3119 Del/Dated 07.08.2013 Del/Dated 07.08.2013 Na.Ord. / Our rof. N. 0 Dol/Dated CA Pag. 1 - 13 DOCK TRANS AM PIPING PRODUCTS LTD D335 - Endeavor Drivo S.E. T3S OA1 Calgary, ALBERTA B TRANS AM PIPING PRODUCTS LTD 3335 ENDEAVOR DRIVE S.E. T3S 0A1 CALGARY, ALBERTA Cardf. N. 4527 DDT / Dal Nota N. 3588

DIMJIN ACC. A DIM. ACCORDANCE TO ASMEJANSI B16.5 -2009 CE% NI% Mo% 0,050 0,010 W/N 1500 RF 1.1/2" XXS A105N

VISIVO E DIMENS. SATISFACTORY

> A!% 0,028 RESULTINZA J IMPACT TEUT - JOULLISM2 0,000 0,000 0,003 NP% 500 0,200 0,002 % TIPO / TYPE 10x10mm \$ Sus, 0,016 光山

> > P% Cr% 0,012 0,120

8000

0,950 Mn%

S1% 0,230

0,150

8

DESCRIZIONE

25,00

YOUR REFERENCE

CI-12-294

12/72474

MATERIALE / MATERIAL

ASTM A105 (LADLE)

VS.ORDINE

POS. 077

COD. COL COLATA MEAT CODE HEAT

REDUCTION OF AREA

PARTICE STRENGT

31,0

330,0

PROVETTA J TEST SPECIMEN FORNA SECT. MMZ LUNG. MM SHAPE SECT. MMZ LENGHT MM 1-0 2-EI 125,60 50,80

n 69 _ස හි . B

NORMALIZED AT 920 C - COOLED IN STILL AIR

ASTWIASME A 105/SA 105 M - 113 ASME CODE SECT. II, PART A, ED. 2010

MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO

CSA Z245.12 GRADE 248 CAT.1 SOUR SERVICE

ADD, 2011a

TRATTAMENTO TERMICO / HEAT TREATMENT

159,0-163,0

ORIGINE / ORIGIN OF STEEL EUROPEAN UNION ENCITVAMENTO
YELD POINT
NAME >=1,034 FORNO / FURNACE ELECTRIC FURNACE

DIM.IN ACC. A DIM. ACCORDANCE TO

ASME/ANSI B16.5 -2009

VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY

0,0 C.E.% 0,371 0,026 82 RESULENCE / IMPACT TEST - JOULDONS 000°0 38 38 Nb% 0,002

0,002

0,150

33

NI% Mo% T7% 0,070 0,010 0,020

0,014 0,130 REDUCTION OF ARELA

Ma% 5% 0,850 0,007

0,220

0,130

É

ELONGATION F

TENSILE STRENGHT

SNERVANGUNDO
YIELD PORNT
NUMBER >=6,2%

512,0

314,0

%

A10SN

W/N 150 RF 4" STD

DESCRIZIONE DESCRIPTION %

Q.TA' 32,00

VS.ORDINE YOUR REFERENCE CI-12-430

POS.

COD. COL. COLATA HEAT CODE HEAT

13/76392

MATERIALE / MATERIAL

ASTIM A10S (LADLE) PROVETTA / TEST SPECINCIN SEC. mm2 LENG. mm : SECT. mm2 LENGHT mm : 50,30

ORIGINE / ORIGIN OF STEEL EUROPEAN UNION ELECTRIC FURNACE FORNO / FURNACE

20 NORMALIZED AT 920 C - COOLED IN STILL AIR ≥ TRATTAMENTO TERMICO / HEAT TREATMENT 154,0 - 156,0

TURO / TYPE 10x10mm

CSA Z245.12 GRADE 243 CATJ SOUR SERVICE

ASTIMASIME A 105/SA 105 M - 112 ASME CODE SECT. II, PART A, ED. 2010

ADD. 2011a

MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO

UFFICIO CONTROLLO QUALITA: QUALITY CONTROL DEPARTEMENT NOTE: 100% MANUFACTURED IN ITALY NOTES AND SPECIFICATION NOTES MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION MATERIAL IN ACCORDANCE WITH NACE MR-0175/2009 ISO-15156-2009 - SOUR SERVICE MATERIAL IN ACCORDANCE WITH NACE MR-0103/2012 - SOUR SERVICE

ENTE UFFICIALE DI COLLAUDO INSPECTION AUTHORITY

MANUFACTURER'S SYMBOL

1 вел, с ву: . 8 B

METALFAR PRODOTININOUSTRIAL S.P.A.

SUDCLASSINGS DIVINIA E STADISTICATOR

CERTIFIED BY DNV COMPANY WITH QUALITY SYSTEM m (SO 9001 m 2085 CESANA BRIANZA ILCI – ILDI VIOLO, PROMISSO VIOLO, PROMISSO VIOLO, PROMISSO VIOLO, PROMISSO VIOLO SINDIA MIRRIANO SINDIA M

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

DeliDated 25,06,2013 Feature / Hivolce N. 2440 DeliDated 21,08,2013 DeliDated 21,08,2013 Nc.Ord. / Qurret, N. O DeliDated Doct : TRANS AIM "PROJECT" Warnhouse 1711 - 66 Avanuo T6P 1Y9 Edmonton, ALBERTA ð TRANS AM PIPING PRODUCTS LTD Cortif. N. 3588 DDT / Dol Note N. 2805

Pag. 7 - 10 VISIVO E DIMENS. SATISFACTORY ORIGINE / ORIGIN OF STEEL EUROPEAN UNION SINDSYAMENTO
THE POINT
NEW OF OF DIM.IN ACC. A
DIM. ACCORDANCE TO
ASWEJANSI B16.5 -2009 ELECTRIC FURNACE FORNO / FURNACE C.E% 0,417 0,000 0,027 " 88 MEDILIDAZA / INC/ ACT TEST - JOULUISM2 36 . ss No.0 SG35 ENDEAVOR DRIVE S.E. T3S 0A1 CALGARY, ALBERTA , & % 500,0 NORMALIZED AT 920 C - COOLED IN STILL AIR TIPO / TYPE SOUTHERN ≨ 0,120 TRAITTAMENTO TERMICO / HEAT TREATMENT 0,019 11% NE% Mo% 0,050 0,010 164,0 - 166,0 W/N 300 RF 2.1/2" XS A105N P% Cr% 0,100 CONTRAZIONE REDUCTION OF AREA 22-57,0 DESCRIZIONE ASTMIASME A 105/SA 105 M - 112 ASME CODE SECT. II, PART A, ED. 2010 CLONGATION R 0,010 0.TA' 0.TA' 25,00 %5 1,100 Mn% SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT ROTTURA TENESICI ETRENOKT NUMEZ 2 547,0 0,240 SIS VS.GRDINE YOUR REFERENCE ADD. 2011a CSA Z245.12 GRADE 248 CAT.1 SOUR SERVICE 9,200 MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO STEAMSACHIN A CALCHO OF ACCIAI COMAIN! - SECRETI-E INCOSTIDABLE: SALEGIO MANAGEMENTO VIELD POSMY NAME OF 275, D CI-13-329 Pos. FEM 57 PREDVESTA / TEST SPECIALEN FORBA SEC. mmc LENG, mm SHAPE OCCT, mmc LENGHT mm 1~0 2~[] 19/3/282 MATERIALE / MATERIAL COD. COL COLATA MEAT CODE NEAT ASTIM A105 (LADLE) 50,30 126,60

COD. COL CODATA PA	POS.	VS.ORDINE YOUR REFERENCE	ñ		P.T.A.	DESCRIZIONE	ONE							מם	DIM, IN ACC. A DIM. ACCORDA	DIM, IN ACC. A DIM. ACCORDANCE TO	VISIVO E DIMENS.
A70 13884527	174	CI-13-320		3.	147,00	BLIND 150 RF 4"	SO RF 4"	A1051	A105N o					d	SMEAN	ASME/ANSI B16.5 -2009	SATISFACTOR
MATERIALE / MATERIAL ASTIN A105 (LADLE)		0,190	57% 0,230	Mn% 0,850	0,010	0,007	0,030	NI% 0,050,0	Mo% 0,010	0,017	0,150	0,001	Nb% 0,002	0,000 0,000	A1% 0,025	C.E.% 0,382	
PREDVETA / TEST SPECIMEN PORTA SALE MAN SALE MAN SALE MAN 1-0 2-11		SYCHYANIBYTO TE NIGHT TO SACTY TO SACTY TO SACTY SACTY SACTY 337,0	TENSILE STRENGHT 6 Nimm2 >= 512,0	ALLA PLOS	ALLUNCABEINTO 1	REDUCTION OF AREA 75-8	PAZZA	OUNCIZZA HANDWESS HDW 156,0 - 159,0	159,0	Þ	NILLIDIA matter 1977 tott	Berry CA.	20 20 2	AZIGEM C 1 2 2 35 V 20 37 35	5 " E	SHERVAMENTO THEID POINT NATLY STANDS 0,0	משקטו. סעת מנוף.
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO ASTMIASME A 105/SA 105 M - 112 ASME CODE SEC	N/MATE	NAL IN ACC, TO	E SECT. II,	PARTA	CT. II, PART A, ED. 2010	Mg	TRATTAN	TRATTAMENTO TERMICO / HEAT TREATMENT NORMALIZED AT 920 C - COOLED IN STILL AIR	SZB C-	COOLEC	ATMENT O IN STIL	T. AIR			FORN	FORNO / FURNACE	ORIGINE/ORIGIN OF STEEL
ADD, 2011a CSA ZZ45,12 GRADE 248 CAT.I SOUR SERVICE	3 CAT.	SOUR SERVICE			či.												

ENTE UFFICIALE DI COLLANDO INSPECTION AUTHORITY	,
UFFICIO CONTROLLO QUALITÀ' QUALITY CONTROL DEPARTEMENT	1 15.5 10 glade Sec.

MARCHIO PRODUZIONE MANUFACTURER'S SYMBO

NOTE 100% MANUFACTURED IN ITALY
NOTES MANUFACTURING IN ACCORDANCE WITH OKDER AND SPECIFICATION
INATERIAL IN ACCORDANCE WITH NACE MR-0172209 ISO 1616/2009 SOUR SERVICE
IMATERIAL IN ACCORDANCE WITH NACE MR-0103/2012 - SOUR SERVICE

. Rev'd By:

3|4986 34986 913 - 1450 813 - 1450

	K	3000	N ACCIA
	480	P	CALDO
			(PAGIGID A
, γ			STAN

SEDE ANUMERATIVE STREILMENTO: 22961 CESANA BRIANZA (L.C) - Italy Vio C, Parini. 28 Tel. +20 051,655441 Fax +39 051,655149 TTI INDUSTRIALI S.P.A. TALFAR

quality.mff@farmas.com

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

COMUNI - LEGATI E INDSSIDABILI

CERTIFIED BY DNV COMPANY WITH QUALITY SYSTEM

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

Del/Dated 11.02.2013 Del/Dated S Dest: TRANS AM PIPING PRODUCTS LTD Calgary, ALBERTA Del/Dated 12.02.2013 Fattura / Involce N. 578 Del/Dated 11.02.2013 Na.Ord. / Our ref. N. 9335 - Endeavor Drive S.E. T3S OA1 Calgary, ALBEI 5 TRANS AM PIPING PRODUCTS LTD 9335 ENDEAVOR DRIVE S.E. T3S 041 CALGARY, ALBERTA Cartif. N. 896 DDT / Del Note N. 671

VISINO E DIMENS. VIS. & DIMENS. SATISFACTORY Pag. 2 - 8 SPEED POINT VELD POINT Numez >=1,0% DIM. IN ACC. A
DIM. ACCORDANCE TO
ASME/ANSI B16.5 -2009 A1% C.E.% 0,025 0,385 22 RESILIENZA / MAPACT TEST - JOULEVERS 36 0,000 . 8 0,003 %qN

Cu% V% 0,140 0,002

0,019

NI% Mo% 0,050 0,010

0,015

%

5%

0,940 Nan%

SP% 0,220

0,195

%

CI-12-284

12/72669,

MATERIALE / MATERIA

A105N

W/N 150 RF 2" XS 0,090

DESCRIZIONE

AT.O 729,00

VS. DRDINE YOUR REFERENCE

POS

COD. COL. COLATA HEAT CODE HEAT

DESCRIPTION

ORIGINE / ORIGIN OF STEEL

FORNO / FURNACE

۶g

7100 / TPPE 10x10mm

163,0 - 165,0

CONTANZONE
REDUCTION OF AREA
No.

ALLUNGAMENTO ELONGATION

TEMBLE

SMERVANENTO
YIELD PONT
Numm 2 >= 1,2%
325,0

SHAPE 1= O 2= []

PROVETTA / TEST SPECIMEN SEZ. mm2 LENGHT mm 1 ASTM A105 (LADLE)

50,80

126,60

31.0

530,0

EUROPEAN UNION ELECTRIC FURNACE NORMALIZED AT 920 C - COOLED IN STILL AIR ASTIMASME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010 ADD. CSA Z245.12 GRADE 248 CAT.I SOUR SERVICE 2011a

TRATTAMENTO TERMICO / HEAT TREATMENT

8 À :

88

Bev'd

MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO

COD. COL. COLATA HEAT CODE HEAT 12/34504	POS. ITEM Ø88	VS.ORDINE YOUR REFERENCE CI-12-294	NON		50,00	DESCRIZIONE DESCRIPTION W/N 600 RF	DESCRIZIONE DESCRIPTION N/N 600 RF 4" XS	A105N	N.					១០∢	DIM.IN ACC. A DIM. ACCORDA ASME/ANSI E	DIM.IN ACC. A DIM. ACCORDANCE TO ASME/ANSI B16.6 -2009	VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY
MATERIALE / MATERIAL ASTM A105 (LADLE)		0,200	SP% 0,230	Mn% 0,960	0,000	0,010	0,090	NI% 0,050	Mo% 0,010	71% 0,016	Cu% 0,120	0,000	Nb% 0,002	0,010	AI% 0,026	C.E.% 0,392	
PROVETTA / TEST SPECIMEN SECT. mm.2 LENGHT mm. 1-26,60 50,80	PHAPE 1-0 2-0	SNERVAMENTO VIELD POINT NUMBE >=0,2%	TENSILE STRENGHT NAME >= 523,0		ELCINOAMENTO FLOWDATION 1	REDUCTION OF AREA	AREA	DUM HAMD 159,0	DUNEZZA HANDMESS HDW 159,0 - 163,0	Tipo	ACSLIEN TIPO / TVPE TOXIONM KV	EAL!	MPACT TEST	7 89	ູຣ	SMENYAMENTO YISLD POBUT NATHEL >==1,0%	No RV. OUP, REP.
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO ASTMIASIME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010 ADD. 2011s	0 A / MAT A 105 M -	ERIAL IN ACC. TO	SECT. II, 5	PART A,	ED. 201	0 ADD.	TRATTAN	MENTO TE	TRATTAMENTO TERMICO / HEAT TREATMENT NORMALIZED AT 920 C - COOLED IN STILL AIR	EAT TREA	ATMENT IN STILL	LAIR			FORN	FORNO / FURNACE ELECTRIC FURNACE	ORIGINE / ORIGIN OF STEEL EUROPEAN UNION
CSA 2245.12 GRADE 248 CAT.I SOUR SERVICE	248 CAT.	I SOUR SERVIC	ĮIJ					į,									

ENTE UPPICIALE DI COLLAUDO INSPECTION AUTHORITY UFFICIO CONTROLLO QUALITA: QUALITY CONTROL DEPARTEMENT S. Eriggeta

MARCHIO PRODUZIONE MANUFACTURER'S SYMBOL

NATE OF THE PERSON NAMED IN COLUMN TO SERVICE AND ADDRESS OF THE PERSON NAMED IN COLU

MATERIAL IN ACCORDANCE WITH NACE MR-0175/2009 ISO 15:156-2009 - SOUR SERVICE MATERIAL IN ACCORDANCE WITH NACE MR-0103/2012 - SOUR SERVICE NOTE 100% WANUFACTURED IN ITALY NOTES MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION

72669 8 13 . 1

101a.

dmuN jsəH må ensiT \inəmqld2 :# ! ud ! S 2 6 d 6 l b 6 l : 116m# 53240

INSPECTION CERTIFICATE

TRANS-AM PIPING PRODUCTS LTD.

Purchaser:

TO EN10204 3.1

Thai-Benkan Co., Ltd.

58 Soi Watkrunai, Banglan, Prapadaeng, Samutprakam, 10130 Thailand. GO

Certificate No. Z A

0130 Thailand.	Lengolada Solada	100	Good		8							۵		TNAT					
tprakam,	2012	7isual Examinati	Good	Hardness Actual Data	.HB:118-145	: 120 - 160	30 - 160	HB: 130 - 150	HB: 120 - 160		ARDNESS MAX	0 197 HB: GOOD		ST. ORIGI				6	W.G.
		Specification for Inspection	ASINE B16.6-2007, B16.26-2007	No.	N	X .	4	V .	* 1	Tehsion Test 72		240		352 508		660		909	一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一
10 EN10204 3.1		Specii		(1.17)	5/10	90	51772	7/128			1000 1000 100			2 <1 38	B 2000	0 38		が 大	大学 一日の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本
		rom Seamless Pipe	G-MAND DICTORNES DISC					1		Ni Ni	100 100 100			60	0 0	11. 20. 5.	3 7		のでは、 を持ち、 大田は、 大田は、 大田は、 大田は、 大田は、 大田は、 大田は、 大田は
No. Job No.			The state of the s		REWPB6X5S40	SO EL WP	SO EL W. O	90 EL.W	180 E 1 1/2 SB	Ohemical C	100 1000 1000 100			84 15 1 4		77 13 5 14	70 (F)	86 17 3 -2	とから いちかんしい これで いちんしい あいっちのかられる
Purchase Order No.	CI-11-701		MFG. No.		12D2006	-12AC		12D00018	10G00040	157	CA		30	20 22	0 21 28	16 19	0 78 19	19 24	040
E-No.	MC-668		No.		-	2	E.	4	2	Specification	Min.	Max.	Material Heat No.	1 7-05962	2 JAK ROS	3 973132	4 JOK AFB	5 1-79316	Charles a Straight of the Assessment

Note 1) A: Bot formed with final temperature between 620 C-930°C Air Cooling NI: Normalizing 910°C-603 HR Air Cooling (Specification) or an analysis and temperature between 620 C-930°C Air Cooling NI: Normalizing 910°C-603 HR Air Cooling (Specification) or an analysis and temperature between 620 C-930°C Air Cooling NI: Normalizing 910°C-603 HR Air Cooling (Specification) or an analysis and temperature between 620 C-930°C Air Cooling NI: Normalizing 910°C-603 HR Air Cooling (Specification) and temperature between 620 C-930°C Air Cooling NI: Normalizing 910°C-603 HR Air Cooling (Specification) and temperature between 620 C-930°C Air Cooling NI: Normalizing 910°C-603 HR Air Cooling (Specification) and temperature between 620 C-930°C Air Cooling NI: Normalizing 910°C-603 HR Air Cooling (Specification) and temperature between 620 C-930°C Air Cooling (Specification) and temperature between 620°C-930°C Air Cooling (Specification) and temperature between 620°C Air Cooli

Quality Assurance Manager Thai Benkan Co., Ltd.

PO# 22285 liem# 5 Heat dumber: 12F00018 Trans Am Piping Products Lt 5 e

Do # 20233

INSPECTION CERTIFICATE

TO EN10204 3.1

Job No.

Purchase Order No.

TRANS-AM PIPING PRODUCTS LTD.

Purchaser:

Thai Benkari Co., Ltd.

58 Soi Watkrunai, Bangkru, Frapadueng, Samutprakam, 10130 Thailand

BCOT 190189 E. A. Good Certificate No. FEBRUARI BOARS ORIGINAL 0000 WARDNESS MAX 部 Visual Examination Hardness Actual Data MED: 115-145 IIIIIIII 197 YB: Good >4 (FFE. #FFE. EFFE. 13405/2011 Z 理学 8 0 The company of the state of the ASME B16.9-2007, B16.25-200 Tension/Test *2. 486 × Will HINKELL C. CHII | HINKS | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 317 8 O Chemical Composition % in piet 10001 O 100 Hilla ABTM A224-11/ASME SA234-10 Gr.WPB N Made from Seamless Pipe Specification For Material Ŋ.,,) igua. 100 I S 100 3 100 3 90 EL WPB 4 S40 1000 Ø e in 1000 5 M H がは、 Mn THE 100 23 がこうがあ 0 CF-11-187 11H0006 MFG. No. 4 STREET, 8 9 H 490 動 Material Heat No. **Audi** Specification JOKB458 빏 Max. Min. ٠. ---. , C So 4 5 .; 3 N. 3 4

AN: Normalishing 910°Cx0.5 HR. Air Cooling (Specification for material made from plane). Sections (675° Cx0.5 HR. Air Cooling Olgie, 1). A.: Hot formed with final temperature between 620 °C.980°C. Air Cooling. N.: Normalizing 910°Cx0.51 TR. Air Cooling. The Ruings werk manufactured pampied treated and Prepected in accordance with the epocilication, and ware found to press the natural ments.

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

... WAGNETIC PARTICLE EXAMINATION FOR TEE ONLY ..

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

* 1 : "T" symbolized wall thickness in mm. * 2 : YS Yield strength TS = Tensile strength E = Elongation Form 12-64/3

Quality Assurance Manager Thai Benkan Co., Ltd.



CERTIFICATE OF COMPLIANCE

& manufacturing Itd."

5545-89 Street Edmonton, Alberta Canada T6E 5W9

www.edmontonexchanger.com

tel 780.468.6722 • QC fax 780.466,4668 • sales fax 780.466.5155

Customer TORNADO COMBUSTION

PO 23953

Work Order C99882 Date 2013/08/07 CofC# 42836

Page 1 of 1

Item#	Description	Oty	Heat#	Required Min Thk	Recorded Min Thk	Form. Proc.
H99882-1	HEAD(S) - Semi-Elliptical 2:1 - 0.3750" NOM	1	1445M-56423	0.3125"	0.3450"	1
	(0.3125"_MIN) X 60" OD (Material Spec: SA 516-70 Normalized)	1	1852M-56425	0,3125"	0.3450"	1
	**************************************	1	G9690-5702702341	0.3125"	0.3450	1
		1	G8924-874720280	0.3125	0.3450"	1

Forming Procedure:

1. Hot Formed

@ 1650F/899C and Air Cooled

Supplementary Requirements

Normalized Material Identification Marking:

'MT' indicates normalized by the mill per ASME Code Section II, Part A, SA 20, Paragraph 13.1.1.
'GMT' indicates normalized by Edmonton Exchanger per ASME Code Section II, Part A, SA 20, Paragraph 13.1.2.
'GT' indicates normalized by Edmonton Exchanger per ASME Code Section VIII Division 1, UG-85 or ASME Code Section I, PG-77.4.

The item(s) listed above comply with the requirements of ASME Code Section I, PG-29, PG-81 and ASME Code Section VIII, Division 1, UCS-79(d), UG-79 & UG-81. All welders and procedures are qualified to ASME Code Section IX. Material being supplied conforms to the latest ASME Code Section II, Part A, 2010 Edition, Addenda July 1, 2011.

Supplementary Examination - Items	
→	





CERTIFICATE OF COMPLIANCE

MTR List

5545-89 Street Edmonton, Alberta Canada T6E 5W9 www.edmontonexchanger.com

tel 780.468.6722 • QC fax 780.466.4668 • sales fax 780.466.5155

Customer TORNADO COMBUSTION

ро 23953

Work Order C99882 Date 2013/08/07 CotC# 42836 Page 1 of 1

MTR ID	Pages	Heat#	Thickness	Material Grades
16430	9	G9690-5702702341	.375"	SA 516-70 N
16547	26	G8924-874720280	.375"	SA 516-70 N
16696	2	1445M-56423	.375"	SA 516-70 N
		1852M-56425	.375"	SA 516-70 N

Heat#	Material Grades	MTRID
1445M-56423	SA 516-70 N	16696
1852M-56425	SA 516-70 N	16696
G8924-874720280	SA 516-70 N	16547
G9690-5702702341	SA 516-70 N	16430

2 本本口 1111年本本本本 〒100-8071 対状哲子代田区九の内二丁回6時155 Nem Sol. Ceq. 4 44 03347 03341 0 PAGE .. N N 0 0 0 00 00 PLATE QUALIFY: CONTINOL DEPT. 1001 010 J. adachi NO NO P-17645 o ž X 1ebos 210 22 41 Z 201 X CHEMICAL C.A X 1000 X 100 N S N I •• N. F No •• 面明的条件。 CERTIFICATENO. R 存年月日 DATE OF ISSUE 2 N 2 നധ 0 4 on to 0 4 X1000 HE Ò. 146 1450 4 52 146 ₩ X 142 TE3 ★ HEAD OFFICE 合 賞 覧 閣 別 KIMITSU:WORKS 谷 dr · ₩ 4 ₩ ₩ 4 3 & ∆ ⊗ Ω 387 100 X 100 X 100 500 100 D 注 取NOTES | ※1 Location Orientation 位置・方角。T:類似了Op. B:近路 Bettern L: 定極力的 Longitudinal, C: 直的分的 Transverso, 2:超界分的 Thisways Thisway Z 能 財 保 品 嶌 鸽 点 CUSTOMERS CONTROL No. 9 co 9 0 WE WEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT. 0. 上部年女昭寺台站院の改統並と兵事後行物した統領をた。 中の副来母母を発信したいをしてか問題し張す。 (AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)
EDMONTON EXCHANGER GROUP OF C- 需要 底 壁 型 電 OMPANIES 158 A V G 158 IHB III 214 178 208 186 Ш 7191 7191 TL.7201 CERTIFICATI K EPDTESTERINGS
OSENTATION
OSENTATION
OSENTATION
EST STE F Ï Nippon Steel Corporation X i 存な 区光 25 4 51 班 时 级 TENSILE TEST 0 の質響は 78 77 11 INSPECTION NOCANON OSUBAIANON OSUBAIAN OS 75 mm 57 27 57 59752FROM 59755 874720294TCI 874720280ITCI 61752TESTED-PL 59755 874720293TC 874720296 CP. PLATE No. 品的 図 68924 46557 可够物中 宗 京 SUSTOMER 以節節中 CAST No. TEST No. 2790 2790 837 SA-51-6 GRADE 70-E10 斜 MASS STEEL PLATES M -KVL 拉拉 1-831-H1-5-X-AT01 02 02 0.2 228-68511040 HOT ROLLED HA'N W'A CO. 班 ASME mm, ':inch, ':feet 0.375 X120.5 X480 0. 375" X120. 5' X480' 0.375" X120.5" X480" DIMENSION \$65607 £1047A.



edmonton exchanger

& manufacturing ltd.

5545-89 Street Edmonton, Alberta Canada T6E 5W9

www.edmontonexchanger.com

tel 780,468,6722 • QC fax 780,466,4668 • sales fax 780,466,5155

Customer TORNADO COMBUSTION

ро 23953

Work Order C99882 Date 2013/08/07 CofC# 42836

CERTIFICATE OF COMPLIANCE

Page 1 of 1

[tem₽	Description	Oly	Heat∉	Required Min Thk	Recorded Min Thk	Form. Proc.
H99882-1	HEAD(S) - Semi-Elliptical 2:1 - 0.3750" NOM	1	1445M-56423	0.3125"	0.3450"	1
	(0.3125"_MIN) X 60" OD (Material Spec: SA 516-70 Normalized)	1	1852M-56425	0.31254	0.3450	1
		1	G9690-5702702341	0.3125°	0.3450"	1
		1	G8924-874720280	0.3125"	0.3450"	2

Forming Procedure:

1. Hot Formed

@ 1650F/899C and Air Cooled

Supplementary Regulrements

Normalized Material Identification Marking:
'MT' indicates normalized by the mill per ASME Code Section II, Part A, SA 20, Paragraph 13.1.1.
'GMT' indicates normalized by Edmonton Exchanger per ASME Code Section II, Part A, SA 20, Paragraph 13.1.2.
'GT' Indicates normalized by Edmonton Exchanger per ASME Code Section VIII Division 1, UG-85 or ASME Code Section I, PG-77.4.

The item(s) listed above comply with the requirements of ASME Code Section I, PG-29, PG-81 and ASME Code Section VIII, Division 1, UCS-79(d), UG-79 & UG-81. All welders and procedures are qualified to ASME Code Section IX. Material being supplied conforms to the latest ASME Code Section II, Part A, 2010 Edition, Addenda July 1, 2011.

Supplementary Examination - Items

1)
1					
A .					
1				*/	
I					1
§					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
4					
1		39			
8					
I .					
l .					
I					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
I .					
E					
§					
F					
I					
I					
I					1
I					- 1
I					i
I					
I					
I					
I					1
I					
1					
1					
1					
I					
i .					
ľ					
		AND THE PROPERTY OF THE PARTY O	TOTAL STREET, SAN TO SAN THE S	and the representation of the second	



CERTIFICATE OF COMPLIANCE

MTR List

edmonton exchanger

5545-89 Street Edmonton, Alberta Canada T6E 5W9

www.edmontonexchanger.com

tel 780,468,6722 • QC fax 780,466,4668 • sales fax 780,466,5155

Customer TORNADO COMBUSTION

PO 23953

Work Order C99882 Date 2013/08/07 CofC# 42836 Page 1 of 1

MTR ID	Pages	Heat#	Thickness	Material Grades
16430	9	G9690-5702702341	.375"	SA 516-70 N
16547	26	G8924-874720280	.376"	SA 516-70 N
16696	2	1445M-56423	.375"	SA 516-70 N
		1852M-56425	.375"	SA 516-70 N

Heat#	Material Grades	MTRID
1445M-56423	SA 516-70 N	16696
1852M-56425	SA 516-70 N	16696
G8924-874720280	SA 516-70 N	16547
G9690-5702702341	SA 516-70 N	16430

本 社 100~8071 以7次和子代田区九の内二丁目6名1-45 HEAD OFFICE 2—5—11. MICHNOUCHI. CHIYODI—KU. TOKYO 100~8071, JAPAN 25 年 京 京 京 所 7 7299—1141 千 梁 崁 省 市 省 市 1 培 迎 KIMITSU WORKS 1. KIMITSU. KIMITSU—CHIY. CHIBA—PREF, 299—1141. MADAN ****CEW** 2 * * D M * * * * * 23 03340 C- Mo Nb V TA C-1. 3 m Z Z E PAGE: 012 010 012 0 CHEMICAL COMPOSITION'S 50 00 Mn P S Ou Ni CA N S \$100 X TE1 4 145 TE3 . X 100 rir P1 5 143 P1 5 P1 5 語 联 宗 位 型 游 A CUSTOWERS CONTROL No. 2 ابره دی O ž A V G A V G 221: 185 221: 185: 212: 置 な 稼 端 弱 島 徳INSPECTION CERTIFICATE T17206 TL7206 TL7208 Wippon Steel Corporation 后間有影響感長回馬 22 1 25 25 31 3K KK LM 7 8 7 8 CONTROL ON STATE OF S X 57 57 57 69690 444215702702321TC 444215702702331TC 69690 444215702702341 慰 EB·時 応 PLATE No. 照 提 版 CUSTOMER 設置命中 河景時心 CAST No. TEST No. 2790 2790 2:7 9 0 ASME SA-516 GRADE 70-E10 MA:SS 目 HOT ROLLED STEEL PLATES. 自 -NHI 1-831-H1-5-9-AT01 0 228-68511010 HANWA CO. mm, ":inch, ": feet 0. 375" X120. 5" X480" 0. 375 X120. 5 X480 0.375 X120.5 X480 DIMENSION ٠. SPECIFICATION X 的 敬 均 DOCUMENT No. 中

注 R NOTES | ※1 Location Oriontation (近夜、分声, T:阿阳 Top. 8:紅瓜 Bottom, L:近近分声 Longitudinal, C:紅角分前 Yancovers, Z:超过分前 Through Thro 上記法文品は自指なの窓谷にたば往後に絞って製造され、その限状母気を适応したこのことを質問します。 WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN. HAS BEEN MADE IN ACCORDANCE WITH THE ROLLES OF THE CONTRACT:

谷中駅総称序版で型グループルーター・データ Head of Dopartment PLATE QUALTY-COMINOL DEPT. KIMITSU WORKS J. adachi

33

6

2

0 5

142

00

256709£10AA

ン・「Pach A July 機能である。」 いっち 機能である A July は A J | Mo | Nb | V | TAI | Ceq. | R | Coq. 〒100-8071 東京衛子代国区人の内二丁目6部135 * 2-6-L MARUNOUGH1, CHIYODA-KQ TOKYO 100-8071, JAPA 〒299-1141 子 延 県 岩 祚 省 韓 1 番 地 1 番 地 1、KIMITSU, KIMITSU-CITY, CHIRA-PRER, 299-1141 JAPA 2 * * * * C E M * * * * * E 3 0.0 1 P 0 7 0 1 E 0 7 Tem Sol. Osq. | 本文 C L LLAMING Gogo Longh, A: 50mm 平成以以下 Rocking C: 20mm 平成以上 Rocking C: 20mm 年度 Rocking C: 20mm 4: 3.20mm, 4: 3.20mm, 4: 3.20mm, 5: 5.20mm, 5: 5.20mm, 5: 5.20mm, 5: 5.20mm, 6: 5.20mm, 5: 5.20mm, 6: 5.20mm, 7: 7.20mm, 7: 7.20mm PAGE: 1001 - a O, adachi P-15084 ο× CA ž ž x 1600 × 1600 × 1000 .. 証 明 む む む ら CERTIFICATE No. 死 行 年 月 目 DATE OF ISSUE X 100 六 祭 既 少 TE X N TE3 Z X 社 HEAD OFFICE む 許 覧 留 済 KIMITSU WORKS O × 100 × 10 .. 选 那 NOTES [图 1 Location Orientation 近日・万所、丁:郑匡 1509、B:郑武 Beton, L:冠赵万神 Longhudinal, C:瓦多万利 Transverso, Z:诏廷芬纳 Trinsuch Thickness, R:绍 25时 450g. to the bonghudinal Avia ťγ 后 財 原 府 肖 静 内 CUSTOMER'S CONTROL No. WE HEREBY CERTIFY THAT THE WATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT. 上の治文品は曾治なの気格性たは仕様に徐って慰済され、中の劉某特互を導起したいることを印明します。 (AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1) EDMONTON EXCHANGER GROUP OF C- 常要寄留 配面のMPANIES CUSTOMERSCONTROL 1 0 MI 信息 以 以 HBW 2V - 50F 500 FT 18 500 平均值 国本資 AVG EACR INSPECTION CERTIFICATE Nippon Steel Corporation 言語が出来を認識なる。日本 東京公 31 强 联 聚 CENSULE TYSES OF THE STATE OF T SHAPE CONTROL 75 4p-製品的為 PLATE No. SULPHIDE ٠. 記 位 別 CUSTOMER 封窗的印 CAST No. 中的資訊 TEST No. ASME SA-516 GRADE 70-E10 阜 MASS HOT ROLLED STEEL PLATES 1 TIT NA 1-831-HI-5-9-AT01 HANWA CO. LTD 228-68511010 mm, Tinch, ': feet DIMENSION ... A SHIPPER A SHI +

£567095504YA

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

TRANS AM PIPING PRODUCTS LTD. 9335 Endeavor Drive S.E. Calgary, Alberta T3S 0A1

Dated 13.01.2011 Dated 13.01.2011 Dated 13.01.2011

Certificate Nr 21489 Invoice Nr 8 Del. Note Nr 11 5 Page 6 . 10

16030 CASARZA LIGURE- Genova - Italy - Via Glancario Farina 25 - 78/0165/67861 - Fax 0185/86510 / MATERIAL TEST DEPARTMENT

MEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	ENCE	₩. Q.T.			۵	DESCRIPTION	NO						3	DIM. ACC. TO		VISUAL & DIMENS.
MPS	78995	003	6855	2010-2E201-0001248-0003	01248-0003		FITTING	COUPLING	FITTING COUPLING THRD NPT 3M 3/8" A105N	T 3M 3/8"	A105N						000	SEE NOTE	SATISFACTORY	CTORY
200	71871	900	8865	2010-2E201-0001248-0006	01248-0006		FITTING	COUPLING	FITTING COUPLING THRD NPT 3M 1.1/4" A105N	T 3M 1.1/4	r A105N						non	SEE NOTE	SATISFACTORY	CTORY
38CK 4AK	70284	900	885 885	2010-2E201-0001248-0008	001248-000E		FITTING	COUPLING	FITTING COUPLING THRD NPT 3M 1.1/4" A105N FITTING COUPLING THRD NPT 3M 1.1/4" A105N	T 3M 1.1/4	" A105N						s s	SEE NOTE	SATISFACTORY	CTORY
(74785	900	885	2010-2E201-0001248-0008	X01248-0006		FITTING	COUPLING	FITTING COUPLING THRD NPT 3M 1.1/4" A105N	PT 3M 1.1/4	" A105N						S	SEE NOTE	SATISFACTORY	CTORY
KBB	78442	013	685	2010-2E201-0001248-0013	001248-0013		FITTING	HALF COL	FITTING HALF COUPL THRD NPT 3M 2" A105N	NPT 3M 2"	A105N						0) (SEE NOTE	SATISFACTORY	CTORY
73AK 17CK	77168 77168 78362	200	685 685	2010-2E201-0001248-0013 2010-2E201-0001248-0013 2010-2E201-0001248-0013	001248-0013 001248-0013 101248-0013		FITTING	HALF COL	FITTING HALF COUPL THED NPT 3M.2" A 105N FITTING HALF COUPL THED NPT 3M.2" A 105N FITTING HALF COUPL THED NPT 3M.2" A 105N	NPT 3M 2" NPT 3M 2"	A105N A105N						noo	SEE NOTE SEE NOTE SEE NOTE	SATISFACTORY SATISFACTORY- SATISFACTORY	CTORY- CTORY-
HEAT CODE	HEAT	ITEM	MAT	MATERIAL	స్ట్ర	%18	Mn%	8%	% %	%10	MI% W	%II %oW	% Cu%	% %	%qN. 9	%N %	% A3%	C.E.%	OTHER ELEMENTS	EMENTS
MPS	78995	900	ASTM A105 ASTM A105		0,195	0,190	0,850	0,006	0,018		0,080	0,010 0,0	0,000	0,150 0,0	0,002 0,0	0,000 0,0	0,000 0,000	30 0,384		
	71871	900	ASTM A105		0,190	0,280	0,950	0,020		0,100	_				0,020 0,0		_	686,0 85		
38CK	70294	900	ASTM A105		0,180	0,230	0,850	0,022			_					_	_			
4AK	75780	900	ASTM A105		0,200	0,200	0,880	0,020	7,000	_		0,020		0,200	1000		0,000			
000	10140	000	ACTA A 105		2070	0,20	0.850	0,000		2,00	0000	_	2000		_	100.0	_	200.00		
BBAK	77168	2 5	ASTM A106		0,200	0,250	1,000	0,00		35						_				
73AK	77168	013	ASTIM A105		0,200	0,250	1,000	0,010		-				2000						,
2000		and and and and	WHAT BUILDING	-	WILL DOOR THE	THURS R RYBERNONY	MALE BE CANDATION	. 1-	180	MARCH	- -	Ted	LAMIN	4.	-	BACT TREET	- 1	-	mann i	VIEW IN BOUNT
3000 180			SECT. mm2 LENGHT mm		-	Nama >4			Was and		Ny -			_	TYPE 10x10mm	P	4	69	-	Wmm2 >=1.0%
MPS	78995	003	122.66	+	-	528.0	31.0	0	67.0	180.0	190.0 - 164.0	0.0	0.0		≥	-10			⊢	10.0
MOS	22474	900	122,65	_	311,0	542,0	32,0	0	62,0	170.0	170,0 - 177,0	0,0	00	_	≥	-10		63 67	v-	0,0
	71871	900	122,65	50,00	317,0	514,0	33,1	-	58,5	155.0	155,0 - 169,0	0,0	0.0		≥	-10		13		0,0
38CK	70294	900	122,85		301,4	502,0	31,0	0	57,4	158,0	158,0 - 162,0	0,0	0,0		≥	-10				0,0
4AK	75780	900	122,65		358,0	561,0	33,0	0	54,0	180,0	180,0 - 184,0	0,0	0.0	_	≥	-10			-	0,0
	74795	900	122,65		306,0	563,0	31,0	0	54,0	180,0	180,0 - 182,0	0,0	0.0		\$	2				0,0
KBB	79442	513	122,65		311,0	518,0	33,2	ci.	68,0	153,0	153,0 - 160,0	0,0	0,0		≤	-10		- 1	r	0,0
BBAK	77168	013	122,65	-	322,0	526,0	8	ci i	55,0	181,0	161,0 - 168,0	0,0	0		\$	-10			-	0
17CK	78352	013	122,85	20,00	331.0	528.0	0, E.S.	o 0	58.2	163.0	163.0 - 169.0	0 0	0 0		≥ ≥	2 2	7.2	78 73		0 0
HEAT CODE	1 2	ITEM			MATERIAL IN ACCORDANCE TO	ORDANCE						HEAT TREATMENT	ATMENT	-			ACE		ORIGIN	Our Ref.
MP5	78995	003	ASME SA A	ASME SA ASTM A105-09					-	Vormelized	at 880°-92	Normalized at 880°-920°C / Air Coo	-			ELEC	ELECTRIC FURNACE	NACE EUROPE	OPE	N10137
MOS	22474	900	ASMESAA	ASME SA ASTM A105-09					~	Normalized	at 880°-92	Normalized at 880°-920°C / Air Coo	70			ELEC	ELECTRIC FURNACE	NACE EUROPE	OPE	061272
	71871	900	ASME SA A	ASME SA ASTM A105-09					-	Normalized	at 880°-92	Normalized at 860°-920°C / Air Cool	70			ELEC	ELECTRIC FURNACE	-	OPE	081082
38CK	70294	900	ASME SA A	ASME SA ASTM A105-09						Normalizad	at 880°-92	Normalized at 880°-820°C / Air Coo	ក			EE	ELECTRIC FURNACE	2227	OPE	071528
4AK	75790	900	ASME SA A	ASME SA ASTM A105-09						Normalized	at 880°-92	Normalized at 880°-820°C / Air Coo	7				ELECTRIC FURNACE	-	OPE	071202
-	74795	900	ASME SA A	ASME SA ASTM A105-09						Normalizad	at 860-82	Normalized at 880°-820°C / Air Coo	ō .				ELECTRIC FURNACE	-	OPE	071087
KSB	78442	500	ASME SA A	ASME SA ASTM A105-09						Normalizad	at 880°-92	Normalized at 880°-920°C / Air Cool	ō 7				ELECTRIC FURNACE	NACE EUROPE	1100	081311
2000	14400	2 5	A CALL OA	A CHARLES A A CHARLAS A A CHARLES						Normalizad	200000000000000000000000000000000000000	Normalization at 600 per political at 1000 per	5 7			ם נו	ELECTRIC CHENACE	_	100	00100
17CK	78352	2 6	ASME SA A	ASME SA ASTM A105-09					. =	Normalized	at 880°-92	Normalized at 880*-920°C / Air Cool	o 70			PLEK	ELECTRIC FURNACE	-	0PE	071361
OTES ASA	ME B16.11/0	9- ANSI B3	1.1/B31.3 - IMI	NOTES ASME 816.11/08 - ANSI 831.1/831.3 - IML STD - ANSI 81.1-818.2.2 - NACE	.1-B18.2.2	NACE		INSP	INSPECTION AUTORITY	UTORITY	ö	QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL	NTROL DE	PARTME	NT MANU	FACTURE	ER'S SYMB	-	MANUFACTURER'S SYMBOL	SSYMBOL
SPE	O175 ISO 15 ECIFICATION	156/1 - NAC IS AND P.O.	WR0175 ISO 15156/1 - NACE MR0103 - MSS SF SPECIFICATIONS AND P.O. REQUIREMENTS	MR0175 ISO 15166/1 - NACE MR0103 - MSS SP 83 - SUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS	PLIED MAT	ERIAL ME	STS					C7	B. FIZZOPII (L	A			11/11	1	0	a
												7	4.7 E	5	E.	FITTINGS	I'MIT	2 0	STUDBOLTS	7

MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN 10204 :2004 3.1

CERT. NO ORDER NO CUSTOMER

: 15 ORIGIN : TAIWAN : 09/01/2012 STO EN 10204 : LLC NO : L/C NO : DATE : 09 INVOICE NO : BW01210105096



⋖				
を金属の他の	三二十分路 303 號	FITTINGS CO., LTD.	AD JEN-WU DISTRICT	
省軍制作権を依頼公配	的為分斤於阿施林	BOTH-WELL STEEL	NO.303, JEN-HSIN ROA	TAN ATTAINED AND A SECOND

An ISO 9001:2008 Registered Manufacturer

FAX: 886-7-371-3864, 871-3882

TEL: 886-7-371-0497, 371-1536, 372-0260

2	N.		_	0000	-			-	_							Γ		-					_			ī
TNSPECTION	SURFACE DIM.			G00D G00					MATERIAL SUPPLIER																and	INSPECTOR
SPECIFICATION FOR	FITTING		ASME B16.11 - 2011					a supplied of the	MATERIAL			1				ADDITIONAL TEST/REMARKS CONFORMS TO NACE MR0175-09 /MR0103-10	STEEL MAKING PROCESS : ELECTRIC FURNACE	-3 2009							1	INS
SPECIFICATION FOR		5	_	000	_			E.		0.43	0.378	0.374	0.388	0.383	0.358	RO175-0	SS : EL	2012126							90	
SPECI	MATERIAL	ASTIM ALOSIN -05		ASME SAIOSN -AU8				Zr			0	-	-		0	ADDITIONAL TEST/REMARKS	IG PROCE	CONFORMS 10 NACE ISU15156-3 2009							子	Q.C. MANAGER
DOUNNER					v	0		Ti		1						DITIONA TORMS TO	IL MAKIN	OKMS 10							せいじ	0.0
DUL O AU	QUANTITY	100 PC	1200 PC	50 PC	350 PC	50 PC		A1		1	-			-			STEE	B			-	_				I ——
INVESTIGENT.	_							N		1						HEAT TREATMENT	NORMALIZED				-	800 C A.C.			RMS OF	
Z DANANCI DOC								Cb(Nb)			0.001	0.001	0.002	0.002	0.001	HEAT ?	NOR				0	200			THE TR	
ane mah							(%)	ı A		7	0.002	0.007	0.002	0.002	0.002			Joule >	AVG.						ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF	
TOR.							POSITION	Mo		0.12	0.020	0.020	0.020	0.020	0.020		Impact 0°C	~	m						D COMPL	
	DESCRIPTION						CHEMICAL COMPOSITION	Ni		0.40	090.0	0.070	0.050	0.080	0.070		Charpy Impact	_	2						STED AN	
	DESCR			# NPT	H	L		Cr		0.30	0.090	0.130	0.000	0.000	0.120	ries		MIN./AVG.	1						BEEN TE	
		NPT		/2" 3000	3000# NP	3000# NP		Cu	, ,	0.40	0.150	0.140	0.160	0.160	0.130	MECHANICAL PROPERTIES	AVG)	1	-	146	146	144	142	143	OVE HAS	
		4" 3000#	000# NPT	TEP) 1-1	OW 1/4"	OW 3/8"		S		0.040	0.010	0.007	0.012	0.007	0.008	HANICAL	(HBW) (AVG)		187	145	143	144	141	141		
-		HALF CPLG 1-1/4" 3000# NPT	HALF CPLG 2" 3000# NPT	HALF CPLG(NO STEP) 1-1/2" 3000# NPT	90D STREET ELBOW 1/4" 3000# NPT	90D STREET ELBOW 3/8" 3000# NPT		Д	. 0	0.035	0.016	0.017	0.016	0.012	0.015	NEC	R of A	30		65.5	64.5	63.6	66.4	62.2	L DESCR	
		HALF C	HALF C	HALF C	S COD	TS COO		Mn	0,60	1.05	0.850	0.840	0.850	0.810	0.820		月 8	22	ì	32.6	32.6	32.4	34.2	33.2	MATERIA	
RAW MATERIAL	HEAT NO.	l l						Si	0.10	0.35	0.200	0.210	0.200	0.230	0.210		Y. S.	36		48.6	48.7	48.9	48.3	51.5	THAT THE MATERIAL DESCRIBED	
RAW M	HEA	326701	329612	326703	329600	329614		ပ		0.35	0.200	0.190	0.210	0.210	0.180		T. S.	70	,	75.4	75.5	74.5	74.4	74.1		
BW RAW MAT	HT.CD.	3742	3861	3747	3851	3849		BW	H.O.		3742	3861	3747	3851	3849		HT.CO.			3742	3861	3747	3851	3849	WE HEREBY CERTIFY, THE ORDER CONTRACT	
	LTEM	033	034	035	036	037	A special	MET T	Min	Max	033	034	035	960	037	Ì	1	Min	Мах	033	034,	035	036	037	田田田	

BW-D0839 REV:1

MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN 10204 :2004 3.1

TRANS AM CUSTOMER

: 7002037(CI-C9-483) INVOICE NO : BW099812119 : 100529 CERT. NO ORDER NO

: 02/24/2010 -- ORIGIN : TAIWAN L/C NO DATE PAGE



	_	-					-	-	-		100	-	_	-	-	10	_				-		-		T-	_
LION	DIM.			000																					1	
INSPECTION	SURFACE			9000					いい説																	
SPECIFICATION FOR INSPEC	S		5005						MATERIAL SUPPLIER							.,	WACE.								6	という
FOR	FITTING		ASME B16.1:-2005						MATE							OTUGNA	RIC FUI								1	ンド
CATION	-		FISK					1								MARKS 75-200	ELEC									
SPECIFICATION FOR	RIAL		50- NEC	90V- NSC				8								ADDITIONAL TEST/REMARKS	STEEL NAKING PRIXESS - ELECTRIC FURNACE								1	C.C. Johnsh
	MATERIAL		ASTA A1050 -05	ASML SAIDSN -A06					_	-		_	_	_		TONAL T	AK ING F									6.70
OTTANTION OF THE PARTY OF THE P	7 7 7 7	_] 	Zr.				_			_	ADDIT	STEEL M									Ü
VALIC	NO.			_				I.								100		3				- 1			7(
								A1								HEAT TREATMENT		NORMAL IZED				860°C A.C.			TERMS (
								Z					t	4		HEAT		2				86			H HE	
							(%)	Cb(Nb)		•	0.001	0.001	0.001	0.001	0.001			(studie)	AVG.						ES WI	
							NOILIS	>	-	0.080	0.004	0.002	0.002	0.002	0.002		Dact 0°C		5						ID CONP.	
NOTTO	5						COMPO	- We		0.120	0:0:0	0.010	0.010	0.010	-		Charpy Impact	_	2	-					STED A	
DESCRIPTION	VIA COLUMNIA						CHEMICAL COMPOSITION	N.	-	0.400	0.050	0.060	0.050	090.0	0.050	N	유.		_		_	_		-	THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF	
								C	-	0.300	6.120	0.070	0.160	0.090	0.110	PROPERTIES		MIN. /AVG.							VE HAS	
				MPT				D.	\vdash	0.400	0.130			0.170		45.000	Hardness (HB)(AVG)		187	145	144	144	147	143	BED ABO	
		NPT.	NPT.		NY	NIT		S	_	0.043	0.014	0.017	0.013	0.017	0.015	MECHANICAL	Of A H (%)	30.0	ı	62.9	63.7	8.79	5.99	65.5	DESCRI	
		HEN PLUG 2"	HEX PLUG 2"	HEX PLUG 2-1/2"	HEX PLUG 3"	HEX PLUG 4"		Ь	_	0.035	0.025	0.021	0.028	0.015	0.019		24		1	_	_	_		33.2 6.	TERIAL	
		田	HEX	至	HEX	HEX		Mn	_	1.050	0.850	0.820	0.880	0.849	0.850		5. 臣	0 22.0		0 31.6	32.6	33.2	33.0		THE MA	
RAW MATERIAL	ILEAT NO.							Si	001.00	_	0.130	0.190	0.230	0.180	0.300		Y. S. (KSI)	0.95 (10	51.0	3.12	\$2.5	1 49.2	6.03	Y. TIMT	5
	_	305702	306068	305559	305703	304942		0		0.350	0.190	0.200	0.200	0.190	0.200		T. S. (KS1)	70.0	•	77.8	77.8	77.3	78.4	75.7	CERTIF	CONTRACT
BM	H.C.	2065	3086	3084	3082	3027		BW	H.O.		3065	3086	3084	3082	3027		H C			3065	3086	3084	3082	3027	WE HEREBY CERTIFY.	HE OKUEK
THEN	-	077	077	078	070	080	TTEN	T E	Min	Max	077	077	078	620	CSO		WI T	Min	Max	7.20	0.77	078	079	080	H.	분

REV. 1 BW-D0839

INSPECTOR YUAN YAO CHANG

Q.C. MANAGER CHIN CHENG HSIEH

P.O.# 16971 ltem# 9 Heat Number: 3065 Trans Am Piping Products Ltd. Shipment/Seq #: S 10 . 1084 εέ Revid By:

TEST & INSPECTION CERTIFICATE

ACCORDING TO EN 10204 :2004 3.1

: TRANS AM : 112123 CUSTOMER CERT. NO

L/C NO : DATE PAGE : 7003841 (CI-11-155) : BW01110002012 INVOICE NO ORDER NO

6 ORIGIN : TAIWAN : 06/13/2011

右線線八段され版の仮 性格験行政等性株が行う路 303 数 BOTH-WELL STEEL FITTINGS CO., LTD. **(2)**

An ISO 9001;2008 Registered Manufacturer

EAX: 886-7-371-3864, 371-3882

0000 SURFACE DIN INSPECTION MATERIAL SUPPLIER 9 STEEL MAKING PROCESS : ELECTRIC FURNACE ADDITIONAL TEST/REMARKS
CONFORMS TO NACE MR0175-09 /MR0103-10 ASME 316.11 - 2009 FITTING SPECIFICATION FOR 0.384 0.361 0.430 0.373 0.382 B ASTM A105N -09 ASME SAJOSN MATERIAL ci Zr QUANTITY H TREATMENT R 860°C A.C. NORMAL IZED Al CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS HEAT (dN)(2) 0.001 0.001 0.001 0.001 0.001 Joule AVG. 8 0.002 0.002 0.080 0.002 0.002 0.002 COMPOSITION 000 Impact 0.010 0.020 0.010 0.120 0.020 Mo Charpy DESCRIPTION fr. CHEMICAL 0.400 0.080 0.060 0.070 MIN. /AVG. FULL CPLG(NO STEP) 1-1/2" 3000# NPT 0.100 0.080 MECHANICAL PROPERTIES 0.300 0.150 0.080 0.130 S 0.400 0.014 0.130 0.250 0.150 0.150 0.130 142 143 142 142 143 Hardness (FIB) (AVG) 3 HALF CPLG 1/2" 3000# NPT HALF CPLG 3/8" 3000# NPT HALF CPLG 1/4" 3000# NPT 187 FULL CPLG 2" 3000# NPT 143 144 144 0.014 0.013 0.040 0.014 0.013 2 30.0 74.6 66.4 65.8 65.8 64.5 R of (%) 0.017 0.018 0.011 0.011 0.035 0.019 22.0 34.6 36.0 33.8 33.8 35.6 0.810 0.830 0.600 0.820 0.830 0.840 马。 묏 36.0 50.5 51.6 51.6 48.4 RAW MATERIAL Y. S. 51.4 (KSI) 0.180 0.210 0.200 0.200 0.100 0.190 HEAT NO CONTRACT 70.0 75.4 75.0 75.0 316685 0.350 0.190 0.200 0.190 0.190 T. S. 74.9 302144 0.200 320981 302144 (KSI) 318525 C H.0 3365 3520 H.0 H.CD. 2907 3365 3520 2907 3520 2907 3430 ORDER 3430 2907 2907 KEREBY BW 温温 ITEM 029 E 031 TEM Min 029 030 031 Min 020 032 033 032 031 Max

REV:1 BW-D0839

YUAN YAO CHANG

INSPECTOR

Q.C.MANAGER CHEN CHI HUANG

INSPECTION CERTIFICATE EN 10204:2004/3.1

Dated Dated Cartificate Nr 18653 Involce Nr Def. Note Nr 706 5 TRANS AM PIPING PRODUCTS LTD.

16030 CASARZA LIGURE - Genova - Italy - Via Glancario Farina 26 - Tal, 0188, 487861 - Fax 0185, 488810 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be algned for velidity according to DIN EN 10204 Page 13 - 18 SATISFACTORY 24.04 2008 24 04.2008 VISUAL & DIMENS SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY OTHER ELEMENTS DIM. ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE 0,374 SEE NOTE 0,408 0,399 0,395 C.E.% 0,367 0,032 0,025 0,015 0,013 %N 0,002 0,001 0,001 0,003 0.002 FITTING UNION F/F THRD NPT 3M 1" A105N EL.GALY. (MALE+FEMALE) 0,001 . 9335 Endeavor Drive S.E Calgary, Albarta T3S 0A1 0,190 0,150 Cu% FITTING UNION F/F THRD NPT 3M 1" A105N EL.GALV. (NUT) 0,005 0,005 0.004 0,007 CONC.SWAGE TBE NPT S-80 1"x3/4" MSS SP 95 WPB FITTING ROUND H.PLUG THRD NPT 3/4" A350/LF2 FITTING HALF COUPL THRD NPT 3M 1/2" A105N 0,020 0,030 0,010 0,010 0,010 Wo% FITTING 90 ELB. THRD NPT 2M 3/4" A105N FITTING CROSS THRD NPT 3M 3/4" A105N 0,060 0,050 0,160 0,050 0,060 0,080 DESCRIPTION COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA FITTING CAP SW 3M 2" A105N 0,180 0,140 060'0 Cr% 0,018 0.013 0,016 0,013 0,010 0,008 %d 0,018 0,022 0,023 0,002 0,021 0.017 %8 0,850 0,890 0,900 <u>ن</u> 0,200 0,290 0,250 0,280 0,250 GI-08 - 114 2008-2E201-0000032-137 CI-08 - 114 2008-2E201-0000032-138 CI-08 - 118 2008-2E201-0000041-008 CI-08 - 114 2008-2E201-0000032-110 CI-08 - 114 2008-2E201-0000032-122 CI-08 - 114 2008-2E201-0000032-122 CI-08 - 114 2008-2E201-0000032-130 CI-08 - 236 2008-2E201-0000354-035 0,200 0,185 0,190 OUR REFERENCE **DUSTRIA MECCANICA LIGURE SPA** ပိ ASTM A350 LF2 cl.1 MATERIAL YOUR P.O. ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ITEM 122 122 122 130 003 003 003 003 HEAT HEAT 17164 79144 77812 22469 71549 77612 71759 71759 70294 17164 22469 79144 HEAT CODE HEAT CODE CX5 UX4 UX5 UX4 A64 A64

NOTES ASME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 HEAT CODE UX4 무무 A64 SS S A64 2 S∉ KEA₁D 8 TRANS AM PIPI Shipment/Seg :# SLTT -DIBING BK: PRODUCTS **PPT6**L NOWBEK HEAT

Our Ref.

000000000

94 48 66 98

000000000

160 - 166 160 - 165 160 - 166 162 - 166 162 - 169 169 - 171

31,0

50,00 50,00 50,00

122,65

563,0 563,0 0,000

57,5

31,0 32,0 33,0

351,0

50,00 50,00

003 130

> 71759 79144

77612

HEAT

70294

MATERIAL IN ACCORDANCE TO

ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05

122 132 138

71549

79144 77612 22469

54,0 54,0

242222

5 5 52

104

107

062125

071499 051400 081080

ELECTRIC FURNACE

071499

ELECTRIC FURNACE

QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL

MANUFACTURER'S SYMBOL

0

STUDBOLTS

M

FITTINGS

BORIS FIZZOTTI

071528

ELECTRIC FURNACE

FURNACE

HEAT TREATMENT

Normalized at 880"-920°C / Air Cool

Normalized at 880°-920°C / Air Cool Normalized at 880"-920"C / Air Cool Normalized at 880°-920°C / Air Cool

Normalized at 900°C / Air Cool

Normalized at 880"-920°C / Air Cool Normalized at 880°-920°C / Air Cool

Normalized at 880°C / Air Cool

INSPECTION AUTORITY

NACE MR0175 ISO 15156/1 - NACE MR103 - MSS SP 83 - SUPPLIED

MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS

ASME SA ASTM A234/A234M-07 Gr. WPB

ASME SA ASTM A105-05

ASME SA ASTM A350-04a Gr. LF2 cl.1

ASME SA ASTM A105-05 ASME SA ASTM A105-05

WELD POINT

8

ACT TEST - JOULE/er

0,389

0,200

0,010 0,006

0,050

0,070 0,140

0,010 0,016

0,019

0,018

0,250

0,200

YIELD POINT

50,00

122,65

122,65 122,65 122,65 122,65 122,65

122

17164 79144 22469

BECT. mm2 LENGHT TEAT SPECIMEN

HEAT

HEAT CODE

0,250

0,200

ASTM A234 WPB

ASTIM A105

BEND TEST

REDUCTION OF AREA

ELONGATION

N20IA CONFLING 3000 FS SCRD HALF GF (1/5)1/511 HEAT NUMBER

57618

NUCLEAR PRODUCTS

Manufacturer of Piping and Pressure Vessel Components 4407 Haygood St - Houston, TX 77022

Phone: 713-695-3633 Fax: 713-695-3528

A Bonney Forge Company

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

We certify that the contents of this report are correct and

accurate, and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard, and that the material conforms to the dimensional requirements of the order. This document is in

TRANS AM PIPING PRODUCTS - REV'D BY

Shipment/Seq #:

S 9 - 1356 INTERNATIONAL





/2X3/4-36 CL 3000 FS SCRD ELBOW PIPET A105N

Page 17 of 25

Sold To: TRANS AM PIPING PRODUCTS

LTD

9335 ENDEAVOR DRIVE S.E.

CALGARY AB T3S 0A1

Mtr #: 171,973

PO#: C1-09-286

Sales Order #: C000906476

Date: 06/09/2009

Certified Material Test Report

Heat Code:

57618

Material:

accordance with EN10204 3.1.

welding performed.

A/SA105N 01

Quantity

Description

36 - 3/4 X 1/2 3M TEP

A/SA105N

Nb

0.011

MO

0.018

Chemical Composition

Ladle

Item

1

C CR 0.180

CU 0.10 0.190

S SI 0.030 0.23 0.002

Carbon Equivalency:

Ladle

0.36

MN

Yield PSI

0.80

Elong %

32.45

RA% 63.25

NI

0.07

Hardness 132 BIIN

0.008

132 BIIN

Product 72,750 49,625 1. IN ACCORDANCE WITH NACE SPEC MR0175-2002

Tensile PSI

Normalized

TEST & INSPECTION CERTIFICATE

ACCORDING TO EN 10204 :2004 3.1

: TRANS AM CUSTOMER

: 110536 CLEKT. NO ORDER NO

: 03/12/2011 L/C NO : DATE : 0: ORDER NO : 7003364 (CI-10-501)



An ISO 9001:2008 Registered Manufacturer

FAX: 886-7-371-8864, 371-3882

700	TION	DIM.			0000																				M		
rell.com.tw	INSPECTION	SURFACE			0000					という。							F-3								0	,)	TINSPECTOR VITAN YAO CHANG
m.tw or bax@bothw	N FOR	FITTING		ASME B16.11 - 2009					and the statement of th	MAIEKIAL SUPPLIER						S R0103-2003	BCTRIC FURNACE								7.7.	-	INZ
web site:http://www.bothwell.com.tw e-mail:bothwell@www.bothwell.com.tw or box@bothwell.com.tw	SPECIFICATION FOR	MATERIAL		^	ASME SAIDSN				8	0 430	0.392	0.373	0.370	0.399	0.354	ADDITIONAL TEST/REMARKS	STEEL MAKING PROCESS : ELECTRIC FURNACE								C.C. Hump	2	Q.C.MANAGER CHEN CHI HUANG
-mail:both	P	11		ć		- Autom	programa de la constanta de la		Zr							ADDITIO NFORMS	EEL MAK	0,							Ü		。 居
om.tw e	OTTANTITA	לתשחא		*					Ti								N S		*	Τ		-					
bothwell.c									A1			ballation of				HEAT TREATMENT		NORMALIZED				860°C A.C.			STAINS OF		
tp://www.							040		Z			1		1		HEAT 7		NOR				860			1 THE 1		
eb site:ht								(%)	Cb(Nb)		0.001	0.001	0.001	0.001	0.001			Toule)	AVG		_	10.1		-	ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF		
W									Λ	0.080	0.002	0.002	0.002	0.002	0.002	*	n "C	1.	3	-			-		COMPL)		
	NOT	5						CHEMICAL COMPOSITION	Mo	0.120	0.020	0.020	0.020	0.020	0.010		py Imp		-	L	-				TED AND		
MAN	NOTITET STORY	The second second						TEMICAL	Ni	0.400	0.080	0.070	0.060	0.110	0.050		Char		2						EEN TES		
ORIGIN : TAIWAN		1						Ü	Ç	0.300	_	0,100	0.000	0.130	0.000	MECHANICAL PROPERTIES		MTN. /AVG	-						E HAS B		
ORIGIN									5	0.400	0.210	0.240	0.180	0.190	0.010	CAL PRO	Hardness	-	187	2 141	3 144	140	1 141	5 143	ED ABOVI		
: 21				E E	" NPT	TN.	/4" NPT		S	0.040	0.014	0.016	0.012	0.013	0.014	(ECHANI)		+-	,	.6 142	.6 143	.6 141	.6 141	.7 146	BSCRIB		
PAGE			HEX PLUG 1/4"	HEX PLUG 3/8"	HEX PLUG 1/2"	HEX PLUG 3/4"	HEX PLUG 1-1/4"		Д	0.035	0.020	0.016	0.015	0.019	0.018	N.	R of A	-		0 63.6	4 61.6	0 61.6	4 62.6	0 61.7	ERIAL 1		
	. 1	_	Ħ	田	題	田	展		Mn	0.600	0.840	0.830	0.850	0.830	0.840		日.	-	_	35.0	28.4	36.0	36.4	31.0	THE MAI		
950	RAW MATERIAL	HEAT NO.							Si	0.100	0.180	0.200	0.180	0.190	0.210	2.4	Y. S.	36.0	•	54.7	8.09	46.0	49.5	54.2	, THAT I.		e l
BW10991	RAW I	田田	317783	315346	315764	316850	310181		U	0.350	0.200	0.190	0.190	0.210	0.190		T. S.	70.0	١	75.9	79.9	73.4	73.1	78.1	CERTIFY		3
INVOICE NO : BW109911056		HI.C	3412	3308	3334	3373	3237		BH	日.0	3412	3308	3334	3373	3237	of				3412	3308	3334	3373	3237	WE HEREBY CEKTIFY, THAT THE MATERIAL DESCRIBED THE ORDER CONTRACT.		
INVOI	THE		1/10	078	640	080	081	THERE	1112	Min	7.20	078	6/10.	080	.081	Ì	7 1 1 2 1 1	Min	Max	077	078	620	080	180	門里		

(BW-D0839 REV:1

roducts Ltd

MILL TEST & INSPECTION CERTIFICATE

TO EN 10204 :2004 3.1 ACCORDING

: SEYBOLD INTERNATIONAL CORP : 121507 CERT. NO CUSTOMER

: 05/16/2012 L/C NO : DATE : 0 INVOICE NO : BW01110011151A : 7005116 ORDER NO



高雄市(二酰基) 本型(二化路 303 %) BOTT - WELL STEE FITTINGS GO, LTC, NO.303, JEN-HSIN ROAD JEN-WU DISTRICT KAOHSIUNG CITY, TAWAN R.O.C. (81450) TEL: 886-7:371-0497, 371-1536, 372-0260

An ISO 9001:2008 Registered Manufacturer 312

N-TWHIGGO 1628 FAX: 886-7-371-8864, 371-3882

TION	DIM			GOOD																							1	
INSPECTION	SURFACE			GOOD					SUPPLIER																	(3	INSPECTOR
OHANTYTE SPECIFICATION FOR	FITTING		ASME B16.11 2010						MATERIAL SUPPLIER						1	ADDITIONAL TEST / REMARKS	STEEL MAKING PROCESS : ELECTRIC FURNACE	-3 2009									٢	INS
SPECIFICATION FOR	IAL	SN -05		5N - A08		_		8		0.430	0.361	0.384	0.367	0.368	0.361	ADDITIONAL TEST / REMARKS	ROCESS : EL	CONFORMS TO NACE 1S015156-3 2009								4	1	MOER
S	MATERIAL	ASTM AIDSN -05		ASME SAIDSN - ADB				L	-		_					FIONAL TE	MAKING P	MS TO NA								9	という	Q.C.MANAGER
VITT TWATT	1111	400 PC	10000 PC	7823 PC	2177 PC	OH 6609		Zr	L					_		ADDI	STEEL	CONFOR									IJ.	
NALIO	7	7	100	78	21	99		ij	L							MENT		В	}				.;			크O		
								Al								HEAT TREATMENT		NORMALIZED					860°C A.C.			TERMS		
								N	ŀ	-	•	1	-	-		HEAT		NO	!			_	98			TH THE		
							(%)	Cb(Nb)		•	0.001	0.001	0.001	0.001	0.001				Joule)	AVG.	86.667					LIES WI		
										0.080	0.002	0.002	0.001	0.002	0.002		pact	2	J	3	70		-	÷.		ID COMP		
TTON	100		,				CHEMICAL COMPOSITION	Mo	,	0.120	0.020	0.020	0.010	0.010	0.010		Charpy Impact		_	2				-	_	STED AN		
NESCRIPTION	1						HEMICAL	N.	٠	0.400	090.0	0.070	0.050	0.050	0.040	10	9.	1	ß.	_	93	-	,	_		BEEN TE		
							0	Ç	,	0.300	0.070	0.120	0.110	0.090	0.040	PERTIE			MIN./AVG.	1	16				Į	TE HAS I		
						1		ű	,	0.400	0.160	0.160	0.160	0.190	0.120	MECHANICAL PROPERTIES	Hardness	714407	ı	187	141	7 145	141	146	4 145	ED ABOV		
		" NPT	. NPT	" NPT	" NPT	NPT N		S		0.040	0.012	0.009	0.006	0.010	0.011	ECHANI	_	t	0		.5 141	.0 147	.5 141	.0 145	.3 144	DESCRIB		
		HEX PLUG 3/8	HEX PLUG 1/2"	HEX PLUG 3/4"	HEX PLUG 3/4"	HEX PLUG 1"		Д		0.035	0.017	0.014	0.013	0.021	0.013		R of A	+	30.0		5 65.5	0.59	2 64.5	0.99	67.3	ERIAL I		
	_	HEX I	HEX	HEX I	HEX I	HEX I		Mn		- 1	0.830	0.840	0.830	0.850	0.840		E.	╀	22	'	35.6	26.0	35.2	35.0	34.0	THE MAT		
RAW MATERIAL	HEAT NO.							Si	0.100	0.350	0.190	0.200	0.200	0.200	0.200		Y. S.	(work)	36.0	'	54.7	55.0	53.4	49.0	47.0	THAT		
RAW M	HEA	322967	327003	324350	325858	325854		Ü		0.350	0.190	0.200	0.190	0.190	0.200		T. S.	C CONT	70.0	٠	75.9	80.0	75.1	76.0	75.2	ERTIFY,	CONTRACT	
BIN	H.C.		3779	3658	3739	(3715))	BW	H.G.		3604	3779	3658	3739	3715		BW				3604	3779	3658	3739	3715	WE HEREBY CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF	ORDER O	
ITEN		075	920	770	770	078	T. specials	110		Max	075	920	077	270	078	The same of		N.	Man	MAA	075	920	077	077	078	WE H	盟	

■ BW-D0839 REV:1

S ANOCK 12"515TO FITE NT# 1333415

HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST CERTIFICATE

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

STEEL MILL

M 14,400 PAGE: 2013/6/21 12' x 0.375' x 40FT TOTAL WEIGHT: C201322196-1 H F DATE: 640.418 DELIVERY CONDITION CERTIFICATE NO. DIMENSIONS TOTAL LENGTH: (ACCORDING TO EN10204 3.1) HEAT TREATMENT 704137 16 Marubeni-Itochu Steel Canada Inc TOTAL PIECES: SEAMLESS PIPE SEE SPECIFICATION NOTE P.O.NO. 2211001144-08 co CONTRACT-ITEM NO. TOTAL BUNDLES: SPECIFICATION CUSTOMER PRODUCT GRADE

					LENGTH	WEIGHT			TENSILE TE	TENSILE TEST ASTM A370			
NO.	LOT No.	HEAT No.	BUNDLES	PIECES	12	IM	SAMPLE	TYPE ORIEN	TATION / SE	ZE(mm/GAUGE	SAMPLE TYPE/ORIENTATION / SIZE(mm/GAUGE LENGTH(mm):SL\3850	05/30	
					1.7	WI	TS(Psi)	YS(Psi)	'si) Rt0.5	5 EL(%)	RA. (%)	YS/TS	
-	C61009070	(1333415)	8	16	640.418	14.400	68150		49010	46.0		0.72	
				TAND A COURT	TEST						Tour Source An	TSEL	
9		LON	NOTCH TYPE/ORIENTATION/TEMPERATIRE('C)/SIZE (mm)	VIATION/TE	APERATURE (*C)	/STZE (mm)			NON METALIC		NACE MR0175/ISO 15156/	TSO 15156/	
Ś		///					///		INCLUSION	N SIZE	MCR0103	33	
	AK1 (,T)	Av. (T) % SHEAR AREA	RAREA	E	AK2 (T)	Av. (T)	% SHEAR AREA	LE		+	田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田		
	1												
	_				,						111111111111111111111111111111111111111	IIIII	
NOTES:	:S:												
WI-	WI-THEORETICAL WEIGHT	WEIGHT		SAMPI	LE ORIENTA'	TION: L-L	SAMPLE ORIENTATION: L-LONGITUDINAL T-TRANSVERSE	TRANSVERSE		N-NORMALIZING	HE-HOT EXPANDED	XPANDED	
W2-	W2-ACTUAL WEIGHT	EHT		SAMPI	SAMPLE TYPE: S-STRIP C-CLUBBED	STRIP C-(F-FULL-SECTION	AAN	A-ANNEALING	HR-HOT ROLLED	OLLED	
NA-	NR-NORMALIZING ROLLED	ROLLED		Q&T-	Q&T-QUENCHING AND TEMPERING	AND TEMP	ERING		AvA	AVAVERAGE	N&T-NORMAL	N&T-NORMALIZING AND TEMPERING	
AKI-	-ABSORB ENE	AKI-ABSORB ENERGY FOR THE FIRST SET	ST SET	AK2	ABSORB ENE	RGY FOR T	AK2ABSORB ENERGY FOR THE SECOND SET		LE-SID	LE-SIDE EXPANSION			

MILL TEST CERTIFICATE STEEL HENGYANG VALIN TUBE CO., LTD

Add: 10 Dalixincun, Hengyang City, Hunan, P. R. China P. C. :421001 Tel and Fax: +86 734 8873739

6.7 83 23 H 23 R3=Mn /C 12 VISUAL & DIMENSION ACCEPTABLE COATING 14.400 PAGE: SUM1 SUM2 SUM3 ACCEPTABLE ACCEPTABLE 245 E-mail: hsicc@hystecltube.com 12"x 0.375"x 40FT TOTAL WEIGHT: C201322196-1 HR R2=AI M B 33 33 2013/6/21 S a SUM3=Nb+V+Ti 47 FT END SURFACE(GROOVE) 30 28 RI=Ca /S S DATE: CHEMICAL COMPOSITION (%) Sb Nb Ti Zr N Bi A/A DELIVERY CONDITION CEPCM=C+Si/30+(Mn+Cr+Cu)/20+Ni/60+No/15+V/10+5*E N/A ACCEPTABLE CERTIFICATE NO. DIMENSIONS R-RATIO LA/L3/L2—ACCEPT LEVEL LA/L3/L2,NOTCH DEPTH IS 12.5%/10%/5% THE SPECIFIED WALL THICKNESS. A/A (ACCORDING TO EN10204 3.1) TOTAL LENGTH: 640.418 ACCEPTABLE PIPE END MPI CE-EQUIVALENT CARBON Pb HEAT TREATMENT 704137 As Mn Cr Mo W Cu Ni P Al Sn SUM2=Nb+V Marubeni-Itochu Steel Canada Inc 16 901 TOTAL PIECES: SEE SPECIFICATION NOTE P-PRODUCT ANALYSIS P.O.NO. ACCEPTABLE 8 8 88 PIPE BODY EMI 94 94 CEIIW=C+Nn/6+(Cr+Mo+V)/5+(Cu+Ni)/15 33 33 Si. 2211001144-08 4 4 4 Min(psi/s) U SUM1=Cr+Cu+Mo+Ni+V Type LAMINAR
TEST RESULT
RESIDUAL MAGNETISM
UT THICKNESS MEASUREMENT
HYDROSTATIC TEST
M H-HEAT ANALYSIS 1333415 C61009070 C61009070 CONTRACT-ITEM NO. HEAT No. LOT No. TOTAL BUNDLES: NDT Type(Level) SPECIFICATION POSITION CUSTOMER PRODUCT GRADE 20

HENGYANG VALIN STEEL TUBE CO., LID

TEST CERTIFICATE

Add: 10 Dalixincun, Hongyong City, Human, P. R. China P. C.:421001 Tel and Fax: +86 734 8872739 E-mail: hsiec@hysteeltube.com

			(1 % ACCOUNT OF TO ENIOSOM 9 1)	(1 2 702011		15.6	ier and rax: 100 tot condition	00101	
CUSTOMER	Mar	Marubeni-Itochu Steel Canada Inc		CERTIFICATE NO.	40.	2 1112	C201322196-1	e, com	-
CONTRACT-ITEM NO.	2211001144- 08	P. O. NO.	704137	1	DATE:		2013/6/21	PAGE:	3/3
PRODUCT		SEAMLESS PIPE		DELIVERY CONDITION	NOI		HR		
SPECIFICATION	SEE SPECIFICATION	TION NOTE	HEAT TREATMENT				7444		
GRADE		m	, , , , , , , , , , , , , , , , , , , ,	DIMENSIONS			12" x 0.375" x 40FT		
TOTAL BUNDLES: 8		TOTAL PIECES:	16	TOTAL LENGTH: 640.418	640.418	Ŀ	TOTAL WEIGHT:	14,400	MT
The state of the s			- Department of the last of th						
		REMARK:	REMARK: 1.ORIGIN:MADE IN CHINA;2.ALL ELEMENTS TO BE LISTED;	ILL ELEMENTS TO 1	SE LISTED;				

API SE 44TH EDITION B ASTM A106 B-2010/ASME SA106B-2010/NACE MR0175-2003/	Sifics Quality Manager:	SPECIFICATION NOTE NOTE NOTE NOTE NOTE NOTE NOTE NO
herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies Chality Manager: c original one taking upon himself the responsibility for any unlawful or not allowed use. ion will be subject to the law. authorizity of this certificate, please do not hesitate to contact Hengyang Valin Steel Tube steeltube. com		OSIOMER THIRD PARTY
factured in accordance with the standards and specifications required in your order and satisfies Quality Manager: If the responsibility for any unlawful or not allowed use.		If you need to assure the authenticity of this certificate ,please do not hesitate to contact Hengyang Valin Steel Tube CO. LTD. E-mail: hsicoGhystecltube.com CUSTOMER THIRD PARTY
factured in accordance with the standards and specifications required in your order and satisfies Quality Manager: id with electronic signature. In case the owner of the certificate would release a copy of it, he all the responsibility for any unlawful or not allowed use.		
R0103(hardness only) script described has been manufactured in accordance with the standards and specifications required in your order and satisfies Quality Manager:		his certificate is issued by a computerized system and it is valid with electronic signature. In case the owner of the certificate would release a copy of it, hust attest its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use.
ISOIS186/NR0103(hardness only) NOTE We hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies	Quality Manager:	Le corresponding requirements.
	fices	Ve hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and sartis
		NOTE
API 5L44TH EDITION B ASTM A106 B-2010/ASME SA 106B-2010/NACE MR0175.2003/		

SHIPS 2"SIXH PIPE

Po# 2 4205

HENGYANG VALIN STEEL TUBE CO., LID

MILL TEST CERTIFICATE

Add: (O'Dalixinoun, Hongyang City, Aunan, P. R. Chino P. C. :421001 Tel nod Fax: +86 734 8873739. E-muil: hsiee@kysteoltubo.com

				(>)(DICTING TO E	(ACCORDING TO EN10204 3.1B)		E-mail: hsi	E-mail: hsicc@hystealtube.com	ibo, com		
CUSTOMER	Σ	antbeni-Ito	Mantbeni-Hochtt Steel Canada Inc	nada Inc		CERTIFICATE NO.			S	C201216284-1		
CONTRACT-ITEM NO.	2111000120-01	P.O.NO.	(0.				_	DATE:		2012-5-15	PAGE:	1/3
PRODUCT		SEAN	SEAMLESS PIPE			DELIVERY CONDITION	NO			HR		
SPECIFICATION	SEESPEC	SIEE SPECIFICATION NOTE	NOTE		HEAT TREATMENT	JEN'T						
GRADE			B			DIMENSIONS			2"40.2	2"40,218"*20FT		
TOTAL BUNDLES:	14	DT.	TOTAL PIECES:	ES: 306		TOTAL LENGTH:	10126.700	H	TOT	TOTAL WEIGHT:	23.035	MT
				LENGTH	WEIGHT		,	TENSILE TEST ASTM A370	ASTM A370			corp
NO. LOT No.	HEAT No.	BONDLES	PIECES	į.	TM	SAMPLET	YPE/ ONLEN	TATION / SIZE(m	INGAUGE LE	SAMPLE TYPE/ ORIENTATION / SIZE(mm/GAUGE LENGTH(mm);S\LA19\S0	150	BENDING
					W.	TS(Psi)	YS(Psi)	1). Rt0.5	EL(%)	R.A. (%)	YS/TS	TEST
1 924301205	(12228185)	14	206	10126,700	23.085	70180		49155	35.5		0.70	ACCEPTABLE
							-					
			IMPACT TEST	TEST						TEST SENDING	TEST	
NO.	NOTCH	NOTCH TYPE/ORI	NOLLYLION	RIENTATION/TEMPERATORE/SIZE (mm):	KE/SIZE (mm	10		NON METALIC	GRAIN	NACE MR0175/ISO	175/180	
ANT TA	A. /TY 10/ STIEAR AREA	DEA	2.1	7, 02,			i.	INCLUSION	SIZE	15156/MR0103	0103	
	1 1		72	יומיק ביו	AY. C.)	70 STIENDLAKEN	3			SPI		
			-									
			-		1					IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	IIII	
		+			1							
		+									-	
					+							
NOTES:												
WI-THEORETICAL WEIGHT	VEIGHT		SAMPL	E ORIENTAT	TON : L-LON	SAMPLE ORIENTATION: L-LONGITUDINAL T-TRANSVERSE	NSVERSE	N-NORMALIZING	LIZING	HE-HOT EXPANDED	PANDED	
W2-ACTUAL WEIGHT	ır		SAMPI	SAMPLE TYPE: S-STRIP C-CLUBBED	TRIP C-CI	UBBED F-FULL-SECTION	SCHON	A-ANNEALING	JNG	HR-HOT ROLLED	DLLED	
NR-NORMALIZING ROLLED	ROLLED		CAT-C	Q&T-QUENCHING AND TEMPERING	AND TEMPER	ING		AvAVERAGE	\GE	NAT-NORMALIZING AND TEMPERING	ZING AND TI	SMPERING
AKI-ABSORB ENER	AKI-ABSORB ENERGY FOR THE FIRST SET	ET	AK2A	BSORB ENE	ROY FOR TH	AK2 ABSORI3 ENERGY FOR THE SECOND SET		LE-SIDE E	LE-SIDE EXPANSION	<i>[.</i>		

同 Objective.



HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST CERTIFICATE

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

Titor See See Carlo 2012-6-15 PACE	CUSTINER		-	Manub	ni-Ito	Manibeni-Itochu Steel Canada Inc	El Cani	ada Inc					CERT	CERTIFICATE NO.	大田上	o						C201216284-1	C201216284-1					
SEE SPECIFICATION NOTE	CONTRACT-ITEM NO.	2111000	120-01		P.C	NO.										1	DA	E:			2012-5	-15	-		PAGE			
Note Part	PRODUCT				SEAN	ALESS	PIPE						DEL	IVERY	CON	DITTO	-					1	H.					
1	SPECIFICATION	S	EE SPECIT	TCAT	NOI	OTE			HEA	TIL	EATM	TAG																
No. TOTAL PIECES S66 TOTAL LENGTH; 10126700 FT TOTAL PIECES S66 TOTAL LENGTH; 10126700 FT TOTAL PIECES S66 TOTAL LENGTH; 10126700 FT TOTAL PIECES S66 TOTAL LENGTH; S66 TOTAL LENG	GRADE					B							ŭ	MENS	IONS					Ü s		***0.218**	201-1					
FEAT No. Type C SI Mai C Mai W Cu Ni P Al Si As Fe Si Ni Ti Ze N Si Si Ni Ti Ze Ni Si Si Ni Ti Ze Ni Si Ni Ti	TOTAL BUNDLES:	14		-	COTAL		CES:	506	-	OTAL	LENC	1 Т	10126.	700					E		Ţ	TAL WE	IGHT:		23.08		TI	
TOT No. Type C Si Mh Cr Mo W Cu Ni P Mi Sn Ms Ti Zn N Ei S V B Co Ein Ei													CHE	MICAL	COM	POST	NOI.	(%)						-				
P		Type	Si		ť	WO W	Cu	Z	-				Sb	2	\vdash		Н	-	^	H	ਪੁ		-	1 SUNT	S SURE	1	82	33
P R R S S S S S S S S		1		-	4100	-	-						+100		-		-		4.	.0000		** 100		001.	0			
H		1	-	+		+	+			+	-		1	+	+	+	+	+	+	1	1		+	1	1			
P 15 24 101 7 1 5 2 12 12 1 2 20 43 2 34 154 53 73 73 73 73 73 73 73	1222818S	K	1	103	EX)	2	F			-	-	1	1	171	(3)	+	+	1		0	1	36	19		7 . 10		T	6
P 15 23 101 7 1 5 2 12 12 13 134 53 134 53 134 135		C4		101	7				L		-			-	121	-	-	-			2	34	-15	10				9
H		4		101	1	-				H	-			-	14	-	-	-	1	1	2	-34	15)	1			9
P		H														H	H	H			Ц							
P P P P P P P P P P		ρι				-		_	_						-		ž											
F		c		+	1	+	-	1				-				-	H	_	Н	-	Ц							
P		H		-	1	+	-			-	-				1		-	-		-	-				-			
F		2	-	1	1	+	-			+	-			1	1	1	+	-	+		4		+	-	-			
BEVELLING		d		1	+	+	-	-	1	-	-			-	-	-	-	-	+	-	_		-	1	-			
P		E			+	1	-			1	-		1	1	1	-	+	+	-	-	1		1	-	4			
P		d		1		1	-			+	-			1	+	-	-	-	-	-	-		-	-	-			
H		Q.			1	-	-	1		1	-			1	1	-	+	-	-	-	_		-		-			
P		E		1	1	-	-										-	-		_	_							
PHPE BODY		Č.				-	-										-	-		_					_			
DEPTE BODY		۵۰	-		1	-	-	_		-	_						-	\dashv						-	-			
PIPE BODY PIPE BODY PIPE BODY PIPE BOD BND SURFACE(GROOVE) ACCEPTABLE						-NON	155	555	VE TU	1.5										7			BEV	S. L.	9			
ACCEPTABLE	POSITION			HEE	SOO .			-				PIPE	2			CND	CREA	CE(GI	000								1	
VISUAL & DIMENS VISUAL & V	NOT INDIFFEREN			23								Ē	_		1					1			אכני	EF1 AE	SLE			
ACCEPTABLE ACCEPTABLE N/A ACCEPTABLE REMENT (50%) N/A N/A COATING C Min(bs/s) 2500/6 ACCEPTABLE ACCEPTABLE NALYSIS P-PRODUCT ANALYSIS CE-EQUIVALENT CARBON R-RATIO RI=Ca /S ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE																				-		>	SUVE	S DIM	SNSIO	z		
ACCEPTABLE	LAMINAR																						ACC	EPTAE	3LE			
NA NIA	TEST RESULT		¥	SCEP	LABLI	(1)					AC	CEPT	YBIE.				4	Y.Y					ರ	DATING				
N/A ACCEPTABLE	RESIDUAL MAGNETIS	M											300	~	V.V		II į		H									
ACCEPTABLE ACC	UT THICKNESS MEAS!	UREMENT (50%	,										1	Z	(IX	100000000000000000000000000000000000000				Г								
EL-REAT ANALYSIS P-PRODUCT ANALYSIS CE-EQUIVALENT CARBON R-RATIO RI=Ca /S RZ=AI/N CEITW-CAMA/FAICHMOAV/SAICHANG/IS SUNT=CH-CL+MOANG-VISAICHANG/IS SUNT=CH-CL+MOANG-VISAICHANG/IS SUNT=CH-CL+MOANG-VISAICHANG/ISAICHANG/ISAICHANG/ISAICHANG-VISAICHANG/ISAICHANG/ISAICHANG-VISAICHANG/ISAICHANG-VISAICHANG	HYDROSTATIC TE	ST Min	(b/isd)			250	9/0		П					ACCE	TABL	E S				H			ACC	EPT'A	3LE			
CEPCM-C-4Cu/2D+N/5G+(C+Ma-V/)5-(Cu-M)/15 SUM2=Nb+V-Ti SUM2=Nb+V-Ti LACACAPT LEVEL LACACA NOTCH DEPTH 12 12 5%, 110%, 45%, THE SECRETED MALL THICKNESS		ANALYSIS	P-PF	CODU	CT A	NALY	SIS	CE.	BOUN	ALE	T CA	HON		R-RA	TTO		2	S	છ			RZ=AIA			5	-Min /C		
NUMBERUS SUMBERUS VALUE OFFICE SUMBERUS VALUE OFFI OFFI OFFI OFFI OFFI OFFI OFFI OFF		Mn/6+(Cr+M0+V)/5	74(CU+NI)/15					630	CMACE	1+0E/15	Nn+Q+I	201/20	+09/!N-	Mo/15	+01/\n+	5.5			(*)									
1. LACAGE NOTCH DEPTHYS 12 5% /10% /5% THE SPECIFIED WALL THICKNESS	SUMI-C	P-Cu+Mo+N+V						SUN	QUECO.	>								SL	IM3=N	10+7+			1	,				
	C 11 2 11 2	AUG T T TOTAL	TIANTA	TON	4																	01 OF		/				

HENGYANG VALIN STEEL TUBE CO., LTD

Add: 10 Dalixincum, Bengyang City, Hunas, P.R. China P.C.: 421001 Tol and Fox: +86 734 8673739 MILL TEST CERTIFICATE (ACCORDING TO EN19204 3.11)

API 5L 44TH EDITION B ASTN A 106 B-2010/ASME SA 106B-2010/NACE MR-0175-SPECIFICATION 2003/ISO 15156A/R0103(bardness only) NOTE

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.

Quality Manager. This certificate is issued by a computerized system and it is valid with electronic signature. On the original certificate the trade-mark JOINTIME light-green coloured at the bottom of the page is stamped. In case the overest 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.

米克郊

Any alteration and/or falsification will be subject to the law.

Tube If you need to assure the authenticity of this cartificate, please do not hecitate to contact Heasyang Valin Steel CO., LTD. F-mail: hsiecOhystoeltube, com

CUSTOMER THIRD PARTY

Certificate-maker;



YANTAI LUBAO STEEL PIPE CO., LTD.

MILL TEST CERTIFICATE

(EN10204 3.1)

NO.185 XINGFU MIDDLE ROAD, YANTAI , CHINA TEL: 0086 535-6843946/6854750 FAX: (0535)6842245 HTTP://www.LUBAGSTEEL TUBE.COM

PAGEL OF 1

PURCHASER	TRANS AM PIPING PRODUCTS LTD.,	DESCRIPTION OF GOODS	PIPE		
DIMENSION STANDARD ASME B36.10	ASME B36.10	CUSTOMER'S NO.	700100	CERTIFICATE NO.	BGTYG1101190000600
	ASTW A106-B-2006, ASME SA106-B-2007, API 5L B-2007	DATE OF DELIVERY	3000 B B B B B B B B B B B B B B B B B B	SUB_CONTRACT NO. GIC6100707	G1C6100707
MATERIAL SPECIFICATION	CSA 2245.1-2007 Gr. 241 Cat I	P. O. NO	出る。	DATE OF ISSUE	20110119
	NACE MR0175-2003/ISO 15156	STAMP OF MILL INSPECTOR	LICENSESS 所屬地部		
71	11.4 June 1. Carry W. T. C. A. C. T. C.	The state of the s	The second District Control of the second Co		

																				1		1					
0. D.		114	114. 3mm 44	- STO	D W.T.		6.0	6.02mm		Len	Length		11-11.8M	SM	Total	Total Length			T	Total Bundles	indites	100	Order	Order Quantity			
П	otal	Total Pieces						Total	al Wei	Weight	П			De	livery C	Delivery Condition		As-Rolled	led	Н	Ma	Making Method	po		Hot Finis	Hot Finished Seamless	523
							Che	Chemical Composition	Сощроз	ition								Tensi. G.L	Tensile Test G.L.=L4			Impact Test	est	Hardness			eight.
No Heat No.		* 1	Si.	Mn	۵.	S	Ct	N.	ئ ئ	>	Мо	Ti	es es	QV QV	8	Lot No.	* 4 * 4	Y. S.	T.S. E.L.	L. EXT.	30	30		Brimel (HB)	I Pieces		F
		2																Мра		26	. A.		2 3 AVG	g			
MAX	1	0.22	0.1	0.29	0.035	0 0.035	0 0 40	0.40	0.40	0.08	0.15	0.01	0 00 00	0.01				240 4	415 22	22. 0							
10708253			0.19 0.26	0.44	0.016	0.013	0.013 0.01	0.01	0.01	0	0	0	0	0	0.27	1212358 P 1 2 P 1 2 P 1 2 P 1 2 P 1 P 1 P 1 P 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	305	495 29.5 500 28.5	28.5				164			
표.		-	E.M. 1.	4	-	n.	U.T.			M. P. I.	i		Visual	& Dim	Visual & Dimensions	Coating	Bu	- 4	Drift Test	- st	Hydı	Hydrostatic Pressure	ressure		Durati	Duration of Time	
		Ц	G00D		Ц							\parallel		Good		Good						15.50MPa	28			55	
Expansion	ion	Riı	Ring Expansion	nsion		Ring 1	Ring Tensile			Flattening	ening		Bending		Flanging	SSCC		Масі	Macrostructure	ture		Heat Treatment	tment				
1							1			Good	pc		1	,	1						L						
NOTES	S	2* C	2* Chemical Composition	Compos		H; Heat	(Ladl	H; Heat (Ladle) Analysis 3*	lysis		P= Pipe Body; 1* 1=Longrudinal	ody; 4*	1=Long	grudin		5* 2=ScripT×20mm; G.L.=Gauge Length	(20mm;	G. L. =G	auge L		11=5.6	L1=5. 65SQRT (F0)					
Remark	×																										
SURVEYOR	, NO.	WE HE	WE HERE CERTIFY THAT THE MATERIAL HEREIN DESCRIBED ACCORDANCE WITH THE REQUIREMENTS OF ABOVE SPECIFIC	TIFY TH WITH TH	AT THE	MATERI	IAL HER	BOVE S	SCRIBE	CATION	BEEN M	ANUFAC	TURED,	SAMPL. ER, AND	ED, TESTI MET THE	WE HERE CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN WANIFACTURED. SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF ABOVE SPECIFICATIONS AND PURCHASE ORDER, AND MET THE REQUIREMENTS.	SPECTE ENTS.	NI O						WHEN WE WE WANTED DEFT.	HI H H WAS BEEN.	2	1
1		-																					_	Albert or some	1	-	

S 4m911 88881 4.0.9 Heat Mumber: 10708253 Heat Mumber: 10708253 Trans Am Piping Products Ltd. 9721 - It 2: # ps2/insmqid2 Bevid By: SB

STD SEAMLESS STEEL PIPE A106 GR B B.E. 'D.R.L.'

SAMORS 20" SHA PIPE NAVIEL BANDER IN THE INTERIOR

Bri-Steel Manufacturing Inc. 2125-64 Avenue, Edmonton, AB Canada T6P 124

るサタンジン

Tel: 001 (780) 469-6603

Mill Test Certificate

Product Heat Number:

www.brichemsteel.com Fax: 001 (780) 469-6986

Seamless Carbon Steel Pipe

Product Size: BSM-1086

> Product Heat Treatment: Hot Expansion Production Method:

NPS 20 STD

July 17, 2013 Production Date:

ASME B36.10-2004, ASTM/ASME A/SA106-2011 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009, MR0103-2010 Product Standards:

As-rolled

BRI-STEEL MFG <API> 51-0898 API 51 GR B PSL1 ASTW/ASME A/SA106 GR B/C A/SA53 GR B NPS 20 STD 0.375 inchWT HEAT BSM-1086 (PIPE # LENGTH MASS) 72.61b/ft NDE Product Markings:

900 PSI SMLS NACE MR0175 2013/07 MADE IN CANADA.

		70	2	1017		22 70 00 11
		Mudro Toch	300000	000 001/50	200 125/33	Dage
		t	j	ACTIVI FROM	2000	Dace
ectino	(Prince)	<u> </u>		ASTM F213 ASTM F209 OUD DELVE	0277	Pace
Jon-Destructive To	,	5		5	1	Pass
O-doN				00		Pass
		Visual		nsp.		Pass
	to the same of	Res.Mag.		causs		750
		Geiger	-	THYPE	1	0
		Mass	15, 10,	10/11	0000	78.50
			- Second	רבואלווו	-	UNL
			Dioroid	1000	00	000
Product Details			Production of the	20000	דואי מי שדב ה הדה הכ אפונ	יייים מוכסדה אווייים
			Test Type		TOUT I	
			Heat		BSM-1086	

Γ	1	_		T	-	T	
	10	4	200		t		000
	r	٠ ا	3		1		700
		ı	'n				
		114	ON				
		F	-			2000	17 117
		>	^			0000	77
		17		0.00	5	000	5
		N	200	100	-	100	70.0
		ċ	3	0.07		000	20.00
WE%)		۲		0.04		200	5
Analysis (17		0.25		200	0000
Chemical		S		0.009		200	1
		۵		0.010		0.012	-
		Z		0.92		0.50	
		υ	1	0.19		0.41	100000000000000000000000000000000000000
		Analysis		Heat		Product	-
		Steelmaking Method		Blast Furnace; EAF; Ladle Refining;	Validation Domes Pulls, Villand	Vacuum Degas; Fully Killed	
	ì	Heat		BSM-1086			

	0	Clongation (A)	10	%	22	71
	*//>	1/1	(DAO 5/0m)	(1140-2) (111)	חקא	2
	Teneile (Pm)	יבויזור ווווון	ue:	157	73.000	000/11
	Vield (RM S)		iso	1	44.400	
Mechanical Properties	Tension Test		Summ SL		Longitudinal; 38.1mm x WT	
Mechan		i i i i i i i i i i i i i i i i i i i	Flattening lest		Pass	
	Hardness	700074	MONE	7.7	/**	
		Microstructure	1 300 500 500 500 500 500 500 500 500 500	Farrita & Dearlite	2000	
		Test Type		Heat		
		Heat		BSM-1086		

	Γ		AVG	
				-
	Fynanci		mm	
	Lateral		HH	
			88	
			AVG	
A STATE OF THE PARTY OF THE PAR	ar	-	%	
	% She	-	% %	-
		-	%	•
		0110	AVG	,
	Energy		٦	,
	Impact		,	ı
	0		-	
	Temp	0	1	ı
	Impact lest	Sample Details		
1001	3 -	Standard		
	-	near	RCM_100G	200

Additional Details:

- We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with API SL-44th Ed., ASTW/ASME A/SA106-2011, A/SA53-2012, and the purchase order requirements, and that the results meet the corresponding requirements.
- This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2010 Section 2.1.
- ✓ No weld repairs have been performed on this product.
- This product has not come into contact with mercury during the Bri-Steel Manufacturing processes. This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

2013 101 24

Assistant OA Manager

00th 24106

'Salar 58396 ロゲロ T T 14 7

SA 516 70N

900

1906 13

2/13

 E_{i}^{j}

41174 INSPECTION CERTIFICATE VASTAANOTTOTODISTUS

EN 10 204-3.1 (2004)

27466 -001 A Mauf felm debasel China Standard Standa VKX VXX Mark of the Manufacturer 31.10.2012 Vermisiejsk mosku Vastaenottajan telme Stemp of Surveyor למיום המפונה וסותם לנתחם סו ניים מפתפר SP No UT MT Sulatus fevy nro Cast plote No Pulno kg Wedebt kg Vostementer Consignor
CLBERT METAL SALES LIMITED
LST 2J8 MISSISSAUGA CANADA
Alientoon markl Shibdrop mark 55 SASTEGRZOMTLTV Titusvahrlatus Order Contimetton 27466 Shipping Chally Spellications
PRESS, VESSEL STEEL ASME CODE SEC II ED 2011A SA20 SA516 GR 70 MTLTV ASME SA516-11 AASTM A516-10 EDENBORG OLBERT METAL SALES LIMITED LYT 2J8 MISSISSAUGA CANADA Tomituelyyppi Delivery type TOTAL DELIVERY Positio Mitel tilm HEAVY PLATES 1811 Tedisius Confinente

NORMALIZATE GERECA CONTRACTOR

0000 0000 0000 0000 0000 0000 TODERDINCES WIDTH +9.5 -3.0 IRNOTH +19.0 -3.0 NATES IN THE CENTIFIATINESS SME/MITHIC.TOD. ACC.TO SAZO SURFACE CONDITION EN 10 163-2:2005 CLASS 33 58396 58396 58396 58396 58396 8880 8880 8880 8880 8880 auuuuu 12192 3/6X12CX480 OMS PO 1811 12132 12192 9.53 X 3048 9.53 X 3048 9.53 X 3048 9.53 X 3048 9.53 X 3048

TOLERANCES WIDTH +11.0 -3.0 LENGTH +20.5 -3.0
NATER.SPEC. RAU-ON,,142 NEV.5,MA/C NOT 1APORTED IN THE CERT.FLATNESS SMA/M,THIC.TOL. ACC.TO SARO SURFACE CONDITION EN 10 163-2:2005 CLASS 83 12152 1/2X120X480 OMS PO 1811

7410 7410 7410 7410 12192 12192 12192 SUNTACE CONDITION BN 10 16
003 12.70 X 3046 X 10

444444

44400

NATER. SPEC. RAU-OY, 142 REV.5/MA/C NOT RAPORTED IN THE CENT/FLATNESS 6MA/M/THIC.TOL, ACC.TO SA20 SURFACE CONDITION EN 10 163-2:2065 CLASS B3 004 15.88 X 3048 X 12192 5/8X120X400 OMS PO 1011 58250 58250 58250 58250 58250 58250 58250 TOLERANCES WIDTH +11.0 -3.0 DENGTH +20.5 -3.0

12132 12132 12132 12192 12192 300x43.00 CONDUTTION MN 10 16 004 15.68 N 2048 N 10 004 15.68 N 3048 N 10 004 15.88 N 10 004

011 012 013 021 021

Tooding and inspection Custava ja tarkostus

Raahe Steel Works

Tabot todictamme, cital tombus on lataskahwatukeen mohilaan. Wa haroby cardiy taal too matanal dacerbad abona has baan toated and compilas with the Jawas of the order centimmaten

JAAKKO JUÜSO

Valtualettu larkestaja Authofized fraspeditan koobseanaliva Yngon erin Company Nomen RUUKKI METANIS OY Kooppalva Replatendo Othoce - REUSINXI METANIS OY

Teknitopia Telefax: 020 502 2738

Y-lunnus Business ID: 2389445-7

LULKIK

Unaja Perenaser OLBERT METAL SALES LIMITED SUITE 305 Taus no Ordarno.

AINESTODISTUS TEST REPORT

EN 10 204-3.1 (2004)

VARIDATIONS CONTINUED OLD SALES LIMITED SUITE 305 Addition month Shipping more

Pakvamálna Date
31.10.2012
Valmasajan markas
Mark of the Manylacturer

A 27466 -001 A 7/13

30.10.2013

(3)

Jakuvavaletua happheratta Orgyjen steet, cantituous ceting

Fully killed, Fine grain practiced

Unavasidmultaet Additional raquirements Ladusakriya Ovality Specifications
PRESS.VESSEL STEEL ASME CODE SEC II ED 2011A SA20 SAS16 GR 70 MTLTV

N =NORMALIZED 51 同 2 002 58396 043 K2:F1=TOP,TRANSV.

-	200	>	2000	באחאסם ושמשכו ופצו	3			-	אואפאשתהשום בחבותם ושכנותם	CHRONSCORGE	Chicotropode Special forth		HLOOP
liem)	Cast. fest No	6	Ş	ts.	-	2	n	Keskiano	1 2 3 Keaklano	27	1 2	Keskiono	2
100	58396	022	113	1057	78	ri ri	63	70		13	5.5		
100	56336	023	ETT.	-051	9	in N	H.	(C)		77	선		
202	58396	024	713	150-	4.5	런	6	0		E CH	50 cl		
	50396	N FO	113	1051	(r)	ela de	12	117		A	항상		
Too	58336	026	1113	150-	(c)	5	t) N	n		P	127		
001	56336	027	113	1057	60	90	3	12		얼단	144		
005	58336	031	77.5	-051	000	204	80	20		11	H		
200	58336	032	115	150-	9	7	00	80		N	877		
002	50336	033	113	-051	cs	83	5	400		50	191		
0.02	58336	000	SHI	-051	5	8	5	8		P)	4		
200	56336	035	NI I	190-	0	73	78	(1) (II)		ri ri	144		
002	58396	日子の	213	-057	69	5	126	102		E C	124		
202	56336	0.42	115	-05T	101	80	T'S	9		日日	12		
200	58336	043	115	-051	67	38	95	9.4		7.3	141		

Raahe Steel Works

Tainn todatamma, atta totniwa on tisuswawawakaton mukahon. Wa hanay canfy that he malofat dosanbod abovo has bona lestod and complies with the farms of the otder confirmation.

Toniaux is tarkenton Tenting and inspection

JAAKKO JUÚSO
Valtudelli lakestaja
Authorized inapedion roprosaniajivo
Traitió nimi Company Name: RULIKKI METALS DY
Congress ropatens Grince RULIKKI METALS DY
Congress ropatens Grince RELSING

Talekopio Telefar: 020 502 2730 Punelin Telephone: 020-6911 +359-20-5211

Y-turnus Business ID: 2388445-7

76XTR

ANALYSEBESCHEINIGUNG COMPOSITIO CHMIQUE CERTIFICAT CEPTWOMKAT AMA MUSA

A 27456 -001 A 30.10.2012 12/13

20 TO 2012			LV									
1-00	Shirt and the state of the stat	Participate Color Calora Calo Mara	31,10,2012									0%0
	The same of the sa			AL IND V TI CU CR NI NO N SN B	000	.003 .0003	.003.0003	.004.0004	. 600. 600.	.003.0003	.003 .0002	.004 .0003
eg.	-			2	003	\$00.	.004	.004	500.	500	.003	500.
ではいいのではる。 タエダンにいい	(* econ)			200	. 000. 00.0 90.0 010. 000. 000. 100. 250.	-003	.003	200,	.003	.003	-005	2000
AL PA	March 26			IN	0.03	0.03	0,03	0.04	0.03	0.03	0.06	0.05 0.04 ,004
TRAI	ANGUED DE			R	50.0	0.04	30.0	0.04	0.04	0.02	0.05	0.05
	nlavo %			b	010-	040.	OTO.	.013	010	500-	110.	.014
i C	altion Chir			H	.005	.004	200.	.004	.005	500.	200.	300.
	Compo			Α	600.	.003	.000	010-	600-	.009	500-	300-
	Contion ?			11	100	100.	1000	100.	100-	100.	-015	570.
	usparmen.			爿	.035	E60.	.033	.032	.030	-033	000	100-
	D COTITION I			M	100	1007	100.	100	100	200	100.	100
	S 2 2 15			ß	.012	000	600.	B00.	012	110	010	010
	d composit			Z	4-10	1.03	1.03	1.11	01-1	E0-1	2001	1.14
	Chamic			H	32	4	in in	.33	.33	.32	33	.37
	Analysis S. Chamical composition % Chemital Zusannanatzung % Composition Chinique % Avenus manen &			υ	.236	181	181	108	1386	1289	981.	203
	Coky	8	5000	CONC	8	33	9	.33	. 28	400	440	4.72
	Positio	100	Posto Posto	ng.	100	HOO	000	000	200	000	900	000
	Mos nro	Test No	Fred No.	No Oppose								
	Sufatur no	Cast No	No de coulén	th Undaws	000000	58396	S ଓ ଓ ଓ ଓ ଓ ଓ	58393	50250	56243	87251	58475

CEQ=C+DM/6+(CR+MO+V)/5+(NI+CT)/15

Rashe Steel Works

Исписания и компроль кинастал Tasting and inspection Essats at Controls Tostque je tarkaslus Prüleog und Kontrolle

JAJKKO JUUSO

JOARKKO JUUSO

Authorized laspeciles reprosentative Ynon-oversell's respective months and company. Name: PLOS PROSENTATION CONTRACT PROPERTY SOLD FOR CONTRACT PROPERTY SOLD FOR CONTRACT PROPERTY SOLD FOR CONTRACT FILES OF CONTRACT PROPERTY.

Ocollo Address: Pt. 21, P.O Box 23 FIN-92101 RAMBE, FINLAND

Puhein Telephene: 020 5511

Tefekopio Hetan: 020 552 2736

Slock menufactured and supplied by Reulanuski is froo from nodalon. Производима на метаппримераюм, комбената в Reulanuskos и поставищена зику-чку стал, на улиумат радуалья.

Y-tunnus Dusinose ID: 2000445-7

100 × 17508

WAT 625 1769

440/5A36 1/2" plake

P.O. 20045

Form TC1: Revision 1: Date 31 Oct 2000

STM-0053

Test Certificate

EVRAZ EVRAZ INC. NA

ORGN DDWTT Tmp %Shr AID | Cert No: 011129210 | (Page 1 of 1) Shipping Manifest: ST047507 Tet Tet Dir Siz Tet di 19 Aug 11 19 Aug 11 % Shear 2 3. Avg Charpy Impact Tests Ship Date: Cert Date: Mill Order No.: 41-241713-01 Chemical Analysis
Cr. Mo. Cb. V. Ti. B. N. N. 10.02 | .00 | .001 | .003 | .016 | .0000| .0040 Abs. Energy(FTLB) 1 2 3 Avg Proci::t Description: CSA G40.21(2004)44W/200W / ASTM A36(05) A709(01A)36/ASME SA36(01ED) %RA Elong % Tat Average 2m Sm Dir Hardness 8250 130th Street, Surrey, BC, V3W 8J9 Size: 0.500 X 60.00 X 120.0 (IN) 4[-4[-32333 MATERIAL MARKED WITH AN ASTERISK IS PRODUCED FROM COIL.
* 6251769 TH4F2825 PCES: 2, WGT: 2042 Customer P.O. No.: CY-941618 Tensiles STA CISA .013 .26 | .025 .02 Tet YS 0.375 X 60.00 (CUT) 0.500 X 60.00 (CUT) Dimensions Mn F 1.24 .019 Tested Pieces 1H4F2881 1HF42828 .14 Piece Customer: VARSTEEL LID. 330-220 4TH STREET LETHBRIDGE AB TIJ4J7 Heat 6251769 6251769 6251769 Heat

Greg Balsdon

WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH THE APPROPRIATE SPECIFICATION

Cust Part #:

ŝ

CHIRCICED BY

Cuel	amar	Name
OHOI	Congr	I A CHIEF CO.

MILL DRDIER 10528

-317407

28687

3

CP

l

2011/10/01 248770

24

2011/08/

CHARGE TO CUSTOMER NAME AND ADDRESS

CY-942081

ENTRYDATE

АІдота

ESSAR Steel A CUSTOMER PURCHASE ORDER

CREATE DATE

Marie. Ontario Canada PSA 784

Sault

05 West

Customer PO#

Shipper No

-Ж

-K

-K

*

×

K

×

×

-K

×

-X

-K

Ж

-10

-10

-12

Ø

E4

Н

H

04

阳

ρι

0

pg.

ρι

H

d

U

H

Z

N

回

U

M

M

*

*

-K

*

40

*

*

ж

ж

* TESTS

×

-K

ж

Ж

TENSILE -K

BEAT-MS 83511-53 90681-54

1837

Heat Number

8351L

ALCO DE LO CO DE LO C

ĸ

*

40

*

×

40

×

-X

-K

-14

-K

-K

-)c

-10

-K

*

Ŋ

14

H

14

四

PI

0

25 8" 21 8" 27 8"

96

PETROFIELD INDUSTRIES INC.

REPORTS

TEST

MILL

ESSAR STEEL ALGODAL INC. HEREBY
CENTIEST FHAT THE MATERIAL LYBGEIN
DESCRIBED WAS NADE AND TESTED IN
ACCORDANCE WITH THE RULES OF THE
SPECIFICATION SHOWN ALL RESULTS
ARE RETAINED IN ACCORDANCE WITH THE
COMPANY'S STANDARD RECORD KERFING
PRACTICES.

100

2

Sig

STREET SALBERTA

VARSTERL 10220 52 CALGARY T15 407

SOUTH

4TH STREET

VARSTEEL LID #330, 220 LETERIDGE, T1J 4J7

ŧ

(04) (08)

A36

44W/ASTM

G40.21

CSA

i

BSLA

1

PLATE

CERTIFIED

CUSTOMER SPECIFICATION ER MULTIPLE

20687

328120

MANAGER METALLURGICAL SERVICES

K. UGHADPAGA

THIS MILL TEST REPORT WAY NOT BE REMODUCED ENERTH IN PLL MITHOUT WIRITTEN APPROVAL OF ESSAR STEEL ALGOMARINE. IF YOUNGERNE THES DOCUMENT AND ARE NOT THE INTENDED RECEIPER, PLEASE CALL, (705)945-2534 COLLECT FOR INSTRUCTIONS ON WETHOOD OF DISPOSAL OF DOCUMENT.

06:35

2011/11/02

占

2000198931

MARK. FILATOFFEV

5

CERT

TEST

1: RECEIVING VARSTEEL. CA. PLATE TEST COUPON:

SUPPLEMENTARY INSTRUCTIONS

ARSTEEL.CA

REQUIRED

REPORTS

BEST TA CUST

RESALE TEST

40 45 Ж * WEIGHT 40 -K

×

*

*

40

4

MATERIALS

AMERICAN

NORTH

SA

DOMESTIC

WITH

GRAINED IN CANADA

44

*

40

*

*

*

-14

*

ж

ж

OGR *

70000

TIEM

CUSTOMER Ж

ESSARSTEELALGOMA. COM

WWW.

H

AVAILABLE

CERTIFICATES

MEETS EN 10204:2004 TYPE 3.1 ISO QUALITY AND ENVIRONMENTAL ALL ERATS FULLY RILLED HEATS INDICATED WITH (*) FINE ERATS INDICATED WITH (*)

NO. PIECES BEAT-MS 83511-58 * 4 4K 0 **[24]** PI ρ_{4} M \vdash 9 PLATE NUMBER 36426 回 14 S 50 H O DIMENSIONS Þ A 0 ρģ μ 18376 WEIGHT 4 K 900 NO. PIECES * TTEM * ×

× -K * * TEST * COND METE 1 AR .2 AR .2 * SANGIE * SRCE GAGGE 166" .7500 166" .7500

TENSILE XXI 72.0 70.0 N U HEHE Н M 凶 四 U * * * *

ж

-K

*

ж

*

×

*

Ж

Ж *

OF L() PAGE THE TEST RESULTS AND VALUES REPORTED HENEN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINUMANA SPECIFIED YELD STRENGTH AND 42 THE CHEMICAL ANALYSIS AND SHYSICAL PROPERTIES OF SUCH STEEL AND INDICATED. THE RESULTS OF VALUES REPORTED HENEN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

* TANKINING *

PETROFIELD INDUSTRIES INC.

20687

328120

0 8351L

784	-317407 10528		ESSAR STEEL ALGOMA INC. HERBY CENTURES THAT HE WATERFULL HERBIN DESCRIPTION WAS MADE AND THATTER IN	ACCORDANCE WITH THE RULES OF THE SPECIAL SPECIALIZATION SHOWIN, ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KERPING PRACTICES.	K. UGHADPAGA	THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN MULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALOOMED INC. IT YOU RECIPED FILES DOCI MANN AND MAY THAT THE MUTHANDED	RECEIVER, PLEASE CALL (705)945-2624 COLLECT FOR INSTRUCTIONS ON METHOD	or bishose or boomen.	B DO	.36	38.
ida PGA								06:35	Δ	0 .040	0 .038
105 West Street, Sault Ste. Marie. Ontario Canada PGA 784				18)			2000198931	2011/11/02 06:35	S CB	000.	.600
Marie,	CP			(04) (0		'ev			AL	.030	.028
it Sta.	ER'S NO.		S	336		ATOFE			MO	.01	00.
t, Sau	248770 -	ADDRESS	LTD STREET ALBERTA	ASTM		K.FIL			8	.03	.03
Stree	24877	NAMEAND	AKSEL PER	44W/		: MAR			H.	928	.01
Hest.	10/0	SHIP TO CUSTOMER NAME AND ADDRESS	VARSTEEL 10220 52 CALGARY, T1J 4J7	CSA G40.21 44W/ASTM A36 (04)(08)		BRT 2			Sign	, O.	.02
105	2011/10/01 248770	11 9HS	PAUH			EST			SI	125	. 22
	/24 2			- WISE		5			W.F	. 006	.008
	2011/08/24		HILDO	1		RSTEEL PON:	0		42	600.	.010
Inc.			SS	PLATE		COOL	REQUIRED		MN	1.16	1.15
Гот	NUMBER	ND ACCIPIESS	4TH STREET ALBERTA	CERTIFIED		RECEIVI TE TEST			υĖ	14 14 10 10	22.0
A leel	Almos order	ZMER NAME AS		_		STRUCTIONS T. 1: C.A. P.L.A.	T REPORTS	LE	(WT %)		
ESSAR Steel Algoma Inc.	CY-942081	CHARGE TO CUSTOMER NAME AND ADDRESS	VARSTEEL LI #330, 220 LETHERIDGE, T1J 4J7	CLSTOMES SPECTATION ER MULTIPLE		SUPPREST CERT 1: RECEIVINGOVARSTEEL.CA TEST CERT 2: MARK.FILATOFFGV ARSTEEL.CA PLATE TEST COUPON:	NET THE TEST	CUST RESALE	HEAT (1	83511×+	+*18906

PAGE 6 OF 10

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

15316 The 1924

女林 F3957/

509/500 DS # 24669

本 キャロー0001 でびだーでいる。 THE # # 1 :: Hoad Critics 2-4: 100-month Outperhau, Index 10-10-10-10-10-10-10-10-10-10-10-10-10-1	18世紀版 4C 学 NB が Chemical Composition 76 mostlest C Si Mn P S Ni Cr Mo
新日製作能ステンレス様式まれ Nippon Steel & Surnikin Stainless Steel Corporation	在
** KANEMATSU CORPORATION ** 7.1815 DODIS152 ** 2-8.6. TH-5-2-8H05 ** HOT ROLLED STAINLESS STEEL PLATES ** ASTU A240-708 TYPES15/316L/ASME'S ** 1.7 PES15/316L-2011A	中的是 中的是 中的是 中的是 中的是 中的是 中的是 中的是
MY X My	中中

35SSRW とのののなるのはは、 一日の日

026 033

116-02-2 Rev. 5

Group Manager, Plate Quality Control Dept. Yawata Works

八島敦昭州 政府和四份成

regreege

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

本 注:T100-0004 和於哲子代码之表中的[] 1,1 n 第 1 以 N 第 1 以 N	X1000X100 X100 X100 X100 X100 X100 X100	14W412 WORKS Y15-02-2 8ev. 5
SKANEMATSU CORPORATION	Dimension INCH OCALLON-Orier Tomm-Figer	₽4. E05 # 3SSSRW # 02E 0338
新文章 KANEM Shapor Tabl5 Shapor Tabl5 Tabl5 Shapor No. Ta	11 ten No.	学者は今日本ののロス

TATATA

450 SA36 3/8: Plase

MILL TEST CERTIFICATE

DE DONGKUK STEEL

PO No.	STEEL PLATE	Martinoc	Supplier	er mer	 O S	DONGKUK IN SALZGITTER	: DONGKUK INTERNATIONALING: SALZGITTER	E. CERAL.	į	ó	Date of issue	sne		ă.	: Dec. 14, 2012
	ASTM A36/CSA G40.21 St	NAME (ALCO)		a		1	C			5000	(2)00:1:300:00 [00:00]	-		-,	
	-			. 0 0	Tonsile Test		->		3 18.5	1			-		Serior NS
Dimonsion Unit	Product No	Cuantit 18	150 GP 100 PP 10		\$	15 日	U	25 c	0.0	50	28 28	300	- P (0)	- 8°	
Inch: ", mai Space			1	00	3/mp/	14	00-	- 193	- 5	, 8		-	=	336 2276	•
\$ 52-2428-7315 \$ 52-2408-7315	A326886-01.02.03.04.05		 	ST 25	nes –		1								
n-1008580040: oN namioec	Sub Tota: (20)	(V)	6.670	\				200	- 3	8				1 404 2ZIE	
8.52*2425*7015	A327331-01.02.03.04.05		 E.:.	LPISI24 T		§	ة								
61-3	3db Totai (20)	ç	13,340				_	5	Ţ.	20		(1)		19 391 23元	
4.70*2438*73.15	1326731-01		12 Br.	N3247824	1 358	88 	3	-	:						
Specimen No : 0P06708120-a	(30) IsraT cu8	,-	1,773					- 6		8	in	ن ن	<u>ছ</u>	3 401 2285	
	A226723-CG	- 17-	1.773 L	L72:3376 T		616	27 17	8							
29ccimon 14 - 17051732	Sub Total (30)		1.778							- 2	i		5	4 107 228E	
)226729-01.02.03.04.05.		1,7776	LT2:4073	1 3/9	83	27 [.]	3							
2-505-65550-01: 05.05-05-05-05-05-05-05-05-05-05-05-05-05-0	Sub Total (30)	ω	10,633												
		- Narahara	the that th	o material tx	s been ma	de de Basilo	organ pro	Scotts (Fully	n killed ster	ol.	Specimor	T-Top.	Tension M-Middle	2-Sottom	SEA
- (ancale Just Duogloon-Transverse - Cool — Ca-Mar(S-(M+CDJ)/15-(Cr-Mo-V4/5 - Supply Condition - As Rolltod - Chemical Composition Unit : 2-4100, 3-41000, 4-410000		wo whysy catalogy and solletertority trancal in accordance with above 2001 1204 Type 3.2. Fine grain exactles) and solletertority the above order. Inspection documents: According to EN 10204 Type 3.2. called for by the above order.	action) and	solstactorth ordor Insp	rtested in a	recorduncti	condition of a condit	N 10204 1	уре 3.2.		Division Sub(Sub GL(Gaust 7-54, 8- 7(S) A1: NRL Res	Size. Person	men): 1 men): 1 uble) Al	Nichon **Leadon Nicholan, Stander-Fu Supfato Stat. Peta Value, mml. 5 Estable-Fu GL[Gouye Length, mml. 1 *= 200, 2 = 100, 3 **Left, Berds, 9 = 3 de **T Stands Berds M	- Dyrickon : L-1500 may be a man : 55.00 mm; Skraic-Full Size. : -7.5-10. 2-5.5-10 mm; Skraic-Full Size. : -7.5-10. 2-5.5-10 mm; Skraic-Full Size. : -7.5-10. 2-5.5-10 mm; Skraic-Full Size. : -7.5-10 mm; Skraic-Full Size. :
		When using the ordered product for giver wass, rather than the above specification use, product	the ordered	product for	other uses.	rather then	the above	specification	on use, pro	מחמ	ži.				

Chief of Quality Central Teach Carolin World, 400 Hanlin-ri, Sangar-aus, Canglin-di, Chungdhaan-ao, 343-823, Karaáffracess Control Team, TEL, 041-451-4578 Surveyor to Surveyor to

100#13551

Shipper No Heat Number 070888

amber

Customer PO#

<u>Customer Name</u> Customer Name

13) 2/8" NS (Plant.)
SSAB

St. Paul, MN 55164-0303

XX 0/60 119

D6424096

Form TC1: Revision 1: Date 31 Oct 2000

Test Certificate

ORGN EDWTT Imp %Shr USA (Page 1 of 1) Shipping Manifest: PR082234 3430 S S Fig. Tst MGT Chad Faltcysck 01 Aug 12 01 Aug 12 とれ らいついけつ AVE Charpy Impact Tests % Shear PCES Ship Date: Cert Date: 41-334159-03 -0000|-0037 Ahs. Energy(FTTLB) 1 2 3 Avg Z Mill Order No.: 1897525 WE HEREBY CERTIFY TEAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION M -001 Product Description: CSA G40.21(2004)44W/300W / ASTM A36(08) A709(01A)36/ASME SA36(01ED) E Average Hardness .003 'n * 0166119 000. 0 48.00 X 96.00 (IN) Chemical Analysis
Cr Mo Cb
1-05 | .00 | .00 %RA Elong % Tst Zin Sin Dir 44444 Customer P.O. No.: 719757 & 41-334158 엄성보완성의 28425 MATERIAL MARKED WITH AN ASTERISK IS PRODUCED FROM COIL PRODUCIS SHIPPED: * 0166119 Tensiles 25 SESSI 378787 Tet Al Cu. 58, MGI: Tst YS Loc (KSI) Size 0.375 X Tot Al 12 0 PCES: 0.375 (T.L.C) 0.375 (T.L.C) 0.250 (T.L.C) Tested Thickness .014 Cust Part #: 7838-0632 1987523 Tested Pieces 18 18 18 Customer: RYERSON CANADA 161 THE WEST MALL 1897522 1987523 Piece Id 19 897521 O ETOBICOKE ON M9C4VS Heat 0166119 0166119 0166119 01166119 Heat 3

> 35,00 - .0.8 - '0'd 878 EMPIRE CUTTING CORP

(3) Sell AB De VS Val AFAIRS

699HE #90

Form TC1: Revision 1: Date 31 Oct 2000	Customer P.O.No.:736486 & 41-364721 Mill Order No. 41-364722-04 Shipping Manifest: PR089025 Product Description: CSA G40.21(2004)44W/300W/ASTM A36(08) Ship Date: 12 Jul 13 Cert Date: 12 Jul 13 A709(01A)336/ASME SA36(10A11) Cert Date: 12 Jul 13 (Page 1 of 1)	48.00 X 96.00 (IN)	YS UTS %RA Elong % Tst Average Abs. Energy(FTLB) % Shear Tst Tst Tst Tst Tst Tst Tst BDWTT t8 67 34 T 34 T 34 T 1 2 3 Avg Tmp %Shr 16 65 34 T 1 2 3 Avg Tmp %Shr	Chomical Analysis Tot Al Cu Ni Cr Mo Cb V Ti B N	: 21, WGT: 10290		· ·		REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION CHECKED BY
St. Paul, MN 55164-0303	77	Tested Pieces:	Tested Tst Thickness Loc 0.375 (T.L.C) L	C Mn P S SI 1.14 1.63 1.008 1.005 1.02 MARNED WITH AN ASTERISK IS	5055258 5055258			CERT Book #	
, st	Customer: RYERSON CANADA, 161 THE WEST MALL ETOBICOKE		Heat Piece Id Id R1729 A055258	Heat Id COTTS MATERIAL MARK					

SSMB 3/8" A34/44 Test Certificate

HT # A3F236 カング Form TC1: Revision 1: Date 31 Oct 2000

XW294 CC-13

124 22 837

1770 Bill Sharp Boulevard, Muscatine, IA 52761-9412

Tast	SAMUEL & SON LIMITED	Product Description: CSA G40.21/2004/44/2007gsm.estm.estm.estm.estm.estm.estm.estm.es	lo. 41-365189-06 Shipping I
Totated Piecues; State Old ON 4800 (NN)	VALDIVISION OF SAMUEL SALES) 2360 DIXIE ROAD MISSISSAUGA ON L4Y127	A709(09A)366ASME SA36(10) CSA G40.21(2004)260W	Ship Date: 24 Jun 13 Cert No: 06 Cert Date: 24 Jun 13 (Page 1 of
Charten Feeder Test Charten Feeder Test VS VRN Energy (TLB) Test Charten Feeder Test Charten Feeder Test Feeder Test T	Torded Di	Size: 0.375 X 96.00 X 480.0 (IN)	
1	Picos Titos	Tensile	Chamy Impact Tooks
A23 0.377 Discret L S2 68 98 T	ld Thickness	(KSI) (KSI) %RA Elong % Tst Average (KSI) (KSI) Dir Hardness	% Shear Tst Tst Tst
Chemical Anabolis Chem	A29	52 68 38 T	Camp City Say
C		1	
OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED 3.1 COMPLIANT WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE B. H. Wales B. H. Wales	.06 11.30 .011 .002	Al Cu Ni Cr No Cb V TI	
WGT: 49108 WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE B. H. WE	ACURY IS NOT A METALLURGICAL AING THE MANUFACTURE OF THIS R EN 10204:2004 INSPECTION C	OF THE	
Cust Part #: WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE B. H. WA	A3F236 A29	WGT:	
Cust Part #: Cust Part #: Cust Part #: ESTED IN ACCORDANCE WITH, AND MEETS THE B. H. Was			
CUSTOWER RO. L. CUSTOWER RO. L. CUSTOWER RO. L. COURT PART THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE B. H. Wales			SAMUEL, SON & CD., LTD. CERTIFIED COPY OF TEST PERSON
OURORDER O32 WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE B. H. Wales			190 PM namenousing
WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE B. H. W.		a	OUTONOER 032/153
WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE B. H. W.			DATE OCT 166/13
WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE			90 9
		WE HEREBY CERTIFY THAT THIS MATERIAL W. TESTED IN ACORDANCE WITH, AND MEETS T	

INSPECTION CERTIFIC

Purchasor: TRANSAM PIPING PRODUCTS LTD.

TO EN10204 3.1

Job No.

Purchase Order No.

E-No.

BRA

The Berlem Co., Ltd. . 58 Soi Werlermei, Banglen, Prapadaeug,

Surampralam, 10130 Thailand.

Taccookie Tacc	Certificate No.	T- 2013180164	Dimensional inspection	G.0 0 d									X		3		A P W	di		
Taconosis Rev Winds State September 3 Production of Inspection September 3 Production September 3 Production of Inspection September 3 Production September	ы	1	Istal Examination	. Good.	Fierdiness-Actual Cells	. FIB : 120 - 140	THB: 145-160	. MB : 125-140	MB: 130-145	MB:118-145			HARDNESS MA	197 EB:						:
NATION N	A.	: 3			 		1		+	+,		tr	1 %	19		8	1 8	'n	3 - 5	3
12K20036 RC WPB S X 11/4 SO	8		r Inspection	2007,816,25-20	leat Prestment	Z	2	z	 Z	A.	Carsion Teet #7	SI	MPa	416	9558	470	88	-	309	515
12K20086 RC WPB S X 1 14 SS0			pecification fo	ASME B16.0	A		S	30	Ġ.	8		SA	3	260		88	3 :	8		
Specialism				60 1 1 64 1 64 5	Juan	1	2	\$		77		CE	18 18			8.	83	8	8	8
Specialism	•	r d		fi min	1 ST 1 ST 1		177		·		10	No.	11.	3	杨			1	V	0
Specialism				(1)	E		€X.77	335		100		**	1000	3		0	, N	12	¥	0
NATION No. Specific			ੋ. ਰ ਨ	10 B	17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				2.el		33	Mo			S. Carlo				1 2	. 1
NATION No. Specific		はは	or Materia miess Pir	Section 1	はない数は		Take to the second	111	150	100	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Q.	100	1			0.0			
NATION No. Specific		Tr.	HOT I		Ze za		40		4	Chor.	LB	. 1	100	17.	9	5	. 1-	2	6.0	N
12K20098 RC WPB 12K20098 RC WPB 12K20098 RC WPB 13E20214 RC WPB RC			ade fre	Sept.	1.3c.S.	88	1000	SXI	9	g Q	Comple	O O		. 1	是	2	SAL.	. 4	步	
12K20098 RC WPB 12K20098 RC WPB 12K20098 RC WPB 13E20214 RC WPB RC		- 1"	7 3	SE CONTRACTOR	Produc	1 114	80.8	N.S.	STOT X	10 510	Chemica	S	COLUMN TO SERVICE STATE OF THE PERSON NAMED IN COLUMN TO SERVICE STATE O	in the second	8		17.50	-	1	Ó
12K200ggg; 12K200ggg; 12K200ggg; 13E20214 13E20214 13E20214 13E20214 19E20214 19E				150	15	PB3X	78.8K	% 20 00	88 82 82	Market No.	3.3	ď.	0,001	<u>}</u>	8		in ;			12
12K200ggg; 12K200ggg; 12K200ggg; 13E20214 13E20214 13E20214 13E20214 19E20214 19E	÷		.		111	RCW	RC W	RC W	RC W	四四		Ma	100	8	18		X	_~		22
12K200 12K200 12K200 13E202 13E202 13E202 13E0000 13B0000 13B0000 15 1-94847 15 2-84188 1-94847 16			r-	ļ.				0		.,	1	_ [0					_	9
Specification	3,43	':\!\.	j,	No.		88	22.20	20126	0214	0037		0	9	~	8					
	$\frac{7}{6}$		6	S S S		220	1362	5662	<u>8</u>	1380	1 2	30	()	\rightarrow	7	43	1.00	-	¥	0
8	72				1			V			ion	1	1	<u> </u>	t No.		3.3			
8				¥							pecificat		M.	Max	terial Hea	972846	1-94347	28407	2-84186	J9L1238
Alberta de la constante de la	5000	143		, o		1-4		m	4.	٧.	6			لسر	Ma	1-1				s,

(Note 1) A : Bot formed with final temperature between 620 °C-980°C, Air Cooling N: Normalizing 910°Cx0.5 ER. Air Cooling

The Edings was mendicated pampled traced and begreeted in accombance with the opposite discovers found in meet the conjugate and

C.E., = C+Nun/e+(CriMo+Y)5-t(Ni+Cn)15

* 1: T* symbolized wall thickness in mm. * 2: YS Yield strength TS = Tendle strength E = Edongsion
We kareby certify that the product described herein has been manufactured in accordance with the openifications concerned
Note that the purchaser's requirements and that the test results shown betten are correct.
Note for WPGifer each reduision of 0.10% below the specified eachen manufactum, in interior of 0.06% anarymene above the apocified maximum will be permitted up to a transform of 1.35%.
Form TZ-64/4

Quality Assurance Manager Thai Benkan Co., Ltd.



Jan. 2014

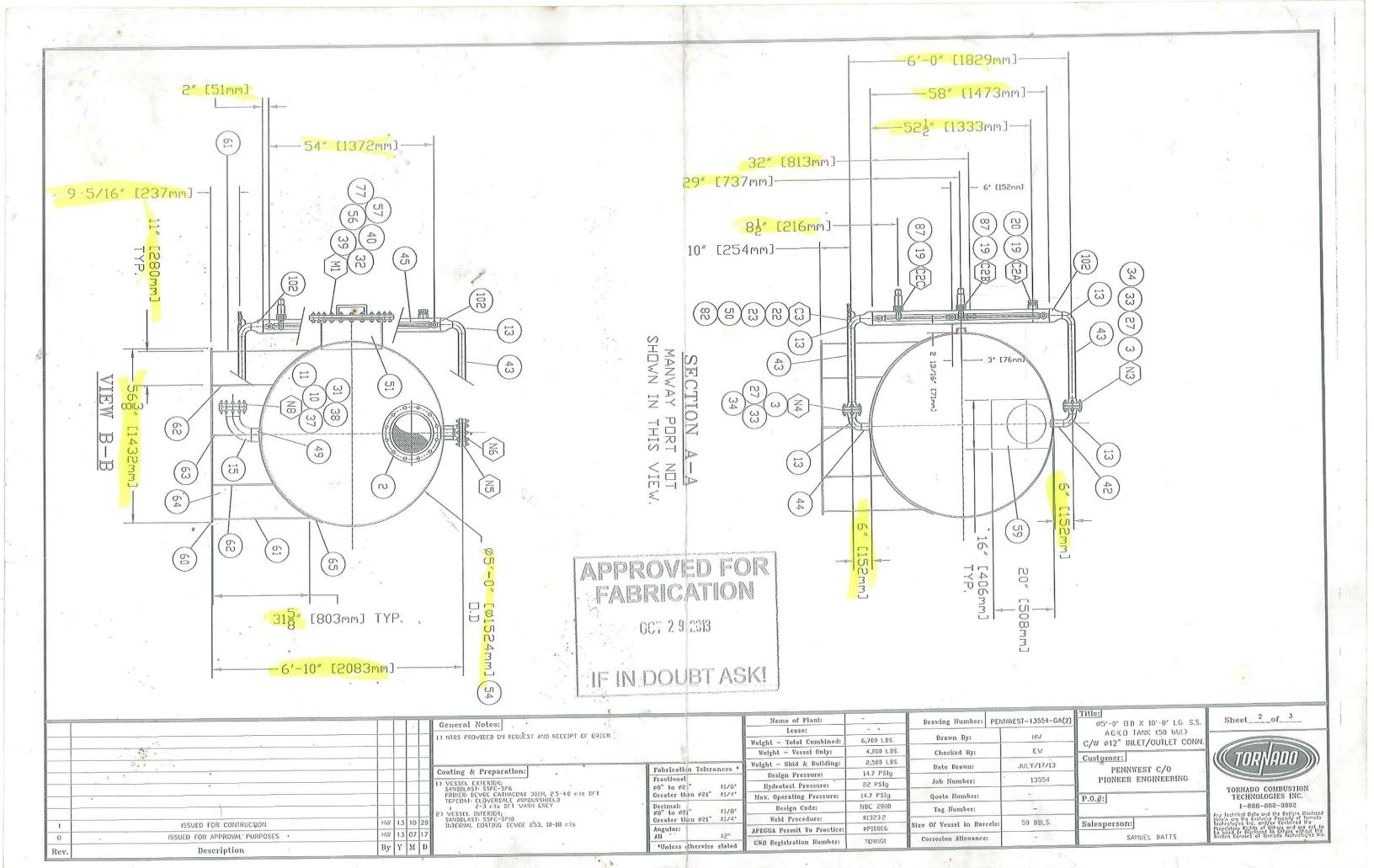
4.0 In-House Dimensional Check Report

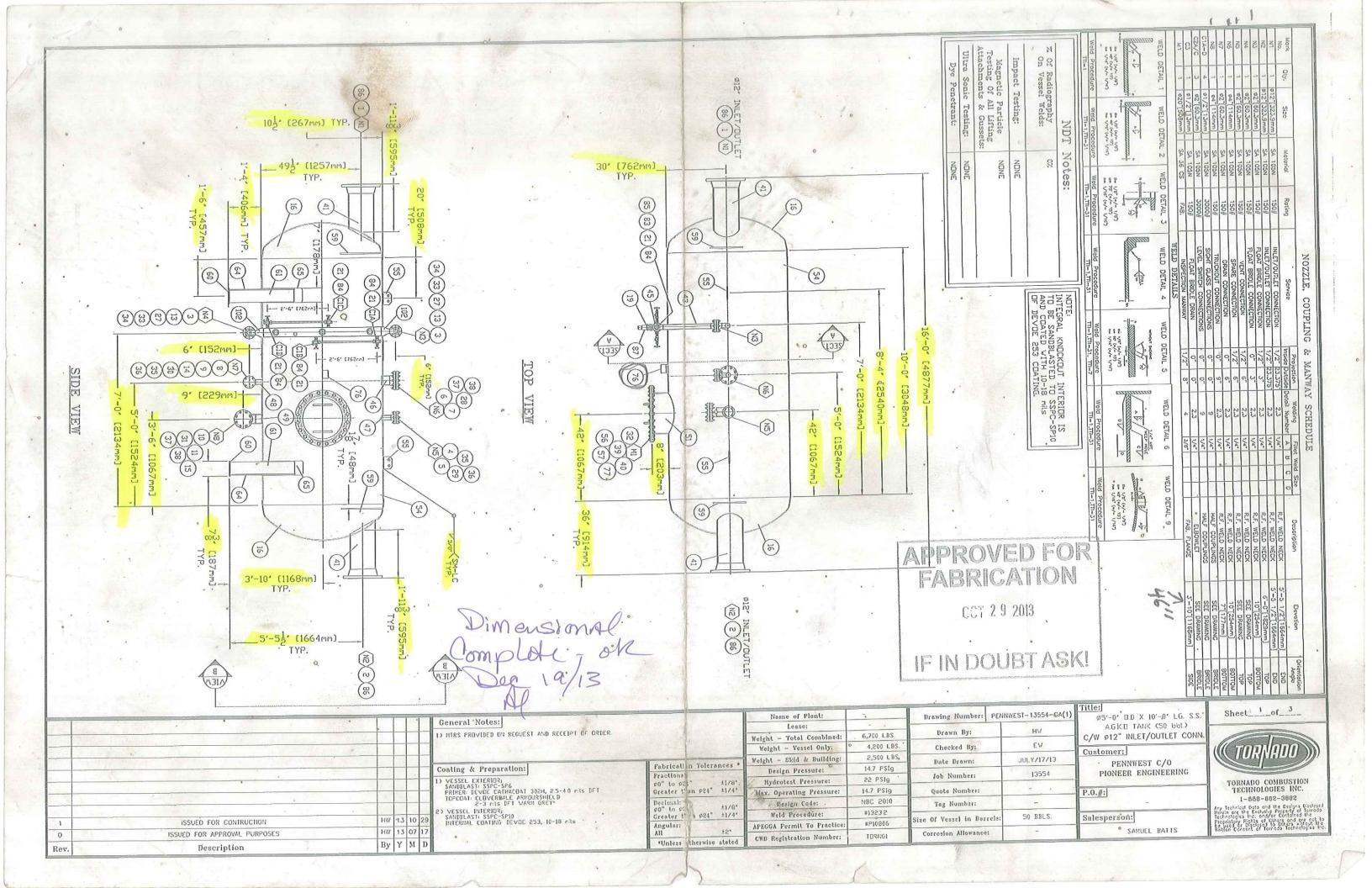


Dimension Inspection Report

TORNADO Technologies Inc.

ATTN:	Sam batts	Inspector:	Andrew Little	Dwg Rev:	1
Job #:	13554	Date:	19-Dec-13		
P.O.#:		Shop:	Gadsby		
End User:	PennWest	Dwg #:	PennWest-13554		
Quantity	Description				Tag Item #
1	5'-0"Dia x 10'-0" S/S A.G.	K.O.			
Inspection					
The dimens	sions found were consista	nt with tole	rances on the drawing		
PennWest-	13554				
No outstan	ding issues were found.				
	ti				
			1	/	
Name & Sigr	nature of Inspector	Andrew Li	ttle CET And	un)	Lital
Suppliers C	onformation Statement:		We certify that the P.O.	items listed	d, and the
	C. dimensions meet the re				
or are with	suitable tolerance of the	approved d	Irawing supplied.		







Jan. 2014

5.0 Hydrostatic Test Report



Tornado Combustion

Technologies Inc.

Head Office

#200 261200

Wagon Wheel Way

MD of Rockyview

Ph. 403-244-3333

Fax 403-275-3740

	Нус	irosta	atic Pi	ressur	e rest kep	ort	
a remail	C D !!			Cl	Cadabu	Dung Davi	1
ATTN:	Sam Batts			Shop:	Gadsby	Dwg Rev:	1
Job #:	13554-V			Date:	23-Dec-13		
P.O.#:	PEI-A133707	44-04		Tag #:			
End User:	PennWest			Dwg #:	PennWest-13554		
Test Condu	icted By:	Andrew Lit	tle CET & T	y Wilson			
Product De	scripton	5'-0" Dia x	10'-0" S/S <i>F</i>	A.G.K.O.			
Gauge Seri	al Number	TCTI-60-1,	TCTI-60-2				
Holding Tir	ne @ Pressure	e PSIG	1 Hr. @ 22	PSIG	Gauge Selecton - 1.5 x	Test Pressure	
					No More than 4 x Test	Pressure	
Inspection	Notes:	Passed					
		Hydro	test Proce	dure to fol	low B31.3 Code.		
1. Ensure a	all studs and r		the state of the s	CONTRACTOR OF THE PARTY OF THE	arting Hydro-Test		
	lydro Test in I						
					e and hold for 5 Minute	es.	T I
					gain hold for 5 Minutes		
					Test Pressure.	304	
	nal Test Pressu						
NOTE: DO	NOT TIGHT	N OR LOO	SEN STUD	S OR NUTS	WHILE UNDER PRESS	URE.	1 1
Name & Si	gnature of Ins	pector	Andrew Lit	tle QA/QC M	1gr. Andre	in to	ul
Name & Sig	gnature of Ow	vner					
Comments	:						



6.0 Vessel Blast Profile Report

SURFACE PREPARATION REPORT

Customer:				Work Order:				
TORNADO COME	BUSTION T	ECH	OLOGIES					
INC.				3040				
Description:			Tank No.		Loca	tion:		
			PO 24994					
5' X 10' AGKO UN	IT		JOB 13554		OUT	TOOOR BLAS	ST BAY	
PRE BLAST INSP	ECTION		Date: DECI	EMBER 28, 2013	Time	e: 09:00		
Welds Smooth		Radiu	s Edges	Weld Spatter		Grinding Cor		
YI	ES		YES	Removed N	10		YES	
Shipping Damage		Repai	rs Required	Nonconformance)	Acceptable		
I I	O	-	NO		NO		YES	
COMMENTS: SO	ME ADDIT	IONA	L CHIPPING	WAS REQUIRE	D TO RI	EMOVE WEI	LD	
SPATTER.				,				
5.2				Date: DECEMB	ER 28, 2	013		
X								
QA INSPECTOR - B. ROBBIARD								
			D. DEG	C1 #DDD 40 4013	TP!	15.00		
SURFACE PREPA	RATION	1	Date: DECI	EMBER 28, 2013	11me	e: 15:00		
D. V.	R.H.: 46.2% ex PRESS-O-FILM TM HT X-Coarse 4: 7. 46.2% Testex PRESS-O-FILM TM HT X-Coarse 4: X-Coarse 4:			C. l. stanta	-21°C	Dew Point:	-24.3°C	
				Substrate:		d: COMPLET		
Testex PRESS-O-FILM ** H				MPLETE INT.				
				TE BLAST		OMMERCIAL GRADE ACE# 3		
2. 4 Testex PRESS www.lestextapa.com	1.5 to 4.5	SSPC-SP- 10 Adde in Use In Us				SPC-SP- 6		
0.8 15 20 G 33 (C+XC)/2 6	XC M				Barc-a	C-31 - 0		
				C CDI	TAKE KETTER	MER SCHMIDT 800 CFM		
BLAST EQUIPME					WINER	Water Knock Out:		
Moisture Traps				Air Movers	TEG			
YES		> T 1	YES		ES Hypothermic		YES	
Nozzle Size			Pressure:	Pressure Gauge:	YES	Needle Gaug		
7		110 PS					The state of the s	
Blotter Test:	310		Abrasive Typ			Prep. Technic		
	NO			AST XL (INT.) 30/50 (EXT.)	1	VIXLES HAZ	EIN	
			TARGET	30/30 (EAI.)			-	
COMMENSE DI	A COTE WAY A CO	COLINI	TO DE AC	CEDTADIE				
COMMENTS: BL	ASI WAS	FUUNI	D TO BE AC	CEFTABLE.				
					1			
	10							
x /// c	7 .		X		Detai Y	DECEMBED.	20 2012	
		-	/\		Date: I	DECEMBER	20, 2013	
PROJECT SUPERVISOR - C.	NOTHSTEIN		3RD PARTY INSPECT		1		1	



Jan. 2014

7.0 Vessel Internal Coating Report

COATING REPORT

Customer:			Work	Order:			
TORNADO COMBUSTIO	N						
TECHNOLOGIES INC.			3040				
Description:		Tank No.				Location	1;
		PO 2499	4				
5' X 10' AGKO UNIT		JOB 135	54			OUTDO	OOR BLAST BAY
COATING APPLICATION	M						
DATE: DECEMBER 30, 20	13	TIM	IE: 14:00			PIECES	S: 1
	In	ternal 🚃		Externa	1 🖂		
Relative Humidity	Ambient	Temp.	Surface 7	emp.	Dew I	Point	Coating Temp
13.0%		18.3°C		19°C		-10.6°C	18°C
	COAT#	1	2 🗆	3 🗆 4	□ 5		
Application Method:	Airless		Convention	al 🗀	Lan	ice 🖂	Brush/Roll
Applicator: C. NOTHSTEIN	V				Aixed b	y: C. NO	THSTEIN
Coating Manufacturer & Typ	e: DEVO			3			
Color: BLUE		Color	No. N/A				used: 2 1/2 GAL.
Base Batch/Lot # PG1908UA	4 46405			Catalyst	Batch/I	ot # PF10)14UA 45825
Thinner: T- 10		Batch/	Lot# PG2	032UH		Thinner	used: 3%
Induction: 20 MIN.	Pump S	Size: 63:1	Hea	ter/Setting	g: 0	Tip S	Size: 419
COATING INSPECTION	•			INSPEC	TED PI	ECES: 1	
Appearance: SMOOTH & U	JNIFORI	M Coati	ng Defects	: NONE		Location	: N/A
Repairs Required: NONE							
Repair Material: N/A		Base Ba	tch # N/A			Cat. Batch	# N/A
Repairs Accepted? N/A			POLICE STATE				
INSPECTION: DRY FILM	THICK	NESS					
			[0.1	1 4 1 701	. D 0		YES
Gauge Type & S/N: ELEKT				ibrated Th	1		
Location	Average		High	WILL CI	Low	BAYY C	Readings
1 ST COAT	5.8 1	MILS	9.9 1	IILS	2.7	MILS	149
COMMENTS: COATING	TO LOOK	angi ni r	E EOD AT	DITCAT	IONI OI	PERCON	DCOAT
COMMENTS: COATING	15 ACCI	CPIABLE	L FOR AP	PLICATI	ION OI	SECON	D COAT.
Project inspected and accepta	able to me	eet specific	cation?	YES	5		
VI PULL TO)	-			-	25.25.25.25.2	DDD 04 0040
~ July	_ 2	1			Date:	DECEM	BER 31, 2013
QC MANAGER - B. ROBBIARD	36	RD PARTY INSPEC	CTOR				

COATING REPORT

Customer:			Wor	k Order:		
TORNADO COMBUSTIO	NC					
TECHNOLOGIES INC.			3040)		
Description:		Tank No			Loca	ntion:
-		PO 2499				
5' X 10' AGKO UNIT		JOB 135	554		OUT	TDOOR BLAST BAY
COATING APPLICATIO	\mathbb{N}					
DATE: DECEMBER 31, 2	013	TIN	ME: 13:00)	PIE	CES: 1
	Ir	nternal 📰	l	Externa	ıl 🖂	
Relative Humidity	Ambien	t Temp.	Surface	Temp.	Dew Point	Coating Temp
11.0%		21.2°C		21°C	-10.59	°C 22°C
	COAT	# 1 [2 🔳	3 🖂 4	□ 5 □	
Application Method:	Airless		Convention	nal 🖂	Lance	□ Brush/Roll □
Applicator: C. NOTHSTEI					Mixed by: B. I	ROBBIARD
Coating Manufacturer & Ty	pe: DEV			53		
Color: WHITE		Color	No. N/A		Amo	unt used: 2 1/2 GAL.
Base Batch/Lot # PJ3503U	4 47435			Catalyst	Batch/Lot # P	F1014UA 45825
Thinner: T- 10		Batch	/Lot# PG:	2032UH	Thin	ner used: 2%
Induction: 20 MIN.	Pump	Size: 63:1	Не	eater/Setting	g: 0	Tip Size: 419
COATING INSPECTION	I		•	INSPEC	TED PIECES	: 1
Appearance: SMOOTH &						tion: SHELL
Repairs Required: SMALL	ISOLAT	ED LOW	THICK	NESS ARE	AS WERE F	OUND,
ADDITIONAL COATING						
Repair Material: DEVOE 2:	53 Bas	e Batch #	PJ3503U	A 47435	Cat. Batch #	FF1014UA 45825
Repairs Accepted? YES	S					
INSPECTION: DRY FILM	A THICK	CNESS				
Gauge Type & S/N: ELEKT	TRO PH	YSIK	Ca	librated Th	is Day?	YES
Location	Average	,	High		Low	Readings
2 ND COAT	13.4	MILS	19.4	MILS	9.0 MILS	220
COMMENTS: AFTER TH	IE REPA	IRS WEF	RE COM	PLETE TH	HE COATING	G WAS FOUND TO
BE ACCEPTABLE.						
Project inspected and accept	able to m	eet specific	cation?	YES	<u> </u>	
X Bullerla	/ >	K			Date: JANI	JARY 2, 2014
QC MANAGER - B. ROBBIARD		RD PARTY INSPEC	TOR		Date, SAIT	CLARK MY MULT
	3,		- AMERICA			



Jan. 2014

8.0 Vessel Internal Holiday Test Report

HOLIDAY TEST REPORT

Customer:	_	Work Order:	
TORNADO COMBUSTION TI	ECHNOLOGIES		
INC.		3040	
Description:	Tank No.		Location:
	PO 24994		
5' X 10' AGKO	JOB 13554		OUTDOOR BLAST BAY
HOLIDAY TEST			
DATE: JANUARY 2, 2014	TIME: 0	9:00	PIECES: 1
	Internal	External	
Test Performed by: B. ROBBIAR			
Type of Tester: TINKER & RAS		T	
	gh Voltage 🖂	Low Vol	tage 🔲
Dry Spark:	Detergent:		Other:
W			
Wet Sponge:	Surfactant:		
Area Tested: COMPLETE INTE	RNAL		
Number of Holidays Detected: 0		Holidays	Marked With: N/A
Location and Causes of Holidays:	NO HOLIDAYS W	ERE FOUND.	
Repair Procedure: N/A		=	
Repair Material: N/A	Done Detal # N	7.4	16. 8. 1 //2//
	Base Batch # N	***************************************	Cat. Batch # N/A
FINAL INSPECTION		Date: N/A	A
Tester: N/A	Holidays: N	/A	Location: N/A
Repairs Required: N/A	'		
Repair Material: N/A	Base Batch # N	/A	Cat. Batch # N/A
Repairs Accepted? N/A			
HOLIDAY FREE:	Date:		Time:
YES	70 h 10 c - 2 h 1	WARY 2, 2014	12:00
COATING CURE:	Time/ Temper		Type of Test: MEK RUB
FORCED AIR	12 HOURS @		Accept:
			Reject:
COMMENTS: COATING WAS	FOUND TO BE A	CCEPTABLE A	
RELEASED FOR SHIPPING.			
Project inspected and acceptable to	meet specification?	YES	
, I more to	T Transmon.	110	
X (Sull by)	×		Data, LANULADA 2 2014
OC MANAGER - B. ROBBIARD			Date: JANUARY 3, 2014
GC PWWAGER - B. KOBBIARD	3RD PARTY INSPECTOR		



9.0 Vessel External Coating Report

COATING REPORT

Customer:			Work	Order:			
TORNADO COMBUSTIC	N						
TECHNOLOGIES INC.			3040				
Description:		Tank No.				Location	1:
		PO 2499					
5' X 10' AGKO UNIT		JOB 135	54			OUTDO	OOR BLAST BAY
COATING APPLICATIO	N						
DATE: JANUARY 2, 2014		TIN	/IE: 14:00			PIECES	3: 7
	In	ternal 🗀		Externa	1		
Relative Humidity	Ambient		Surface '	Гетр.	Dew F		Coating Temp
20.9%		22.3°C		24°C		-1.1°C	21°C
	COAT#	1 □	2 🔳	3 🖂 4	□ 5		
Application Method:	Airless		Convention	al 🗆	Lan	се 🖂	Brush/Roll
Applicator: C. NOTHSTEI				repared / N		y: C. NOT	THSTEIN
Coating Manufacturer & Ty	pe: CLOV			URSHIEI	JD		
Color: WARM GREY		Color	No. F-34			Amount	used: 3 GAL.
Base Batch/Lot # W13J8122	2			Catalyst	Batch/L	ot # W13	J8235
Thinner: T-9 DILUENT		Batch/	Lot# N/A			Thinner	used: 10%
Induction: 30 MIN.	Pump S	Size: 1595	Hea	nter/Setting	g: 0	Tip S	Size: 313
COATING INSPECTION	T			INSPEC	TED PI	ECES: 7	
Appearance: SMOOTH &	UNIFORI	VI Coati	ng Defects	: BENCH	M.	Location	: MANIFOLD
Repairs Required: BENCH			UNDERS	IDE OF T	HE M	ANIFOLI	D WERE
TOUCHED UP WITH AR							
Repair Material: ARMORS	HIELD	Base I	Batch # W	13J8122		Cat. Batc	ch # W13J8235
Repairs Accepted? YES	8				,		
INSPECTION: DRY FILM	I THICK	NESS					
Gauge Type & S/N: ELEKT	TRO PHY	SIK	Cal	ibrated Th	is Day?		YES
Location	Average		High		Low		Readings
COMPLETE EXT.	-	IILS		IILS		MILS	45
	073. 11	******	2,2			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
COMMENTS: EXTERNA	L COAT	ING WAS	FOUND	TO BE A	CCEP	TABLE.	
Project inspected and accept	able to me	et specific	ration?	YES			
Troject hispected and accept		ot specific	ation:	1,120			
1 1 1 m	1						
X Bull) ×	(Date:	JANUAR	RY 3, 2014
OC MANAGER - B. ROBBIARD	20	D PARTY INSPEC	TOP		1000	ULAI (UZAI	,
GC IMMOCK - D. RODDIAKO	J 3R	O PARTI INSPEC	.100				

COATING REPORT

Customer:			Work	Order:			
TORNADO COMBUSTIO	N						
TECHNOLOGIES INC.			3040				
Description:		Tank No.				Location	1:
		PO 2499	4				
5' X 10' AGKO UNIT		JOB 135	54			OUTDO	OOR BLAST BAY
COATING APPLICATION	N						
DATE: DECEMBER 30, 20		TIM	Æ: 11:00			PIECES	S · 7
DATE. DECEMBER 30, 20		nternal	11. 11.00	Externa	1	THOL	51. 7
Relative Humidity	Ambien		Surface		Dew I	Point	Coating Temp
13.0%	Amolen	18.3°C	Surrace.	19°C	25-C-200-0000 (CC)	-10.6°C	18°C
13.070	COAT #		L 2 □	3 🗆 4			10 0
A l'a-tia- Mathadi			Convention		Lan		Brush/Roll □
Application Method:	Airless		onvenuoi	iai 🗀	Lan		DI USIVICOII L
Applicator: C. NOTHSTEI	N		P	repared / N	Aixed b	y: C. NO	THSTEIN
Coating Manufacturer & Typ		OE, CATH	IA COAT	302H			
Color: GREEN			No. N/A			Amount	used: 3 GAL.
Base Batch/Lot # ND7128U	A 38199			Catalyst	Batch/I	ot#HU1	H 75748
Thinner: T- 10	21 50177	Batch/	Lot# PG2		Duton		used: 5%
Induction: 15 MIN.	Dumn	Size: 70:1		ater/Setting	α· 0		Size: 313
		SIZC. /U.1	1100	INSPEC			5120. 515
COATING INSPECTION					TED LI		
Appearance: SMOOTH & I	UNIFOR	M Coati	ng Defects	: NONE		Location	n: N/A
Repairs Required: NONE							
1							
Repair Material: N/A		Base E	Batch # N/	A		Cat. Bat	ch # N/A
Repairs Accepted? N/A							
INSPECTION: DRY FILM		ZNESS					
		Description section	10.	11 . 1 . 1			37570
Gauge Type & S/N: ELEKT	7.50			ibrated Th			YES
Location	Average		High		Low		Readings
COMPLETE EXT.	3,3]	MILS	5.5 1	AILS	1.7	MILS	36
COMMENTS: EXTERNA	L PRIM	ER WAS	FOUND 7	O BE AC	CEPT	ABLE.	
Project inspected and accept	able to m	eet specific	eation?	YES	5		
2 reject mapeated and decept	lore to m	- or openin		2. 20.4 %	1		
h - 1							
× Pullelon) ;	×			Date:	DECEM	IBER 31, 2013
QC MANAGER - B. ROBBIARD		RD PARTY INSPEC	CTOR				
QC PANAGER - B. ROBBIARD	3	NOTE THE PER					



Jan. 2014

0.0	Secondary	Containment	Pan	Blast	Profile	Report
.0.0	Decomman,	Contamination	W CONT	TATERDE	T I OITH	rechord

Testex PRESS-O-FILM TW WWW.testextapo.com 13554 +56 3.50.6

Testex PRESS-O-FILM TW Coars www.testextaps.com

Testex PRESS-O-FILM TW www.lestextape.com

Testex PRESS-O-FILM TW www.testextape.com

3554-56 20 C 30 (C+XC) /2 64 0.6 1.5 2.5



Jan. 2014

11.0 Secondary	Containment	Pan	Paint	Report
----------------	-------------	-----	-------	--------



TORNADO COMBUSTION TECHNOLOGIES INC.

EXTERNAL COATING TRAVEL SHEET

CUSTOMER NAME

CUSTOMER REFERENCE #

TORNADO REFERENCE #

TORNADO REFERENCE #

INSPECTOR

In House Q.C.

DESCRIPTION 5'-0" Dia. x 10'-0" S/S A.G.K.O. Containment Pan

	AREA BLASTED	BLAST GRADE		BLAST MEDIUM	JM TIME	SURFACE	AMBIENT	R.H.%	DEW	ACTUAL	ACTUAL TESTEX PROFILE		S. Recomer	MFG. Recomended Blast Pri
		7 /000				+	TEMP		POINT	(,		1	
Second	Seconary Containment Pan	27.00		Sil 4	11:00	-11*C	-11*	34%	-3*C	2.4	2.4 Mills Avg.		1.5-2	1.5-2.5 Mils
								_		-				
COMMENTS:									/					
	REI	RELEASED BY:			IN HOUSE QC (Signature)	14	nais	our)	X	The	DATE:		30-Dec-13	33
					INSPECTOR (Signature))			DATE:			
- EXTERNAL COATING -	COATING -	MFGR	MFG Recomended				N	Number of DFT Readings			30			
COAT NO. 1	COATING MANUFACTURER & TYPE	TYPE Wet Film	DFT	COLOUR	BASE BATCH		CATAI	CATALYST BATCH		Wet MIN. I	MIN. DFT MAX. DFT AVG. DFT		SUR. A	AMB. R.H.
	Devoe Cathacoat 302H	H 4-6	2.5-4	Green	PE9950UH		PD8627	PD8627UA-44547		5	4.8	3.5		26*C 26°
	APPLICATION METHOD	% Solid	%Thinner	THINNER	AMOUNT USED	INDUCTION TIME		PUMP SIZE	TIP SIZE		TIME	DATE		INITIALS
	Airless	78%	10%	T-10	3 Gallons	15 Minutes		56:1	317		13:00	30-Dec-13	13	A.C.
COAT # 1 - COMMENTS:	MENTS:													
		MFGR	MFG Recomended				Nu	Number of DFT Readings	teadings					
COAT NO. 2	COATING MANUFACTURER & TYPE	W	PFI	COLOUR	BASE BATCH		CATAI	CATALYST BATCH		Wet MIN. I	MIN. DFT MAX. DFT	AVG. DFT	SUR. A	AMB. R.H.
	Cloverdale Armourshield	3-6	2-4	F-34 Warm Grey	W13D6192		WI	W1367475		5 3.1	4.1	3.5	-	19*C 26
	APPLICATION METHOD	piloS%	%Thinner	THINNER	AMOUNT USED	INDUCTION TIME		PUMP SIZE	TIP SIZE		TIME	DAT	╀	-E
	Airless	%01	2%	092-2	3 Gallons	N/A		56:1	411		8:00	31-Dec-13	63	A.C.
COAT # 2 - COMMENTS:		Total DFT: 5.1 Mils Min., 8.9 Mils Max., 7 Mils Avg.	امx., 7 Mils Av	Ġ.		4								
		MFGR	MFG Recomended				N	Number of DFT Readings	teadings					
COAT NO. 3	COATING MANUFACTURER & TYPE	TYPE Wet Film	DFT	COLOUR	BASE BATCH		CATAI	CATALYST BATCH		Wet MIN.	MIN. DET MAX. DET AVG. DET	-	SUR. A	AMB. R.H.
	APPLICATION METHOD	pilos%	%Thinner	THINNER	AMOUNT USED	INDUCTION TIME		PUMP SIZE	TIP SIZE		TIME	DATE		INITIALS
COAT # 3 - COMMENTS:	MENTS:													
		MFGR	MFG Recomended				Nu	Number of DFT Readings	seadings					
COAT NO. 4	COATING MANUFACTURER & TYPE	TYPE Wet Film	THO	COLOUR	BASE BATCH		CATAI	CATALYST BATCH		Wet MIN. I	MIN. DFT MAX. DFT AVG. DFT		SUR. A	AMB. R.H.
	APPLICATION METHOD	piloS%	%Thinner	THINNER	AMOUNT USED	INDUCTION TIME		PUMP SIZE	TIP SIZE		TIME	DATE	+	INITIALS
						Na.			1					
COAT # 4 - COMMENTS:	MENTS:					11	1			1				
	REI	RELEASED BY:			IN-HOUSE QC (Signature)	140	shell	ソつ	BAR	0	DATE		02-Jan-14	4
					INSPECTOR (Signature)						DATE:			
PROJECT COMMENTS:	ENTS:													



Jan. 2014

12.0 Nameplate Photograph

V VESSEL TYPE: JOB No/S/N: S/S LENGTH: CONN. SIZE: O.D.: Calgary, AB., Canada 403-244-3333

CUSTOMER P.O.: MAWP: 14. TAG NO:

MATERIAL:

OORNAOI

TORNADO Combustion Technologies Int.

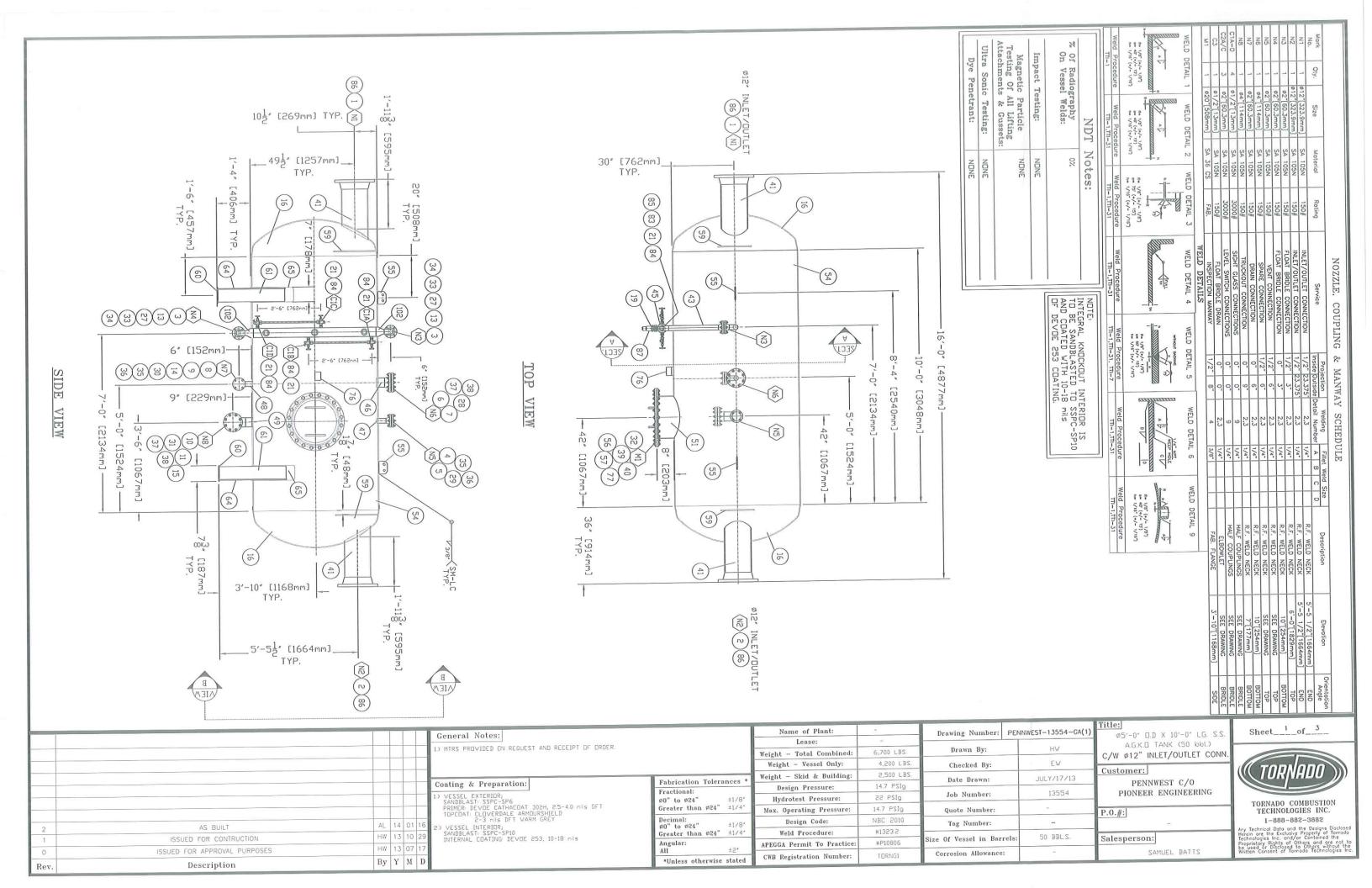
N/S

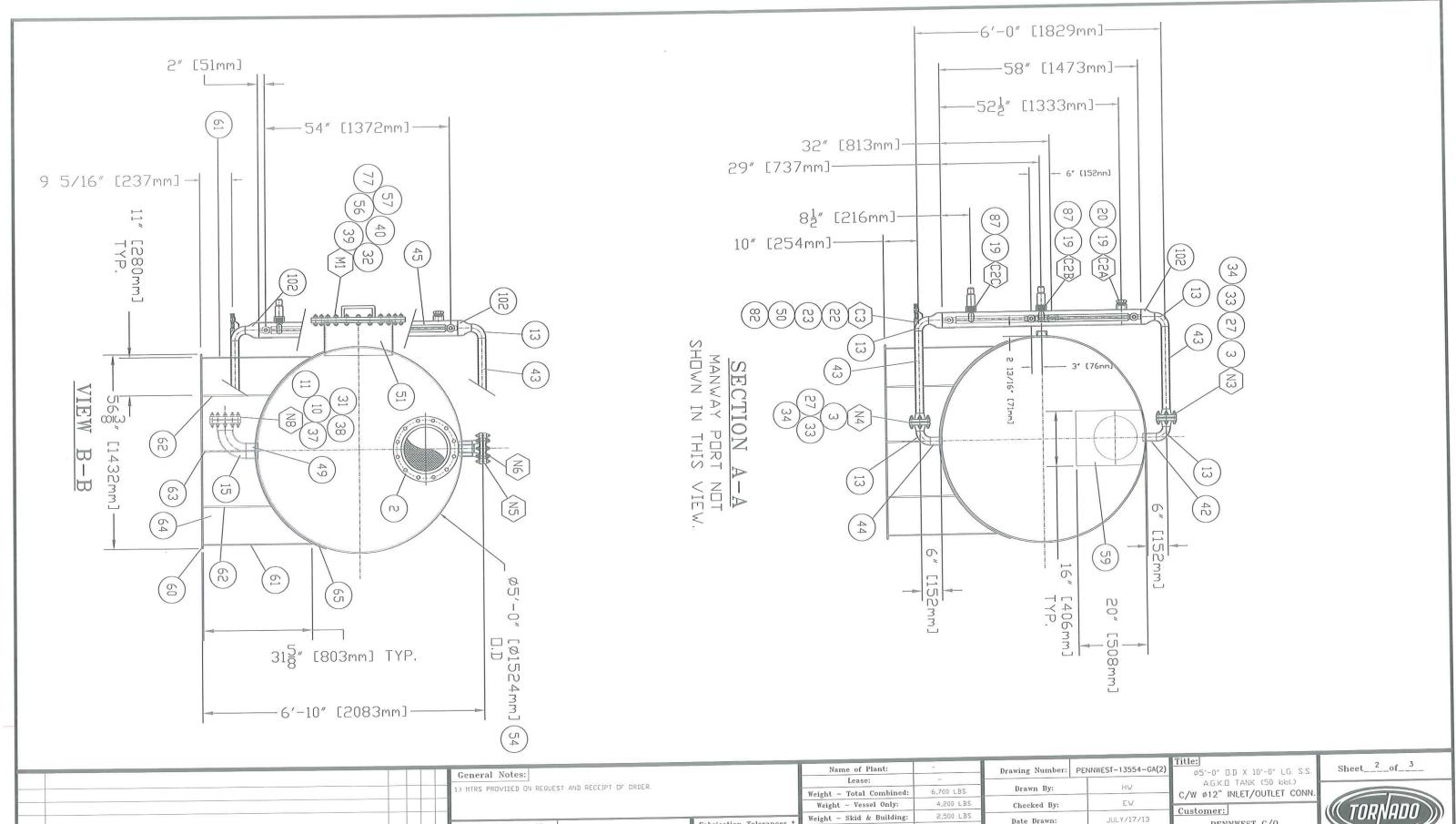
FOR MORE INFORMATION REFER TO



Jan. 2014

13.0 As Built Drawings

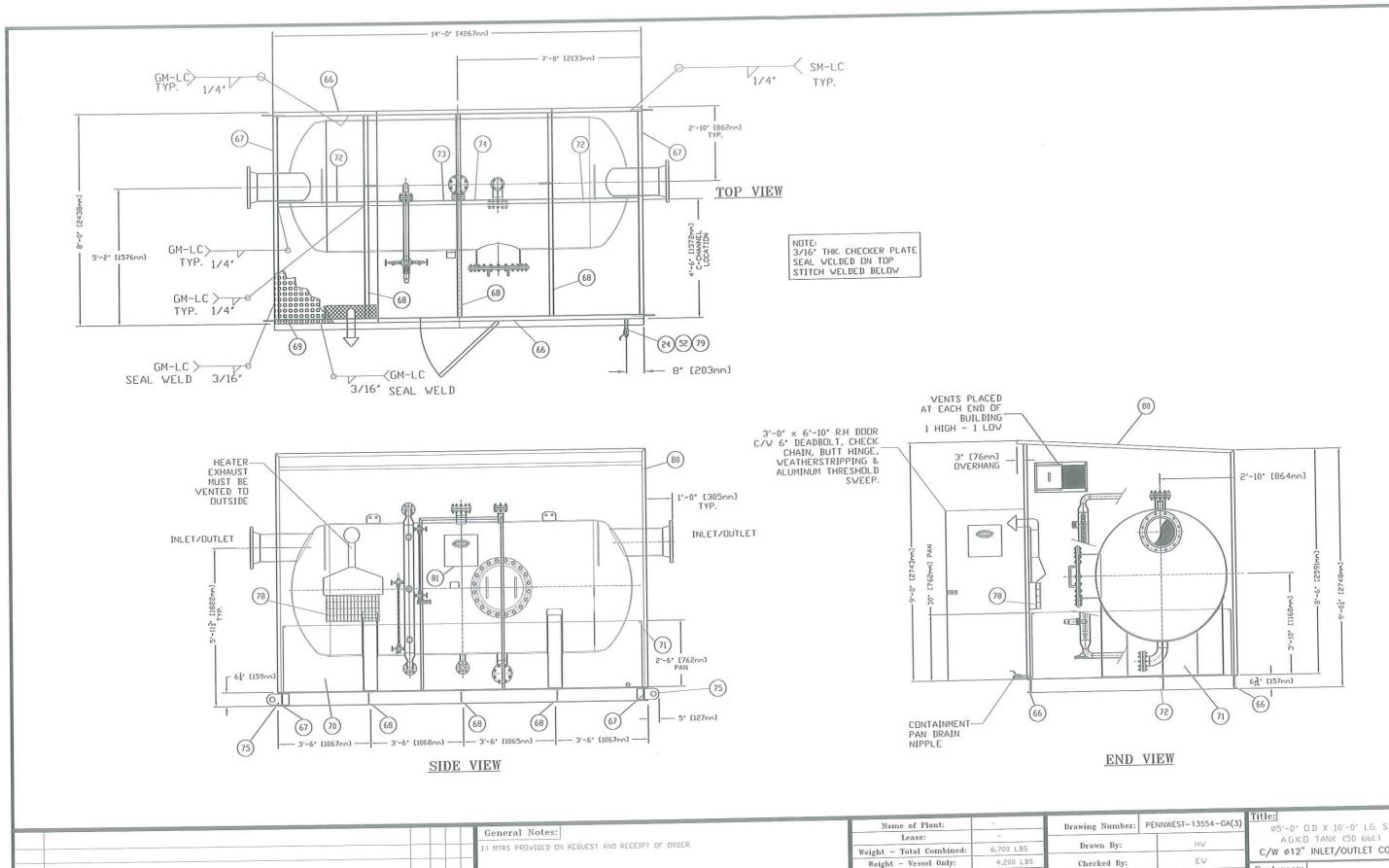


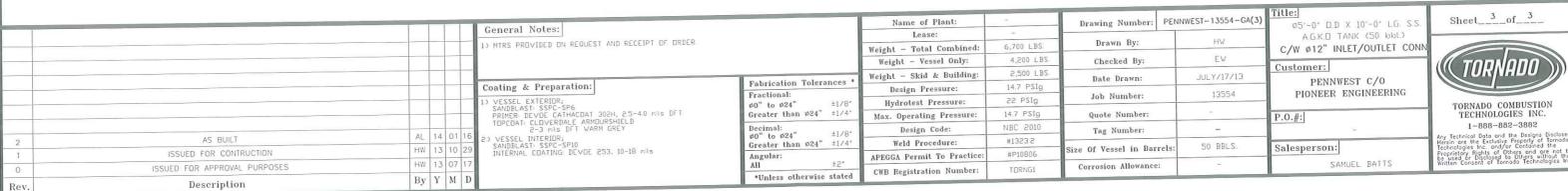


Date Drawn: Fabrication Tolerances * PENNWEST C/O Coating & Preparation: 14.7 PSIg Design Pressure: PIONEER ENGINEERING VESSEL EXTERIOR; SANDBLASTI SSPC-SP6 PRIMER: DEVOE CATHACDAT 302H, 2.5-4.0 mis DFT TDPCDAT CLOVERDALE ARNOURSHIELD 2-3 mis DFT VARM GREY 13554 Fractional: Job Number: 22 PSIg Hydrotest Pressure: Ø0" to Ø24" Greater than \$24" ±1/4" Max. Operating Pressure: 14.7 PSIg Quote Number: P.O.#: Decimal: ø0" to ø24" Design Code: NBC 5010 Tag Number: Any Technical Data and the Designs II Herein are the Exclusive Property of Technologies Inc. and/or Contained Proprietary Rights of Others and are be used or Disclosed to Others with Written Consent of Tormado Technolo 2) VESSEL INTERIOR; SANDBLAST: SSPC-SP10 INTERNAL COATING DEVOE 253, 10-18 rds AS BUILT #1323.2 Greater than \$24" ±1/4" Weld Procedure: 50 BBLS. HW 13 10 2 ze Of Vessel in Barrels: Salesperson: ISSUED FOR CONTRUCTION Angular: APEGGA Permit To Practice: #P10806 HW 13 07 1 SAMUEL BATTS ISSUED FOR APPROVAL PURPOSES Corrosion Allowance: CWB Registration Number: TORNG1 *Unless otherwise stated Description

TORNADO COMBUSTION TECHNOLOGIES INC.

1-888-882-3882





					Bill of N	/laterials					Danadallan	Heat Numb
					Heat Number		No.	Part Number	Qty.	Units	Description Description	58396
	No. Part Numb	oer (Qty. Unit:	Description	13271		54		1	EA	3/8" THK SA 516 GR70 PLATE, ROLLED TO 5'-0" O.D X 10'-0" LONG(KNOCKOUT SHELL)	6251769
	1 FLG-016		1 EA	12" DIA., SCH STD, 150#, RFWN, ANSI B16.5 SA 105N (N1 - INLET/OUTLET CONNECTION)	1 (- 12 // s. r. 100)		55	VES-0062	2	EA	6" X 4" X 1/2" THK SA 36 CS PLATE (LIFTING LUGS)	8351L
	2 FLG-016		1 EA	12" DIA, SCH STD, 150#, RFWN, ANSI B16.5 SA 105N (N2 - INLET/OUTLET CONNECTION)	12/34863		56	FLG-0213	1	EA	3/4" THK SA 36 CS PLATE, FOR 20" DIA PIPE, K.O (MI - MANWAY INLET PLIND)	8315L
	3 FLG-001		4 EA	2" DIA, SCH 80, 150#, RFWN, ANSI B16.5 SA 105N (N3/4 - FLOAT BRIDLE CONNECTIONS)	A87T3		57	FLG-0214	1	EA	3/4" THK SA 36 CS PLATE, FOR 20" DIA PIPE, K.O (M1 - MANWAY INLET BLIND)	00100
	4 FLG-001		1 EA	2" DIA., SCH 80, 150#, RFWN, ANSI B16.5 SA 105N (N5 - VENT CONNECTION)	11/38305		58	,			TO THE PERSON OF THE PART OF T	E3957
	5 FLG-007		1 EA	2" DIA., N/A, 150#, RF BLIND, ANSI B16.5 SA 105N (N5 - VENT CONNECTION BLIND)	08/75402		59		2	EA	20" LONG X 16" WIDE X 3/8" THK 316L S.S. PLATE (INLET/OUTLET DEFLECTORS)	LFH911
ges	6 FLG-011		1 EA	4" DIA. SCH STD, 150#, RFWN, ANSI B16.5 SA 105N (N6 - SPARE CONNECTION)	13/76392		60		2	EA	3/8" THK, SA 36 CS PLATE, 56 3/8" LONG X 7-3/8" WIDE (VESSEL STAND BASES)	016611
300	7 FLG-006	-	1 EA	4" DIA, N/A, 150#, RF BLIND, ANSI B16.5 SA 105N (N6 - SPARE CONNECTION BLIND)	12/34986		61		4	EA	3/8" THK SA 36 CS PLATE, SEE DETAIL, 31.625" X 6" WIDE(VESSEL STAND END PLATES)	016611
	8 FLG-001		1 EA	2" DIA, SCH 80, 150#, RFWN, ANSI B16.5 SA 105N (N7 - DRAIN CONNECTION)	12/72669	Dista			4	EA	3/8" THK, SA 36 CS, 19 3/4" LONG X 6' WIDE (VESSEL STAND STIFFENERS)	
		-	1 EA	2" DIA, N/A, 150#, RF BLIND, ANSI B16.5 SA 105N (N7 - DRAIN CONNECTION BLIND)	08/75402	Plate	62		2	EA	3/8" THK, SA 36 CS, 15 1/4" LONG X 6' WIDE (VESSEL STAND STIFFENERS)	016611
	9 FLG-007			4" DIA, SCH STD, 150#, RFWN, ANSI B16.5 SA 105N (N8 - TRUCKOUT CONNECTION)	13/76392		63		2	EA	3/8" THK, SA 36 CS, SEE DETAIL (VESSEL STAND SIDE COVERS)	R1729
	10 FLG-011		1 EA	4" DIA, N/A, 150#, RF BLIND, ANSI B16.5 SA 105N (N8 - TRUCKOUT CONNECTION BLIND)	12/34986		64			EA	3/8" THK X 7" WIDE, SA 36 CS, SEE DETAIL (VESSEL SUPPORT REPADS)	A3F23
	11 FLG-006	35	1 EA	4 DPA, N/A, 150#, NF BEIND, ANSID 10.0 07/1007/ NO			65		2		C6 X 8.2 C-CHANNEL X 14'-0" LONG (SKID SIDE BEAMS)	
	12			Description	Heat Number		66	STM-0045	2	EA	C6 X 8.2 C-CHANNEL X 7' -8 1/8" LONG (SKID END BEAMS)	
	No. Part Numb		Qty. Unit	2" DIA, SCH 80, 90 DEGREE, SA 234 WPB WELD ELBOW (N3/4 - FLOAT BRIDLE WELD ELBOWS)	12F00018		67	STM-0045	2		C6 X 8.2 C-CHANNEL X 7' - 8 1/8" LONG (SKID CENTRE SUPPORT)	
	13 PFB-001	19	4 EA	2" DIA, SCH 80, 90 DEGREE, SA 234 WYPB WELD ELBOW (NO.4 - LEOAT BRIDGE WELD ELBOW)	12F00018		68	STM-0045	3	EA	3/16" THK. A 36/44W CHECKERPLATE, 8'-0" WIDE X 14'-0" LONG (BUILDING FLOOR)	
	14 PFB-001	19	1 EA	2" DIA, SCH 80, 90 DEGREE, SA 234 WPB WELD ELBOW (N7 - DRAIN CONNECTION WELD ELBOW)	W) 11H00067		69	STM-0048	1	EA	1/8" THK SA 36 CS PLATE X 2' - 6" HIGH X 13' - 7" LONG (CONTAINMENT PAN FRONT/BACK)	
ld	15 PFB-003	34	1 EA	4" DIA, SCH STD, 90 DEGREE, SA 234 WPB WELD ELBOW (N8 - TRUCKOUT CONNECTION WELD ELBO	G8924-874720280		70		2	EA	1/8" THK SA 36 CS PLATE X 2 - 6 HIGH X 13 - 7 LONG (CONTAINMENT PAN SIDES)	
ngs	16 VES-005	55	2 EA	5'-0" O.D, 3/8" THK,2:1 S.E, SA516 GR70 VESSEL HEADS(30 DEGREE OUTSIDE BEVEL, NO LAND)	G9690-5702702341		71		2	EA	1/8" THK SA 36 CS PLATE X 2' - 6" HIGH X 7' - 6 3/4" LONG (CONTAINMENT PAN SIDES)	
0	17				G9090-3702702341		72	STM-0045	2	EA	C6 X 8.2 C-CHANNEL X 3'-3 1/8" LONG (SKID CENTRE SUPPORT)	
	18				Lleat Number		73	STM-0045	1	EA	C6 X 8.2 C-CHANNEL X 3' - 5 7/8" LONG (SKID CENTRE SUPPORT)	
	No. Part Numi	ber	Qty. Unit	Description	Heat Number		74	STM-0045	1	EA	C6 X 8.2 C-CHANNEL X 3' - 7 3/8" LONG (SKID CENTRE SUPPORT)	
	19 PFT-018		3 EA	2" DIA 3000#, NPT, SA 105 HALF COUPLING (C2A-C - LEVEL SWITCH CONNECTIONS)	K88, 3861		75	SKID-0013	4		10" X 5" X 1/2" THK SA 36 CS PLATE (LIFTING LUGS - K.O SKID)	
	20 PFT-017	7.00	1 EA	2" DIA . 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C2A - LEVEL SWITCH CONNECTION)	3065			01(10-0010	-			Ha-tkl
			4 EA	1/2" DIA 3000#, NPT, SA 105 HALF COUPLING (C1A-D - SIGHT GLASS CONNECTIONS)	3430, 79144		76 No.	Part Number	Ohr	Units	Description	Heat Nur
lines	21 PFT-022		1 EA	1/2" DIA 3000#, NPT, SA 105N ELBOWLET (C3 - FLOAT BRIDLE DRAIN CONNECTION)	57618	1	No.	Part Number	Qty.	EA	5" LONG X 3" C-CHANNEL (NAMEPLATE BRACKET)	
lings	22 PFB-003			1/2" DIA 3000/6000#, NP1, 3A 105N EEBOWEET (66 125 N 51 STEEDED DRAIN CONNECTION 1/2" DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2" DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2" DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2" DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2" DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2" DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2" DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2" DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2" DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG, THREADED (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 105N HEX HEAD PLUG (C3 - FLOAT BRIDLE DRAIN CONNECTION 1/2") DIA 3000/6000#, SA 10000 HEX HEX BRIDLE DRAIN CONNECTION 1/2") DIA 3000 HEX HEX BRIDLE D	N) 3334		76	FLS-0063			3/4" DIA ROD X 1'-9" LONG, BENT INTO U-SHAPE, W/3 1/2" LONG LEGS (MANWAY HANDLE)	
	23 PFT-015		1 EA	1" DIA 3000#, NPT SA 105 HEX HEAD PLUG (SKID DRAIN NIPPLE PLUG)	3715		77	BAR-0030	2	EA	CATADYNE (CC) FLAMELESS HEATER, 12" X 24", NATURAL GAS, 12 VDC START	
	24 PFT-017	74	1 EA	T"DIA 3000#, NPT SA 103 TEXTIEAD FEOC (ONLY DIG STATE THE TEXTILE TO STATE THE TEXTILE TO STATE THE TEXTILE THE STATE THE STATE THE TEXTILE THE STATE THE STATE THE TEXTILE THE STATE TH		Misc.	78		1	EA	1" DIA NPT, 2000 PSI, NACE NAVCO MANUAL BALL VALVE (DRAIN BALL VALVE))
	25					Parts	79	VBA-0001	1	EA	WHITE FINISHED THERMO-PANEL BUILDING KIT FOR SKIDDED 8'-0" X 14'-0" A.G.K.O (B	BUILDING)
	26			Doubleton	Heat Number		80		1	EA	STICKER, "MANUFACTURED BY TORNADO COMBUSTION TECHNOLOGIES INC." USED ON	N BUILDINGS
	No. Part Num	ber	Qty. Uni	Description CASKET			81	BLD-0053	1	EA		Heat Nu
	27 SNG-012	22	2 EA	2" DIA X 1/8" THK, 150#, 316L S.S. FLEXI-CARB GASKET (N3/4 - FLOAT BRIDLE CONNECTION GASKET	5)		No.	Part Number	Qty.	Units	Description	
	28 SNG-013	35	1 EA	4" DIA. X 1/8" THK, 150#, 316L S.S. FLEXI-CARB GASKET (N6 - SPARE CONNECTION GASKET)			82	VBA-0022	1	EA	1/2" DIA NPT A105N NACE NAVCO BALL VALVE (C3-FLOAT BRIDLE DRAIN VALVE)	
kets	29 SNG-012		1 E/	2" DIA X 1/8" THK, 150#, 316L S.S. FLEXI-CARB GASKET (N5 - VENT CONNECTION GASKET)			83	LVG-0027	2	EA	5/8" DIA ACRYLIC SIGHT GLASS TUBE (SIGHT GLASS) 30" LONG	
noto:	30 SNG-012		1 E/	2" DIA X 1/8" THK, 150#, 316L S.S. FLEXI-CARB GASKET (N7 - DRAIN CONNECTION GASKET)			84	LVG-0019	2	EA	PENBERTHY LEVEL GAGECOCK TWO VALVE SET #N7A (LEVEL GAUGE VALVES)	
	31 SNG-013		1 E/	4" DIA X 1/8" THK, 150#, 316L S.S. FLEXI-CARB GASKET (N8 - TRUCKOUT CONNECTION GASKET)				BLD-0002	2	EA	28" LG. ALUMINUM C-CHANNEL SIGHT GLASS GUARD (NOT DEPICTED)	
			1 E/	20" DIA O.D X 1/8" THK. NEOPRENE GASKET (M1 - MANWAY GASKET)			85		2	EA	12" DIA. 150#, PLASTIC FLANGE COVER(NOT DEPICTED)	
	32 SNG-026			5			86	CONSUMABLE		EA	2" DIA NPT FLOAT TYPE ELECTRIC LEVEL SWITCH ASSEMBLY SOR	
	No. Part Num		Qty. Uni	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N3/4 - FLOAT BRIDLE CONNECTION STUDS)			87	VLC-0036	2	LA		
	33 SNG-01:		8 E/	5/8" DIA SA194 2HM NUTS (N3/4 - FLOAT BRIDLE CONNECTION NUTS)			88			-		
	34 SNG-01		16 EA	5/8" DIA X3 1/2" LONG SA193 B7M STUDS (N5/7 - VENT/DRAIN CONNECTION STUDS)			89					
	35 SNG-01:	23	8 E/	5/8" DIA X3 1/2 LONG SA193 BYMSTOLD (NOT VEHICLE OF MILES)		Ship	90					
							- 00					
ds &	36 SNG-01		16 EA	5/8" DIA SA194 2HM NUTS (N5/7 - VENT/DRAIN CONNECTION NUTS)		Loose	91		_	-		
		08	16 E/	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS)		Loose Parts						
	36 SNG-01	08 23		5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS)			91					
	36 SNG-01 37 SNG-01	08 23 08	16 E/	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS)			91 92					
	36 SNG-01 37 SNG-01 38 SNG-01	08 23 08 31	16 E/	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS)	Haat Number		91 92 93					
	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02	08 23 08 31 04	16 E/ 32 E/ 20 E/	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description	Heat Number		91 92 93 94					
	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01	08 23 08 31 04 nber	16 E/ 32 E/ 20 E/ 40 E/	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS)	1333415		91 92 93 94 95 96					
	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00	08 23 08 31 04 ober 080	16 E/ 32 E/ 20 E/ 40 E/ Qty. Uni	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION)	1333415 12228185		91 92 93 94 95 96					
	36 SNG-01 37 SNG-01 38 SNG-02 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00	08 23 08 31 04 04 080 030	16 E/ 32 E/ 20 E/ 40 E/ Qty. Uni 1 E/ 1 E/	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES)	1333415 12228185 12228185		91 92 93 94 95 96 97 98					
	36 SNG-01 37 SNG-01 38 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00	08 23 08 31 04 04 0ber 080 030	16 E/ 32 E/ 20 E/ 40 E/ Qty. Uni 1 E/ 1 E/ 2 E/	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION)	1333415 12228185 12228185 12228185		91 92 93 94 95 96 97 98					
	36 SNG-01 37 SNG-01 38 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 44 PIPE-00	08 23 08 331 04 ober 080 030 030 030	16 E/ 32 E/ 20 E/ 40 E/ Qty. Uni 1 E/ 2 E/ 1 E/	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 4"-10" LONG (FLOAT BRIDLE CONTAINER)	1333415 12228185 12228185 12228185 10708253		91 92 93 94 95 96 97 98 99					
	36 SNG-01 37 SNG-01 38 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 44 PIPE-00 45 PIPE-00	08 23 08 331 04 ober 080 030 030 030 0552	16 E/32 E/40 E/Qty. Unit 1 E/2 E/1	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 4"-10" LONG (FLOAT BRIDLE CONTAINER)	1333415 12228185 12228185 12228185 10708253 10708253		91 92 93 94 95 96 97 98 99 100	Dark Number	T. Oh:	Unite	Description	
rts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 44 PIPE-00 45 PIPE-00	08 23 08 331 04 ober 080 030 030 052 052	16 E/32 E/40 E/40 E/40 Unit 1 E/2 E/11 E/11 E/11 E/11 E/11 E/11 E/1	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION)	1333415 12228185 12228185 12228185 10708253		91 92 93 94 95 96 97 98 99 100 101 No.	Part Number			Description 4" DIA, X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS)	
nts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 44 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00	08 23 08 331 04 ober 080 030 030 030 052 052 030 0	16 E/ 32 E/ 20 E/ 40 E/ Qty. Uni 1 E/ 2 E/ 1	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N6 - SPARE CONNECTION EXTENSION)	1333415 12228185 12228185 12228185 10708253 10708253		91 92 93 94 95 96 97 98 99 100 101 No.	Part Number	r Qty.	Units	Description 4" DIA, X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS)	
rts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 44 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00	08	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1 E/ 2 E/ 1	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185		91 92 93 94 95 96 97 98 99 100 101 No.	Part Numbe			Description 4" DIA, X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS)	
nts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 44 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 49 PIPE-00	08	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185		91 92 93 94 95 96 97 98 99 100 101 No. 102	Part Number			Description 4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS)	
uts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 44 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00	08	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185	Parts	91 92 93 94 95 96 97 98 99 100 101 No.	Part Number			Description 4" DIA, X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS)	
rts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 44 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 49 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253	Parts	91 92 93 94 95 96 97 98 99 100 101 No. 102	Part Number			Description 4" DIA, X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS)	
ts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02	08 23 08 331 04 04 05 05 05 05 05 05	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253	Parts	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104	Part Number			4" DIA, X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS)	56G2l
ts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 49 PIPE-00 50 PFT-02 51 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253	Parts	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106				4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Title:	56G2l
ts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 52 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA, X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253	Parts	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106	me of Plant:			4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) Title: Ø5'-0" D.D X 10'-0" LG S.S. She	56G2l
ts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 52 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION NUTS) 3/4" DIA SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2"-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2"-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE CONTAINER) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 2" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS, SA 106B PIPE X 7" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS, SA 106B PIPE X 7" LONG (M1 - MANWAY INLET EXTENSION)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 12228185 10708253 BSM-1086	Parts	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106 107	nme of Plant: Lease:	2	EA	4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) ### DIA X 2"	56G2l
rts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 52 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 12228185 10708253 BSM-1086	Parts	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106 107 Ne	ame of Plant: Lease: — Total Combine	2	EA	4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) Drawn By: HW C/W Ø12" INLET/OUTLET CONN	56G2
nts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 52 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION NUTS) 3/4" DIA SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2"-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2"-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE CONTAINER) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 2" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS, SA 106B PIPE X 7" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS, SA 106B PIPE X 7" LONG (M1 - MANWAY INLET EXTENSION)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 12228185 10708253 BSM-1086	Parts	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106 107 Neight Weight	nme of Plant: Lease: Total Combine t - Vessel Only:	2	FA	4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) Drawn By: HW Checked By: EV Title: Ø5'-0" D.D X 10'-0" LG. S.S. A.G.K.D TANK (50 bbl.) C/W Ø12" INLET/OUTLET CONN Customer:	56G2
nts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 52 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05 05 05 05 05 05 05 05	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA, X3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA, SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA, X3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA, SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3'-10" LONG (FLOAT BRIDLE CONTAINER) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3'-10" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3'-12" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3'-12" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3'-12" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3'-12" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA SCH 80, SMLS, SA 106B PIPE X 3'-12" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA SCH STD, SMLS, SA 106B PIPE X 3'-12" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH STD, SMLS, SA 106B PIPE X 3'-12" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH STD, SMLS, SA 106B PIPE X 3'-12" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH STD, SMLS, SA 106B PIPE X 3'-12" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH STD, SMLS, SA 106B PIPE X 3'-12" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH STD, SMLS, SA 106B PIPE X 3'-12" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH STD, SMLS, SA 106B PIPE X 3'-12" LONG (N8 - TRUCKOUT CONNECTION EXTENSION)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253 BSM-1086	Concentric Reducers	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106 107 Weight Weight	ame of Plant: Lease: - Total Combine t - Vessel Only: - Skid & Buildin	2	FA F	4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) Drawn By: HW C/W Ø12" INLET/OUTLET CONN	56G2
uts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 52 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05 05 05 05 05 05 05 05	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA. X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA. SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA. X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA. SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA., SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA., SCH 80, SMLS, SA 106B PIPE X 2'-1/8" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA., SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA., SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA., SCH STD, SMLS, SA 106B PIPE X 4'-10" LONG (FLOAT BRIDLE CONTAINER) 4" DIA., SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA., SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA., SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA., SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 4" DIA., SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA. SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA. SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA. SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA. SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253 BSM-1086	Concentric Reducers	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106 107 Weight Weight	nme of Plant: Lease: Total Combine t - Vessel Only:	2	FA F	4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) Drawn By: HW Checked By: EW Date Drawn: JULY/17/13 PENNWEST C/O Date Drawn: PENNWEST C/O DATE DRAWN: PENNWEST C/O DATE DRAWN: PENNWEST C/O DESCRIPTION OF THE PENNWEST C/O DESC	56G2
nts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 52 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05 05 05 05 05 05 05 05	16 E/ 32 E/ 20 E/ 40 E/ Qty. Unit E/ 1	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 4" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA, SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA, SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA, SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA, SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA, SCH STD, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) Coating & Preparation: 1D MESSEL EXTERIOR: 1D MESSEL EXTERIOR:	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253 BSM-1086	Concentric Reducers reation Tolerances *	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106 107 Neight Weight Weight De	ame of Plant: Lease: - Total Combine t - Vessel Only: - Skid & Buildin	2	FA	4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) Drawn By: HW Checked By: EW Date Drawn: JULY/17/13 Job Number: 13554 Title: #5'-0" D.D X 10'-0" LG. S.S. A.G.K.D TANK (50 bbb.) C/W #12" INLET/OUTLET CONN Customer: PENNWEST C/O PIONEER ENGINEERING TOR	56G2
uts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 52 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05 05 05 05 05 05 05 05	16 E/32 E/20 E/40 E/20 E/40 E/20 E/40 E/20 E/20 E/20 E/20 E/20 E/20 E/20 E/2	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA, SCH STD, SMLS, SA 106B PIPE X 2"-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2"-0" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2"-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 7/8" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 4" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 7" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS, SA 106B PIPE X 7" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS, SA 106B PIPE X 7" LONG (M2 - REQUEST AND RECEIPT DESCRIPTION OF THE PROPERTY OF T	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253 BSM-1086	Concentric Reducers cation Tolerances *	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106 107 Neight Weight Weight De	me of Plant: Lease: – Total Combine t – Vessel Only: – Skid & Buildin sign Pressure:	2	FA	4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) Drawn By: HW Checked By: EW Date Drawn: JULY/17/13 Job Number: 13554 Quote Number: - PENNWEST-13554-BOM(1) Title: Ø5'-0" [I.D X 10'-0" LG, S.S. She A.G.K.[I TANK (50 bbl.)) C/W Ø12" INLET/OUTLET CONN Customer: PENNWEST C/O PIONEER ENGINEERING TOR	56G2C
uts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 52 PIPE-00	08 23 08 331 04 04 05 05 05 05 05 05	16 E/32 E/20 E/40 E/20 E/40 E/20 E/40 E/20 E/20 E/20 E/20 E/20 E/20 E/20 E/2	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (Mf - MANWAY CONNECTION STUDS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (Mf - MANWAY CONNECTION STUDS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (Mf - MANWAY CONNECTION STUDS) 2" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-1/8" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE CONTAINER) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253 BSM-1086 FORDER. Fabric Fractic #00" to Greate Decim	Concentric Reducers Cation Tolerances * onal:	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106 107 Neight Weight Weight De Hyd	me of Plant: Lease: - Total Combine t - Vessel Only: - Skid & Buildin sign Pressure: rotest Pressure:	2	FA	4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) Drawn By: HW	set_1_of_2 ORNAD RNADO COMBUS ECHNOLOGIES 1-888-882-381
uts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 53	08 23 08 23 08 23 08 23 08 23 08 23 20 20 20 20 20 20 20	16 E/32 E/32 E/32 E/32 E/32 E/32 E/32 E/32	5/8" DIA. X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA. SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA. X 3 1/2" LONG SA193 B7M STUDS (M1 - MANWAY CONNECTION STUDS) 3/4" DIA. SA194 2HM NUTS (M1 - MANWAY CONNECTION NUTS) Description 12" DIA., SCH STD, SMLS, SA 106B PIPE X 2"-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA., SCH 80, SMLS, SA 106B PIPE X 2"-1/8" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE EXTENSION) 2" DIA., SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE EXTENSION) 4" DIA., SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE EXTENSION) 4" DIA., SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA., SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N5 - VENT CONNECTION EXTENSION) 2" DIA., SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA., SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 4" DIA., SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA. SCH 80, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA., SCH STD, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) Coating & Preparation: 1.) MTRS PROVIDED DN REQUEST AND RECEIPT EXAMBBLAST: SSPC-SPC. SANDBLAST: SSPC-SPC. COATING & PREPARATION. 1.) MTRS PROVIDED DN REQUEST AND RECEIPT EXAMBBLAST: SSPC-SPC. 2-3 AND AND ASST SSPC-SPC. 2-3 AND ASST SSPC-SPC. 2-3 AND ASST SSPC-SPC. 2-3 AND ASST SSPC-SPC. 2-3 AND ASST SSPC-SPC.	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253 BSM-1086 FORDER. Fabric Fracti #0" to Greate Decim	Concentric Reducers cation Tolerances * conal: 0 024" ±1/8' at: 0 024" ±1/8'	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106 107 Neight Weight Weight Dee Hyd	nme of Plant: Lease: - Total Combine t - Vessel Only: - Skid & Buildir sign Pressure: rotest Pressure: rperating Pressur	2	FA	4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) Drawn By: HW	set_l_of_2 CORNADO RNADO COMBUS ECHNOLOGIES I 1-888-882-388
ds & uts	36 SNG-01 37 SNG-01 38 SNG-01 39 SNG-02 40 SNG-01 No. Part Num 41 PIPE-00 42 PIPE-00 43 PIPE-00 45 PIPE-00 46 PIPE-00 47 PIPE-00 48 PIPE-00 50 PFT-02 51 PIPE-00 53	08 23 08 23 08 23 08 23 08 23 08 23 20 20 20 20 20 20 20	16 E/32 E/32 E/32 E/32 E/32 E/32 E/32 E/32	5/8" DIA X 3 1/2" LONG SA193 B7M STUDS (N6/8 - SPARE/TRUCKOUT CONNECTION STUDS) 5/8" DIA SA194 2HM NUTS (N6/8 - SPARE/TRUCKOUT CONNECTION NUTS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (Mf - MANWAY CONNECTION STUDS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (Mf - MANWAY CONNECTION STUDS) 3/4" DIA X 3 1/2" LONG SA193 B7M STUDS (Mf - MANWAY CONNECTION STUDS) 2" DIA, SCH STD, SMLS, SA 106B PIPE X 2'-1/8" LONG (N1/2 - INLET/OUTLET EXTENSIONS) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-1/8" LONG (N3 - UPPER FLOAT BRIDLE EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 2'-0" LONG (N3/4 - UPPER/LOWER FLOAT BRIDLE PIPES) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N4 - LOWER FLOAT BRIDLE CONTAINER) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N6 - SPARE CONNECTION EXTENSION) 2" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH 80, SMLS, SA 106B PIPE X 3 1/2" LONG (N7 - DRAIN CONNECTION EXTENSION) 4" DIA, SCH STD, SMLS, SA 106B PIPE X 3 1/2" LONG (N8 - TRUCKOUT CONNECTION EXTENSION) 1/2" DIA, SCH 80, SMLS, SA 106B PIPE X 2" LONG, T.B.E (C3 - FLOAT BRIDLE DRAIN NIPPLE) 20" DIA, SCH STD, SMLS, SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION) 1" DIA SCH STD, SMLS SA 106B PIPE X 9 7/8" LONG (M1 - MANWAY INLET EXTENSION)	1333415 12228185 12228185 12228185 10708253 10708253 12228185 12228185 10708253 BSM-1086 FORDER. Fabric Fracti #0" to Greate Decim	Concentric Reducers Concentric Reducers eation Tolerances * onal: 0 024" ±1/8' er than 024" ±1/4' al: 0 024" ±1/8' er than 024" ±1/4'	91 92 93 94 95 96 97 98 99 100 101 No. 102 103 104 105 106 107 Weight Weight Weight Max. C	me of Plant: Lease: - Total Combine t - Vessel Only: - Skid & Buildin sign Pressure: rotest Pressure: rperating Pressur Design Code:	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	FA	4" DIA X 2" DIA, NPS,SCH STD/80, SA 234 WPB (FLOAT BRIDLE CONC. REDUCERS) Drawing Number: PENNWEST-13554-BOM(1) Drawn By: HW	Heat Nu 56G20 DEVELOPMENT OF THE PROPERTY OF

