

# **QUALITY CONTROL MANUAL**

# **HUSKY ENERGY**

PO#: 8400005280

AFE#: US-24526-CG

**UNIT # SAA-08240** 

**JOB # I-980** 

## **NISKU HEAD OFFICE / MANUFACTURING / SERVICE**

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1	BILL OF MATERIAL
2	P&ID'S WELD MAPS / X-RAY REPORTS
3	PSV'S
4	MFG. DATA REPORTS
5	TEST & CALIBRATION & PWHT REPORTS
6	AB 83 / CHECKLISTS
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8	M.S.D.S.







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QPS CERTIIFED: QC-54930

JOB # I-980 UNIT # SAA-08240

COMPONENTS

COMPRESSOR ASSEMBLY: CA-210

MAKE: COPELAND SCROLL MODEL NO: SZ022C3A-EDE-234 INLET PRESS: 2" W.C. /MAX 10 PSIG DISCHARGE PRESS SETTING: 215 PSIG

275VAC / 3 PH / 60 Hz

PEAK OPERATING AMPS: 16.3

SERIAL NO: 08F0A272K QPS CERTIFIED: QCC-98023

COMPRESSOR: C-210

MAKE: COPELAND SCROLL MODEL NO: ZNH22C3A-KXX-265 MAX DISCHARGE PRESS: 450 PSIA

275VAC / 3 PH / 60 Hz

PEAK OPERATING AMPS: 16.3

RPM: 3600

SERIAL NO: 08EC4094K

COMPRESSOR OIL FILTER: F-210

MAKE: COPELAND SCROLL PART NO: 513-0019-01

FAINT NO. 313-0019-0

COMPRESSOR OIL V-210

**SEPARATOR:** MAKE: COPELAND SCROLL

PART NO: 548-2116-01

RATED PRESSURE: 250 PSIG

COMPRESSOR COOLER: E-210

MAKE: SUPER RADIATOR COILS

CRN: OH6358.2 CRN: OH0741.3



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**COMPONENTS CONTINUED** 

COOLER FAN MOTOR: M-210

MAKE: EBM

MODEL NO: W1G250-HH37-52

24 VDC

COMPRESSOR ASSEMBLY: CA-220

MAKE: COPELAND SCROLL MODEL NO: SZ022C3A-EDE-234 INLET PRESS: 2" W.C. /MAX 10 PSIG DISCHARGE PRESS SETTING: 215 PSIG

275VAC / 3 PH / 60 Hz

PEAK OPERATING AMPS: 16.3

SERIAL NO: 08F0A268K QPS CERTIFIED: QCC-98019

COMPRESSOR: C-220

MAKE: COPELAND SCROLL MODEL NO: ZNH22C3A-KXX-265 MAX DISCHARGE PRESS: 450 PSIA

275VAC / 3 PH / 60 Hz

PEAK OPERATING AMPS: 16.3

RPM: 3600

SERIAL NO: 08EC4101K

COMPRESSOR OIL FILTER: F-220

MAKE: COPELAND SCROLL PART NO: 513-0019-01

COMPRESSOR OIL V-220

**SEPARATOR:** MAKE: COPELAND SCROLL

PART NO: 548-2116-01

RATED PRESSURE: 250 PSIG



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**COMPONENTS CONTINUED** 

COMPRESSOR COOLER: E-220

MAKE: SUPER RADIATOR COILS

CRN: OH6358.2 CRN: OH0741.3

COOLER FAN MOTOR: M-220

MAKE: EBM

MODEL NO: W1G250-HH37-52

24 VDC

INLET SEPARATOR: V-110

MAKE: LO TECH MANUFACTURING

YEAR BUILT: 2008

MAWP: 600 PSI @ 650°F MDMT: -20°F @ 600 PSI

CORROSION ALLOWANCE: .0625"

CRN NO: OH5415.21345 SERIAL NO: 8600.643

PUMP: P-610

MAKE: SANDPIPER

MODEL NO: PCC1, GABTXNSX

MWP: 100 PSI

45 GPM @ 40 SCFM SERIAL NO: 1613183

DISCHARGE SCRUBBER: V-120

MAKE: LO TECH MANUFACTURING

YEAR BUILT: 2008

MAWP: 600 PSI @ 650°F MDMT: -20°F @ 600 PSI

CORROSION ALLOWANCE: .0625"

CRN NO: OH5415.21345 SERIAL NO: 8600.666



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**COMPONENTS CONTINUED** 

AIR COOLED EXCHANGER: E-510

MAKE: GLOBAL HEAT TRANSFER

MODEL: GHT-450 SC MAWP: 402 PSI @ 250°F CRN NO: OH7426.213 SERIAL NO: 080504006

COOLER FAN MOTOR: D-510

MAKE: EBM

MODEL NO: W1G250-HH37-52

24 VDC

QPS CERTIFIED: QCC-69043

FILTERS: F-810 / F-820

MAKE: FLAIR

MAWP: 232 PSI @ 149°F FILTER MODEL NO: HF 90 ELEMENT MODEL NO: HFD 90

CRN NO: OH5142.51263

C/W DIFFERENTIAL PRESSURE GAUGE

RIGHT DRYING TOWER: V-140

MAKE: PYRAMID MANUFACTURING

YEAR BUILT: 2008

MAWP: 550 PSI @ 600°F MDMT: -20°F @ 550 PSI

CORROSION ALLOWANCE: .0625"

CRN NO: OH5228.23

SERIAL NO: 08-3200-0000-F



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#### **COMPONENTS CONTINUED**

LEFT DRYING TOWER: V-130

MAKE: PYRAMID MANUFACTURING

YEAR BUILT: 2008

MAWP: 550 PSI @ 600°F MDMT: -20°F @ 550 PSI

CORROSION ALLOWANCE: .0625"

CRN NO: OH5228.23

SERIAL NO: 08-3200-0000-A

METER RUN: FE-1401

MAKE: NUFLO

PART NO: 40422-34221 ASSEMBLY NO: 40422-0094

CRN NO: OF1120.213 SERIAL NO: XJ70398-12

HEATER: H-410

MAKE: CATA-DYNE MODEL NO: MKII 2424

120 V START

SERIAL NO: 380250

PSV'S: PSV-1101 PRESSURE SAFETY VALVE

MAKE: MERCER

MODEL NO: 91-17D51V06E1

CRN NO: OG8841.5C

SCFM: 228

SET PRESSURE: 100 PSI SERIAL NO: 408237

**PSV-1201 PRESSURE SAFETY VALVE** 

MAKE: MERCER

MODEL NO: 91-17D51V07E1

CRN NO: OG8841.5C

SCFM: 329

SET PRESSURE: 150PSI SERIAL NO: 432039



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#### **COMPONENTS CONTINUED**

## **PSV-1401 PRESSURE SAFETY VALVE**

MAKE: MERCER

MODEL NO: 91-17D51V06E1

CRN NO: OG8841.5C

SCFM: 188

SET PRESSURE: 80 PSI SERIAL NO: 422161

### **PSV-2101 PRESSURE SAFETY VALVE**

MAKE: MERCER

MODEL NO: 91-17D51V07E1

CRN NO: OG8841.5C

SCFM: 329

SET PRESSURE: 150PSI SERIAL NO: 432040

## **CONTROL VALVES:**

# **LC-1101 LEVEL CONTROLLER**

MAKE: MURPHY

MODEL NO: L1200NDVO

#### **LCV-1201 LEVEL CONTROL VALVE**

MAKE: WATSON McDANIEL MODEL NO: PMD 1810-400

SERIES: WLD-1800

MAWP: 600 PSIG @ 500°F

CRN: OE3324.52

#### PRV-1101 PRESSURE CONTROL VALVE

MAKE: FISHER

MODEL NO: 289H-42 SPRING RANGE: 4-15 PSI

#### **PCV-1201 PRESSURE CONTROL VALVE**

MAKE: KIMRAY

MODEL NO: 1.2 SGT OPR

MAWP: 175 PSI / SPRING RANGE 2.5 PSI



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#### **COMPONENTS CONTINUED**

# BPCV-2101 BACK PRESSURE CONTROL VALVE

MAKE: FISHER MODEL NO: 630R

SPRINGE RANGE: 75-175 PSI MAX. INLET PRESSURE: 425 PSI MAX. CASING PRESSURE: 550 PSI

# ACV-1401 AIR CONTROL VALVE FAIL OPEN

MAKE: BURKERT NPT 1" PMED 232 PSI PILOT 29 -145 PSI PART NO: 454599

# ACV-1301 AIR CONTROL VALVE FAIL CLOSE

MAKE: BURKERT NPT 1" PMED 232 PSI PILOT 27 -145 PSI PART NO: 454637

# ACV-1302 / ACV-1402 AIR CONTROL VALVE FAIL CLOSE

MAKE: BURKERT NPT ½" PMED 232 PSI PILOT 39 -145 PSI PART NO: 454635

#### **PCV-1301 PRESSURE CONTROL VALVE**

MAKE: FISHER

MODEL: 67CFR-362SC SPRING RANGE: 0-35 PSI MAX SUPPLY: 250 PSI



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#### **COMPONENTS CONTINUED**

# BPCV-1401 BACK PRESSURE CONTROL VALVE

MAKE: KIMRAY

MODEL NO: 212 SGT-BP

OPERATING PRESSURE: 125 PSI DESIGN PRESSURE: 175 PSI

## **PCV-1403 PRESSURE CONTROL VALVE**

MAKE: FISHER

MODEL: 627-496 C/W 1/2" ORIFICE

SPRING RANGE: 5-20 PSI

#### PCV-1402 PRESSURE CONTROL VALVE

MAKE: FISHER 2"

MODEL NO: 627-579 ½" ORIFICE SPRING RANGE: 70-150 PSI

# PCV-2101 / PCV-2201 PRESSURE CONTROL VALVE

MAKE: FISHER TYPE: 98 H

MAX. INLET: 300 @ 180°F SPRING RANGE: 130-200 PSI

# TCV-2101 / TCV-2201 TEMPERATURE CONTROL VALVE

MAKE: ROSTRA VERNATHERM

MODEL: 0250-08-00/200

#### **PCV-4101 PRESSURE CONTROL VALVE**

MAKE: FISHER MODEL NO: 912-101

## **PCV-4102 PRESSURE CONTROL VALVE**

MAKE: CCI THERMAL MODEL: RTZ-11-15B

#### **TCV-4101 TEMPERATURE CONTROL**

VALVE

MAKE: CCI THERMAL

MODEL NO: AC-TC-8000N-7



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### **COMPONENTS CONTINUED**

# ESDV-4101 100% SHUT OFF VALVE

MAKE: CCI THERMAL MODEL NO: ASV-375 MAX PRESSURE: ½ PSI

#### **UY-1101 PUMP ACTUATING SWITCH**

MAKE: AMOT CONTROLS

TYPE: CG

MODEL NO.: 4057D031H2

## ELECTRICAL: LSH-1101 LEVEL SWITCH HIGH

MAKE: MURPHY MODEL NO: L1200 MAWP: 2000 PSI

## **PT-1101 PRESSURE TRANSMITTER**

MAKE: WIKA MODEL NO: E-10

RANGE: 0-15 PSI / 4-20 MA

#### PT-1401 PRESSURE TRANSMITTER

MAKE: WIKA MODEL NO: N-10

RANGE: 0-200 PSI / 4-20 MA

## **GY-1401 SOLENOID**

MAKE: ASCO

MODEL NO: EF8320G202 24V

MAWP: 115 PSI

#### **GY-1301 / GY-1302 SOLENOID**

MAKE: ASCO

MODEL NO: EF8320G202 24V

MAWP: 115 PSI



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#### **COMPONENTS CONTINUED**

#### FT-1401 FLO TRANSMITTER

MAKE: FISHER

TYPE: FLOBOSS 103

MODEL NO: 0205E2DABA1N00

INPUT VOLT: 8-28 VDC POWER: 18-WATTS MAX TEMP. RANGE: -40 TO +75°C

**TYPE 4 ENCLOSURE** SERIAL NO: 17959040

# PSL-2101 / PSL-2201 PRESSURE SWITCH LOW SUCTION

MAKE: CUSTOM CONTROL SENSORS

MODEL NO: 675GE8001 SET @ 2" WC FALLING

## PSH-2101 / PSH-2201 PRESSURE SWITCH **HIGH DISCHARGE**

MAKE: CUSTOM CONTROL SENSORS

MODEL NO: 6900GE18 SET @ 145 PSI RISING

# TSH-2101 / TSH-2201 HIGH TEMPERATURE **SHUT DOWN**

MAKE: CUSTOM CONTROL SENSORS

MODEL NO: 6900TE16 SET @ 240°F RISING

#### PANEL ELECTRICAL: SCROLL VFD PANEL

MAKE: PYRAMID CORPORATION MODEL: SCROLL COMPRESSOR-VFD

DATE: 07/10/08

CSA APPROVAL: LR29807

AMPS: 20/5/30

VOLTS: 480 VAC / 120 VAC / 24 VDC

FREQ: 60 HZ PHASE: 1/3

SERIAL NO: A131-9193



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#### **COMPONENTS CONTINUED**

#### **VFD CONTROLLERS**

MAKE: CONTROL TECHNIQUES

MODEL: COMMANDER SK

MODEL NO: SK2402

VFD 1 SERIAL NO: 2081602077 VFD 2 SERIAL NO: 2081602977

#### **PLC**

MAKE: ALLEN-BRADLEY MODEL: MICRO LOGIX 1200 CAT. NO.: 1762-IF20F2 AD1.2

#### **POWER SUPPLY**

MAKE: PHOENIX CONTACT

MODEL: QUINT-PS-3X400-500AC/24DC/30

PART NO: 120267.8 ORDER NO: 2938633 SERIAL NO: PSB5585344

## TRANSFORMER

MAKE: SIEMENS CAT NO: MT0500A

c/w 5A FUSE

#### **THERMOSTAT**

MAKE: HOFFMAN PART NO: 35347001

#### **HEATER**

MAKE: DBK

MODEL NO: FGC1031.2R CIRRUS 41F100AAE

# **480 VAC POWER SUPPLY INTERFACE**

MAKE: FERRAZ SHAWMUT

CAT NO: FSPDB3A



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#### **COMPONENTS CONTINUED**

#### **24V FUSIBLE LINKS**

MAKE: FERRAZ SHAWMUT SERIES: ULTRA SAFE CAT NO.: USM1 Y213944

### PANEL COOLING FANS

MAKE: MECHATRONICS INC.

MODEL: G1225E24B

#### **HMI PANEL**

MAKE: PYRAMID CORPORATION

MODEL: 24 VDC, 8 AMPS QPS CERTIFIED: QCC-98872

## **OPERATOR CONTROL PANEL**

MAKE: ALLEN-BRADLEY

MODEL: PANEL VIEW 300 MICRO

CAT. NO.: 2711-M3A18L1

#### **ESD BUTTON**

MAKE: ALLEN BRADLEY

CAT. NO.: 800T-FX6; 800T-XD2P

# PRESSURE GAUGES & TEMPERATURE INDICATORS: MAKE: WIKA SS LF

## **PI-1101 PRESSURE INDICATOR**

SCALE: 0-30 PSI / 0-205 KPA SIZE: 1/4" LM X 2 1/2" FACE

#### PI-1102 PRESSURE INDICATOR

MAKE: WIKA SS LF

SCALE: 0-30 PSI / 0-205 KPA SIZE: 1/4" LM X 2 1/2" FACE

## **PI-1201 PRESSURE INDICATOR**

MAKE: WIKA SS LF

SCALE: 0-160 PSI / 0-1100 KPA

SIZE: 1/4" LM X 2 1/2" FACE



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#### **COMPONENTS CONTINUED**

#### PI-1301 / PI-1401 PRESSURE INDICATOR

MAKE: WIKA SS LF

SCALE: 0-160 PSI / 0-1100 KPA

SIZE: 1/4" LM X 2 1/2" FACE

#### PI-1202 PRESSURE INDICATOR

MAKE: WIKA

SCALE: -30" HG - 15 PSI SIZE: '4" LM X 2 ½" FACE

## **PI-1402 PRESSURE INDICATOR**

MAKE: KIMRAY

SCALE: 0-160 PSI / 0-1100 KPA

SIZE: 1/4" LM X 2" FACE

# **PI-1405 PRESSURE INDICATOR**

MAKE: WIKA SS LF

SCALE: 0-30 PSI / 0-205 KPA SIZE: 1/4" LM X 2 1/2" FACE

#### PI-1404 PRESSURE INDICATOR

MAKE: WIKA SS LF

SCALE: 0-160 PSI / 0-1100 KPA

SIZE: 1/4" LM X 2 1/2" FACE

## **PI-1403 PRESSURE INDICATOR**

MAKE: WIKA SS LF

SCALE: 0-160 PSI / 0-1100 KPA

SIZE: 1/4" LM X 2 1/2" FACE

#### PI-2101 / PI-2201 PRESSURE INDICATOR

MAKE: SWAGELOK SS LF

SCALE: 0-200 PSI / 0-13.5 BAR

SIZE: 1/4" LM X 2 1/2" FACE



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MISC:

#### **COMPONENTS CONTINUED**

# PI-2102 / PI-2202 PRESSURE INDICATOR

MAKE: SWAGELOK SS LF SCALE: 0-200 PSI / 0-13.5 BAR

SIZE: 1/4" LM X 2 1/2" FACE

# TI-1301 / TI-1401 TEMPERATURE INDICATOR

MAKE: TREND (a Division of Wika) SCALE: -40 TO 160°F / -40 TO 70°C SIZE: ½" CBM X 3" FACE X 6" STEM

#### TW-1301 / TW-1401 THERMOWELL

MAKE: WIKA

Size: 1" x ½" x 6" STEM x STD BORE

Material: 316 SS

## **LG-1101 / LG-1201 LEVEL GAUGE**

MAKE: PENBERTHY MODEL NO: 1RL-4

ASSEMBLY NO: 70003-000

CRN NO: OF0990.9C

# GV-1101 & GV-1102 / GV-1201 & GV-1202 GAUGE VALVES

MAKE: PENBERTHY MODEL NO: 330 J CRN NO: OF0990.9C

#### **SG-1301 / SG-1401 SIGHT GLASS**

MAKE: LUBE DEVICES INC. MODEL NO: LSP51-09



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#### **COMPONENTS CONTINUED**

**VALVES:** 2" FP SS BALL VALVE

MAKE: MA STEWART

MODEL: G-2 2000-PSI WOG

CRN: OC0374.123456789

HEAT CODE: 0108

2" FP SWING CHECK VALVE

MAKE: WHEATLEY 1000-PSI WOG

1" FP SS BALL VALVE MAKE: MA STEWART

MODEL: G-2 2000-PSI WOG

CRN: OC0374.123456789 HEAT CODE: 0108, 1206

1" FP SWING CHECK VALVE

MAKE: WHEATLEY 1000-PSI WOG

1" FP INLINE SPRING CHECK VALVE

MAKE: ZINGA

MODEL: LRV-10-20

1/2" FP SS BALL VALVE MAKE: MA STEWART

MODEL: G-2 2000-PSI WOG

CRN: OC0374.123456789

HEAT CODE: 1007

1/2" SWING CHECK VALVE

MAKE: WHEATLEY 2160-PSI WOG



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### **COMPONENTS CONTINUED**

1/2" F X F NEEDLE VALVE

MAKE: ANDERSON GREENWOOD MODEL: H1VDC4Q-021263-005

MAWP: 6000-PSI @ 200°F

HEAT CODE: D031

3/8" FP SS BALL VALVE MAKE: MA STEWART

MODEL: G-2 2000-PSI WOG

CRN: OC0374.123456789

HEAT CODE: 0207

3/8" RP SS BALL VALVE

MAKE: W & F

MODEL: MH 27906

1/4" F X F NEEDLE VALVE

MAKE: ANDERSON GREENWOOD

MODEL: H5RDC-2

MAWP: 6000-PSI @ 200°F

1/4" M X F NEEDLE VALVE

MAKE: ANDERSON GREENWOOD

MODEL: H5RDC-22

MAWP: 6000-PSI @ 200°F

### **RO-1301**

UNION MOUNTED RESTRICTION ORIFICE

1/2" OD x 1/16" BORE



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QPS CERTIIFED: QC-54930

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## **COMPONENTS CONTINUED**

STUDS: SA-193, B7M

SIZE: 1/2" X 2 1/2"

NUTS: SA-194, 2HM

SIZE: ½"

GASKETS: 316SS SIZE: 1" 150# RF

TUBING: 1/2" X 0.035 WALL

HEAT CODE: V30959

3/8" X 0.035 WALL

HEAT CODE: 772-1901, 656-2605



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# **FITTINGS**:

DESCRIPTION:	GRADE:	HEAT NO:
2" FS THRD UNION 3000 2" FS THRD 90° ELL 2000 2" FS THRD TEE 2000 2" X 1" FS THRD RED TEE 3000 2" X 8" XS NIPPLE 2" X 7" XS NIPPLE 2" X 6" XS NIPPLE 2" X 5" XS NIPPLE 2" X 4 ½" XS NIPPLE 2" X 4 ½" XS NIPPLE 2" X 3 ½" XS NIPPLE 2" X 3 ½" XS NIPPLE 2" X 3 ½" XS NIPPLE 2" X 1½" XS NIPPLE 2" X 1½" XS SWAGE TBE 2" X 1½" XS SWAGE TBE 2" X ½" XS SWAGE TBE 2" FS THRD PLUG	SA-105N SA-105N SA-105N SA-106B	UPO, 6EU HRS HFI, HPL 2779 539229, 22877 760659, 745635 22877 R4O NDO XA4, 539229 22877 AI47 539229 B643 79169, 72431 72431 N90
1 ½" FS THRD 90° ELL 2000 1 ½" X 4" XS NIPPLE	SA-105N SA-106B	HM3 748674
1" 150# RF BLIND FLANGE 1" 150# RF THRD FLANGE 1" FS THRD UNION 3000 1" FS THRD 90° ELL 2000 1" FS THRD TEE 2000 1" X ½" FS THRD RED TEE 3000 1" FS THRD CROSS 2000 1" X 8" XS NIPPLE 1" X 7" XS NIPPLE 1" X 6" XS NIPPLE 1" X 5" XS NIPPLE 1" X 5" XS NIPPLE 1" X 4 ½" XS NIPPLE	SA-105N SA-105N SA-105N SA-105N SA-105N SA-105N SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B	01875 1419 LULB, UX4 NDCL, NTBN, GU9 TP5 2610 HBO Y07020732, 23651 R4D 88T YT4, 528697 538697 538697



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# **FITTINGS CONTINUED:**

DESCRIPTION:	GRADE:	HEAT NO:
1" X 4" XS NIPPLE 1" X 3 ½" XS NIPPLE	SA-106B SA-106B	XPU, 23651 Y706-1082, 538697, Y0606755
1" X 3" XS NIPPLE 1" X 2 ½" XS NIPPLE 1" X 2" XS NIPPLE 1" X ¾" XS SWAGE TBE 1" X ½" XS SWAGE TBE 1" X ¼" XS SWAGE TBE 1" FS THRD PLUG	SA-106B SA-106B SA-106B SA234-WPB SA234-WPB SA234-WPB SA-105N	538697 538697 X9U, 53878 79141 79141 79141, 78092 N59
3/4" FS THRD 90° ELL 2000 3/4" X 4" XS NIPPLE 3/4" X 2" XS NIPPLE 3/4" FS THRD PLUG	SA-105N SA-106B SA-106B SA-105N	A64 162829 162829 2717
1/2" FS THRD UNION 3000 1/2" FS THRD 90° ELL 2000 1/2" FS THRD TEE 2000 1/2" X 8" XS NIPPLE 1/2" X 6" XS NIPPLE 1/2" X 4 1/2" XS NIPPLE 1/2" X 4 1/2" XS NIPPLE 1/2" X 3 1/2" XS NIPPLE 1/2" X 3" XS NIPPLE 1/2" X 2 1/2" XS NIPPLE 1/2" X 2 1/2" XS NIPPLE 1/2" X 1 1/2" XS NIPPLE 1/2" X 1 1/2" XS NIPPLE 1/2" X 3/8" XS SWAGE 1/2" FS THRD PLUG	SA-105N SA-105N SA-105N SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B	9CU A87 TU9 252716 163226 55175 71678 163226 AH80, 163226 163226 54094, AI6 54094 72475 72475 2810



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# **FITTINGS CONTINUED:**

DESCRIPTION:	GRADE:	HEAT NO:
3/8" FS THRD TEE 2000 3/8" X 4" XS NIPPLE 3/8" X 1 ½" XS NIPPLE 3/8" X ¼" XS SWAGE TBE 3/8" FS THRD PLUG	SA-105N SA-106B SA-106B SA234-WPB SA-105N	TM1 Y03 95492 72475 2396
1/4" FS THRD 90° ELL 2000 1/4" FS THRD TEE 2000 1/4" FS THRD CROSS 2000 1/4" X 5" XS NIPPLE 1/4" X 3" XS NIPPLE 1/4" X 2" XS NIPPLE 1/4" X 1 1/2" XS NIPPLE 1/4" FS THRD PLUG	SA-105N SA-105N SA-105N SA-106B SA-106B SA-106B SA-106B SA-105N	54A TU7 CRBN 47322 RY5 80491 62841 C19
PIPE:		
2" SCH 80 SMLS PIPE 1 ½" SCH 80 SMLS PIPE 1" SCH 80 SMLS PIPE ½" SCH 80 SMLS PIPE	SA-106B SA-106B SA-106B SA-106B	2-DC, 2-DE, 2-DF 1.5-Q 1-LS, 1-LRA .5-Q



PO#: 8400005280 AFE: US-24526-CG

QPS CERTIIFED: QC-54930

JOB # I-980 UNIT # SAA-08240

## **MECHANICAL INFORMATION**

# **COMPRESSOR OIL**

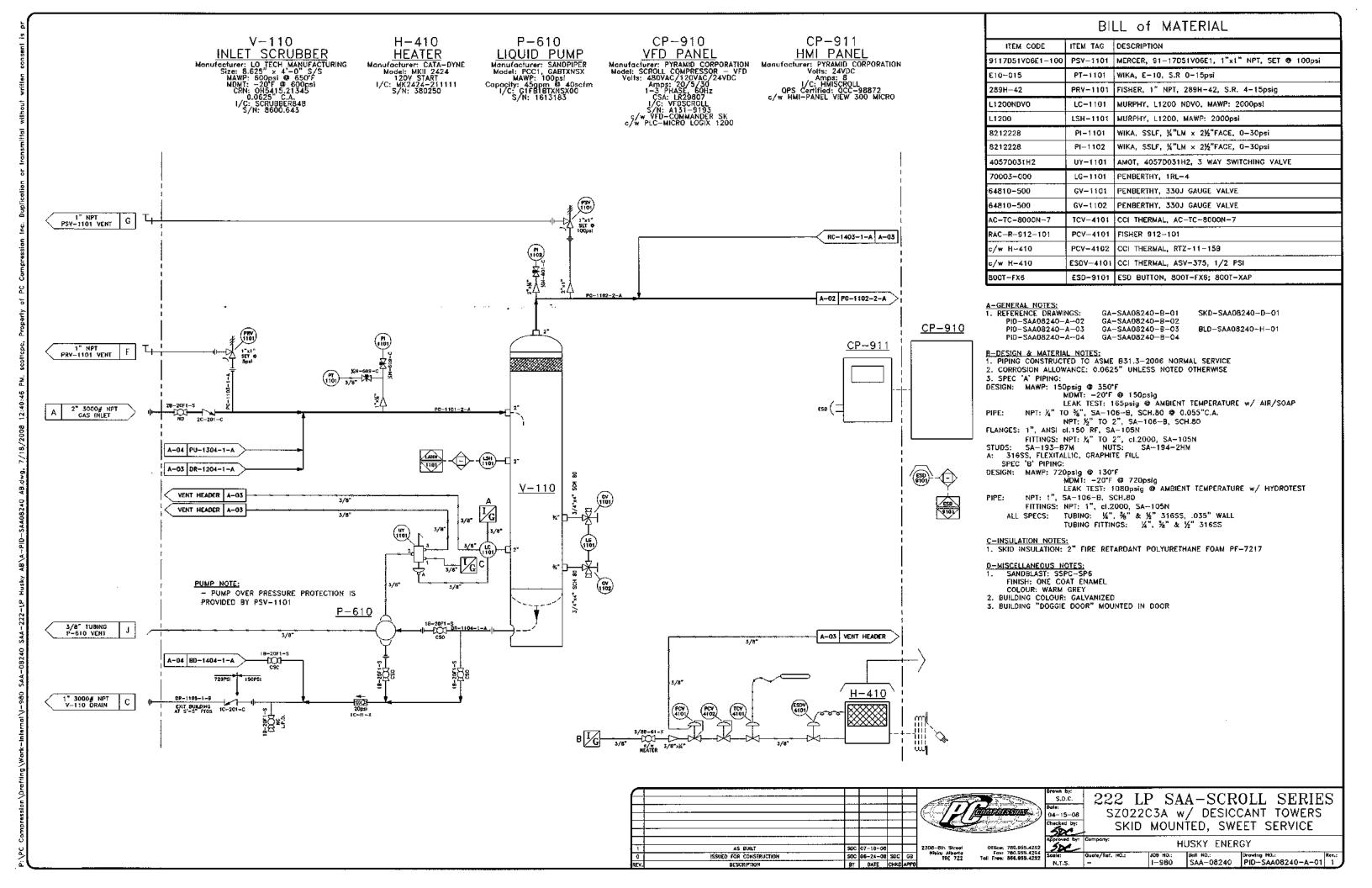
COPELAND FUEL GAS BOOSTER OIL CP-6006 SERIES POLYALPHAOLEFIN SYNTHETIC HYDROCARBON SUPPLIED BY COPELAND SCROLL

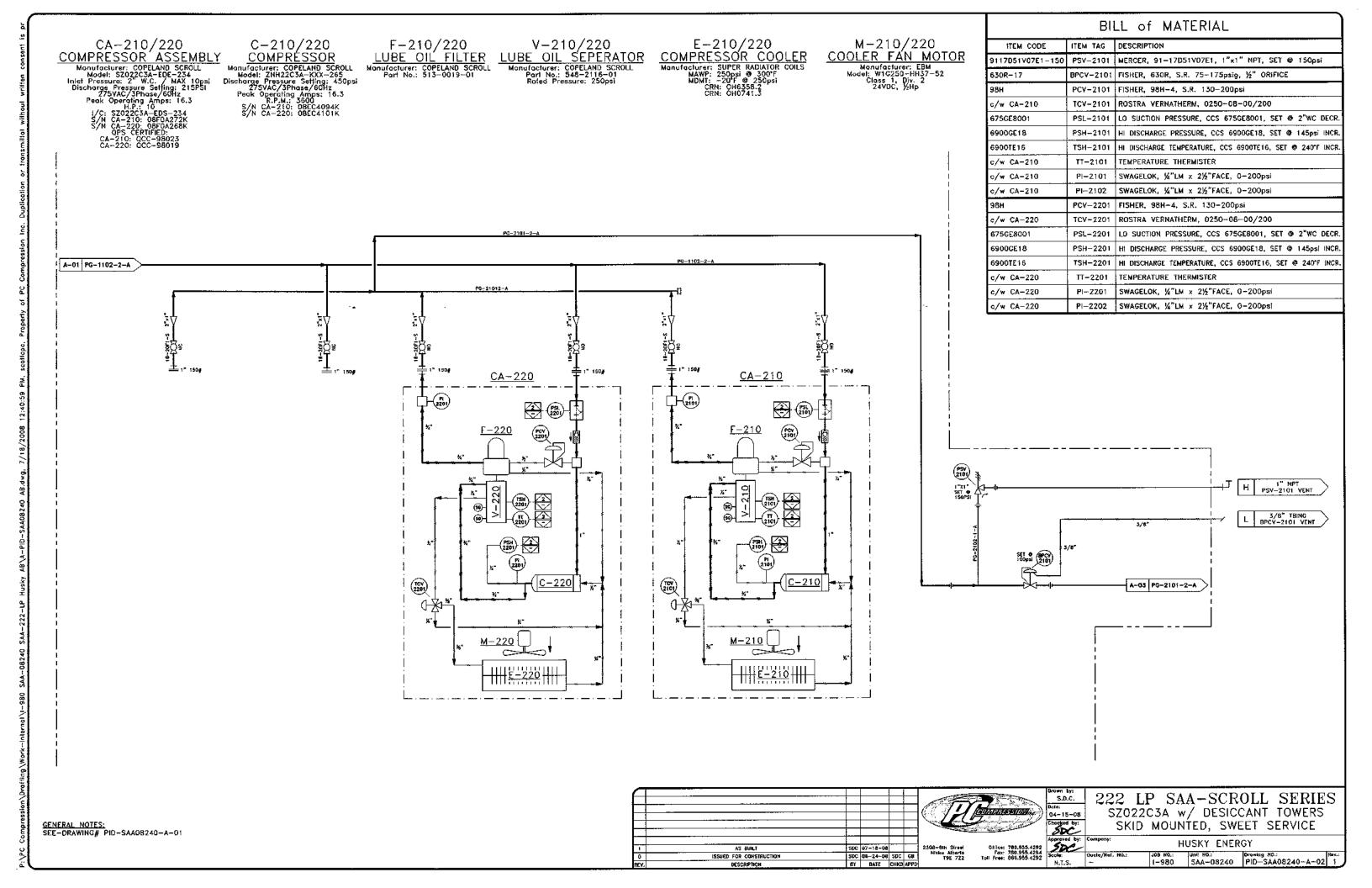
# **DRYING TOWER MEDIA**

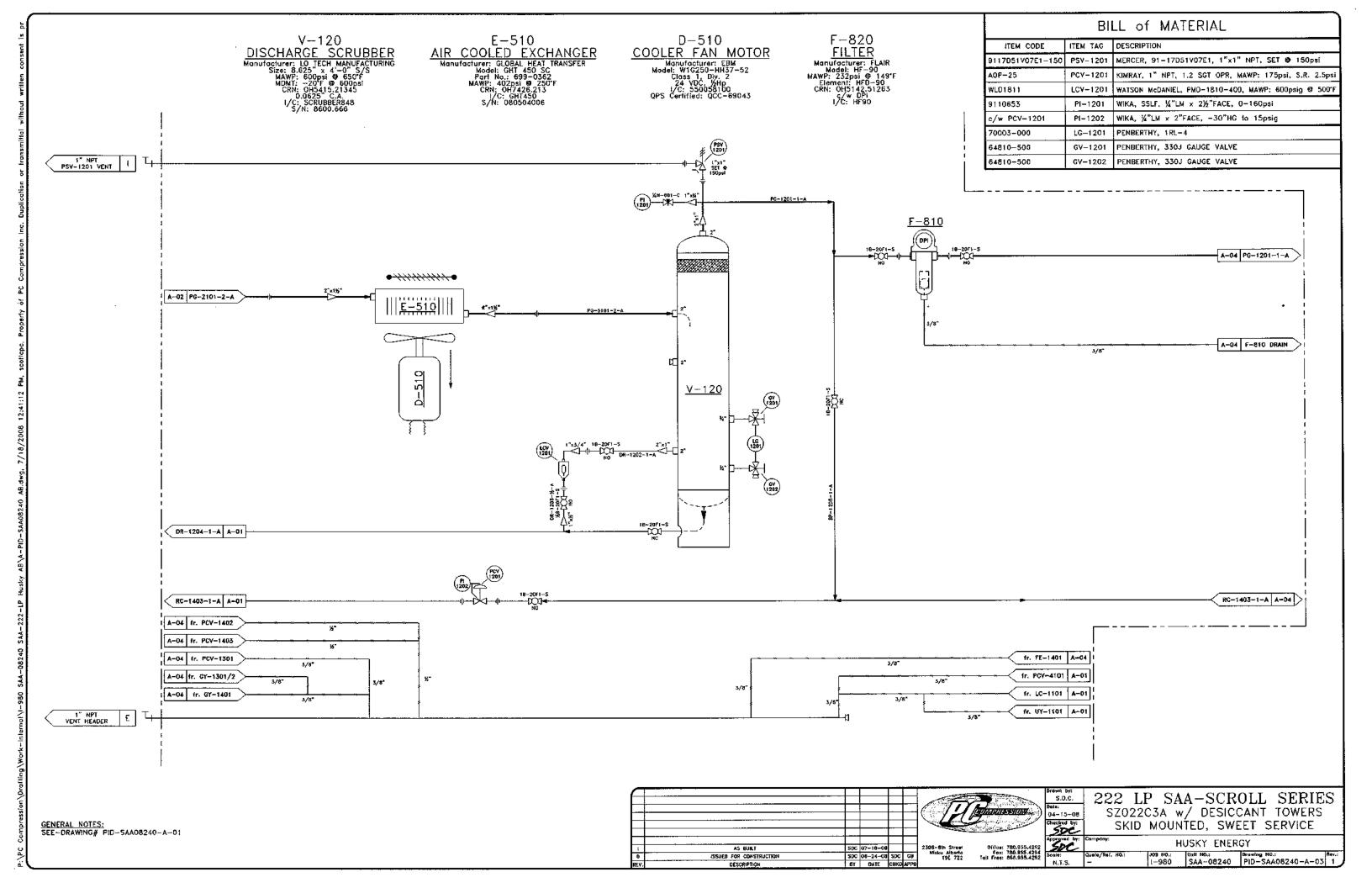
ALCOA INDUSTRIAL CHEMICALS
ACTIVATED ALUMINA (ALL GRADES) SOLID F-200
ALUMINUM OXIDE
SUPPLIED BY BRENNTAG STINNES LOGISTICS

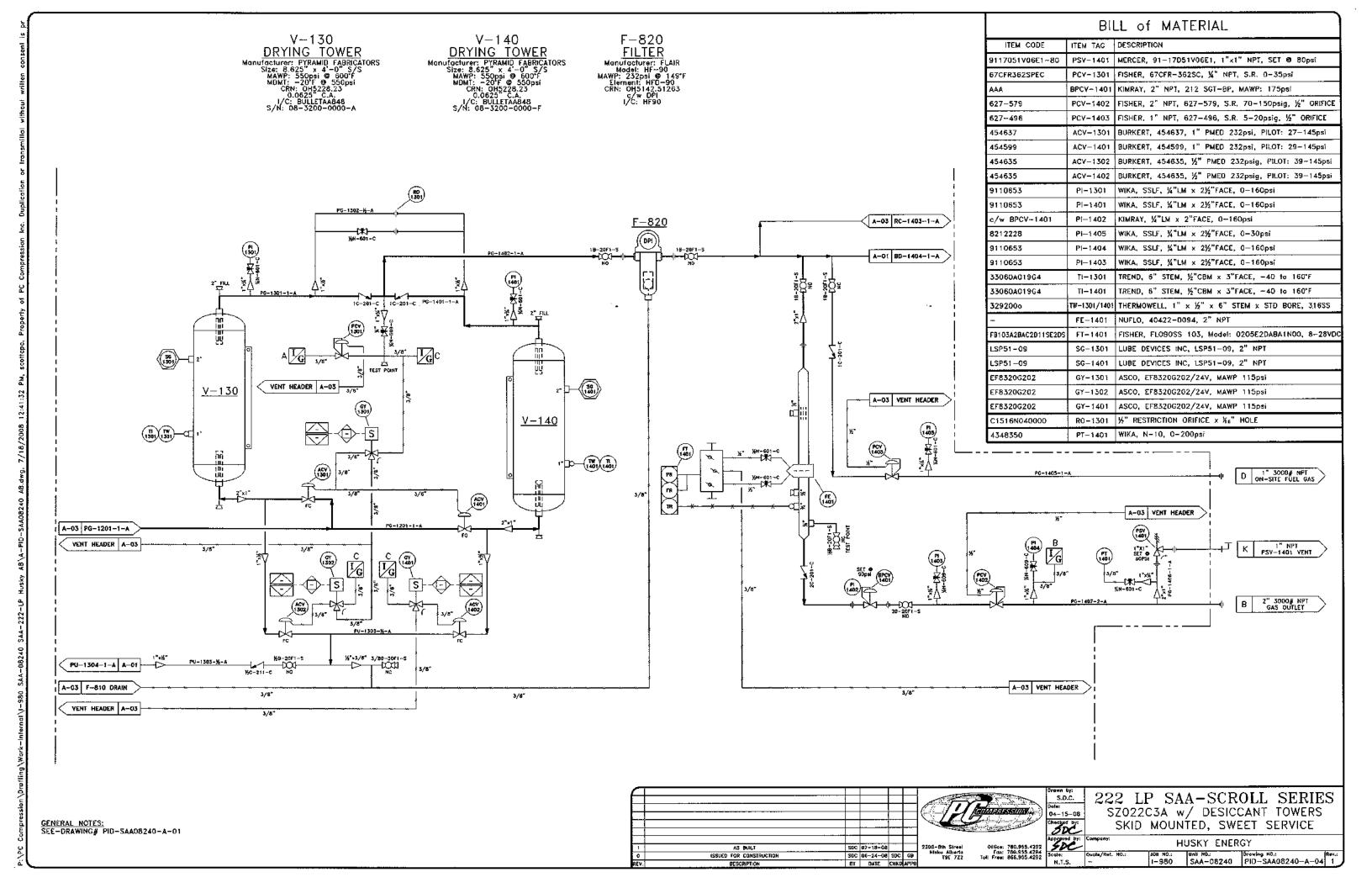
P&ID'S WELD MAPS / X-RAY REPORTS

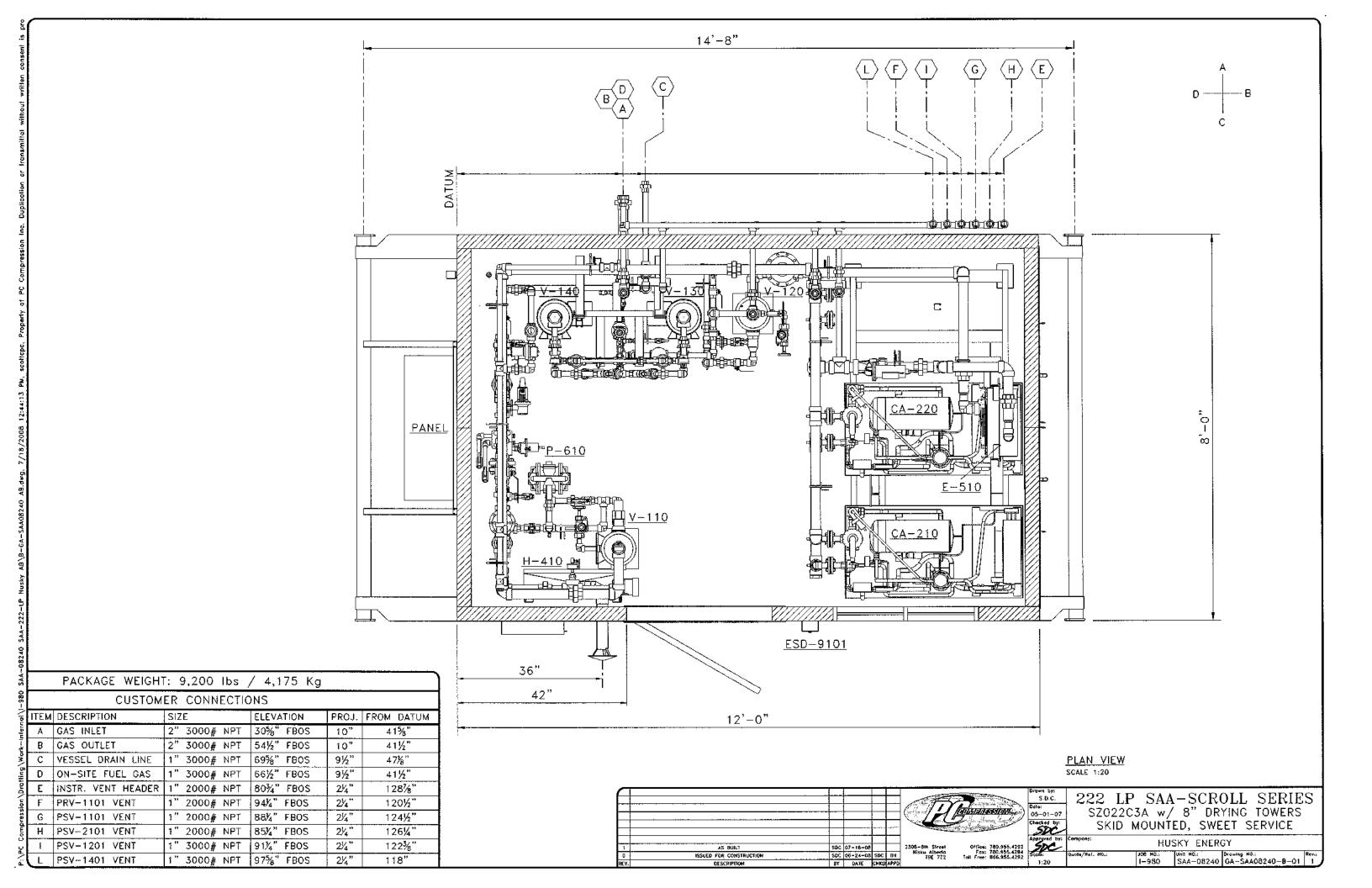


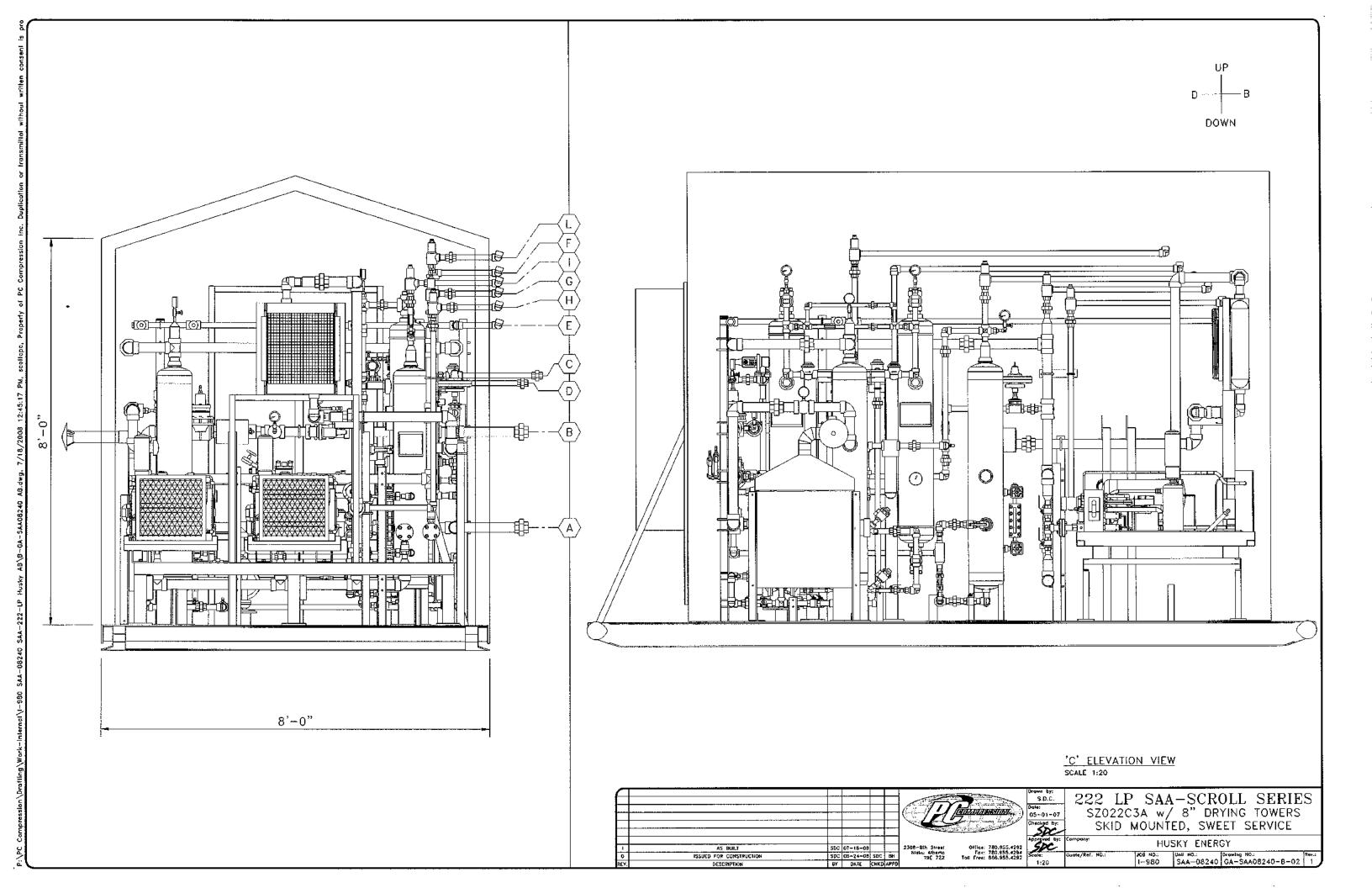


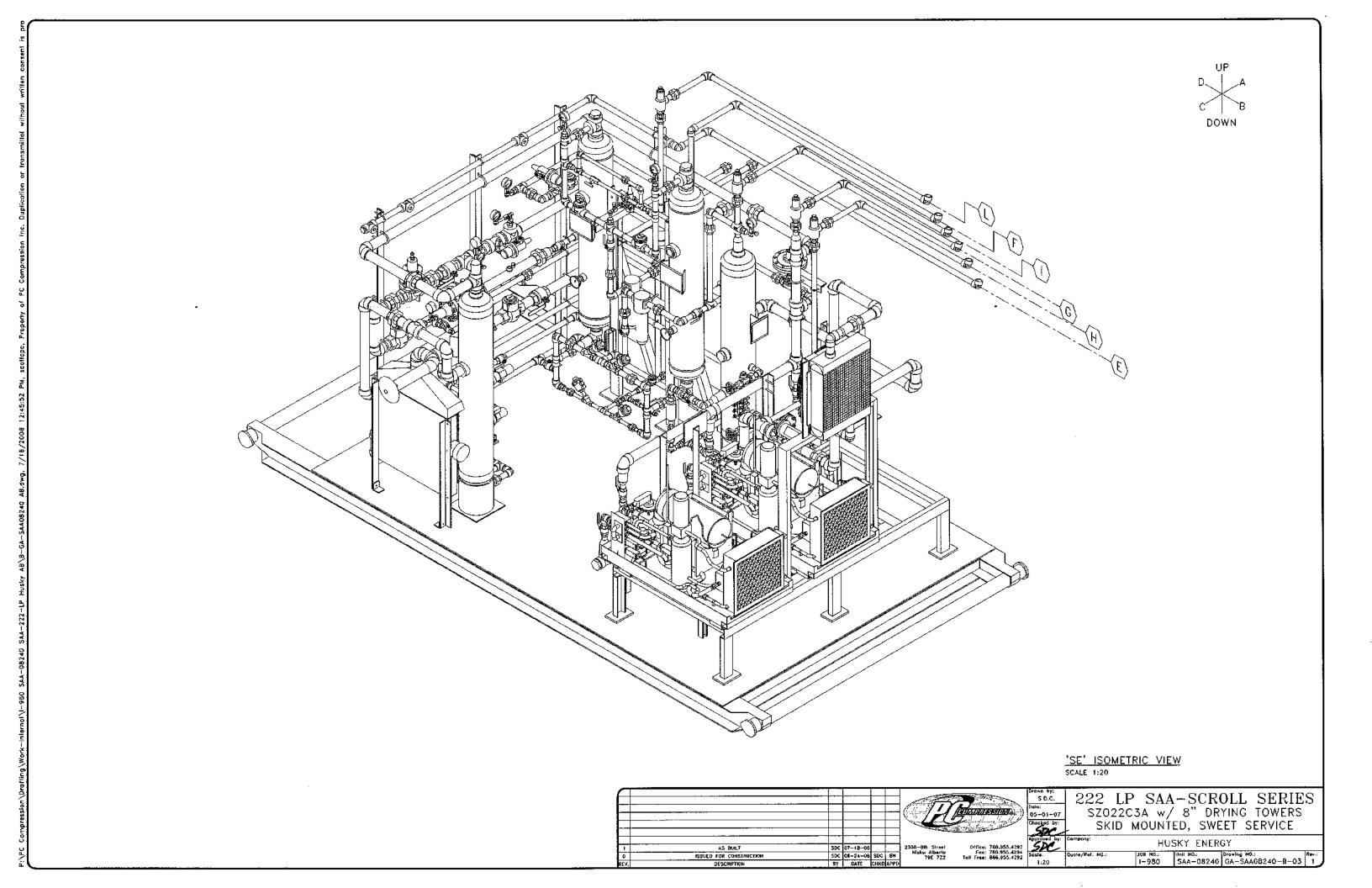


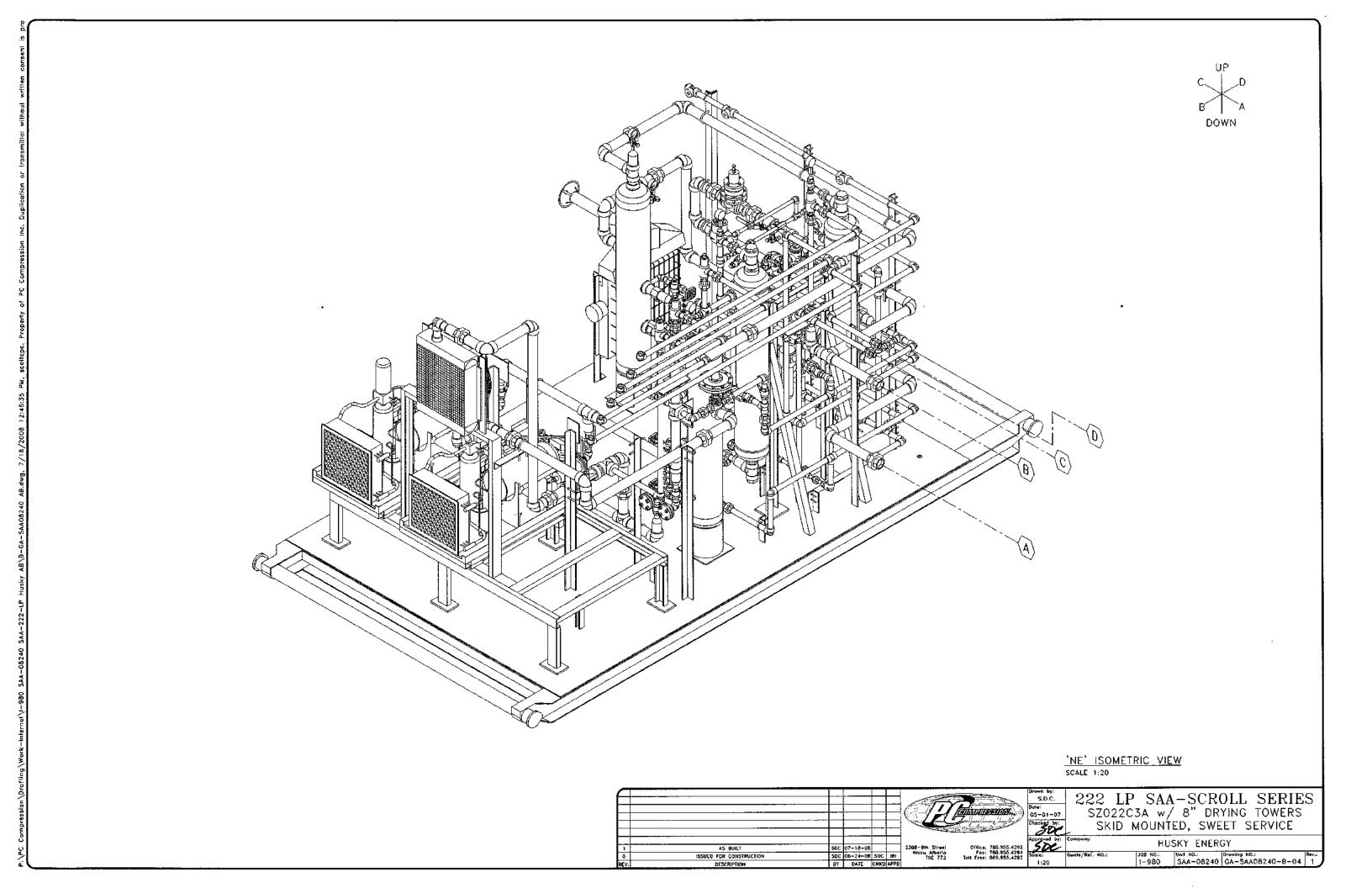


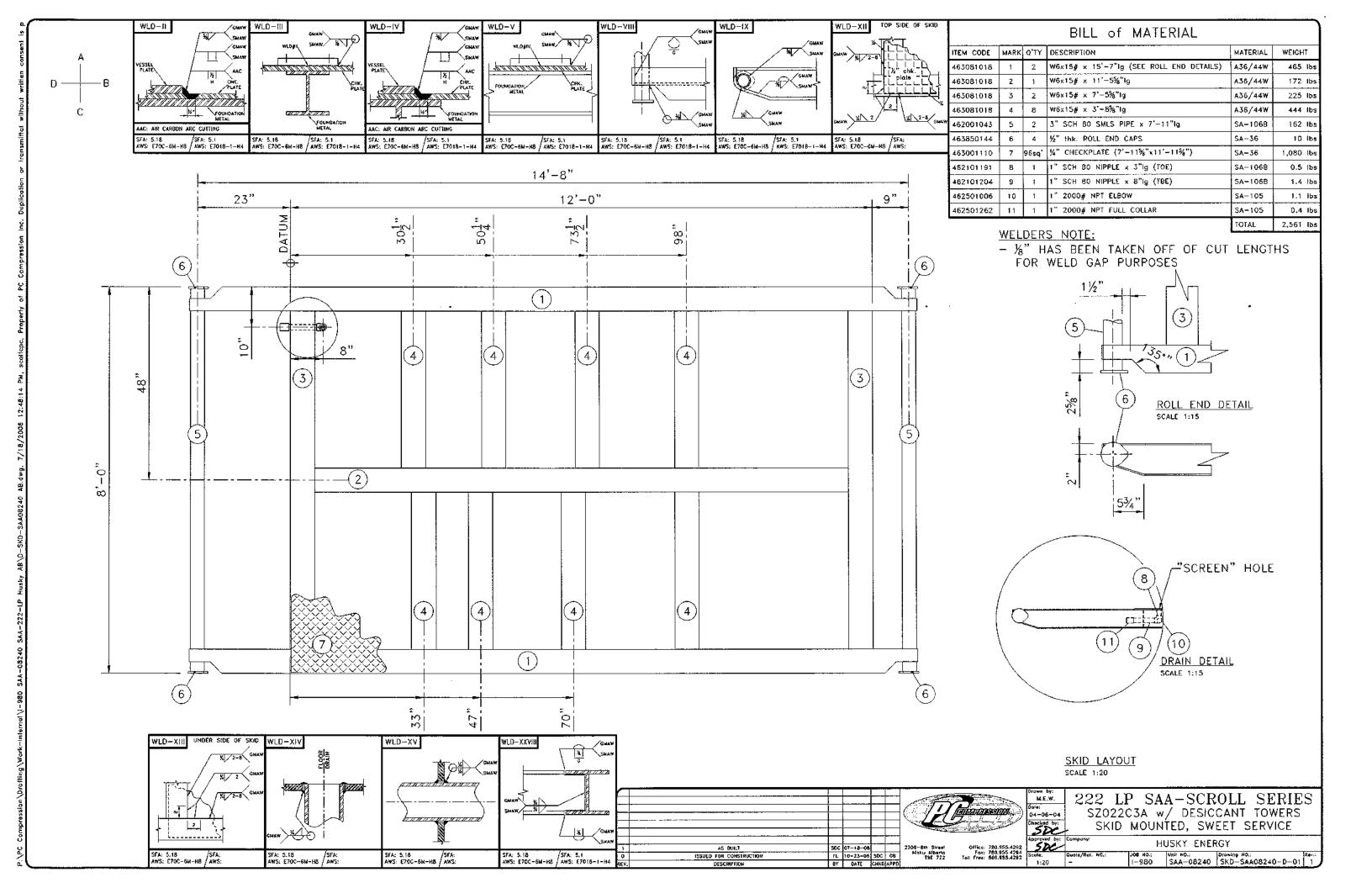






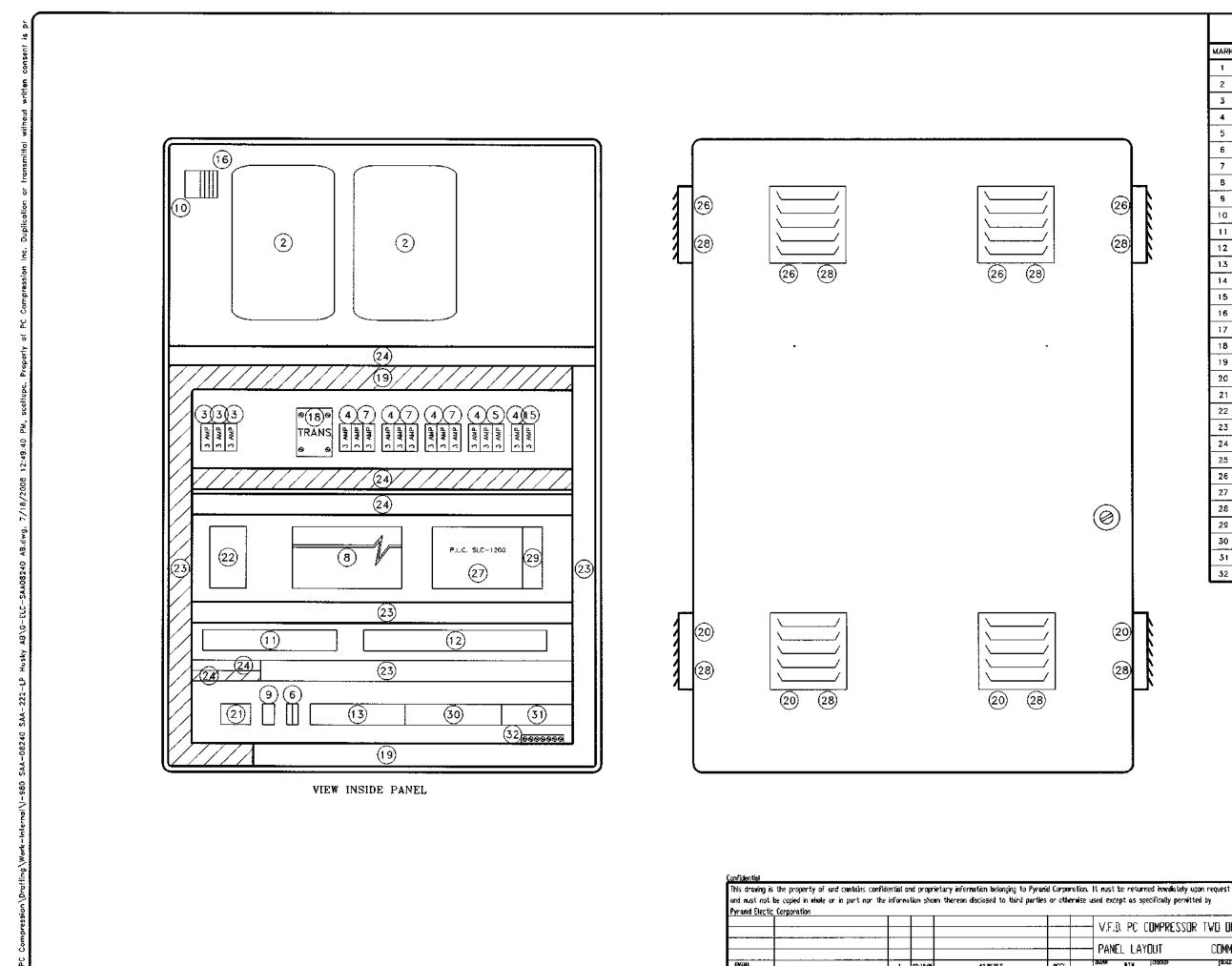


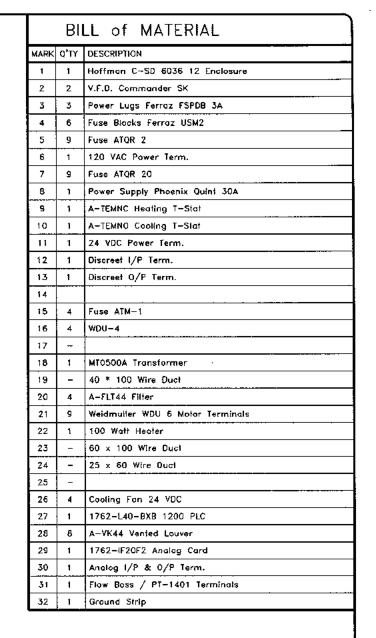




SHUTDOWN KEY	INPUT DEVICES	#1 LOW INLET PRESSURE PSL-2101	HIGH INLET LEVEL LSHH-1101	#1 HIGH DISCHARGE PRESSURE PSH-2101		S TEMPERATURE HTSD-2101	#1 COMPRESSOR START SWITCH HS-ZFUT  #1 TEMPERATURE COOLER CONTROL TSH-2101	RESSURE PSL-2201	HIGH DISCHARGE PRESSURE		HIGH GAS TEMPERATURE HTSD-2	START SWITCH HS-2201	RATU	HMI FANEL MANOAL E		#3 LOW INLET PRESSURE PSL-2301	#3 HIGH DISCHARGE PRESSURE PSH-2301		HIGH GAS TEMPERATURE HTSD-2	PRESSOR START SWITCH HS-2301	#3 TEMPERATURE COOLER CONTROL 1SH-2301	SPARE	SPARE		RESET BY HMI	INLET PRESSURE ANALOG			R F TD T A A SB S	SHUTE RUN IIME ALARN		(120 S	
	VALVE NORMAL	1:0.0/00	1:0.0/01	1:0.0/02	1:0.0/03	1:0.0/04	\$0/0.03	10.0/07	1.0.0/08	60/0.0:1	1:0.0/10	1:0.0/11	1:0.0/12	1:0.0/ 13	1:0.0/15	1:0.0/16	1:0.0/17	1:0.0/18	1:0.0/19		<b>\</b>	1:0.0/22	1:0.0/23	1121	!	0,1:							
OUTPUT DEVICES	TAG						1			:	:										-					:		COM			ALA	\RM	
V.F.D. #1 FAULT RESET TO TERM #25 VFD-210	0:0.0/00	S	S	S		s	:					:		S S	3			Ī							X	:							
V.F.D. #1 RUN OUTPUT TO TERM #27 VFD-210	0:0.0/01	S	S	;	i	S	R				:			5   5	5		! m.m ·!  							·	Χ								
V.F.D. #1 RUN TO FULL SPEEDTERM VFD-210	0:0.0/02				ŧ	T	D	-							:	- [	:		1			****		:									
V.F.D. #2 FAULT RESET TO TERM #25 VFD-220	0:0.0/03		S					. , . S	S	. !	S			S S	3 ;	 !	:	' .		1					Χ		1						
V.F.D. #2 RUN OUTPUT TO TERM #27 VFD-220	0:0.0/04		S					S	S		S	R	: (	S   S	3 ;	· · · · · · · · · · · · · · · · · · ·				······································				:	Χ								
V.F.D. #2 RUN TO FULL SPEEDTERM VFD-220	0:0.0/05					<u>-</u>		<u> </u>			······································	TD .	:	<u>:</u>	<u> </u>	ļ -					I					· · · · · · · · · · · · · · · · · · ·						u.,	
V.F.D. #3 FAULT RESET TO TERM #25 VFD-230	0:0.0/07		S				! !					<u>.</u> .		s s	5		S		s					· 	X	··· ÷ ····						····-	
V.F.D. #3 RUN OUTPUT TO TERM #27 VFD-230	0:0.0/08	`	S				1				:			s s	5	s	S		S	R					X	: :							
COMPRESSOR #1 CONTROL M-210	0:0.0/09					S	SB R						Ş	s s	3	:							[									,	
COMPRESSOR #2 CONTROL M-220	0:0.0/10			1								SB	R S	s s	S :	:				Ī					:	:							
COMPRESSOR #3 CONTROL M-230	0:0.0/11			1										s s	5	1				SB	R				:								
GAS COOLING FAN CONTROL D-510	0:0.0/12		:			R			İ			R		S :	S	:			j	R						:							
GAS DRYER SOV #1 GY-1401	0:0.0/13		:						1	:				s :	S		:																
GAS DRYER SOV #2 GY-1301	0:0.0/14								1			:		S : 5	S		:									:							
GAS DRYER SOV #3 GY-1302	0:0.0/15						:	:				· · · · · · · · · · · · · · · · · · ·		S S	S									:		:					l data Parti	p	
V.F.D. #1 ANALOG	0:1.0		:					:		· i	:	1	:					!								C:	s					H	
V.F.D. #2 ANALOG	0:1.1				:		1		ľ		: .	- 1					:	I					:		1	C:	S		*****				

| Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription | Discription |





Office: 780,955,4292 Fax: 780,955,4294 Tak Free: 866,955,4292

SAA-08240

and must not be copied in whole or in part nor the information shown thereon disclosed to third parties or atherwise used except as specifically permitted by V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE

PANEL LAYOUT COMMANDER SK DT.M. I 07-18-08 REV. DATE AS BUILT PC072705-00-0001 BY APPD ME July 27/2005 MF DESCRIPTION

26

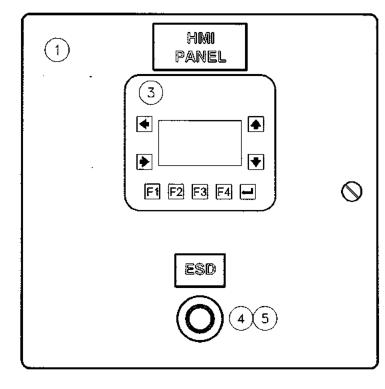
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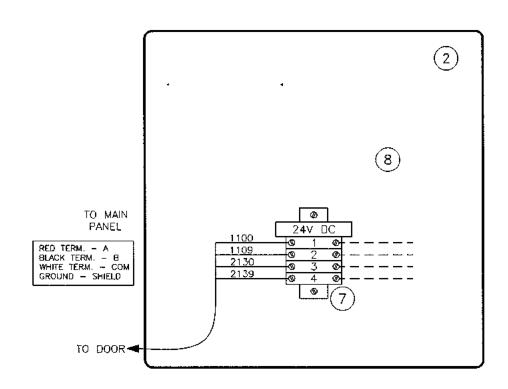
20

28

	BII	LL of MATERIAL
MARK	Q'TY	DESCRIPTION
1	1	Hoffman C-SD-12 126LG
2	1	Hoffman C-P 12 12
3	1	Allen Bradley 300 Micro 2711-M3A 18L1
4	1	800T-FX6D4
5	1	800T-XD2P
6	1	1761-CBI-HM 10 Allen Brodley Colbe
7	4	WD-4 Terminal



FRONT OF DOOR



INSIDE PANEL

BY APPD MITE July 27/2005 AD.



Confidential

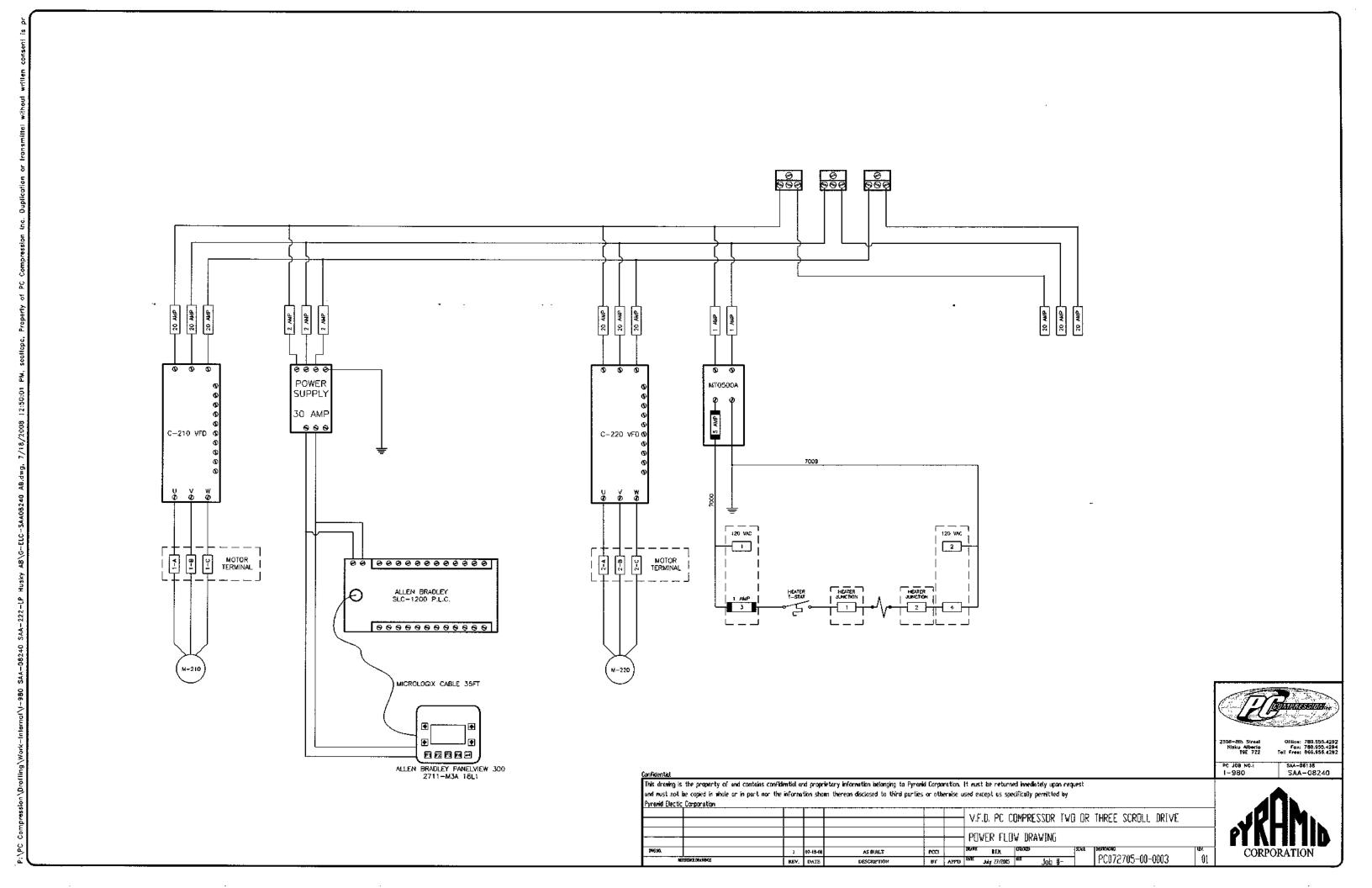
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DESCRIPTION

Pyranid Electic Corporation

V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE HMI PANEL LAYDUT BEANN BLM CHECKER I 07-15-68 REV. DATE AS BUILT 2000 PC072705-00-0002





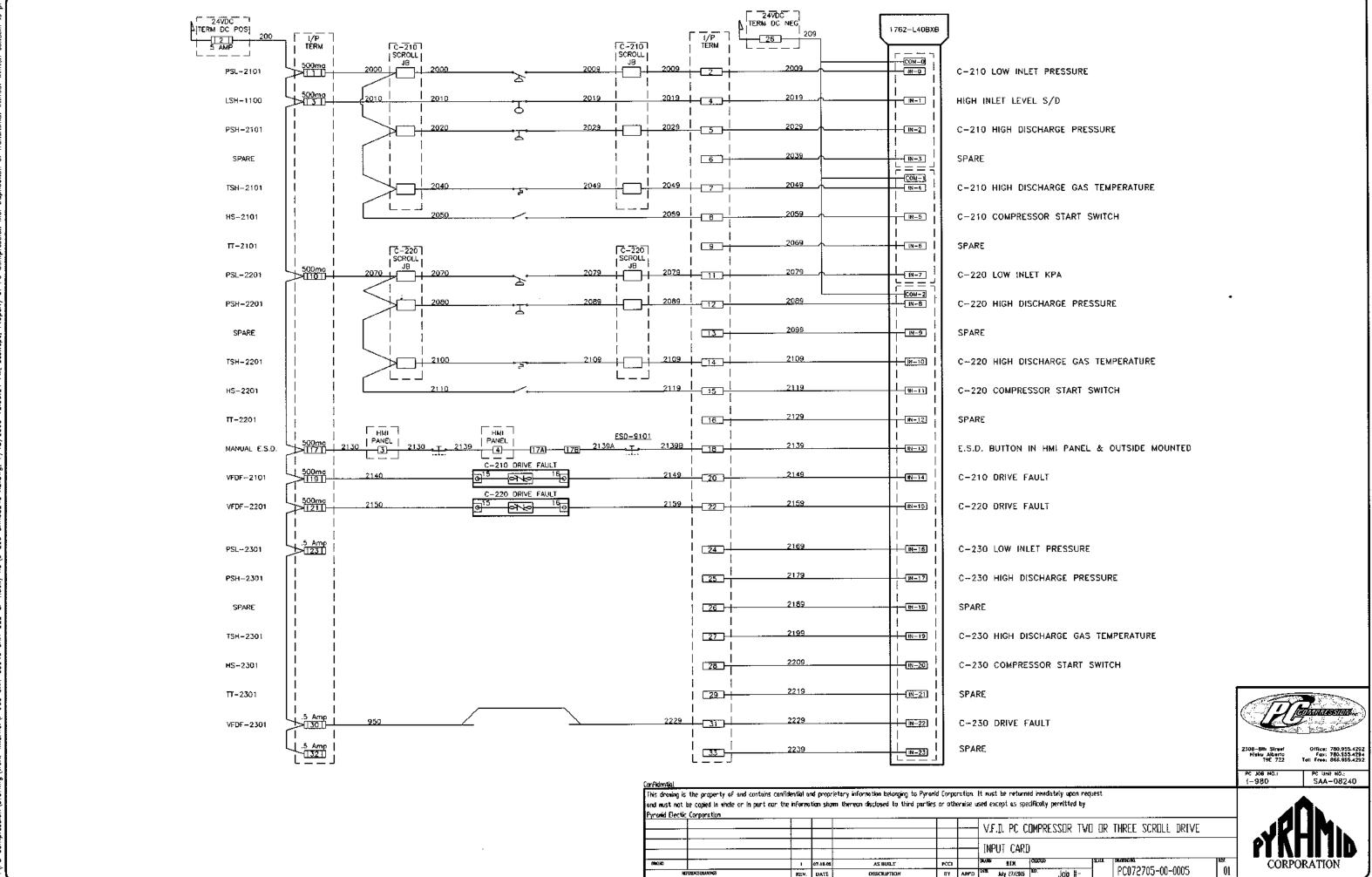
24VDC TERM 24MDC TERM Pheonix Power Supply Contacts 24VDC TERM Alien Brodiey PCL #1200 1762—i408xi 25 1200 PLC POWER -YOC Neut Dwg 00-0005 1309 | 35 M-210 COOLING FAN #1 Com1 S Com2 S 26 INPUT CARD POWER 1400 | 4 N 4 3 | 1401 5 B 1409 11 1409 36 M-220 COOLING FAN #2 27 OUTPUT CARD POWER 1500 4 R3 M-230 COOLING FAN #3 1600 4 R4 3 1 1609 13 1609 38 5 Amp 400 AI/AO Term DWG 00-0007 D-510 GAS COOLING FAN 1762-IF 20F2 Analog inputs/Outputs Card 28 ANALOG POWER 5 Amp 1709 14 1709 39 PLC INPUT
TERMINAL
DWG 00-0005 SOV-1 AIR DRYER 2140 1800 20 SOV-2 AIR DRYER <del>-</del>⇔ !↔ C-210 FAULT 15 C-210 VFD 1900 4 R7 3 1 1901 SOV-3 AIR DRYER 6 H 29 H C-210 ENABLE TERM #30 2 | 2009 | 42 | FAN | JUNCTION | 2109 | 43 PLC INPUT
TERMINAL
DWG 00-0005 PANEL HEATER FAN L\_JUNCTION\_\_J 2150 <u>|</u> 22 22 -HH C-220 FAULT C-220 VFD 23 44 30 C-220 ENABLE TERM #30 5 Amp 24 45 C-230 FAULT 5 Amp 10 31 C-230 ENABLE TERM #30 32 COOLING FANS CLOSE ON HIGH TEMP. 1100 1100 33 PANELVIEW 300 MICRO Office: 780.955.4292 Fox: 780.955.4294 ToR Free: 866.955.4292 SAA-08240 This drawing is the property of and contains confidential and proprietary information belonging to Pyrovid Corporation. It must be returned immediately upon request and must not be copied in whole or in part nor the information shown thereon disclosed to third parties or otherwise used except as specifically permitted by Pyrania Electic Corporation V.F.D. PC COMPRESSOR TWO DR THREE SCROLL DRIVE POWER RUNG DRAWING

DROWN BLTM CHECKED

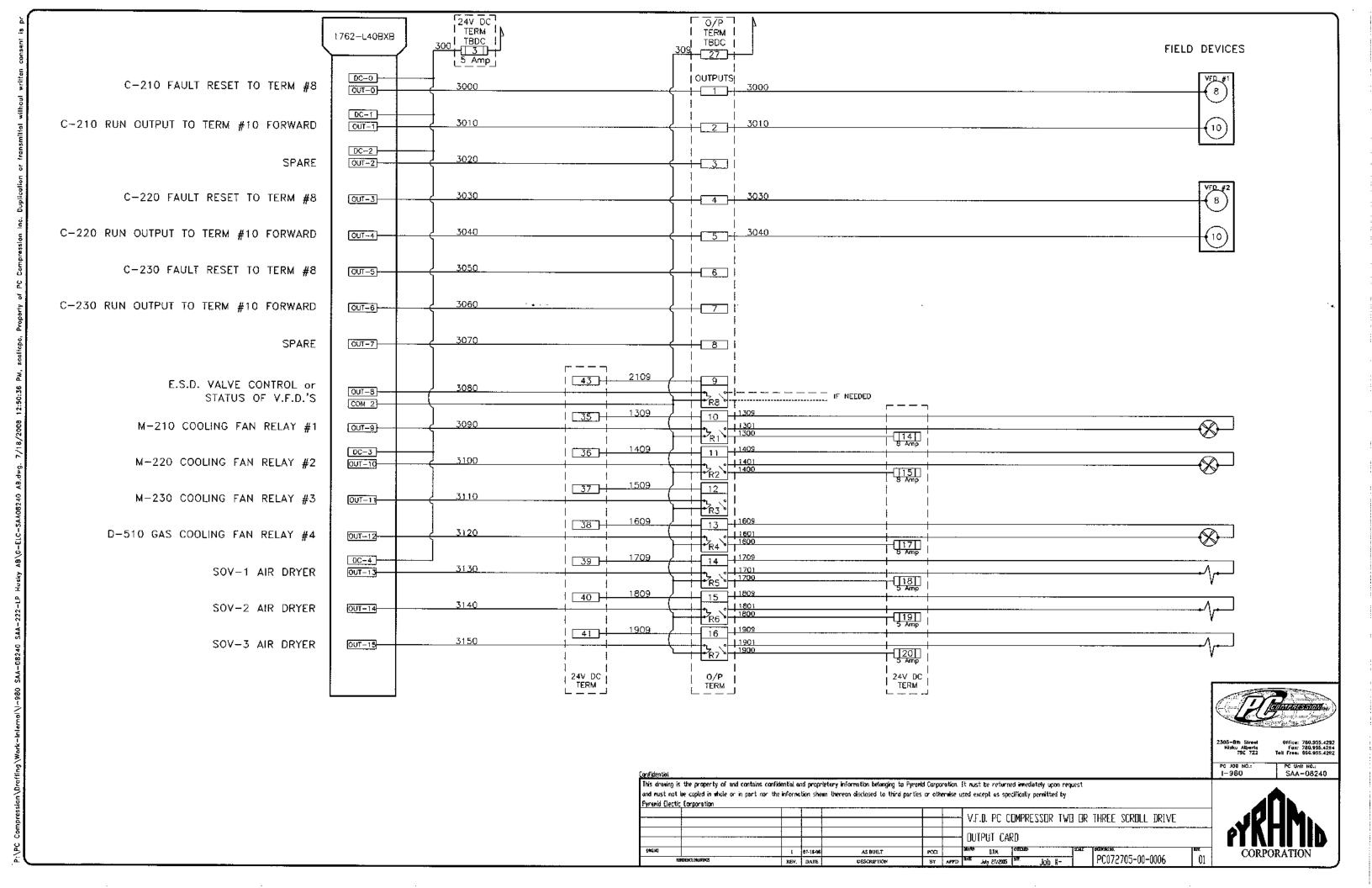
BY ARPD MIE July 27/2005 PD.

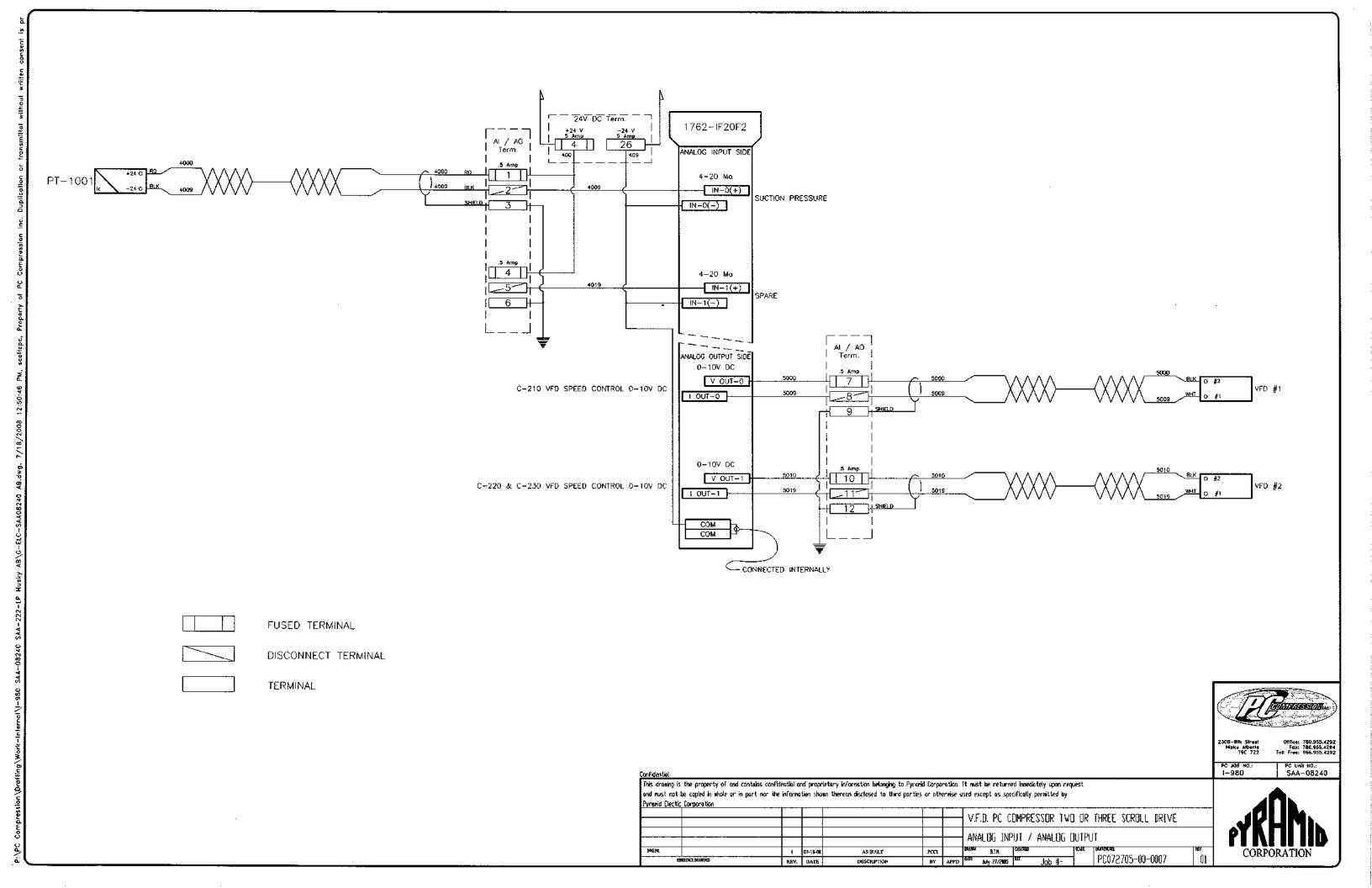
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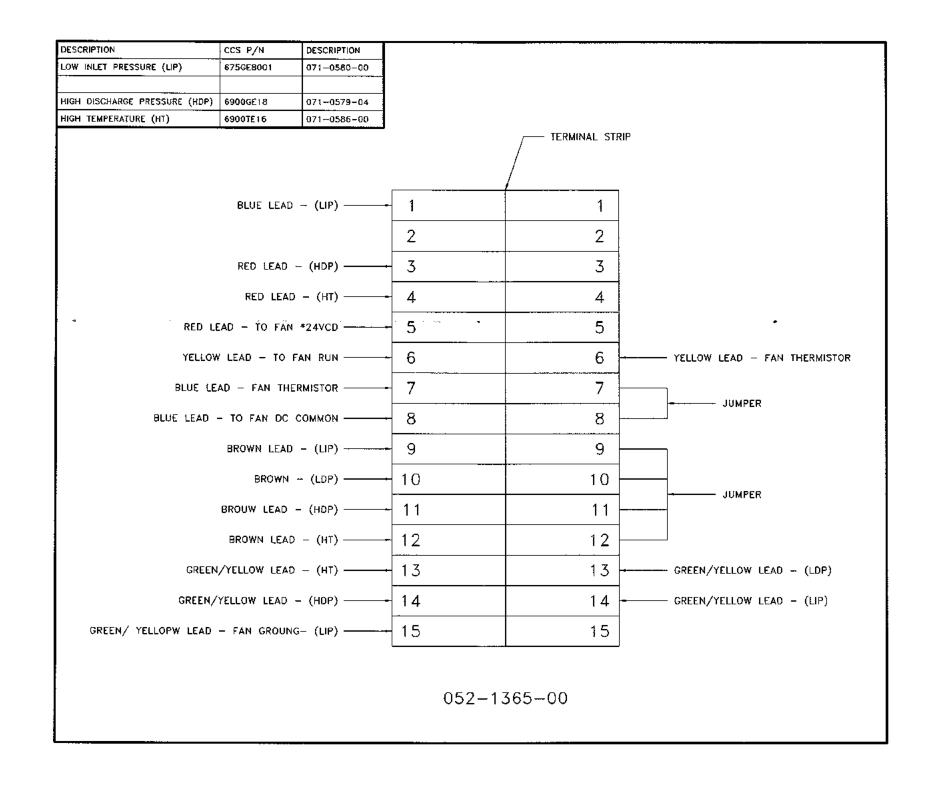
PC072705-00-0004









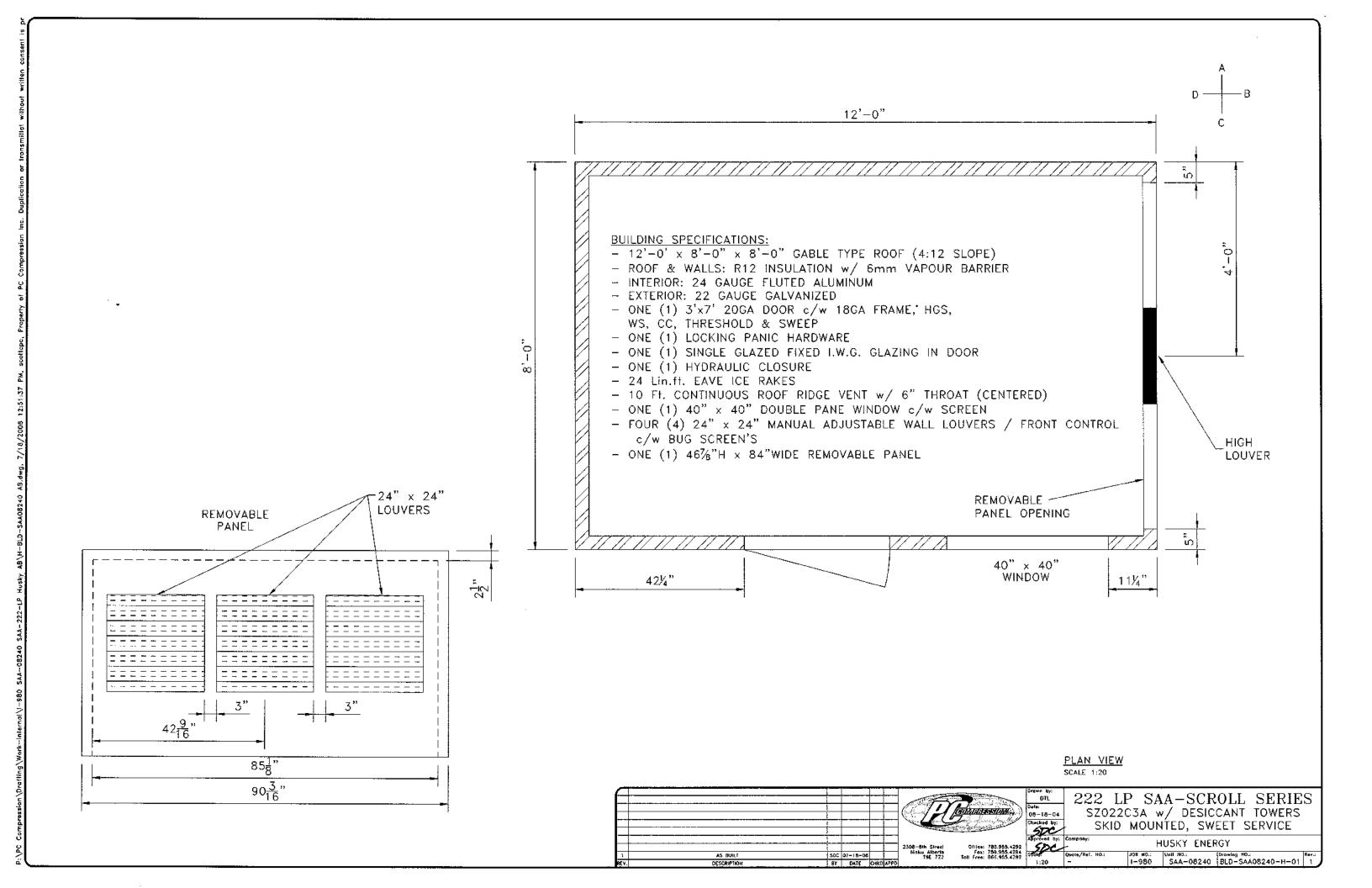


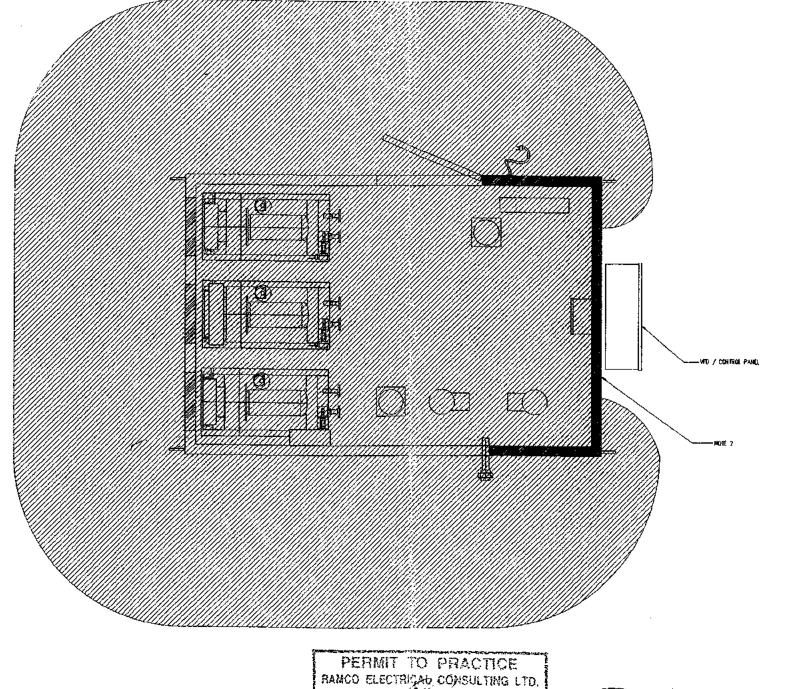
PC Unit NO.: SAA-08240

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V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE COMPRESSOR TERMINATION JUNCTION BOX LAYOUT JGF. AS BUILT 052-1365-00

**COPELAND** CORPORATION

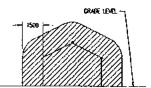




SON CONTRACTOR D 0,ASS (, 20ML 2 1777/77/77/7 CLASS L ZONE 2
UP 10 650mm above grade
ULLIVATATION FOR HEAVER THAN MR GASES

CLASSIFICATION LEGEND

HON HAZARDOUS



STANDARD MULTIPACK SCROLL BOOSTER COMPRESSOR BUILDING

Date 2003/06/03

PERMIT AT MINER: P 6426 The Astronomica of Photosoppias Engineers, Geologish and Geophysicists of Abene

CESS PERMISSION ID CONSULT FELD IN

E.S. 11630

PC COMPRESSION INC.

# STANDARD - COMPRESSOR MOLTIPACK SCROLL BOOSTER COMP.
STANDARD MODEL
AREA CLASSIFICATION DRAWING

C COMPRESSIONS INC. - B'X12' SHIEL ARRANGENON'

REFERENCE ORANANG TITLE

REV Y W D

PC120-GA2

MANUER

Electrical VRY VRY SUP SHE ENG Consulting Ltd. SSUED FOR AREA CLASSFICATION ISSUE/REVISION DESCRIPTION

PSV'S





BRANCH: Edmonton

Serial #: 408237 1/

Work Order: 412252

Customer PO#: 510203

Dat	e:	
Fac	:il	ity

5/13/2008

NIŠKU

A#: Cust. Ref.:

LSD:

Customer: PC COMPRESSION

**PSV** Location:

Cust Id:

Valve PO: 510203

### VALVE DATA

Temp: 70 F

Man.: Conn:

Set Pres:

Lift Lever:

Mercer Threaded

100 PSI

Model: 91-17D51V06E1

Inlet: 1 inch MNPT

Back Press: 0 PSI Cap Assembly: Closed

Orifice: .122

Cold/Diff Set Press: PSI

Code Symbol: UV

Outlet: 1 inch FNPT

Serial: 408237

Cap; 228 SCFM CRN#: 0G8841.5C

### CUSTOMER INSTRUCTIONS

Trim: Standard

Valve Instruct. Factory Set

RESET INFORMATION: New Pressure:

Instructions:

Sold New Valve

COMPONENTS INSPECTION

New Cold/Diff Set:

Reset Required?

New Capacity:

Components Installed

**Components Removed** 

New Model #:

Trim: Standard Spring #:

05-006

Gas / Air

New Inlet Size:

Temperature:

Disassembly:

Valve Medium: Inspection:

Richard Anderson

Reassembly:

**FINAL TEST:** 

**Test Medium:** 

Reseat:

Simmer: Leakage: Set Pressure:

B.P. Test:

Cold/Diff Set:

70 F

Test Gauge:

Tested by:

FINAL INSPECTION:

**BPM** 

Painted:

Ship Container:

Flex Gaskets Supplied:

SEAL Installed:

**V** 

End Protectors Installed: 🗹

Palletized:

Final Inspection: Richard Anderson

**Customer Inspection** 

INSPECTION ID#: 11919

Comments:

PC COMPRESSION DATE RECEIVED MAY 1 4 2008

P.O. #

SIGNATURE: APPROVED BY Q.C. INSPECTOR

QF-087





BRANCH: Edmonton

Serial #: 432039 📈

Work Order: 412495

Customer PO#: 510301-00

Date: Facility: A#: Cust. Ref.:	5/30/2008 NISKU	LSD:	PS	Customer: PC COMPRESSION Control of Custom C	PN
Man.: Conn: Set Pres: Lift Lever:	Mercer Threaded 150 PSI	Model: 91-17D51V07E Inlet: 1 inch MNPT Back Press: 0 PSI Cap Assembly: Closed		Serial: 43 ifice: .122 Outlet: 1 i Cold/Diff Set Press: PSI Code Symbol: UV	:2039 inch FNPT Cap: 329 SCFM CRN#: 0G8841.5C
	ruct. Factory S	et Instructions: Sold	OMER INSTRUCT New Valve New Cold/Diff Set:	IONS New Ca	Reset Required?
		COMP	PONENTS INSPEC	TION	
	уканда	Components Installed		Components Remove	<b>d</b>
New Model Trim: Disassemb	Standard	Spring #: Valve Medium: Inspection:	05-007 Gas / Air Richard Anderson	New Inlet Size: Temperature: Reassembly:	70 F
Test Mediu Reseat: Test Gauge Tested by:		Simmer: Leakage: BPM	FINAL TEST: Set Pressui B.P. Test:		d/Diff Set:
Final Inspe	Installed:	End Protectors Installed:	NAL INSPECTION  ✓ Painted:   ustomer Inspection	Palletized: Ship Container:	INSPECTION ID#: 1206
Comments	•			PC COMPRI	ESSION





BRANCH: Edmonton

Serial #: 422161 🗸

Work Order: 412638

Customer PO#: 510422

Date:

A#:

6/19/2008

Facility:

NISKU

LSD:

Customer: PC COMPRESSION

**PSV Location:** 

Cust Id:

Valve PO: 510422

VALVE DATA

Man.:

Conn:

Cust. Ref.:

Mercer

Model: 91-17D51V11E1

Inlet: 1 inch MNPT

Orifice: .122

Serial: 422161

Outlet: 1 inch FNPT

Set Pres: Lift Lever:

Threaded 450 PSI

Back Press: 0 PSI Cap Assembly: Closed

**Temp:** 70 F Trim: Standard

Cold/Diff Set Press: PSI Code Symbol: UV

Cap: 932 SCFM CRN#: 0G8841.5C

**CUSTOMER INSTRUCTIONS** 

Valve Instruct. Modify

RESET INFORMATION: New Pressure:

Instructions: 80 PSI

Sold New Valve

New Cold/Diff Set:

Reset Required?

New Capacity: 189 SCFM

COMPONENTS INSPECTION

Components Installed

Components Removed

**SPRING 05-006** 

**SPRING 05-011** 

New Model #: 91-17D51V06E1

Spring #:

05-006

New Inlet Size:

Trim:

Standard

Valve Medium:

Gas / Air

Temperature:

70 F

Disassembly: Cory Mercer

Inspection:

Cory Mercer

Reassembly:

Cory Mercer

**FINAL TEST:** 

Test Medium:

Аіг

74 PSI

Simmer:

79 PSI Leakage: 0 BPM Set Pressure: 80 PSI

B.P. Test:

60 PSI

Cold/Diff Set:

N/A PSI

Test Gauge: Tested by:

Reseat:

MVE-04/DG

Matt Wourms

FINAL INSPECTION:

Palletized:

Ship Container: 🗹

Flex Gaskets Supplied:

3 2008

**SEAL Installed:** 

**V** 

End Protectors Installed:

Painted:

**Customer Inspection** 

INSPECTION ID#: 12216

**QF-087** 

Final Inspection: Richard Anderson

Comments:

DATE

P.O. #

PC COMPRESSION RECEIVED JUN 2 510422

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

REVISION 1 DATE: 12/18/06





BRANCH: Edmonton

Serial #: 432040 🗸

Work Order: 412495

Customer PO#: 510301-00

Date: Facility: A#: Cust. Ref.	5/30/2008 NISKU :	LSD:		Customer: PC COMPRESSION V Location: Cust Id: Valve PO: 510301-00	
Man.:	Mercer	Model: 91-17D51V07E		Serial: 4320	
Conn: Set Pres: Lift Lever	Threaded 150 PSI : 🗌	Inlet: 1 inch MNPT Back Press: 0 PSI Cap Assembly: Closed	Temp: 70 F Trim: Standard	fice: .122 Outlet: 1 inc Cold/Diff Set Press: PSI Code Symbol: UV	Cap: 329 SCFM CRN#: 0G8841.5C
		CUST	OMER INSTRUCTI	ons	_
	truct. Factory Set FORMATION: Ne		New Valve New Cold/Diff Set:	New Cap	Reset Required?
		COMF	PONENTS INSPECT	TION	
	y <u>.</u>	Components Installed	<del></del>	Components Removed	<del></del>
New Mode Trim: Disassem	Standard	Spring #: Valve Medium: Inspection:	05-007 Gas / Air Richard Anderson	New Inlet Size: Temperature: Reassembly:	70 F
			FINAL TEST:		
Test Medi Reseat: Test Gaug Tested by	je:	Simmer: Leakage: BPM	Set Pressure B.P. Test:		Diff Set:
			INAL INSPECTION:		
	Linstalled: 🗹 ection: Richard A	End Protectors Installed: Inderson	Painted:	Palletized: Ship Container:	Flex Gaskets Supplied: [ ] INSPECTION ID#: 12070
Comment	s:			PC COMPEDATE RECEIVED P.O. # 51030/	PESSION JUN 0 2 2008

APPROVED BY Q.C. INSPECTOR



4

MFG. DATA REPORTS



Fuel Gas Scrubbers • Desiccant Dehydrators • Check Valves

7719 - 69 Street Edmonton, Alberta T6B 1V4 Phone: (780) 440-5064

Fax: (780) 440-5172

# Certificate Of Compliance

RECEIVED JUN 0 9 2008

I Hereby Certify That The Below Registered Category "H" Pressure Fitting Has Been Designed, Manufactured, and Pressure Tested In Accordance With The Alberta Safety Codes Act, CSA B51 And ASME Section VIII, Division 1, 2007 Edition.

CRN	0H5415	5.21345	· · · · · · · · · · · · · · · · · · ·			:
S/N	8600.64	13 V	·		٠	
Diameter	8.625	Inches	Overa	all Length	56	Inches
Year Built	2008			. •	. :	<b>-</b>
MAWP	600	PSIG	@	650	°F	
MDMT	-20 °F	•			'	
C.A.	0.0625	Inches				
Radiograph	у	N/A		*		
PWHT:	Time	N/A	min.	Temp.	N/A	]°F
Hydro Test	ed @	780	PSIG			• 

Quality Control Manager Dennis Klokocki

June 6, 2008

#T 2005

RECEIVED APR 1 5 2008

# ORIGINAL

Date: Dec 28, 2007 Certificate No.

INSPECTION CERTIFICATE ZIBO WEL-FIT METAL PRODUCTS CO., LTD NO 18, LUSHAN ROAD, LINZI, ZIBO, P.R.CHINA 255413

#EC×937AG

Purchasen Order No.:

invoice No.: ZWFC745°C

ZWF67431C Certificate to: EN10204-2004 3.1

Material Specification	Specification for inspection	>	Visual and Dimension	ingipral	Herd	Hardness.	Cu+ki+Cr+Mo	۰	Criffo	(c): LW	
ASTM AZZE-DELESME SAZZA	ASME 816,5-03	£	nspection	0000	Max	Max 197NB	< or =1.00%		< or =2,32%		
WPB NACE MR0175-02					<197HB	₽	शःक्ष	(GC:(	(GC:(%) 3000	PMIS): GOOD	0000
		-	Tension Te	st (1)		E S	mical Composition	2.			7
	:	ا ا	YS	<u> </u>							Carrie Mary

	} 	r		Tensi	Tension Test [1)	Ξ				ธ	Chemical Composition	Comp	sition	*			F	91	No.	i
Product Description		He st	Juentity (	γ. ed∰	T.S.	ш %	ပ	is is	e is	a.	্ট -	Ş.	Ž	3	>	₽	CE(Z)			Memo
				240	415	8	٦	0.10	62 C			L		-				<del>-</del>	ĸ`	<b>Bothurer</b>
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CAP STD WPB	3/41	1000	200	325	425	34	0.19 0	0.17 0.	0.53 0.0	0.0140 0.0210	. 012		_		Ţ	•	0.28	S	3	Ē
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· CAP STO WPB	0.	9000	0+	295	435	31 6	0.15 0	0.19 0.	0.06 0.0	0.0190 0.0240	- 040	_	- 1	•	- 1	]	0.24	\$	3.	d.
CON REDUCER STD WPB	2 X 1	01429	90	310	490	30 0	0.18 0	0.22 0.	0.50 0.00	0.0140 0.0060 0.0490	6000	8		0.0280 0.0680	. 0		0.28	S		dSX
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CON REDUCER STD WPB	3×2-1/2	0210B	5	316	9	2	0.18	0.19	0.52 C.01	C.0110 0.0090	90 0.03		0.06	5.014	٠	•	0.30	S		8
CON REDUCER STD WPS	4 X 2	02337	5	336	515	30 05	0.20	0.21 0.	54 0.00	0.0030 0.0130	30	۲	·!	Ĺ	ľ		0.29	s	_	£
CON REDUCER STD WPB	4 X 3	02362	7.6	305	455	38	0.19	0.23 0.	0.55 0.00	a.coec <u>o.nose</u>	86 0.02		0.02	8	_		0.29	S	-	BST
CON REDUCER STD WPB	5 X 3	03127	10	280	480	38 0	0.19	3.24 6.	0.48 O.C	0.0080 0.0090	90 0.06	200 z	2 0.02	90.0	0.01	[ - ]	0.29	ş		d.
CON REDUCER STD WPB	8 X 4	03127	5	290	480	36 0	0.19	0 770	0.48 (0.00	0.0000 0.0000	90 0 0e	700	2 0.02	900	0.01	- 1	0.29	s	_	4
CON REDUCER STD WPB	6 X 4	C3127B	0.	290	480	36 0	0,19	0.24	0.48 0.00	0.0000 0.0000	90 0.04	t 0.02	2 0.02	0.08	0.01		0.29	5	_	3
CON REDUCER STD WPB	10 X B	03571	¥)	315	287	31	0.19	0.24	46 0.01	0.0130 0.0050	<b>5Ω 0.06</b>	5 0.01	1 0.03	800	_	•	0.29	s	-	3

SAL Cold formed and schillon armos ed of 1958 C.4.10°C, water quenched. (4) 1=Seambass Pipe. 2=Wedded Pipe. 2=Sbee Plate.
Noce. (5) FGC-Integrannus Compston Test to ASTM AZB2 E. Philipposite Material Inspection. H1=Padlographical Test. MT=Magnetic Particle Test.
Note. (6) TTD=TIAND\_NSTL PLATE\_INP=JINAN STEEL XSP=XBRAIN PIPE CORP JYP=2\*ANGY'N SIALS PIPE BST=BAOSTEEL T.IP=T9CO. Note: (3) HF: Ho! formed (620-980 NS) and cooled in self air. S: Cold formed and normalized (950 °Cx0,5)·HR); cooled in self air. (2) CR+C-HRIGHCH C1+MQ+V/35+Q8+CU/75 Note: (1) YS=Yield Strangth TS=Tensite Strangth E=Elcrysthon

簡用為利金属的品有限公司 200 WEI-FF SECAL PRODUCTS CO., ITO.

with the specifications concerned and also with the prochaser's requirements and that the test results shown herein are comed. This material was manufactured, lessed, and inspected without mendurer contemination We hareby confity that the products detailed herein have been manufactured and inspected in accordance

÷ Fe 4

PAGE 1 OF 4

Saneral Note: The analysis for the elements with an amount of less then 3,02% is reported as "C0.02" represented by a"" above.

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QUALITY ASSURANCE MANGER

No. 75/20medieng Rd.Xingmy, Town Jiangrim City "Margas Province, China (21442). http://www.cigg.cn Tel:36-510-6160703 Rex:46-510-6167989 **Jardness Value** \* 1. 4. 的音戏Longitudish Surje: A1-12.7mm, A2-19.05mm A3-25.4mm A4-38.1mm, F-金載語Foll-section \*2律状Clubbed:191=12.7mm, B3=6,9mm, B3=6mm, B4−10mm \*3:繼商条状 Metallogical Analysis 8 S N. 0703310334 95 83 打越会打图台斯勒敦教育新展375年 a 相大回籍 Longitudina 톍 2600 9091 中国福电 Libense No. Ų ¥ 北田斯爾Impect Test 本中華(J) Impact Value æ HOT-ROLLING < 金相 分析 Hydro Test Orain size を \$54 米田 • Ak\_\_ Transvetee 相比重要 日期Date: 2007年06 月23 日 RECEIVED Microst 職権の 女使女体 Delivery States APR 0 4 2008 Wilde 法未能者 Spec. ASTM A106-04B/ASMESA106-04/APFSI, NACE MR0175-02 BN10204.3.1) 73-01463 ◆四糖与 Contract No. 表面な尺寸 280 Segregati 충 金布 8 74690/76145 75420/76870 新建 Na S:1 74690/71790 低倍組织(数) M.S S 中心 新花 Central Portosity 通り FICATE 125, 097 角集方式 Mehing Method BOF - 版 操作 Ordinary 39.5/38.5 37/37.5 Porogity 38/38 EL 3 拉拿攻略 Tensile Test 盐氧物物 E.E. 충 Crecutation 50035/48585 52210/51485 50035/52935 ž 89 <u>0</u> 200 馬馬強度 集的有事 Z.S. M.P.1 <u>کے</u> 2 2.38 3. **家邸木橱** 2 Garage 為流位墊 ŝ 왕정 化學展升(%)Chemical Composition CE .020 0.30 .010 0.30 020 0.29 ĦΉ 쏫 **MRGrade** 웇 > Art Direct \*1-A2 \*I-A2 •1-A2 **20**08 CARBON STEEL SEAMLESS PIPE 010, 040, 010, 020 040 020 010: 040: 010: Mo 御祭人里 出文章Total Pioces ₫ 15.954 53.613 25.530 **#**2\$ Ž DESCRIEL TUBE FACTORY 020 010 **张**公 3 ≅ S & 8\*\*SCH40\*12000 Ö Placing □ ¥e 8. § 幸 元 900 18 2 12 Ø .013 210 260 500 012 180 280 590 013 ے Y327030293 Y327030292 Y317030251 群中 Batch No 爾斯 8 돌 编纂StzeO.D×W.T×L (mm) Cold Bending 2 江阴市无绝倒 ö 73-01464 8 Manager Production 73-01395 73-01463 J 表数单位 PURC **新** EANCY IN CITY ###TOTA 製造す Flattening

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Value

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制证人: Certification

说明:本质正书以原件为准。复印无效。 Remark:No duplicate will be accepted.

4 Remark

Mare Notes

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胡才望 质量管理部负责人 Quality Manager:

Supposition S.f.-表案体Ferrite B-贝氏体Balaite P-来光体Pearlin S-回火素氏体 Tempered Sorbite M-马氏体Materastic

1.NO WELD REPAIRS WERE PERFORMED; Z.PIPES ARE FREE OF MERCURY AND SILICONE; 3.CE—C+MW6+{Cr+Mo+Vy9+(Ni+Cuy15; 4.API 3L Gr.B +37d Edition; 5.On throretical weight basis; 6.Origin: Chengdu.China.

HT 6433

ASTM A234 WPB-06 ASTM A234 WPB-06 ASME SA234 WPB-03 -ASME B16,9-03		SHANCHAI CATEWAY ETTINGS CO 1 TD	Strangthal China Strangthal China Pl. No. 1994 Strangthal China Pl. NO. 5001	1145661 FAX: 86-21-54145662 CERT	MFG NO. INTROVAL MAX.197 HB TOWNEYS TREATHER PARTICLE PARTICLE PARTICLE PARTICLE	Z 92-76	\$5-88 G000	G000	2000 COO	9009	COOD 86-76	91~16 0000		, , , , , , , , , , , , , , , , , , ,	S Cv S Cr Ma V	*1695 *100 *100 *100 *100 *100 *300	35.5 60	9'58 8 51 0+ 0+ 0+ t5 0H	1] 2 0 6 0 0 0 0 44.98 67.32 32.0	14 0 0 0 0 0 40.45 68.28	16 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			14 6 2 2 0 0 66.34	19 1 1 1 6 0 45,90 66,75	• • • • · · · · · · · · · · · · · · · ·	5 5 11 11 0 0 47.29 77.30	ECH CAN'C , ALR COOLLING.	IR COOLENG.			
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		Þ	951,Kesl Strangto	TEL:	<u> </u>					· <del></del>				CHEMI	S	1000		\$5	77	2	*	<b>*</b>	1	=	\$	•	10	39C - 988	JOLENG.		IAS BEEN M	V & Verticement
ASER. SEY BOLD INTERNATIONAL CORP.  ASTAI A234 WPB-06  ARD. ASME SA234 WPB-03  I(ALS. ASTAI A166 Gr.B  PC. ASME B16.9-03  PC. ASME B16.9-03  PC. ASME B16.9-03  PC. ASME B16.9-03  PP. STD  PP.	,	W H			NTITY CS	2	3	2 2	3 5	8	9	2	2.		4	.1000		\$		2	96 (	* •	. <u>%</u>	13	51	2	2	MINERY (	MA, AM CC		HEREIT H	
ASER. SEY BOLD INTERNATIONA  ASTM A134 WPB-06  ARD: ASME SA134 WPB-03  IfALS: ASME SA134 WPB-03  IfALS: ASME B16,9-03  FRODUCT & SIZE  FRODUCT THE STRUMAL TEDER  FORMALIZZIO AT TRECHMAT TEDER  FORMALIZZIO AT TEDER  FORMALIZZIO AT TRECHMAT TEDER  FORMALIZZIO AT TEDER  FORMALIZZIO A		L CORF.	1	!	QUA		_	<del></del>		•		<u> </u>	·		Mn	100	62	186	2	3	ጃ .	<b>7</b> :	2 8	8	23	*	\$					ICT.
ASER. SEV BOLD INTERN  ARD. ASIME SA134 WP  Itals. ASIME SA134 WP  Itals. ASIME B16.9-03  Itals. STD  Ital		ATTONA	PB-03												S	301.	2		2	2	# :	<b>*</b> ;	. Y	7	×	2	a	SAL TAN	PERATE	CTORY	PRODUCT.	NE CORR
ASER. SEY BOLE ASTIN A ARD. ASINE S IIALS. ASINE S IIALS. ASINE S EC. ASINE B FRODUCT RP-1.12" STD RP-1. STD		INTERN	A234 W	16.9.03	I & SIZE										U	100		30	Z	2	# :	2 ;	2	2	*	5	2	ED WITH F	NO AT TRA	SATER	TEAT 1985	NUMBER IN
		ASER. SEY BOLI	STANDARD: ASME S. MATERIALS: ASTM A	EC. ASME B	PRODUC	CAP-1-1/2" STD	CAP-2"STD	CAP-4" STD	316.4.1	12.10"STD	TEE-2" STD	TE 3" STD	TEE-4" STD	erric our	MATERIAL	CHARGE NO.	_	Ш	DL#421518	DL#533192	DI.4515928	DL#515928	36491804B6	4238	3819	S62649	05404513	OTELA BOT PORM	N: NORMALIEZ	KACK MB-81-7	A HEREIST CERTURY	CST RESULTS SHOW



\_ PAGE \_\_1 LOG NO. 319337 BONNEY FORGE P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17( [814) 542-2545 • (600) 345-7548 • FAX (814) 542-4906 www.bonneylorge.com

CUSTOMER: CCTF CORPORATION

Date 03/14/08

CUSTOMER'S Order No.:4883252-00

**Bonney Order No.** 

SHIPPED TO: CCTF CORPORATION

B000026362

5407 - 53 AVENUE

EDMONTON, ABTAB 3G2 Canada

ITEM	QUAN	TITY LO	T NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS.
				SA/A105N
033	25	3605 MALE	7527063	1/4 6000 A105N UNAR T C .200 MN 1.000 P .009 S .020 SI .18( NI .040 CU .150 CO .003 CR .060 MD .01( V .000 AL .021 NB .015 CE(LONG FORMULA) = 0.39 T/S 74750 Y/S 53875 EL 33.15 RA 67.25 BRINELL HARDNESS1: 132 HARDNESS2: 135
035	200	<b>57377</b>	7525451	1/2 3000 A105N 90EL S C .200 MN 1.150 P .009 S .022 SI .18( NI .020 CU .070 CO .002 CR .060 MD .01( V .001 AL .025 NB .014 CE(LONG FORMULA) = 0.41 T/S 73750 Y/S 49875 EL 32.95 RA 66.10 BRINELL HARDNESS1: 127 HARDNESS2: 127
<b>4E0</b>	1800	57436 57443		1 3000 A105N 90EL S C .200 MN 1.020 P .019 S .018 SI .23( NI .040 CU .120 CO .003 CR .060 MO .01( V .000 AL .028 NB .012 CE(LONG FORMULA) = 0.39 T/S 76375 Y/S 52375 EL 31.35 RA 67.00 BRINELL HARDNESS1: 127 HARDNESS2: 127 1 3000 A105N 90EL S
		<i>3/773</i>		C .190 MN 1.040 P .011 S .020 SI .20( NI .020 CU .080 CO .002 CR .040 MO .01( V .000 AL .022 NB .013  CE(LONG FORMULA) = 0.38  T/S 74000 Y/S 51500 EL 31.00 RA 67.00  BRINELL HARDNESS1: 144 HARDNESS2: 141

\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory of

Cris Boozel



LOG NO. 319337 PAGE 2: BONNEY FORGE PO. BOX 330 - 14495 CROGHAN PIKE - MOUNT UNION, PA 17:

P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PAT (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906 www.bonneylorge.com

CUSTOMER: CCTF CORPORATION

Date 03/14/08

CUSTOMER'S Order No.:4883252-00

Bonney Order No.

SHIPPED TO: CCTF CORPORATION 5407 - 53 AVENUE

B000026362

EDMONTON, ABT6B 3G2 Canada

ITFM

QUANTITY LOT NO.

GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS.

- THE MATERIAL SUPPLIED IDENTIFIED AS A 105GT WAS GUENCHED AND TEMPERED IN ACCORDANCE WITH ASTM A 105 HEAT TREATING REQUIREMENTS
- ! THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- I. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- . CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- 5. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204: 2004 EDITION TYPE 3.1 INSPECTION DOCUMENT, (EUROPEAN STANDARD)
- . ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.
- THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2005 AND NACE MR0175-2002.

\*\*\*\* END OF CERTIFICATION \*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production milt, or as obtained by additional laboratory

Cris Boozel



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

LOG NO	319433	PAGE	5
BONNEY FORGE	ent Chocales plate .		

90nnez FUNGE: P.O. BOX 330 - 14495 CROGHAN PIKE • MOUNT UNION, PA 17056-033( (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906 www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

Date 03/17/08

CUSTOMER'S Order No.:4024147-00

Bonney Order §800028821

SHIPPED TO: CCTF CORPORATION (DAKVILLE)
1387 CORNWALL ROAD

OAKVILLE, ONLAJ 775 Canada

ITEM	QUANTITY LO	OT NO,	GRADE OR SPECIFICATION NO. GHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
			SA/A105N
014	100 4005	T/S 76005 Y	N 1.020 P .009 8 .019 SI .220 U .090 CO .004 CR .060 MO .010
015	16 <b>3726</b>		N 1.000 P .009 S .019 SI .210 J .140 CO .003 CR .040 MD .010 L .017 NB .016 MULA) = 0.38 /S 51500 EL 37.00 RA 68.00
016	250 4049	NI .030 CU V .000 AU CE(LONG FORM T/8 77125 Y/	N 1.020 P .006 S .021 SI .220 J .070 CD .003 CR .050 MB .010
017	200 (3987)		1 1.040 P .007 S .017 SI .210 J .080 CD .003 CR .040 MG .010 L .020 NB .014

\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production shill, of as obtained to additional parties of the certify that the data on this sheet is a true copy taken from our records of material furnished us by the production shill, of as obtained to additional parties of the certify that the data on this sheet is a true copy taken from our records of material furnished us by the production shill, of as obtained to additional parties of the certify that the data on this sheet is a true copy taken from our records of material furnished us by the production shill, of as obtained to additional parties of the certific that the data on this sheet is a true copy taken from our records of material furnished us by the production shill, of as obtained to additional parties of the certific that 
Kylee Aleck

QUALITY PROCESS MANAGER

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CMTR: REV 1



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

LOG NO. 319433 PAGE 19

BONNEY FORCE P.O. BOX 330 • 14498 CROSHAN PIKE • MOUNT UNION, PA 17066-0330 (814) 542-2545 • (900) 345-7546 • FAX (814) 542-4908 www.bonneyforga.com

CUSTOMER: CCTF CORPORATION

Date 03/17/08

CUSTOMER'S Order No.:4024147-00

Bonney Order №900028821

SHIPPED TO: CCTF CORPORATION (DAKVILLE)
1387 CORNWALL ROAD

DAKVILLE, ONL6J 7T5 Canada

ITEM

QUANTITY LOT NO.

GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:

- THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- I. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2005 AND NACE MR0175-2002.
- . CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- i. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204: 2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
- ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.

\*\*\*\* END OF CERTIFICATION \*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by sticking a taporatory process

Kylee F

**QUALITY PROCESS MANAGER** 

CMTR: REV 1

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

LOG NO. \_\_316681 \_\_\_\_ PAGE \_\_12\_ BONNEY FORGE 

CUSTOMER: CCTF CORPORATION

Date 12/18/07

CUSTOMER'S Order No.:4882397-00

Bonney Order 1900023146

SHIPPED TO: CCTF CORPORATION (EDMONTON)

5407 - 53RD AVE.

EDMONTON, ABT4B 302 Canada

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
			SA/A105N
036	1958 399	72 752 <b>3</b> 726	1/2 3000 A105N HCP T C .210 MN 1.020 P .009 S .019 SI .220 NI .030 CU .090 CD .004 CR .060 MO .010 V .000 AL .020 NB .016 CE(LONG FORMULA) = 0.40 T/S 76005 Y/S 53151 EL 33.90 RA 67.54 BRINELL HARDNESS1: 127 HARDNESS2: 127
037	2000 378	9 7529793	1 3000 A105N HCP T C .200 MN 1.020 P .017 S .020 SI .230 NI .040 CU .160 CD .003 CR .060 MD .010 V .000 AL .026 NB .014 CE(LONG FORMULA) = 0.40 T/S 75877 Y/S 52889 EL 34.25 RA 37.54 BRINELL HARDNESS1: 135 HARDNESS2: 132
038	1125 393	30 7523882	2 3000 A105N HCP T C .200 MN 1.030 P .007 S .019 SI .190 NI .050 CU .160 CO .004 CR .100 MD .020 V .000 AL .031 NB .014 CE(LDNG FORMULA) = 0.41 T/S 76875 Y/S 54375 EL 32.30 RA 67.00 BRINELL HARDNESS1: 132 HARDNESS2: 135
	—> 39€	50 75238 <b>82</b>	2 3000 A105N HCP T C .200 MN 1.000 P .009 B .018 SI .210 NI .060 CU .220 CO .005 CR .120 MD .020 V .000 AL .022 NB .015 CE(LDNG FORMULA) = 0.41 T/S 76250 Y/S 54750 EL 33.05 RA 68.35 BRINELL HARDNESS1: 137 HARDNESS2: 135

\*\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production milk or as obtained by additional laboratory checks.

Cris Boozel

CMTR: REV 1

**QUALITY PROCESS MANAGER** 



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LOG NO. 316681 PAGE 39

BONNEY FORME P.C. BOX 390 • 14496 CROGHAN PRICE • MICUNT LINION, PA 17066-033 (814) 542-2545 • (800) 345-7548 • FAX (814) 542-4906 www.bonneylorge.com

CUSTOMER: CCTF CORPORATION

Date 12/18/07

CUSTOMER'S Order No.:4882397-00

Bonney Order NB00023146

SHIPPED TO: CCTF CORPORATION (EDMONTON)

5407 ~ 53RD AVE.

EDMONTON, ABT6B 362 Canada

HEM.

QUANTITY LOT NO.

GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:

- 1. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- 2. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- 3. CERTIFYING ASTM A108-05 / ASME SA105-04 EDITION.
- 4. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.
- 5. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204: 2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
- 5. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2005 AND NACE MR0175-2002.

\*\*\*\* END OF CERTIFICATION \*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mile as obtained by additional laboratory checks.

Cris Boozel

CMTR: REV 1

QUALITY PROCESS MANAGER



EOG NO. 320659 PAGE 6

BONNEY FORGE
P.O. BOX 330 • 14498 CROGHAN PIKE • MOUNT UNION, PA 17
(814) 642-2546 • (800) 346-7546 • FAX (814) 642-4906
www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

Date 04/23/08

CUSTOMER'S Order No.:4024341-00

Bonney Order 1600031433

SHIPPED TO: CCTF CORPORATION (DAKVILLE)
1387 CGRNWALL ROAD

**OAKVILLE, ONLAJ 7T5 Canada** 

ITEM	DUANT	IIIY LOI	NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS PHYSICAL PROPERTIES REMARKS.
· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·	SA/A105N
019	40	57310	7528523	11/2X11/2X3/4 3000 A105N TEE S C .190 MN 1.010 P .008 S .016 SI .220 NI .030 CU .100 CD .003 CR .060 MD .010 V .000 AL .029 NB .013 CE(LONG FORMULA) * 0.38 T/S 75000 Y/S 52250 EL 33.45 RA 66.55 BRINELL HARDNESS1: 127 HARDNESS2: 127
		57404	7526523	11/2X11/2X3/4 3000 A105N TEE S C .200 MN 1.010 P .006 S .022 SI .240 NI .060 CU .100 CD .006 CR .060 MD .020 V .000 AL .024 NB .014 CE(LONG FORMULA) = 0.40 T/8 73500 Y/S 46375 EL 32,20 RA 61.80 BRINELL HARDNESS1: 130 HARDNESS2: 130
020	25 (	3900	7523335	1 3000 A105N HCP 8 C .200 MN 1.040 P .010 S .019 SI .260 NI .020 CU .120 CO .002 CR .040 MD .010 V .000 AL .024 NB .015 CE(LONG FORMULA) = 0.39 T/S 77411 Y/S 55203 EL 31.40 RA 65.08 BRINELL HARDNESS1: 132 HARDNESS2: 132
021	25	4036	7526202	11/2 3000 A105N CAP S C .200 MN 1.100 P .007 S .020 SI .230 NI .020 CU .070 CO .003 CR .030 MO .010 V .000 AL .025 NB .012 CE(LONG FORMULA) = 0.40 T/S 78015 Y/S 55402 EL 32.60 RA 64.97 BRINELL HARDNESS1: 130 HARDNESS2: 127

\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production shill, or asymptotic by additional laboratory che

Kylee Fieck



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PAGE

**BONNEY PORGE** 

P.O. BOX 330 • 14496 CROCHAN PBCE • MOUNT UNION, PA (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4908 www.bonneytorge.com

CUSTOMER: CCTF CORPORATION

Date 04/23/08

CUSTOMER'S Order No. A024341-00

Bonney Order NO.00031630

SHIPPED TO: CCTF CORPORATION (DAKVILLE)
1387 CORNWALL ROAD

DAKVILLE, ONLAJ 7T5 Canada

ITEM

QUANTITY LOT NO.

GRADE OR SPECIF CARION NO OHEMICA, ANALYSIS PHYSICAL PROPERTYS, REMARKS

- 1. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- 2. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS:
- 3. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2005 AND NACE MR0175-2002.
- 4. CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- 5. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204: 2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
- 6. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.
- 7. THE MATERIAL SUPPLIED IDENTIFIED AS A1050T WAS QUENCHED AND TEMPERED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.

\*\*\*\* END OF CERTIFICATION \*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional is of as obtained by additional is or as obtained by additional is of a solution and a solu

Kylee Fleck

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PAGE \_\_\_\_ LOG NO. \_\_320935... BONNEY FORCE F.O. BOX 350 - 14466 CRICIGNAN PIKE - MOLINT UNION, PA 170 (814) 542-4665 - (800) 545-7546 - FAX (814) 542-4606 www.borneyforge.com

CUSTOMER: CCTF CORPORATION

Date 05/01/08

CUSTOMER'S Order No.:

Bonney Order No.

SHIPPED TO: CCTF CORPORATION

5407 - 53 AVENUE

EDMONTON ALBERTA, TOB 302 CANA

10140 DEM CHANTILY COUNTRIBUTE VALUE MAY PHYSICAL PROPERTIES IN SUBSTITUTE. 9A/A105 001 4023 3/4 3000 A105 COUP T . 200 MN 1.020 P . 006 \$ . 022 #1 . 211 . 090 CO .003 CR NI . 020 CU . 060 MD . 014 . 000 AL . ozz Ns .012 CE(LONG FORMULA) = 0.39 7523572 T/B 79134 Y/S 48628 BL 33.00 RA 59.00 BRINELL HARDNESS1: 159 HARDNESS2: 141

- 1. CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- 2. Elongation test results are obtained using standard round specimen. 2 INCH OR 50 MM GAGE LENGTH.
- 3. THE FRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204: 2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (SURDESAN STANDARD)
- 4. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MRD103-2005 AND NACE MRG175-2002.

\*\*\*\* END OF CERTIFICATION \*\*\*\*

We certify that the date on this sheet is a true copy taken from our records of material turnished us by the <u>preduction only</u>, or as obtained by additional laborators.

Cris Boosel

**CMTR: REV 1** 

QUALITY PROCESS MANAGES

(601) 45000 967

RECEIVED

Contract No: 07HGC020280 L/C NO::f1013668V07010 Nume of Customers

ORDER NO: OTHER DESCRIPTION: SEAMLESS STEEL PIPES

JAN 1 2008 HEPYANG VALIN STEEL TUBE CO., LTD MLL TEST CERTIFICATE

Dates MAY 10, 2007 Pager 2/5

Add: 10 Delixincun, Hengyang City, Hunan, China Tel and Par: +86 734 8873739 8872942

421001 6993 Cable

P.C.

Ì	TOTAL ALTERNACIONAL DE DE SE AM	THE CASE IN	TEPS & A ADRIVET 8	THE STATE			Page, 2/5	,				:			
	8PEC; ASTM A538-2002/A1068-2002	38-2002/A	106B-2002A, AS	a, asmi sasse 2004/3a106b-2004, api 5lb psl1-2004,nace mr.017b-1991	04/3A106B	2004, A	91 SLB	P811-20	DA,NAC	S N	178.18	2		CERTIFICATE NO. 07-02-	TE NO. 07-02- 0506
ý Ž	BATCH NO.	HEAL	STEEL		SIZE			BUNDLES	N.ES	PIBCES	ES	FEET	1.	THBORENCAL WEIGHT (NG)	ACTUAL WEIGHTOAT)
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ω,		67202364-1	B	1, 000H0H	1. DOCHON X 0. 133 INCRES X	S X 21FERT	ŧ	10		546	9	11466	92	8.736	N/A
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φ	674300703	07302286-1	8	1.000HDM	1.000KOM X 0, 179THCHRS X 21PERT	S X 21FB	Į.	•		364	4	7644	7	7, 548	K/A
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10	674400709	07202366-1	В	1, DODROH	1. DOGROM X O. 1791KORES X 21FEET	S X 21FB	13	2		182	2	3822	2	3, 776	R/A
<b>6-</b>	574200850	07300226-I	B	1, 260HOM	I, 260MCM X 0, 1911MCHRS X 21PHRT	S X 21PE	15	18	•	1079	6,	22659	82	30.87	K/A
9	L.,		NONDESTRUC	TRUCTIVE TEST					CHEMICAL	3	COMPOSITION	MOLLLI	×		
<u>;</u>	CONDITION	Н	BODY CURRENT TEST	ULTRASONNIC THIST	BST C	S	Mb	Ь	8	ខី	M	ბ	Mo	A	
9	COLD-DRAWN(780°C)	780°C)	i	V/N	0.19	0.23 0.54		0.023			0.01	0.03		00.00	
S	COLD-DRAWN(780°C)	(D.00)	OK	N/A	0.21	0, 25 0, 46		0.015	0.02	0, 62	ш			0,00	
20	COSTO-DRAWN(780°C)	(20e)	OK	V/N	0.21	0, 25 0, 48		0.016			. ]			0, 00	
9	COLD-DRAWN(780°C)	70C)	OK	N/A	0,21	0, 22 6, 46		0.012	0.013	0, 02	0.01	0, 02	00.00	0.00	
ø	COLD-DRAWN(780°C)	<b>180</b> C3	OK	N/A	0. 19	0.230.64			D. 004	0, 02	10.0	0.03		0, 00	
9	COLD-DRAWN(780°C)	180°C)	OK	N/A	0, 21	0,250,4	li		0.02 k	20.00	10.0	0, 03	00.00	0, 00	
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1	COLD-DRAWN(780°C)	180C)	οĶ	Y/N	0.21	0, 23 0, 44	li			0.02	1		Г	9.00	
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10	05189	8	44225		Ŧ		Ϋ́		IBC 4	. 6	,	2800 PSI	-	H/A	¥
9	76125	<b>2</b> 2	49300		38,5		Ν		HPC 3.5	8		2800 PSI		H/A	8
9	76400	8	48575		41.5		<b>%/Y</b>		EDEC 6	0	,	2800 PSI		N/A	Š
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REMARKS: 1. We hereby certify that the motivable has been manufactured, encupted, toward and improved in accordance with the required standards

2. Properties compliance to DIN 50049 3.1.B.

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

QUALITY MANAGER,

4. SPECIMEN SIZE: (Pipe end, Longitudhal, Guuge Length-27)

A. For pipes 41" fell length specimen were used;

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

5. Origin: Made in Chine.

ORIGINAL

# Lo Tech Manufacturing Inc.

Fuel Gas Scrubbers • Desiccant Dehydrators • Check Valves

7719 - 69 Street Edmonton, Alberta T6B 1V4 Phone: (780) 440-5064

Fax: (780) 440-5172

# Certificate Of Compliance

RECEIVED JUN 2 3 2008

I Hereby Certify That The Below Registered Category "H" Pressure Fitting Has Been Designed, Manufactured, and Pressure Tested In Accordance With The Alberta Safety Codes Act, CSA B51 And ASME Section VIII, Division 1, 2007 Edition.

CRN	0H5415	5.21345				
S/N	8600.66	66 V			· -	
Diameter	8.625	Inches	Overal	l Length	56	Inches
Year Built	2008					<del>.</del> 
MAWP	600	PSIG	@	650	°F	
MDMT	−20 °F					
C.A.	0.0625	Inches	· ·			
Radiograph	ıy	N/A		· · .		
PWHT:	Time	N/A	min.	Temp.	N/A	]°F
Hydro Test	ed @	780	PSIG			_

Quality Control Manager Dennis Klokocki

June 20, 2008

HT 6433

RECEIVED APR 0 4 2008 N10204.31) 73-01463

STEEL TUBE FACTORY

打器市无数 navovn cm s

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L	下氧化物 Product	100		13	REGIO	N STE	CARBON STEEL SEAMLESS PIPE	MLES	S P	m	<b></b>	北本航	技术标准 Spec. ASTM A106-04B/ASME SA106-04/API 51,NACE MR0175-03	06-04B/ASM	ESA106-04	<b>√.18 IS.</b>	ACE MRO	175-03	将可证号 License No.	License		0203	
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L	異選	_	带龙		**	<b>□</b>	<b></b>	海人製		370	治疾病物	-	業を有事	無条件	シ	_	表面を元々	<u></u>	*	<u>-</u>	160		Z.
匹	Flattening		Cold Bending	뚇	F	Flaving		L.S.			E.T	7	M.P.1	L.M.T	Q	_{	38		Aver Test	2	<u>8</u>		PS.
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	掛	* 1:44 Thuns	*ト:紙角条社Longitudinal Strip: Al-12.7mm, TansverseStrip:Cl-12.7mm, C2-19.05mm C3	\$ \$ \$	tadinal 12.7m	SET S	AJ-12. 19.05m	7mm, /	S. 查	Denna tr C4-3	A3-25.	tom A	4):纵角景状Longitadinal Strip: Al-12.7mm, A2-19.05mm A3-25.4mm A4-38.1mm,F-全载面Full-section *2学状Clubbed:B1=12.7mm,B2=8.9mm,B3=6mm,B4=10mm *5:齿角条状 ThuswerseStrip:Cl-12.7mm, C2-19.05mm C3-25.4mm C4-38.1mm, *4:D1=10×10×55mm D2=10×75×55mm D3=10×5×55mm *5:C-成品成分Product composition R-熔炼成分 Melting	MFull-section ?−10×7,5×5.	5mm D3*!	Clubbed 10×5×5!	:B1=12.7	mm.B2=6 -英品表5	Product co	mm.B4= mpositio	10mm *	3.微范条系统 3.	tting tliing
		dwoo	composition *6:F-铁紫体Ferrite B-贝氏体Bair	3	業	Ferrite	1.1	X Bain	Fr P.3	紫	Pearlik		sin P.莱光体Pearlie S.回火餐氏体 Tempered Sorbits M.马氏体Martensie	Sorbite M-	中元存Me	rtensite					}		

质量管理部负责人 Quality Manager:

说明:本质匠书以原件为他,复印无效。 Remark:No duplicate will be storepted.

本 Retairt

胡木型

I.NO WELD REPAIRS WERE PERFORMED; 2.PIPES ARE FREE OF MERCURY AND SILICONE; 3.CE—C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/13; 4.API SL Gr.B +3rd Edition; 5.ON THEORETICAL WEIGHT BASIS; 6.ORIGIN: CHENGDU.CHINA.

着能人: Certificati

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

LOG NO. \_\_316681 \_\_\_\_ PAGE \_\_12\_\_\_ BONNEY FORGE P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330 (814) 642-2546 • (800) 346-7848 • FAX (814) 542-4808 www.bonnsylome.com

CUSTOMER: CCTF CORPORATION

Date 12/18/07

CUSTOMER'S Order No.:4882397-00

Bonney Order №00023146

SHIPPED TO: CCTF CORPORATION (EDMONTON) 5407 - 53RD AVE.

### EDMONTON, ABTAB 302 Canada

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
: İ			SA/A105N
036 : i	1958 3997	7523726	1/2 3000 A105N HCP T C .210 MN 1.020 P .009 S .019 SI .220 NI .030 CU .090 CO .004 CR .060 MO .010 V .000 AL .020 NB .016 CE(LONG FORMULA) = 0.40 T/S 76005 Y/S 55151 EL 33.90 RA 67.54 BRINELL HARDNESS1: 127 HARDNESS2: 127
037	2000 3 <del>9</del> 6	7523793	1 3000 A105N HCP T C .200 MN 1.020 P .017 S .020 SI .230 NI .040 CU .140 CD .003 CR .060 MD .010 V .000 AL .026 NB .014 CE(LONG FORMULA) = 0.40 T/S 75879 Y/S 52889 EL 34.25 RA 37.54 BRINELL HARDNESS1: 135 HARDNESS2: 132
038	1125 3930	7523882	2 3000 A105N HCP T C .200 MN 1.030 P .007 S .019 SI .190 NI .050 CU .160 CO .004 CR .100 MO .020 V .000 AL .031 NB .014 CE(LONG FORMULA) = 0.41 T/S 76875 Y/S 54375 EL 32.30 RA 67.00 BRINELL HARDNESS1: 132 HARDNESS2: 135
	<b>→&gt;</b> 3960	7523882	· · · · · · · · · · · · · · · · · · ·

\*\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*

We certify that the data on this sheel is a true copy taken from our records of material furnished us by the production milk, or as obtained by additional laboratory checks.

Cris Boozel

CMTR: REV 1

**QUALITY PROCESS MANAGER** 

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

LOG NO. \_\_316681..... 

SONNEY FORGE

P.O. BOX 330 • 14495 CROGHAN PIKE • MOUNT LINION, PA 17068-032 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4908 www.borrneyforge.com

CUSTOMER: CCTF CORPORATION

Date 12/18/07

CUSTOMER'S Order No.:4892397-00

Bonney Order №800023146

SHIPPED TO: CCTF CORPORATION (EDMONTON) 5407 - 53RD AVE.

EDMONTON, ABTAB 3G2 Canada

ITEM

QUANTITY LOT NO. GRADE OR SPECIFICATION NO.
CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:

- I. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- 2. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- 3. CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- 1. ELONGATION TEST RESULTS ARE OSTAINED USING STANDARD ROUND SPECIMEN, 2 INCH DR 50 MM GAGE LENGTH.
- 5. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204: 2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
- 5. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2005 AND NACE MR0175-2002.

\*\*\*\* END OF CERTIFICATION \*\*\*\*

We sertify that the data on this sheef is a true copy taken from our records of material furnished us by the production mile or as obtained by additional laboratory checks.

Cris Boozel

CMTR: REV 1

QUALITY PROCESS MANAGER



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LOG NO319433	PAGE .	5
BONNEY FORGE P.O. BOX 330 • 14495 CROGHAN PIN (814) 542-2545 • [800] 345-7546 • FAX www.bonneyforga.com		PA 17 <b>066-033</b> 0

CUSTOMER: CCTF CORPORATION

Date 03/17/08

CUSTOMER'S Order No.:4024147-00

Bonney Order \$600028821

SHIPPED TO: CCTF CORPORATION (DAKVILLE)
1387 CORNWALL ROAD

DAKVILLE, ONLGJ 7T5 Canada

ITEM	QUANTITY LC	T NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
			SA/A105N
014	100 4005	C NI V CE(LOI T/S 70	3M A105N REDU T .210 MN 1.020 P .009 S .019 SI .220 .030 CU .090 CD .004 CR .040 MD .010 .000 AL .020 NB .016 NG FORMULA) = 0.40 6005 Y/S 55151 EL 33.90 RA 64.54 LL HARDNESS1: 127 HARDNESS2: 127
015	16 3726	C NI V CE(LO T/S 7	M A103N REDU T .190 MN 1.000 P .009 S .019 SI .210 .050 CU .140 CO .003 CR .040 MO .010 .000 AL .017 NB .016 NG FORMULA) = 0.38 3500 Y/S 51500 EL 37.00 RA 68.00 LL HARDNESS: 137
	250 4049	C NI V CE(LON T/S 77	000 A105N HCP T 200 MN 1.020 P .006 S .021 SI .220 030 CU .090 CB .003 CR .050 MB .010 000 AL .029 NB .013 NG FORMULA) = 0.39 7125 Y/S 57B75 EL 32.85 RA 69.25 LL HARDNESS1: 141 HARDNESS2: 139
017	200 (3987)	NI V CE(LON T/S 70	D A105N HCP T 200 MN 1.040 P .007 S .017 SI .210 020 CU .080 CD .003 CR .040 MD .010 000 AL .020 NB .014 NG FORMULA) = 0.39 0000 Y/S 44900 EL 33.00 RA 71.00 _L HARDNESSI: 130 HARDNESS2: 132

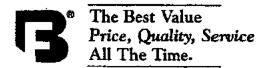
\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, of ak obtained by authors have a copy taken from our records of material furnished us by the production mill, of ak obtained by authors have a copy taken from our records of material furnished us by the production mill, of ak obtained by authors have a copy taken from our records of material furnished us by the production mill, of ak obtained by authors have a copy taken from our records of material furnished us by the production mill, of ak obtained by authors have a copy taken from our records of material furnished us by the production mill, of ak obtained by a copy taken from our records of material furnished us by the production mill, of ak obtained by a copy taken from our records of material furnished us by the production mill, of ak obtained by a copy taken from the copy taken from

Kylee Aleck

**QUALITY PROCESS MANAGER** 

CMTR: REV 1



LOG NO. . 319433 PAGE 19

BONNEY FORGE P.O. BOX 390 \* 14486 CROGHAN PIKE \* MOUNT UNION, PA 17066-0330 (814) 542-2545 \* (800) 345-7546 \* FAX (814) 542-4906 mco.agrotyennod.www

CUSTOMER: CCTF CORPORATION

Date 03/17/08

CUSTOMER'S Order No.:4024147-00

Bonney Order N900028821

SHIPPED TO: CCTF CORPORATION (DAKVILLE)

1387 CORNWALL ROAD

DAKVILLE, ONLAJ 7T5 Canada

ITEM QUANTITY LOT NO.

GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:

- . THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- : THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- 1. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2005 AND NACE MR0175-2002.
- . CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204: 2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
- . ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.

\*\*\*\*\* END OF CERTIFICATION \*\*\*\*\*

We cartify that the data on this sheet is a true copy taken from our records of material furnished us by the production

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\_\_ PAGE \_\_\_\_ LOG NO. \_\_320935.\_\_ BONNEY FORME P.O. BOX 390 • 14485 CRICKSHAN PIKE • LAQUINT UNION, PA 170 (814) 542-2545 • (800) 545-7546 • FAX (814) 542-4605 WWW.bonney(orga.com

CUSTOMER: CCTF CORPORATION

Date 09/01/08

GREATER OR SERVICE REACHORS FOR

**CUSTOMER'S Order No.:** 

HI, M

Bonney Order No.

SHIPPED TO: CCTF CORPORATION

QUANTITY.

5407 - 53 AVENUE

10140

EDMONTON ALBERTA, TEB 302 CANA

2A/A105 3/4 9000 A105 COUP T 001 . 200 MN 1.020 P . 004 8 . 022 91 C . 214 . 090 CD .003 CR NI . 020 CU . 040 MB . 011 .000 AL .012 . OZZ NB CE(LONG FORMULA) = 0.39 *75*23572 T/B 79134 Y/S 48428 EL 33.00 RA 59.00 BRINELL HARDNESS1: 159 HARDNESS2: 161

- 1. CERTIFYING ASTM A105-05 / ASME SA108-04 EDITION.
- 2. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.
- 3. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204: 2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
- 4. THE MATERIAL SUPPLIED MEETS THE REGUIREMENTS OF BOTH NACE MR0103-2005 AND NACE MRD175-2002.

\*\*\*\* END OF CERTIFICATION \*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the greatestfor-chill, or as obtained by additional laborators

Cris Boozel

CMTR: REV 1

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LOG NO. 320659 PAGE 6

BONNEY FORGE P.O. BOX 330 - 14496 CROGHAN PIKE - MOUNT UNION, PA 17
(814) 542-2545 - (800) 345-7546 - FAX (814) 542-4906

www.bonneyforga.com

CUSTOMER: CCTF CORPORATION

Date 04/23/08

CUSTOMER'S Order No.:4024341-00

Bonney Order **R0**00031433

SHIPPED TO: CCTF CORPORATION (DAKVILLE)
1387 CORNWALL ROAD

DAKVILLE: ONL6J 7T5 Canada

ITEM	QUAN	TO 1 YTITE	NO.	GRADE OR SPECIFICATION NO. CHEMICAE ANALYSIS PHYSICAL PROPERTIES REMARKS
				8A/A105N
. 017	40	57310	7528523	11/2X11/2X3/4 3000 A105N TEE 8 C .190 MN 1.010 P .008 8 .016 SI .220 NI .030 CU .100 CD .003 CR .060 MD .010 V .000 AL .029 NB .013 CE(LONG FORMULA) = 0.38 T/S 75000 Y/S 52250 EL 33.45 RA 66.55 BRINELL HARDNESS1: 127 HARDNESS2: 127
;		57404	7528523	11/2X11/2X3/4 3000 A105N TEE 8 C .200 MN 1.010 P .006 S .022 SI .240 NI .060 CU .100 CD .006 CR .060 MD .020 V .000 AL .024 NB .014 CE(LONG FORMULA) = 0.40 T/S 73500 Y/S 46375 EL 32.20 RA 61.80 BRINELL HARDNESS1: 130 HARDNESS2: 130
020	25 (	3900	7523335	1 3000 A105N HCP 8 C .200 MN 1.040 P .010 S .017 SI .260 NI .020 CU .120 CO .002 CR .040 MO .010 V .000 AL .024 NB .015 CE(LONG FORMULA) = 0.37 T/S 77411 Y/S 55203 EL 31.40 RA 65.08 BRINELL HARDNESS1: 132 HARDNESS2: 132
021	25	4036	7526202	11/2 3000 A105N CAP S C .200 MN 1.100 P .007 S .020 SI .230 NI .020 CU .070 CD .003 CR .030 MD .010 V .000 AL .025 NB .012 CE(LONG FORMULA) = 0.40 T/S 78015 Y/S 55402 EL 32.60 RA 64.97 BRINELL HARDNESSI: 130 HARDNESS2: 127

\*\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*

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Kylee Flack

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LOG NO. 320659

PAGE \_\_!

BONNEY PORGE

P.O. BOX 330 \* 14496 CROGHAN PIKE \* MOUNT UNION, PA (814) 542-2545 \* (800) 345-7546 \* FAX (814) 542-4906 www.bonneytorpe.com

CUSTOMER: CCTF CORPORATION

Date 04/23/08

CUSTOMER'S Order No.: A024341-00

Bonney Order R00003163:

SHIPPED TO: CCTF CORPORATION (OAKVILLE)

1387 CORNWALL ROAD

DAKVILLE, UNL6J 7T5 Canada

ITEM

QUANTITY LOT NO

GRADE OR SPECIFICATION NO UHEMICAL ANALYSIS PHYSICAL PROPERTIES, REMARKS

- THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- 2. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- 3. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2005 AND NACE MR0175-2002.
- 4. CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- 5. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
- 6. ELONGATION TEST RESULTS ARE DBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH DR 50 MM GAGE LENGTH.
- 7. THE MATERIAL SUPPLIED IDENTIFIED AS A103GT WAS QUENCHED AND TEMPERED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.

\*\*\*\*\* END OF CERTIFICATION \*\*\*\*

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Kylee Fieck



LOG NO. \_\_319337 \_\_\_\_ PAGE \_\_1: BONNEY FORGE P.O. BOX 330 • 14495 CROCHAN PIKE • MOUNT UNION, PA 17( (814) 542-2545 • (600) 345-7546 • FAX (814) 542-4906 www.bonneyloge.com

CUSTOMER: CCTF CORPORATION

Date 03/14/08

CUSTOMER'S Order No.:4883252-00

**Bonney Order No.** 

SHIPPED TO: COTF CORPORATION

B000024362

5407 - 53 AVENUE

EDMONTON, ABT6B 3G2 Canada

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS: PHYSICAL PROPERTIES, REMARKS.
			SA/A105N
033	25 3605 MALE	C N: V CI T	I .040 CU .150 CO .003 CR .060 MD .010
035	200 <b>573</b> 7	C NI V CI T/	1 .020 CU .070 CD .002 CR .060 MD .010
036	1800 5743	C N V CE T	3000 A105N 90EL S .200 MN 1.020 P .019 S .018 SI .23( I .040 CU .120 CO .003 CR .060 MD .01( .000 AL .028 NB .012 E(LONG FORMULA) = 0.39 /S 76375 Y/S 52375 EL 31.35 RA 67.00 RINELL HARDNESS1: 127 HARDNESS2: 127
	<i>→</i> <b>→</b> 5744	3 7525516 1 C NI V CE T/	3000 A105N 90EL S .190 MN 1.040 P .011 S .020 SI .200 L .020 CU .080 CD .002 CR .040 MD .010

\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*

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Cris Boozel



LOG NO. \_\_319337\_\_\_\_\_ PAGE \_\_2;

BONNEY PORGE

P.O. BOX 330 • 14486 CROGHAN PIKE • MOUNT UNION, PA 17: (314) 542-2545 • (800) 345-7546 • FAX (814) 542-4906 www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

Date 03/14/08

CUSTOMER'S Order No.:4883252-00

Bonney Order No.

SHIPPED TO: CCTF CORPORATION 5407 - 53 AVENUE

B000026362

EDMONTON, ABT6B 3G2 Canada

ITEM

QUANTITY LOT NO.

GHADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS

- THE MATERIAL SUPPLIED IDENTIFIED AS A 105GT WAS GUENCHED AND TEMPERED IN ACCORDANCE WITH ASTM A 105 HEAT TREATING REQUIREMENTS.
- ! THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- I. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REGUIREMENTS.
- . CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- 5. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204: 2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
- . ELONGATION TEST RÉSULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.
- '. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2005 AND NACE MRG175-2002.

\*\*\*\* END OF CERTIFICATION \*\*\*\*

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production will or as obtained by additional laboratory.

Cris Boozel

RECEIVED Contract No. 07HGC020280 L/C NO.: 11013668Y07010

Name of Customers ORDER NO: 07HOC

JAN 1 2008 HENOTANG VALIN STREE TUBE GO, LTD HT 720236

Add. 10 Dalixincus, Hengyang City, Hunan, China

- }	MALL TEST CERTIFICATE	Tel and F	Tel and Fax: +86 734 8873739 8872942
9		Cubles	6993
	J Dates MAY 10, 2007	P.C.	421001

421001	CERTHICATE NO. 07-02-
P.C.	Anna Manual Manual Anna
Date: MAY 10, 2007	Page: 2/5
DESCRIPTION: SEAMLESS STEEL PIPES	TOTAL, 4173PIBCBS52BUNDLPS, 86.403MT.87633FT

25	SPEC. ASTM A535-2002/A1066-2002	35-2002/A1	06B-2002A, ASI	l», abrie basse-2004/34/266-2004, api slib pse/2004,nace mr-0178-1999	4.106B-2	004, API 5LL	95L44	004,RAC	TE MIN-O	175-129	•	-	3	0506	
Ş	BAICH	HEAS	TEEL		SIZE		BUN	BUNDLES	PIBCES	SE	FEET		THEORETICAL WEIGHT (MT)	ACTUAL WEIGHTIOAT)	
T	2	2		A WANAMA *	A 1927MTHR	¥ 210000			753	<u> </u>	13277	Ī	10, 192	ž	
Ī	67410053V	0000000		4)	O DE LA COLOR	× 01000			15	<u>†</u>	11468	l	8 736	₹2	
T	574200757	1-395720220		T. COUNTY .	- STATES	× 010001			1			+	10 192	K/3	₩
1	574,2007,66		2	T. OOMENE A OF	CONTRACTOR V CONTRACTOR	A 441.			3	1		t		1,1	_
	574400714	07202366-1	В	1. 000HOK X 0. 179IHCHES X 21FUR	1791FCNES	X 21FURT			<b>1</b> 00		ŧ	+	200	N/A	•
	574300703	1-98220640	8	1. OCCHON X 0. 1791NCHES K 21FEET	179THCHES	X 21FZET			ž		ž	1	7, 548	K/A	
	574400713	07202364-1	ei Ei	1. OCCHOR X G. 179 INCHES X 21 PRET	179THCHES	X 21F25T	7		384	-	7644	-	7. 548	N/A	
	674400709	07202365-1	<u>~</u>	1. COCHOM X C. LTSINCHES X 21PRET	1791HCHES	X 21PEET		2	781	2	3822		3, 774	N/A	
	574200850	07300226-1	B	1, 26GNOM X 0, 1	X O. 1911NCHES X 21PRET	X 21PERT	1	18	1079	6	22269	_	30,87	N/A	
	DELIVERY		NONDESTRUCTIVE	TEST				CHEMICAL		COMPOSITION	TTON	×			-
ó Z	CONDITION	ـــا		ULTRASONIC TEST	၁	Si Min	4	s	Ö	Ź	-	Mo	\ \		
<u>_</u>	COLD-DRAWM(780°C)	Ļ		Y/Y	0, 19	23 0.	0.023			0.01	0,03	0 00 0	0,00	1	
	COLD-DRAWN(780°C)	(2002)	ğ	N/A	0, 2!	0, 25 0, 46	0.015	0.02				-	0.00		,
	COLD-DRAWN(780°C)	(2002)	Š	N/A	0, 2,	0, 25 0. 46	0.016	0.02	0, 02	0, 01	0.03 0.	0, 00 0,	. 00		
9	COLD-DRAWN(730°C)	(730°C)	OK	N/A	0, 2,	0, 22 0, 46	0.012	1		0.01			0,00	1	۳,
سا	COLD-DRAWN(780°C)	(780%)	OK	Y/N	61.0	0.230.54	0,012	3, 004	0.02	0. 01 0	0.03 0.	0.00	00		ς,
Ę,	COLD-DRAWN(780 C)	(780°C)	OK	N/A	12 '0	0, 25 0, 4	9.015	20.0	0.02	0.01	0.03	0.00	0, 00		
٥	COLD-DRAWN(780'C)	(2000)	OK	У/Х	0.21	0. 22 0. 45	0.012	0.013					0.00		٠.,
<u>.</u> آ	COLD-DRAWN(780°C)	(mac)	OK	N/A	0.21	0. 23 0. 44	0.014	0,016	0.02	0.01	0, 03 0, 00	) ]	0,00		
1	┺	(FSI)	ē		(%)	YK C	S	HAPTNESS	SE SE SE SE SE SE SE SE SE SE SE SE SE S	HYD	HYDROSTATIC	ـــــــــــــــــــــــــــــــــــــ	PLATTEN	BEND	
2	TENSILE STRENGTH	TRENGTH	YIELD STRE	STRENGTH   ELONGATION	ATION	IMPACT	E				TEST	-	TEST	TEST	·
م	70325	125	00797	42	- 2	N/A		HOLC	4.6	2	ISA 008	-	N/A	æ	-
S	00969	00.	45675		~	N/A		HRC 3,5	3.5	2	2800 PSI		K/A	*	
9	68150	20	44225	#	-	N/A		1. HINC 4. 6	4.6	2	2800 PSI		N/A	ж	
ı,	76125	25	48300	36. 5	9	N/A		HRC 3.6	3.6	2	2800 PSI	-	N/A	30	,
9	16400	(00)	48575	41.6	9	N/A		HRC 5.0	6.0	7	2800 PSI		N/A	æ	
۵	73225	125	47850	37.5	2	N/A		HIC 3.0	3.0	2	2800 PSI		N/A	ಕ	_
۰	70325	125	45675	42.6	9	N/A		EDRC 4.0	4.0	7	2800 PSI		N/A	<b>35</b>	
_ ا	68150	150	H225	38		N/A		ABC	4.0	2	2800 PSI		N/A	8	
ľ			*												1

REMARKS: 1. We beardy confly that he national has been manufactured, sampled toward and improved its secondance with the required standards.

2. Properties campliance to DIN 50049 3.1.B.

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

4. SPECIMEN SIZE: (Pipe end, Louginadinal, Gauge Length-2")

A. For pipes € !" full length specimes were used;

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

Origin: Made in China.

5. Origin: Made in Chine.

ORIGINAL

QUALITY MANAGER:

# ALBERTA MUNICIPAL AFFAIRS

# RECEIVED JUN 2 3 2008

ABSA - the pressure equipment authority 200, 4208 - 97 Street ≒dmonton AB T6E 5Z9

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

Upon shipment of a pressure vessel, this form fully and correctly filled in must be

Au moment de l'ex	nédition d'un :	annaroil enue i	according a	a <del>form</del>	nisti ucuc	on and	insta	manou d	or pressure \	ressels.						
Au moment de l'ex province d'installat	ion tel que pre	vu dans les re	glements (	de la k	oi sur les	appar	ells s	ecteme ous pre	ent, doit êtrê ession.	envoye a	u bures	u de	l'inspect	eur e	n chei	de la
Manufactured by Construit par	1	Name and address GLOBAL HE	of Manufactur AT TRAN	eri Nom	et adresse R LTD.	o du cons	structe	ur STREE	ET. EDMO	NTON A	! BFR	ΤΔ				
Manufactured for Construit pour	, ,	JNKNOWN										····		<del></del>	_	ž.
Ultimate owner Utilisateur		lame and address/ JNKNOWN	Nom el adres	se	-						<u></u>					
Location of install Lieu d'installation		ame and address/	Nom et adres	Se					<del></del>				<u></u>			. <u> </u>
Pressure vessel	Appareil															<del></del>
Type/ Genre Category H Pressu	re Fitting (45	0 Gas Thread	Ove ed) 622	rali Ler 2.3mm	ngth/ <i>Long</i>	eur tota	le	Seria	l No./ N° de se	Srie			Year b	uilt/An	nėe de	fabrication
Provincial Registration OH 7426.213	No. – C.R.N./N	d'enregistremer	nt provincial	- N.E.C	).			0805	(Series 48 04901, 0808 04004, 0808 04007, 0808 04010, 0808	504002, 0 504006, 0 504008, <u>0</u>	805040 805040	ากล์	Drawi 21-80	-		de dessin
The chemical and phy Les propriétés chimique	sical propertie s et physiques	s of all parts me de toules les con	et the requ	iremen especte	ts of mat	terial sp	ecific	cations o	of the A.S.M.E	E. Code. aux de coo	le ASME					
The design, construction Le conception, la construction	o and workman	shin conform to 0	SA 861			ASM	E		Divisio		T		upplémei		Code o	ase No. cas
mutacturer's partial report: Les rapports partiels du Names of parts/ Nam de	constructeur ad	géuatement iden			ies inspec	cteurs a	uthori	sés ont e		ur les item	s suivan	ts du i		t-attaci	hés à c	е гаррогі:
Shell/-Virole													·-·			
Description	Material	Thickness	Соп. Allow. Surépais.		meter			gitudinal . Is longitud		P.W.H.T. Traitemen	t therm		Girth Join Joints de		егелсе	Number of courses
	Matériau	Epeisseur	de corr.	Dia	mètre	Туре		R.T. Radiog.	Efficacité	Temp.	Tim Duré		Туре	R.T. Rad	iog.	sections
	<del></del>		<u> </u>	_			╪				<u> </u>					
Heads/ Tetes	······································		!	<u> </u>			Щ.	<del></del>				<u> </u>		<u> </u>		. <u> </u>
Description	Materia Materia			OW Mép.	Crown Radiu Rayon couror	s	Knu Rad Petit		Elfipse Ratio Rapp. ellipse		\ngte	Hem Radi Ray Homi	us	Fiat Diame Diam.		Side to pressure Côte sous pression
88.9mm (3.5") Channel (Manifold)	SB221 6061 T6	4.8mr (.188		A	N/A		N/A	· ]	N/A	N/A		N/A		N/A		N/A
End Cap	SB209 6061 T6	9.5mn (.374"		4	N/A		N/A		N/A	N/A		N/A		N/A		N/A
Removable bolts used (desi Boulons amovible utilisés (d	cribe other fasten écrire tout autre é	ings) ittacne)					Mai'i	Spec./ S	péc. du met.	<u> </u>		Grade	<u> l.</u>		Size	Dimension
Pressure - Temper	ature/ Press	sion - tempé	rature			<u>-</u>			<del></del>			<del></del>	_			.,
sure Vessel Part e de l'apparell	Constructe pressure	d for max, allowat Our une pression i	te working		ıax. temp. ne temp. m	ıөх.		Minimu Temp,	m design meta min.	l temp.	Test p Press combi	ion d'é	pr <del>o</del> uvre (t	neuma nydro-p	itic or c	ombination) tique ou
Complete Unit	402 PSI			250	F			-20 F	·	<del></del> .	E24	DD!				

Tube Section/ Fais		bulaire Mai	enal/ Matériau	1	Diameter	i Diam	etre	No Es	minal Thic paisseur no	kness minate	Corr. Allow. Surépais. con	osion	Attachment Mode d'attachement
Tube material/ Materiau d		Dia	meter/ Diamèt	ne	Nominal Épaisset	Thickn er nomi	ess (gauge) nale (calibre)	Ni	ımber/ Nbr	œ	Type (Straight	or U)	Heating Surface Surface de chauffe N/A
SB221/SB209 3003			N/A		N/A				N/A		N/A	_ ,	
									Heating	Surface		Sketch/	Schéme
Jacket/ Chemise Type of jacket/ Genra de	chemise	Jacke Ferme	t closure sture de chemi	se	Proof Pressi	lest on d'ép	reuve		Surface	de chauffs	· ·		
		<u> </u>			<u></u>								
Safety Valve Outle	sts/ Sour	Japes	de sûretê		ocation/ E	ndroit							;
Number/ Nombre	Dimensi	on		1 '							<del></del>	<del></del>	
	<u> </u>		4 -11/0	turas	<del></del>		* 11 %		<del></del>				Location/ Endroit
Nozzies and Oper	[ ]	lumber lombre	Dimension	Ty	ре		Material Malériau	Ţ	ominai hickness paisseur ominais	Reinioro material Material de rento	gittad y Gen	hed	COCCERON ENGINEER
i tuboso tor							04 6004 TC	<del>-   ``</del>	3*	N/A		16.1 (bb)	Manifold End
Inlet / Outlet	2	<b>!</b>	1.5" NPT	Half Co	upling		21 <b>60</b> 61 T6			N/A	UW	-16.1 (bb)	Manifold Top
Drain	1		0.25" NPT	Half Co	oupling	\$B2	21 <b>6061 T</b> 6	_   0	.3"	NIP.			<del>                                     </del>
								-		<u> </u>			<del></del>
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						<del> </del>	<del></del>	-		┼─		· · · · · ·	
						<u> </u>		_ _		<u></u>			<u></u>
Supports/ Suppo	erfe .										Atta	ched/ Attac	hes
Skirt/ Jupe	Lugs/ Ore	illes		gs/ Pieds	_	ļ	Otheri Autres (	Descr	iption)		(Wh	ere and Ho	wi Méthode et endroif)
Yea/ Oui No/ Non	No/Nore		No	,/ Nbre		1						<u></u>	
				w Volu	me)								<del> </del>
Remarks/ Obser	vations	(Cubic	cai capacit	<u>y/ v 010</u>			<del></del>						,
Refer Dwg 638 PO# SJ3-1705	77	, , ,											
												<del></del>	
Certificate of Comp	ilance/ Co	rificet	de conform	ité			-						
					orrect an	d that	the						
We certify that the st said vessel has been design below and the	e tednitew Frontson	ents of	standard CS	A B51.									
Nous certifions que et que l'appareil a él dessous et les exige	les donnée	es de la	déclaration ( om avec l'en	le contor registrer	mité sont nent prov	come incial	ctes   ci-						
Provincial Registere Enregistrement prov	d Design						_						
Manufacturer Constructeur GLC	BAL HEA	T TRAIN	SFER TD.		<u> </u>	_	_	,					
Signature	(Represent			eate <	5 Jul	يح د	3						
Signature		11.44.1-9	ב	ate	_								
	(Certified Ind	MKMaj)											

### **ALBERTA MUNICIPAL AFFAIRS**

ABSA, the pressure equipment safety authority

9410 - 20<sup>th</sup> Avenue

Edmonton, AB T6N 0A4

RECEIVED JUL 2 8 2008

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

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

Au moment de l'expe province d'installation	-		ū	•	•				,			oureau d	e l'inspecte	ur en ch	ef de	e la	
province d'installatio	n tei q	que prévu da	ns les règle	ments	de la loi s	sur les a <sub>l</sub>	ppareil	s sous	s press	ion.							
Manufactured by Construit par		1	nd address of N nid Proce						t, Nis	ku, Alberta	a, T9E 7.	Z2					
Manufactured for Construit pour			nd address of F ompressi		-					son représentant T9E 7Z2							
Ultimate owner Utilisateur		Name ar	nd address/ No	m et adres	sse												
Location of installation	tion	Name ar	nd address/ No.	m et adres	sse												
Pressure vessel/	Арр	areil															
Type <i>l Genre</i> Bullet					verall Lengt -0" S/S	th/Longed	ur totale			lo./ Nº de série	<del>,</del>		Year bu 2008	uilt/Année	de fa	brication	
Provincial Registration N OH5228.23	40. – C	C.R.N./N° d'enr	egistrement	provincia	il - N.E.C.				08-320	00-0000F			1	Drawing No./ N° de dessin PV-061 Rev. 3			
The chemical and phys Les propriétés chimique												ASME.					
The design, construction La conception, la constru					R B51.	Se	ASME ction	•		Division 1			aiSupplémen <b>200</b> 7		de cas de ca		
Manufacturer's partial report: Les repports partiels du												-	-				
Names of parts/ Nom de	la con	mposante	Item No./ A	l d'item	7	Manufac	aturer's	Name/	Nom di	u constructeur		Identifyir	ng Stamp/ Es	tampe d'I	dentif	ication	
								<u></u>			·						
Shell/ Virole	<del></del>	<del></del> ;	г	F 6-11				*		· · · · · · · · · · · · · · · · · · ·	SWUT		Girth Join	<del> </del>		1	
Description		Material	Thickness	Corr. Allow. Surépai		meter		Joints	tudinal Ja longitudi	lineux	P.W.H.T. Traitement	Traitement therm		circonfére	nce	Number of courses Nombre de	
·		Matériau	Epaisseur	de corr.		nètre	Туре	R. Ra	T. Id <i>ilog.</i>	Efficiency Efficacité	Тетр.	Time Durée	<del> </del>	R.T. Radiog	<b>j.</b>	sections	
8" Pipe Shell	\$A-1	106 Gr. B	0.322"	0.0625	5" 8.62	25"		$\bot$				<u> </u>	1	Full		1	
	Ĺ			<u> </u>	<u>i_</u>					<u> </u>		<u> </u>		<u> </u>	:	-	
Heads/ Tetes	$\overline{}$			$\overline{}$	Согт.	Crown		Knuc	Lla	Ellipse Ratio	Conica	<del></del>	Hemisob.	Flat	$\overline{}$	- C(J-1)	
Description		Material Matériau	Min. Th Épals n	ickn.	Allow Surép. Corr.	Radiu Rayor couror	is n	Radii		Rapp. ellipse		Angle	nemisph. Radius Ray. Hémisph	Diamete Diam.pla	er lat	Side to pressure Côte sous pression	
8" Pipe Cap	S	A-234-WPB	0.282	*	0.0625"					2:1						Concave	
8" Pipe Cap	\$.	A-234-WPB	0.282	<u> </u>	0.0625"					2:1						Concave	
Removable bolts used (des Boulons amovible utilisés (								Ma(I	Spec./ S	Spéc. du mat.			Grade Sizef Din		Dimension		
Pressure - Tempe	ratur																
Pressure Vessel Part Partie de l'appareil		Constructed for pressure Construit pour de marche per	une pression		AU	max, temp ine temp. i		Minimum design metal temp. Temp. mln.		al temp.	np. Test pressure (hydro-pneumatic or combine Pression d'épreuvre (hydro-pneumatique ou combinaison)						
Bullet		550 PSI			60	00 F			-20 F 715 PSI								

Tube Section/ F	aiscear	u tubula	ire											AB-24 (Sid€
Tubesheeti Plaque tut			Materia!/ A	falériau		Diameter/ D	Piametre		ominal Th paisseur n			Allow. pais. com	osion	Attachment Mode d'attachement
Tube material/ Meteria	u des tub	95	Diameter/	Diamètre		Nominal Thi Epaisseur n	ickness (gauge) ominale (calibre)	N	umber/ <i>Nt</i>	ore .	Type Type	(Straight (Droit ou	or U)	Heating Surface Surface de chauffe
Jacketi Chemise		·	*****											
Type of jacket/ Genre			ket closur meture de			Proof Tes Pression o				Surface de chauffe			Sketch/	Schéma
Safety Valve Ou	tlets/ S	oupape	s de sû:	reté		<del></del>	<del></del>							
Number/ Nombre		ension			Lo	ocation/ Endr	oft							
Nozzles and Op-	enings/	Tubulu	res et c	uvertu	res				-					
Purposel But		Number Nombre	Dimen		Тур	e	Material Matériau	Th Ép	ominal ickness paisseur iminale	Reinforce material Matériau de renfor		How attach Genre d'attac	•	Location/ Endroit
Sight Glass, C1		1	2"	3	000# TC	DL S/	4-105N	Q.:	2970"			UW-1	6.1(c)	Shell
Vent, C2		1	1"	3	000# TO	DL S/	<b>4-105№</b>	0.2	2413"			UW-1	6.1(c)	Shell
Gas Inlet, C3		1	2"	3	000#.TO	DL SA	A-105N	0.3	2970"			UW-1	6.1(c)	Bottom Head
Gas Outlet, C4		1	2"	3/	000# TC	L SA	<b>∖-105N</b>	0.2	2970"			UW-1	6.1(c)	Top Head
	•	<u> </u>											•	
Supports/ Supports	orts													
Skint/ Jupe Yes/ Oui No! Non ⊠ ⊠i	Lugs/ O No./ Nb.			Legs/ F No./ Nt			Otheri Autres (De Bolting Plate	scripl	tion)			(Where	di Attache and How By Weld	l Méthode et endroit)
Remarks/ Obser	vations	(Cubi	çal cap	city/ V	olume	<del>)</del>								
Remarks/ Obser Vessel Fabrica Vessel Volume Vessel Impact	ted to = 1.4 Test E	Dwg#5 cu. fl xempt	B-08- (0.04) per U0	3200-0   cu. n G-20(f	) n) )	001 Rev	. I	•	,	N.				
Certificate of Comp	liance/ C	Certificat	de confo	rmité		·····								
We certify that the sta said vessel has been design below and the	construc	cted in ac	cordance	with the	Provin	ect and that icial Registe	the ered							
Nous certifions que le et que l'appareil a été dessous et les exiger	constru	it en acco	rd avec i	'enregist										
Provincial Registered Enregistrement provi	Design	)H5228 <u>.2</u>	3				_   .							
Manufacturer Constructeur Pyrai	nid Proc	ess Fabi	ricators											
Signature	(Represery	Slive)	L	Date	Lly	90g	_						,	
Signature Dourd	Certified Ind	ividual)	ilel	Date ,	Suly	23/08	<u>}</u>							
							<del></del>							

# **Travel Sheet (Front)**

No. PPF-GN-FF-045 Rev. 0

DO N	OT START CONSTRUCTION V	VITHOL	JT AI RE	VIEW				Т	RAVEL SH	IEET REV	/ISION No.	:
A.I. RI	EVIEW:							P	EVIEW D	ATE:		
SERIA	L No: 08-3200-0000 F		J	OB No.	: 3200-00	000		٧	ESSEL TY	PE: Bulle	et .	
$\overline{}$	VING No: B-08-3200-0000-0	001	D	WG RE	VISION I	No.: 1	TI	RAV	EL SHEET	INITIAT	ION BY: D	JM
Seq.	ltem		ommer	nts	Q.C.I.	Date	A.1. H	lold	A.I.	Date	Owner	Date
							Poir	nts				
1.	Calculations in File				<u>'</u>							
2.	Release of App'd Dwg.				<u> </u>					ļ. ——		
3	Materials Examined				<u> </u>							
4.	Heat Numbers Recorded											
5.	MTRs Checked											
6.	WPS(s) checked	-			-					·		ļ
7	Welder(s) Qualified	ļ			<u> </u>							
8.	Thickness Verified &						-			1		
ļ	Recorded			•			-,		_		ļ	ļ
9.	Shell(s) & Head(s) Fit-up										}	
	Inspection	ļ				i			<del></del>	<del> </del>		
10.	Nozzle & Fitting Fit-up									ļ	ĺ	
44	Inspection	1				·				<del></del>		
11.	Nozzle Orientation	<del>                                     </del>			<u> </u>				+ .	<u> </u>		<u> </u>
12.	Nozzle & Flange Rating Checked											
13.	Impact Tests			-			<del> </del>			<del></del>		<u> </u>
14.	Internals Checked	+							1			
14.		Shell S	ide						†	<u> </u>		I.vI.v
15.	Final Internal Inspection	Tube 9						·	-			
16.	Weld Sizes Checked	<del> </del>										
17.	Welder I.D. Checked				1							
18.	Final External Inspection											
19.	Radiography	1										
20.	Other NDE								`			
21.	Final Ext. Prior to P.W.H.T.											
22.	PWHT Chart Checked				<u> </u>							
		Shell Side	Gau	ge#								
23.	Hydrostatic Test	Tube Side	Gau	ge#							<u>.</u>	
24.	CRN Drawing	CRN#	OH522	8.23								
25.	NCR#											***
26.	Nameplate Stamping											
27.	Manuf. Data Report		•									
2/,	Completed & Verified											
28.	Nameplate Installation										<b> </b>	<u></u>
									1			

The Authorized Inspector shall be presented with the Travel Sheet prior to construction so that he/she can designate additional inspection points and/or Hold points. Any revisions shall be marked with a delta symbol with revision number and described at the bottom of this page.

<sup>\*</sup>Denotes an A.I. inspection Point \*\* Denotes an A.I. Hold Point

MATE	MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION				WELD	ER I.D. / V	WELDER S	YMBOLS / I	FIT-UP	
Description	Thickness	Material Spec & Grade	Heat & Plate Identifier or ID Number	Weld ID	Welder Symbol	Fit-up Exam.	Weld ID	Welder Symbol	Fit-up Exam.	Verify Type 1 joint
Sheli#1 8	SCH40	54-106B	x22829	L-			C-			
Shell#2			· · · · · · · · · · · · · · · · · · ·	L-			C-			
Shell#3			<u>.</u>	L-			С-			
Shell#4				L-			C-			
Shell#5				L-		•	C-			
Shell#6	*			L-			C-			
Head#1 8"	SCHYO	54-234-WPB	TC3931		M		C-			
Head#2 8 "	SCH40	5A-234-WPB	7C393/ 7C3931		m		C-			
Head#3	1				· I		C-			<u> </u>
Head#4							C-			
Boot #1 Shell			,	L-			C-			
Boot #1 Head			-				C-			
Boot #2 Shell		:	<u></u>	L-			C-			
Boot #2 Head							C-			
Cone				L-			C-			

ΑΊ	TACHMENT AND /	OR NOZZLE IV	IATERIAL THICKNES	S VERIFICATION	AND IDENTIFICATION		LDER SYM	BOLS / FIT	
Mark	Mat. I.D.	Neck	Fitting	Flange	Repad or Attachment	Cat. B	Cat. C	Cat. D	Pad OD
	Spec-Grd		5A-155N					13	
	Thk./Rating		CL 3000		·				
Cl	Heat# or ID		57062						
	Spec-Grd		SA-105N					m	
	Thk./Rating		CL 3000				<u></u>		
C2	Heat# or ID		57383			,		,	
	Spec-Grd		SA-105N					m	
_	Thk./Rating		CL3000				1 .		
C3	Heat# or ID		57062						
	Spec-Grd		SQ-105N					M	
CY	Thk./Rating		c1_300						
<b>4</b>	Heat# or ID		57062						
_	Spec-Grd					<u>-</u> -			
	Thk./Rating	•					<u> </u>		
	Heat# or ID						<u>.                                    </u>		
	Spec-Grd						ļ		
	Thk./Rating	<u> </u>							
	Heat# or ID								
	Spec-Grd								
	Thk./Rating								
	Heat# or ID	-					ļ		
	Spec-Grd	<del>" "</del>							
	Thk./Rating								
	Heat# or ID	<u> </u>							

V) Q

The sales in the street of the



2308 – 8<sup>th</sup> Street Nisku, AB. T9E 7Z2 (780) 955-2708

# PRESURE TEST PROCEDURE/CERTIFICATE

Hydro Test Date: JUNE 12 /08	Job Number: 3200-0000
Hydro Test Number: 3200-0000-03	Customer: PC COMPRRESSON
Spool Number(s): BOTTLES - E,F.	
	4 ACCES
PROCEDURE:	T-4T
Test Pressure: 715 psi	Test Temperature: 50°F (10°C) Min.
Test Medium: Water	Test Medium Quality Statement: Attached
- Pressure to be raised from 0 psig to71	5 psig.
<ul> <li>Pressure to be held at715 psig for</li> </ul>	60 min.
- Pressure to be lowered from715 ps	ig to 0 psig.
NOTE:	
<ol> <li>System to be inspected by QC inspector price</li> </ol>	
2. Provide at least one vent at highest point du	
3. Test medium must be at specified temperatu	
	highest point and lowest point of the system, and one
must be installed on the test pump.	-Caba halding time has seeined
5. The QC inspector is to be notified after 50%	of the holding time has expired.
	est is accepted by the QC Inspector and Client's Inspector,
or unless due to leakage and safety consider	
7. All necessary safety precautions shall be adl	ICICU IV.
ACTUAL TEST RESULTS:	
Test Pump Pressure Gauge No.: 045	High Point Pressure Gauge No.: 042
Low Point Pressure Gauge No.: 043	Temperature Gauge No: 419193-1
Test Medium Used: Water	Actual Medium Temperature: 60 °F
Actual Test Pressure: 715 PSI	Actual Holding Time: 60 Minutes
Comments:	
SIGN OFF:	Weller
	the equipment described was free of leaks due to defective
welds or equipment	1
Hydro Test Performed By:	JUNE 12/08
Signat	ure Date
OC Inspector:	JUNE 12/08
QC Inspector:	
Signat	ure Date
Owner's Representative:	
Signat	ure Date
Authorized Inspector:	
(if applicable) Signate	ure Date



## Weekly Water Quality Parameters for Industrial Customers

The following water quality parameter table is updated daily as a service to our industrial Customers who require this data for their process operations.

This data, however, comes directly off EPCOR's computerized water quality monitoring system and has NOT been validated. Use it as a guideline only. For verified monthly data see the extensive information on our main web site at quality assurance

Last updated: June 10, 2008

	Jun-03	Jun-04	Jun-05	Jun-06	Jun-07	Jun-08	Jun-09
ELS Zone <sup>(1)</sup>							
Hardness (mg/L CaCO <sub>3</sub> ) <sup>(2)</sup>	168	170	169	171	176	172	174
рН <sup>(3)</sup>	7.72	7.70	7.71	7.66	7.73	7.75	7.74
Temp. °C	14.4		12.6	12.5	11.3	10.3	9.2
Chlorine Residual (mg/L) <sup>(4)</sup>	2.04	1.51	1.15	2.01	2.05	2.01	1,97
Alkalinity (mg/L) <sup>(5)</sup>	113	112	113	116	111	112	117
Conductivity (µS/cm) <sup>(6)</sup>	455	463	464	467	471	470	482
Caustic Soda Dose (mg/L) <sup>(7)</sup>	30.1	23.0	14.9	29.1	32.0	31.7	35.0
Rossdale Zone <sup>(1)</sup>	<u> </u>			<u></u>			
Hardness (mg/L CaCO <sub>3</sub> ) <sup>(2)</sup>	164	161	160	167	169	165	161
pH <sup>(3)</sup>	7.64	7.64	7.66	<b>769</b>	7.68	7.75	7.69
Temp. °C	15.2		15.6	15.7	15.4	14.4	13.1
Chlorine Residual mg/L <sup>(4)</sup>	2.01	2.02	1.86	1.88	1.96	2.04	2.05
Alkalinity (mg/L) <sup>(5)</sup>	111	110	107	105	108	109	107
Conductivity (µS/cm) <sup>(6)</sup>	371	371	376	400	400	400	400
Caustic Soda Dose (mg/L) (7)	22.5	26.1	28.4	29.4	28.9	24.6	27.3

Note: All results are daily averages leaving the water treatment plants. The numbers in the distribution system may vary because of detention time and mixing in the system, and a slow decrease of the chloramine residual.

E.L. Smith primarily supplies the Northwest, West and Southwest and University area Rossdale primarily supplies the Downtown, East, Northeast and Southeast areas. However, depending on daily pumping and demand variations there is a large crossover region where water can be supplied from either plant at any time.

<sup>(1)</sup> Supply Zone

<sup>(2)</sup> Hardness

Water hardness is the result of dissolved minerals, usually calcium and magnesium. The North Saskatchewan River picks up these minerals as it flows over limestone rock. The North Saskatchewan River water is moderately hard, about 165 milligrams of calcium carbonate per litre (165 mg/L) on average. There are no health effects associated with calcium and magnesium minerals so there are no drinking water guidelines established for hardness.

(3) pH

One of the main objectives in controlling pH is to produce water that minimizes pipe corrosion or hardness scale build up. Pipe corrosion may become significant in our water at pH levels below 7.5, and scaling problems increase at above pH 8.5. As a comparison, soft drinks have a pH of 3 and drugstore antacids have a pH of 10. EPCOR's water has a yearly average pH of 7.8.

### (4) Chlorine, (Total Residual)

In EPCOR's distribution system, the total residual chlorine is composed entirely of chloramine. Chloramine is a disinfectant that results when chlorine is combined with ammonia. It is a much weaker disinfectant than free chlorine but it stays in water longer, is more stable in distribution systems, and can more effectively penetrate any film or deposit on a pipe to kill bacteria. Our approval sets limits of 0.5 - 2.5 mg/L for drinking water. EPCOR's treated water contains an average of 2.19 mg/L.

(5) Alkalinity (mg/L)

Alkalinity in water is primarily a measure of the carbonate and bicarbonate ions dissolved from minerals in the rock that the water passes over. In our water, at pH levels of 7-8, it is almost all bicarbonate ions. Bicarbonate is not a regulated parameter and is not a health concern. At high levels, alkalinity can combine with calcium hardness to produce deposits of calcium carbonate. Moderate levels of alkalinity help minimize corrosion (very low alkalinity water tend to be more corrosive).

(6) Conductivity (uS/cm)

Conductivity is a measure of the ability of ions in water to carry an electric current. Conductivity is a good measure of the total amount of salts in solution (e.g., calcium, magnesium, sodium, potassium, carbonate, bicarbonate, sulphate, chloride, nitrate, and others). During spring runoff, conductivity will generally increase because of road salt being washed into the water. The conductivity of EPCOR's water averages about 350 µS/cm.

### (7) Caustic Soda Dose (mg/L)

Caustic soda (NaOH) is added to the water to raise the pH to its required level to minimize pipe corrosion or hardness scale build up. Sodium makes up 0.58 mg/L of every 1 mg/L of caustic soda added to the water. The raw water has an average sodium level of 5 mg/L that varies from 3 - 8 mg/L (2000 data) but can be a bit higher on a few days a year when street runoff contains more salt. Therefore an estimate of the treated water sodium level would be [5 mg/L + caustic soda dose \* 0.58]. Using this estimate, a caustic soda dose of 25 mg/L would result in a treated water sodium level of 20 mg/L. The aesthetic objective for sodium in drinking water is less than or equal to 200 mg/L while for those on sodium restricted diets it is recommended to have less than 20 mg/L in the water.



# **CALIBRATION CERTIFICATE**

# Pressure and Temperature Measurement

WIKA Instruments Canada Ltd. 3103 Parsons Road Edmonton, AB T6N 1C8

> Tel: 780 · 463 · 7035 Fax: 780 - 462 - 0017

www.wika.ca

PUT Type:	Bi-Metal	End User:	Pyramid Process Fabricators
PUT Tag No.:	419193-1	WIKA Rep.:	N/A
Tolerance:	±1% of full scale	Purchase Order No.:	612652
Calib. Ambient Temp.	23 °C	WIKA job No.:	419193
Calib. Date:	2008-02-25	Calibration Procedure:	CAL - 1001

Actual Temperature (°C)	PUT Output (mV)	PUT Output (°C)	Deviation from Actual (°C)	Acceptable Tolerance (°C)
-5.0	N/A	-4.5	0.5	0.6
25.0	N/A	25.0	0.0	0.6
50.0	N/A	49.5	0.5	0.6
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### Standards and Instrumentation Used:

### Calibration Equipment is Traceable to NRC/NIST

Item	Model	Serial Number	Last Calibration	Calibration Due	7
Multimeter	Keithley 2001	521696	2007-10-30	2008-10-30	Х
Multimeter	Keithley 2001	0546867	2007-06-25	2008-06-25	
T/C Calibrator	Ectron 1120	25151	2007-11-06	2008-11-06	
Mikron	M300	34714	2007-11-09	2008-05-09	
Thermocouple	Type 'S'	AT\$96-1	2007-07-18	2008-07-18	
PRT	5626	0837	2007-06-07	2008-06-07	
PRT	5626	1603	2007-04-24	2008-04-24	X

NOTES: All calibrations are	PUT = Probe Under Test PRT = based on ITS-90 temperature scale.	Platinum Resistance Thermometer	er
All Calibrations are	based of 11 0-95 temperature scale.		
			······································
Q/A or Eng'g Mgr.:	House	Technician:	BR

00506, Rev.7, 2005-11-2, 1/1

Burnaby Tel: (604) 299.3855 Calgary Tel: (403) 237.5960

Fort McMurray Tel: (780) 791,9995 Grande Prairie Tel: (780) 357.0386

Saskatoon Tel: (306) 664.1105 Oakville

Tel: (519) 344,1339

Montréal Tel: (514) 332.0330

Quebec City Tel: (418) 952,7779



# CERTIFICATE # 65162

FOR: PYRAMID PROCESS FABRICATORS BAY #7, 2308 – 8<sup>TH</sup> STREET, NISKU, ALBERTA, T9E 7Z2

ORDER NO 612683-00
SERIAL NUMBER 45
DIAL SIZE 4" MCDANIEL
PRESSURE RANGE 0 - 2000 PSI
SUB DIVISIONS 200 PSI
CONNECTION 1/2" NPT
INSPECTOR GEORG J.P. WOV

612683-00 AMBIENT TEMPERATURE 20 C
45 DEADWEIGHT SN# 1180
4" MCDANIEL TEST MEDIUM OIL
0 - 2000 PSI MAXIMUM ERROR - 7 PSI
200 PSI DATE: MARCH 3, 2008
1/2" NPT LOCATION TESTED: 9535 - 42 AVE
GEORG J.P. WOWK EDMONTON, ALBERTA, T6E 5R2

THIS GAUGE IS CERTIFIED TO MEET AND/OR EXCEED THE REQUIREMENTS AS OUTLINED IN API SPECIFICATION 6A, NINETEENTH EDITION, JULY 2004 IN COMPLIANCE WITH SECTION 7, PARAGRAPH 7.1, 7.2, SUBPARAGRAPH 7.2.1, 7.2.2, 7.2.2.1, 7.2.2.2, AND 7.2.2.3.

ALSO SPECIFICATION 16A, THIRD EDITION, JUNE 2004, SECTION 8, PARAGRAPH 8.1, 8.2, SUBPARAGRAPH 8.2.1 AND 8.2.2

TESTED (	GAUGE	<u>DEADWE</u>	<u>IGHT</u>	UPSCAL	E ERROR
0		0		0	)
500	PSI	504	PSI	-4	PSI
1000	PSI	1005	PSI	-5	PSI
1500	PSI	1507	PSI	-7	PSI

Technician:

Georg Wowk

Q.C. Manager

nn Wowk

Invoice PCL-001704/KA

<sup>\*\*</sup> ALL TEST EQUIPMENT IS TRACEABLE TO N.I.S.T. STANDARDS

<sup>\*\*</sup> CUSTOMER STANDARD DOCUMENT #CS-001



# CERTIFICATE # 67018

FOR: PYRAMID PROCESS FABRICATORS BAY#7, 2308 - 8<sup>TH</sup> STREET, NISKU, ALBERTA, T9E 7Z2

ORDER NO 613190-00 AMBIENT TEMPERATURE 20 C SERIAL NUMBER DEADWEIGHT SN# 248-24 #043 DIAL SIZE 4" MCDANIEL TEST MEDIUM OIL PRESSURE RANGE 0 - 2000 PSI MAXIMUM ERROR 0 PSI SUB DIVISIONS 200 PSI DATE: MAY 21, 2008 1/2" NPT CONNECTION LOCATION TESTED: 9535 – 42 AVE INSPECTOR EDMONTON, ALBERTA, T6E 5R2 GEORG J.P. WOWK

THIS GAUGE IS CERTIFIED TO MEET AND/OR EXCEED THE REQUIREMENTS AS OUTLINED IN API SPECIFICATION 6A, NINETEENTH EDITION, JULY 2004 IN COMPLIANCE WITH SECTION 7, PARAGRAPH 7.1, 7.2, SUBPARAGRAPH 7.2.1, 7.2.2, 7.2.2.1, 7.2.2.2, AND 7.2.2.3.

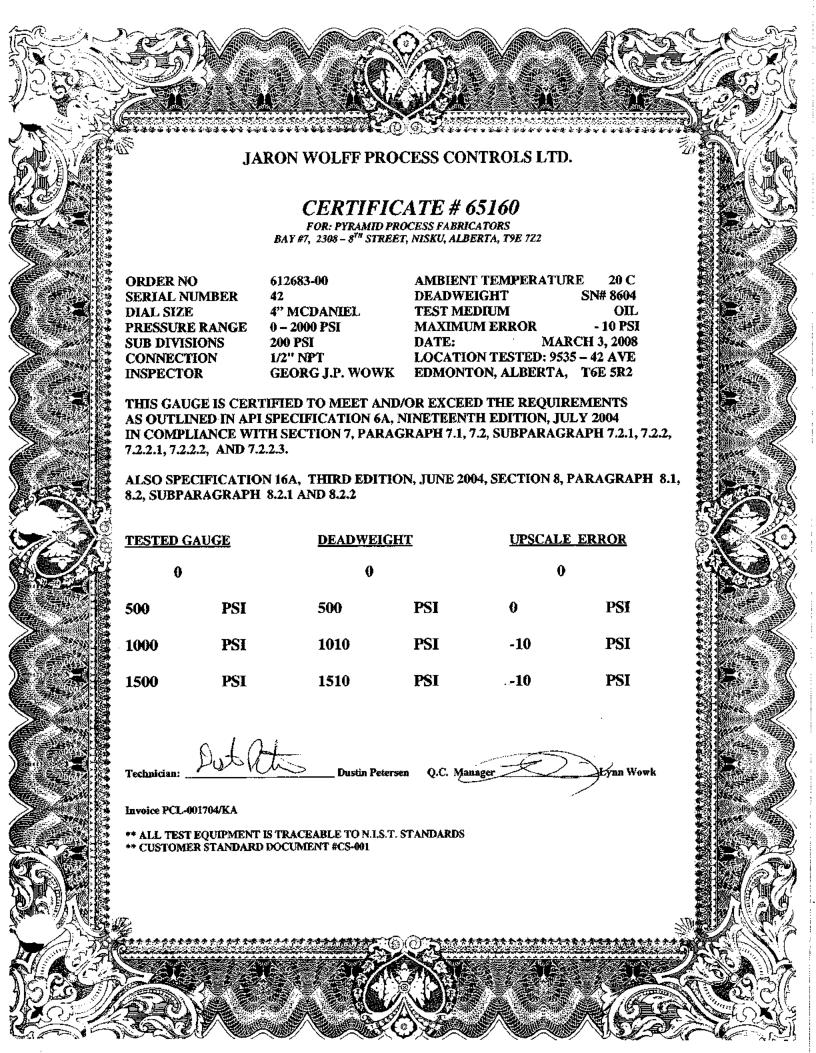
ALSO SPECIFICATION 16A, THIRD EDITION, JUNE 2004, SECTION 8, PARAGRAPH 8.1, 8.2, SUBPARAGRAPH 8.2.1 AND 8.2.2

TESTED C	AUGE	<u>DEADWE</u>	GHT	UPSCALI	E ERROR
0		0		0	
500	PSI	500	PSI	0	PSI
1000	PSI	1000	PSI	0	PSI
1500	PSI	. 1500	PSI	. 0	PSI

Technician: Dustin Petersen Q.C. Manager Lynn

Invoice PCL-002666/AB

- \*\* ALL TEST EQUIPMENT IS TRACEABLE TO N.L.S.T. STANDARDS
- \*\* CUSTOMER STANDARD DOCUMENT #CS-001



June 12/08

₽

Page 1 Date:

# NON-DESTRUCTIVE EXAMINATION

# BUFFALO INSPECTION SERVICES (2005) 114C.

8403 Davies Road N.W.

Edmonton, Alberta T6E 4N3

Phone: (780) 486-7344 Fax: (780) 486-4685

Email: reception@buffaloinspection.com

Buffalo Job No: 08-5607 P.O.#: 613 372

LOCATION: Fab Shop - Nisku

CLIENT: Pyramid - Nisku

DESCRIPTION: Spoots

OI: Customer Job #: 3200-0004 REG: 6

**HOURS:** 

OTHER:

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A.L.	8 - AP1-620 9 - AP1-650 10 - Other Customer Spec. and Cade 1	Reject							_		<u> </u> 									
TERI	mer Spec.	Accept		-		>	-	>	>	>	>	>		_			Disc: RT			
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X	8 - AP1-620 9 - AP1-650 10 - Other									:							<u>0</u>			
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	1 - ASME B31.3 N/S 2 - ASME B31.3 S/C 3 - CSA Z662 % 4 - CSA Z262 100%	8										_	_				-			
	10 4	Severaty		Slight	Slight				Slight			Medium					9#8	TRAINEE	INEE	
NMENT	yap Pow	Proc#	4A	4A	44	44	4A	4A	4A	4A	4A	4A					9 #GSB# €	☐ TRA	▼ TRAINEE	
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	P - Porosity S - Slag PH - Pin Hole																	# 12445		Emerit of
N PEOPLE	LC - Low Cover tUC - Internal Undercut EUC - Excernal Undercut EUC - Excessive Penetration	DRW#	3200-0004-F	3200-0004-F	3200-0004-E	3200-0004-E	3200-0004-I	3200-0004-1	3200-0004-J	3200-0004-J	3200-0004-D	3200-0004-D					E- Gordon Thomas	X C.E.D.O. # 1	C.E.D.O. #	
	Bead rough Inclusion D	Weld#		2	1	2	1	2	1	2	1	7					Zene I			
ä	HB – Hollow Bead BT – Burn Through TI -Tungsten Inclusion AB – Arc Burn	Welder ID	Σ	Σ	H	Н	Y	γ	K	Ж	С	Ç					Concer	u.	ner	
HAZARDS INDENTIFIED:	tration Ly	Size & Thickness Plus Code max. reinforcement	8" \$40	8" s40	8" s40	8" \$40	8" s40	8" s40			•	 4	nowhere Thomas	Assistant Name: Dave Brown	me: Todd Rubner					
HAZARDS	LF- Lack of Fusion 19-facomplete Penetration 1C -Internal Concavity	Film No.	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	:				Tech Name:	Assistant Nau	Assistant Name:	

Buffalo Inspection Services (2005) Inc. guarantees the film quality produced by its technicians; however, no liability will be accepted for failure of welds or other items radiographed. The interpretation of radiographs is the cesponsibility of the customer. Liability for film quality is limited to the value of the film only – labour and equipment required to reproduce films will be borne by the customer – unless the customer rejects the film before signing this report, in which case radiographs will be retaken at no cost to the customer. LIMITED LIABILITY POLICY

Customer Rep. Print: Customer Rep. Signature

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Vendor:	·		BHD		<del></del>		├──	BHE	<u>)                                    </u>	
Packing	slip:		49443	<del></del>	Shipped Fr	om:		C-4		
Carrier:			wift Transp	ort	<del>-  </del>	Col	lect	Edmonto X		
Freight E	Bill:		ST-164		┪		ICU		Prepaid	
Type Of St	ipment:	Partial	ΙX	Final	Status Of P	urchase Or				
Materia	I Details	<del></del>	A Final Incomplet		ipiete	X c	Complete			
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PO Item	Quantity	Unit	Mat	erial Descrip	otion	Over	Short	Damage	Not As Ordered	

Reocrded By: Chris Flynn Print or Type Name

Supervisor Material Handling

May 15 2008

Date



# 3200 - Material Receiving Register Log



Material Receiving Report Report Number: Date Material Received: 3200 May 30 2008

Procur	ement Da	ata	· · · · · · · · · · · · · · · · · · ·	<u>-</u>		<u> </u>		1.67 00 20	
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Carrier:	sup.	· · · · · · · · · · · · · · · · · · ·	E8-30129	,,,,,,,				Edmon	ton, Ab
			Trans Am	4		Col	iect	Х	Prepaid
Freight E Type Of Sh		<u> </u>	N/A						
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11	10	EA	462501704		8" C	ap Sc	h40 W	ЭВ	
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PO Item	Quantity	Unit	Material Descript	ion		Over	Short	Damage	Not As Ordered
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Chris Flynn Print or Type Name Supervisor Material Handling

June 3 2008 Date

Form No. PPF-000-FF-022 Rev. 0

W-WELD

0 - BODY

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L. LONGATUDINAL U. UPSET

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

0051485032

TQ403B18

529901002

USS UNITED STATES STEEL

TUBULAR PRODUCTS

14:07:19 10/04/06 **F0037988** 

SERIAL NO:

DATE TIME

CERTIFIED TEST REPORT

(IN ACCORDANCE WITH ISO 10474/EN10204/DIN50049 3.1.b)

FAIRFIELD ALABAKA 35064 USS TUBULAR PRODUCTS INVOICE NO 0440654 USS FAIRFIELD WORKS P.O. BOX 599 VEHICLE 10 NS1 92645 MAR. TO ADDRESS SPECIFICATION AND CRADE P.O. NUMBER E1007806 BHPPERS NO. P31719 SOLO TO ADDRESS COMCO PIPE & SUPPLY CO DIV OF RUSSEL METALS EDMONTON AB TSJ 2KI TENINO 04 TT02291 BOX 457

Ē PIPE CARBON SMLS STD PIPE API 51-\*43RD EDITION DATED 3/04 PSL-2 GRADE B AND GRADE X42 ASTM AS3-\*05 ASTM Alo6-\*04B CRADE B QUAD STENCIL ASME SA53-\*2004 EDITION ASME SALO6-\*2004 EDITION GRADE B CSA Z245.1-02 CAT I GRADE 290 EXCEPT MARKING BLK REG MILL COAT PE BEV 30 DEG MEETING ALL THE APPLICABLE REQUIREMENTS HIM HYDRO PSI 2350 2350 WALL: 0.322 (8.178) 83.2 SCALE: HRB MAX: 99. 27.0 42.7 ELDHO % 0N 2 ' (mm) H 0.64 MAX: 5 74,500 MAX:110,000 70,000 8.625(219.075) ISA TENSEE END OF DATA THIS SHEET 2 PSI . SO 47,800 72,000 42,000 ő ä **GAUGE** Z \* OF NACE STANDARD MR-01-75 \*2002 U22838 \*NOTE A STRIP/L/B TEST TYPE/ ORIENTATION AS-ROLLED PRODUCT OBMTIFICATION MATERIAL COND:

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PRODUCT IDENTIFICATION	JYR.										_		<u> </u>		L.				L	ž
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END AREA INSPECTION (PLAN END)

SPECIAL END AREA (SEA) INSP

FULL LENGTH DRIFT

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TEST / IMSPECTION

FULL LENGTH VISUAL

FULL LENGTH MPI PULL LENGTH END FULL ENGTH UT JAPA UT TANDREL SIZE:

REBULTS / COMMENTS

(188) UNITED STATES STEEL

MELL ORDERYTHE NO

TUBULAR PRODUCTS

10/04/06 F0037988 14:07:19

DATE:

TIME

SERIAL NO:

CERTIFIED TEST REPORT (IN ACCORDANCE WITH ISO 10474/EN10204/DIN50049 3.1.b)

P.O. NUMBER

ΑVΔ 10 10 (8.178)2 MAZ - HEAT APPROTED ZOME 71 28 10 10 10 0.322 CHARPY V-HOTCH MAPACT TESTING INVOICE NO 0440654 28 CONO. æ 2/3 \*-₩ED 8 8.625(219.075) DATA THIS SHEAT \*\* DEC F TESTING / HISPECTION INFORMATION 턚 8-800v 뚭 E1007806 COLLAPSe END OF T. TRANSVERSE \* SEE P31719 돩 흕 Ę L. LONGATUDINAL AS-ROLLED TT02291 04 PRODUCT IDENTIFICATION 022838 LEGEND

MANUFACTURED IN AN ISO 9001 CERTIFIED FACILITY ~ CERTIFICATE #30727. ADDITIONAL MOTES/COMMENTS ALL MELTING AND MANUFACTURING TOOK PLACE IN THE USA.

No repairs by Welding. No Mercury or mercury compounds are added to the steel and all mercury bearing equipment is protected by a double boundary of containment.

ALSO MEETS THE REQUIREMENTS OF ASTM ALCG-04B/ASME SALOG-2004 ED \*NOTE A SEE ATTACHED REPORT FOR TENSILE RESULES,

O1 MILL

\*\* END OF DATA \*\*

GRADE C

THIS IS TO CERTIEY THAT THE PRODUCT DESCRIBED HERIEN WAS MAKINACTURED, GAMPLED, TESTED ANDICH RISPECTED IN ACCORDANCE WITH THE SPECIFICATION AND FULFILE THE RECUREMENTS IN SUCH RESPECTS.

J.T. CLAYTON - MANAGER, Q.A. PREPARED BY THE OFFICE OF:

10/04/06 DATE T0403B18

529901002

0051485032

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PACE

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HEAT PROD

U22841 U22841 022841

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PRODUCT IDENTIFICATION

908 688

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3 3

### USS Tubular QA -> MTR DEPARTMENT

CERTIFIED TEST REPORT TUBULAR PRODUCTS

USS UNITED STATES STEEL

(IN ACCORDANCE WITH ISO 10474/EN10204/DIN50049 3.1.b)

SERIAL NO: TIME:

10/08/06 14:01:36 F0038145

DATE:

FAIRFIELD ALABAKA 35064 INVOICE NO 0440653 USS TUBULAR PRODUCTS USS FAIRTIELD WORKS P.O. BOX 599 VEHICLE LD NS192983 WAL TO ADDRESS SPECIFICATION AND GRADE P.O. WUNBER E1007297 SHIPPERS NO. P 31 718 SOLD TO ADDRESS COMCO PIPE & SUPPLY CO DIV OF RUSSEL METALS EDMONTON AB TSJ 2K1 MALL CHIDERATIEM NO TT02288 03

BOX 457

pipe carbon sals std pipe api bl-\*43rd edition dated 3/04 psl-2 grade B and grade x42 astm ass-\*05 astm A106-\*04B GRADE B QUAD STENCIL ASME SA53-\*2004 EDITION ASME SA106-\*2004 EDITION GRADE B CSA 2245.1-02 CAT I GRADE 290 EXCEPT MARKING BLK REG MILL COAT PE BEV 30 DEG MEETING ALL THE APPLICABLE REQUIREMENTS OF NACE STANDARD MR-01-75 \*2002

Verico   V	TYPE,   TEST   Advider   PSI   SO   PSI   SO   PSI	CONG. AS-ROLLED	CLED			İ	0.0.:		5 (21	8.625(219.075)		in (num) WALL:	In(nam) WALL: 0.322 ( 8.178)	6	(mm)
P/L/B AR 1.5 49,300 AAA:110,000 65 AAA:110,000 C.65 T.75,5	P/L/B AR 1.5 49,300 .50 75,500 0.65 41.3 81.6  7.TRANSVERSE QT-QUENCH & TRUETIC BATA TRIES SHEED ** T. TRANSVERSE QT-QUENCH & T. TRA	PRODUCT	TEST TYPE	TEBEL	GAUGE		YERLO P.S.	i	* 0	TENSILE		FLONG*	MARONESS SCALE; FIRE	PSI	DAME: LAB
## END OF DATA THIS SHEET ** 75,500 0.65	## END OF DATA THIS SHEET ** 75,500 0.65 41.3 81.6  ** END OF DATA THIS SHEET **  ** TRAMSYERSE QT- QUENCH & TEMPRED AF. AS ROLLED  ** TRAMSYERSE GT- QUENCH & TEMPRED AF. AS ROLLED  ** HAL NORMALED  ** SHORY  ** HAL NORMALED  ** SHORY  ** NAME OF THE STREES (PREPRED AF. AS ROLLED  ** NAME OF THE STREES (PREPREPRED AF. AS ROLLED  ** NAME OF THE STREES (PREPREPRED AF. AS ROLLED  ** NAME OF THE STREES (PREPREPRED AF. AS ROLLED  ** NAME OF THE STREES (PREPREPRED AF. AS ROLLED  ** NAME OF THE STREES (PREPREPRED AF. AS ROLLED  ** NAME OF THE STREES (PREPREPRED AF. AS ROLLED  ** NAME OF THE STREES (PREPRED AF. AS ROLLED  ** NAME OF THE STREES (PREPRED AF. AS ROLLED  ** NAME OF THE STREES (PREPRED AF. AS ROLLED  ** NAME OF THE STREES (PREPRED AF. AS ROLLED			 OND:	H NH	ë ë	42,001		# XAX	70, 001		MR: 27.0	LIN.	2350	6
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COTON OF THE COLUMN TO THE COL	THE CONTROL OF THE CO		KOMUDINAL	 TRANSVER	, .		T-QUERCH & T	TEMPERSON		AR-AS RO	977	B-BODY		W- WELD	

DECIMAL POSITIONS FOR ELEMENTS ARE INDICATED BY THE LEFT MARGIN, VERTICAL DOTTED LINE OR DECIMAL POINT. TQ403B18 529901002

+ MIN/6 + (CR+MO+ V)/5 +

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C. 15

\*C.E. IS BASED ON THE FOLLOWING EQUATION(5):

0051485032

(CU+NI)/15 < 0.43

PAGE CAN 1-0-0

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TUBULAR PRODUCTS UNITED STRIES STEEL

CERTIFIED TEST REFORT (IN ACCORDANCE WITH ISO 10474/EN10204/DIN50049 3.1.b)

P.C. NAMBER

SHEPPERS MO.

10/08/06 14:01:36 F0038145 DATE: TIME SERIAL NO:

ü (mm) vi PAG. 10.0/10.0% NOTCH 10 (8.178)23 HAZ - HEAT AFFECTED ZONE 1 2 3 ANG 10 10 10 14 26 18 ~ 0.322 CHARPY V-HOTCH BAPACT TESTING INVOICE NO 0440653 ) 5 5 HESKLT8 / COMMENTS CO#50 2 2/3 W-W Sign 8.625(219.075) DATA THIS SHEET \*\* Đ. TESTING / PASPECTION INFORMATION DEG 9 OPGO O ORIFT MANDREL SZZE ള 9 - BODY ž 퓦 8 9 ä E1007297 COLLAPSE END OF × × Х T-TRAMSVERSE Ŧ, \* SZZ SZZ **P31718** 矣 P. P. TEST / INSPECTION END AREA INSPECTION (PLAIN END) L. LONGITUDINAL AS-ROLLED SPECIAL END AREA (SEA) MISP TT02288 03 PRODUCT DENTIFICATION FULL LENGTH WISUA FULL LENGTH DRIFT FULL LENGTH ENI FULL LENGTH MIP U22841 PULL LENGTH UT MATERIAL COND: 150810

ALL MELTING AND MANUFACTURING TOOK PLACE IN THE USA.

ADDITIONAL NOTES/COMMENTS

No repairs by welding. No mercury or mercury compounds are added to the steel and all, mercury MANUFACTURED IN AN ISO 9001 CERTIFIED FACILITY - CERTIFICATE \$30727

bearing equipment is protected by a double boundary of containment Ol MILL

also meets the recolbeneints of astm alog-d42/asme salog-2004 ed \*NOTE C SEE ATTACHED REPORT FOR TENSILE RESULTS.

GRADE

\*\* END OF DATA \*\*

ASME SECTION II PART A

J.T. CLAYTON - MANAGER, Q.A.

PREPARED BY THE OFFICE OF:

10/08/06

DATE

THES IS TO CRETTEY THAT THE PROVUCT DESCRIBED HERBH WAS MANUFACTURED, SAMPLED, TESTED ANDOR INSPECTED BY ACCORDANCE WITH THE SPECFICATION AND FULL FLUE. THE RECVENDENTE IN SUCH RESPECTS.

DATE3042100 ADDENDA an Edition INITIAL 80

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-> MTR DEPARTMENT

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\*CE. IS BASED ON THE FOLLOWING COUNTIONIS); C. E.

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RESULTS / COMMENTS

TESTING / INSPECTION INFORMATION

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TEST / INSPECTION

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TIME: SERIAL\_NO:

TUBULAR PRODUCTS
CERTIFIED TEST REPORT
(TYPE B - IN ACCORDANCE WITH ISO 10474/EN10204DIN50049 3.1.b)

AMG 8.178) HAZ - HENT AFFECTED ZONE 23 24 Ş 0.322 INVOICE NO 0434856 26 24 CHARPY V-NOTCH MPACT TESTING 20 24 Net. Z 22 (EE) NO NO NO WELD. 2/3 2/3 \$1<u>7</u>E 8.625(219.875) DEG F \* + + \* \* \* \* TEMP THIS SHEE FES S 9.80Dy P.O. NUMBER 뚕 go £1006596 END OF DATA COLLAPSE I - TRANSVERSE SZE SZE ж Ж SHIPPERS NO. Y19083 5 송용 L - LONGITUDINAL AS-ROLLED TT89713 89 MRL ORDER/ITEM NO. PRODUCT IDENTIFICATION C25152 C35089 MATERIAL LEGEND

TO. 0/10.0% NOTCH STEEL AND ALL MERCURY X 5 5 MANUFACTURED IN AN ISO 9001 CERTIFIED FACILITY - CERTIFICATE #30727.

NO REPAIRS BY WELDING. NO MERCURY OR MERCURY COMPOUNDS ARE ADDED TO THE BEARING EQUIPMENT IS PROTECTED BY A DOUBLE BOUNDARY OF CONTAINMENT.

81 MILL
ALSO MEETS THE REQUIREMENTS OF ASTM A106-99/ASME SA106-1998 ED. 1999 GR QI/Q0 MPI X UT
MPI X UT
MPI NANDRÉL SIZE: gi/go T) ADDITIONAL NOTES/COMMENTS ALL MELTING AND MANUFACTURING TOOK PLACE IN THE USA 8 ×× k END AREA INSPECTION (PLAIN END) SPECIAL END AREA (SEA) INSP. FULL LENGTH DRIFT FULL LENGTH MPI FULL LENGTH EM FULL LENGTH UT

-> MTR DEPARTMENT

GRADE C,

THIS IS TO CERTIFY THAT THE PRODUCT DESCRIBED HEREAN WAS MANUFACTURED, SAMPLED, TESTED AND/OR INSPECTED IN ACCORDANCE WITH THE SPECIFICATION AND PULFILLS THE REQUIREMENTS IN SUCH RESPIECTS.

PREPAGED BY THE OFFICE OF J. T. CLAYTON - MANAGER, Q.A.

ONTE \_\_\_ 03/26/06

ADDENDA ASME SECTION II PART A 2007 EDITION DATE 304/21/01

INITIAL BA

UNITED STATES STEEL

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TIME: 17:22:00 SERIAL NO:	VENDOR USS TUBULAR PRODUCTS USS FAIRFIELD WORKS P.O. BOX 599 FAIRFIELD ALABAMA 35064
TS . <eport 74/EN10204/DIN50049 3.1.b)</eport 	VÉHICLE LD. CSXT708529 MAR, TO ADDRESS
TUBULAR PRO TS CERTIFIED TES: . <eport (TYPE B - IN ACCORDANCE WITH ISO 10474/EN10204/DIN50049 3.1.b)</eport 	P.O. NUMBER 9 1 Ø 6 1 8 6 – Ø Ø MML, TO
	SOLD TO ADDRESS
WITE STEEL	MALLORDERVITEM NO. TT & 2082 03 SOLD TO YCO CORP ESTLUND DIV O BOX 5300 ONDON ON NGA 4N7

CARBON SMLS STD PIPE API SL-\*43RD EDITION DATED 3/04 PSL-2 GRADE B AND GRADE X42 ASTM A53-\*04A A106-\*048 GRADE B QUAD STENCIL ASME SA53-\*2004 EDITION ASME SA106-\*2004 EDITION GRADE B BLK REG COAT PE BEV 30 DEG MEETING ALL THE APPLICABLE REQUIREMENTS OF NACE STANDARD MR-01-75 \*2002 Î P E

SPECIFICATION AND GRADE

MATERIAL AS-ROLLED	ED					_	)	0.050(\$1.0.00.0	1	;	•								
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PAGE DECIMAL POSITIONS FOR ELEMENTS ARE INDICATED BY THE LEFT MARGIN, VERTICAL DOTTED LINE OR DECIMAL POINT. 2842636003 529901002

STEEL UNITED STATES

CERTIFIED TEST REPORT PRODUCTS

(TYPE B - IN ACCORDANCE WITH ISO 10474/EN10204/DNIS0049 3.1.b)

03/23/06 17:22:00 DATE: TIME: SERIAL\_NO:

(HE) \$ 18. BY 18. BY NOTCH 20 8.178) 9 6 HAZ • HEAT AFFECTED ZONE S. 38 25 0.322 28 CHARPY V-NOTCH IMPACT TESTING 32 26 ž 5 RESULTS / COMMENTS 31227 ln (man) 2 X W - WELD 2 % & & ä 8.625(219.075) TESTING / INSPECTION INFORMATION al/ao <u>a</u>/00 \* 335 \* + + | |5 ADDITIONAL NOTES/COMMENTS DAIFT MANDREL SIZE TENP DEG SHEET TEST TOST **m m** THIS 8-8007 PO NUMBER 9186186-88 ₫. 8 8 Ţ Œ DATA MEN COLLAPSE \*\* END OF k ×× T - THANSVERSE ΥĘS SHPPERS NO. P97E83 END AREA INSPECTION (PLAIN END) **\*** 7 TEST / #ESPECTION SPECIAL END AREA (SEA) INSP. L-LONGINDINAL AS-ROLLED TT02082 03 MILL CHOER/ITEM NO. FULL LENGTH MSUAL FULL LENGTH DRIF PRODUCT DENTIFICATION FULL LENGTH EM FULL LENGTH MP FULL LENGTH UT X22828 X22829 LEGEND . MATERIAL COND.

MANUFACTURED IN AN ISO 9801 CERTIFIED FACILITY - CERTIFICATE #30727. NO REPAIRS BY WELDING. NO MERCURY OR MERCURY COMPOUNDS ARE ADDED TO THE STEEL AND ALL MERCURY BEARING EQUIPMENT IS PROTECTED BY A DOUBLE BOUNDARY OF CONTAINMENT. ALL MELTING AND MANUFACTURING TOOK PLACE IN THE USA.

GRADE C. ASTM A106-99/ASME SA106-1998 ED. 1999 ALSO MEETS THE REQUIREMENTS OF

\*NOTE B SEE ATTACHED REPORT FOR HARDNESS RESULTS.

\*\* END OF DATA \*\*

\*NOTE A SEE ATTACHED REPORT FOR MARDNESS RESULTS.

ASIME SECTION IL PART X

2007 EDITION INITIAL 84

PREPARED BY THE OFFICE OF J.T. CLAYTON - MANAGER, Q.A.

THE IS TO CERTIFY THAT THE PRODUCT DESCRIBED HEREIN WAS MANUFACTURED. SAMPLED TESTED AND/OR INSTRECTED IN ACCORDANCE WITH THE SPECIFICATION AND FULFILLS THE RECLAREMENTS IN SUCH RESPECTS.

ADDENDA

DATE JUN 21/04

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DATE 03/23/86

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DATE: 03/23/06 TIME: 17:22:01 PAGE: 1	SERIAL NUMBER:	VENCOR USS TUBULAR PRODUCTS USS FAIRFIELD WORKS P.O. BOX 599 FAIRFIELD ALABAMA 35064	
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			Σ Η Θ Θ Θ Θ S
	SHIPPERS NO. 97883		AAR AB AB AB AB AB AB AB AB AB AB AB AB AB
	SHPPER P97883	SS 7 N 4	
S STEEL		SOLD TO ADDRESS ORP ND DIV X 5300 ON NGA 41	SCALE SCALE HRB HRB HRB
UNITE STATES	MILL ORDER/ITEM NO. TT02082 03	0 T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	HEAT X22828 X22829 X22829

产品质量证明 MILL TEST CERTIFICA...

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CHINA INDUSTRIAL METAL CO.,

SEAMLESS CARBON STEEL PIPE

CSST2007/368

00011440

成证书号: 2007268002 CERTIFICATE NO:

年令 团成都组铁有限责

PANGANG GROUP CHENGDU IRON & STEEL CO., LID. 

ADDRESS:No. i South Dongfeng Road, Chengdu Stohwan P. B. China 电话,028-84407093 侍真,028-84503981 蜘练,610066 TEL;028-84407093 FAX;028-84503981 P. O. BOX: 610066 **海岸**,

SHIPPING HARKS: bo.b/67. 2 · M to by the m.

SURFACE DIMENSION ACCEPTABLE ACCEPTABLE ACCEPTABLE 表面及尺寸 95.960 mg ACCEPTABLE 御歌(6) RESULT 2265.260 米; METERS: Ę 聚布方第四百样尺十0 无指检验 PIECES: XETHOD 녆 뵬 TOTAL: 水压试验 HYDROSTATIC TEST 4000 (3) RESULT 回生 TIME 22 压力 PS1) PRESSURE 1600 1600 13, 488 60.684 TONS OUANTITY 7426. 194 316, 992 METERS 米特 朝 海海 PIECES 88 长度 LENGTH Ê 훋 数本(ma) SIZE 章 14 0.322 0.322 화윤 0. D/NPS ASTM A108-06a/ASME SA106-04ed/API 5L-43ed/NACE MR0175 METTING CONDITION METHOD OF SUPPLY 為有力其公安安安地 Ě ğ X347091128 · BATCH NO 非典 8833 英茶中 뛅

ADDITIONAL TESTS SPECIFIED IN ORDER ACCEPTABLE - ACCEPTABLE ACCEPTABLE ACCEPTABLE HARDNESS TEST: (1B) 0.32 0.33 0.31 0.32 0.31 0.30 0.34 | 0.33 149 146 产品分析碳当量@CE 確實(2) 实际值@ 5 148 149 0.28 ACCEPTABLE ACCEPTABLE ACCEPTABLE O 思 選 獎 <=0. 40 138 8 5 E 146 <=0.40 # <=0.40 <=0.40 <=0.40 ဗ 0.0005 0.0005 D. 0004 0. 0004 0.0004 0.0004 0, 0005 0, 0005 0, 0005 0, 0005 146 143 140 144 152 0.0003 0,0005 6.0004 FLATENING TEST (9) B 붎 뷞 놢 0.017 **形解试验** 0.001 0.013 a 001 | a 001 | a 010 | a 020 α 03 0.0 020 0,020 0.014 o or ACCEPTABLE ACCEPTABLE Ö 9 2 RING EXPANDING TEST(9) アナ紅脚 0.001 0.001 0, 001 C, 001 a. 001 a. 001 0 003 9 8 0.001 9 Se S 25 28 58 6、②METHOD 随節陰極一址T 報声陰坠一UT 避避陰陰一LuT 湖流陰垫上ET 7、 JSAMPLE SIZE:CIO—10% 到槽 CIO4%NOTCH) (OR 12.5%)
8、③ORIENTATION OF SPECIMEN, BL两—LON 横向—TRA
9、④ORIENTATION OF SPECIMEN, BL两—LON 横向—TRA
11. 朱淮 雙凸 TANARD VALUE
11. 宋莽 健岛ACTAAL VALUE
12. ⑤合格—ACCEPTABLE 2600 000 1800 , 1600 0 0 0.0 0 01 7 0,01 Q 01 Q 01 0.01 RING TENSILE TEST (9) 阿拉拉姆 8 000 9 0 0 0.01 5, 138 **\$.150** 11. 413 1.037 20 0 9 0.02 0,01 AVERAGE 0.03 00 平均值 0,02 268. 224 121, 920 5 24, 384 97, 536 8 TEST (STANDARD: ASTW A370) ००७ व ०५ व ०३ व ०३ व ०० ००० व ०३ Q. 01 ğ ķ 엻 200 0 200 9 0.01 0. 02 0. 01 学 東 会 COMPOSITION (%) C 02 - C 02 0.01 0.02 6 6 N. a样 单值 (j) Individual Value O. 01 ģ 40mm 20 00 00 00 00 0.02 0 03 - a. 03 U 03 1 C 05 20 n 20 n 数 ၀ 8 6 8 000 0 CHEMICAL 0.03 子也可能 IMPACT 000 0 0 0 0 D മത് മര ർഗ് ഡോ 0.02 0.03 APP CONTINUE (J) VALUE 8 히 8020 8 0, 322 0. 322" 0.322 10 BE DELIVERIED IN THEORETICAL WEIGHT.
10 CERTIFY THAT THE PRODUCT HAS BEEN INSPECTED AS PER RELEVANT
1014 AS STIPULATED IN THE ORDER, QUALIFIED WITH ALL THE DATA IN
1104 GALLIY CERTIFICATE IS THE FOUNDATION OF ACCEPTANCE WILLE THE
1 ACCEPTANCE OUGHER AND MAILY FOR REPERENCE.
1 ACCEPTANCE OF BEEN BEEN WE WE WE WE WE WANTON OF SUPPLIT, QUENCHED AND TEMPERED—4.1, HOT ROLLED—HR, QUENCHED—9.
1109 OF SUPPLIT, QUENCHED AND TEMPERED—4.1, HOT ROLLED—HR, QUENCHED—9. a 011 a 011 0,004 0,000 0.00s 0.00s C 007 0 010 a 26 a 24 a 60 6. 80 a out | a ouo a ecor a coor C. Uddi d. Dad 0.014 800 999 0.00 0,008 原存符 ELONGATION (名) 38. 5 30.5 38.3 8 38 0.016 | o. 46 | o. 59 | o. 012 | o. 015 | 0,008 Q 012 ant ton 0,010 0.014 0.018 0, 013 0.010 ž 笠 뚶 40 8 ş g 0.016 0.014 Q 012 47.6 扩充强度 TENSTLE (LP) 410 47.5 485 385 0.80 0.61 ģ 308 S S Ž 0.59 0.59 Θ क का कि का 12 to 12 00 12 ් සි £70 ĝ 2 920 \$ 5 層 A610762988\* \$347091133 E10702996 | YS47091131 E10702997 Y347091129 E10702983 (Y347091130 在伸过路 TENSILE TEST 0.24 330 340 320 326 0.27 0.24 0.25 / LELD YIELD PZ 70 0.23 0.23 325 315 8 330 318 8 0 39 0.23 25 310 27.3 8 318 以神元寸 SAMPLE SIZE ANLYSIS OF A 20 NALYSIS OF A 20 WUNSTS 0, 19 10, 20 OWLYSTS a 19 a 19 81 0 81 0 SISAM #8 7 å .. 48 38.1 g 8 STEEL WWYSIS O 22 1 盘巾 PSL1 . 13 PSL1 PSL1 -- B PSL1 S DI YETTO HOLIZZA B 8) YEZ116 BI ASSELTED STANKET LES \$1 YEST 13 CALISIS SISLTO ALISIS WINSIS LISIS 걸

APPROVED BY QUALITY MANAGER, 负制负数人 Jak Mark

金術写画, Front.

FILLING FORM DATES THE YEAR 耕

DAY Ш YOUTH >

INITIAL BA

DATE JUY 21/01

ADDENDA

2007 EDITION

ASIMES SEED ENGLY OF INSTANDITION ROLL OF

NACE #R0103-2007&NACE #R0175-2003

EN10204. 3. 15

CHINA INDIBINKAL BUILD (2), LTD

A NOUNSWEADON IN NOTE STEEL CO., LTD.

CSST

ASTE ALOG DEL/ASME SALOE 04ed/API DL 40ed/HACE MROLTS

SKANLESS CARBON STREE, PLPR

CSS72007/158

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地址, (中国DUCID DILAI 教育的研究和的政 ADDESS: No. Seath 应由统道概 明小msey Sel 电话: 028-8 No.7053 首特 查28-6;56598 TEL: 028-84407095 电极端记录程序555

00009902 成证书号: 2007158005-1 CBRTIFICATE NO: 使头: SHIPPING WARKS:

23, 864

500.632 \*\*

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接回及尺寸 SURFACE DIMENSION (9) 订货规定的附加试验 ADDITTONAL TESTS SPECIFIED IN ORDER ACCIDITATION ACCIDENTATION ACCIDENDING ACCIDENDING 0.20 0.29 0.27 产品分析碳当型@CE 标准度② | 实际值圆 137 HARDNESS TEST: (HB) 121 -,----0,27 en 10204 2.1, B Megts requirements of Pace Mr0175/ARO 103 ŧ <=0.40 <=0. 40 8 RESULT ខ 47 a coos | a oocs 操伤方法③其样尺寸④ METHOD SAMPLE a 10005 a 0005 141 154 无损检验 根: PIECES: FLATENING TEST (9) 뵱 ACCOPIAN T 沿海河路 ACCEPTABLE கல் | கவ்| கல் | கல் ACCEPTABLE ACCEPTABLE 纸票 (3) 水压试验 HYDROSTATIC TEST RESULT RING EXPANDING TEST (9) 坏扩筑器 0, 001 (0, 00) 0000 ECCENT OF OFFICE PRESSURE TIME £ SS SS TO GE DELIVERIED IN THEORETICAL WEIGHT.

TO GENETIFY THAT THE PRODUCT HAS BEEN INSPECTED AS PER RELEVANT
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WEAR QUALITY CENTIFICATE IS THE FOUNDATION OF ACCEPTANCE WHILE THE SPECIFICATION OF REPRENCE.
WEAR QUALITY CENTIFICATE IS THE PRODUCT ANALYSIS
TO GRANDING WAS AND ONLYFOR REFERENCE.
WEAR GRAND WAS ALIVE TO WENCHED AND TEMPERED—T. HOT ROLLED—NR. QUEXCHED—Q, 12. ② 中一人CEPTABLE.

WAS ACCEPTABLE.

TO GRANDING WAS ACCEPTABLE.

TO GRANDLE STANDED—TO GRANDED—TO 00 0.00 200 RING TENSILE TEST (9) 医拉拉纳 16, 601 7.263 村 NOV ----1 平均值 (J) AVERAGE 0.04 170. 588 模数 米数 PIECES NETERS 3 TEST (STANDARD: ASTW A370) 32 (た 学 成 份) CHEVICAL COMPOSITION (%) BA 4CC (1)
INDIVIDUAL
VALUE ž LENGTH 4QFT Ê 0.02 a.02 Z 在电影器 IMPACT 搬 ≥ **拠格(EB)** a 03: 0.08 A## ### (J) Endividual Value 0, 03 0.322 ដ 0.322 MUSSIS a 20 to 19 a 27 a 28 a 48 a a 18 a 21 a 00 a a a 0,005 外径 0. D/NPS Ţ 原存品 ELONGATION (56) MELTING CONDITION METHOD OF SUPPLY **解版方式①交换状态**2 0.029 47.5 . . . . . 血量虫苗人: 力が別 APPROVED BY QUALITY MANAGER, 抗拉强及 TENSILE 490 0 47 h 47 ŝ 0.48 \*\* . Ī \*\*\*\*\*\*\*\*\*\*\*\* TENSILE TEST BATCH NO ¥211607\$CY 2647091123 女 370 300 **本報過度** YIELD 0.23 Q E Š 25 00 to 340 中埃坎 文件尺寸 SAMPLE SIZE (MB) WISE ID DIE . Ж WLYSTS ----38.1 DONE AND STEEL GRADE 蠢 곮 1 PSL1 1122A (B MLYSIS SE YSIS

LENDA

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DATE,

PILLING FORM

**重操取回**;

HEAT NUMBER

Shipment/Seq #:

TRANS AM PIPING PRODUCTS - REV'D BY:

S 7 - 1615



2X8-36 CL 3000 FS THREADED PIPET

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

Phone: 7L3-695-3633 Fax: 7L3-695-3528

A Division of BONNEY FORGE

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

We certify that the contents of this report are correct and accurate and that all test results and operations performed by WFI or its subcoutractors are in compliance with the material specification and requirements of the referenced code or standard and that the material conforms to the dimensional requirements of the order. This document is in accordance with EN19204 3.1

Page: 24

SOLD TO: TRANS AM PIPING (CALGARY) 9335 ENDEAVOR DRIVE S.E. CALGARY, AB T3S ØA1

MTR #: 140759

PG #: CI-07-683

SALES ORDER #: C716034 DATE: 12/14/2007

CERTIFIED MATERIAL TEST REPORT

HEAT CODE: 57062

MATERIAL: A/SA105 01

ITEM 14

Quantity

Description

36 - 8 X 2 3M THP

CHEMICAL COMPOSITION:

LADLE

0.009 0.000 **0.**015

S 0.024

SI 0.200 0.110

CARBON EQUIVALENCY: MECHANICAL PROPERTIES:

LADLE 0.378

TENSILE PSI ATETD bei

ELONG x

RA x

HARDNESS

PRODUCT

76,875

50, 375

30.25x

63, 95x

139 BHN 139 BHN

As Forged

IN ACCORDANCE WITH NACE SPEC MR0175-2002

Marie Dehmer Quality Assurance Representative

ASME SECTION II PART A

2067 EDITION

ADDENDA

INITIALBA

BOLL POOL STAD

HEAT NUMBER

57383

TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 8 - 1025

1X3-36 CL 3000 FS THREADED PIPET

Date: 01/22/2008

Sold To: TRANS AM PIPING PRODUCTS

Certified Material Test Report

9335 ENDEAVOR DRIVE S.E. CALGARY AB T3S OA!

LTD

Mtr#: 142,449

PO#: CI-07-683

Sales Order #: C000716034

Heat Code: 57383

of Piping and Pressure Vessel Co. 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 welding performed.

We certify that the contents of this report are correct and accurate, and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard, and that the material conforms to the dimensional requirements of the order. This document is in accordance with EN10204 3.1.

Material: A/SA105N 01

Item 75

Quantity

Description

36 - 3 X 1 3M THP

A/SA105N

REPLACEMENT FOR LINE# 9

Chemical Composition

Ladle C CR CO MN MO ΝÞ 0,200 ΝI 0.06 0.080 1.05 0.010 0.018 0.03 0.008 SI

0.023 0.18 0.000

Carbon Equivalency: Ladle

Tensile PSJ Yield PSI Elong % RA % Hardness Product 71,250 Test Temperature: 47,500 33.15 64.20 130 BHN 130 BHN

Normalized

ASME SECTION II PART A

2007 EDITION

ADDENDA

INITIAL BA

DATE July 21/0).

Marie Dehmer

Quality Assurance Representative

X100 IMPACT TEST (J) С Ш S బ్ల MANAGER OF Q.A. DEPT ORDER NO: 6056/CI0669 DATE: 2007 · 06 26.4 ш |% P.I. NO: 6,03-4 PHYSICAL TEST MAGNETIC PARTICLE EXAMINATION CERTIFI, NO: 342 80.0 96.0 59.5 8 S 35.0 51.7 ğ TREATMENT (NOTE) ≨ĝ z ଅ∖ଦ >ἕ œ ř ADDENDA ACCORDING TO EN10204/DIN50049/3.1 RIGID INDUSTRIES CO., LTD. HARDNESS 1 MAX. 197 HB INSPECTION CERTIFICATE WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE FURCHASER'S REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT. ₹ \$ ŧ 8. MEI-CHUNG RD, NIAO-SONG, KAOHSIUNG HSIEN, 83301 TAIMAN TEL: 896-77310527~8 FAX: 896-77315887 £ ASME SECTION II PART A <u>×</u> چ \$ ₹ DIMENTIONAL INSPECTION VISUAL & CHEMICAL COMPOSITION % ≥6 6000 珨 (NOTE): A: HOT FORMED WITH FINAL TEMPERATURE BETWEEN 820°C-980°C, AIR COOLING.
N: NORMALIZING AT TEMPERATURE 880°C X 0.5HR, AIR COOLING. 2007 EDITION 3 **⋛** 4 ₽ MFG NO. αĝ 8 ۍ. 703931 - 1000 × 몺 le QUANTITY PCS NACE MR-01-75 & NACE MR 0103 : SATISFACTORY ₹8 83 쏬 Ω <del>Σ</del> ₽ 2 STD ASME SAZ34 WPB-04 ASTM A234 WPB-07 JIS 63103 SB410 ი<u>წ</u> ASME 816.9 - 03 PRODUCT & SIZE Я <u>|</u> SEYBOLD ¥ NIW. MATERIAL CHARGE NO. å STANDARD 2GB31 PURCHASER: CAP MATERIALS INSP. SPEC. STANDARD Ēδ TEM 9 L **₹32**₹ PRODUCTS DNIGIG MA PIPING :# pe2\Jnemqid2

ΒĀ

 $\mathsf{REA}_1\mathsf{D}$ 

7C3931

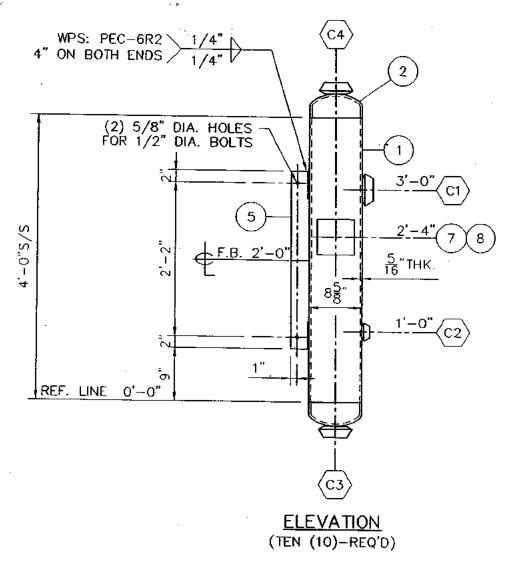
DATE JUY 21/08

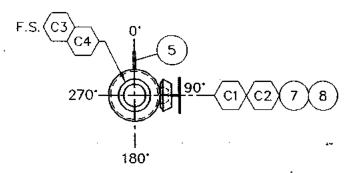
INITIAL 84

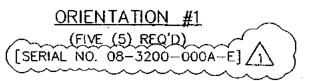
HEAT NUMBER

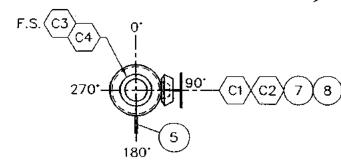
STD BW CAPS A234-WPB

1	٠.					ι		JUIL	טטנ	-L							1		DILL OF MATERIALS	
MA	Ðν	NO.	<b>5</b> 50				NOZZIE	1107715	WELD	WE	LD SIZE	: F	ROJE	стон	· · · · · · · · · · · · · · · · · · ·		ITEM	QTY	DESCRIPTION	MATERIAL
l w.c	IKIN.	REQ'D	SERVICE	SIZE	RTG.	TYPE	NOZZLE O.D.				"B" "C	.,,		01470005	ITEM	REMARKS	1	1	SHELL: 8" SCH 40 SMLS PIPE x 4'-0" LG. (BBE) 122835	SA-106-B
<del>                                   </del>				<u> </u>	ļ <u> </u>			·		_^_		, [ IN	IZIDE	OUTSIDE			2	2	HEADS: 8" SCH 40 BW CAP (0.2817" MIN. THK.) 703931	SA-234-WPB
<b>}</b>	21		SIGHT GLASS	2"	CL3000	T.O.L.			2	1/4"		-	_ ]		3	MAX. HOLE THRU SHELL=2 1/4**	3	1	2" CL3000 T.O.L. (10-8) 570 f2	SA-105N
	2	!	VENT	. 1"	CL3000	T.O.L.	_		2	1/4"		-   -	-	-	4		4	1	1" CL3000 T.O.L. (10-6) 57383	SA-105N
- t	3	1	GAS INLET	-2"	CL3000	T.O.L.	· -	_	2.	1/4"	<u> </u>	-	·	_	6	MAX. HOLE THRU HEAD=2 1/4*#	5	1	FB: 3/8" THK. x 3" x 30" LG.	SA-36
C	4	1	GAS OUTLET€	2"	CL3000	T.O.L.	<u> </u>		2	1/4"		-			6	MAX. HOLE THRU HEAD=2 1/4*#	6	2	2" CL3000 T.O.L. (FLAT) 57082	SA-105N
			i i					<del></del>									7	1	NAME PLATE BRACKET	SA-36
			• •	<b>9</b>			•										8	1	PYRAMID STANDARD NAME PLATE	SS









ORIENTATION #2

(FIVE (5) REQ'D)

[SERIAL NO. 08-3200-000F-J]

## SHOP NOTES

- 1. ALL BOLT HOLES STRADDLE HORIZONTAL AND VERTICAL CENTER LINES
- 2. CLEAN ENTIRE VESSEL OF WELD SLAG AND OTHER FOREIGN MATERIAL
- 3. ALL FLANGES TO BE COVERED WITH FLANGE COVERS, ALL CPLG/T.O.L.'S TO BE PLUGGED WITH PLASTIC PLUGS PRIOR TO SHIPPING

YRAMID

- 4. ALL MISCELLANEOUS AND ATTACHMENT WELDS SHALL BE 1/4" FILLET WELDS UNLESS SHOWN OTHERWISE
- 5. COATING SPECIFICATIONS

SURFACE PREP: - EXTERNAL: NONE

PRIMING: - EXTERNAL: NONE

- INTERNAL: NONE

FINISH: - EXTERNAL: NONE

– INTERNAL: NONE6. IMPACT TEST EXEMPTION(S):

-EXEMPT PER UG-20(f)

7. EXEMPT FROM A.B.S.A. INSPECTION PER U-1(j)

8. FACTOR DIAMETER INCHES (FDI): 35 INCHES

All welds By M (TE)

# REVISED DRAWING

DATE JUN 02 2008

	1. CIRC. SEAMS	2. O'LET	3. MISCELLANEOUS
-	75		
	WPS: PEC-6R2	WPS: PEC-6R2	WPS: PEC-6R2

	DESIGN	DATA	
CONSTRUCTION:		ASME SECTION VI	II DIV 1 2007 EDITION
internal design pressur	Œ:	550	PSIG 6 600F (MAX)
external design pressi	JRE:	c	PSIG @ 600F (MAX)
HYDROTEST PRESSURE:			715 PSIG
MINIMUM DESIGN METAL, T	EMP.:		-20∓ <b>♦</b> 550 PSIG
CORROSION ALLOWANCE:	1/16*	RADIOGRAPHY:	100% PER UW-11(a)
P.W.H.T.:	NONE	VOLUME:	1.45 ft <sup>3</sup>
WEIGHT (EMPTY):	152 LB	WEIGHT (TEST):	217 🖽
C.R.N.: OH5228.23 REG. OWG.: PV-	061 REV. 3	SERIAL NO.: 08-	3200-0000A THRU J
CRUC-OH5228.23 RES. DWG.: PV-	-061 REV. 3	SERIAL NO.: 08-	-3200-0000A THRU

## PYRAMID PROCESS FABRICATOR

MSKU , ALBERTA , CANADA / Inverpretridiotelectors.com

			8ULLET	жG
	3200-0000	O/CHE		PC COMPRESSION
D. 1002	TBA	\$4C	TEA .CA	TBA
(10)-11	ILT.S.	-	B-08-3200-000	0-001 **1

1 DER DM REVISED SERIAL NO. DESIGNATION JUN02/08  - 0 DK DK DK DM JM ISSUED FOR CONSTRUCTION MAY29/08  DRAWING NO. DESCRIPTION REV. BY OFFICE WAY. DESCRIPTION DATE		REFERENCE DRAWINGS		٠.	1 87	ENG R	ucac.	REVISIONS	1
	DRAWING NO.	DESCRIPTION	REV	BY	OEDE	OF SO	MOGET	DESCRIPTION	DATE
1 OKER DM M. REVISED SERIAL NO. DESIGNATION JUN02/08	-	[-	0	DK	DK	DM'	JM	ISSUED FOR CONSTRUCTION	MAY.29/08
			1	o <u>⊬</u> €	~	W	M	REVISED SERIAL NO. DESIGNATION	JUN.02/08
							1		

### **ALBERTA MUNICIPAL AFFAIRS**

ABSA, the pressure equipment safety authority  $9410-20^{\rm th}$  Avenue

Edmonton, AB T6N 0A4

" RECEIVED JUL 2 8 2008

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

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

Au moment de l'exp province d'installatio	-				-					•			bureau	de l'i	inspecte.	ır en ch	ef de	e la
Manufactured by Construit par			nd address of							et, Nis	ku, Albert	a, T9E 7	722		••••			
Manufactured for Construit pour			nd address of ompress			-					on représentan T9E 7Z2	i			<del></del>			
Ultimate owner Utilisateur		Name a	nd address/ A	om et a	dresse													
Location of installa Lieu d'installation	tion	Name a	nd address/ A	om et a	dresse													
Pressure vessel/	App	oareil																
Type/ Genre Bullet				ŀ	Overall L <b>4'-0" S</b> /3	-	VLonge.	ır totale		Serial N	lo./ N° de sên	e			Year bui 2008	ill/Annés	de fa	abrication '
Provincial Registration POH5228.23	No (	C.R.N./Nº d'en	registremen	provin	ncial - N.E	.c.				08-320	0-0000A	<del></del>			Drawing PV-061	-		dessin
The chemical and phys Les propriétés chimique													ASME.			<del></del>		
The design, construction La conception, la constr							Sec	ASME ction			Division 1	1	Adden	da/Sa <b>20</b> 0	upplément 07		de ca: de ca	se No.
Manufacturer's partial report: Les repports partiels du Names of parts/ Nom de	constr	rucleur adgéua		tifiés et	t signés p	ar les	inspect	eurs au	thorise	és ont ét		ur les item:	s suivant	s du i	-	attaché	s à ce	rapport:
Sheil/ Virole																		
Description		Material Matériau	Thickness Épaisseur	Com Allow Suré de c	w. épais.	Diame Diame			Joints R	itudinal J i longitud T.		P.W.H.T. Trailemen	t therm	_	Girth Joint Joints de d		ence	Number of courses Nombre de sections
	CA	400 C= D	A 200P	1	0057			Туре		ediog.	Efficacité	Temp.	Duré		Туре	Radio	<b>g</b> .	
8" Pipe Shell	SA-	106 Gr. B	0.322"	0.00	625"	B.62	<b>5</b> "		+			··	1	4	1	Full	<del>,</del>	1
44 4 1 4	L																	
Heads/ Tetes		<del></del>	1		Corr.		Crown		L'aux	vido.	Ellipse Ratio	Conio	al	Llas	I	Flat		C:1- 4-
Description		Material Matériau		hickn. <i>mini</i> m,	Allow Surép Corr.		Crown Radiu Rayon couror	s 7	Knud Radi <i>Petit</i>		Rapp. ellips		Angle	Rad		Flat Diamet Diam.p		Side to pressure Côle sous pression
8" Pipe Cap	S	SA-234-WPB	0.28	2"	0.062	25"					2:1							Concave
8" Pipe Cap	S	SA-234-WPB	0.28	?"	0.062	25"					2:1							Сопсаче
Removable bolts used (de Boulons amovible utilisés (									Mati	Spec./ S	ipėc. du mat.			Gra	de		Size	l Dimension
Pressure - Tempe	ratu	rei Pressio	n - temp	ératu	ire													
Pressure Vessel Part Partie de l'appareil		Constructed for pressure Construit pour de marche per	une pressio		٠ ا		ax, temp e temp, r			Minim Temp.	um design me <i>min.</i>	tal temp.	Pres		d'epreuvre			combination) atique ou
Bullet		550 PSI				600	F			-20 1	=		715	PS	il			

Tube Section/ Fa	aiscear	i tubula	ire											AB-24 (Sid€
Tubesheet/ Plaque tube			Material/ M	latériau		Diameter/ Di	iametre		lominal Thi paisseur n			Allow. país. con	rosion	Attachment Mode d'attachement
Tube material/ Materia	u des tube	ės	Diameter/	Diametre		Nominal Thic Épaisseur no	ckness (gauge) ominale (calibre)	N	umber/ Nb	re	Type Type	(Straight (Droit or	t or U)	Heating Surface Surface de chauffe
L Jacket/ Chemise		<u>-</u>			i			ل						<u> </u>
Type of jacket/ Genre of		e Ja Fe	cket closure rmeture de			Proof Test Pression o			Heating Surface	Surface de chauffe			Sketch/	Schéma
Safety Valve Out	lets/ S	oupape	s de sûi	eté										
Number/ Nombre	Đimo	ension			L	ocation/ Endro	oit					•	•	
Nozzles and Ope	eninas/	Tubulo	ıres et o	uvertur	es									
Purpose <i>i But</i>		Number Nombre	Dimen		Тур	e	Material Matériau	Th Ép	ominal nickness paisseur ominale	Reinforce material <i>Matériau</i> de renfon		How attach Genre d'attac	3	Location/ Endroit
Sight Glass, C1		1	2"	30	00# TO	)L SA	N-105N	0.	2970"			UW-1	6.1(c)	Shell
Vent, C2		1	1"	30	00# TO	L SA	\-105N	0.:	2413"			UW-1	6.1(c)	Shell
Gas Inlet, C3		1	2"	30	00# TO	L SA	\-105N	0.2	2970"			UW-1	6.1(c)	Bottom Head
Gas Outlet, C4		1	2"	30	00# TO	L SA	\-105N	0.2	2970"			UW-1	6.1(c)	Top Head
		·								·				
					•									
Supports/ Suppo	orts													
Skirtl Jupe Yesl Oui Nol Non	Lugs/ O No./ Nb			Legs/ Pi No./ Nb/			Other/ Autres (De Bolting Plate	scrip	tion)			(Where	ed/ <i>Attach</i> e and How By <b>Weld</b>	l Méthode et endroit)
	vations	(Cubi	ical capa	acity/ Vo	olume	<del>)</del>								
Remarks/ Observessel Fabrical Vessel Volume Vessel Impact	ted to = 1.4 Test E	Dwg # 5 cu. f Exempt	B-08- t (0.04) per U0	3200-0 l cu. m G-20(f)	1000- 1) 1	001 Rev	. 1							
Certificate of Compl	iance/ (	Certificat	de confo	rmité										
We certify that the sta said vessel has been design below and the	constru	cted in a	ccordance	with the	Provin	ect and that icial Registe	the ered							
Nous certifions que le et que l'appareil a été dessous et les exigen	constru	iit en acc	ord avec l	'enregisti										
Provincial Registered Enregistrement provin			23				~							
Manufacturer Constructeur Pyran	nid Proc	cess Fab	ricators				_							
Signature 2	(Represent	Lative)	<u>£</u>	Date	ly	23/28								
Signature David		nafie	<u>ul</u>	Date 7	آبلي	23/00	_							

# **Travel Sheet (Front)**

No. PPF-GN--FF-045 Rev. 0

DO N	OT START CONSTRUCTION W	VITHOUT	AI REVIEW		······			TRAVEL SHEET REVISION No.:						
A.I. RI	EVIEW:	•						REVIEW DATE:						
ŞERIA	L No: 08-3200-0000 🛱		JOB No	.: 3200-0	000			VESSEL TYPE: Bullet						
<b>——</b>	VING No: B-08-3200-0000-0	01	DWG REVISION No.: 1 TRA			VE	LSHEET	INITIATI	ON BY: D	M				
Seq.	ftem ·	1	mments	Q.C.I.	Date		i. Hol		A.I.	Date	Owner	Date		
1.	Calculations in File								-					
2.	Release of App'd Dwg.													
3	Materials Examined				]									
4.	Heat Numbers Recorded													
5.	MTRs Checked													
6.	WPS(s) checked	·.			- 1				$\mathcal{O}_{\mathcal{O}}}}}}}}}}$					
7	Welder(s) Qualified				:									
8.	Thickness Verified &	1								-				
	Recorded							_						
9.	Shell(s) & Head(s) Fit-up Inspection													
10.	Nozzle & Fitting Fit-up Inspection										,			
11.	Nozzle Orientation					•								
12.	Nozzle & Flange Rating Checked													
13.	Impact Tests		-											
14.	Internals Checked			1										
15.	Final Internal Inspection	Shell Sid Tube Sid		<del> </del>										
16.	Weld Sizes Checked											·		
17.	Welder I.D. Checked				-		-				·			
18.	Final External Inspection													
19.	Radiography													
20.	Other NDE				·	٠.								
21.	Final Ext. Prior to P.W.H.T.				<u> </u>		٠							
22.	PWHT Chart Checked													
23.	Hydrostatic Test	Shell Side Tube	Gauge #											
24	CDN Drawing	Side CDN# C	OH5228.23					$\dashv$						
24.	CRN Drawing NCR#	CKIV# C	JH3ZZ6.Z3											
25.									·	-				
26.	Nameplate Stamping  Manuf. Data Report		<u></u>	+				-			•			
27.	Completed & Verified								· 					
28.	Nameplate Installation	<u> </u>						_						
				1				- 1			i			

The Authorized Inspector shall be presented with the Travel Sheet prior to construction so that he/she can designate additional inspection points and/or Hold points. Any revisions shall be marked with a delta symbol with revision number and described at the bottom of this page.

<sup>\*</sup>Denotes an A.I. inspection Point \*\* Denotes an A.I. Hold Point

MATE	RIAL THICK	NESS VERIFICATION	AND IDENTIFICATION		WELD	ER I.D. / V	VELDER S	YMBOLS / 8	IT-UP	
Description	Thickness	Material Spec & Grade	Heat & Plate Identifier or ID Number	Weld ID	Welder Symbol	Fit-up Exam.	Weld ID	Welder Symbol	Fit-up Exam.	Verify Type 1 joint
Sheli#1 8"	Sc H40	SA-DG-B	U2284/	L-			C-			
Shell#2				L-			C-			
Shell#3		1		L-			C-			
Shell#4	-			L-			C-			
Shell#5		<del>                                     </del>		L-			C-			
Shell#5	<del>                                     </del>		-	L-			C-			
Head#1 8"	SCAYO	5A-234-WPB	703931		y.		C-			
Head#2 🔗 "	SC#40	5.4-234WAB	703931		У		C-			
Head#3					<u> </u>		C-			
Head#4	1						С-			
Boot #1 Shelf				L-			C-			
Boot #1 Head	<b>†</b>						C-			
Boot #2 Shell				L-			C-			
Boot #2 Head							Ç-			
Cone				L-			Ć-			

TA	TACHMENT AND /	OR NOZZLE M	ATERIAL THICKNES	S VERIFICATION	AND IDENTIFICATION	WE	LDER SYM	BOLS / FIT	-UP
Mark	Mat. I.D.	Neck	Fitting	Flange	Repad or Attachment	Cat. B	Cat. C	Cat. D	Pad OD
	Spec-Grd		54-105N					У	
	Thk./Rating		C43000	· ·	<u></u>	-			
<b>2/</b>	Heat# or ID		57062						
	Spec-Grd		S4-105N			,		Υ	
	Thk./Rating		CL3000						
(2	Heat# or ID		57383					- 	
	Spec-Grd		SA-105N					<u> </u>	
	Thk./Rating		C13000						
c3_	Heat# or ID		57062						
	Spec-Grd		SA-105N					У	
	Thk./Rating		c/3000						
C4	Heat# or ID		57062						
	Spec-Grd								
	This /Rating								
	Heat# or ID					***	:		
	Spec-Grd								
	Thk./Rating								
	Heat# or ID								
	Spec-Grd								
	Thk./Rating						ļ. <u></u>		
	Heat# or ID								
	Spec-Grd								
	Thk./Rating								
	Heat# or ID								

(S) Q,



2308 – 8<sup>th</sup> Street Nisku, AB. T9E 7Z2 (780) 955-2708

# PRESURE TEST PROCEDURE/CERTIFICATE

Hydro Test Date: JUNE 11 /08	Job Number: 3200-0000
Hydro Test Number: 3200-0000-01	Customer: PC COMPRRESSON
Spool Number(s): BOTTLES – A,C,H.	· .
DDOCEDIDE.	
PROCEDURE:	Test Temperature: 50°F (10°C) Min.
Test Pressure: 715 psi Test Medium: Water	Test Medium Quality Statement: Attached
- Pressure to be raised from 0 psig to71:	
- Pressure to be held at715 psig for	60 min.
- Pressure to be lowered from715 psi	g to 0 psig.
must be installed on the test pump.  5. The QC inspector is to be notified after 50%	ing filling.  re.  highest point and lowest point of the system, and one  of the holding time has expired.  st is accepted by the QC Inspector and Client's Inspector,  ttions.
ACTUAL TEST RESULTS:	
Test Pump Pressure Gauge No.: 043	High Point Pressure Gauge No.: 045
Low Point Pressure Gauge No.: 042	Temperature Gauge No: 419193-1
Test Medium Used: Water	Actual Medium Temperature: 60 °F
Actual Test Pressure: 717 PSI	Actual Holding Time: 60 Minutes
Comments:	
welds or equipment  Hydro Test Performed By:	the equipment described was free of leaks due to defective
Signatu	re Date
QC Inspector:	JUNE 11/08 Date
Owner's Representative: Signate	nre Date
Authorized Inspector: ( if applicable)  Signature	nre Date



### Weekly Water Quality Parameters for Industrial Customers

The following water quality parameter table is updated daily as a service to our Industrial Customers who require this data for their process operations.

This data, however, comes directly off EPCOR's computerized water quality monitoring system and has NOT been validated. Use it as a guideline only. For verified monthly data see the extensive information on our main web site at quality assurance

Last updated: June 10, 2008

	Jun-03	Jun-04	Jun-05	Jun-06	Jun-97	Jun-08	Jun-09
ELS Zone <sup>(1)</sup>					' ,		
Hardness (mg/L CaCO <sub>3</sub> ) <sup>(2)</sup>	168	170	169	171	176	172	174
рН <sup>(3)</sup>	7.72	7.70	7.71	7.66	7.73	7.75	7.74
Temp. °C	14.4		12.6	12.5	11,3	10.3	9.2
Chlorine Residual (mg/L) <sup>(4)</sup>	2.04	1.51	1.15	2.01	2.05	2.01	1.97
Alkalinity (mg/L) <sup>(5)</sup>	113	112	113	116	<b>11</b> 1	112	117
Conductivity (µS/cm) <sup>(6)</sup>	455	463	464	467	471	470	482
Caustic Soda Dose (mg/L) <sup>(7)</sup>	30.1	23.0	14.9	29.1	32.0	31.7	35.0
Rossdale Zone <sup>(1)</sup>							
Hardness (mg/L CaCO <sub>3</sub> ) <sup>(2)</sup>	164	161	160	167	169	165	161
рН <sup>(3)</sup>	7.64	7.64	7.66	<b>69</b>	7.68	7.75	7.69
Temp. °C	15.2		15.6	15.7	15.4	14.4	13.1
Chlorine Residual mg/L <sup>(4)</sup>	2.01	2.02	1.86	1.88	1.96	2.04	2.05
Alkalinity (mg/L) <sup>(5)</sup>	111	110	107	105	108	109	107
Conductivity (µS/cm) <sup>(6)</sup>	371	371	376	400	400	400	400
Caustic Soda Dose (mg/L) <sup>(7)</sup>	22.5	26.1	28.4	29.4	28.9	24.6	27.3

Note: All results are daily averages leaving the water treatment plants. The numbers in the distribution system may vary because of detention time and mixing in the system, and a slow decrease of the chloramine residual.

E.L. Smith primarily supplies the Northwest, West and Southwest and University area Rossdate primarily supplies the Downtown, East, Northeast and Southeast areas. However, depending on daily pumping and demand variations there is a large crossover region where water can be supplied from either plant at any time.

### (2) Hardness

<sup>(1)</sup> Supply Zone

Water hardness is the result of dissolved minerals, usually calcium and magnesium. The North Saskatchewan River picks up these minerals as it flows over limestone rock. The North Saskatchewan River water is moderately hard, about 165 milligrams of calcium carbonate per litre (165 mg/L) on average. There are no health effects associated with calcium and magnesium minerals so there are no drinking water guidelines established for hardness.

(3) pH

One of the main objectives in controlling pH is to produce water that minimizes pipe corrosion or hardness scale build up. Pipe corrosion may become significant in our water at pH levels below 7.5, and scaling problems increase at above pH 8.5. As a comparison, soft drinks have a pH of 3 and drugstore antacids have a pH of 10. EPCOR's water has a yearty average pH of 7.8.

### <sup>(4)</sup> Chlorine, (Total Residual)

In EPCOR's distribution system, the total residual chlorine is composed entirely of chloramine. Chloramine is a disinfectant that results when chlorine is combined with ammonia. It is a much weaker disinfectant than free chlorine but it stays in water longer, is more stable in distribution systems, and can more effectively penetrate any film or deposit on a pipe to kill bacteria. Our approval sets limits of 0.5 - 2.5 mg/L for drinking water. EPCOR's treated water contains an average of 2.19 mg/L.

(5) Alkalinity (mg/L)

Alkalinity in water is primarily a measure of the carbonate and bicarbonate ions dissolved from minerals in the rock that the water passes over. In our water, at pH levels of 7-8, it is almost all bicarbonate ions. Bicarbonate is not a regulated parameter and is not a health concern. At high levels, alkalinity can combine with calcium hardness to produce deposits of calcium carbonate. Moderate levels of alkalinity help minimize corrosion (very low alkalinity water tend to be more corrosive).

(6) Conductivity (µS/cm)

Conductivity is a measure of the ability of ions in water to carry an electric current. Conductivity is a good measure of the total amount of salts in solution (e.g., calcium, magnesium, sodium, potassium, carbonate, bicarbonate, sulphate, chloride, nitrate, and others). During spring runoff, conductivity will generally increase because of road salt being washed into the water. The conductivity of EPCOR's water averages about 350 µS/cm.

### (7) Caustic Soda Dose (mg/L)

Caustic soda (NaOH) is added to the water to raise the pH to its required level to minimize pipe corrosion or hardness scale build up. Sodium makes up 0.58 mg/L of every 1 mg/L of caustic soda added to the water. The raw water has an average sodium level of 5 mg/L that varies from 3 - 8 mg/L (2000 data) but can be a bit higher on a few days a year when street runoff contains more salt. Therefore an estimate of the treated water sodium level would be [5 mg/L + caustic soda dose \* 0.58]. Using this estimate, a caustic soda dose of 25 mg/L would result in a treated water sodium level of 20 mg/L. The aesthetic objective for sodium in drinking water is less than or equal to 200 mg/L while for those on sodium restricted diets it is recommended to have less than 20 mg/L in the water.



# **CALIBRATION CERTIFICATE**

### Pressure and Temperature Measurement

WIKA Instruments Canada Ltd. 3103 Parsons Road Edmonton, AB T6N 1C8

> Tet: 780 · 463 · 7035 Fax: 780 - 462 - 0017

www.wika.ca

Bi-Metal End User: Pyramid Process Fabricators 419193-1 WIKA Rep.: N/A ±1% of full scale Purchase Order No.: 612652 Calib. Ambient Temp. 23 °C WIKA job No.: 419193 2008-02-25 CAL - 1001 Calibration Procedure:

Actual Temperature (°C)	PUT Output (mV)	PUT Output (°C)	Deviation from Actual (°C)	Acceptable Tolerance (°C)
-5.0	N/A	-4.5	0.5	0.6
25.0	N/A	25.0	0.0	0.6
50.0	N/A	49.5	0.5	0.6
				•

### Standards and Instrumentation Used:

**PUT Type:** 

Tolerance:

Calib. Date:

**PUT Tag No.:** 

### Calibration Equipment is Traceable to NRC/NiST

Item	Model	Serial Number	Last Calibration	Calibration Due	
Multimeter	Keithley 2001	521696	2007-10-30	2008-10-30	Х
Multimeter	Keithley 2001	0546867	2007-06-25	2008-06-25	
T/C Calibrator	Ectron 1120	25151	2007-11-06	2008-11-06	
Mikron	M300	34714	2007-11-09	2008-05-09	
Thermocouple	Type 'S'	ATS96-1	2007-07-18	2008-07-18	
PRT	5626	0837	2007-06-07	2008-06-07	
PRT	5626	1603	2007-04-24	2008-04-24	Х

NOTES:	PUT = Probe Under Test PRT based on ITS-90 temperature scale	= Platinum Resistance Thermomete	er
All camprations are	e based on 11 5-90 temperature scal	<del>5</del> .	
			···
Q/A or Eng'g Mgr.:	Harry	Technician:	BR

00506, Rev.7, 2005-11-2, 1/1

Burnaby Tel: (604) 299.3855 Calgary Tel: (403) 237.5960

Fort McMurray Tel: (780) 791.9995 Grande Prairie Tel: (780) 357,0386

: Saskatoon Tet. (306) 664,1105

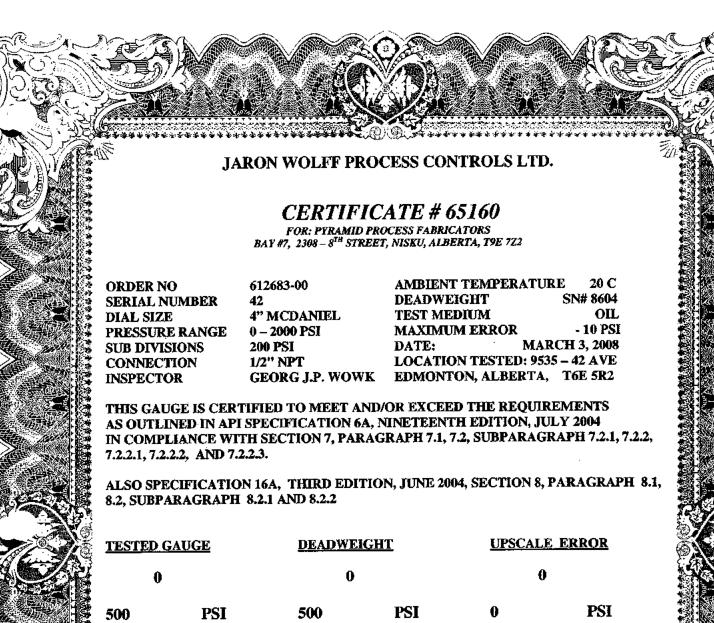
Oakville Tel: (905) 337,1611

Sarnia Tel: (519) 344.1339

Montréal Tel. (\$14) 332,0330

Quebec City Tet: (418) 952,7779





TESTED (	<u>GAUGE</u>	<u>DEADWEI</u>	<u>GHT</u>	<u>UPSCALE</u>	ERROR
0		0		0	
500	PSI	500	PSI	0	PSI
1000	PSI	1010	PSI	-10	PSI
1500	PSI	1510	PSI	10	PSI

**Dustin Petersen** 

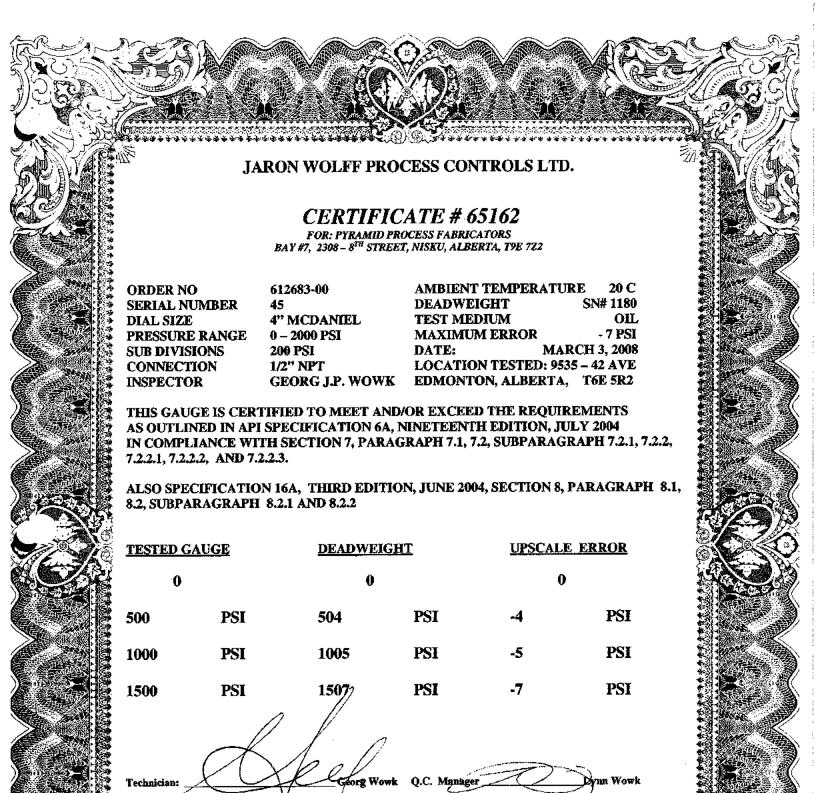
Q.C. Manager

Łynn Wowk

Invoice PCL-001704/KA

\*\* ALL TEST EQUIPMENT IS TRACEABLE TO N.I.S.T. STANDARDS

\*\* CUSTOMER STANDARD DOCUMENT #CS-001



Invoice PCL-001704/KA

<sup>\*\*</sup> ALL TEST EQUIPMENT IS TRACEABLE TO N.I.S.T. STANDARDS

<sup>\*\*</sup> CUSTOMER STANDARD DOCUMENT #CS-001

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Page 1

Buffalo Job No: 08-5607

**Date:** June 11/08 **P.O.#:** 613 372

# NON-DESTRUCTIVE EXAMINATION

# BUFFALO INSPECTION SERVICES (2005) INC.

Edmonton, Alberta T6E 4N3 8403 Davies Road N.W.

Phone: (780) 486-7344 Fax: (780) 486-4685

Email: reception@buffaloinspection.com

CLIENT: Pyramid - Nisku Customer Job #: 3200-0004

DESCRIPTION: Spools 9

REG: 3

HOURS:

OTHER:

LOCATION: Fab Shop - Nisku

MATERIAL M PEOPLE HAZARDS INDENTIFIED:

Commonweight   Comm						]				Į.	7	3		
26 mates         Weder         Weder         DRW#         Material         Prop #         Serveiry         Code         Comments         25           6° s40         Y         1         3200-0004-A         P1         4A         1         A         1         A         7         7           8° s40         Y         2         3200-0004-H         P1         4A         1         A         1         A         1         A         A         1         A         1         A         A         1         A         A         1         A         A         1         A         A         1         A         A         1         A         A         1         A         A         1         A<	mptete Pener mptete Pener mai Concavit	ration	BT - Burn	W Bead Through a factusion		osity 3 n Hole	RC - Re C C - Crack RL High I	<sup>2</sup> φ Low	1 - ASM 2 - ASM 3 - CSA	E B31.3 S/C E B31.3 S/C Z662 %		8 - API-620 9 - API-650 10 - Other Custs	omer Spec and 5	ode !
8° 540 Y 1 3200-0004-A P1 4A 1 1	n No.	Size & Thickness Plus Code max reinforcement	Welder ID		DRW#	With the second	aterial	Proc#	Severity	Code	-	- W- 4	Accept	Reject
8° 540	12	8" s40	<b>*</b>	_	3200-0004-A		la la	44		_			>	
8° 540 K 1 3200-0004-H P1 4A 1 1 8° 540 K 2 3200-0004-H P1 4A 1 1 8° 540 K 2 3200-0004-B P1 4A 1 1 8° 540 H 1 3200-0004-B P1 4A 1 1 8° 540 T/Y 1 3200-0004-G P1 4A 1 1 8° 540 T/Y 1 3200-0004-G P1 4A 1 1 8° 540 T/Y 1 3200-0004-C P1 4A 1 1 1 8° 540 T/Y 1 3200-0004-C P1 4A 1 1 1 8° 540 T/Y 1 3200-0004-C P1 4A 1 1 1 8° 540 T/Y 1 3200-0004-C P1 4A 1 1 1 8° 540 T/Y 1 3200-0004-C P1 4A 1 1 1 8° 540 T/Y 1 1 3200-0004-C P1 1 1 1 1 8° 540 T/Y 1 1 1 1 1 1 1 1 1 8° 540 T/Y 1 1 1 1 1 1 1 1 1 1 8° 540 T/Y 1 1 1 1 1 1 1 1 1 1 1 8° 540 T/Y 1 1 1 1 1 1 1 1 1 1 1 1 8° 540 T/Y 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 8° 540 T/Y 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	72	8" s40	Ϋ́	2	3200-0004-A		la la	4A		-			>	
8" 340 K 2 3200-0004-H PI 4A II 8" 340 H 1 3200-0004-B PI 4A Slight I P 8" 340 T/Y I 3200-0004-G PI 4A Slight I P 8" 340 T/Y I 3200-0004-G PI 4A Slight I P 8" 340 T/Y I 3200-0004-C PI 4A Slight I P 8" 340 T/Y I 3200-0004-C PI 4A Slight I P 8" 340 T/Y I 3200-0004-C PI AA Slight I P 8" 340 T/Y I 3200-0004-C PI AA Slight I P 8" 340 T/Y I 3200-0004-C PI AA Slight I P 8" 340 T/Y I 3200-0004-C PI AA Slight I P 8" 340 T/Y I 3200-0004-C PI AA Slight I P 8" 340 T/Y I 3200-0004-C PI AA Slight I P 8" 340 T/Y I 3200-0004-C PI AA SINT Level I # 3800 I 8" 340 T/A TARINEE POWN I TRAINEE PASNT Level I # ASNT Level	63	8" s40	$\times$		3200-0004-Н		I.	4A					>	
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8" s40         Y         2         3200-0004-C         PI         4A         Slight         1         P           6" March Control Thomas         1 C.E.D.O. # 12445         1 C.E.D.O. #         1 C.E.D.O. #         1 TRAINEE         ASNT Level II # 0800 I           Todd Rubner         1 C.E.D.O. #         1 TRAINEE         ASNT Level II #	6)	8" s40	Υ	-	3200-0004-C		IZ.	4A	Slight	1	P d		>	
Control Thomas         Level: II         CGSB# 6         ASNT Level II # 08001           Dave Brown         C.E.D.O. # 12445         TRAINEE         ASNT Level II # 08001           Todd Rubner         C.E.D.O. #         TRAINEE         ASNT Level II # 08001	2	8" s40	Ϋ́	2	3200-0004-C		- a	4A	Slight	-	p d		>	
Control Thomas         Level: II         CGSB# 6         ASNT Level II # 08001           Dave Brown         C.E.D.O. # 12445         TRAINEE         ASNT Level II # 08001           Todd Rubner         C.E.D.O. #         TRAINEE         ASNT Level II # ASNT Level I #					-									T
Cold Rubner         ASNT Level II # 08001           Todd Rubner         T.E.D.O. # 12445         TRAINEE         ASNT Level II # 08001														
Condon Thomas         Level: II         CGSB# 6         ASNT Level II # 08001           Dave Brown         C.E.D.O. # 12445         TRAINEE         ASNT Level II # 08001           Todd Rubner         C.E.D.O. #         TRAINEE         ASNT Level II # 08001								-						
Cord Rubner         C.E.D.O. # 12445         Image: C.E.D.O. # 12445					7.7()		-							
Condon Thomas         Level: II         X CGSB# 6         X ASNT Level II # 08001           Dave Brown         X C.E.D.O. # 12445         X TRAINEE         ASNT Level II # 08001           Todd Rubner         X C.E.D.O. #         X TRAINEE         ASNT Level II # 08001														
Dave BrownX C.E.D.O. # 12445TRAINEEASNT Level 1 #Todd RubnerC.E.D.O. #X TRAINEEASNT Level 1 #	Name:	norder 1/2	Lomean	N. S. S. S. S. S. S. S. S. S. S. S. S. S.	Gordon Thomas	Level; I		⊠ cgs	9#6		ASNT Level II # 080		Disc: RT	
Toddi Rubner C.E.D.O. #	tant Nar	ne: Dave Brov	wn					TRA T	INEE		ASNT Level 1 #			
	tant Nar		ner		C.E.D.O. #			X TRA	INEE		ASNT Level 1#			

Buffalo Inspection Services (2005) Inc. guarantees the film quality produced by its technicians; however, no liability will be accepted for faiture of welds or other items radiographed. The interpretation of radiographs is the responsibility of the customer. Liability for film quality is limited to the value of the film only – labour and equipment required to reproduce films will be borne by the customer — unless the customer rejects the film before signing this report, in which case radiographs will be retaken at no cost to the customer. LIMITED LIABILITY POLICY

Customer Rep. Signature: 🛆

Customer Rep. Print:

PYR	AMI	Mate	erial Receiving I	Report entory	Date Material Receive				
Procur	ement D	ata				<del>''</del>			
Purchase (	Order Numbe	er:	613174-00	Shipper:	<u>.</u>		<u> </u>	BHD	
Vendor:			BHD				-	0.10	
Packing	slip;		49443	Shipped Fr	om:		Edn	onton Ah	
Carrier:			Swift Transport	<del> </del>	Coll	ect	IXI	nonton, Ab Prepaid	
Freight E			ST-164	┪	-J 00"	GOL		Prepaid	
Type Of Sh	ipment:			Status Of P	urchase Ord	der:			
		Partial	X Final	г	Incom		IXI	Complete	
Materia	l Details	-							
PO Item	Quantity Received	Unit	Item Code Number		Material De	scripti	ion	Storage	
1	160	FT	462001068		8" Sch40	) A10	6	Location	
2	21.5	FT	462001042		3" Sch40				
3	104.5	FT	462001026		1 1/2" Sch				
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Material Exception Details

PO Item Quantity Unit Material Description Over Short Damage Ordered

Reocrded	By:
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Chris Flynn
Print or Type Name

Supervisor Material Handling

May 15 2008

Date



# 3200 - Material Receiving Register Log

0880																
Weight / Pallets																
Description	Cap, TOL					,										
Date	May 30 2008			<b>-</b>									-			
Vendor	Trans AM															
PO#	613316-00															
MRR	٦										<del>_</del>					



Material Receiving Report Job Number:

Report Number: Date Material Received:

Procur	ement D	ata		3200	<u> </u>		May 30 200	08
	Order Numbe							
	Order Numbe	er:	613316-00	Shipper:			Trong	
Vendor:			Trans Am			┼──	Trans	AIVI
Packing	slip:		E8-30129	Shipped Fro	m:		<b>-</b> .	
Carrier:			Trans Am	<del></del>	Col	lect	Edmont	
Freight (			N/A	┥┕	_ Co	nect	×	Prepaid
Type Of Si	nipment:			Status Of Pi	trahaa- O			
		Partial	X Final	Outlies Of Fi	_	raer: nplete	IXI	Complete
Materia	d Details							Complete
PO Item	Quantity Received	11-14						S4
10	20	Unit EA	Item Code Number	<u> </u>	Material D	escriptio	on	Storage Location
11	10	EA EA	462241068	8	" Cap So	h40 W	PB	
12	10	EA	462501704	<u></u> 1	" 3000# `	TOL A1	105	
13	20	EA	462501707 462501707	2	" 3000# 1	TOL A1	05	
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Chris Flynn Print or Type Name Supervisor Material Handling

June 3 2008

Date

USS Tubular QA -> MTR DEPARTMENT

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TUBULAR PRODUCTS

UNITED STATES STEEL

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14:07:19 10/04/06 F0037988

> TIME: SERIAL NO:

DATE:

(IN ACCORDANCE WITH ISO 10474/EN10204/DIN50049 3.1.b) CERTIFIED TEST REPORT

FAIRFIELD ALABAMA 35064 USS TUBULAR PRODUCTS USS FAIRFIELD WORKS INVOICE NO 0440654 P.O. BOX 599 VEHIOLE UD NS192645 MAR. TO ADDRESS SPECIFICATION AND GRADE P.O. NUMBER E1007806 B-31719 SOLD TO ADDRESS COMCO PIPE & SUPPLY CO DIV OF RUSSEL METALS EDMONTON AB TSJ 2KI TTO2291 04

BOX 457

PIPE CARBON SMLS STD PIPE API 5L-\*43RD EDITION DATED 3/04 PSL-2 GRADE B AND GRADE X42 ASTM A53-\*05 ASTM AIGE-\*04B GRADE B QUAD STENCIL ASNE SASS-\*2004 EDITION ASNE SAIGE-\*2004 EDITION GRADE B CSA Z245.1-02 CAT I GRADE 290 EXCEPT MARKING BLK REG MILL COAT PE BEV 30 DEG MEETING ALL THE APPLICABLE REQUIREMENTS OF NACE STANDARD MR-01-75 \*2002

COND: AS-ROLLED	CH					O.0.2		5 (219	8.625(219.075)		_	o WAL:	35 32	0.322 (8.178)	(8)	ta cana
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PRODUCT	TYPE								<b>!</b>				┿	_		Ž

DECIMAL POSITIONS FOR ELEMENTS ARE INDICATED BY THE LEFT MARSIN, VERTICAL DOTTED LINE OR DECIMAL POINT. CAA 2-0-0 0051485032 TO403B18 529901002

+ NN/6 + (CR+MO+ V)/5 + (CU+NI)/15 < 0.43

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\*C.E. IS BASED ON THE POLLOWING EDUATION(S):

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14:07:19 10/04/06

TIME

TUBULAR PRODUCTS

DATE:

UNITED STATES STREET 8

Ş 10.0/10.0% NOTCH F0037988 MANUFACTURED IN AN 180 9001 CERTIFIED FACILITY - CERTIFICATE #30727. No Repairs by Welding. No Mercury or Mercury compounds are added to the steel and all mercury 5 (8.178) HAZ - HEAT A PFECTED ZONE 27 ş SERIAL NO: 1 2 3 0.322 CHARPY V-NOTCH SUPACT TESTING INVOICE NO 0440654 X 5 칰 REBULTS / COMMENTS ដ GRADE (MM) FS SNO ¥ CERTIFIED TEST REPORT (WACCORDANCE WITH ISO 10474/EN10204/DN150348 3.1.b) bearing equipment is protected by a double boundary of containment. 2/3 \*· \*ED 28 ALSO MEETS THE REQUIREMENTS OF ASTM A106-04B/ASME SA106-2004 ED 8.625(219.075) END OF DATA THIS SHEET \*\* 日本の日日 TESTING / INSPECTION INFORMATION OPGO OD/ID ADDITIONAL MOTES/COMMENTS MPI UT 与 28 ALL MELTING AND MANUFACTURING TOOK PLACE IN THE USA. B-800Y P.O. NUMBER Ë \*NOTE A SEE ATTACHED REPORT FOR TENSILE RESULTS. \*\* END OF DATA \*\* 돸 8 ₽ ä E1007806 COLLARSE × T. TRANSVERSE ij \* 98 82 82 82 83 P31719 8 ģ Ş TEST / WEIPECTION L+ LONGITURINAL END AREA INSPECTION (PLAIN END) SPECIAL END AREA (SEA) INSP AS-ROLLED TTO2291 04
EATERIAL FULL LENGTH VISUAL PRODUCT DESTIFICATION FULL LENGTH DRIFT PULL LENGTH MM PULL LENGTH EMI FULL LENGTH OF 022838 LEGEND

THIS IS TO CERTIFY THAY THE PRODUCT DESCRIBED MERRIN WAS MANUFACTURED, SAMPLED, TESTED ANDIOR HISPECTED IN ACCORDANCE WITH THE SPECIFICATION AND PURFILE THE RECAMBINENTS IN SUCH RESPECTS.

J.T. CLAYTON - MANAGER, Q.A. PREPARED BY THE OFFICE OF:

10/04/06 ă TQ403B18 529901002

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PAGE 2-0-2

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HO UNITED STATES STEEL	D STATE	S STEEL		r	TUBULAR PRODUCTS	RODUCTS				
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CERTIFIED TEST REPORT TUBULAR PRODUCTS

UNITED STATES STREET

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(IN ACCORDANCE WITH ISO 10474/EN10204/DINS0049 3.1.b)

14:01:36 F0038145 SERIAL NO: TIME

10/09/06

DATE:

FAIRFIELD ALABANA 35064 INVOICE NO 0440653 USS TUBULAR PRODUCTS USS FAIRFIELD WORKS P.O. BOX 599 VEHICLE 10 NS1 92983 MAIL TO ADDRESS SPECIFICATION AND GRADE P.O. NUMBER E1007297 SMPPERS NO. P31718 SOLD TO ADDRESS COMCO PIPE & SUPPLY CO DIV OF RUSSEL METALS EDMONTON AR TSJ 2K1 MILORDERNTEMNO TTO2288 03 BOX 457

C.E. ğ Ç PIPE CARBON SMLS SID PIPE API 51-\*43RD EDITION DATED 3/04 PSL-2 GRADE B AND GRADE X42 ASTM A53-\*05 ASTM A106-\*04B GRADE B QUAD STENCIL ASME SA53-\*2004 EDITION ASME SA106-\*2004 EDITION GRADE B CSA Z245.1-02 CAT I GRADE 290 EXCEPT MARKING BLK REG MILL COAT PE BEV 30 DEG MEFTING ALL THE APPLICABLE REQUIREMENTS OF NACE STANDARD MR-01-75 \*2002 ONCOUNT NITE 2350 2350 PSI WALL: 0.322 (8.178) 81.6 MAX: 99.5 HARONESS SCALE: HRB 41.3 B-800v . . . . . ELONG % 100 0.65 HAX Ę AR- AS ROLLED 75, 500 70,000 MAX: 110, 000 8.625(219.075) TEMBLE PSI CR BO END OF DATA THIS SHEET 8 \* 12 OT - QUENCH & TEMPERED SR - STRESS RELEVED Sh CU NI PSI 72,000 49,300 42,000 ä TELO Ž Ž GAUGE H T - TRANSVERSE NR - NORMALIZED 7 \* ₽<u>₹</u> Ę STRIP/L/B TEST TYPE ORIENTATION L.-LONOFIUDBAL U.-UPSET TYPE AS-ROLLED U U22841 \*NOTE PRODUCT PRODUCT MATERIAL CONO: LEGEND

USS Tubular QA -> MTR DEPARTMENT

PAGE DECIMAL POSITIONS FOR ELEMENTS ARE INDICATED BY THE LEFT MARGIN, VERTICAL DOTTED LINE OR DECIMAL POINT. CAA 1-0-0 0051485032 T0403B18 529901002

(CR+NO+ V)/5 + (CU+NI)/15 < 0.43

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\*C.E. IS BASED ON THE FOLLOWING EQUATION(S):

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(188) UNITED STATES STEEL

SHIPPERS NO.

MALL CRIDERWITEM NO

TUBULAR PRODUCTS

CERTIFIED TEST REPORT (IN ACCORDANCE WITH ISO 19974/EN102040/DIN50049 3.1.b) P.O. HOUMBER

10/08/01 F0038145 14:01:36 TIME SERIAL NO: DATE:

0/8/2006 2:02 PM

(init) vi AVG 10.0/10.0% NOTCH no pepairs by melding. No mercury or mercury compounds are added to the steel and all mercury bearing equipment is protected by a double boundary of containment. 23 10 8.178) HAZ · HEAT AFFECTED ZONE AVG ₹ ... <sub>ខ</sub>ដ 0.322 10 10 3 CHARPY VAIOTCH MPACT TEBTING INVOICE NO 0440653 45 5 Ų RESULTS / COMMENTS GRADE COMO GMO Ħ MANUFACTURED IN AN ISO 9001 CERTIFIED FACILITY - CERTIFICATE #30727 2/3 W-WELD 8 \*NOTE C SEE ATTACHED REPORT FOR TENSILE RESULTS. ALSO MEETS THE REQUIREMENTS OF ASTM ALGO-048/ASME SALO6-2004 ED. 8.625(219.075) DATA THIS SHEET \*\* DEG F TESTING / INSPECTION INFORMATION g ADDITIONAL MOTES/COMMENTS 与 OFIET MANDREL SZE 5 ALL MELLING AND MANUFACTURING TOOK PLACE IN THE USA. 9 ! ₽ 뚪 Ē Ē \*\* END OF DATA \*\* 8 å E1007297 COULAPSE ô ×× × T. THAMS VEASE ŽĒŠ \* 8 K P31718 £ ş TEST / INSPECTION ž L - LONGITUDANA SND AREA INSPECTION (PLAIN END) AS-ROLLED SPECIAL END AREA (SEA) MSP TT02288 03 <u>Futl Length</u> Visual FULL LEWOTH OPIFT PRODUCT DEKTIFICATION FULL LENGTH EMI HIN KLONGT TINE FULL LEWOTH UT O1 MILL U22841 LEGEND

ASME SECTION II PART A

DATE 30-421/09 ADDENDA LEDITION INITIAL **BP** 

J.T. CLAYTON - MANAGER, Q.A.

PRÉPARED BY THE OFFICE OF:

10/08/06

DATE

TAIS AS TO CASTIPPT THAT THE PRODUCT DEBCRERED HERBIN WAS MANUFACTURED, SAMPLED, TESTED AND/OR BIGPECTED IN ACCORDANCE WITH THE SPECFELATION AND PULPILLS THE REQUIREMENTS IN GUCH RESPECTS.

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

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UNITED STA	TT09713 89 SOLD TO AND	PIPE CARBON SMLS STD ASTM A106-×04B GRADE MILL COAT PE BEV 30	MATERIAL AS-ROLLED	PRODUCT IDENTIFICATION	C25152 C25152 C35089 C35089	LEGEND: L - LON U - UPS	PRODUCT	C25152 C25152 C25152 C25152 C35889 C35889 C35889

UNITED STATES STEEL

TUBULAR PRODUCTS CERTIFIED TEST REPORT

07:40:47 F0021826

TIME: SERIAL\_NO:

(TYPE B - IN ACCORDANCE WITH ISO 10474/EN10204/DIN50049 3.1.b)

8 00 TO.0/10.0% NOTCH <u>\_\_\_\_\_</u> 8.178) 9 0 23 Ş HAZ - HEAT AFFECTED in (mm) WALL: 0.322 26 24 INVOICE NO 0434856 CHARPY V-NOTCH IMPACT TESTING x 5 F1 LBS 20 24 5 RESULTS / COMMENTS 22 ₩·WELD 223 3ZE X qı/qo 8.625(219.075) TESTING / INSPECTION INFORMATION Q)/Q0 + 32+ 32 TEMP DRIFT MANDREL SIZE DEG 5 SEE **됐** ന ന # - BODY P.O. NUMBER THI ₫ 8 8 Ž 동 E1006696 DATA MIN END OF × I - TRANSVERSE Æ \* SHIPPERS NO. Y19083 aeno aeno END AREA INSPECTION (PLAIN END) 3 TEST / INSPECTION 84 SPECIAL END AREA (SEA) INSP L - LONGITUDINAL AS-ROLLED TT09713 09 MILL ORDER/ITEMNO. FULL LENGTH VISUAL FULL LENGTH DRAFT PRODUCT DENTIFICATION FULL LENGTH EMI FULL LENGTH MP FUEL LENGTH UT C25152 C35089 MATERIAL LEGEND

ADDITIONAL NOTES/COMMENTS ALL MELTING AND MANUFACTURING TOOK PLACE

MANUFACTURED IN AN ISO 9001 CERTIFIED FACILITY - CERTIFICATE #30727.
NO REPAIRS BY WELDING. NO MERCURY OR MERCURY COMPOUNDS ARE ADDED TO THE STEEL AND ALL MERCURY BEARING EQUIPMENT IS PROTECTED BY A DOUBLE BOUNDARY OF CONTAINMENT.
BI MILL
ALSO MEETS THE REQUIREMENTS OF ASTM A106-99/ASME SA106-1998 ED. 1999 GRADE C.

ASTM A186-99/ASME SA186-1998 ED. 1999 \*\* END OF DATA \*\*

ASME SECTION II PART A

DATE 304/21/01

ADDENDA 2007 EDITION INITIAL BA

PREPARED BY THE OFFICE OF J.T. CLAYTON - MANAGER, Q.A.

DATE 83/25/85

THIS IS TO CERTEY THAT THE PRODUCT DESCRIBED HEREIN WAS MANIFACTURED. SAMPLED, TESTED AND/OR INSPECTED IN ACCORDANCE WITH THE SPECIFICATION AND FULFILLS THE REQUIREMENTS IN SUCH RESPECTS.

17:22:00

TUBULAR PRO TS CERTIFIED TES: «EPORT

FAIRFIELD ALABAMA 35064 TUBULAR PRODUCTS USS FAIRFIELD WORKS P.O. BOX 599 VENDOR! TIME: SERIAL NO: (TYPE B - IN ACCORDANCE WITH ISO 10474/EN10204/DIN50049 3.1.b) CSXT708529 MAIL TO ADDRESS P.O. NUMBER 9186186-88 SHIPPERS NO. P97883 SOLD TO ADDRESS TATES STEEL DNDON ON NGA 4N7 MEL ORDER/ITEMNO. TTd2082 03 0 BOX 5388 SSTLUND DIV ACO CORP UNIT

B BLK REG CARBON SMLS STD FIPE API 5L-\*43RD EDITION DATED 3/04 PSL-2 GRADE B AND GRADE X42 ASTM A53-\*04A A:06-\*04B GRADE B QUAD STENCIL ASME SA53-\*2004 EDITION ASME SA:06-\*2004 EDITION GRADE B BLK REC COAT PE BEV 30 DEG MEETING ALL THE APPLICABLE REQUIREMENTS OF NACE STANDARD MR-01-75 \*2002 SPECIFICATION AND GRADE STM ILL

MATERIAL AS-ROLLED	EO					g 8	8.625(219.075	5(215	9.875	<u>ن</u>		5	n (mm) WAL: 8.322		V	8.178	8)	
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DECIMAL POSITIONS FOR ELEMENTS ARE INDICATED BY THE LEFT MARGIN, VERTICAL DOTTED LINE OR DECIMAL POINT. 2842636003 TQ403B62 529901002

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83/23/86

DATE: TIME: SERIAL\_NO:

UNITED STATES STEEL

TUBULAR PRODUCTS
CERTIFIED TEST REPORT
(TYPE B - IN ACCORDANCE WITH ISO (0474/EN10204/DIN50049 3.1.b)

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MANUFACTURED IN AN ISO 9001 CERTIFIED FACILITY - CERTIFICATE #30727. NO REPAIRS BY WELDING. NO MERCURY OR MERCURY COMPOUNDS ARE ADDED TO THE STEEL AND ALL MERCURY BEARING EQUIPMENT IS PROTECTED BY A DOUBLE BOUNDARY OF CONTAINMENT. ALL MELITING AND MANUFACTURING TOOK PLACE IN THE USA.

ASTM A106-99/ASME SA106-1998 ED. 1999 ALSO MEETS THE REQUIREMENTS OF

MNOTE A SEE ATTACHED REPORT FOR HARDNESS RESULTS.

OI MILI

XX END OF DATA XX

ASME SECTION IL PART &

\*NOTE B SEE ATTACHED REPORT FOR HARDNESS RESULTS.

GRADE C.

2007 EDITION INITIAL BA

PREPARED BY THE OFFICE OF J.T. CLAYTON - MANAGER, Q.A.

DATE 03/23/00

THIS IS TO CERTIFY THAT THE PRODUCT DESCRIBED HEREN WAS MANUFACTURED. SAMPLED TESTED AND/OR HISPECTED IN ACCORDANCE WITH THE SPECIFICATION AND FULFILLS THE REQUIREMENTS IN SUCH RESPECTS.

DATE JUN 21/01

ADDENDA

CAA 2-0-0

PAGE

6

3

N

529981882

TQ403B62

2842636003

DATE: 03/23/06 TIME: 17:22:01 PAGE: 1	SERIAL NUMBER:  vendor USS TUBULAR PRODUCTS USS FAIRFIELD WORKS P.O. BOX 599 FAIRFIELD ALABAMA 35864		-
		883.88 7.88.2 9.89.3 9.99.3	
<b>-</b>	VEHCLE ID.	883.9 881.9 881.8 85.4 85.6	
EPORT	MAIL TO ADDRESS	002 82.6 85.3 77.7 85.1	
AR PRODI ESS TEST	P.O. NUMBER 91.05185-00	001 84.9 85.3 85.3	
TUBULAR P	91 <b>06</b> 1	X σ σ σ σ Σ σ σ σ σ	
		ž H Ø B Ø Ø	
	37883	AAR AAR D	
		100 B B B B B B B B B B B B B B B B B B	
STEEL	SOLD TO ADDRESS OR P ND DIV X 5300	SCALE HRB HRB HRB HRB	
SOUNTE STATES	MIL GROEFVITEM NO. TTØ2082 Ø3 SOLD TO ADORE EMCO CORP WESTLUND DIV P O BOX 5300 LONDON ON NGA	HEAT X22828 X22829 X22829 X22829	

00011440 2007288002 质证件号。 200 CENTIFICATE NO:

9

CHINA INDUSTRIAL METAL CO.,

MILL TEST CERTIFICAL 团成芦色杂冶版 恶 品质量用 新集

PANGANG GROUP CHENGDU IRON & STEEL CO., LTD. 年令 躯 CSST

ď

SHIPPING MARKS: Itshitem. 地址: 中蜀 四川 成都市东风南路一号 ADDRESS:No. I South Dongfeng Road, Changdu Sictuan P. R. China 电话:028-84407093 传真:028-84503981 單編:610066 IEL:028-84407093 FAX:028-84503981 P. O. BOX: 610066

ASTM A108-06s/ASME SA108-04ed/API 5L-43ed/NACE MR0175

SEALLESS CARBON STEEL PIPE

CSST2007/368

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2255.250 米; METERS:

6 横: PIECES:

TOTAL

186

95.960

SURFACE DIMENSION ACCEPTABLE ACCEPTABLE ACCEPTABLE 订货规定的对加试验 ADDITTONAL TESTS SPECIFIED IN ORDER ACCEPTABLE 0,31 0,32 0.31 0.32 0.32 装面及尺寸 ACCEPTABLE 0.31 0.30 0.34 0.33 HARDNESS TEST: (HB) 1,435 产品分析或当最@CE 标准值② 实际值图 149 146 149 148 149 8 0.28 - ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE ACCEPTABLE <=0.40 138 150 <=0.40 146 146 150 (=0.40 <=0.40 0<del>\*</del> 0=> 14 (4) \$ RESULT a 0,0004 0,0004 0,0004 0.0004 0,0005 0,0006 0.0005 0.0005 0. 01 0. 01 0. 001 0. 001 0. 014 0. 0005 0. 0005 校的方法(B) 式洋尺寸(E) XKMPLE XKMPLE 45 146 143 3 144 152 0,0003 0.0005 0005 0,0004 光振检验 불 넗 FLATENING TEST (9) 쳶 붊 ä a oi a oi a ooi a ooi a oio a oio 斜过暖出 0.010 0.010 9 9 0.017 0.020 0.014 <u>ت</u> 0 ACCEPTABLE ACCEPTABLE ACCEPTABLE (8) 水压试验 HYDROSTATIC TEST RESULT RING EXPANDING TEST(9) 0.001 0.001 0.01 4.01 0.001 0.001 a. 001 a. 001 平护 哀聯 0.001 0.001 TIME 四 ę 56 25 ğ ğ Š 压力 [53]) PRESSURE 1600 1600 1880 88 8 10 10 10 10 10 α 01 PENSILE TEST (9) 环位试器 0.02 ° 900 13, 488 60.68£ 150 11. 413 5.188 1.097 #Ores QUANTITY, αφ 0.02 0.02 001 (001 a 01 0.02 a 02 a 02 ر 29 £426, 194 AVERAGE 316. 892 0.03 0.02 平均值 268 224 97, 536 121, 920 根数 米数 PIECES MSTERS 5 24, 384 TEST (STANDARD: ASTE A370) 20 朝朝 8 8 20 0 300 0, 01 0.01 a 01 a 01 代 学 成 係 CHENICAL COMPOSITION (%) 000 0.0 8 B样 单值(J) INDEVIDUAL VALUE o Æ C 03 木屋 LENGTE 40rt 40rt 40FT Ş 40FT C 02 0 02 0.07 0.06 0.084 0.09 Q 02 0.02 0.02 0.02 0.02 0.02 0,02 8 ž 9 8 中击战器 IMPACT 海桥(nm) 0.06 0.05 00 00 to 型 14 0.07 0.07 0 08 a 04 8 0.04 0.08 A禁 单值(J) INDIVIDUAL VALUE 0.323 0, 322 0.322 0.322 0.322 0.322 0.006 0.008 व्या ००११ वर्गा 0.00 0.013 0.009 0.00 0.001 0.001 0.61 0.010 0.008 ര. മാഷ്യ വേധങ a 60 | 0.005 | 0.005 | 0.008 | 0.008 | 0.008 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | d. <del>Odej d. das</del> 0.014 8 0 0 0: 005 ### 0. ₽/NPS 開本程 ELONGATION 39. 5 **8** 38. 5 8 8 B Q. 02.5 **മടം | മയ** | മയടെ | <u>മലം</u> METITOD OF SUPPLY 9 0.014 海域化对口文张水本2 38.6 尝 笺 至 쓸 出 9 7 88 0, 59 0. 0.012 47.5 475 抗粒强度 TENSILE 465 478 185 475 2 È ğ ğ 0.45 Ž 쳜 훒 Ę 89 495 13470G1128· £10702997 Y347091129 8 E10702993 | Y947091130 48110402088"(T347091133 TENSILE TEST BATCH AL Y347091127 常 320 325 310 320 5 0.28 0.28 0.25 0.25 /用服器度 VIELD 0.23 C.23 340 325 315 315 P 24 S. , d 710702896 93 J 330 8 É 73-06434 英茶中 HEAT S 以本尺寸 SAMPLE SIZE 0, 22, 0, 21 WINSTS D. 19 0. 20 MUNISISTO. 20 0 20 WENSIS 0 19 0 18 HUYSIS Q. 19 Q. 19 8 8 1 <u>a 21</u> | a 21 륡 8 × ģ 9 0.21 STEEL 中野 PSC1 PSL1 PSL B PSU PSL B PSL I BISTAB B ACELLO 911284 B PALYSIS DIISSA B BIJIII B 31128A 1B ALYSIS ALYSIS LISIS

TO GE DELIVERTED IN THEORETICAL GEGGHT. TO CERTIFY INAT THE PRODUCT HAS BEEN INSPECTED AS PER RELEVANT GORA AS STIPLATED IN THE ORDER, QUALIFIED WITH ALL THE DATA IN

**KILISIS** 

员售负责人: 9

**動根料風**。 #3018 FA APPROVED BY QUALITY MANAGER.

制要时间。 FILLING FORM DATE: 大学 YEAR

10、联准性OSTANDARD VALUE 11、安保低GACTUAL VALUE 12、G合格—ACCEPTABLE

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ADDENDA 2007 EDITION INTIAL BA

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NACE AKOLUS-2007ANACE AKOLTS-2003

EN10204. 3. 1B

6、SMETHOD 政治的企业对 超声检验一切 通磁检验—Lut 调流检验—E?? 《GSANPLE SIZE:C10—10%到借(10%NOTCH)(OR 12,5%) 8、SORIENTATION OF SPECINEY、银向一LGN 接向一TR.9 9、GCARBON EQUIVALENT OF PRODUCT ANALYSIS

DATE 30421/07

000009902

- 原证书号: 2007158005-1 CERTIFICATE NO: 概义: SHIPPING MARKS:

500, 832 \*\*1 和: PIECES: Ş 

CSST

CHIM INDUSTRIAL SOLAL CD., LTD

ASTE ALOG OGE/ASME SALOG OFFI/API SL 4364/NACE MROLTS

SEALLESS CARBON STREL PLPE

CSST2007/168

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23, 864

SURFACE DIMENSION (9) IT 放起定的附加试验 ADDITTONAL TESTS SPECIFIED IN ORDER 表面及尺寸 ACCURATION ACCUPTABLE ACCEPTABLE ACCEPTABLE 137 产品分析联当量@CE 标准值② 女际值@ HARDNESS TEST: (HB) 12 144 82 AATA (9) RESULT 校的方法®は神尺寸G NETHOD SAUPLE SYZE 161 144 FLATENING FEST (9) RECEPTABLE. 用瘤状器 ACCEPTABLE AAM (9) 水压试验-HYDROSTATIC TEST RING EXPANDING TEST (9) 环扩试器 压力FS1 > atifi ŝ 52 1600 RING TENSILE TEST (9) 牙材以邻 10, 601 **東** TONS \*\*\*\*\*\* ----. 平均值 (J) AVERAGE 模数 米数 PIECES WETERS 380, 144 产生试验 IMPACT TEST (STANDARD: ASTR A370) \* 裁狱 23 -----化学成份 B体 单位(J) INDIVIDUAL VALUE 太 LENGTH **\$00**₹ Ę 拠格(町) 解释 ٠. خ AAF 44 (1) INDIVIDUAL VALUE 0.322 0, 322 #Æ 0. D/MPS 原存制 ELUNGATION (%) MELTING CONDITION METHOD OF SUPPLY **编练方式在文数状态**至 笺 98 476 抗拉强度 TENSILE (IPe) ĝ ☻ 拉伸试路 TBNSILE TEST 를 475 490 BATCH NO 231001123 4211807£CY 共争 336 ABIR 現成 YIELD Si HEAT 370 240 中歧块 2CF90 C4 は本子です SAMPLE SIZE (spi) 38 8 STEEL GRADE PSL1 V 200 1120415 1124A D .

EN 10204 3.1, B MEDTS REQUIREMENTS OF NACE MR0175/MR0 103 TO BE DELIVERIED IN THEORETICAL WIGHT.

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TO CERTIFY THAT THE PRODUCT HAS BEEN INSECTED AS PER RELEVANT
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FILLING FORM DATE.

APPROVED BY QUALITY WANAGER.

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**監釈取包**;

HEAT NUMBER

57062

TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #:

S 7 - 1615



2X8-36 CL 3000 FS THREADED PIPET

Manufacturer of Piping & Pressure Vessel Company 4407 Haygood St. Heuston, TX 77022 Phone: 713-695-3633 Fax: 713-695-3526

A Division of BONNEY FORGE

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

We certify that the contents of this report are correct and accurate and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard and that the material conforms to the dimensional requirements of the order. This document is in accordance with EN18264 3.1

Page: 24

SOLD TO: TRANS AM PIPING (CALGARY) 9335 ENDEAVOR DRIVE S.E. CALGARY, AB T38 ØA1

MTR #: 140759

PO #: CI-07-683

SALES ORDER #: C716034 DATE: 12/14/2007

CERTIFIED MATERIAL TEST REPORT

HEAT CODE: 57062

ITEM

14

Quantity

Description

36 - 8 X 2 3M THP A/SA105N

CHEMICAL COMPOSITION:

MATERIAL: A/SA105 01

LADLE

0.009 0.015 S 0.024 81 0.200

CU 0.110 NI 0. 030

CARBON EQUIVALENCY: MECHANICAL PROPERTIES:

LADLE

0.378

PRODUCT

TENSILE PSI 76,875

YIELD PSI 50,375

ELONG X 30. 25%

RA x 63.95%

**HARDNESS** 139 BHN 139 BHN

As Forged

IN ACCORDANCE WITH NACE SPEC MR0175-2002

Marie Dehmer Quality Assurance Representative

ASME SECTION II PART A

2067 EDITION

**ADDENDA** 

INITIAL BA

DATE JULY 21/03



1X3-36 CL 3000 FS THREADED PIPET

Date: 01/22/2008

Sold To: TRANS AM PIPING PRODUCTS

Certified Material Test Report

9335 ENDEAVOR DRIVE S.E. CALGARY AB T35 0A1

LTD

Mtr#: 142,449

PO#: CI-07-683

Sales Order #: C000716034

Heat Code: 57383



of Passas and Propagae Vessel Con

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 welding performed.

We certify that the contents of this report are correct and accurate, and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard, and that the material conforms to the dimensional requirements of the order. This document is in accordance with EN10204 3.1.

Material: A/SA105N 01

Item Quantity

Description 75 36 - 3 X 1 3M THP

A/SA105N

REPLACEMENT FOR LINE# 9

Chemical Composition

Ladle CR CÜ MN NЪ NI 0.200 0.06 0.080 1.05 0.010 0.018 0.03 0.008 s \$I

0.023 0.18 0.000 Carbon Equivalency: Ladie

0.40

Tensile PSJ Yield PSI Elong % RA % Hardness **Product** 71,250 Test Temperature: 47,500 33.15 64.20 130 BHN 130 BHN 0 F

Normalized

ASME SECTION II PART A

2007 EDITION

ADDENDA

INITIAL BA

DATE July 21/0).

Marie Dehmer

Quality Assurance Representative

X100 IMPACT TEST (J) S E 유 OATE: 2007 - 06 - 26 MANAGER OF Q.A. DEPT ORDER NO: 6056/C/06681 8 26.4 ш P.I. NO. 6J09-4 PHYSICAL TEST MAGNETIC PARTICLE EXAMINATION CERTIFI, NO; 342 8 S 95.0 5.68 Ϋ́ ω ~ 36.0 ফু 51.7 TREATMENT (NOTE) ₹ 100 100 z 워호 > <del>č</del> œ ⊽ ACCORDING TO EN10204/DIN50049/3.1 RIGID INDUSTRIES CO., LTD. HARDNESS 134 - 142 INSPECTION CERTIFICATE MAX. 197 HB NACE MR-01-75 & NACE MR 0103 : SATISFACTORY
WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE
WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE
TEST RESULTS SHOWN HEREIN ARE CORRECT. ₹ 50 50 \$ 8. MELCHUNG RD. NIAO-SONO, KAOHSIUNG HSIEN, 83301 TAIMAN TEL: 886.77310527~8 FAX: 886-77315897 Ω8 **4** ∆ DIMENTIONAL MSUAL & CHEMICAL COMPOSITION % z ę 0000 å (NOTE): A: HOT FORMED WITH FINAL TEMPERATURE BETWEEN 620°C: 980°C, AIR COOLING 오출 ð ⊽ MFG NO. ∾£ N. NORMALIZING AT TEMPERATURE 880CX0.5HR,AIR COOLING. 82 703931 ۳.000 x 요 @ QUANTITY PCS ₹6 83 æ R ω<u>ξ</u> 9 N STO ASME SA234 WPB-04 ASTM A234 WPB.07 JIS 63103 SB410 ASME B16.9 . 03 ဂ<u>ဠ</u> PRODUCT & SIZE Ж 1 SEYBOLD NW. ξ MATERIAL CHARGE NO å STANDARD 26831 PURCHASER: NSP. SPEC. CAP MATERIALS STANDARD A S TEX ã L **₹32**₹ STOUCORS PRODUCTS Shipment/Seq :# ΒX **KEA,D** WW PIPING

DATE JUY 21/08

ADDENDA

207 EDITION

SNAAT

HEAT NUMBER

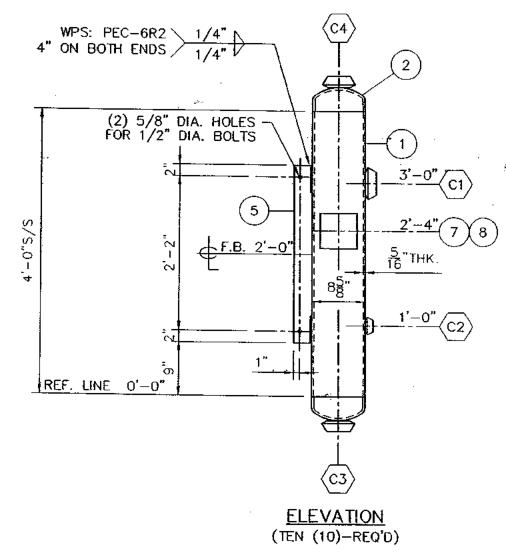
7665D7

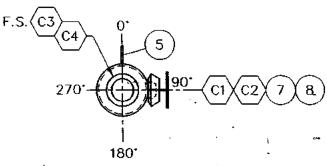
INITIAL 64

ASME SECTION II PART A

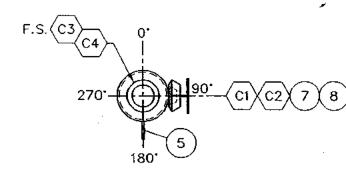
SLD BM CAPS A234-WPB

	<del>,</del>	<u> </u>				YULLL	_ <b>JUIL</b>	.UUL	.E							l		DIEL OF WATENIALS	
MARK	NO.		-			NOZZI C	1107715	MCI D	WELD	SIZE	: PR	OJEC	NOIT	-		ITEM	QTY	DESCRIPTION	MATERIAL
MARK	NO. REOD	SERVICE	SIZE	RTG.	TYPE	NOZZLE O.D.	NOZZLE BORE	DETAIL	L	o" "C	_			ITEM	REMARKS	1		SHELL: 8" SCH 40 SMLS PIPE x 4'-0" LG. (BBE) (12884)	SA-106-B
<u> </u>				<u> </u>					^	3 10	INSE	DE   O	UTSIDE			2	. 2	HEADS: 8" SCH 40 BW CAP (0.2817" MIN. THK.) 12393)	SA-234-WPB
C1	1 1	SIGHT GLASS	2"	CL3000	T.O.L.	. –	_	2	1/4"	-   -		-	-	3	MAX, HOLE THRU SHELL=2 1/4°4	3	1	2" CL3000 T.O.L. (10-8) 25062	SA-105N
C2	1 1	VENT	1"	CL3000	T.O.L.	. –		2	1/4"	_   -		- "	_	4		4	1	1" CL3000 T.O.L. (10-6) 52383	SA-105N
<u>C3</u>	1	GAS INLET	2"	CL3000	T.O.L.		-	2	1/4"	_   _	-   -	_		6	MAX. HOLE THRU HEAD=2 1/4*#	5	1	FB: 3/8" THK. x 3" x 30" LG.	SA-36
<u>C4</u>	1	GAS OUTLET	2"	CL3000	T.O.L.	-		2	1/4"	_   _	- <b>-</b>	- 1	_	6	MAX. HOLE THRU HEAD=2 1/4"	6	2	2" CL3000 T.O.L. (FLAT) 570 多み	SA-105N
								•					•		•	7	1	NAME PLATE BRACKET	SA-36
				_												8	1	PYRAMID STANDARD NAME PLATE	SS
									_	_								•	1 · · · · -





# ORIENTATION #1 (FIVE (5) REQ'D) [SERIAL NO. 08-3200-000A-E]



ORIENTATION #2

(FIVE (5) REQ'D)

[SERIAL NO. 08-3200-000F-J]

#### SHOP NOTES

- 1. ALL BOLT HOLES STRADDLE HORIZONTAL AND VERTICAL CENTER LINES
- 2. CLEAN ENTIRE VESSEL OF WELD SLAG AND OTHER FOREIGN MATERIAL
- 3. ALL FLANGES TO BE COVERED WITH FLANGE COVERS, ALL CPLG/T.O.L.'S TO BE PLUGGED WITH PLASTIC PLUGS PRIOR TO SHIPPING
- 4. ALL MISCELLANEOUS AND ATTACHMENT WELDS SHALL BE 1/4" FILLET WELDS UNLESS SHOWN OTHERWISE
- 5. COATING SPECIFICATIONS

SURFACE PREP: - EXTERNAL: NONE

PRIMING: - EXTERNAL: NONE

- INTERNAL: NONE

FINISH: - EXTERNAL: NONE - INTERNAL: NONE

6. IMPACT TEST EXEMPTION(S):

-EXEMPT PER UG-20(f)

7. EXEMPT FROM A.B.S.A. INSPECTION PER U-1(j)

8. FACTOR DIAMETER INCHES (FDI): 35 INCHES

FET BY CB

OT OK

#### REVISED DRAWING

DESTROY PREVIOUS ISSUE DATE JUN 02 2008

	1. CIRC. SEAMS	2. O'LET	3. MISCELLANEOUS
. !	75		
	WPS: PEC-6R2	WPS: PEC-6R2	WPS: PEC-6R2

	DESIGN	DATA	
CONSTRUCTION:		ASME SECTION V	N DIV 1 2007 EDITION
INTERNAL DESIGN PRESSUR	KE:	550	PSIG & 600F (MAX)
EXTERNAL DESIGN PRESSI	URE:	(	9 PSIG 0 600F (MAX)
HYDROTEST PRESSURE:			715 PSIG
MINIMUM DESIGN METAL T	EMP.:		-20°F ♥ 550 PSIG
CORROSION ALLOWANCE:	1/167	RADIOGRAPHY:	100% PER UW-11(o)
P.W.H.T.:	NONE	VOLUME:	1.45 ft
WEIGHT (EMPTY):	152 LB	WEIGHT (TEST):	217 LB
C.R.H.: 0H5228.23 REG. DHG.: PV-	-061 REV. 3	SERIAL NO.: 08-	-32000000A THRU J
		l	

#### **PYRAMID PROCESS FABRICATOR**

8 5/8" 0.0. x 4'-0" S/S x 550 PSIG

			BULLET		
de:	32000000	O.Det	<u> </u>		PC COMPRESSION
e n.	TBA	94:	TBA	CSE .	TBA
<sup>оно мов</sup> (10)-ТЕН	EME N.T.S.	# 4	8-08-3200-	-0000	001 *** 1

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						1			
		t	¥	~	M	14	REVISED SERIAL NO. DESIGNATION	JUNC 02/08	
_	-	0	DK	DK	DM.	JM.	ISSUED FOR CONSTRUCTION	MAY.29/08	OVOANIO
DRAWING NO.	DESCRIPTION	REV.	BY	CEDE 6Y	DE SHOP	HOECK MCR	DESCRIPTION	DATE	PYRAMID PROCESS FABRICATORS
RE	FERENCE DRAWINGS						REVISIONS		PROCESS PARMICATORS
	OF AND CONTAINS COMPONENTIAL AND PROPERTARY BEFOREAS OR OF PART HOR THE DEPOPULATION SHOWN THEREON DISILLOS							Пон	





RECEIVED JUN 0 5 2008

## **Certificate of Authorization**

**Quality Control Program** 

Expiry Date: December 9, 2007

Reg. No.: AQP-5046

This is to certify that:

### NUFLO MEASUREMENT SYSTEMS A NUFLO TECHNOLOGIES COMPANY

9207 - 34A AVENUE EDMONTON, ALBERTA

having complied with the provisions of the SAFETY CODES ACT, is hereby authorized to:

Manufacture Category 'F' Fittings in accordance with CSA B51

at the above SHOP address.



Form No. AB-121 Rev. (2004/09) Dated at Edmonton, this 3rd day of March, 2005

Chief Inspector and Administrator

Certificate No.: 4486



**Meter Tube Calibration Record** 

						ion Reco	ra	·		· -
			Ge	neral S	pecific	ations				
Customer:						Date:		MA	RCH 05/ 2	007
Location:		STOCK				P.O. Numbe	er:		·	
Serial No.		XJ70398-	12			Work Order	No.	·	XJ70398	
Assembly F	Part No.	[ 40422 ] -	0094			Part No.		4	0422-3422	.1
Orifice Fittin			CH. 80 SINGLE CHA	MBER		Meter Tube	Type No.		2	
Straightenin	ng Vane:					Yes	X	No		
Type 3 Orlfice	Flange Union	K (AT WELD)	J (AT WELD)  G (AT WELD)  H  G (AT WELD)	3	ype	? Flangeweld	(AT WEU	p) a	7	) T WELD)
	<u> </u>	1	tream Meter Tube				Check Location Point E- *Cross section  except if such Cro it shall	n Point A-8-0 on G-H-on Downstr A' and H' shall be ass Section falls will be made 1' inside astream Mete	Upstream Tube eam Tube one pipe diameter nin the lifting or we the pipe	:
Location	· A	B	C D	Κ		Ē	F F	G	H	J
	1.939	1.937	1.939			1.9-39	1.947	1.930		1.944
LV	1.936	1.932	1.939			1.939	1.945	·	1.935	1.949
RV	1.937	1.933	1.939			1.939	1.946	1.937	1.937	1.9 44
— Н	1.93		1.939			1.939	1.945		1.936	1.943
		1.936	1.939	_			1.945		1.937	
Opstream M	1.937 ean Average	<b> </b>				Downstrean	n Mean Avera	ige		.939
to Stamp on	I.D. Plate	·	1.93	1		to Stamp on	I.D. Plate	·	<u> </u>	1.8.2
		<i>III</i>		<b>#</b>	=	,21		<u> </u>	3 1/2 Z	<u>#</u> <u> </u>
		4	. 6 <del></del>	<b> 4</b> 6 #	<b>&gt; </b>	- (3 <b>'</b>	<b>→</b>	— 21 <sup>**</sup>	-/5 -	
AGA/API Fi	gure 3C		BETA Ø.70			<u>Meter Tap L</u> Upstream	ocation	Downstream	<u></u>	<b>1</b>
Remarks:	68°7					- prost south	Inspector:	J.open,		•

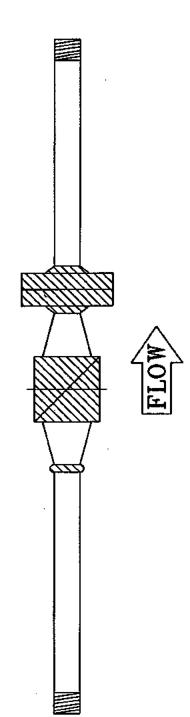


CAMERO!	N <i>Measurement Systems</i> ODUCT OF CANADA
SINGLE CHAMBER	40422 -34221
SIZE 2,0 SER.	NO. XJ70398-12
EORE 1.939 V	V.P. 1480 FLG. 600
TRIM SWEET	C.R.N. NO. 0F1120.213

	<b>©</b> CAM	ERON MA	easurement Syst N, ALBERTA, CANA	ems DA	
METER RUN ASSY, NO.	(40	422) - 00	94	MAX. BORE	
SER. NO.	XJ70398-12	U.S. ( D )	1.939	D.S. ( D )	1.939
PIPE SIZE	2.0	SCH.	80	RATING	600
AGA / API	3 C	d/D	0.70	CALIBRATION	_
W.O. NO.	XJ70398	DATE	03 / 07	CERTIFIED BY	Cameron

.

# WELD IDENTIFICATION MAP





Measurement Systems 5151-67th AVENUE EDMONTON, ALBERTA T6B 2R8

RUN
METER
80 SINGLE CHAMBER METER
SINGLE
8
SCH.
#009
.7
DESCRIPTION:

SERIAL No.: XJ70398-12

CUSTOMER:

P/0 No.:

TAG No.:

W/O No.: XJ70398 END USER: STOCK WELDER: SHANE MITCHELL FILE No.: W-

DATE: MARCH 07/2007

ш

SYMBOL:

QUALITY ASSURANCE INSPECTOR

MARJA MAHONEY



**11871** 

18296

Grade "B" Pressure Welder's Certificate of Competency

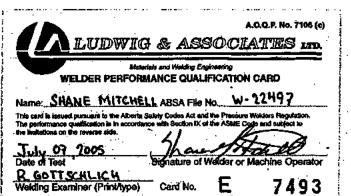
This is to certify that Shane Mitchell having compiled with provisions of the Safety Codes Act, is authorized to engage in pressure welding in accordance with the prescribed Regulations.

Dated at Edmonion December 62, 2904

W-22497

File N

Chief inspector and Administrator



	Process(es)	GMAW	ECAM	Materials (P.No.	Pt
	Filler Metal Group (F.No.)	· F6	FG	Min.Outside	1.0 0.0.
	Max. Deposite Weld Metal	Oilo:	0.684:	GM/ Position(s) Qualified FCA	W:SPO-45; FLAT W:FLAT
ŀ	Backing	WITH OR	WITH	Backing Gas	NONE
į	Progression	Downhill	N/A	•••	
	July 67 20 P.O. Expiry Da	Weldin	g Examiner	Signature Exa	po37 miner File No.
Ĺ			· ·		

PERFORMANCE QUALIFICATION

Ε

7493

4 🗪			
<b>LUDWIG</b>	& ASS	SOCIA	ATES und
WELDER PERFORM	als and Making Eng IANCE QUALI		CARD
Name: SHANE MITCHEL	L ABSA File I	No W-2	2497
This card is leaved purposed to the Alberta S The performance qualification is in accordan	asaty Codes Art mix ce with Section IX o	i the Pressure V f the ASME Coo	Veltiers Regulation. In and subject to
Tule 07, 2005	Shan	ويكرر و	Dell
Date of Test	Signature of	Welder or M	fachine Operator
Q. GOTTSCHLICH Welding Examiner (Print/type)	Card No.	E	7494

PERFORMA	NCE QUALI		E	7494
Process(es)	SMAW	SMAW	, Materials (P.No.)	<u> </u>
Filler Metal Group (F.No.)	<b>F3</b>	F4	Min.Outside Diameter	1.0 in, 0.0
Max. Deposite Weld Metal	0.188in.	0.684;	Position(s) Qualified	FLAT
Backing	WITHOUT	WITH	Backing Gas	NIN
Progression	A\M	N/A		-
Jul. 07 2	007		<del>E</del>	00037

Product#

40726-015

Customer Pait# Customer

40726-015

NUFLO MEASUREMENT SYSTEMS

ACCOUNTS PAYABLE 7944 10TH STREET N E CALGARY AB T2E 8W1

CANADA

Order/Item#

28227 /

Customer P O # XP60868

Approved By

Shyan Smith

Quality Assurance Techr

Melt#	Quantity	Date	Heat	Treat	BATCH #	Specification
1-2355	26	6/22/06			AJ6	ASTM AZ16 GRADE MCB
	2100 0120		8500 0500		M T C A T S ST 5400	ding a kindestan anja a <b>p</b> asa at at 0, <b>1,7</b> 0 anja madi

PHYSICALS

YIELD KSI 52 7 ELONGATION % 33

TENSILE KSI 76 8 RED OF AR % 55

CE: .4003





Page 13 38 00

Product#. . : 40726-002

Customer Part# 40726-002 Customer. . .

NUFLO MEASUREMENT SYSTEMS

ACCOUNTS PAYABLE

7944 10TH STREET N.E. CALGARY AB T2E 8W1

CANADA

Order/Item# . 28754 / 1 Customer P.O.# XP61757

Approved by

Shyan Smith

Quality Assurance Technician

Melt#	Quantity	Date	Heat	Treat	BATCH	# .	Specification
2-6929	4	10/19/06			DW3 -		ASTM A216 GRADE WCB
		MIN		CHE	MICA SI:	1 S 1900	
'S: : CU:	.0150 .1400	NI The V	.0100		CR:	1200	
				שטט	SICA	T. G	
		49.6 33	• •	E 11 I	JICA	TENSILE	KSI 77.4 AR. % 51

**CE**: 0.3773

 $(CE = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Ni + Cu}{15})$ 





****
minter 13
CHENT

van leeuwen pipe and tube -can 1875-64th Avenue Edmonton - Alberta tep 1R1 Canada

Works Certificate - Certificat d'Usine

CERTIFICATO DE mos comos.

18/11/2005

FECHA: Date:

žŹ

103478

HOJA:

DE al.-de 15/07/2906

46000256 (16.07.05)

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

SHOES I

DEUCTO SE

N.º: 922164

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

**VULMA** 

ULMA FORJA, S.COOP.

B\* Zubilega, 3 - Apdo, 14 20560 Oñvati (dipuzkoa) SPAIN T el.: 34 - 943 781950 Tel.: 34 - 943 781906 E-melli (dija@fotging.ulms. 88

48834

NCE NCE

Confided act. PED 97/23/EC by TÜV Rheinland

		QUALITY ASSUR
<b>3</b>	UCANTE	
N,º 01 202 E/Q 02 7443	MARCA DEL PABRICANTE Menk of Iestory Menque ou febricent	<b>DEPARTAMENTO</b>
z	4 5 S	G

<b>DEPARTAMENTO</b>	QUALITY ASSURA	Z C
Section		
Denochand		

RESILENCIA fmpaci fest Resiliance Joules	
Abdocton A Stratocton A Stratoc	### 8. # 8. 5 6 5 5 5
Elongalian La' J d %	28888 88888 88888
LHAITE BLABY VANIO POINT LINING ENEX.	93 94 94 14
Resistencia T. Strangelo Resist Aupt Alfinni?	520 518 517 518
S COLADA N.º PRESISTENCIA LIMITE BLANT ALABORATION PRODUCTION MADERIAL ALABORATION AND AND AND AND AND AND AND AND AND AN	20A5 925A5 338A5 387A5 380A5
<b>6</b>	401

CHSERVACIONES

DESCRIPCION

NACE MR-01-76/03 CAN/CSA-2246.12 Gr.248 CAT 1

ASTMA105N-03 ASME SA105N

TERIAL CORRESPONDIENTE P tanial Correspondent - Qualité NO DE FUSION (\*) et Making - Eleboration de l'acier et Making - Eleboration de l'acier " a Elec.

ASME 316.5-96

quirentents - Normes Applicables RMAS APLICABLES

Description Description

CANTIDAD Quentity Duentité

PARTIDA

78.P Poste

**Semants** 

<u></u>

8 6 5 2 8 E

88855

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82888

DUMEZA Hordness Dumb

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MEDM Average Meyerne

		  - 										
Y YOY			COMPOS	SICION	UMMCA	STEEL!	MARKER	S-ANAL	<b>175 E CZ</b>	MIQUE		
Coulde	8	% 13	Mo %	200	8%	% ઇ	N:N	Mo %	% QN	% >	%	CEO %
20A5 225A5 336A5 386A5 380A5	0.180 0.180 0.180 0.180	0.230 0.240 0.240 0.260 0.260	0.850 0.850 0.850 0.850	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.000 0.000 0.000 0.000	90 90 90 90 90 90 90 90 90 90 90 90 90 9	27.20 27.10 20.00 0.000 0.000	0.000 0.000 0.030 0.020 0.020	0,007 0,007 0,007 0,007 0,007	7000 7000 7000 7000 7000 7000	0.250 0.250 0.250 0.260	0.382 0.406 0.382 0.373

- 1		
	% 3	0.320 0.230 0.280 0.280
	% >	2000 2000 2000 2000 2000 2000 2000 200
MAXIMINATION COMMISSION	% QN	0,007 0,007 0,007 0,007 0,007
- P. P.	Mo %	02010 02010 04010
MAKKEK	% iN	0.440 0.430 0.630 0.630 0.630
·STEELI	% ර්	99658
<b>VIIMECA</b>	88	0.002 0.002 0.005 0.005
COMPOSICION QUIMICA	% Q.	0.01 0.01 0.01 0.01 0.01 8
COMPO	Mn %	0.00 2.80 0.00 0.00 0.00 0.00 0.00 0.00
•	8	0.280 0.240 0.240 0.280 0.280
	8	
ž		↑ <del></del>

N\_NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR ) OBSERVACIONES:



- Los maleifalos cliados cumplan las normas aplicables

Aprintactuing requirements are sellsfied
 Les normes epplicables sont respectives



Remarks Observations

HEAT NUMBER TRANS AM PIPING PRODUCTS - REV'D BY:

56638

Shipment/Seq #: S 6 - 1206

/2X3/4-36 CL 3000 FS THREADED PIPET ALOSN



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

Phone: 713-695-3633 Fax: 713-695-3528 A Division of BONNEY FORGE

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

We certify that the contents of this report are correct and accurate and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard and that the material conforms to the dimensional requirements of the order. This document is in accordance with EN10204 3.1

TRANS AM PIPING (CALGARY) 7025 - 44TH STREET S E CALGARY, AB, CN T2C 4E8 SOLD TO:

MTR #: 108083

PO #: CI-06-306

SALES ORDER #: C503337 DATE: 03/28/2006

CERTIFIED HATERIAL TEST REPORT

HEAT CODE: 56638

MATERIAL: A/SA105N 01

ITEM 9

Quantity

Description

CHEMICAL COMPOSITION:

LADLE

1.030 0.011 NB 0.014 

CARBON EQUIVALENCY: MECHANICAL PROPERTIES:

LADLE 0.390

TENSILE PSI YIELD PSI

RA % ELONG %

HARDNESS

PRODUCT 74,000 49,000

67.00% 37.00%

150 BHN 150 BHN

Normalized

Marie Dehmer Quality Assurance Representative

HEAT' NUMBER

Shipment/Seq #:

56761

S

TRANS AM PIPING PRODUCTS REV'D BY: 6 - 1288

3/4X11/2-36 CL 3000 FS THREADED PIPET

SOLD TO: TRANS AN PIPING (CALGARY)
7025 - 44TH STREET S E
CALGARY, AB, CH T2C 4E8

SALES ORDER #: C605297 DATE: 05/12/2006

HEAT CODE: 56761 \* teripak tenindikandi para dibak diaman bata dilipak B

110328

CERTIFIED MATERIAL TEST REPORT

5

Manufacturer of Piping & Pressure Vestel Components 4407 Haygood St - Houston, TX 77022 Phone: 713-695-3633 Fax: 713-695-3528 A Division of BONNEY FORGE

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

We certify that the contents of this report are correct and accurate and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard and that the material conforms to the dimensional requirements of the order. This document is in accordance with EN16204 3.1

MATERIAL: A/SA105N 01

ITEM

Quantity

Description

8

PO #: CI-06-394

CHEMICAL COMPOSITION:

LADLE

805 888 1888 888 481 801 188 188 188 188 188 188 188 188 1
C. MN . P S S C. C C. NI
And the state of t

MTR #:

CARBON EQUIVALENCY: MECHANICAL PROPERTIES:

LADLE 0.394

TENSILE PSI YIELD PSI ELONG X

RA X

HARDNESS

PRODUCT 74,000 49.500

37.00%

58. 00X

144 BHN 144 BHN

Normalized

Marie Dehmer Quality Assurance Representative



# Material Test Report

Manufactured by Zeleziarne Podbrezova, a s 97681 Podbrezova

Customer Order No				Scot Order No	r No			SLOVAKIA	KIA,		
				Matenal Supplier Part Number Scot Rec No	Aler	99066 00	. 00 .		Andrew Strategies		
Heat Number 62252 Education Societies MS- Description Seramless Cold Deann	D DRAWN	Grade 106 ASTM SpecA53 STEEL TUBES	6		.:::	D mensions 2	375 ° OD	1 939* IB			
Chemical Analysis	J	Mar. 100 14 16 16 16 16 16 16 16 16 16 16 16 16 16	<b>4</b>	D) 8	83. (0.2.5.	8 <u>F</u>	N. 000	G. C.	IIo	V V V V V V V V V V V V V V V V V V V	
Mechanical Test Results Yield Strength (PSI)   Fer	uits Tensile St	fts Tensile Strength (PSI)	Elongation	Elongation (%) in 2" G		ROA (%)	Hardness				weinse wie
45686		63961	38	, <sub>Q</sub>				•			R DATE 796
Charpy Impact Energy	y Sıze	Energy				Shear Area (%)	(%)			Eddy Current	By All
Temp		2	3	Avg	-	2	8	Avg		OK.	Pana Pana
The reported analysis and test results are cartified to be the same as furnished to us by our supplier. All records and test reports covering the above materials are on file at Scot Industries and may be examined by you	sults are certing the above	lited to be the s insterials are	ame as furn on file at Sco	ished to us b	y our supple and may be	<u> </u>			., 2	hang blook	// 1

Quality Assurance 02/26/07

TEST & CALIBRATION & PWHT REPORTS

5





#### PNEUMATIC LEAK TEST CHECK LIST

	JOB #: <u>I-980</u> UNIT #: 541-08240 TEST PRESSURE: 165 PSI frev 5000 "A" pyring
P/F	Date of Test: fuly 2/08
	Soap test all pipe connections – unions, tee's, 90's, regulator's, etc.
V	Test gauge and test recorder operational (complete with charts)
<u>/</u>	Proper test relief valve used
	Charts marked with Job # , Unit # , Date , Minutes of Test , PSV S/N , Gauge S/A , Chart Recorder S/N Vessel nameplates, attached
<u>v</u>	Valves installed correctly, flow direction
<b>√</b>	Open / close valves for workability
1/	Sight glass installed
<u>/</u>	Regulator's body plugged for leak test
· ·	Supports installed
<u>/</u>	Heater stand installed
<u>~</u>	U-bolt nuts doubled and tight
<u>/</u>	Bolts/studs and nuts length and correct material and tight
<u>/</u>	All attachment welds completed
N#	Restrictive orifice blanks installed
COMME	NTS:
SH	2 /he s 1 02/02/08
O.C./Inst	Date

# **PC**COMPRESSION INC. QUALITY SYSTEM MANUAL

REVISION: 3	DATE: 20/09/07	SECTION 15 PAGE 8 OF 8
	ATIC TESTING REPORT	
	PNEUMATIC TESTING REPO	RT PIO-51408240-A-
JOB NO <u>F-980</u> T	PNEUMATIC TESTING REPORT TEST MEDIUM <u>AR</u> DRAWING 46 HIN THER	NUMBER &
-		
	TEST PRESSURE (25 psi) START TIME: 7:18 END TIME: 7:28	
	TEST PRESSURE (50 psi) START TIME: 7:30 END TIME: 7:40	
	TEST PRESSURE (100 psi) START TIME: 7:43 END TIME: 7:53	
	TEST PRESSURE (150 psi) START TIME: 7:58 END TIME: 9:08	
	REQUIRED TEST PRESSURE ( 165 psi) START TIME: 8:11 END TIME: 9:21	
	DESIGN PRESSURE (	
NOTE:		
<ol> <li>A testing pressure relie</li> <li>Each test increment wi</li> <li>The system will slowly</li> <li>All necessary safety pr</li> </ol>	110% of design pressure.  If valve with a set pressure not higher than 110% of the label for 10 minutes and documented.  If the held for 10 minutes and documented.  If the held for 10 minutes and documented.  If the held for 10 minutes and documented.  If the held for 10 minutes are the held for the hel	
Gauge: <u><i>PL-10000</i></u> COMMENTS: <u><i>JSV-</i></u>	250 (Recorder: <u>A</u> ) A93/92	RI 3259
TEOTING CONOUNT TOTAL	0. 1. 1	71 3 /AG
TESTING CONSULTANT: Q.C. INSPECTOR:	15/2 soult	DATE: 03/07/08
OWNER'S REPRESENTA	TIVE:	DATE:

#### **PC**COMPRESSION INC. **QUALITY SYSTEM MANUAL**

REVISION: 3

DATE: 20/09/07 SECTION 9 PAGE 6 OF 6

#### EXHIBIT 9.3 PRESSURE PIPING TEST PREPARATION AND COMPLETION

	PRESSURE PIPING TEST PREPARATION	N AND COMPLE	ETION
	JOB NO: I-980 SAA-08840 DA	TE: July 2	1/08
TEST	PREPARATION	Q.C. INSP.	ASSIGNED CONSTRUCTION PERSONNEL
1.	All non-conformity items corrected.		
2.	Test blinds correct thickness.	<u></u>	V .
3.	All items which could be damaged by test isolated or removed (control valves, safety valves, instrument expansion joints, etc.).	✓	
4.	Equipment with internals (re: fitters) that could be damaged, isolated as required.	<b>V</b>	V
5.	Vents and drains.		
6.	Open and close position of all valves verified.		
7.	Shipping bars in place bellows.	NIA	NIF
8.	Hanger stops in place.	NH.	NA
TEST	COMPLETION	* m	*CM
1.	All temporary blinds removed.		
2.	Temporary gaskets changed for correct gaskets.	NIA	NA
3.	Temporary supports removed.	NIA	NIA
4.	Shipping bars removed from bellows.	NIA	N/A
5.	Spring hangers stops removed-cold setting checked.	NA	NJA
6.	Safety valves – "UV" or "V" symbol and correct pressure capacity.		
7.	Safety valves vents correct size adequately supported drain holes and/or weather hoods installed.	/ .	
8.	Screens for pumps and compressors installed (initial start-up and permanent screens).	NA	NA

\* sac \*CM

Complete All Fields in Report or Mark N/A

METER CLIENT: _		CTALL STICKLOUGH	الإساء مصر	SOUTINE CAUS	& MOITARE	INSPECTION	SWEET	GAS SC	IUR GAS	:	
	LATION IN										· · · · · · · · · · · · · · · · · · ·
LOCATION:	MISKY_					•		ART:			l:
METER CODE	: <u>Acto</u>	oc vi		GAS TO:				GAS FROM: _			·
DIFFERENTIAL	RANGE:	فطعوا					TRANSOU		COMPUTER	٠٠	
	INCHES OR MA	معمولین						COE TOTH		EADGE	· 
WC TESTER	(AS FOUND)	"FINAL "⊶"(AS LEFT)					RE RANGE:	CHART#	PSI CHECK		<del>- 11</del>
ZERO	na distribution de la constitución de la constitución de la constitución de la constitución de la constitución		50°WC	TIAL RANGE:	: <b>::::::::::::::::::::::::::::::::::::</b>	PHESSU		.0-PSI ⊞50	n-PSI	perature E	e <b>ngat</b> (3) pt. che!! ا <b>lemgat</b> (3) pt. che!!
	and the state of t		☐ 200°W(		WC.	□ 1000-		00-PSI 🗆 25	00-PSI OR		Sauge (2 pl. checi
							R:	<u> </u>	Tem	paratura C	
(gengan in			ORIFICE	SENIOR FITTING	☐ FLAN	GES MAKE		BORE SIZ	E TUBES	IZE.	TUBE NO-12 PP
<u>:</u>			FITTING	☐ JUNIOR						الملينة المتناملة الإدارا <sub>ال</sub>	
·		111111111111111111111111	METER	FITTING UPSTREAM INSIDE DIA	4			DOWNSTREA	Manager and a second se		. <u>l</u>
· · · · ·	·	The same of the sa	RUN	1 : :		8/7C MARINE OA	METER)	INSIDE DIAME			
	-abytea F Sec.		ORIFICE	BEVELLI		SIZE (INSIDE DIA	SYICIED)	DGES SHARP	PLATE CLE		DAMAGED
OVER RANGE	in the state of th	1	. PLATÆ.	STRAIGH EDGE	"			]YES   NO	☐YES [	j NO.	[]]YES [] I
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an party of the same				- 11-40°							
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				LIBRATION DAT				,			1977
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D. WT TESTER	PSIG OR MA INITIAL (AS FOUND)	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION.    UNEAF PLUID TRA STATIC PR DEWPO   BEF	ERIC PRESSURE IND SPACING FAST SATE O.K. 24 HOLE RICHART RESSURE TAP L MINT AREA ORE DEHYD FLOWI	E SET IN ME  O.K  REPAIRED  SQUINES  OCATED  NG GAS	CORRE	GTED (EXP  N. TIME ZON  L. TYES [ 18 DAY [ 17]  ARTI  NO  REAM  AFTER DEI  DEWPOINT*	AIN)  FIN USE F MS1  ADJUSTED  COMBIN  DRIP I  DOWNSTR	PST CS  SER:  ATION CHART  POTS 1  TEST LOCAT  LBS.  WAJER	YES	MANUAL DEW OSNT TESTER MODEL AND
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STATIC PRESS  O. WIT TESTER  O. J.Z.S.  J.Z.S.  S.O.O.	PSIG OR MA INTTAL (AS FOUND)  153 153 153 153 153 153 153 153 153 15	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION LINEAF FLUID TRA STATIC PR DEWPO BEF TIME OF TEST	ERIC PRESSURE IND SPACING FAST SATE O.K. 24 HOLE PERINTUBING RESSURE TAP L MINT AREA ORE DEHYD FLOWI	E SET IN ME  OK  REPAIRET  SO  UNES  OCATED  PSIG	CORRE	GTED (EXP  N. TIME PON  EL  YES E  8 DAY []  ART  NO  REAM  DEWPOINT S  WATE  TESTER	AIN)  EIN USE W MST  ADJUSTED  COMBIN  DRIP I  DOWNSTR  PYD  F  R VAPOUR  RECORDER	EFR. ATION CHART POTS   TEST LOCAT  LBS. WATER PER MMCF	YES	MANUAL DEW OSNT TESTER MODEL AND
D.WT TESTER	PSIG OR MA INITIAL (AS FOUND)	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION.    UNEAF PLUID TRA STATIC PR DEWPO   BEF	FAST SALES OF THE STATE OF THE	E SET IN ME  OK  REPAIRET  SO  UNES  OCATED  PSIG	CORRE	GTED (EXP  N. TIME PON  EL  YES E  8 DAY []  ART  NO  REAM  DEWPOINT S  WATE  TESTER	AIN)  EIN USE F MST  ADJUSTED  COMBIN  DRIP I  DOWNSTR  HYD  F NAPOUR	EFR. ATION CHART POTS   TEST LOCAT  LBS. WATER PER MMCF	YES	MANUAL DEW OSNT TESTER MODEL AND
STATIC PRESS  O. WIT TESTER  O. J.Z.S.  J.Z.S.  S.O.O.	PSIG OR MA INITIAL (AS FOUND)  O  JOS  JOS  JOS  JOS  JOS  JOS  JOS	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION LINEAF FLUID TRA STATIC PR DEWPO BEF TIME OF TEST	ERIC PRESSURE IND SPACING FAST SATE O.K. 24 HOLE PERINTUBING RESSURE TAP L MINT AREA ORE DEHYD FLOWI	E SET IN ME  OK  REPAIRET  SO  UNES  OCATED  PSIG	CORRE	GTED (EXP  N. TIME PON  EL  YES E  8 DAY []  ART  NO  REAM  DEWPOINT S  WATE  TESTER	AIN)  EIN USE W MST  ADJUSTED  COMBIN  DRIP I  DOWNSTR  PYD  F  R VAPOUR  RECORDER	EST LOCATE PER MMCF	YES	MANUAL DEW OSNT TESTER MODEL AND
STATIC PRESS  O. WITTESTER  O. J. J. J. J. J. J. J. J. J. J. J. J. J.	PSIG OR MA INITIAL (AS FOUND)  O  J  J  J  J  J  J  J  J  J  J  J  J	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION LINEAF FLUID TRA STATIC PR DEWPO BEF TIME OF TEST	ERIC PRESSURE IND SPACING FAST SATE O.K. 24 HOLE PERINTUBING RESSURE TAP L MINT AREA ORE DEHYD FLOWI	E SET IN ME OK LOW REPAIRED SO LINES OCATED NG GAS PSIG	CORRE	GTED (EXP  N. TIME PON  EL  YES E  8 DAY []  ART  NO  REAM  DEWPOINT S  WATE  TESTER	AIN)  EIN USE W MST  ADJUSTED  COMBIN  DRIP I  DOWNSTR  PYD  F  R VAPOUR  RECORDER	EST LOCATE PER MMCF	YES	MANUAL DEW OSNT TESTER MODEL AND
D.WT TESTER	PSIG OR MA INITIAL (AS FOUND)  O  JUST  JUST  JUST  JUST  JUST  LE RANGE:	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION LINEAF FLUID TRA STATIC PR DEWPO BEF TIME OF TEST	ERIC PRESSURE IND SPACING FAST SATE O.K. 24 HOLE PERINTUBING RESSURE TAP L MINT AREA ORE DEHYD FLOWI	E SET IN ME OK LOW REPAIRED SO LINES OCATED NG GAS PSIG	CORRE	GTED (EXP  N. TIME PON  EL  YES E  8 DAY []  ART  NO  REAM  DEWPOINT S  WATE  TESTER	AIN)  EIN USE W MST  ADJUSTED  COMBIN  DRIP I  DOWNSTR  PYD  F  R VAPOUR  RECORDER	EST LOCATE PER MMCF	YES	MANUAL DEW OSNT TESTER MODEL AND
D. WT TESTER  CO  J. J. J. J. J. J. J. J. J. J. J. J. J. J	PSIG OR MA INITIAL  (AS FOUND)  C)  C)  C)  C)  C)  C)  C)  C)  C)	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION    LINEAF PLUID TRA STATIC PR DEWPO   BEF TIME OF TEST  REMARKS	FAST SALES OF SALES O	E SET IN ME  OK  REPAIRET  SO  UNES  OCATED  PSIG	CORRE	GTED (EXP  N. TIME ZON  L. YES [ 8 DAY []  ART  NO  REAM  DEWPOINT **  WAYE  TESTER	AIN FIN USE FOR MISTER COMBIN DOWNSTR	EFR. ATION CHART POTS TEST LOCAT LESS WATER PER MMCF	YES	MANUAL DEW OSNT TESTER MODEL AND
STATIC PRESS  O. WITTESTER  O. J. J. J. J. J. J. J. J. J. J. J. J. J.	PSIG OR MA INITIAL (AS FOUND)  O  INITIAL (AS FOUND)  O  INITIAL (AS FOUND)  O  INITIAL (AS FOUND)  O  INITIAL (AS FOUND)  O  INITIAL (AS FOUND)	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION [ ] UNEAF PLUID TRA STATIC PR DEWPO [ ] BEF TIME OF TEST  REMARKS	ERIC PRESSURE IND SPACING FAST STATE O.K. 24 HOLE RICHART INFS IN TUBING RESSURE TAP L MINT AREA ORE DEHYD FLOWI	E SET IN ME  OK  REPAIRET  SQ  LINES  OCATED  PSIG	CORRE  MO METER LEVE  PDAY  VES  UPSTF  HYDRO  CARBON  FEBENTIAL	GTED (EXP  N. TIME ZON  L. YES [ 8 DAY []  ART  NO  REAM  DEWPOINT **  WAYE  TESTER	AIN SE IN USE IN	FERT CS  ATION CHART  POTS TO THE CAME  TEST LOCAT  LES TOTAL  WATER  PER MMCF	YES	MANUAL DEW OINT TESTER MODEL AND BADGE NO.
D. WT TESTER  CO  J. J. J. J. J. J. J. J. J. J. J. J. J. J	PSIG OR MA INITIAL  (AS FOUND)  C)  C)  C)  C)  C)  C)  C)  C)  C)	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION.  JUNEAR PLUID TRA STATIC PR DEWPO BEF TIME OF TEST  REMARKS	ERIC PRESSURE IND SPACING FAST STATE O.K. 24 HOUR RICHART IPS IN TUBING RESSURE TAP L MINT AREA ORE DEHYD FLOWI	E SET IN ME  OK  REPAIRET  SQ  LINES  OCATED  DIF  PRI	HYDRO CARBON	GTED (EXP  N. TIME PON  BL YES [ B DAY []  ART  NO  REAM  DEWPOINT S  WATE  TESTER	AIN FINUSE FOR MISTED TO THE COMBINION OF THE COMBINION O	TEST LOCAT  LASS WATER  PER MMCF	YES TION  TEMPERA	MANUAL DEW OINT TESTER MODEL AND BADGE NO.
D. WT TESTER  CO  J. J. J. J. J. J. J. J. J. J. J. J. J. J	PSIG OR MA INITIAL  (AS FOUND)  C)  C)  C)  C)  C)  C)  C)  C)  C)	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION.  ] LINEAF PLUID TRA STATIC PR DEWPO BEF TIME OF TEST  REMARKS  PYRAMID WORKSHI TEST	ERIC PRESSURE IND SPACING FAST S 24 HOLI PS IN TUBING RESSURE TAP I PS IN TUBING FLOWI FLOWI FLOWI TEQUIPMENT	E SET IN ME  OK  REPAIRET  SQ  LINES  OCATED  DIF  PRI	CORRE  MOD METER LEVE  PARE ROOT CH  VES  HYDRO CARBON  FERENTIAL ESSURE	GTED (EXP  N. TIME PON  B DAY []  ART  NO  REAM  DEWPOINT •  TESTER	AIN SE IN USE IN	TEST LOCAT  LASS WATER  PER MMCF	YES	AANUAL DEW OINT TESTER MODEL AND BADGE NO.
D. WT TESTER  CO  J. J. J. J. J. J. J. J. J. J. J. J. J. J	PSIG OR MA INITIAL  (AS FOUND)  C)  C)  C)  C)  C)  C)  C)  C)  C)	FINAL (AS LEFT)	ATMOSPHE PEN ARC A CHART [ LEAK TEST ROTATION   ] INEAF PLUID TRA STATIC PR DEWPO   BEF TIME OF TEST  REMARKS  PYRAMID WORKSHI TEST	ERIC PRESSURE IND SPACING FAST S O.K. 24 HOLI PCHART IPS IN TUBING RESSURE TAP L MINT AREA ORE DEHYD FLOWI F T EQUIPMENT MID TOOL I.D.	E SET IN ME  OK  REPAIRET  SQ  LINES  OCATED  DIF  PRI	HYDRO CARBON  HYDRO CARBON  HYDRO CARBON  HYDRO CARBON  HYDRO CARBON  HYDRO CARBON  HYDRO CARBON	GTED (EXP  N. TIME PON  B DAY []  ART  NO  REAM  DEWPOINT *  WATE  TESTER	AIN FIN USE FOR MISTER ADJUSTED TO THE COMBINION DOWNSTRATE TO THE COMBINION DRIPP IN THE COMBINION DOWNSTRATE OF THE COMBINION DRIPP IN	TEST LOCAT  LES WATER PER MMCF	YES TION  TEMPERA	ATURE

#### **CERTIFICATE OF CALIBRATION**



WIKA INSTRUMENTS LTD.

Cerificate No.: E 21354

Customer

: PC COMPRESSION INC.

PCC001

609-21 AVE.

NISKU

Tool FD: PCI 000050

RECEIVED OCT 2 6 2007

FILED OCT 2 8 2007

Order No.

: 404335

PO#

509285

*Item* 

: 1

10/25/2007

Specification of Gauge under test (DUT)

Object

: dial gauge

Test equipment

Working Standard (WS)

: electr. Gauge

Manufacturer

: WIKA

Pressure range

: 0 ... 34 bar

Type

: 232.34.120

Calibration-number

: A8526 DKD 2007-09

Serial No.

Accuracy Identity

Multimeter

Resistor

: 0.02 % (of span ) : SS 106

ID No.

: 40<u>4335-1-1</u> : 0 ... 300 psi

Pressure range Accuracy

: 0.5 % (of span )

Resolution

: 2 psi

Method of measurement

: Gauge pressure

Output signal

: Cal-lab (Edmonton)

Calibration conditions

Used auxiliary instruments

; **-**

Place of calibration

Test temperature (in °C)

Humidity (in %)

: 23.0 : 18.0

Amb. pressure (in mbar)

: 1000.0

Medium

: drv air

No. of measurement

Position

: 7

: vertical

Full-scale load (in min.)

: 5

Method of calibration

: Pressure-setting according to DUT

Extensions

Product Manager

: Trevor Turko

calibrated by

: Armstrong √uona

page 1 of 2

HEAD OFFICE WIKA INSTRUMENTS LTD. 3103 Parsons Road Edmonton, AB Genada T6N 1C8 Tel.: (760) 463-7035

Fax.: (780) 462-8017

WIKA INSTRUMENTS LTD. 2679 Bristol Circle, Unit #1 Oakville, ON L6H 6Z8 Tel.: (905) 337-1611 Fax.: (905) 337-2716

WIKA INSTRUMENTS LTD. 4932 52 Street 3.E. Colgary, AB Canada 728 3R2 Tel.: (403) 237-5980 Fax.: (403) 237-0095

WIKA INSTRUMENTS LTD. #204, 9804 - 100 Avenue. Grande Prairio, AB TRV OTS Tel.: (780) 513-7450 Fax.; (780) 513-7379

WIKA INSTRUMENTS LTD 901 First Avenue North Seskatoon, SK S7K 1Y4 Tel.: (306) 684-1105 Fax.: (306) 864-7037

WIKA INSTRUMENTS LTD 4827 Frances Street Blumaby, BC **V5C 2R9** Tel.; (804) 299-3855 Fax.: (604)299-4568



Cerificate No.:

E 21354

#### Calibration results

Reading DUT psi	Readi WS psi	;	Mean- value psi	Deviation psi	Hysteresis psi	Deviation %
	M 1	M 2				
0.0	0.00	0.00	0.00	0.00	0.00	0.00
50.0	50.13	48.68	49.40	0.60	1.45	0.20
100.0	100.48	99.16	99.82	0.18	1.32	0.06
150.0	150.52	149.54	150.03	-0.03	0.98	-0.01
200.0	200.27	199.76	200.01	-0.01	0.51	0.00
250.0	250.41	250.37	250.39	-0.39	0.04	-0,13
300.0	299.13	299.13	299.13	0.87	0.00	0.29

date of calibration:

10/25/2007

#### Declaration of conformity:

The object is within the specifications according to the stated standards.

The calibration object is labeled with a calibration mark, which shows the date of calibration and the recommended date for recalibration.

WIKA INSTRUMENTS LTD. certifies that the above mentioned instruments have been calibrated and are traceable to the National Institute of Standards and Technology (NIST).

Calibration is carried out according to the following norms:

- ASME B 40.1 (latest revision)
- Calibration of WIKA test instruments is carried out on an annual basis. Validity of certificates is one year from date of issue

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Fax.: (403) 237-0095

Fax.: (780) 513-7378



PRV INSPECTION AND TEST REPORT

BRANCH: Edmonton

UVL ID#: 5500E

Work Order: 410237 Customer PO#: Date: 7/27/2007 8:28:20 AM Customer: PC COMPRESSION Facility: NISKU LSD: **PSV** Location: A#: RECEIVED AUG 0 2 2007 Cust Id: Cust. Ref.: Valve PO: **VALVE DATA** Man.: Mercer Model: 9117D51V07E1 Serial: A93192 Conn: Threaded Inlet: 1 inch MNPT Orifice: .122 Outlet: 1 inch FNPT Set Pres: 182 PSI Back Press: 0 PSI Cold/Diff Set Press; PSI Temp: 70 F Cap: 393 SCFM Lift Lever: Cap Assembly: Closed Trim: Standard Code Symbol: UV CRN#: OG2606.5C **CUSTOMER INSTRUCTIONS** Instructions: Service and Set Pretest Required? Reset Required? Replaces UVL ID#: Replaces Serial #: Replaces Cust ID#: RESET INFORMATION: New Pressure: New Cold/Diff Set: New Capacity: CONDITION AS RECEIVED Visual Condition: Poor Data Plate Condition: OK Date of last service: 08/06 Seal Condition: Top: Intact Bottom: N/A Insignia: UVL INDICATE FOULING Inlet: Clean Oulet: Rusty Initial Insp. Signoff: Richard Anderson PRETEST Simmer: Set Press: Reseat: Leakage: BPM Test gauge: Tested by: Pretest comments: COMPONENTS INSPECTION ITEM OK / OILY RUSTY CARBON OTHER COMMENTS REPLACE REPLACED? REPAIRS PERFORMED MIN= N/A DISC: AÇT= OK Clean MIN= VITON NOZZLE: OK ACT= ľ Clean CAP-LEVER ASSY: OK COMP SCREW and LOCKNUT: OK SPRING and BUTTONS NUMBER: 0K 05-007 SPINDLE / STEM: N/A STEM RETAINER: N/A DISC HOLDER: N/A GUIDE / UPPER RING: OK LOWER RING: N/A RING PIN(S): N/A BELLOWS: N/A GASKETS / SEALS: Compressed Replace CONNECTION ENDS: ÖΚ OTHER: N/A Comments: Disassembly: Matt Wourms Inspection: Matt Wourms Reassembly: Matt Wourms FINAL TEST: Test Medium: Аіг Simmer: 181 PSI Set Pressure: 182 PSI Reseat: 161 PSI Leakage: 0BPM 8.P. Test: 60 PSI Coid/Diff Set: N/A PSI ADJ. RING SETTING (NOTCHES): Upper: N/A Lower: Test Gauge MVE-06.2 N/A Tested by: Gina Bravo

FINAL INSPECTION:

End Protectors Installed: 🗸 Painted: 🗸 Palletized: Ship Container: 🗸 Flex Gaskets Supplied: Customer Inspection INSPECTION ID#: 30966

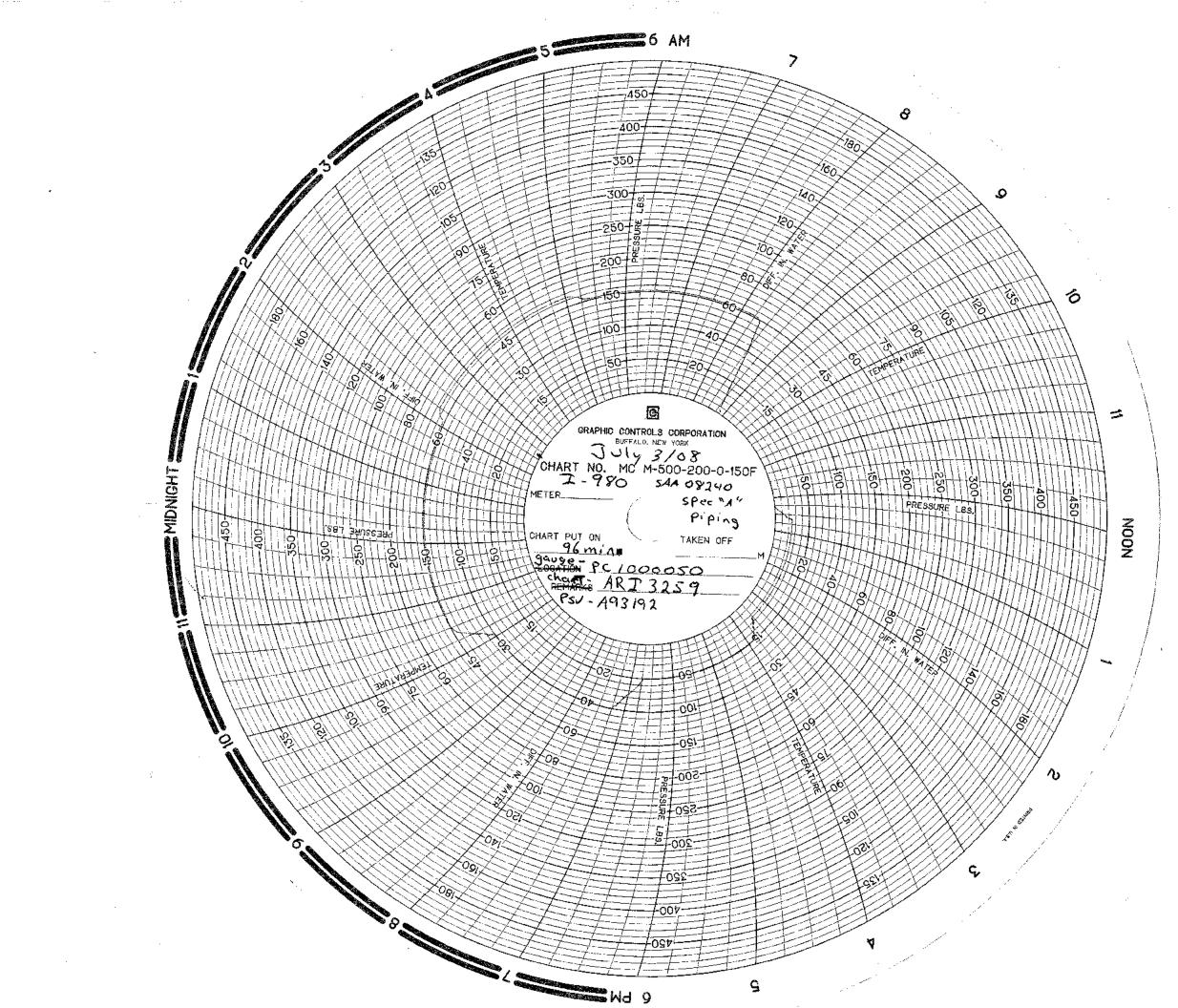
Comments:

Final Inspection:

Top: 🗸 Bottom:

Richard Anderson

SEAL:





#### HYDRAULIC LEAK TEST CHECK LIST

	JOB #: 7-999 UNIT #: 200 TEST PRESSURE: 1080 ps; hyd
P/F	Date of Test: 9 June 2008 1-5/5.
<u> </u>	Visually inspect all pipe connections - flanges, welds, TOL's, fittings, valves, etc.
	Test gauge and test recorder operational (complete with charts)
V	Charts marked with Job # , Unit # , Date , Minutes of Test , Gauge S/A , Chart Recorder S/N Vessel nameplates, attached
V,	Valves installed correctly, flow direction
	Open / close valves for workability and clearance
NA	Sight glass installed
NA	Regulator body plugged/blinded for test
NA	Supports installed
N/A	Heater stand installed
NA	U-bolt nuts doubled and tight
NIA	Bolts/studs and nuts length and correct material and tight
N/A_	All attachment welds completed
NA	Restrictive orifice blanks installed
COMMEN	TS:
······	
,	
<u> </u>	100 Date 09/06/08
C. Inspec	

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REVISION: 3 DATE: 20/09/07 SECTION 15 PAGE 4 OF 8

#### EXHIBIT 15.1 HYDROSTATIC PRESSURE TEST REPORT

HYDROSTATIC PRESS	URE TEST REPORT
ATE: 9 June 2008	JOB NO: <u></u>
DRAWING NO:DR -1105-1-B	spec"B" piping.
PROCEEDURE:	1-5/5.
Test Medium: WATER.	Medium Temperature: Ambient
Design Pressure: 730 ps;	Test Pressure: 1080 psi.
<ol> <li>System to be inspected by QC inspector prior to</li> <li>Provide at least one vent at highest point during to</li> <li>Test medium must be at specific temperature.</li> <li>One calibrated pressure gauge must be at the high</li> <li>The QC inspector to witness test.</li> <li>The pressure is not to be released until the test is leakage and safety considerations.</li> <li>All necessary safety precautions shall be adhered</li> </ol>	filling.  gh point of the system.  s accepted by the QC inspector or unless due to
ACTUAL TEST RESULTS: Acceptable.  MEDIUM USED: WATER. GAUGE  ACTUAL TEST PRESSURE: 1080 p.:  ACTUAL MEDIUM TEMPERATURE: 5	/RECORDER NO: PC 181250046
ACTUAL HOLDING TIME: 10:05 Am	TA 10:30 - 1/5
COMMENTS:	
SIGN OFF:	
This certified that above statements are correct and the defective welds or equipment.  Q.C. INSPECTOR:	e equipment described was free of leaks due to

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REVISION: 3	DATE: 20/09/07	SECTION 9 PAGE 6 OF 6

#### EXHIBIT 9.3 PRESSURE PIPING TEST PREPARATION AND COMPLETION

	JOB NO: J-999 SAADRAN SPONS. DA	TE: 9 Jun	e 2008
TES	T PREPARATION 1-5/5.	Q.C. INSP.	ASSIGNED CONSTRUCTION PERSONNEL
1.	All non-conformity items corrected.		
2.	Test blinds correct thickness.		<del>                                     </del>
3.	All items which could be damaged by test isolated or removed (control valves, safety valves, instrument expansion joints, etc.).		
4.	Equipment with Internals (re: filters) that could be damaged, isolated as required.		
5.	Vents and drains.		V
6.	Open and close position of all valves verified.		1/
7.	Shipping bars in place – bellows.	15/4	11/1
8.	Hanger stops in place.	n/A	NA
res	T COMPLETION	¥ 50C	× P
l	All temporary blinds removed,		1
<b>}</b> .	Temporary gaskets changed for correct gaskets.	NA	11/4
3.	Temporary supports removed.		NI
l	Shipping bars removed from bellows.	NIA	2/1
i	Spring hangers stops removed-cold setting checked.	NIA	NA
i.	Safety valves – "UV" or "V" symbol and correct pressure capacity.	NIA	11/4
	Safety valves vents correct size adequately supported drain holes and/or weather hoods installed.	NA	NA
l.	Screens for pumps and compressors installed (initial start-up and permanent screens).	11/4	11/1

\* goc \* BS

#### Complete All Fields in Report or Mark N/A

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PRINT FULL NAME LEGIBLY

SIGNATURE

PRINT FULL NAME LEGIBLY

WHITE — PYRAMID MAIN OFFICE COPY (FILED WITH INVOICE) / GREEN – PYRAMID AREA OFFICE FILE / CANARY – CUSTOMER COPY (MAILED WITH INVOICE)

PINK — FIELD MEASUREMENT - METER COPY (LEAVE IN METER) / GOLDENROD — OPERATOR'S COPY (LEAVE WITH OPERATOR)

RECORD THIS NUMBER ON ALL DAILY WORK SHEETS — MCR

SIGNATURE

#### **CERTIFICATE OF CALIBRATION**



WIKA INSTRUMENTS LTD.

Cerificate No.:

E 20661

Customer

: PC COMPRESSION INC.

609-21 AVE. NISKU

PCC001

ID#: PLI 000049

RECEIVED SEP 1 7 2007

Order No.

: 398725

PO#

509122

*Item* 

: 1

Date of order

: SEPT 13/07

Specification of Gauge under test (DUT)

Object

: dial gauge

Test equipment

: dial gauge

Manufacturer

: WIKA

Pressure range

Working Standard (WS)

: 0 ... 4000 psi

Type

Calibration-number

: 19310 2007-07

Serial No.

: 232.34.115

Accuracy Identity

: 0.1 % (of span ) : TS 204

; **-**

ID No.

Pressure range

398725-1-1 : 0 ... 1500 psi

Accuracy Resolution : 0.5 % (of span ) : 10 psi

Method of measurement

Output signal

: Gauge pressure

Used auxiliary instruments

Place of calibration

Test temperature (in °C)

Calibration conditions

: Cal-lab (Edmonton) : 24.0

Multimeter Resistor

Humidity (in %) Amb. pressure (in mbar)

: 22.0 : 1000.0

Medium

: water

No. of measurement

Position

: 6

: vertical

Full-scale load (in min.)

: 5

Method of calibration

: Pressure-setting according to DUT

Extensions

Product Manager

: Trevor Turko

calibrated by

page 1 of 2

HEAD OFFICE WIKA INSTRUMENTS LTD.

3103 Parsons Road Edmonton, AB Canada T6N 1C8 Tel: (780) 463-7035 Fex: (780) 462-0017

WIKA INSTRUMENTS LTD. 2679 Bristol Circle, Unit #1 Oskville, ON Tol.: (905) 337-1611 Fax.: (905) 337-2716

4932 52 Street S E. Colgary, AB Canada Tel.: (403) 237-5960 Fex (403) 237-0095

WIKA INSTRUMENTS LTD

WIKA INSTRUMENTS LTD. #204, 9804 - 100 Avenue Grande Prairie, AB Tel.: (780) 513-7460 Fex.: (780) 513-7379

WIKA INSTRUMENTS LTD. 901 First Avenue North Saskatoon, SK STK 1Y4 Tel.: (306) 664-1105 Fax.: (308) 864-7037

WIKA INSTRUMENTS LTD. 4627 Frances Street Burnaby, BC V5C 2R9 Tel.: (604) 299-3855 Fax.: (604)289-4566



Cerificate No.:

E 20661

### Calibration results

Reading DUT psi	Readi WS psi	-	Mean- value <i>psi</i>	Deviation psi	Hysteresis psi	Deviation %
	M 1	M 2		•		
0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.0	305.0	305.0	305.0	-5.0	0.0	-0.3
600.0	605.0	605.0	605.0	-5.0	0.0	-0.3
900.0	905.0	905.0	905.0	-5.0	0.0	<b>-0</b> .3
1200.0	1205.0	1205.0	1205.0	-5.0	0.0	-0.3
1500.0	1505.0	1505.0	1505.0	-5.0	0.0	-0.3

date of calibration:

9/14/2007

## Declaration of conformity:

The object is within the specifications according to the stated standards.

The calibration object is labeled with a calibration mark, which shows the date of calibration and the recommended date for recalibration.( Maximum of 1 year from date of issue.)

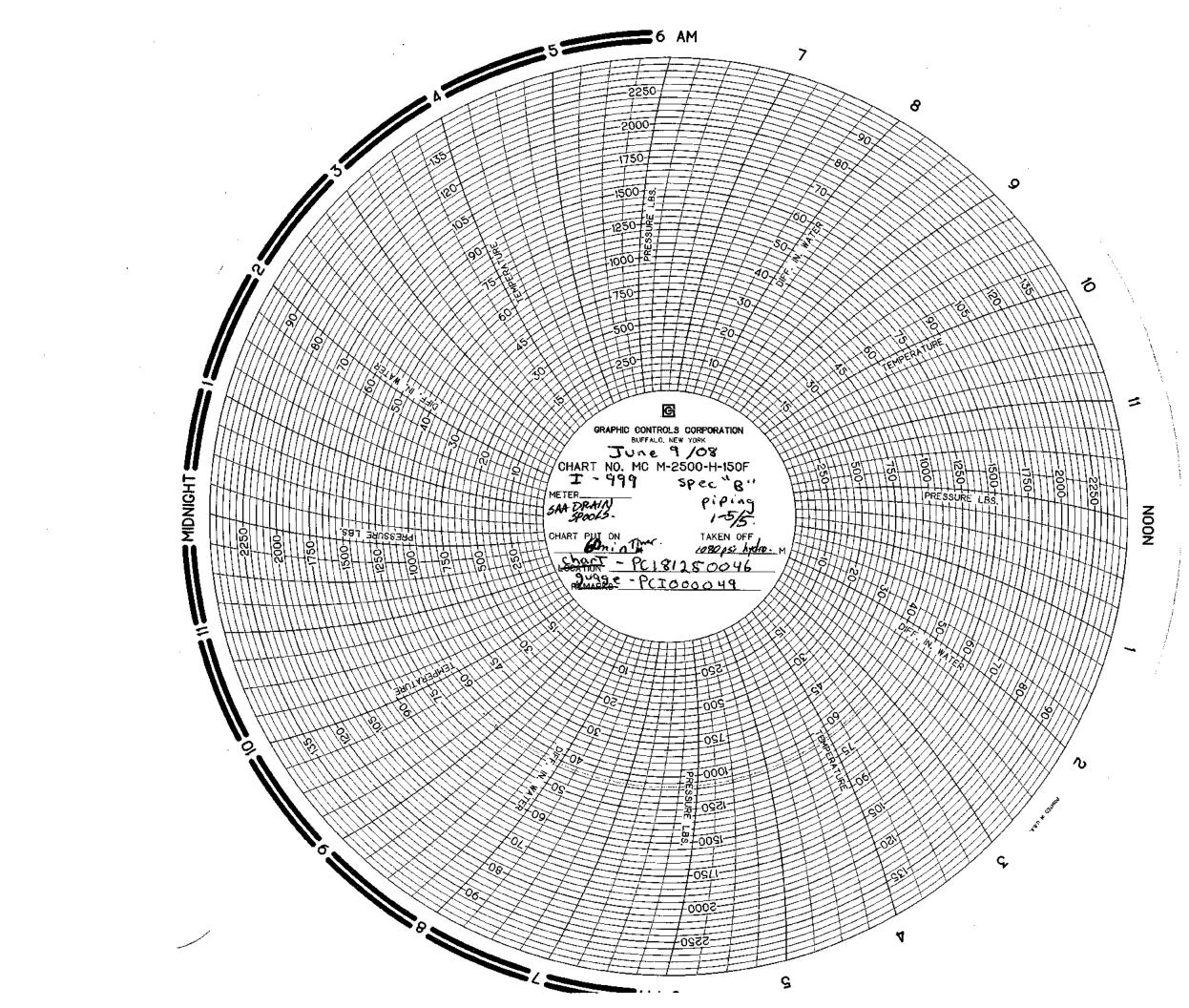
WIKA INSTRUMENTS LTD. certifies that the above mentioned instruments have been calibrated and are traceable to the National Institute of Standards and Technology (NIST).

Calibration is carried out according to the following norms:

- ASME B 40.1 (latest revision)
- -Calibration of Wika test instruments is carried out on an annual basis. Validity of certification of test instruments is one year from date of issue.

page 2 of 2

Fax.: (403) 237-0095



6

**AB 83 / CHECKLISTS** 



## **PC**COMPRESSION INC. QUALITY SYSTEM MANUAL

REVISION: 3

DATE: 20/09/07 SECTION 9 PAGE 4 OF 6

## EXHIBIT 9.1 PRESSURE PIPING EXAMINATION AND INSPECTION SHEET

	PRESSURE PIPING EXAMINATION AND	INSPE	CTION SHEE	Т
	JOB NUMBER:	X-98	O SAA-0	25240
NO.	FUNCTION	MANUAL REFER	SIGNATUR	RE OR INITIAL DATE
			Q.C. INSP.	OWNER'S INSP.
1	Drawings: ABSA registration over 0.5m³. Approved by owner. Approved For Construction (signed & dated)	7.6 7.2	24/06/08	
2	ABSA Safety Codes Officer (when required) and Owner's Inspector notified.	8.4 9.3	50c 24/06/08	
3	Registered Welding Procedures, Q.C. Manual and Forms available at site, Job File started.	9.2(a) 9.3(a)	N/A	
4	Welder's qualified for Weld Procedures and have valid Performance Qualification cards. Welders Log Completed. WPS reviewed with welders.	10.3	NA	
5	Material checked against P.O., drawings, and specifications. Identification confirmed. Color coding applied.	8.3 8.6	24/06/08	
6	Sample of each welder's work examined, including root spacing, alignment cleaning, joint preparation, preheat and electrode control.	10.3(f)	NA	
7	Nondestructive Examination completed. Reports and radiographs reviewed, signed by Level II or III, Radiograph I.D. detailed on drawings.	12.2	NA	
7	Visual examination of all completed welds. Welder's I.D. stamped and or recorded on drawings.	10.3(g)	NA	
9	Heat Treatment verified and recorded on drawings.	13.3	NA	
10	Each system checked against specifications and drawings before pressure test.	9.3(d) 9.3(f)	500/07/08	
11	All deficiencies recorded and signed off by Q.C.I. and Owner's Inspector before pressure test.	11.3, 11.5	500/07/08	
12	Pressure Test checked. Gauge callbration verified, gauge # recorded.	15.4, 14.3	900/07/08	
13	System checked after test. Deficiencies recorded and corrected. Exhibit 15.2	15.4	18/07/08	
14	Construction data reports prepared and signed by Q.C.I. and Owner's Inspector. (AB-83)	9.2(d, e)	50C 18/07/08	
15	Declaration from submitted to ABSA. (AB-81)	9.2(b)	NA	
16	As built drawings submitted to Owner.	9.3(h)	18/07/08	<u></u>





REVISION NO: 3 DATE: 20/09/07 SECTION 9 PAGE 5 OF 6

## EXHIBIT 9.2 PRESSURE PIPING EXAMINATION GUIDE

	JOB NO: 7-980	SAA-08	240
		SIGNATURE (	
		Q.C. INSP.	OWNER'S INSP
1.	Pipe material specification correct.	15/05/08	
2.	Flanges, ratings, schedule material specification correct.	03/06/08	
3.	Fittings, Tees, Return bends-Reducers couplings, Weldolets, etc. correct material specifications.	24/06/08	
4.	Valves identification - Manufacturers name tag, etc., correct.	500/06/08	
5.	Valves installed correct, flow direction, accesses, rising stems free from obstructions. Clearance for removal adequate.	02/07/08	
6.	Lubrication fittings, drains, etc., installed as required.	900/07/08	
7.	Bolts and studs length and material correct, studs at least flush with heads (max. thread exposure beyond nut should be about 2 threads).	02/07/08	
8.	Gaskets are correct type, material.	500/02/08	
9.	All welding satisfactory and traceable to welders symbol.	N/A	
10.	Seal welding complete – threads covered.	NA	
11.	All attachment welds satisfactory.	03/07/08	
12	All N.D.E., heat treatment complete, records filed.	NA	
13.	Guide anchors and shoes required installed correctly (high temp lines).	NA	
14.	Line Supports adequate – supports to be checked against drawings.	200/07/08	
15.	Spring hangers – correct.	NA	, , <u>.</u>
16.	Lines have adequate allowance for expansion.	MA	
17.	Bellows type expansion joint correct type and installed correctly.	MA	
18.	Required cold spring applied.	NIA	
19.	Orifice runs have specified straight length of pipe - located correctly etc.	502- 502- 18/07/08	
20.	All deficiencies recorded on non-conformance record.	SAC / /_	·



Owner's Job No: I-980 / SAA-08240



1. Constructed By: PC COMPRESSION INC.

## CONSTRUCTION DATA REPORT FOR PIPING SYSTEMS

In accordance with the provisions of the Safety Codes Act

Shop Construction ⊠; Field Construction □; Final Data Report ☒; Partial Data Report ☐ (from one ABSA-authorized Contractor to another ABSA-authorized Contractor).

## Complete both sides of this Form

							contractor or s T9E 7Z2	ubcontrac	tor)				
	Alberta C	Quality Pro	gram N	lo. AQl	P- <u>2997</u>		(Address)	-n.	Expiry l	Date: JA	NUARY 2	22, 2011	
2.	Construct	ted For:							<u>-u</u>				
					(Name	of primary c	ontractor if diff	erent from	above)				
		_				<u></u>	(Address)						
	Alberta ( (Required wh	uality Pro	gram N contractor	(o. AQ) undertake	P s some/all o	f the quality fi	ınctions, e.g., Ma	at'l supply,	Expiry I	Date: Tie-in, fabric	ation, hydro tes	st. final asse	mbly etc.)
3.							et, Nisku, A						
	₽	ortable			(N	ame and add	ress)						
	-				(Loca	ation of instal	lation)						
	Alberta (	uality Pro	gram N	lo. AQI	P Lafike mal	iivi Avertions	e.g., Mat'l sup	Jes Mine	Expiry I	Date:			9392
4.		esign Albe	rta Reg	istratio	n No.: I	PP							y etc.)
5.	WP No.:	WP-	: C	ompan	v:	<u> </u>		(Re	quired if agg	regate piping	volume is ove (If used)	er 0.5m³) • WP-	
-		Alberta Kegist	ration No.	.)	,						(Albert	a Registra	tion No.
_		_		~						f used):			
6.	Code:	ASMI	E <b>B</b> 31.1	Non E	Boiler Ex	ternal Pip	oing □;		ASM	Œ B31.1	Boiler Ext	ternal Pi	ping 🗀
		ASMF	E B31.3	⊠ - S€	ervice ca	tegory: N	ormal ⊠, D	□, M [	], High P	ressure 🗆	B31.5	□; B	31.9
Ī	Drawing No.	Fluid (Air/Stm.	Des.	Des.	Test	Test	Pipe Mat'l	C.A.	Pipe NPS	Flange	PWHT/	R.T,	Other
	Rev. No. Line No.	(Air/Sim. Etc.)	Press. kPa	Temp. <sup>9</sup> C	Press. kPa	Medium	Spec. & Grade	min	& Schodule	Material & Rating	Preheat Temp. <sup>©</sup> C	% . 	NDE
ľ	PG-1101-2-A	GAS	150 PSI	350°F	165 PS1	AIR/\$QAP	\$A-106-B	SEE NOTES	2" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
ľ	PG-1102-2-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	SEE NOTES	2" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
	PG-1103-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
	DR-1104-1-A	LIQUID	150 PSf	350°F	165 PSI	AIR/SOAP	SA-106-8	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
	DR-1105-1-B	LIQUID	720 PSI	350°F	1080 PSI	WATER	\$A-106-B	SEE NOTES	1" SCFI 80	SA-105N CL 2000	N/A	N/A	VISUAL
	PG-2101-2-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-8	SEE NOTES	2" SCH 80	\$A-105N CL 2000	N/A	N/A	VISUAL
	PG-2102-I-A	GAS	150 PSI	350°F	165 PS1	AIR/SOAP	SA-106-B	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
	PG-5101-2-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	\$A-106-B	SEE NOTES	2" SCH 80	\$A-105N CL 2000	N/A	N/A	VISUAL
	PG-1201-1-A	GAS	150 PS1	350°F	165 PSI	AIR/SOAP	SA-106-B	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VIŠUAL
	DR-1202-1-A	LIQUID	150 PSI	350°F	165 <b>PSI</b>	AIR/SOAP	SA-106-B	SEE NOTES	1" SCH 80	\$A-105N CL 2000	N/A	N/A	VISUAL
	DR-12035-A	LIQUID	150 PSI	350°F	165 PS1	AIR/SOAP	SA-106-B	SEE NOTES	.5" SCH 80	\$A-105N CL 2000	N/A	N/A	VISUAL
	DR-1204-1-A	LIQUID	150 PSI	350°F	165 PS1	AIR/SQAP	SA-106-B	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
	BP-1205-1-A	GAS	150 PSI	350°F	165 PSI	AIR/\$QAP	SA-106-B	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
Γ	PG-1301-1-A	GAS	150 PS1	350°F	165 <b>P</b> \$I	AIR/SOAP	SA-106-B	SEÉ NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
ſ										1			

											AB-8	3 2003/1
PG-13025-A	GAS	150 PSI	350°F	165 PSI	AJR/SOAP	SA-106-B	SEE NOTES	.5" SCH 80	SA-105N CL 2000	N/A	N/A	VI\$UAL
PU-13035-A	LIQUID / GAS	150 PS1	350°F	165 PSI	AIR/SOAP	SA-106-B	SEE NOTES	.5" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
PU-1304-1-A	LIQUID / GAS	150 PSI	350°F	165 PSI	AIR/SOAP	\$A-106-B	SEE NOTES	1" SCH 80	\$A-105N CL 2000	N/A	N/A	VISUAL
PG-1401-1-A	GAS	150 P\$I	350°F	165 P\$I	AIR/SOAP	SA-106-B	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
PG-1402-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
RC-1403-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
BD-1404-1-A	GAS	150 PS1	350°F	165 PSI	AIR/SOAP	SA-106-B	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
FG-1405-1-A	GAS	150 PSI	350°F	165 PSI	AJR/SOAP	SA-106-B	SEE NOTES	1" SCH 80	\$A-105N CL 2000	N/A	N/A	VIŞUAL
PG-1406-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	SEE NOTES	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
PG-1407-2-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	SEE NOTES	2" SCH 80	\$A-105N CL 2000	N/A	N/A	VISUAL
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Partial Data Reports, properly identified and certified by ABSA-authorized contractors, as listed below are attached to and form part of this Data Report

No.	Line No.	Spool No.	Drg. No. (with Rev. No.)	Contractor (Name)	AQP No.	Expiry date
						ű

Remarks: Provide additional comments including noting any code work that was not performed by the ABSA-authorized contractor(s) supplying this document as a Partial Data Report but which must be completed by another ABSA-authorized contractor who assumes overall responsibility for conformance with the Safety Codes Act & Regulations and applicable ASME Codes, and who assures that all required code work is completed prior to putting the piping system into service.

NOTES:	
CORROSION ALLOWANCE: 0.0625" ≥ 1/2" NPS	
0.055" ≤ 3/8" NPS	

## Endorse certificate 'A' or 'B'

## A. CERTIFICATE OF COMPLIANCE

Signed by the subcontractor when supplying this certificate as a Partial Data Report

We certify that the statements in this Data Report are correct and that materials, construction and workmanship of the piping fabrication conform to the registered quality system and the applicable Piping code(s).

Date:

Subcontractor

Print Authorized Representative's Name Signature

This certificate is not valid unless it forms part of a Final Data Report signed by Primary Contractor

## B. CERTIFICATE OF COMPLIANCE

Signed by the primary contractor when supplying this certificate as a Final Data Report

We certify that the statements in this Data Report are correct and that piping job no. I-980

described in this Data Report was constructed in accordance with the Province of Alberta Safety Codes Act and Regulations, and applicable ASME Piping Code(s).

Date: 18 July 2008

PC COMPRESSION

Primary Contractor

SCOTT CAMPBELL

Print Authorized Representative's Name

Signature

## CERTIFICATE OF INSPECTION

I, the undersigned, employed by PC COMPRESSION INC.

have inspected the piping

job no. I-980

described in this Construction Data Report and state that, to the best of my

knowledge and belief, the Contractor has constructed this piping in accordance with the applicable Sections of the ASME Piping Codes and Province of Alberta Safety Codes Act and Regulations.

Date:

18 July 2008

Date:

Name:

SCOTT CAMPBELL

Print Owner's Inspector's Name Owner's Inspector's Signatur

Sign.:

ABSA Safety Codes Officer
(BOILER EXTERNAL PIPING ONLY)

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



7 MTR'S



INDUSTRIA MECCANICA LIGURE SPA

COMPANY WITH CALLITY SYSTEM ISD 9001-2000 CERTHEED BY RANA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

Oated 05.08 2005 Oated 29.07.2005 Dated 29.07.2005 Cartificate Nr. 15653 invoke Nr. 931 Del, Note Nr. 1410 ర TRANS AM PIPING PRODUCTS LTD. 7025 - 44th Street S.E. Calgery, Alberta T2C 4E3

16030 CASARZA LIGURE - Genove - Haby - P.zza Maxoa Ceppesi,d - Tel 0185.46661 - Fax 0185.486510 / MATERIAL TEST DEFARTMENT This centificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page

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19   19   19   19   19   19   19   19		3	1	50.07	3 2005-ZEZI	01-0000839-014			IG TEE TH	<b>TRD NPT</b>	344.7" 41	OSN								SUBMINE TO SERVING
10   10   10   10   10   10   10   10	<u>5</u>	79905	14	CI-05 - 536	3 2005-2620	31-0000839-014		FILE	1 2 2 2 2	TON CO.	10 10 10 10 10 10 10 10 10 10 10 10 10 1	2 2 2	,			-		S	NOTE	SATISFACTORY
12,233   1	2	74379	<u>6</u>	CI-05 - 538	3 2005-2E20	11-00000839-015	,**	Ė			, M	200	1	1				SEE	NOTE	SATISFACTORY
139700   30 CLGG-538 gross-\$2030 gross-\$2030   FITTING 59 GELB. SWY MA 124* A1G6M   SEE W. S. S. S. S. S. S. S. S. S. S. S. S. S.	<b>H</b> 2	73215	=	CI-05 - 638	3 2006-2E20	1.0000839-011		4				4 A105F	ļ	I				SEE	NOTE	SATISFACTORY
2         73599         35         CL-G5 - 539 2004-52201-0000099-039         FITTING 49 ELBS SIV MAILTY A 1105N         SEE IN FITTING A 1 ELBS SIV MAILTY A 1105N         SEE IN SEE	GRS	39700	8	CI-05 - 538	\$ 2005-2E20	H-0000839-030					8/L WS/7	A105N	ı					SEE	NOTE	SATISFACTORY
1,000   1,00	H42	73509	<b>%</b>	C)-05 - 538	3 2005-2E20	11-0000839-035				MS AAC	44 A10	Ž :						SEE	NOTE	SATISFACTORY
COOK   Fig.   40   CLGG - 538 2009-3E201 0000999 4   FITTING 90 ELBS SW WART 2 A105N		79948	8	CI-05 - 538	3 2005-2E20	1-0000839-039				WS AA	1% A103	ž						SEE	E C	SATISFACTORY
State   Mark	CAO	75818	40	CI-05 - 538	3 2005-2E20	1-0000839-040		N L	6.90 ELB	SW SM	7 A105N							SEE	NOTE	SATISFACTORY
1,2,2,2,2,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,	HEAT CODE	HEAT	#EM	MATI	ERIAL	ž	31%	Man%	785	24		3		-				;   행	NOTE	SATISFACTORY
1.2.5   1.2.		79905	#	ASTM A106		0.210	0.210	800		ļ	1	I.	J	J	*	ž Q Q	%N		C.E.% □	OTHER ELEMENTS
12.215   1.1   ASTMA A105   0.150   0.220   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.011   0.012   0.010   0.010   0.011   0.012   0.010		79905	<b>4</b>	ASTM A106		5.50	0.40	0000								0,001	0000	0,006	0.421	
12215   11   ASTM A105   0.190   0.191   0.1		74379	6	ASTM A105		0.19	200			٠						0,007		0.00	0.421	•
String   S		73215	=	ASTM A105		50.0	0.450									0.000			0.389	
2 73909 35 ASTM A105 0.199 0.220 0.019 0.020 0.020 0.000 0.		39700	8	ASTM A105		0.190	230									80,0			0.392	
6         75948         39         ASTIM A105         0,180         0,200         0,000		73509	33	ASTM A105		0.195	250									0,00			0.422	•
Q         73818         40         ASTMA 105         0,220         1,500         0,000         0		9948	ğ	ASTM A105		0.160	0.210									0,000			0,395	
Topole   HEAT   TTEM   TEST SPACINES    TREASILLES TR		5818	9	ASTM A105		0,210	0,220									000			0.381	•
Togo	HEAT CODE	HEAT	TEM	12			HLE STRENG	ELOWO	.	CTION OF AR	: 1	1	; `	001'n		9,0	0000	92	0.400	
6         79905         14         122,65         50,00         332,0         540,0         33,5         56,5         162,169         0,0         KV         20         1         7         1           6         79905         14         122,65         50,00         332,0         540,0         33,5         56,5         162,169         0,0         KV         20         103         102         10           73215         11         122,65         50,00         332,0         520,0         33,0         525,0         33,0         60,0         0,0         KV         20         103         102         103         103         103         102         103         10				- 1	_ I		NAMES >+	, e.		â				TINGONE LES	1		EST - JOULE	/cm2	SHAPE	PE YELD PORT
12.865   50.00   332.0   540,0   33.5   56.5   162 - 169   0.0		5066	<del>7</del>		30,00	332,0	540.0	E	8	8.6	18	199	18		TYPE (BE)	ē.	-	-	1.02-0	2
74379         19         122,65         50,00         325,0         34,0         59,0         100,100         KV         20         102,103         1		9903	7		90,08	332,0	540.0	33	- 40	9 9			) ) (	0 0	≩ :	~		25	108	00
73215   11   122.65   50,00   330,0   525,0   33,0   58,0   152-159   0,0   0,0   KV   20   96   103   100   100   122,05   100   34,0   564,0   34,0   56,0   160-164   0,0   0,0   KV   20   96   95   100   100   122,65   50,00   332,0   35,0   35,0   56,0   160-164   0,0   0,0   KV   20   96   97   100   122,65   50,00   332,0   35,0   56,0   160-162   0,0   0,0   KV   20   106   95   100   100   122,65   50,00   332,0   34,0   56,0   160-162   0,0   KV   20   106   95   100   1		4379	₫.		90'00	325,0	520.0	2		ģ	2 6			0	≩	≈		102	- -	00
5         39700         30         122,65         50,00         345,0         50,0         152,136         60         100         KV         20         106         95         10           73509         35         122,65         50,00         335,0         520,0         36,0         160 - 164         0,0         0,0         KV         20         96         97         10           75818         40         122,65         50,00         335,0         526,0         36,0         160 - 164         0,0         0,0         KV         20         96         97         10           75818         40         122,65         50,00         319,0         526,0         36,0         160 - 164         0,0         0,0         KV         20         106         98         10           75818         40         122,65         50,00         319,0         50,0         160 - 162         0,0         KV         20         106         10         KV         20         106         10         KV         20         106         10         KV         20         10         KV         20         106         10         KV         20         106         10		3215	=		00,00	330,0	525.0	2		2 0			) ) )	Ď.	⋧	ಸ		5	100	i c
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79948   39   122,65   50.00   332,0   526,0   36,0   526,0   36,0   526,0   36,0   526,0   36,0   526,0   36,0   526,0   36,0   526,0   36,0   526,0   36,0   526,0   36,0   36,0   526,0   3			35		00'0	335.0	532.0	×	, -	3 9			<b>3</b>	0'0	⋧	ี		24	105	000
75618   40   122.65   50.00   319.0   506.0   34.0   55.0   160 - 162   0.0   0.0   KV   20   105   106   100     CODE   HEAT   TTEM			33		000	332.0	628.0	7 6		) () ()	8		0.0	0,0	\$	8	_	88	104	9 6
CODE         HEAT         ITEM         MATERIAL IN ACCORDANCE TO         HEATTREATHENT         FURNACE         RICHARDE         FURNACE         RICHARDE			4		0.00	319,0	506.0	3 8		א ק ק			0 0	0,0	≩	×			101	200
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DATE RECEIVED JUN 2008 E832806 APPROVED BY Q.C. INSPECTOR P.O. # 5/0428 SIGNATURE

STUDBOLTS

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FITTINGS

**BORIS FIZZOTT** 

TRANS AM PIPING PRODUCTS - REV'D BY: TRANS AM PIPING PRODUCTS - REV'D BY: SALIDMERT : S 5 - 1517 10

INSPECTION CERTIFICATE EN 10204:2004/3.1

Certificate Nr 16270 frvolce Nr 1 Del. Note Nr 1 రే TRANS AM PIPING PRODUCTS LTD. 9335 Endeavor Drive S.E. . Calgary, Alberta T3S 0A1

02.01.2008 02.01.2008 02.01.2008

Dated Dated

COMPANY WITH QUALITY SYSTEM (SO FOO1.200) CERTIFED BY RINA **IDUSTRIA MECCANICA LIGURE** SPA

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S. CL 3000 FS SCRD UNION

HEAT NUMBER : 6EU
TRANS AM PIPING PRODUCTS - REV'D BY:
Shipment/Seq #: S 8 - 1013 14

APPROVED BY Q.C. INSPECTOR

SIGNATURE

**IDUSTRIA MECCANICA LIGURE SPA** 

MSPECTION CERTIFICATE EN 10204;2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 3001-2000 CERTHIED BY RINA

TRANS AM PIPING PRODUCTS LTD.

Dated 28.04.2008 Dated 24.04.2008

Certificate Nr. 18584 (revolce Nr. Del. Note Rr. 707 9335 Endeavor Drive S.E. Calgary, Alberta T38 0A1

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HEAT NUMBER : HRS TIVE 1 Shipment/Seq #: S 8 - 1176 1

APPROVED BY Q.C. INSPECTOR

SIGNATURE:

INSPECTION CERTIFICATE EN 10204;2004 / 3.1

TRANS AM PIPING PRODUCTS LTD.

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HEAT NUMBER : HFI TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 7 - 1536 3

APPROVED BY Q.C. INSPECTOR

28 04 2008

Certificate Nr 18584 Invoice Nr Del. Note Nr 707

TRANS AM PIPING PRODUCTS LTD.

INSPECTION CERTIFICATE EN 10204:2004 / 3.1 COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

**IDUSTRIA MECCANICA LIGURE SPA** 

9335 Endeavor Drive S.E. Calgary, Alberta 139 0A1

Dated Dated

24.04 2008

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HEAT NUMBER

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E831895 NACE MR0175 ISO 15/56/1 - NACE MR103 - MSS S\$ 83 - SUPPLIED COMPRESSION MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS PC COMPRESSION 3 RECEIVED SIGNATURE: DATE #.0.4

APPROVED BY Q.C. INSPECTOR

QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL | MANUFACTURER'S SYMBOL

INSPECTION AUTORITY

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STUDBOLTS

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FITTINGS

**BORIS FIZZOTTI** 

AEAT NUMBER

2779

TRANS AM PIPING PRODUCTS - REV'D BY

Shipment/Seq #: 8 - 1152

CUSTOMER: SEYBOLD INTERNATIONAL CORP.

2X1 CL 3000 FS SCRD RED TEE A105N

An ISO-9001 Registered Manufacturer



## 能鐵工船份有限公司

高雄縣仁武鄉烏林村仁心路 303 號 BOTH-WELL STEEL FITTINGS CO., LTD.

NO.303, JEN-HSIN ROAD JEN-WU HSIANG ISO 9001 KAOHSIUNG HSIEN, TAIWAN R.O.C.(81460)

TEL: (07) 371-0497, 371-1536, 372-0260 FAX: (886-7) 371-3864, 371-3882 WEB SITE: http://www.bothwell.com.tw E-MAIL:bothwell@www.bothwell.com.tw or box@mail.bothwell.com.tw

### MILITEST & INSPECTION CERTIFICATE

ACCORDING TO EN10204/DIN50049/3.1,B

INVOICE NO: \$#079612026

ORIGIN: TAIWAN

DATE: 04/12/08

CERT NO: 80853 ORDER NO: 7409(CI-07-667) L/C NO: PAGE: 14 BOTH ITEM SPECIFICATION: RAW MATERIAL WELL ASTM ALOSN -05 ASME SA105N -A08 DESCRIPTION **EEAT NO.** QUANTITY HT.CD. DIMENSION: 044 AB118 1002-18694 RED. CPEG 3"×1-1/2" 3000# NPT ASKE B16.11 - 2005 **045** AB118 1002 - 18694 RED.CPIG 3"×2" 3000# NPT 046 2780 398058 RED.TEE 1-1/2"×1/2" 3000# NPT SURFACE: 047 2698 392983 TEB.TEE 2"×3/4" 3000# NPT BY VISUAL ... GOOD 842 2779 395808 RED. TEE 2"×1" 3000# NPT - 3 848 279R 396912 RED.TER 2"×1" 3600# NPT 049 2769 35702 RED. THE 4"×2" 3000# NPT CHENICAL COMPOSITION (%) TEN PLOT C Si Жn WELI. 8 Cm Cr Ni Не Ch (Nb) CK HT.CD Wi m 0.100 6.600 Max 0.350 0.3501.050 0.035 0.040 0.400 0.300 0.400 **8.120** 9.080 0.430 044 12119 0.228 0.220 8.560 0.023 0.882 0.030 0.040 0.010 9.005 0.001 0.392 045 ABL18 0.220 8.228 0.968 0.023 **9.002** 0.830 **0.04**0 0.010 0.004 **1.00**5 0.001 8.392 2780 946 0.190 0.198 0.260 0.019 0.009 6.196 8.096 0.060 0.010 0.882 0.001 9.370 2698 047 0.200 0.208 0.830 0.023 0.010 8.178 0.110 0.050 0.016 0.002 0.001 0.377 2779 048 0.210 0.170 0.870 0.021 6.815 **0.190** 0.020 0.070 0.410 0.002 0.001 0.391 848 278C 0.200 0.200 0.830 0.015 0.019 **8.140** 0.080 0.020 0.620 0.003 0.001 0.374 049 2769 0.210 0.210 1.110 0.018 0.614 9.116 0.070 0.050 0.065 0.003 0.005 0.432 MECHANICAL TEST Renark: ITEM HORMALIZED : 850°C Tensile BOTH Yield Elon-R of A Hardness CONFORMS TO NACE MR0175-2003/MR0103 WELL Strength Strength Cation STREE MAKING PROCESS : ELECTRIC FURNACE (AVG.) (KSI) (ISI) HT.CD. **(%)** (%) **(B)** Kin 70.0 36.0 22.0 30.0 Hax 187 944 ÅÈ118 76.5 52.5 29.8 61.7 144 WE CERTIFY THE ABOVE MENTIONED FITTINGS HAVE REEN AB118 045 76.5 52.5 29.8 61.7 144 MANUFACTURED AND TESTED IN ACCORDANCE WITH THE **04**6 2780 77.0 SPECIFICATIONS SHOWN 50.5 28.8 63.8 140 047 2698 79.2 57.6 31.8 63.2 141 048 2779 77.8 50.8 31.4 64.8 141 2798 648 79.6 60.1 30.2 62.5 141 Q.C. MANAGER PC COMPRINGER CONVL. 049 2769 78.5 57.1 31.4 62.5 140

BW-D0839 REV:0

510428 P.O. #

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

NDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204:200473.1

TRANS AM PIPING PRODUCTS LTD.

Certificate Nr. 18140 Invoke Nr. 1190 Del, Note Nr. 1830

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ే 233051 Endeavor Drive S.E. Calgary, Aborta T2P 206 COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

SATISFACTORY SATISFACTORY SATISFACTORY 16030 CASARZA LIGURE - Genova - Rely - Pizza Marco Cappull, 4 - Tel. 0185,467681 - Fax 0185,46560 / MATERIAL TEST DEPARTMENT This cartificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 3 - S VISUAL & DIMENS SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY OTHER ELEMENTS Our Ref. Wmm4 >=1,0% VIELD POHNT 041204 072087 061500 011206 TOURLITY CENTROL DEPARTMENT MANUFACTURER'S SYMBOL : MANUFACTURER'S SYMBOL 061472 073105 073041 073051 STUDBOLTS DIM. ACC, TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE 0.373 0,388 980,0 0,403 0.382 0,312 0,221 중 ള ELECTRIC FURNACE **ELECTRIC FURNACE** 0,023 **ELECTRIC FURNACE** ELECTRIC FURNACE 0,005 0,019 ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** 0,022 000 0000 8 **ELECTRIC FURNACE** 0,023 5 용 털 105 88 o FURNACE 0,000 0000 0,000 0000 0000 0000 000 MPACT TEST ឧឧឧឧឧ FITTINGS 0,000 000'0 0,001 000,0 0,000 90,0 NPE 10k18pm 0,000 0,002 0,002 0,002 0,003 ⋧⋧⋧⋧⋧ 0,004 0.00 0,002 0,150 0,130 0,210 0,190 0,160 0,130 PLATTENING TEST Š RIS FIZZOTTI 0,0 0.0000 P. NIPPLE TBE NPT S-160 3/4" L150mm(6") A106B/API 5LB P.NIPPLE TBE NPT 5-80 2" L90mm(3.1/2") A1068/API 5LB 0,010 0000 0,005 0,005 000 000 0,000 9,00 HEAT TREATME P.NIPPLE TBE NPT S-80 2" L205mm A 106B/API 5LB Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Coof SEND TEST Normalized at 880\*-920°C / Air Coof 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 0,010 0,010 0,030 0.000 0,020 0,020 0.010 8 % % 0,020 FITTING HEX H. PLUG THRD NPT 1/2" A105N - FITTING 90 ELB. THRD NPT 3M 1.1/2" A105N FITTING HEX.H.PLUG THRD NPT 1" A105N FITTING 90 ELB. THRD NPT 3M 1" A105N FITTING 90 ELB. THRD NPT 2M 2" A105N E82280 0,050 900 960 0,110 0.050 0,080 0,070 160 - 164 163 - 166 0,080 160 - 164 163 - 166 162 - 168 ž 59 - 161 DESCRIPTION ERIAL MEETSPC-COMPARESSION N 0,070 0,059 0,100 0,080 0600 0.070 0,080 š 58.0 58.0 58.0 000 RECEIVED 0000 0,010 0,010 0,020 600'0 0,011 0,014 0,012 57758 0,015 0,006 0,018 0,003 0,023 0,003 0,004 **ELONGATION** 8 32,0 32,0 33,0 38,0 32,0 42,0 0,490 0.950 0,910 1,188 010,1 066'0 0.800 Mn% SPECIFICATIONS AND P.O. REQUIREMENTS - BEND TEST DANGE INPOLES: SATISFACTORY MATERIAL IN ACCORDANCE TO FENSKE STRENG! Ġ P.O. # Amend ye 552,0 537.0 539.0 549.0 2000 94,0 0,240 0.230 0,240 ASME 816.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B11 1-B16.2.2 0,212 0,170 0,200 0,250 0,160 ASME SA ASTM A106/A106M-05 Gr. B ASME SA ASTM A106/A106M-05 Gr. B ASME SA ASTM A106/A106M-06 Gr. B CI-07 - 598 2007-2E201-0000963-080 CI-07 - 598 2007-2E201-0000963-017 CJ-07 - 598 2007-2E201-0000983-078 CI-07 - 598 2007-2E201-0000963-018 CI-07 - 450 2007-2E201-0000672-012 CI-07 - 598 2007-2E201-0000963-001 CI-06 - 635j 2006-2E201-0000797-038 CI-06 - 635 2006-2E201-0000797-050 0,190 0.195 0,195 0,110 0,185 0, 181 0,150 NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MAT OUR REFERENCE ť Name 2 >= 6,2% 314,0 361,0 316.0 366,0 312,0 295,0 ASME SA ASTM A 106-05 ASME SA ASTM A105-05 4SME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASTM A106/B API 5LB ASTM A106/B API 5LB ASTM A106/B API 5LB 8 90.00 50,00 50,00 MATERIAL 8 8 8 8 TEST SPECIMEN YOUR P.O. ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 SECT, mm2 122,65 122,65 122,65 122,65 122,65 8 0,00 Ę ITEM 078 912 020 038 978 918 5 88 9 947 8 82O 8 888 88 110 92 661578 AK4583 HEAT **£38228** HEAT AK4583 73413 72963 661578 539229 661578 AK4583 539229 77912 73413 HEAT AK4583 22877 86591 72963 22877 73413 661578 86591 539229 72963 22877 86591 77912 73413 72963 22877 86591 HEAT CODE 3000 HEAT CODE NOTES 06A N58 06A N58 79A 69 2 ₩ N59 HBZ 06A N58 N58 N59 HBZ A 28 86 8 Ţξ

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TBE SLEEL NIPPLES A106

Shipment/Seq -L :# S PRODUCTS DNIGIA MA 23655

**9851** 

**KEA,D** 

TRANS HEAT NUMBER

APPROVED BY Q.C. INSPECTOR

SIGNATURE:

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HEAT CODE		(TE46	YOUR P.D.	O. OUR REI	OUR REFERENCE	<b>₽</b>				DESCRIPTION	No						품	DIN. ACC. TO	VIBUAL & DIMENS	DRAFINS
	45801	: 095	CI-06 - 8	CI-06 - 827 2007-2E201-0000011-062	-0000011-08		PNIP	P.NIPPLE TBE N	NPT S-160	2"L115m	m(4 1/2")	S-160 2" L115mm(4.1/2") A1068/API 5LB	PI SLB				CER	CEE MOTE	COTOT OF THE	
	87456	290	CI-06-8	CI-06 - 827 2007-2E291-0000011-087	-0000011-08	_	P.NIPP	P.NIPPLE TBE A		32" L125r	nm(6") A1	S-XXS 2" L125mm(6") A105B/API 5LB	3.LB					SEE NOTE	SATISFACTORY	TORY
	23651	8	· CI-06 - 827	27 2007-2E201	2007-2E201-0000011-088	 <b>S</b>	d N	P.NIPPLE TBE NPT		" L205mr	n (8°) A10	S-80 1" L205mm (8") A106B/API 5LB	,	Mor.			35	SEE NOTE	SATISFACTORY	TORY
	55178	3 8	2007	CI-U7 - 450; 2008-25201-0000052-001 CI-D7 - 691 2007-25201-0001160-020	1-00000052-00 1-0001180-03			P.NIPPLE TBE NPT O NIDOME TOE NOT		: L205mr	n (8") A10	S-80 2" L205mm (8") A1068/API 5LB	¥				SEE	SEE NOTE	SATISFACTORY	TORY
	23651	7	CI-07 - 6	CI-07 - 691 2007-25201-0001160-024	-0001160-02			LE 19E N	F.NIPPLE 195 (*) 5-50 3/4 L100mm(4") A105B/AP15L	. 1205m	nm(4") A.1 n (8") A 10	DOB/APT	5 4				W .	SEE NOTE	SATISFACTORY	STORY
	539229	4	CI-07 - 6	CI-07 - 691 2007-2£201-0001160-041	-0001160-04	<u>.</u>	PMP	LE TBE N	P.NIPPLE TBE NPT S-80 2" L205mm (8") A106B/API 6LB	" L205m	n (8") A10	68/API 5	j ed				200	SEE NOTE	SATISFACTORY	TORY
	22877	<del>-</del>	CF-04 - 6	CL07 - 691 2007-2E201-0001160-041	-0001160-04		P,N,PP	LE TBE N	PT S-802	:" L20 <b>5m</b> n	n (8") A10	68/AP! 5	æį				S	NOTE	SATISFACTORY	TORY
HEAT CODE		TEM	W.	MATERIAL	స	%I6	Mn%	2,4	18	*50	NIX X	Mo% T1%	% 30	% 5	NP%	%¥		``	OTHER ELEMENTS	MENTS
	45801	052	ASTM A1	ASTM A 106/B API 5LB		0,180	<b>.</b> .	<b>L</b>		0,120	ł	0,030 0,0	0,000 0,160	0000	0000	0.000	0000	+		
	87456	88	ASTMA	ASTM A106/B API 5LB	~ .	0,230	_	<b>-</b>				<u> </u>	0,000 0,190	0,00	0,000	0,000	0.025	0.285		
	22877	25.0	ASTMAT	ASTMIA106/BAPI5LB ASTMIA106/BAPI5LB	200	0,280	0,480	500,0	0,010	0,040	<b>-</b>			<b>-</b>	-	0000	0,022		1	
	55178	2	ASTM A1	ASTM A106/B API 5LB		0,250			,	<b>.</b>			0,000	0,002		80	0,023			
	23651	75	ASTM A1	ASTM A 106/B API 5LB		0,280						<b>.</b>			000		8 8	0,312		
	539229	<u>+</u> -	ASTMAT	ASTM A106/B API 5LB	0,140	0,230				_					<b></b>	0,000	900	0,312		
	11077	<b>-</b>	- X-20 -	OWE APRI SUE	0.170	062'n	3	ar i	0,071	2	090'0	0,010 0,000	00 0,130	0,002	0,000	0,000	0,023	0,221		
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	45801	062	0,0	+	293.0	422.0	31.0	0	8	184-	173	6	5	TYPE (III)	<u>-</u>	۱- ا	~		1ºO 2ºE Nimms	34 mm 6
	87456	290	000	000	296,0	422,0	4		8	163 - 168	92	000	3 6	2 5	_			<b>⊕</b> (		0,0
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	45901	650	ASME SA	ASME SA ASTM A108/A 10841 OR. C.	A 10011 A	à										LOKNACE			~	Our Ref.
	87456	290	ASME SA	ASME SA ASTM A106/A106M-06a Gr.	A106M-06	0 eg			Normalized at 880°C-920°C / Air Coo		Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool	Air Cool			교 교 대	ELECTRIC FURNACE	RINACE		8	073095
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	22877	5 3	ASME SA	ASME SA ASTM A106/A106M-06a	A106M-06	* 8 9 9 8		<b>R</b> :	Normalized at 880°C-920°C / Air Coot	d at 880°	C-920°C /	Alr Cool			E E	ELECTRIC FURNACE	RNACE		3 E	6073406
	22178	2.2	ASME SA	ASME SA ASTM A106/A106M-06a Gr.	7A 106M-06	න ( ලි.			Normalize	d at 880°	Normalized at 880°C-920°C / Air Cool	Air Cool				CTRIC FU	RNACE		5 8	063028
	538229	£ 4	AS EMPS A	ASME SA ASTM ATCE/ATCEM-USS CF. B ASME SA ASTM ATCE/ATCEM-OS. CF. B	74 TUBM-US	0 0 5 0			Normalized at 880°C-920°C / Air Cool	d at 880°	C-820°C /	Air Cool			ĒĒ	ELECTRIC FURNACE	RNACE		8	073115
<b>-</b>	22877	4	ASME SA	ASME SA ASTM A106/A106M-06a Gr. B	A106M-06				Normalized at 860°C-920°C / Air Cool	d at 580'r	C-920°C /	A. C00				ELECTRIC FURNACE ELECTRIC ELENACE	RNACE		9.6	073041
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SILCOTUB S.A. \$3, MIHAH UTEAZU BLYO. 4,40099 ZALAU, SALAJ

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RECENVEBESISNON 4 2008 E832806 APPROVED BY O.C. INSPECTOR PO.# 510428 SIGNATURE: DATE GRADE 200, GRADE B, GRADE X 42 see attachment procluct menting Hot rolled Produktiennzeichnung: derquage du produk Jeferzietend Huston d'abler Debrary confit **Stahleorte:** Sex de Berata

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0001 457	2.2	2* MPS * Sched, 18 FT - 22 FT	<b>9</b> /		16003,58	36246	745700	207 5		
0002 242	2	2* HPS * Sched. 38 FT - 42 FT	<b>\$</b>		9982,32	35903	536382	207 5		

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HEAT NUMBER : 745635 TRANG AM PIPING PRODUCTS - REV'D BY: P.O. # /Seq #: L-08 - 10164 4

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# BENTELER ® Stahl/Rohr

ABN	NAMEP!	ABNAHMEPRÜFZEUGNIS EN 10204-3.1 MPROTON CERTFOATE EN 102043.1 JERTIFICAT DE RECEPTION EN 102043.1	10204-3.1		Dokument-Afr.: Dosament No.: No. du document:	86-351130/001/P		P-OF-Nr.: Impendies Ne.: No. du certifisat:		Blett: 2/ 7 Pages Pages
9 1 g	Stück Namber Nomber	Maße Dimensions Dimensions			Lânge Langel	Gewicht Weight Polds	Schmelzen-Nr. Heat No.	Prüfdruck Test pressus Pression d'ép	Prüfdruck Rohr-NrGruppe Temperatus Tube number group Presiden d'épreuve Sélte de no. des tubes bar	Vielfachlängen     Maligie Imges     Longueur multiple
0003	0003 1054	2* MPS * Sched. 80 18 FT - 22 FT			21015,29	105601	745635	207		
0004 293	293	3" HPG * Sched, 40	9		6251,40	47437	745690	207	ıc	
0006 230	230	4* MPS * Sched. 40 18 PT - 22 FT	0#		1962,02	54344	536224	207	16:	
0007 191	191	4* MPS * Sched. 80 18 FT - 22 PT	0.00	<u> </u>	4155,09	62031	536310	207	un un	

8	Schmetzen-Nr.							•						
# & &	Heat Me. No. de coulée	o ·	<b>5</b>	Ī	Q.	<b>00</b>	<b>E</b>	<u>Q</u>	2	3	· >	2	F	•
1000	745700	0,135		0,84	900'0	1 1	0,12	0,04	0,13	6,17	0,002	1	0,003	0,0002
0002	536382	0,130	0,190	0,82	0,008	900'0	0,10	0,03	0,20	0,15	0,001	0,010	0,003	0.0001
6000	3 745635	0,135		0,84	0,008		0,11	0,03	0,09	0,14	0,001	Ł	0,003	0,0001
1000	745690	0,125		0,83	0,007		60'0	0,03	0,10	0,15	0,001		0,003	0.0001
9000	536224	0,120	0,200	0,81	0,013	1 1	0,11	0,02	0,07	0,18	0,001	1	0,003	0,0002
0000	536310	0,140	0,210	0,82	600'0		0,12	0,04	0,13	0,11	0,001	ı	0.003	0.0001

CE IIW=C+(MMVB)+(C+Mo+Vy5)+((Cu+Ni)/15)<---0,40 % CEV=C+F\*((MMVB)+(9V24)+(Cu/15)+(NE2O)+((C+Mo+V+Nb)/5) +(5\*B)) <=0,40 MMS>=-2Y C+Cu+Mo+Ni+V<=1,00 %

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# BENTELER ® Stahl/Rohr

ABNA METEC CERTIFIC	ABNAHMEPRÜFZEUGNIS EN 10204-3,1 MPHOTION CERTINOATE EN 10204-3,1 SERTIFICAT DE RECEPTION EN 102042,1	0204-3.1	Dolcument-Nr.: Denument We.: No. do document		65-351130/001/P	Political Impediate No. No. du santicas:	Page:
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1000	745700	0,327	0,307	6,222	0,462		
0003	536382	0,314	0,283	6,308	0,471		
0000	748635	0,319	0,299	6,222	0,371		
9000	745690	0,364	0,276	6,640	0,371		
9000	536224	0,298	0,261	6,750	0,381		
0000	536310	0,325	0,305	5,857	0,401		

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0001	745700	6,140	0,170	0,80	0,098	0,005	0,10	0,02	0.20	0.14	0.001	0.010	200	, ,,,,
0001	745700	0,140	0,170	08'0	0,008	0,005	0,10	0,02	9,19	0.15	9.001	0,010		700070
0003	536382	0,140	0,170	0,00	0,008	0,005	0,10	0.02	0.20	0.14	8 002	9 83.0		7000
0000	536382	0,140	0,170	0,80	0,008	0.005	0,10	0.02	0.19	0.14	0.002		200	2000'0
0003	745635	0,130	0,190	0,81	0,007	0,003	0,09	0.03	6,09	9.13	00.0	910	700'0	2000
0003	745635	0,130	0,190	0,82	0,007	0,003	0.09	0.02	0.09	0.13	100.0	918	2001	TORO'S
<b>*000</b>	745690	0,140	0,180	0,80	0.008	0.003	0.08	60.0	:	-			200,0	0,0001
9000	745690	0,140	0,190	0.81	0-00	0.083	80				700 /	970'	0,002	0,0003
9000	536224	0,140	0.200	9.86	0.012	0.607	5 6			V, 10	200,0	0.010	0,002	0,0004
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1000					6,003	200,0	0,12	0,04	0,12	0,10	0,002	0,010	9,002	0,0002
	•	0.130	0,180	0,79	0,009	0,002	0,12	0,04	0,12	0,10	0,002	0,010	0.007	0.0001

## BENTELER

Stahl/Rohr

Tel.: +49.5254.81-0 Fax: +49.5254.13696

HAMPhoty Grabit

ABNAHMEPRÜFZEUGNIS EN 10204-3.1 Mepternoh cemitoate en 10204-3.1 Centificat de reception en 10204.3.1

Dolument-Nr.: Denment Ne.: No. du document

Prights; Impecator Ap.: No. do cartificat:

65-351130/001/P

1. Formet: CE IIW=C+(Mn/6)+((C+Mo+V)/5)+((Cu+Ni)/15)<=0,40 %
2. Formet: CEV=C+F\*((Mn/6)+(8)/24)+(Cu/15)+(Ni/20)+((Cr+Mo+V+Nb)/5)+(5·8)) <=0,40
3. Formet: Mn/C>=3/1
4. Formet: Cr+Cu+Mo+Ni+V<=1,00 %

Formelergebrikes / Formals results / Résultate des formules

2. Formula 2. Formula 2. Formula 0, 299 0, 299 0, 294 0, 294 0, 306 0, 334
1. Formula 1. Formula 1. Formula 0, 320 0, 320 0, 304 0, 304 0, 312 0, 315 0, 326 0, 326 0, 326

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dychostatic test; scc. to CSA Z245.1, holding time min 5 seconds, To research/Time-record
\$ E

PASSED

## BENTELER♥

Stahl/Rohr

Bennster teats/Noter Grabit Postlant 13 40 33043 Paderborn Deutschland Tel± +40,8354,81-0 Fan: +49,8384,13095

ABNAHMEPRÜFZEUGNIS EN 10204-3.1 MEPERING CENTROCKE EN 10204-3.1 CENTROCKT DE RECEPTION EN 10204-3.1	10204-3.1	Dokument-Nr.: Document fla.: No. du document:	96-3511300001/P	Prükkku <b>bapoolon No.</b> No. du ostifant	Mari 61 7 Paper Paper
Augensichtkontrolle: Vluusi impedon: Exemen visuel:	PASBED	Blegeverstuch: Rending sect. Essal de chirage: Pos. / Item / Poses: 0001, 0002, 0003	PASSED 01, 0002, 0003	Maßkorntrolle: Oinseekne seenkunfor: Vérification des dimensions:	PASSED

PASSED Filingialtversuch: Flattering test:

Event d'aplettementeris: Post. / bess. / Posts: 0004, 0008, 0007

Ergelanisse der mechanischen Prütang / Baath of metherini teatry / Nautas des seeds mécaniques

Die Probenshme erfolgte en Violitatistingen. The sampling von omfot ent en meltjak tengla. L'achentitenage etat reales aus beginsus mittotes.

Zugversuch Streffenpribe / Tendetert Step test specimen / Enel de tracion Banés decoupes aur tube

P.98.	Proben-Nr.	Schmeizen-Nr.	Probenation	natimeasung	Streckgrenze	Zugestickeit	Defmung		Einschnörung	He/Hm
į	Apeninsen No.	Heat Re.	Specimes din	es dimensions	And security	Thursday of Street,	Elongrafon.		Area metados	
Posts	No. de l'épromissio, de poutée	tanto. de coulée	Dimensions de	ione de l'éprouv.	Limits dissipas	Adelerance à le traction	Altegement	-	Coefficient de striction	Restan
Antordenungen	uađu				#SE	£	AZ*	1. Formel		
Registraments	£		THE STATE OF THE S		4	<b>4</b>	*	1. Formula		
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1000	100000	745700	19,06 X	3,80	370	474	34,00			
1000	00000	745700	19,00 X	3,80	372	479	32,00			
0002	000001	536382	19,00 X	3,80	385	484	32,00			
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## BEITELERY

Stahl/Rohr

ABNAHMEPRÜFZELGNIS EN 10204-3.1 BEBPECTION CERTIFICATE SH 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1

Tel: +48.5254.81-0 Fax: +48.5254.13090

Dokument-Nr.: Decument No.: No. du deciment

65-351130/001/P

PrOFING Impeculan Naci No. do cerdifosto

Clast: 5/ 7

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teprofung / Hantmestans / Esass de durads	Probert-Nr.	Specimen life.	No. de l'éprouv. No. de coulde	ungen
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Postmagnettomas / Demagnatos / Démagnétias

Post. / New / Posts: 0801, 0502, 0504, 0508, 0503, 0507 residual magnetic field intensity max 3,5 militesia

Fur Zelchen         Kundenmatertel         Kundenmatertel         Kundenmettell-Nr.           Voer reference         Contemer's Mou. de medien         No. de medien of client         No. de medien of client           Voer référence         No. de medien of client         No. de medien of client           P.O. 104898         08-5846 / 104898           P.O. 104808         06-5646 / 104898           P.O. 104808         06-5646 / 104898           P.O. 104808         06-5646 / 104898           P.O. 104808         06-5646 / 104898
Numbratestell-Nr. Purchase Ordar-Na. No. de commercie du oberet  OB-5646 / 104868  OB-5646 / 104868  OB-5646 / 104868  OB-5646 / 104868  OB-5646 / 104888

## BENTELER♥

Stahl/Rohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1 CENTIFICAT DE RECEPTION EN 10204-3,1

[ed.: +49.5284.81-0 Fex: +49.5254.13656

HATCHE GOLDEN

7 

Vettterk / Remark / Barnargu

Prühbte.: Frapasation Na.: No. du osrificati

65-351130/001/P Dokument-Nr.: Decembert Ms.: No. du document

Pos. / Inn. / Pure: 0001, 0003, 0002, 0002, 0002, 0003, 0003 NACE Standard: Hardness acc. to NACE MR0175/ISO 15158: HPC max 22., The material meets the regularments of NACE MR0103; Certificate remarks: This is to confirm that the seamises linepipe supplied by Benteler and verified to CSA Standard 2245.1-02 meets the requirement for micro hardness of max, 248 HV 500.; Bend test; mendref dismeter 12D, bending angle 80 degree

NACE Standard: Hardness acc. to NACE MR0175/ISO 15156: HRC max 22., The meterial meets the requirements of NACE MR0103; Certificate remarks: This is to confirm that the seamless Impige supplied by Berheler and verified to CSA Standard 2245.1-02 meets the requirement for miono herdness of max. 248 HV 500. Pos. / ham / Posts: 0004, 0007, 0008, 0008, 0007

Belbiett Produkticennzeichmung / Atachment product medding / Bupplément mercunge du produk

Produktkennzeichnung ģ

0001, 0002, 0003, 0004, 0006, 0007 Merquege du produk

BENTELER 2.245.1, Spec.SL-PSL1, A/SA-106 0806 S5 BXX2280 HEAT-NO. TEST P RESSURE DIMENSIONS SCHEDULE WA GEHMANY P.O. 104908

PK = Futbactusistum, inter smille, metenge pa enthu PB = Fatachthathering, pain mending, resump pa patala. Philadelinate, Calur ja pásas, ha Iorginálas par paintes PKE = Ministracandeleury, ny mading, menagas es citatas PB = Palpacenda, de atras, respensa par patalacenda TB = Franceschiaeres

Mr Seelbach, Tel.: 05254/81-4281, Fex: 4289 Verkölüfer(in) / Subsmard wemen in charge / Persons chargés :

ROLF TRITTE Abnebmebe

Es wird bestilligt, daß die geliefenen Erzeugnisse den wohn. Lieferbestengungen des Auftriges erhignechen Wenne Dohument wurde mittele EDV ernalft und ist ohne Unterschiff

Ofnelaken, 04.09.2006, TEL: 02064.623-537 FAX: 02064.623-539

We confly that the supplied products comply with the order specification. This document was properted by majora data products and its wald subsout algorithms.
Now attendom que he produkts linds sont conformes not algorithms do its commands to document a del feabling per traitment declarations and a last valids as

MDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY 8YSTEM (\$0 9001-2000 CÉRTIFIED BY NINA

29.11.2007 27.11.2007 27.11.2007 Cartificate Nr. 19192 Involce Nr. 1238 Def. Note Nr. 1914 TRANS AM PIPING PRODUCTS LTD. 9335 Endrawor Drive S.E. Calgary, Alberta T35 0A1

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Separation   Color		638697	. 020	01-06 - 741	2006-2E201	-0000086-0		ON	7 TOT 10		7 130	mm(6°) A1	OSE/API	¥				<u></u>	E NOTE	SATISE	ACTOR
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ASME SIGNATURE:    64589   092   ASME SA ASTM A106/A106/N-06 Gr. B   Normalized at 880°C-620°C / Air Cool   ELECTRIC FURNACE     86581   035   ASME SA ASTM A106/A106/A106/A106/A106/A106/A106/A106/		-		ASME SA AS	STM A106/4	1106AA-06	9. 10.			Normalize	ad at ABC	2000	200			···	CECIRIC	FURNAC			073051
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SIGNATURE: M.C. INSPECTOR						5	- !		4	A A	378	- }		ĺ	i 				!   	,	<b>ì</b>
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TRANS AM PIPING PRODUCTS - REV'D BY:
S2877

TRANS AM PIPING PRODUCTS - REV'D BY: P.O. # /Seq #: L-08 - 9590

2 X 5 XH SMLS STEEL NIPPLES A106 TBE



## Phoenix \* Capitol \* Camco

## **Cap Products**

## **Certified Mill Test Report**

Heat Code: R40 V Heat Number: 612059

Item: 15112010: 2 X 5" XHSML BK STL NIPL

Material: ASTM A106-1999e B / ASME SA106-2001 Edition, No Addenda

Chemistry Properties

C	Mn	P	S	Si	Си	Cr
0.180	0.500	0.016	0.019	0.220	0.020	0.020
Ni	Mo	v	Co	Aì	Сь	Ň
0.020	0.010	0.010			0.000	
Pb	Sn	Ta	Ti	C Eq. Long		
· · · · · · · · · · · · · · · · · · ·				0.274		

Additional Chemical Properties

1		1
		1

**Mechanical Properties** 

Tensile(PSI)	Yield(PSI)	Elong. % in 2 in.	Reduction	BHN
70000	45700	32%		

Charny Minimum Impact - ft/lbs ...

O 1141 1 7 1 1 1 1 1 1 1	mum tunpuee	70100		
Test 1	Test 2	Test 3	Avg.	Test Temp.
				ii ii

## Bend Test Passed **Eddy Current Passed**

This material meets the requirements of the governing specifications. We certify that the above material has been inspected and tested in accordance with the methods prescribed in the governing specification and the results of such inspections and tests conform with applicable requirements.

We further certify this material was inspected with independent inspectors conforming to the requirements of EN 10204 Section 3.1B.

### Specification comments:

MEETS HARDNESS REQUIREMENTS OF NACE MR0175 LATEST EDITION. CONFORMS TO ASME

SA106 GRADE B REQUIREMENTS.

Heat Code Remarks:

PC COMPRESSION DATE RECEIVED JUN 2	Ĺ	2002
(D) 11 to		4000
P.O. # 510428 E837806		
SIGNATURE: M		
APPROVED BY Q.C. INSPECTOR	}	
The second secon	100	

HEAT NUMBER :

Shipment/Seq #:

NDO

TRANS AM PIPING PRODUCTS - REV'D BY: 8 6 1126



2 X 41/2 XH SMLS STEEL NIPPLES A106

TBE



## Phoenix \* Capitol \* Camco Cap Products

Commanding a Higher Standards

Certified Mill Test Report

2/22/2006

Customer

TRANS AM PIPING PRODUCTS LTD. AB

P.O. CI-06-212

Heat No 38509

Heat Code NDO

Phoenix Order # 387732

7025 44TH ST SE

ASTM A106-1999e B / ASME SA106-2001 Edition, No Adden

CALGARY AB, T2C4E8

Part Number

15112009

Description

2 X 4-1/2" XHSML BK STL NIPL

Chemical Properties

								_		
C	Mn	JP ⊤	S	Si	Cu	Cr	Ni		C Eq. Lon	g
0.190	0.490	0.009	0.018	0.270	0.180	0.110	0.090		9.314	~~~
Mo	V	Co	Al	Съ	N	Pb	Sa	Ta	Ti	]
0.010	0.001			1	i					

Additiona	l Chemical	Propertie	:S	

Cr + Cu + Ni
0.380

Mechanical Properties

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	RofA	BHN	Test 1	Test 2	Test 3	Average
74,000	49,000	31.0%			N/A	N/A	N/A	N/A

<sup>\*</sup> Hydro test passed, at 2500 psi,

### \* Bend test passed.

This material meets the requirements of the governing specifications We certify that the above material has been inspected and tested in accordance with the methods prescribed in the governing specification and the results of such inspections and test conform with applicable requirements.

### Comments:

MEETS HARDNESS REQUIREMENTS OF NACE MR0175 LATEST EDITION, CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

CapProducts, Ltd.

25 Winnipeg St

Vanastra, ON NOM1LO

DATE P.O. # APPROVED BY Q.C. INSPECTOR

## Phoenix \* Capitol \* Camco Cap Products

1123547

Commanding a Higher Standard...

**Certified Mill Test Report** 

2/8/2008

Customer

CE FRANKLIN LTD

P.O. 1961663-OR-2100

Heat No 724492

Heat Code XA4 ✓ Phoenix Order # 528241

Material

ASTM A106-1999e B / ASME SA106-2001 Edition, No Adden

BOX 6776 STN "D" CALGARY, AB T2P2E8

Part Number 15112008 Description

2 X 4" XHSML BK STL NIPL

**Chemical Properties** 

С	Mn	P	S	Si	Cu	Cr	Ni	] [	C Eq. Long
0.220	0.530	0.017	0.027	0.300	0.030	0.020	0.020		0.318
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti

Additional Chemical Properties							

Cr + Cu + Ni	_
0.070	_

Mechanical Properties

Charpy Minimum Impact -

	TATCCHUMPICHT T	I Open cies								
-	Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	RofA	BHN	Test 1	Test 2	Test 3	Average	
1	66,500	42,600	32.0%			N/A	N/A	N/A	N/A	

<sup>\*</sup> Hydro test passed. at 2500 psi.

## \* Bend test passed.

This material meets the requirements of the governing specifications. We certify that the above material has been inspected and tested in accordance with the methods prescribed in the governing specification and the results of such inspections and test conform with applicable requirements.

We further certify this material was inspected with independent inspectors conforming to the requirements of EN10204 Section 3.1B. Comments:

MEETS HARDNESS REQUIREMENTS OF NACE MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

PC COMPRESSION 25 Winnipeg St

DATE RECEIVED JUN 1 3 VAIGNTA, ON NOM ILO
P.O. # 510395

SIGNATURE: AC

APPROVED BY Q.C. INSPECTOR

**DUSTRIA MECCANICA LIGURE** SPA

INSPECTION CERTIFICATE EN 10204;2004 / 3.1

TRANS AM PIPING PRODUCTS LTD.

Certificate Nr 18004 Invoice Nr 1031 Del. Note Nr 1577

28 09 2007

Dated Dated Dated

03 10 2003

5 233051 Endeavor Drive S.E. Calgary Alberta 72P 2G6 COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CENTIFIED BY RINA

18030 CASARZA LIGURE - Ganova - Rady - P. 2224 Marco Capper R.4 - Tel. 0135,467961 - Fax 6135,465510 / MATERIAL TEST DEPARTMENT This certificate has been penerated by computer and head not to be signed for validity according to DAV EN 10204 Page 4 - 16 VISUAL & DIMENS SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY Nmm2 >=1,0% OTHER ELEMENTS YELD POINT 0,00 0000 0.0 DIM. ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE 0,312 SEE NOTE C.E.% 0,373 0,371 0,312 0.397 0000 0000 0,000 0,025 900 0,000 0,026 0.00 000,0 0,000 000'0 0,000 00000 0,000 0000 0000 000 0,002 TYPE tostomm 0,023 0,002 0,002 0,002 0,002 90,0 0.250 0,130 0,190 0,130 0.130 0,180 0,130 BEND TEST | PLATTENING TES 0,000,000 800 P.NIPPLE TBE NPT S-80 2" L65mm(2.1/2") A106B/API 5LB 0,015 0,020 0,005 0,000 P.NIPPLE TBE NPT S-80 2" L100mm(4") A106B/API 5LB P.NIPPLE TBE NPT S-80 1" L125mm(5") A106B/API 5LB P.NIPPLE TBE NPT S-80 2" L75mm(3") A1068/API 5LB P. NIPPLE TBE NPT \$-80 2" L75mm(3") A106B/API 5LB Mo% 0,030 0,010 0,020 0,010 0.020 0,020 0,020 FITTING COUPLING SW 3M 1/2" A350/LF2 060'0 0,080 0,080 156 - 184 160 - 162 0,060 0,100 152 - 155 0,090 0,080 159 - 161 159 - 161 165 - 167 FITTING 45 ELB. SW 3M 1" A350/LF2 DESCRIPTION FITTING TEE SW 3M 1/2" A350/LF2 0,130 0,10 0,10 0,10 0,10 0.080 0,100 0,100 ş TEDUCTION OF AMEA 900,0 800'0 ô 0,016 600'0 0,800 : 0,003 0,00 0,003 0.020 0,003 0,045 0.013 š ELCHOATION 36,0 38,0 1,100 0,820 0,800 0.850 1,070 ç 0,230 0,230 0,220 0,230 0.230 CI-07 - 444 2007-2E201-0000665-080 CI-07 - 444 2007-2E203-0000865-082 CI-06 · 741 2006-2E201-0000954-022 Cl-07 - 294; 2007-2E201-0000340-024 CI-06 - 635 2006-2E201-0000797-036 0.140 CI-07 - 444 2007-2E201-3000865-081 Cl-06 - 827 2007-2E201-0000011-023 CI-06 - 827 2007-2E201-0000011-021 98 0,140 OUR REFERENCE 42 0mc Zm TIELD POWY 355,0 355,0 306,0 ASTM A106/B API 5LB ASTM A106/B API SLB ASTM A106/B API 51.B ASTM A106/B AP! 5LB ASTM A106/B API SLB ASTM A350 LF2 cl.1 ASTM A350 LF2 cl.1 ASTM A350 LF2 cl.1 ECT. mm2 | LENGHY mm MATERIAL S 8 50,00 50,00 000 90 8 YOUR P.O. 122,65 122,65 122.65 0,0 000 8 023 021 023 038 936 88 922 8 8 8 8 623 8 539229 538697 539229 HEAT 539229 539229 539229 539229 539229 539229 38697 HEAT 538697 539229 73413 73413 HEAT CODE HEAT CODE HEAT CODE 욷 483 報告 96 KEA 1 D LBE BX

4 2008 c 3 RECEIVED DATE ASME 816.11/05 - ANSI 831.1/831.3 - IML \$TD - ANSI 81.1-819.2.2 SPECIFICATIONS AND P.O. REQUIREMENTS

GENETITY GONTROL DEPARTMENT MANUFACTURER'S SYMBOL, MANUFACTURER'S SYMBOL.

ELECTRIC FURNACE

ELECTRIC FURNACE

STUDBOLTS

FITTINGS

RIS FIZZOTTI

E832806 50428 # Od

TRANS

APPROVED BY Q.C. INSPECTOR Z SIGNATURE

89₹ፒ S 1 - E 239229

Our Ref.

N10132 073039

ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** 

ELECTRIC FURNACE **ELECTRIC FURNACE** 

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

Normalized at 880°C-920°C / Air Cool

ASME SA ASTM A106/A106M-D6 Gr. B

ELECTRIC FURNACE

HEAT TREATMENT

159 - 161

159 - 161

MATERIAL IN ACCORDANCE TO

355,0 355.0

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924

539229 HEAT

HEAT CODE

A53 된

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

080 081

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ASME SA ASTM A350-048 Gr. LF2 cl.1 ASME SA ASTM A350-048 Gr. LF2 cl.1 ASME SA ASTM A106/A106M-05 Gr. B ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-05 Gr. B

Normalized at 900°C / Air Cool Normalized at 900°C / Air Cool Normalized at 900°C / Air Coof 073041 073041 073041

Sed #: Shipment/Seq MA HEAT NUMBER

539229 539229

STWS HX STEEL NIPPLES A106 Ð X 2 INSPECTION CERTIFICATE EN 10204;2004 / 3,1

TRANS AM PIPING PRODUCTS LTD.

Conditions Nr 1854)

Dated Dated Dated

A LIGURE SPA	COMPANY WITH QUALITY SYSTEM IBO 9001-2000 CERTIFIED BY RINA	1-2000 233051 Endeavor Drives S E Calgary, Aberta 12P 205	క	Invaice Nr. 1190 Def. Note Nr. 1830	
Merco Cappelli,4 · Tol.0185,467861 · Fax B	0188.466510 / MATERIAL TEST DEPARTMENT	Merco Cappelli, 4. Tol. 0185, 487861 - Fax D185, 486510 / MATERA TEST DEPARTMENT This confidence			

4 Page 3 . 5	VISUAL & DIMENS	CONTRACTOR AND AND AND AND AND AND AND AND AND AND	SATISFACTORY	SATISFACTORY	SATISFACTORY	SATISFACTORY	SATISFACTORY	SATISFACTORY	SATISFACTORY	OTHER FIRMENTS								を買		Will Breat	falming >=1.09	1	000	0 0	<u> </u>	C 0	0'0	0,0	0.0	0.0	Our Ref.	100	102120	0/208/	0000	00,470	073041	073105	073051	MANUFACTURER'S SYMBOL		8	)
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OUR REF	200	007-2E-28	007.2E20	007-2E20	007-2E20	007-2E20	006.2520	006-2E20	! ! [ ]	İ						ASTM A106/B API 5LB	ASTM A106/B API 5LB	ASTM A106/B API SLB	† I	ē	50.00	9	3 8	300	 3 1	3 2	90,0	8	80	MATER	ASME SA ASTNA A10E	ASME SA ASTM A105-0	ASME SA ASTM A108	ASME SA ASTMANAGE	ASME SA ASTM A105-0		M A 106	IM A 106	ML STD	3 - 8012	AENTS		
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HEAT NUMBER : 22877 TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 7 - 1536 29

APPROVED BY Q.C. INSPECTOR

PO # 5/0428

SIGNATURE:

S X 31/2 XH SWLS STEEL WIPPLES A106





## Certificate of Test

Part Number:

/X3203

Description: 2x3 B XS SML MP 106B

Heat Code: Reference No.:

Specification:

ASTM A106-02 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL PIPE

Chemical Analysis %

Heat No. P524777		P 0.020			<u>М</u> о 0.01	< 0.01	Cb/Nb

CE (LONG FORMULA) = 0.31

**Mechanical Properties** 

Yield Strength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi 48,000 MPa 000		70,000 000	36.00	0.00	N/R
Heat Treatment:					.*
		MEETS N	ACE MR0175-02		
		HARDNE	SS LESS THAN OF	R EQUAL 22HRC	
Hydrotest/NDE: N	VDE			Bend: GOOD	

We certify that this is a true and correct copy of the mill certificate, issued by the manufacturer of the steel employed or the laboratory which has determined it, as retained in the records of the company. We make no representation beyond those of the manufacturer or its agent.

PC COMPRESSION

DATE RECEIVED WAR 1 4-2007

P.O. # SOSOTS INV

SIGNATURE #

APPROVED BY Q.C. INSPECTOR

TBE SLEEP NIPPLES A106 ΗX 51/5 SWFS

2**8 31** KEA,D BK: 89**%**T

233553

Shipment/Seq TRANS AM PIPING PRODUCTS Shipment/Seq #: S 7 - : HEAT NUMBER

NOTES

ASIME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-6 18.2.2 NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL ME

SPECIFICATIONS AND P.O. REQUIREMENTS

18030 CASA	RZA LIGURE	i - Genova - Ma	14030 CASARZA LIGURE - Genova - Haly - P.22a Marco Ceppeli,4 - Tel.0135.4563 - Fex 0135.466519 / MATERIAL TEST DEPARTMENT	o Ceppelli	. 4 - Tel.	0185.467667 -	- Fая 0185.4	66510 / IAA]	IERIAL TESI	T DEPARTME		ertificate h	as been per	nerated by r	готрыбет а	od peed bo	This certificate has been penerated by computer and need not to be signed for validity according an new so	ed for validity	v acceedin	- 100 cl
HEAT CODE	E HEAT	ITEM	YOUR P.O.		R REF	OUR REFERENCE	Q.TY		,		DESCRIPTION	NOT	:	: !						
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	538697 538697		CI-06 - 4	163, 2006- 35, 2006-	2E201	CH06 - 463.2006-2E201-0000574-021 CH06 - 635.2006-2E201-0000797-023	ت ور ا	A S	PLE TBE	P.NIPPLE TBE NPT S-80 1* L65mm(2.1/2") A1068/API 5LB -P.NIPPLE TBE NPT S-80 1" L65mm(2.1/2") A 1080/API 4 IR	1" L65mm	T(2.1/2")	A1068/A	VP1 5LB					SEENOTE	0 E
:	538697	017	CI-06-7	41; 2006-	2E201	CI-06 - 741; 2006-2E201-0000964-017		P.NIF	PLE TBE	P.NIPPLE TBE NPT S-80 1" L65mm(2 1/2") A105B/API 5LB	1"L65mn	1(2.1/2)	A106B/A	12 P. P. P. P. P. P. P. P. P. P. P. P. P.	•				SEE NOTE	OTE
	539229	986	C1-08-6	35:2006	2E201	CI-06 - 635:2006-2E201-0000797-036	٠	P.N.	PLE TBE	P.NIPPLE TBE NPT S-80 2" L65mm(2 1/2") A106B/API 5LB	2 L65mn	T(2.1/2')	A106B/A	PI SEB	V	Ŧ.			SEENOTE	
. :	) 6985¢		90.0	27 2007-	2E201	CI-06 - 827 2007-2E201-0000011-006		Z.Z.	PLE TBE	P.NIPPLE TBE NPT S-80 1" L65mm(2.1/2") A106B/API 5LB	1" L65mm	n(2.1/2")	A106B/A	PI 5EB	1				SFENOTE	 2 C
HEAT CODE	HEAT	TEX	:	MATERIAL		ő	35.00	Mrr%	i Sy	ž	ž	× ×	Mo% :	74%	; ;	3	AMP402			
	78196	113	ASTM A105	105	1	0.180	0.260	980	0.017	0.034	÷	0,00	100	4.		٠	-[-		=	, ce
· TNI	78878	072	ASTM A350 LF2 cl.1	350 LF2	ਹ ਹ	0,185	0,220	0,960	0.023	<b>.</b>		900				· · •				0,382
	74193	90	ASTM A234 WPB	34 WPE	m		0,210	1,040	0,015			0.050	0.00		8 8		0.000			0,385
<b>.</b>	538697	22	ASTM A106/B API 5LB	106/B AF	15.B		0,220	0,820	0.00	٠.		0.100	000	-					0,025	0,392
	538697	053	ASTM A106/8 /		API 51.B	"	0,220	0,820	900'0	800'0	٠.,	0.100			- · •					8
	538697	617	ASTM A106/B		VPI 5LB		0.220	0,820	0,006		• •		·						00000	0,298
	539229	960	ASTM A106/B	106/B AF	4P1 5LB		0,230	0,800	0,003						-		-			0820
]	οŢ	9	ASTM ATOMB	UGVB AF	4PI 5LB	8	0,220	0,820	900'0	800'0	0,100	0,100	0,030			_				0.298
HEAT CODE	HEAT		TEBT	TEST SPECIMEN	۶		PERSOLE STRENGHT		ELONOATION RE	REDUCTION OF AMEA		HARDNESS HE	BEND TEST	PLATTENING TEST	le Test	j	HADACT YES	-  <u>}</u>	1	
		:	SECT. mm2 LENGORY	LEMBATT III	2	Num > 0.7%	None >=	•		*	·				Ļ	OPE 48-40em	4	tunia mari		3
	78196	115	122,65	50,00		316,0	519,0		31,0	54.0	153	153 - 156	0		le	2	۶ ا	- -  -	2	٥ - ا - ا
<b>Z</b>	76878	072	122,65	20,00		331,0	529,0	ლ 	34,6	58,2	163	63 - 169	0		00	₹ ≥	3 4	8 4	, e	
	74193	900	000	000		300,0	521,0	<u>ო</u>	31,0	0,0	161	161 - 164	00	-	. 00		-	F C	ņ	, .
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	199097	20.0	8 6	8 6		362,0	450,0	<b>u</b> ō	62,5	0,0	165	165 - 167	0,0	·	00			0		
	530000	2 00		8 8	•	362,0	450,0	<b></b>	52,5	0.0	165	165 - 167	0,0	_	0,0			0		
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	٠.	}	3	3		0,70	200	-	67.5	D' 0	165	65 - 167	0,	<i>o</i>	 8			0		
HEAT CODE				<b>2</b>	ATER	MATERIAL IN ACCORDANCE TO	RDANCE	٥				黃	HEAT TREATMEN	MENT	1	  -  -	<u>∫</u>	FURNACE		-
	78196	115	ASME SA ASTM A105-05	ASTM,	A105-(	8				Normatiz	Normatized at 880°-920°C / Air Coot	-920°C	/ Air Cool		: [			ELECTION CLANS	100	!
Ξ	8/99/	072	ASME SA ASTA	ASTM.	A350-	# A350-04a Gr. LF2 cl. 1	2 cl.1			Normaki	Normalized at 900°C / Air Cool	"C/Air	7007				F	ELECTRIC FURNACE		
	26.65	900	ASME SA AST	ASTM,	A234/i	M A234/A234M-06a Gr. WPB	G. WPE	_		Normaliz	Normalized at 980°C / Air Cool	C/Atr	8				FIFCE	FIRST FIRM OF	2 4	
	538697	50.5	ASME SA	ASTM,	A106/	ASME SA ASTM A106/A106M-06 Gr.	ى ق ق			Normaliz	Normalized at 880°C-920°C / Air Coo	.C-920.	C/Air Co	<b>ŏ</b>			ELECT	ELECTRIC FURNACE	2 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4	
	538697	200	ASME SA	LMIST A	A 1000	ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B	10 d			Normaliz	Normalized at 880°C-920°C / Air Cool	°C-920*C	3/Air Co	5			ELECTE	ELECTRIC FURNACE	ACE.	
	539229	036	ASME SA	ASTM /	4106/	ASME SA ASTM A106/A106M-D6 G. B	0 E			Normaliz	Normalized at 880°C-920°C / Air Cook Normalized at 990°C 6260°C 1 Air Cook	C-920.C	C./ Air Co	TO T			ELECT	ELECTRIC FURNACE	ACE :	
	538697	800	ASME SA	ASTM /	4106/4	ASME SA ASTM A 106/A 106M-06.Gr. B	) B			Normaliz	Normalized at 880°C-920°C / Air Cool	7.920°C	V Air Co	<b>)</b> 5 7	١.		ELECTRIC	ELECTRIC FURNACE	ACE:	
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VISUAL & DIMENS. SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY

OTHER ELEMENTS

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Our Ref.

062010

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073041 073039

MANUFACTURER'S SYMBOL

MANUFACTURER'S SYMBOL ELECTRIC FURNACE

PC WELDENTED PREDERS ON QUALITY CONTROL DEPARTMENT

DATE RECEIVED

Normalized at 880°C-920°C / Air Cool

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STUDBOLTS

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FITTINGS

FIZZOTTI

E832 806

510428

P.O. #

SIGNATURE

APPROVED BY Q.C. INSPECTOR

Dated Oated

Certificate Nr 19004 Invoice Mr 1031 Del. Note Nr 1577

TRANS AM PIPING PRODUCTS LTD.

INSPECTION CERTIFICATE EN 10204:2004 / 3.1 COMPANY WITH QUALITY SYSTEM 190 9001-2000 CERTIFIED BY RINA

**DUSTRIA MECCANICA LIGURE SPA** 

233061 Endeavor Drivo S E Calgary Albena T2P 206

5

HEAT NUMBER :

B643

TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 7 - 1215



2X11/2 XH CONC SWAGE NIPPLE A234-WPB TBE



## 高雄縣仁武鄉烏林村仁心路 303 號 BOTH-WELL STEEL FITTINGS CO., LTD. NO.303, JEN-HSIN ROAD JEN-WU HSIANG

KAOHSIUNG HSIEN, TAIWAN R.O.C.(81480)

An ISO-9001 Registered Manufacturer



TEL: (07) 371-0497, 371-1536, 372-0260 FAX: (886-7) 871-3864, 871-3882

CUSTO	MRH: TRANS NO: 70683	AM:		T & I N ACCORDIN 7(C1-96-806)	G TO EN10 1	204/DIN500 INVOICE NO J/C NO	)49/3.1.B <b>: BW069512</b> (		ATE	ORIGIN:	04/06/07
ITEM	RAV MATERY DEAT N	HT.CD.			CRIPT	,		KAU9	TITY	SPECIFICATION ASTM A234 WPB-05 BA234 WPB-05 BINENSION:	T
<b>008</b>	383762 68816542 68839852 383762 68816542 383762 68816542	02 B643 2438 02 B627 2438	STAGE NIP STAGE NIP STAGE NIP STAGE NIP STAGE NIP	PLE (CONC) 2" PLE (CONC) 2" PLE (CONC) 2" PLE (CONC) 2" PLE (CONC) 2" PLE (CONC) 2" PLE (CONC) 2"	x 1-1/2" S   x 1-1/2" S   x 1" 580(X   x 1-1/2" S   x 1" 580(X   x 1-1/2" S	BO(XH) THE BO(XH) TRE H) PRE BO(XH) PRE N) BLE/TSE BO(XH) BLE	/NPT   /NPT			6SS-SP-85 - 2 BURFACE: BY VISUAL	
ITEN	C	Si		CHENNO PS	Cu Cu	U M P O S	ITIO Ni	N (%)	V	Cb(Nb)	CE
Min	-	0.100	0.290		-		-		-	- CO(AB)	
Max	0.300			050 0.058	<b>0.40</b> 0	9.400	0.400	0.156	0.986	•	
608 605	0.210			<b>010 0.006</b>	0.120	0.070	0.040	0.010	0.002	<del>  -</del> -	
<del>98</del> 9	8.170 9.17 <b>0</b>		1	0.003	0.200	0.070	0.100	0.030	0.991		· •
010	D.210		1	012   0.003 010   0.006	0.120	0.130	0.180	0.030	0.003		. •
011	9.170				9.120	0.070	8.040	9.910	6.602		-
012	0.210	- 1		013   0. <b>0</b> 03	0.200	0.070	0.104	6.036	4.601	1 - 1	-
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2120	Tensile		Pion-	R of A	Bardness	110000000000000000000000000000000000000	<b> 600</b> C				
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909	77.0	52.0	35.0	.	148	MANUFACT	MIRRO AND	TESTED :	DI ACCO	RDANCE WITH	
909	74.9	47.7	36.0	-	149	SPECIFIC	CATEONS S	HOVI			
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011	77.0	52.0	35.0	-	149	'گ	C La	-	•	, C /4	7
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<b>01</b> 3	77.0	52.0	35.●	1 .	149		YE CHENC I			INSPECT CHUN CHEER J	

PDF 檔案以 "FinePrint pdfFactory Pro" 試用版建立 http://www.fineprint.compo.# 5/

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

INSPECTION CERTIFICATE EN 10204:2004 / 3.1 COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

Dated 31.08.2006 Dated 31.08.2006 Dated 31.08.2006 Certificate Nr. 101387 Invoice Nr. 208 Del. Note Nr. 556 ş TRANS AM PIPING PRODUCTS LTD. 7025 - 44th Street S.E. Calgary, Alberto T2C 4E8

1609 CASARZA LICLINE - Genova - Maly - P. 222 Marco Cappoli, 4 - Fel. 0185, 467661 - Fax 0185, 467661 of MATERIAL TEST DEPARTMENT This confrication has been generated by compositer and need not to be algued for validity according to DIN EN 19204 Page INDUSTRIA MECCANICA LIGURE SPA

HEAT CODE	HEAT		YOUR P.O.		OUR REFERENCE		Q.T√	.		DESCR	DESCRIPTION				;		;	N.	DEM. ACC. TO	VISUM, 8	VISUAL & DIMENS,
	77919	500	CI-06-51	CI-06 - 511 2006-1E201-0000375-005	91-0000375	500-	<u>"</u>	FITTING COUPLING THRD NPT 3M 4" A105N	UPLING T	HRD MPT	3M4" A	105N						SEE	SEE NOTE	SATISF/	SATISFACTORY
	79169	91	C1-06-431	2006-1E2	101-000029C	F07	<u> </u>	CONC.SWAGE TBE NPT S-80 2"x3/4" WPB	\$ 18E %	7 S-80 Z	"x3/4" W	100						SEE	SEE NOTE	SATISF/	SATISFACTORY
	33798	025	CI-06-431		2006-1E201-0000290-025	-025		CONC. SWACE TBE NPT S-160 1.1/2"x1" WPB	SE TRE N	TS-160	1.1/2'x1"	WPB						SEE	SEE NOTE	SATISF/	SATISFACTORY
	79169	057	Ct-06-431		2006-1E201-0000290-027	- 757	<u></u>	CONC.SWAGE TBE NPT S-160 2"x1" WPB	第二世光	TS-160	2'xt" WF	æ						SEE	SEE NOTE	SATISE	SATISFACTORY
31K	79170	023	CI-06 - 51	Ci-06 - 511, 2006-1E201-0000375-023	301-0000375	623	<u></u>	FITTING HEX.H.PLUG THRD NPT 3" A105N	X.H.PLUG	THRD NP	7 3" A1C	<b>25</b>						SEE	SEE NOTE	SATISF/	SATISFACTORY
	79160	018	CL08-431	2006-152	2006-15201-0000290-01	919		CONC. SWAGE TRE NPT S-80.2"x1" WPB	R TRE N	PT S-80 2	x1" WPB	1						SEE	SEE NOTE	SATISFA	SATISFACTORY
,	79189	8	CI-06-431		2008-1E201-0000290-01	 9		CONC. SWAGE TBE NPT S-80 2"x1" WPB	SE TBE NP	7T S-80 2'	X1" WPB	Ž						SEE		SATISE	SATISFACTORY
•	78251	024	Cl-06 - 511	1 2006-152	2006-15201-0000375-02	-024	<b>u</b> .	FITTING ROUND H.PLUG THRD NPT 3/4" A105	UND H.P.L.	3G THRD	NPT 3/4	" A105N						SEE	SEE NOTE	SATISF	SATISFACTORY
HEAT CODE	HEAT	TEM	WA	MATERIAL	8	848		*S %u#	ž	Cr%	- %/N	Mo%	¥	Çu%	*	<b>%9</b>	×××	₹.	C.E.%	OTHER ELEMENTS	EMENTS
	77010	35	ASTM A105	2	0.195	2 2	i-	0.000 0.000	0.015	0 110	6200	050	0 012	0.250	0 003	0.00	0000	0.005	390		
	70150	3 5	ASTIM ATM WIPE	MWPR	25.0		.—			5 5	0900	0.00	000	0.180	0.002	000	_		396		
	33798	82	ASTM A234 WPB	WPB	0.205					0.160	0900	0.010	0000	0,230	0000	0000			0.421		
	79169	22	ASTM A234 WPB	WPB	0.185					6.13	090	0.020	0000	0.180	0.002	100.0			0.396		
31K	79170	83	ASTM A105	ъ	0,180				·	0,100	0,050	0,010	0000	0,180	0,00	0,000			0,381		
	79169	918	ASTM A234 WPB	34 WPB	0,185					0,120	0,060	0,020	000	0,180	0,002	0.00			0,396	Y	
	79169	98	ASTM A234 WPB	34 WPB	0.185	0.170		1,000 0,020	0,014	0,120	0,060	0,020	0,000	5. 5 5. 5	200,0	000	900	7100	986,0		R
	10207	1024	YO MICK	او	5	{	$\dashv$	┈ĺ		<u> </u>	2000	20,0	5 f	3	7000	3	4		-1		
HEAT CODE	HEAT	TER	19ST 3PECUPES		YELD PORT :T	Ĕ	RESTREMENT	ELONGATION	REDUCTION OF	ž	HARCMESS ND	BENO TEST	_	FLATTEWNS TEST		Ì.	list southvent	ا او	<b>1</b>		YELD PORT
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	79169	4	8	9	308,0	<b>8</b>	564,0	48,0	0,		162 - 166	0		<u>ي</u> د د				5	-	_	ô
	33798	825	8	8,	399,0	8 	0'099	56,0	<b>o</b>	· _	160 - 166	0		0,0		••••	_	0	0		8,
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HEAT CODE	HEAT	ITEM		MAT	MATERIAL IN ACC		RDANCE TO				Ξ	HEAT TREATMENT	TMENT			<b>-</b>	FURNACE		STEEL MIC.L	MEL	Our Ref.
	77919	8	ASME SA	ASME SA ASTM A105-05	05-05				Norma	alized at 8	Normalized at 880°-920°C / Air Cool	C/Air Co	Þ			EFEC	ELECTRIC FURNACE	SNACE	RIVA ACCIA		041119
	79169	240	ASME SA	ASME SA ASTM AZ34/AZ34M-05a Gr. WPB	34/A234M	.05a Gr.	WPB		Nomi	alized at 8	Normalized at 880°C / Air Cool	500					ELECTRIC FURNACE	WACE	RIVA ACCIAI	 동	
	33798	025	ASME SA	ASME SA ASTM A234/A234M-05a Gr. WPB	34/A234M	OSa Gr.	WPB		Norma	alized at 8	Normalized at 880°C / Air Cool	8				EFEC	ELECTRIC FURNACE	SACE			
	79169	22	ASME SA	ASME SA ASTM A234/A234M-05a Gr. WPB	34/A234M	OSa Gr.	WPB		Norm	alized at 8	Normalized at 880°C / Air Cool	8				ELEC	ELECTRIC FURNACE	NACE	RIVA ACCIA	_	
	79170	623	ASME SA	ASME SA ASTM A105-05	35-05		!		No.	alized at 8	Normalized at 880"-920"C / Air Cool	8	Ť			E E	ELECTRIC FURNACE	SACE	RIVA ACCIA	_	051171
	79169	8	ASME SA ASTM A234/A234M-05a Gr. WPB	ASTM A2	34/A234M	05a Gr.		A STATE OF THE PARTY OF THE PAR	=_:	afized at 8	Normalized at 880°C / Air Cool	00 d				EFEC	ELECTRIC FURNACE	SACE	RIVA ACCIA	 ₹	
	79169	918	ASME SA ASTM A234/A234M-05a Gr. WPB	ASTM A2.	34/A234M	Sa G.	7			afized at 8	Normalized at 880°C / Aur Cool	C00	7			ELEC	ELECTRIC FURNACE	CNACE	RIVA ACCIA		
	78251	054	ASME SA ASTM A105-05	ASTMAT	25-05				Norma	azed at 8	Normatzed at 880"-920"C / Air Cool	S Arco	ē	-		FLEC	ELECTRIC FURNACE	E C	KINA ACCIA		041180
NOTES ASP	WE B16,11/	05 - ANSI	ASME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.	3 - IML ST	D-ANSI	31.1-816.2.2 -	1.2.2	=	MSPECTION AUTORITY	AUTORITY		QUALITY (	QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL	DEPART	CENT MA	NUFACTU	RER'S SYI		MANUFACTURER'S SYMBOL	URER'S	SYMBOL
<b>Ž</b> 300	CE MR0179 ECIFICATIC	5 ISO 1515I NS AND P	NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MAT SPECIFICATIONS AND P.O. REQUIREMENTS	SP 83 - SU REMENTS	PPLIED M	MTERIA	ERIAL MEETS								<del>-</del>					,	ſ
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HEAT NUMBER : 79169 TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 6 - 1549 30

APPROVED BY Q.C. INSPECTOR

P.O. # 5/12/28

SIGNATURE

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204:2004/3.1

16039 CASARZA LKUME - Ganova - Naby - P. zza Narco Cappalij,4 - Tol.0185.467861 - Fax 0185.468510 / NATERML TEST DEPARTMENT This contificate has

TRANS AR PIPING PRODUCTS LTD.

Certificate Nr. 101526 Havaice Nr. 62 Del. Nove Nr. 107

Dated Dated Dated

recording to DIN EN 10204 Page 4 - 5

14.02.2007 14.02.2007 14.02.2007

40 : 233061 Endeavor Orive S.E. Calgary, Alberta T2P 2G6

COMPANY WITH QUALITY SYSTEM (SO SOOT-2006 CEATFIED BY RINA

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-		72431	60	CI-06 - 534	CI-06 - 534 2008-1E201-0000387-00	300-387-006		CONC	CONC. SWAGE TRE NOT 9.90 22-402	ENDT C 9	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								<u></u>	VISUAL & DAMENS	ei Ei
		79168	012	CI-06 - 650	CI-06 - 650 2006-1E201-0000462-01	0000462-012	_		CONFIGURACE DE FITTOR NEW AND SERVICE COMPANY		2000	470						SEE NOTE		SATISFACTORY	<u></u>
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HEAT NUMBER : 72431 TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: 5 7 - 1121 35

APPROVED BY Q.C. INSPECTOR

SIGNATURE

INSPECTION CERTIFICATE EN 10204:2004 / 3.1 COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CENTIFIED BY RIVA

TRANS AM PIPING PRODUCTS LTD.

Certificate Mr. 18004 Invoice Nr. 1031 Del. Note Nr. 1577 ő

Dated Dated

201061 Endeavor Drive S E Calgary, Abena T2P 2G5

This cartificate has been generated by computer and need not to be signed for validity according to Diff EN 10204 Page 7 . 16

DESCRIPTION

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OUR REFERENCE

YOUR P.O. CI-07-241

HEAT CODE; J HEAT

CL07 - 380 2007-2E201-0000541-060 CI-07 - 380 2007-2E201-0000541-088 CI-07 - 399 2007-2E201-0000574-009

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2007-2E201-0000263-012

18030 CASARZA LIGURE - Genovo - Italy - P.zza Marco Cappelli,4 - Tol. 0186.467681 - Fax 0436.486510 / MATERIAL TEST DEPARTMENT

**DUSTRIA MECCANICA LIGURE** SPA

VISUAL & CHATENS

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SEE NOTE SEE NOTE SEE NOTE SEE NOTE

SATISFACTORY

FITTING HEX.BUSHING M/F THRD NPT 1.1/4"x1/4" A105N CONC.SWAGE PLE/TSE NPT S-80 2"x3/4" WPB

FITTING COUPLING THRD NPT/SW 3M 1" A 105N WPB

"FITTING HALF COUPL THRD NPT 3M 2" A 105N CONC.SWAGE TBE NPT S-80 2"x1/4" WPB CONC.SWAGE TBE NPT S-80 2"x1"

FITTING HEX.BUSHING M/F THRD NPT 1.1/4"x1/4" A105N FITTING COUPLING THRD NPT 6M 3/4" L.76mm A105N

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MATERIAL IN ACCORDANCE TO

ASME SA ASTM A234/A234M-06a Gr. WPB

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INSPECTION AUTORITY

**641204** 

MANUFACTURER'S SYMBOL QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL ĭ FITTINGS

STUDBOLTS

**BORIS FIZZOTTI** 

RECEIVED JUN 2 4 2008

DATE

PC COMPRESSION

NACE MR0175 ISO 15156/1 - MSS SP 83" - SUPPLIED MARGRAMAMENTS

ASME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 -

NOTES

ASME SA ASTM A105-05

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PO.# 510428

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

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SPECIFICATIONS AND P.O. REQUIREMENTS TRANS AM PIPING Shipment/Seq #:

HEAT CODE S 7 - S 80T 89¥T **KEA** (D BX72431

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HEAT NUMBER : N90.
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HISPECTION CERTIFICATE EN 10204:2004/3.1

						Ę	2010	CERTIFIC.	NSPECTION CERTIFICATE EN 10264:2004 / 3.1	X:2004/3	Ξ.	TRAN	S AR PIPE	TRANS AR PIPING PRODUCTS LTD.	CT3 LTD		Seat	Certificate Mr 18467		avic 2011
<b>IDUSTRIA MECCANICA LIGURE SPA</b>	RIA M	ECCA	NCA		R SPA	ថ	DIRPANY VI	FH GUALIT CERTIFIE	COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY MAYA	9401-2908		9335 Er	deenor Driv Calgary, Alt	8335 Endeavor Drive S.E. Calgary, Alberta T3S 0A1		3	E	invokse Nr. 234 Del. Note Nr. 401		Dufad 07.03.2008
16030 CASA	AZA LIGURE • (	Senova - Italy	V - Wa Glancar	rio Ferine 28 -	19030 CASARZA LIGURE - Genova - Italy - Via Glemonno Fanna 28 - Talo186.457661	•	68107 MAT	PRIAL TEST	Pax osb8.40063/0 / MATERIAL TEST DEPARTMENT		etificate has	been gener	wheel by con	npurter and r	need not to	bengle ad	er validity	y evipues	DEN EN 19	This certificate has been generated by computer and need not to be aligned for vasidity eccording to this Hr and and an
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NOTES ASM	E 816.11/0	5. ANSI 6	931.1/B31.	3 - IML STE	ASME 816.11/05 - ANSI 831.1/831.3 - IML STD - ANSI B1.1.			2 C	DO MAPE SERVING TO THE	QU.K	₹.	OUNENTY CONTROL DEPARTMENT	TROL DEF	ARTMEN	MAN	MANIFACTI DE BOIG COUDO	S SYND			
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						APPR	OVED	ВУО	APPROVED BY Q.C. INSPECTOR	ECTO	Œ									

**NDUSTRIA MECCANICA LIGURE** SPA

INSPECTION CERTIFICATE EN 10204.2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

16030 CASARZA LIGURE - Genova - (taly - P.22a Marco Cardall,4 - Tol.0165 APTER + Flix 0165,486510 / MATERGAL 1957 DEPARTMENT

TRANS AM PIPING PRODUCTS LTD.

12,03,2007

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Dated Dated Page 5 - 11

This certificate has been generated by computer and need not to be signed for validity according to DAN EN 10204.

Certificate Nr. 17357 throice Nr 209 Def. Note Nr 458 \$ 233061 Endeavor Drive S.E. Calgary, Aberta T2P 206

VIELD POINT Nimen? >=1,0% VISUAL & DAMENS. SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY 000000000 SATISFACTORY OTHER ELEMENTS Our Ref 0,0 061475 RIVA ACCIAL STEEL MEL RIVA ACCIA! RIVA ACCIAI RIVA ACCIAI RIVA ACCIA RIVA ACCIA DIM, ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE 0.403 0,383 0.403 C.E.% 0,384 0,401 0.4 0.4 0,391 8 3 8 8 8 8 8 8 **ELECTRIC FURNACE** ELECTRIC FURNACE **ELECTRIC FURNACE** ELECTRIC FURNACE **ELECTRIC FURNACE ELECTRIC FURNACE** 0.012 0,005 0,012 0,018 900'0 0000 0,005 × ş ₹ 98 8 FURNACE 38 0,000 0000 0000 8 0.000 90,0 APACT TEST **និនិនិនិនិនិនិ** 0,001 0,00,0 0,002 0,000 8 0,016 0,003 0,003 0.001 **\$\$\$\$** 0,00 0,004 Š 0,150 0.250 5.0 0,160 0,160 0,140 0,150 8 6 6 6 6 0.005 0,008 0,000 0,040 900 0,008 HEAT TREATMENT Ě 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 880\*-920°C / Air Cool Normalized at 880"-920"C / Air Cool Normalized at 860\*-920°C / Air Cool 0,010 0.020 0,040 0,010 0,010 0,00 FITTING 90 ELB. THRO NPT 2M 1.1/2" A105N FITTING COUPLING THRD NPT 3M 3" A105N FITTING 90 ELB. THRD NPT 3/6M 4" A 105N FITTING 90 ELB. THRD NPT 6M 1" A10SN 160 - 164 158 - 159 154 - 158 158 - 168 158 - 166 160 - 168 0,060 FITTING TEE THRD NPT 2M 4" A105N FITTING TEE THRD NPT 2M 4" A105N 0000 0.060 0,060 0.050 0,050 0,050 160 - 166 160 - 164 FITTING TEE THRD NPT 2M 3" A105N Ž DESCRIPTION FITTING 90 ELB. SW 3M 3" A105N 0,10 0,100 0,10 0,150 0,150 0.120 0,140 0,070 ξ SOUCTION OF APEA 0,016 5,0 **4** 0.0 0,017 0,014 0,015 0,012 0,015 0,016 0,013 0,023 0,023 0,020 0,024 0,024 0,018 0,015 š 32,0 0,870 0.970 1,010 1,010 0,960 X MATERIAL IN ACCORDANCE TO 7 528,0 0,210 563,0 563,0 514,0 526.0 0,240 0,220 0,240 0,220 0,220 0,220 0,300 FREELE BITS Š CL07 - 164 2007-2E201-0000138-012 C1-07 - 164 2007-2E201-0000138-055 CI-07 - 164 2007-2E201-0000138-113 CI-07 - 164 2007-2E201-0000138-013 CI-07 - 164 2007-2E201-0000138-013 CL07 - 164 2007-2E201-0000138-023 CI-07 - 164 2007-2E201-0003138-097 CI-06 - 799 2006-2E201-0001041-057 0,190 0,210 0,185 0,185 0,185 0,180 0,190 ŏ **OUR REFERENCE** Wmm1 >40,2% 308,0 3040 335,0 326,0 308.0 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A 105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 į 8, 8, MATERIAL YOUR P.O. ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 SPECIF, marrie 122,65 122,65 122,65 122,65 122,65 122,65 122,65 122.65 E 055 113 013 013 023 059 £ 55 023 059 #3 83 HEAT HEAT #EAT 35312 38938 HEAT 74416 35312 76564 35312 72474 72474 74416 35312 38936 76564 74416 35312 72474 72474 72474 35312 38836 74416 36561 36561 76564 72474 72474 35312 35312 36561 HEAT CODE HEAT CODE HEAT CODE Ę¥ ETS FCO ETS FCO ETS 65 E ξĬ EM3 Ä. ETS Î 핊 Ē EM3 Ę HI. ETS Ī Ξ 표 Ī

NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS ASME B16.11/05 - ANSI B31,1/B31.3 - IML STD - ANSI B1.1-B18.2.2 -SPECIFICATIONS AND P.O. REQUIREMENTS NOTES

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

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RIVA ACCIAI

**ELECTRIC FURNACE** 

ELECTRIC FURNACE

Normalized at 880\*-920°C / Air Cool

INSPECTION AUTORITY

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FITTINGS

**BORIS FIZZOTTI** 

QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL MANUFACTURER'S SYMBOL

PC COMPRESSION 3 DATE RECEIVED P.O. # 510428

E832800

SIGNATURE

APPROVED BY Q.C. INSPECTOR

2 **T9TT** S :# pes/anemqtas L BX: **BEA**, D. PRODUCTS DIBING MA SNAAT **EMH** HEAT NUMBER

38938 78564

M20TA 2000 GF #2/I-I ES 00 EPF SCRD

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

3 TRANS AM PIPING PRODUCTS LTD. 833\$ Endeavor.Orive S.E. Calgary, Alberta T39 0A1

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MANUFACTURER'S SYMBO

QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL

Normalized at 900°C / Air Cool

INSPECTION AUTORITY

ASME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 .. NACE MR0175 ISO 15156/1 · NACE MR103 - MSS SP 83 - SUPPLIED

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

MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS

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BORISFIZZOTTI

PC COMPRESSION DATE RECEIVED JUN 2 4

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P.O. #

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

Our Ref

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ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** 

FURNACE

HEAT TREATMENT

04.04.2008

Dated Oated

07.04.2008

Certificate Nr. 18593 bryoke Nr. 350 Del, Note Nr. 675

This certificate itst been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 10 . 21 P.NIPPLE TBE NPT S-80 1.4/2" L65mm(2.1/2") A106B/API 5LB P.NIPPLE TBE NPT S-80 1.1/2" L100mm(4") A106B/API 5LB P.NIPPLE TBE NPT S-160 1.1/2" L100mm(4") A106B/API 6LB P.NIPPLE TBE NPT S-80 1.1/2" L100mm(4") A105B/API 5LB Normalized at 880°C-920°C / Air Cook Normalized at 860°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880\*-920°C / Air Cool Normalized at 860\*-920°C / Air Cool Normalizad at 900°C / Air Cool FITTING TEE THRD NPT 3M 1/2" A350/LF2 FITTING COUPLING SW 3M 3/4" A105N FITTING UNION F/F SW 3M 1.1/2" A105N FITTING TEE THRD NPT 3M 1" A350/LF2 161 - 163 161 - 163 155 - 159 158 - 159 163 - 169 158 - 164 161 - 163 155 - 159 ž DESCRIPTION 0,110 0,120 0,120 0,110 0,050 0,110 0,110 0,080 Š 18030 CASARZA LIGURE - Genove - Haly - Vie Gencerio Ferine 25 - Tel.O188.467881 - Fex otel.468890 ! MATERIAL TEST DEPARTMENT 57,5 55,8 58,2 60,4 0,008 0,011 0,019 0,0 0,006 0,016 0,016 0.008 č 0,005 0,018 0,022 0,023 0,022 900'0 š 38.0 48.0 38.0 88.0 88.0 88.0 88.0 88.0 78.0 78.0 0,900 0,850 0,530 0.790 0.79 0,850 ×-12 0,960 Č 490,0 MATERIAL IN ACCORDANCE 0,180 0,96 529,0 0,230 0,220 ASME SA ASTM A106/A106M-06a Gr. B ASME SA ASTM A106/A106M-06a Gr. B ASME SA ASTM A106/A106M-068 Gr. B ASME SA ASTM A106/A106M-08a Gr. B ASME SA ASTM A350-04a Gr. LF2 cl.1 CI-08 - 186 2008-2E201-0000204-017 CI-08 - 186 2008-2E201-0000204-010 CI-07 - 691j 2007-2E201-0001160-033 CI-07 - 691 2007-2E201-0001160-036 CI-07 - 686 2007-2E201-0003127-103 CI-07 - 686 2007-2E201-0001127-101 CI-07 - 866; 2007-2E201-0001127-128 CI-07 - 666| 2007-2E201-0001127-127 0.19 0,195 0,185 0,190 0,190 0,130 0,130 OUR REFERENCE క **NDUSTRIA MECCANICA LIGURE** SPA YIELD POINT 334,0 366,0 322,0 366,0 301,0 331,0 ASME SA ASTM A 105-05 ASME SA ASTM A105-05 ASTM A106/B API 5LB ASTM A106/B API 5LB ASTM A106/B API 5LB ASTM A106/B API SLB ASTM A350 LF2 cl.1 ASTM A350 LF2 cl.1 00,00 00,00 00,00 00,00 00,00 00,00 00,00 MATERIAL TEST OPECIMEN ASTM A106 ASTM A105 YOUR P.O. Section 2 122,65 122,65 122,65 122,65 0,0 0,0 0,0 0,0 Ē Ę සි සි සු 5 2 2 2 2 2 8852 917 8 8 5 22 24 24 24 703A33 748674 HEAT CODE! HEAT 748674 748674 벁 748674 703A33 #EAT 748674 703A33 70687 70294 78878 748674 748674 748674 748674 HEAT 749674 78794 70687 78878 703A33 70294 78794 748674 748674 70687 70294 78978 78794 70687 70294 78878 HEAT CODE HEAT CODE HEAT CODE 703433 703433 703433 ξ ¥ ž 8

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LBE HX SLEEL NIPPLES A106 STWS Ð 2

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NO.         and 93.T.C Costed in still air.         1465 - Life Mayer         256 Mayer         256 Mayer         256 Mayer         256 Mayer         256 Mayer         256 Mayer         256 Mayer         256 Mayer         257 Mayer <t< td=""><td>TKM</td><td>HEAT</td><td>Normalized a</td><td>nt tattiperadan</td><td></td><td>TEME.</td><td>TENSILE</td><td>VIELD</td><td>Ĺ</td><td>1</td><td>210</td><td>-</td><td>o di anti</td><td>Ŧ</td><td></td><td>- C. A. Company</td><td></td><td></td></t<>	TKM	HEAT	Normalized a	nt tattiperadan		TEME.	TENSILE	VIELD	Ĺ	1	210	-	o di anti	Ŧ		- C. A. Company		
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02370         Normalized         B50 C         505 Mpa         343 Mpa         64 %         33 %         165 HB           02370         Normalized         850 C         506 Mpa         343 Mpa         64 %         33 %         165 HB           01875         Normalized         850 C         503 Mpa         332 Mpa         87 %         38 %         166 HB           01875         Normalized         850 C         603 Mpa         332 Mpa         87 %         36 %         166 HB           01876         Normalized         850 C         603 Mpa         332 Mpa         92 %         86 %         100 HB FSG GROWN PRESGRICON 165 HB	2	05400	Normal	İzeci	O 000		516 Mpa	331 M		8 2	31 %		166 HB					
02370         Normalized         850 C         505 Mpa         343 Mpa         64 %         33 %         165 HB           01875         Normalized         860 C         503 Mpa         332 Mpa         67 %         38 %         166 HB         Signature Distriction           01875         Normalized         850 C         603 Mpa         332 Mpa         97 %         38 %         166 HB         Signature Distriction           01876         Normalized         850 C         603 Mpa         332 Mpa         DC CC CM MP RESSION 165 HB         MG         THI           DATE         DATE         DECELIVED 1UN   3 2008         MG         THI	2 3	02370	Norma	pez	၁ ၁ ၁		505 Mpa	343 M		8	33		188 T.B.			Ouelite	1	
01675 Normalized 860 C 503 Mps 332 Mps 67 % 38 % 166 HB Signature Dec 25 Mps 106 HB Signature Dec 25 Mps 107 HE HE MG THE THE THE THE THE MG THE THE MG THE THE MG THE THE MG THE THE MG THE THE THE MG THE THE THE THE MG THE THE THE THE THE THE THE THE THE THE	N :	02370	NOTINE.	D 02	2098		505 Mps	343 14	_	* *	33 %		185 HB			1	1	
01876 Normalized 850 C 503 Mps 332 Mps PC & MPRESS ION 165 HB Signature Dougle PC & MPRESS ION 165 HB MG THE THE THE THE THE THE THE THE THE THE	<b>R</b> 8	01675		De21	0 (0		503 Mpa	332 M		*	* 98		186 HB		`		1	1
1 332 Mpe PC & 603 Mpe   332 Mpe PC & 600 Mp   3 2008 Mg THETE	3	0.00		200	2000		603 Mps	332 M		7.8	38.8K	The state of the s	\$\$. F	8	mre/Déte	1	10	0
PECEUVED JUN 1 3 ZUUBIT	₹	0.187.0		D 200	ပ (၁၈)		503 Mpa	332,H/	ပ္သ	SON F		2	166 FB	_	H -	五五		ä
								DATE	770	四月三		=	3 200	4	\	₹	Ę	

P.O.# 510395 SIGNATURE: 10

APPROVED BY Q.C. INSPECTOR



# SHREE GANESH FORGINGS LIMITED

C-3/C, T.T.C. IND. AREA, THANE BELAPUR ROAD, PAWNE, NAVI MUMBAI, INDIA



		INSPECTION CERTIFICATE - EN 10204/3.1		
	PED Certificat	PED Certificate No. 64 202 2 440 65 31199 and AD-2000 Merkblatt WO Certificate No. 64202W1300200016	PW1300200018	
F	: M/S. CE FRANKLIN	PRODUCT : MACHINED CARBON STEEL FORGED FLANGES	CERTIFICATE NO.:EXP/2007-08/ 2453	_
ER NO.	ER NO.: 1936122 - OR - 2100	MATERIAL	DATE : 3.05.2008	1
	. 24 12 2007	OFFICIENCALIUNIANIMI ANNE ANATON AND CNA 2245-12 Gr. 248 CALL		_
,		DIMENSIONAL	MANOTACTORER'S BRAND:	_
ICE NO:	ICE NO : EXP/2007-09/291 DT.31.03.2008 SPECIFICATION	SPECIFICATION: ASME B 16.5	INSPECTORS STAMP:	1
		CHEMICAL ANALYSIS		

				5		ANALYSIS	'n									)
H.NO.	I.NO ALCODE	QTY.	2 %	<b>% E</b>	% Si	3%	% P	% Ct	<b>Z</b>	% No	<b>₽</b>	۸۲	\$ \$	3	%CE	ART.NO.
A-258 /1419	/1419	05	.21	<b>48</b> .	.19	.022	.020	<b>4</b> 60.	윻	9. 2.	8	<u>8</u>	Ş.	,	8,	1070254
A-258	A-258 /1419	8	.21	.84	.19	.022	.020	.034	900.	.015	.026	.003	:003	3	86	1070262
71236	712363 /1614	73	8	.77	.17	.023	.033	.029	.004	.015	800.	.004	.005	1	স্ক	1075012
A-258	A-258 /1419 V	ଛ	.21	\$	.19	.022	.020	.034	.004	.015	.026	.003	.003	:	8	1068592
				MECHANICA	L	DOCUMENTICS	701									

<del></del>	F	_	1	ľ
HEAT	NORMALIZED	NORMALIZED	NORMALIZED	NORMALIZED
MICRO STRUCTURE		1	1	1
Hardness BHN	163	163	153	163
% Reduction Area % Z	86.72	68.72	58.15	68.72
% Elongation % A G.L= 50 mm	32.00	32.00	32.00	32.00
YIELD STRENGTH Rp Wmm²	319	319	308	319
TENSILE STRENGTH Rm Vímm²	503	503	504	503
H.NO.M.CODE	A-258 /1419	A-258 /1419	712363 /1614	A-258 /1419
****	$\vdash$	-		-1

CHECKED FOR HARDNESS AND FOUND OK ARKS: 1

**WORK INSPECTOR** 

PC COMPRESSION

NO WELDING DONE ON ANY PART OF JOB.

Tensile test carried out at 50mm gauge length with 10mm Dia.

**AS PER NACE MR-0175-2003** 

8 We certify that the material have been manufactured, tested and examined in accordance with PICHE VED requirement of the ordered standard and all test result are acceptable.

APPROVED BY Q.C. INSPECTOR Ž SIGNATURE:

<u>Ö</u>

## M.E.G.A

CERTIFICATO DI COLLAUDO TEST CERTIFICATE CERTIFICAT DE CONTROLE

CLESITE Gustomei Client

CE FRANKLIN LTD.

1900 - 300 - 5th AVENUE S.W. CALGARY, ALBERTA, CANADA T2P 3C4 CERTERCATO N. Certificate N. Certificat N.

544526 FOELIO 9 Fecille

DATA / Date

15/10/07

81350 1704179-0R-2100

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulés	C %	Si %	Ma %	8%	ρ%	€r%	Ni %	Mo %	Ti%	Cu %	V%	Alx	CEX
DCD2	ASTM A105/05	58340701.3	0.190	0.230	0.980	0.005	0.012	00.13	00.07	0.030	0.020	0.110	0.001	0.018	0.397
İ			>	Nb%=	100.0	İ	[		i				į	CEs=0	.3533
FCXR	ASTM A105/05	29387	0.190	0.280	0.760	0.004	0.007	00.07	00.03	0.005	0.000	0.050	0.001	0.032	0.337
		ļ	>	Nb\$=	0.001	B \$=	0.000				1	l	l	CEs=0	.3167
FCXT	ASTM A105/05	15456	0.210	0.270	0.920	0.003	0.008	00.11	00.17	0.020	0.002	0.140	0.002	0.025	0.410
Ì			>	Nb\$=	0.001	В Х=	0.000			Í				CEs≃(	.3633
FCXS	ASTM A105/05	15747	0.217	0.230	0.950	0.002	0.014	00.11	00.15	0.020	0.004	0.110	0.004	0.019	0.419
	!		>			มค <i>ร</i> =	0.001	B ¥=	0.000			İ .		CEs=0	.3753
FCXU	ASTM A105/05	15747	0.217	0.230	0.950	0.002	0.014	00.11	00.15	0.020	0.004	0.110	0.004	0.019	0.419
	1		>	Nb#=	0.001	B <i>≵</i> =	0.0002					<u>}</u>		CEs=0	.3753
LULB	ASTM A105/05	04/72191	0.200	0.210	0.890	0.026	0.018	00.11	00.06	0.010	0.010	0.190	0.002	0.007	0.389
			>	NbX=	0.000	8 ¥=	0.000							CE s=0	.3483
	PROVETTA	DEPENDENTS DO		41416464164	<b></b>	ARTER BUILDING						HE.	SILLENZA		

PMOVA Test			vetta ni / Eprecuvetie	SHERVANENTO A/mm2	ROTTURA AVmmi≥	ALLUMGAMENTO	   CONTRAZIONE   %≥	GUREZZA HB	PREGA Bend fest	SEHLACE,			RESIL Impact (es).	
Epreuve	$\lceil \cdot  ceil$	SEZIONE Section / Sect	LUNGHEZZA Length / Longsor	Yield point Limite d'elasticité	Teasile streaght Rupture	Elongation Allongement	Reduction of area Strictron	Hardness Dureté	(High	Aptatilisa.	UNITÀ MIS. Unit system	ти <b>ра</b> Туре	T. °C Test tmp	VALORE / Value / Données
DCDS	I	30.6	25.0	363.0	558.0	28.6	61.4	170-175		ļ .	J	KV	0	38-34-38
FCXR	1	30.6	25.0	294.0	502.0	34.3	71.5	140-143			Ĵ	KV -	0	56-46-42
FCXT	1	30.6	25.0	312.0	538.0	29.6	67.4	154-159			J	ΚV	0	46-40-48
FCXS	1	30,6	25.0	343.0	544.0	29.1	64.D	161-167		İ	J	ΚV	0	46-50-42
FCXU	1	30.6	25.0	322.0	534.0	29.6	67.4	150-156			J	ΚV	0	44-58-50
LULB	1	30.6	25.0	313.0	538.0	29.2	67.3	156-163			J	ΚV	0	46-56-50
PROVA Yest Eprouve	RC1	TE / Remarks	/ Notes	EN10204/3	1.1				<u> </u>		RIMA ape/Forme	: 1	! = Ø	2 = 🗆

Yest Eprauve ROTE / Remarks / Notes

EN10204/3.1 DCDS ELECT.FURNACE NORMALIZED AT 900 C COOLED IN STILL AIR.

FCXR ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

FCXT ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

FCXS :ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STELL AIR.

FCXU | ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

LULB ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

/CERT.10303.03 M.L.\*241939 MEGA

/CERT.10262.04 MET.LOMB. \*247523 MEGA\*

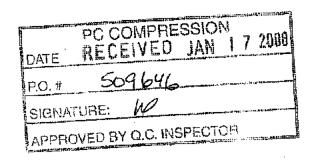
/CERT.10258.04 MET.LOM.\*247523 MEGA\*

/CERT.10261+10260.04 MET.LOMB.\*247523 MEGA\*

/CERT.10257.04 METALM.LOMB.\*247523 NEGA\*

/CERT.10029.06 M.L.\*530314 MEGA\*

	PROVA Test Edreuve	Pas. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Gode offent	beschatone / Description / Description	VISUAL DIMENSIO	1
	DCDS	088	75	1095697	UNION 5. 3000 NPT A/SALOSN 3/8	male	ŌΚ
į	FCXR	089	1200	1096091	UNION S. 3000 NPT A/SA105N 1/2	male+female	OK
į	FCXT	089	600	1096091	UNION S. 3000 NPT A/SA105N 1/2	nut	OK
	FCXS	090	600	1094395	UNION S. 3000 NPT A/SA105N 3/4	male+female	0K
	FÇXU	090	300	1094395	UNION S. 3000 NPT A/SA105N 3/4	пut	OK
ļ	Lyce	091	2000	1092648	UNION S. 3000 NPT A/SA105N 1	nut	ОК



#QTE / Plemaris / Notes	ENTE OFFICIALE OF COLLANDO Inspection Authority	CAPO COLLAUGO () Chat inspection OPT
	Service Inspection Official	Responsable assurance odalité
MATERIAL ACCORDING TO NACE MR0175/ 2003.		DOC. AFRT. H.E. J.A.

20.02.2007 16.02.2007 16.02.2007 WELD FOWT VISUAL & DIMENS. 9 8 SATISFACTORY SATISFACTORY Page 1 · 6 SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY N30164 SATISFACTORY SATISFACTORY OTHER ELEMENTS 063139 063139 061086 063139 Dated Onted ater and need not to be signed for validity according to DIN EN 16264 **T.REUNIDOS** T.REUNIDOS 1.REUNIDOS STEEL ME. RIVA ACCIM SKAPE DIM. ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE C.E.% 0,288 0,379 9040 0,288 0,381 0,392 \$ 8 8 8 25 85 88 88 88 Certificate Nr 1: Invesice Ar 1: Del. Note Hr 3 ELECTRIC FURNACE ELECTRIC PURNACE ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** 0,004 0,004 0,012 0,008 0,012 8 555 90.0 ž FURNACE 8 8 ই 00000 0,000 90,0 0,00 9,00 0000 Ě \$ 8 2222 9000 0,000 0000 0000 80 0,002 TRANS AM PIPING PRODUCTS LTD. TYPE 10-10-F ₹ 0,002 0,001 0,001 0,001 0,002 0,001 **≨**≨≨≨ 233061 Endeavor Drive S.E. Calgary, Alberta T2P 2G6 0,240 0,240 0,180 0,170 0,180 2 Š This cartificate has been generated by cump 0,005 0,005 0000 0000 0,005 P.NIPPLE TBE NPT 5:160 1" L100mm(4") A106B/AP! 5LB P.NIPPLE TBE NPT 5:160 1" L100mm(4") A106B/AP! 5LB 0000 P.NIPPLE TRE NPT S-160 1" L:100mm(4") A1068/AP! 5LB HEAT TREATMENT Ĕ Normalized at 880°C-920°C / Air Cod Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool FITTING UNION F/F THRO NPT 3M 3" A105N FITTING UNION F/F THRO NPT 3M 1" A105N (NUT) Normalized at 880\*-920°C / Air Cool Normalized at 880"-920°C / Air Cool BEND TEST 0.030 0,010 FITTING UNION FIF THRO NPT 31/4 1.1/2" A105N 0,030 0,010 0,010 0,010 FITTING UNION FIF THRD NPT 3M 3" A 105N 160 - 164 163 - 165 160 - 165 163 - 165 160 - 166 160 - 162 160 - 164 0,080 0000 0,080 ME35 10 0,080 0.050 0,050 60 - 164 0,070 FITTING TEE THRO NPT 3M 1" A105N ž DESCRIPTION INSPECTION CERTIFICATE EN 10204:2004 / 3.1 COMPANY WITH QUALITY SYSTEM (50 9001-2000 CERTIFIED BY RINA 0,070 0.070 0,10 0.100 0,10 0,180 Š AREA 16030 CASARZA LKGURE - Genora - Maly - P.Zza Marco Cappell,4 - Tel.0135.481661 - Fax 0185.46616 / MATERIAL, TEST GEPARTHENT ACTION OF 0,016 0,018 0,013 0,012 0,012 0,012 0,016 0000 Ľ 0,019 0,026 0,019 0,023 0,003 0,003 0,020 ć 52,0 52,0 ¥, 0,900 0,970 0,960 0,700 0,970 0.950 9,700 0,700 MATERIAL IN ACCORDANCE TO Ç 539,0 465,0 465.0 465,0 530,0 564,0 530,0 563,0 0,200 0,190 0,220 0,220 0,20 0,250 ASME SA ASTM A106/A106M-05 Gr. B ASME SA ASTM A106/A106M-05 Gr. B ASME SA ASTM A106/A106M-06 Gr. CI-05 - 635 2006-2E201-0000797-053 CI-07 - 164 2007-2E201-0000138-033 CI-06 - 332 2006:2E201-0000395-062 CI-06 - 463 2006-2E201-0000574-054 CI-07 - 164 2007-2E204-0000138-033 CJ-07 - 164 2007-2E201-0000138-031 CI-07 - 164 2007-2E201-0000138-030 2007-2E201-0000138-024 0,130 0,180 0,20<del>5</del> 0,180 0,195 0,130 0.130 0,180 **NDUSTRIA MECCANICA LIGURE** SPA **OUR REFERENCE** YELD POTET 306,0 90,000 8 304.0 328,0 308,0 328,0 306,0 ASME SA ASTM A 105-05 ASME SA ASTM A105-05 ASTM A106/B API 51.8 ASTM A106/B API 5LB ASTM A106/B API 5LB 50.00 05.08 09.08 09.09 9,0 90,0 MATERIAL ASTM A105 ASTIM A105 ASTM A105 ASTM A105 THEY OPEC STM A105 CL07 - 164 YOUR P.O. 122,65 122,65 122,65 122,65 8 80,0 90.0 Ē 062 053 033 033 033 024 062 053 033 033 024 062 063 063 063 063 063 25 25 25 25 26 25 88 82 88 83 83 83 HEAT #EAT ¥E4 75758 83305 75758 78457 75768 71549 78879 83305 83305 75758 75758 71549 83305 75758 78457 78679 83305 83305 83305 75758 83305 Ī 78457 78879 83305 83305 HEAT CODE **JEAT CODE** HEAT CODE HEAT COD

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-1 RECEIVED JUN 2 E832806 £ 510428 SIGNATURE P.O. # DATE

MANUFACTURER'S SYMBOL MANUFACTURER'S SYMBOL

QUALITY CONTROL DEPARTMENT

MSPECTION AUTORITY

1

NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS

SPECIFICATIONS AND P.O. REQUIREMENTS

ASME B16.11/05 - ANSI B31.1/831.3 - NAL STD - ANSI B1.1-B18.2.2 -

ASME SA ASTM A105-05

71549

78457 75758

₹ 8 ₹ ¥

ASME SA ASTM A105-05 ASME SA ASTM A 105-05 €

STUDBOLTS

를

PITINGS

**BORIS FIZZOTTI** 

PC COMPRESSION

N30164

061027

RIVA ACCIA! RIVAACCIA

ELECTRIC FURNACE ELECTRIC FURNACE

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

**ELECTRIC FURNACE** 

APPROVED BY Q.C. INSPECTOR

PRODUCTS - T shipment/seq #: TTTT 8 **DIDING** ΒX **KEA,D** MA SMART ŧΧΩ HEYL NOWBEK

3533 3533

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INDUSTRIA MECCANICA LIGURE SPA

MSPECTION CERTIFICATE EN 10204:2064 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFED BY RINA

Dated 20 02 2007 Dated 16 02 2007 Dated 16 02 2007 Cartificate Nr. 1727/ involce Nr. 189 Dai. Note Nr. 300 ర TRANS AM PIPING PRODUCTS LTD. 233061 Endeavor Drive S.E. Calgary, Atherta TZP 206

	П		9145	DOMESTICAL PROPERTY	DEBOS .	V.C	_		•	DESCRIPTION	NOL			1	1			2	4		
HEAT CODE	HEAT		4004 P.O.	OON NEW				T I I I	CHANCE THE NOT 3M 1" A 105N (MALE FEMALE)	O NPT 3	M 1 A10	SN (MAL	FEMAL	9				SEE NOTE		SATISFACTORY	38
) sxn	17164	99	Ci-07 - 164	CI.O7 - 164 2007.2E201-0000139-034	0000138-030			G CIVICAL TO	CHILING GWICKETH THE THEO NOT 3M 1" A 105N	4 ME	105N		i	•				SEE NOTE		SATISFACTORY	Ę.
HA7	78879	424	Cl-07 - 164	Cl-07 - 464 2007-ZE201-0000138-02	1000138-024		2	֓֞֜֜֜֜֜֜֜֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	CITTING TEE THEN NPT 3M 1" A 105N	3M 1" A	1105N						_	SEE NOTE		SATISFACTORY	TOR
HA7	78879	954	CI-07 - 164	C(-07 - 164 2007-2E-01-0000138-024	MAN DE PONTA		NILLE.	7 1 1 1 1	FITTING TEE THED NOT 3M 1" A105N	3M 1.	NSOL							SEE NOTE		SATISFACTORY	10K
HA7	78879	ğ	C-07-164	CI-07 - 164 Z007-ZEZVI-WWO 130-254	MUDO I SONOS MUDIS DE LOSS		d N	LE TBE	P. NIPPLE TBE NPT S-80 2" L90mm(3.1/2") A106B/API 6LB	7. L90m	Im(3.1/2")	A106B/A	P1 6LB		- '		_	SEE NOTE		SATISFACTORY	ž į
_	56071	033	CI-00-227	CI-UB - 334 zone-zezo i conseguente Ciros - 334 zone-zezo i 0000385-08	1000385-061		D N	LETBE	P.NEPPLE TRE NPT S-160 1" L90mm(3.1/2") A106B/API 5LB	01.10	mm(3.1/2	") A106BK	4PI 5LB					SEE NOTE		SATISFACTORY	5 6
	83306	5 ž	200	CI-06 - 332 2006-25201-0000395-065	3000385-065	_	P.N.O.	LE TBE	P.NIPPLE TBE NPT S-160 1" L140mm(6.1/2") A106B/API 5LB	10 1" L14	Orman (5. 14.	2") A106E	WAPI SLB					SEE NOTE		SATISFACTORY	ŚŚ
	365463	286	Ci-06-463	CJ-06 - 463 2006-2E201-0000574-054	0000574-055		P.N.P	LE TBE	P.NIPPLE TBE NPT S-160 1" L115mm(4.1/2") A105B/AP1 5LB	0 t-L11	5тт(4.1/.	2°) A106E	UAPI SLE	-	ŀ	-	Ļ	SEC N	- -		
		į	TAM	MATERIAL	3	%   %   %	*uge	*	ž	Š	×1	Mo%	ž	Š	<u>-</u>    *	Z	∳-	_	-+	OTHER ELEMENTS	
EAT COL	<u>.</u>				5	0 280	070	0.002	9000	0.100	0,160	0.030	0.00						0.399		
UXS	17164	8	ASTM A103		2 4	9 5	980	0.00	0.020	0.120	0,070	0,010			0,002				0,381		
¥4	78879	024	ASIMATO	0 1	200	3 5	080	0.020	0.00	0,120	0.070	0.010		_		_			0,381		
HA7	78679	20	COLV MINE	Q 4	3 6	9 5	0960	0.020		0,120	0,000	0,010	-			_			0,381		
HA7	78879	20 3	ASIM AIG	ASTM ATOD	_	200	0.680	9000	_	8	0,070	0,020		_		_			0,324		
	26071	3	2 C T T T T T T T T T T T T T T T T T T	ASTRIATIONS ATTRES	_	0.720	007.0	0.003	0.012	0.070	0,080	0,030		_		_			0,268		
	83300	5 8	ASTRAIN	ASTIR ATORING API 51 B		0,170	0.970	0,003	0,017	090'0	0,050	0.010		_					0,302		
	305103	8 8	ASTM A10	ASTM A106/B API 5LB		0,170	0.970	0,003	0,017	090'0	0,050	0,010	0.000	0,040	0.00	0,000	o ono	¦ ≷¦	706,0	}	ļ
	<u> </u>	3	Mark Table Land	Clarity	٩ġ	HERE STRENGHT		EL CHEATTON NU	LEBUCTION OF AREA	ı	HARDWESS 18	RENO TEST	PLATTERING TES	MG TEST		¥,-	T. JOHENNY	-			VIELD PORKT
EAT CODE	FEAT		SECT. Not. 1 LENGHT IN	<u>-</u>	Wrent >-0.7%	NAMES OF	r	,	3	-	1	1	  -		TALL SECTION		1;	-	+	╁~	18
	13/67	8	122 65	÷	308.0	563.0		31,0	58,0 58,0	<del>-</del>	160 - 166	0		0 1	≥ :	R 8	0 0	5 8	2 4		5 6
8	1000	3 8	12,65	20.00	306.0	539.0	(13	31,0	49,0		60-162	o o	_	0.0	≥ }	R 8	8 8		B 9		9 6
¥:	78879	3 8	122.65	00 02	306.0	539.0	m	31,0	49,0	_	160 - 162	0		00	≥ ?	R 8	5 6		2 5		3 6
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	2000	9	9	000	304.0	465,0	40	52.0	0'0		8-64	0					<b>-</b>	٠ ،			6
	00000	3 8	88	000	329.0	472,0	<b>♣</b>	51,0	00	_	56-164	8		0.0				<b>.</b>	-		3 8
	366463	38	8 8	0.0	329.0	472,0	<b>پ</b>	51,0	0.0	_	26·164	9	_	i			5	2	)	-	}    -
		3				OD SANCE TO			 		Ŧ	HEAT TREATMENT	TMENT		•	⊄ _	FURNACE		STEEL MALL	딅	Our Ref
EAT CODE	<u> </u>								Normal	lived of 6	180°-920°	Normistical at 890"-920"C / Air Cool				ELECT	ELECTRIC FURNACE	SNACE	ABS		
CX9	17164	030	ASME SA	ASME SA ASTM A105-05	<b>2</b>					Georgian Park	140.000	Monthstead of 640-020°C ( Air Cool				ELECT	ELECTRIC FURNACE	NACE	RIVA ACCIA		061086
HA7	78879	024	ASME SA	ASME SA ASTM A105-05	56					THE PLANE	200 - 200	2 2	; <del>,</del>			FLECT	ELECTRIC FURNACE	SMACE	RIVA ACCIA!		061086
HA7	78879	024	ASME SA	ASME SA ASTM A105-05	ş				E	NIZEO SIL	000-340	Notification and the particular in the particula	5 7				EL FOTRIC FLIRNAGE	PNACE	RIVA ACCIAI		061086
<u> </u>	78870	124	ASMESA	ASME SA ASTM A105-05	-05				ELEOX.	lized at	9H0 -9Z0	Normalized at 880"-920"C / Air Cool	<b>5</b> 1				CLECTRON BURNACE	MACE	PODRREZOVA		063011
ì	56071	633	ASIME SA	ASME SA ASTM A106/A106M-06 Gr. B	3/A106M-08	G. B			Norma	lized at	880-0-924	Normalized at 880°C-920°C / Air Cool	ē ī				ELECTRIC FLIBNACE	MACE	TREINIDOS		063139
	83306	5	ASME SA	ASME SA ASTM A106/A106/A-06 Gr. B	VA106M-06	G. 8			NOT THE	lized al	380 087	Normalized of 880°C-920°C / All Cook	8 3				CECUTAING FURNACE	HOUNK	*AANINE	Z	36305
	365163	982	ASIME SA	ASME SA ASTM A106/A106M-06 Gr. B	WATCHM-OF	9.6 6.0			Norma	dized at	888°C-920 880°C-920	Normalized at 880°C-920°C / Air Cook Normalized at 880°C-920°C / Air Cool	<b>8</b> 8			EEC	ELECTRIC FURNACE	WACE	MANNE	MANNESMANN 063057	96305
	365163	8	ASME SA	ASME SA ASTM ATURIATURING OF. B	WATCOM-CE	5							TOTAL C	TOTOS	ALLA TO CONTROL DEPARTMENT MANERACTURER'S SYMBOL	MEFACTU	RER'S SY	Ě	MANUFACTURER'S SYMBOL	URER'S	SYMB
NOTES AS	3ME B16.11	MA - 60/	1831,1/831	ASME B16.11/05 - ANSI B31,1/831.3 - IML STD - ANSI B1	- ANSI B1	1,1-818,2,2-	<u>. 1</u>	<b>=</b> 	ENSPECTION AUTORITY	ALIORIA F			5					·		!	
	ACE MR017	75 ISO 151:	SG/1 - MSS P.O. REQU	NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL, MEETS SPECIFICATIONS AND P.O. REQUIREMENTS	PLIED MA	TERIAL M	EETS							Ē		FITTINGS	3	۔۔۔۔۔ ن	STUDBOLTS		В
							••					-			_			-			ነ

HEAT NUMBER : UXS TRANS AM PIPING PRODUCTS Shipment/Seq #: S 7 ~ T TITI ~ L

T" CL 3000 FS SCRD UNION

## M.E.G.A

TEST CERTIFICATE CERTIFICAT DE CONTROLE

CE FRANKLIN LTD.

1777050-OR-2100

1900 - 300 - 5th AVENUE S.W.

CALGARY, ALBERTA, CANADA T2P 3C4

CENTEFICATO N. Certificate N. Certificat N.

543176 FORLIO Sheet

DATA / Bate

29/08/07

82363

PROVA Test Editaine			MATERIALE quality / Matére	COL. Heat / C		C %	Si %	Mn %	8%	Р%	Cr %	Ni %	Mo %	Ti %	0	» «	V %	A7#	CE
NNAX	AS	STM A109	5/05	06/793	328	0.195	0.220	0.92	0.008	0.018	00.08	00.04	0.010	0.025	0.	.120	0.019	0.026	0.38
						>	Nb*=	0.00	1						1			CE5=	0.34
NAAR	AS	STM A109	5/05	1T 270	92	0.190	0.230	0.87	0.007	0.008	00.06	00.13	0.010	0.003	8 0.	.180	0.001	0.025	0.36
						>	Nbx≃	0.00	2 N %-	0.000	Sn#•	0.009	)		1			CEs=	0.33
NDCL,	AS	STM A105	5/03	06/786	512	0.195	0.170	0.89	0.010	0.014	00.10	00.05	0.010	0.019	0.	.160	0.017	0.023	0.38
						>	Nb#=	0.00	D[									CEs=	0.34
NTBN	A:	STH A105	5/05	1T 256	41	0.200	0.240	0.89	0.012	0.017	00.17	00.10	0.030	0.002	?   O.	. 180	0.000	0.033	0.40
						···->	Nb%-								1			CEs≖	0.34
IADL	AS	STM A109	5/03	063387	74	0.180	0.240		0.003	0.012	00.12	00.01	0.009	0.000	• O.	.025	0.003	0.023	0.38
	1					>	Nb3+		-1										
VCNS	AS	STM A108	5/03	12202		0.160	0.230		0.007	0.009	00.10	00.12	0.020	0.000	1 0.	.200	0.000	0.026	0.36
						>	NbX=	0.00	וס	<u> </u>	L	<u></u>	<u>L</u>						<u> </u>
PEROVA Test			VETTA nt / Eprequivette	SMERWANENTD Normal		OTTURA \$/mm}	ALLUMBAME:		CONTRAZIONE % 2		MEZZZA HB		TOUR LOST		,		LIENZA t / Résilienc	æ	
Eprairva		SEZIONE Section / Sect.	LUNGMEZZA Length / Longeur	Yield point Limite d'elasticité		yenyata yenyata	Hongation Attongeme		eduction of are Striction		dnass uratė		mattiss.	UMTÄMBB. Inii system	п <b>го</b> Тура	T. *C Test trop	WLD	INE / Valoe /	Données
XANN	1	30.6	25.0	298.0		525.0	31.	3	68.8	146-	149				KV	0	48-52	2-58	
<b>IAA</b> R	1	30.6	25.0	309.0	!	530.0	28.	7	66.6	149-	154		ļ.	ı [	KV	0	48-52	-50	
DCL	1	30.6	25.0	303.0	!	510.0	31.	3	68.6	146-	156			ı	KV :	0	64-62	2-52	
RTBN	1	30.6	25.0	312.5		518.6	31.	5	69.4	149-	152		- K		KV	0	68-82	2-60	

66.6

NOTE / Remarks / Notes

30.6

25.0

NCNS 1

EN10204/3.1

318.0

NNAX ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

MAAR ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

NOCL ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

NTBN ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

NADL ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

NONS ELECT.FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.

540.0

28.2

/CERT.8760.06 ISMA\*533234 NEGA\*

/CERT.9168.MEGA/I\*539532 MEGA\* /CERT.8642.06 MEGA/ISMA\*531508 MEGA\*

156-163

/CERT.8978.06 MEGA/ISMA\*536087 MEGA\*

/CERT.87.36.06 HEGA/ISMA\*532601 HEGA\*

/CERT. 29.06 EVASI\*530822 MEGA\*

	ricalica Test Epreuve	PÓS. Item Pos.	QUANTITÀ Quantity Quantité	Code client Cuelomer code Code client	OESCRIZIONE / Description	VISUAL AND DIMENSIONAL
	MNAX	003	600	1096411	90 DEG. ELBOW S. 2000 NPT A/SALO5N 1/2	OK
	NAAR	004	3887	1096526	90 DEG. ELBOW S. 2000 NPT A/SA105N 1	OK
7	NDCL	004	1380	1096526	90 DEG. ELBOW S. 2000 NPT A/SALOSN 1	OK
	NTBN	004	733	1096526	90 DEG. ELBOW S. 2000 NPT A/SA105N 1	OK
		015	2000	1094571	TEE S. 2000 NPT A/SA105N 1	OK
	NCNS	022	500	1095101	90 DEG. ELBOW S. 3000 NPT A/SA105N 1/4	OK

PC COMPRESSION DATE RECEIVED JUN 0 6 2008 510340 P.O. # SIGNATURE: APPROVED BY Q.C. INSPECTOR

KV

Shape/Forms :  $1 = \emptyset$ 

0 |56-58-50

2 = □

Inspection Authority CAPO COLLAUSO
Chief Inspection DFT NOTE / Remarks / Notes Service Inspection Official MATERIAL ACCORDING TO NACE MR0175/ 2003.

## M.E.G.A.

CERTIFICATO DI COLLAUDO TEST CERTIFICATE CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DHY

150 9001

CLIENTE Customer Client CE FRANKLIN LTD.

1900 - 300 - 5th AVENUE S.W. CALGARY. ALBERTA, CANADA T2P 3C4

CERTIFICATO N. Certificate N. 43176 FOELIO 1

DATA / Date

29/08/07

82363

commisser. Job N. Confirmation du commande

CALGARY, ALBERTA, CANADA T2P 3C4

COMMINICAL SECURITY SEC

CE	RTIF	ICAT DE	CONTR		=ISO 9			nchase ander Minande	271100										
Phone Test Eprouve		MATE Steel quality	RIALE y/ Marlière	COLA Steat / C	KTA Coulée	C%	Si %	Mn %	\$ %	P %	Gr%	N6 %	Mo	% D%		Çı %	٧%	Alz	CE
NAX	ASTI	4 A105/09	5	06/793	328	0.195	0.220 Nb*=		0.008	0.018	00.08	00.04	0.0	10 0.02	5 0	.120	0-019	0.026	0.38
AAR	ASTI	4 A105/0	5	17 270	92	0.190	0.230	0.870	0.007	0.008	00.06		3 0.01	10 0.00	3 0	.180	0.001	0.025	0.36
DCL	ASTI	4 A105/0	3	06/786	512	0.195	Nb%- 0.170	1	0.010	0.000 0.014	Sn%=	1	9  5 0.01	10 0.01	.9 0	.160	0.017	CEs= 0.023	0.33 0.38
ГВМ	ASTI	1 A105/0!	5	1T 256	541	0.200	NbX- 0.240		0.012	0.017	00.17	00.10	0.03	 	2 0	. 180	0.000	CEs=	0.34 n.40
ADL.	ASTA	4 A105/0:	1	063387	7.4	0.180	NbX= 0.240		0.003		90.12		10.00			.025			0.34
					•	>	Nb#=	0.002											
CNS	ASI	1 A105/03	<b>.</b>	12202		0.160 >	0.230 NBX=		0.007	0.009	00.10	00.1	2 0.02	20 0.00	0	.200	0.000	0.026	0.36
NOVA Fast	$\vdash$	PROVESTA   speciment / Ep	recuvetto	SHERVAMENTO Wigns > Yield point	N/n	TTUPA nm,≥ strenght	ALLUNIÇAME % ≥ Elongalio	1	ONTRAZIONE % > fuction of are	1 '	MEZZA. HB ronese	Bend test	CHIMCC. Patt. test		<del></del>	Impact le	HLNENZA SI / Résilier	C8	
reuve RAX			unchezza pth / Longeur 25.0	Limite d'élasticaté 298.0	Rtu	pture 25.0	Allongeme	ent	Striction 68.8	0	149	Pilage	Aplatikes.	UNITA MIS. Unit system	Type	T. 1C Test Imp		RE/Value/	Données
VAR	1	30.6	25.0	309.0	1	30.0	28.	ŀ	66.6	149				J	KV	l '	0  48·5; 0  48·5;		
CL	1	30.6	25.0	303.0		10.0	31.		68.6	146				J	KY	(	0 64-6	2-52	
BN	1	30.6	25.0	312.5	1	18.6	31.		69.4		152			J	KV		0 68-8		
idl :NS	1	60.1 30.6	35.0 25.0	308.0 318.0	1	28.0 40.0	28. 28.		66.0 66.6	156	145			J J	KV	1	0  46-5: 0  56-5		
MOVA (est	1-1-	Remarks / Note			<u> </u>	10.0	20.	·E	00.0	130	10.5			RIMA ape / Forme		l = ø	2 =		
iauve EAX	FLFC	T FURNAC	CF - MORM	EN10204/ ALIZED AT 9		COOL ED	TN STEE	I ATR	/CER	T 9760	.06 ISM	L*53323							
<b>VAR</b>				ALIZED AT S							MEGA/I								
CL	ELEC	T.FURNAC	CE-NORM	ALIZED AT 9	900 C (	COOLED	IN STIL	L AIR.	/CER	T.8642	.06 MEG/	V/ISMA	°53150	18 MEGA*	•				
TBN	I .			ALIZED AT 9										7 MEGA*					
NDL :NS	1			ALIZED AT 9 ALIZED AT 9	-						0.06 MEG 06 EVASI			501 MEGA 3∆*					
POWA Fost Feuvo	POS.	Guantity Guantity Guantité	COS	ICE CLIENTE toingr code ode client			tion / Descripti						,	<u>-</u> ·				VISUAL	
IAX	003	600	10964		90 DE	EG. ELE	30M S. 2	2000 NP	T A/SA1	05N 1/2	<u></u>							DENLE	0
VAR	004	3887	109652	26			30W S. 2												0
<u>CL</u>	004	1380	10965				30N S. 2												0
<u>BN</u> DL	004	733	10965	- '	_		NPT A/			05N 1									0
:NS	022	2000 500	10951				7 NP1 A7		-	05N 1/4	ļ								0
				:										h-Mark at hillings come		in the second second second second second second second second second second second second second second second		zanaza eserció	energy.
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										Į.	DATE			IVE		1014		<u> </u>	C.
										<u> </u>	P.O. #		<u> </u>	<u> 540</u>					
										-	SIGNA			N/					
				:						i	APPR	OVE	BY	Q.C. I	NSF	/E(/)	iUK Marana		
	<u>ļ</u>		<u> </u>	#OTE / Remarks /	Notes						Inspection Service Inspe	Authority				CNA	APO COLLAN of Inspection table assure	1DPT	
TER	IAL A	CCORDING	3 TO NAC	CE MR0175/	2003.				$\dashv$			VARIO					Al A	<del></del>	
															DO	C. CE	\$// n/s	λG.A.	

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204;2004 / 3.1

COMPANY WITH QUALITY SYSTEM 550 9001-2000 CENTIFIED BY RINA

Dated 12 09 2005 Dated 12 09 2005 Certificate Nr 15724 Involce Nr Def. Note Nr 1522 đ¦ TRANS AM PIPING PRODUCTS LTD. 7025 - 44th Sreek S.E. Calgay, Alberta T2C 456

19030 CASARZA LIGIME - Genova - Inby - P. 224 Marco Capper, 4. 761.0185.467881 - Fex 0185.465510 / MATERIAL TEST DEPARTMENT - This certificate has been generated by computer and need not to be signer for validity according to DIN EN 10204 - Page

					İ																
163	79959	003	CI-05 - 620 2005-2E201-0000914-093	005-2E201-00	000914-093		NE LE	FITTING TEE SW 6M 1%" A105N	6M 1%	A105N								SPE NOTE		SATISEACTORY	13
<b>\$</b> 77	76177	<del>2</del>	CI-05 - 620 2005-2E201-0000914-094	005-2E201-00	000914-094		XIL.	3 45 ELB.	SW 6M 3	FITTING 45 ELB. SW 6M 3/4" A105N	z						•	SEE NOTE		SATISEACTORY	
GR2	39700	960	CI-05 - 620 2006-2E201-0000914-096	006-2E201-04	300914-096		N TE	145 ELB.	SW 6M 1	FITTING 45 ELB, SW 6M 11/2" A105N	2									2010	<b>-</b> :
GPB	70200	œ	Cl-05 - 620 2005-2E261-0000914-097	'005-2E201-00	100914-097		FITTING	FITTING 45 ELB. SW 6M 2" A105N	SW 6M 2	" A105N								SEE NOTE		SATISFACTORY	<b>~</b> >
	78703	Ď	CF-05 - 620 2005-26201-0000914-101	005-2E201-00	000914-101		FITTING	CAP TH	STAN S	FITTING CAP THRO NPT 3M 11/3" A350/LF2	350ALF2							SEE NOTE		CATION	
222	78017	<u>5</u>	CI-05 - 620 2005 2E201 0000914-104	005-2E201-00	100914-104		FITTING	145 ELB.	SW 3M 3	FITTING 45 ELB. SW 3M 3/4" A350/LF2	LF2						. •	SEC NOTE			_ ,
¥2	74285	110	CI-05 - 620 2005-2E201-0000914-110	005-25/201-00	100914-110		FIFE	90 ELB.	SW 6M 1	FITTING 90 ELB. SW 6M 1" A3504.F2		ķ						SEE NOTE	2140	SATISTACIONY	٠ -
Sens.	75349	005	CI-05 - 620 2005-2E201-0000914-002	005-25201-00	100914-002	;	FITTING	390 ELB.	THRD NF	FITTING 90 ELB. THRD NPT 2M 1" A 105N			Į.				*.**	SEE NOTE	SATIS	SATISFACTORY	
HEAT CODE	E HEAT	TEM	MATERIAL	₩.	%	*	Z-L	3%	, %d	200	Ni% #10%		TK 0,2%	*	Nb%	<sup>2</sup> 2	3	200	OT LEE	OTHER STREET	١.
TG3	79959	693	ASTM A105		0.195	0.190	0.970	0 026	0.015	0 000	0.060 0.040	ŀ	i								_
224	76177	94	ASTM A105														0,000				
GR2	39700	<b>96</b>	ASTM A105																		
GP8	70200	780	ASTM A105																		
	78703	ē	ASTM A350 LF2 cl.1	F2 cl.1														0000			
222	78017	ğ	ASTM A350 LF2 cl.1	F2 cl.1			-														
H22	74285	110	ASTM A350 LF2 cl.1	F2 cl.1	0,190																
609	75349	25	ASTM A105																	į	
HEAT CODE	HEAT	ITEM	TEST SPECIMEN		YIELD POWF TENS	TEMBLE STRENOHT	T ELONGATION	ı	REDUCTION OF AMEA	EA HARDMESS HE	i.	BEST ON SE	FLAT TENMES TEST	1		PAGE TREET	1	1		,	Ĭ
			SECT. mm2 LENGH [ mm	•	Mineral 246,2%	NUMBER > T	***		****	İ			:		TVPE 10x10mm	2	-	.		MELD POINT	
g E	79959	093			329,0	532,0	33,5		57,5	154 - 162	ļ i	0.0	0		≥	5	108	102	1		.i
224	76177	8			331,0	533,0	32,0	_	56,0	158 - 162		00	0.0		. ≥	8				5 6	
GR2	39700	960			366.0	601.0	34,0	_	56.0	160 - 162		0.0	0.0		. ≥	8		·		) c	
GP8	70200	097			364,0	534,0	31,0	_	54,0	160 - 166		0.0	00		. ≥					2 6	
	78703	٥.			336,0	596,0	31,0	_	56,0	160 - 168		0.0	0.0		. ≥	4				2 6	
222	78017	104			367,0	554,0	31,0		56,0	160 - 164		0.0	00			4			- <b>-</b>	2 6	
H52	74285	110			305,0	510,0	31,0		54,0	150 - 158		0.0	00		≥	4				2 6	
_     @	~	005	122,65 50	50,00 36	361,0	533,0	34,0	-	56,0	160 - 166		0,0	0,0		. ₹	8	_	_	- ,-	0.0	=
HEAT CODE	HEAT	ITEM		MATERIAL	MATERIAL IN ACCORDANCE	DANCE TO		İ			HEAT T	HEAT TREATMENT	Ē		:	FURNACE	:  ¥CE		STEEL MILL		ì.
TG3	79959	093	ASME SA ASTM A105-03	TM A 105-03					lormalize	d at 880°	Normalized at 880"-920°C / Air Cool	000		İ	1	ECTON	ELECTOR CLICALACE	Ì			٠ I
224	76177	094	ASME SA ASTM A105-03	TM A105-03				٤	kormalize	d at 880"-	Normalized at 880*-920°C / Air Cool	Cool			<i>,</i> п	FOTO	ELECTRIC FURNACE	-		041321	
GR2	38700	960	ASME SA ASTM A105-03	TM A105-03				~	hormalize	d at 880°-	Normalized at 880°-920°C / Air Cool	80				FOTPL	FLECTRIC FURNACE		STOCK WAY	\$201.50	
GP8	70200	260	ASME SA ASTM A105-03	FM A 105-03				Ζ,	lormalize	d at 880*.	Normalized at 880*-920°C / Air Cool	-Cool			, ш	FOTRIC	ELECTRIC FURNACE	_	COOK WAS	570160	
	78703	101	ASME SA ASTM A350-04a Gr. LF2 cl.1	7M A350-04	3 Gr. LF2 (	Ŧ		Z	formalize	d at 900°C	Normalized at 900°C / Air Cool				i tu	FCTR	ELECTRIC ELIBRACE	_		400140	
222	78017	ᅙ	ASME SA ASTM A350-04a Gr. LF2 ct.1	TM A350-04	a Gr. LF2 o	<u>1.</u>		z	lormafizex	d at 900°C	Normafized at 900°C / Air Cool	_				TOTAL	ELECTRIC FURNIACE			UZT407	
H\$2	74285	110	ASME SA ASTM A350-048 Gr. LF2 ct.1	M A350-04	G. LF2	- 7:		2	lormalized	d at 900°C	Normalized at 900°C / Air Coot				3 (1)	TOT	CLECTION CHOCACC	-	200	901	
ens	75349	200	ASME SA ASTM A105-03	W A105-03				~	ormalized	d at 880°-s	Normalized at 880°-920°C / Air Cool	S			U		STECTOR CUSTACE		RIVA ACCIAL	021189	÷
NOTES ASA	AF REE 14A	DI - BC 270	ASME RIG FAMI - BS 1700 ANS 011 (1021 2 BM CTD ANS	AN 2 150/	oro	٥		A DO ON	7000					  -	'  			ار	200	Z1Z1C0	
	81827	MACENACI	84 1.818 2.2 MACE MO0125 190 Assess - Supplied to Month Business		7			JASHEC	INSPECTION AUTORITY		3	ILY COMI	ROL DEP	RTMEN	MANGE	CTURER	DUALITY COMTROL DEPARTMENT MANUFACTURER'S SYMBOL		MANUFACTURER'S SYMBOL	SYMBOL	
SPE	CIFICATIC	NS AND P	SPECIFICATIONS AND P.O. REQUIREMENTS	GENTS			<u>ה</u>											   		!   !	
						The second second		The second second	CANADA NAME OF TAXABLE PARTY.	THE PROPERTY.	THE PERSON NAMED IN COLUMN				į		***			E	
						_	3		0020	200		KORIS	RORIS FIZZOTTI	=	=	FILLINGS	<u> </u>	STE	STUDBOLTS (	3	

HEAT NUMBER : GU9 TRANS AM PIPING PRODUCTS Shipment/Seq #: S 5 - I 1211 3: - KEA.D BK:

DATE RECEIVED JUN Z 4

E822806

PO.# 510428

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SIGNATURE:

APPROVED BY Q.C. INSPECTOR

TRANS AM PIPING PRODUCTS 'S IE KEA.D BK: TOTS Sal HEAT NUMBER

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

TRANS AM PIPING

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Certificate Nr. 17081	Investments 13	Del. Note Nr. 10
IS LTD.		

10.01.2007 03.01.2007 03.01.2007

	:	EN 10204 Page 1 · 5
₩3		igned for validity according to DIN
Calgary, Attenta T2P 2G8	:	551 · Fax 0168.466510 FWATERIAL TEST DEPARTMENT This certificate has been generated by computer and head not to be signed for validity according to DIN EN 10246. Page 1 · 6
CERTIFIED BY RINA	-	DIBS.466610 FWATERIAL TEST OBPARTMENT THE CO
	DOSING MECCAINCA LICORE 公文	(8030 CASARZA LIGURE - Genova - Maly - Plaza Marco Cappelli,4 - Tel,0165.467651 - Fax 0

HEAT CODE	HEAT	TEM		OUR REFERENCE	E P	<u>-</u>					į								DISCOLUTE DIRECTO	
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003	72290	8	ASME SA A	ASME SA ASTM A105-05	10	! 1   	  -		Normak	red at 980	Normalized at 980*-920°C / Air Coo	Air Cool				ELECTR	ELECTRIC FURNACE	i	RIVA ACCIAL	062092
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	55523	8	ASME SAA	ASME SA ASTM A106/A160M-04b Gr. B	160M-04b	G. B			Normaliz	ted at 880	Normalized at 880°C-920°C / Air Coo	./ Air Cox	_		=	ELECTR	ELECTRIC FURNACE		PODBREZOVA	4 063064
TP5	72966	014	ASME SA A	ASME SA ASTM A105-05	9				Normaliz	ed at 88(	Normalized at 880*-920°C / Air Cool	Air Cool				PLECTR	ELECTRIC FURNACE	:-	RIVA ACCIAL	061482
	17980	012	ASME SA A	ASME SA ASTM A105-05					Normaliz	ed at 860:	Normalized at 860*-920°C / Air Cool	Air Cool				ELECTR	ELECTRIC FURNACE		LEALI SPA	061244

NOTES ASME B16.11/05 - ANSI 831.7/831.3 - (M.), STO - ANSI 81.1-B18.2.2 - NACE MR0175 ISO 16156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS ASME SA ASTM A105-05 013 . 77612

SPECIFICATIONS AND P.O. REQUIREMENTS

PC COMPRESSION

**BORIS FIZZOTTE** 

폭 FITTINGS

QUALITY CONTROL DEPARTMENT: MANUFACTURER'S SYMBOL MANUFACTURER'S SYMBOL

INSPECTION AUTORITY

STUDBOLTS

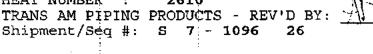
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TRANS AM PIPING PRODUCTS - REV'D BY:



1X1/2 CL 3000 FS SCRD RED TEE A105N





## 商雄縣仁武鄉無林村仁心路 303號 BOTH-WELL STEEL FITTINGS CO., LTD.

NO 303, JEN-HSIN ROAD JEN-WU HSIANG KAPHSIUNG HSIEN, TAIWAN R.O.C.(81460)

TEL: (07) 371-0497, 371-1536, 372-0260 FAX: (886-7) 371-3864, 371-3882 WEB SITE:http://www.bothwell.com.tw E-MAIL:bothwell@www.bothwell.com.tw or box@neal.bothwell.com.tw

An ISO-9001 Registered Manufacturer

## MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN10204/DIN50049/3.1.B CUSTOMER: TRANS AM

INVOICE NO: 37069510107

L/C NO: **ORIGIN: TAXWAN** DATE: 01/31/07

CERT No. 70297 ORDER No: 6092(CI-06-728) PACE: 12 RAW BOTH SPECIFICATION: ITEM MATERIAL ASTH / ASME WELL DESCRIPTION MEAT NO. OUANTITY A/SA 105N -05 HT.CD. DIMENSION: 046 387034 2508 RED.CPLG 2"x 1" 3000# NPT ASME B16.11 - 2001 647 ALO19D 598 RED.TER 1/2"× 3/8" 3000# NPT ALOISD 947 596 REB.TEE 1/2"× 3/8" 3000# NPT SURFACE: 048 390084 2610 RED. TEE 1"× 1/4" 3000# NPT BY VISUAL...COOD 36898I 649 RED.TEE 1"× 1/2" 3000# NPT 2585 949 390084 2610 RED.TEE 1"x 1/2" 30004 NPT -050 388839 2571 RED.TER 1"× 3/4" 3000# NPT CHENECAL COMPOSITION ITEM

	C	Si	Ma	P	S	Cu	Cr	Ni	Me	V	Cb(Nb)	CE
Kie		♦.100	0.600	-	-	-	-		-	-	<del>                                     </del>	_
Kax	0.350	0.350	1.050	0.035	0.040	0.406	8.300	0.400	0.120	9.050	9.620	0.430
046	0.210	0.190	0.886	9.614	0.011	9.000	0.000	0.040	0.010	0.002	●.00●	0.380
047	0.200	0.190	0.780	0.012	0.011	0.010	0.020	8.610	0.810	0.000	6.006	8.339
047	0.190	0.190	0.810	0.811	0.011	9.010	0.020	0.616	0.010	0.000	9.000	8.332
048	0.220	0.220	0.900	0.011	0.015	0.140	0.070	0.060	0.020	6.094	0.062	●.402
049	8.19D	0.130	0.846	0.017	0.011	6.160	0.110	0.050	0.020	6.982	9.002	0.370
049	0.220	0.220	0.990	0.411	0.015	6.140	9.078	0.000	9,929	0.004	9.002	9.462
050	0.200	0.190	9.850	0.419	0.000	0.120	0.120	0.050	0.020	0.002	8.062	0.381
		11 7 0	* * * *	A			<del> </del>					

649	0.220	0.220   0	.990   D.91	11 0.015	6.140	9.070	0.000	0.020	0.004	9.002	9.462
.050	0.200	0.180	.850 0.41	19 0.009	0.120	0.120	0.050	0.020	0.002	9.002	0.381
ITEN		HECH	NICA	LTES	T	Remark: NORMALIZE	ID : 850°C	<u> </u>	<u> </u>		<u> </u>
	Tensile Strengti (ESI)		Elen- Gation	RofA	Inreness	CONFORMS STEEL MAD	TO NACE M LING PROCE	R6175-200 SS: ELECTI	3/NR8103 HC FURNA	CE	
Nim	70.0	36.0	(%)	(%)	(IB)	-		-		•	
Max		30.0	22.0	30.0	187						
946	77.8	57.5	32.8	64.0	141	1				TINGS BAVE	
947	76.0	54.4	38.4	60.3	152				IN ACCOR	DANCE WIT	H THE
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●49	78.1	54.2	31.4	65.8	143	` <b>ک</b>	CL	<b></b>	64	C ~~~	7
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APPROVED BY Q.C. INSPECTOR

**NDUSTRIA MECCANICA LICURE** SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY BYSTEM ISO 9004-2000 CERTIFIED BY RINA

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P.NIPPLE TBE NPT S-80 1.1/4" L115mm(4.1/2") A106B/API 5LB

P.NIPPLE TBE NPT S-80 1/2" L150mm(6") A 106B/AP1 5LB

FITTING COUPLING THRD NPT 3M 2" A105N FITTING COUPLING THRD NPT 3M 2" A105N

FITTING 90 ELB. THRD NPT 3M 3/8" A105N FITTING CROSS THRD MPT 2M 1" A105N

P.NIPPLE TSE NPT S-80 1/4" L51mm(2") A105B/AP1 5LB

DESCRIPTION

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OUR REFERENCE

YOUR P.O.

HEAT

HEAT CODE

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CJ-06 - 510; 2005: 2E:201-0000563-012 CI-06 - 635 2006-2E201-0000797-003 CI-06 - 636/2006-2E201-0000802-018

16070 CASARZA LIQURE - Genova - Maly - P. 22a Marco Cappeni, A. Teldits 68781 - Fax 0185, 4686 14 / MATERIAL TEST DEPARTMENT

P.NIPPLE TBE NPT 5-80 1.1/4" £150mm(6") A106B/API 5LB

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CUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL | MANUFACTURER'S SYMBOL

불 FITTINGS

**BORIS FIZZOTTI** 

STUDBOLTS

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ELECTRIC PURNACE ELECTRIC FURNACE

PODBREZOVA 063076

NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS ASME B16.11/05 - ANSI B31.1/B31.3 - IM. STD - ANSI B1.1-B18.2.2 -SPECIFICATIONS AND P.O. REQUIREMENTS

ASME SA ASTM A106/A160M-04b Gr. B ASME SA ASTM A106/A160M-04b Gr. B

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INSPECTION AUTORITY

JUN 2 4 2008 PC COMPRESSION DATE RECEIVED

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APPROVED BY Q.C. INSPECTOR

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PODBREZOVA : 063070

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PRODUCTS - 8 HBO

Shipment/Seq :# DIDING MA **SNA**XT HEAT NUMBER

NOTES

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WIXI DINGYUAN PRECISION COLD-DRAWN, STEEL PIPE CO., LTD

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HEAT NUMBER : YOYOZO732 P.O. # \Seq #: L-08 - 8048 I APPROVED BY Q.C. INSPECTOR

## **NDUSTRIA MECCANICA LIGURE** SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9091-2000 GERTIFIED BY RINA

Oated Dated Cartificate Nr. 18442 Invokea Nr. 179 Del. Note Nr. 315 TRANS AM PIPING PRODUCTS LTD.

26.02.2008 22.02.2008 22.02.2008

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9335 Endeavor Drive S.E. Ceigery, Alberta T3S 0A1

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RENCE	CI-06 - 827 2007.9E364-0000011 063	CI-05 - 827 207-44401-000011-002	CI-06 - 827 2007-26201-0000011-068	CI-07 - 450 2008-2E201-0000082-001	CI-07 - 691 2007-2E201-0001160-020	CI-07 - 691 2007-25201-0001160-024	CI-07 - 691 2007-2E201-0001150-041	CI-07 - 891 2007-2E201-0001180-041	Š		0.160	0,130	0 0	0,16	0,170	0,100	0,140	0.110	WELD POINT TE		203.0		228.0	3140	0404	2 6	0,020	2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2	LIN ACCO
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YOUR P.O.	ğ	8	8	C-07	Ct-02	CI-01-	CI-01 -	CF07-1	<b>=</b>		ASTM ATOMB APT 5LB	ASTM A106/B API 5LB	AS1M A106/B API 5LB	ASTM A106/8 API 5LB	ASTM A106/B API 5LB	ASTM A 108/B API 5LB	ASTM A106/B API 5LB	ASTM A106/B API 5LB	11837	BECT, mara	900	000	000	8	900	2 6	8	8 8	3	
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QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL \$\$\$\$\$\$\$ HEAT TREATMENT Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Coot Normalized at 860°C-920°C / Air Cool Normalized at 890°C-920°C / Air Cool Normalized at 880°C-920°C / Air Coo Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool 90000 163 - 164 163 - 164 160 - 162 158 - 164 159 - 161 163 - 166 PC COMPRESSION INSPECTION ALITORITY 000000 39,0 32,0 38,0 38,0 32,0 MATERIAL IN ACCORDANCE TO NACE MR0175 ISO 15156/1 - NACE MR103 - MSS SP 83 - SUPPLIED 452,0 527,0 472,0 494,0 452,0 ASME B18.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 ASME SA ASTM A106/A106M-06a Gr. B ASME SA ASTM A106/A106M-06a Gr. B MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS ASME SA ASTM A106/A106M-06a Gr. B ASME SA ASTM A106/A106M-06a Gr. B ASME SA ASTM A106/A106M-06a Gr. B. ASME SA ASTM A106/A106M-06a Gr. B. ASME SA ASTM A106/A106M-06a Gr. B. ASME SA ASTM A106/A106M-06a Gr. B 314,0 407,0 328,0 355,0 314,0 80000 8 8 8 8 8 8 8528444 4 22877 22877 55178 23651 539229 22877 EAT 539229 23851 22877 55178 87458 45801 23651 22877 HEAT CODE NOTES **2 8** - S Shipment/Seq 990T :#

Our Ref.

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STUDBOLTS

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FITTINGS

4 711 PORIS FIZZOTTI E832806 3 RECEIVED 510428 DATE P.O. #

APPROVED BY Q.C. INSPECTOR SIGNATURE

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PIPING MA SNASIT HEAT NUMBER

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TRANS AM PIPING PRODUCTS - REV'D BY: P.O. # /Seq #: L-07 - 9198 3



Heat Code Remarks:

## Phoenix \* Capitol \* Camco

## **Cap Products**

eat Code: R4	D./		<u></u>		DALE.	RECEIVE	] MAY 2 4 200
eat Number:		BK STLNT	PI.			5083	1
em: 15111012 laterial: AST	M A106-1999e	B/ASMES	SA106-2001 Editi	on, No Addenda			
					   ``_01441	Flore	
hemistry Pr	operties				[		
C	Mn	P	S	Si	Систос	s <sub>ight p</sub> Cr⊖ ≏	
0.220	0.580	0.013	0.017	0.240	0:030	0.020	
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0.020	0.010	0.010		<u> </u>			<b>_</b>
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				0.328			ļ
dditional C	nemical Prop	erties					
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lechanical I	roperties						
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69500		47000	35%				<b>-</b> 4[
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Customer					P.O.	CI-07-	-324			1	Ieat No	P925869	
TRANS AM	PIPING F	RODUCT	SLTD. A	. <b>B</b>						He	at Code	88Tv/ <	
233061 END CALGARY,			5. <b>E.</b> 1		Mate	erial A	STM A10	6-1999	e B / ASN	Proentx AE SA106-:	Order# 4 2001 Editio	470912 on, No Ado	den
Part Numi	)er				Desc	ription							
15111	0/12						ISML BLI	K NIPL	4				
Chemical 1	ronanting								-				
C	Mn	p	S	Si		<del></del>	1	_			<del>"</del>		
0.200	0.520	0.023	0.025	0.240	<b>Cu</b> 0.030	0.020	0.020	-		. Long .296	*	<b>;</b>	
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0.010	0.001				·`	***	311	<del>  '</del>	3	<u>ri</u>			
Additional Mechanical			es			C	іагру Міі	. i		+ Cu + Ni 0.070	]		
Tensile (PS		<del></del>	ng. % in 2	in. R	of A B		***************************************	est 2	Test 3	Average	1		
71,000	44,40		33.0%					N/A	N/A	N/A	1		
* Eddy Curren * Bend test pa This material accordance w requirements. Comments:	sed. neets the r	requiremen	nts of the g	governing s	specifications	ons We ce ation and	rtify that t	he abo	ve materia h inspectio	il has been ons and test	inspected a t conform w	nd tested i	n able
MEETS HAR REQUIREME	DNESS RI NTS.	EQUIREM	IENTS OF	NACE M	IRO175 L	ATEST E	DITION, (	CONF	RMS TO	ASME SA	106 GRAD	E B	
	PO.#	RECE SC ATURE:	831 +	t 1c	<u>0 5 2(</u> тон	107	2	25 Wini	roducts nipeg St a, ON NO				



## Phoenix \* Capitol \* Camco **Cap Products**

1118887

- Commanding a Higher Standards

**Certified Mill Test Report** 

5/14/2008

Customer

CE FRANKLIN LTD

2031424-OR-2100

138958 Heat No

Heat Code YT4 J

Phoenix Order # 548533

Material

ASTM A106-1999e B / ASME SA106-2001 Edition, No Adden

BOX 6776 STN "D"

CALGARY, AB T2P2E8

Part Number 15111011 Description

1 X 5-1/2" XHSML BLK NIPL

**Chemical Properties** 

С	Mn	P	S	Si	Cu	Cr	Ni		C Eq. Lon	g
0.140	0.860	0.008	0.003	0.190	0.140	0.170	0.120		0.343	
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti	
0.040	0.001				,				1	

Additiona	l Chemica	Propertie	S	

 Cr + Cu + Ni	_
0.430	

Mechanical Properties

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
70,779	50,328	50.0%		144	N/A	N/A	N/A	N/A

## \* Bend test passed.

This material meets the requirements of the governing specifications We certify that the above material has been inspected and tested in accordance with the methods prescribed in the governing specification and the results of such inspections and test conform with applicable

We further certify this material was inspected with independent inspectors conforming to the requirements of ENI0204 Section 3.1B.

Comments:

MEETS HARDNESS REQUIREMENTS OF NACE MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

PC COMPL DATE RECEIVED		Cai	Products, Ltd.
PC COMP	aeasiun	2008 <sup>25</sup> V	Vinnipeg St
DATE RECEIVED	JUN 6 0	Van	astra, ON NOM 1L0
1 51	024D		
P.O. #	<u> </u>		
SIGNATURE:	W		
APPROVED BY Q.C.	INSPECTOR		
APPROVED D. G.S.	and the second s		

INSPECTION CERTIFICATE EN 10204:2004 / 3.5

**IDUSTRIA MECCANICA LIGURE** SPA

TRANS AM PIPING PRODUCTS LTD.

Certificate Nr. 18087 Invoice Nr. 1135 Del. Note Nr. 1745 ç

Dated Dated Dated

233061 Endeavor Drive S.E. Calgary. Alberta 12P 2G6 COMPANY WITH QUALITY SYSTEM ISO 9061-2000 CERTIFIED BY RINA

C1-06 - 635 2006-282201-0000954-023   P.NIPPLE TBE NPT S-80 1" L140mm(5.12") A106B/API 5LB C1-06 - 741 2006-282201-0000954-023   P.NIPPLE TBE NPT S-80 1" L140mm(5.12") A106B/API 5LB C1-06 - 741 2006-282201-0000954-023   P.NIPPLE TBE NPT S-160 1.112* L30mm(3.12") A106B/API 5LB C1-06 - 741 2006-282201-000091-046   P.NIPPLE TBE NPT S-160 1.112* L30mm(3.12") A106B/API 5LB C1-06 - 827 2007-282201-000001-046   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-048   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-048   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-048   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-282201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-822201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-822201-0000011-051   P.NIPPLE TBE NPT S-160 2" L150mm(3") A106B/API 5LB C1-06 - 827 2007-8220   0.000 0.0	BE NPT S-80 1" L140mm(5.1/2") A10 BE NPT S-80 1" L140mm(5.1/2") A10 BE NPT S-80 1" L140mm(5.1/2") A10 BE NPT S-160 1.1/2 L90mm(3") A106B BE NPT S-160 1.1/2 L75mm(3") A106B BE NPT S-160 2" L150mm(4") A106B BE NPT S-160 2" L150mm(4") A106B BE NPT S-160 2" L150mm(4") A106B BE NPT S-160 2" L150mm(4") A106B BE NPT S-160 2" L150mm(4") A106B BE NPT S-160 2" L150mm(6")	LB B B B B B B B B B B B B B B B B B B	SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE	SATISFACTORY
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NOTES ASME B16.11/05 - ANSI B31.1/831.3 - IMI. STD - ANSI B1.1-B18.2.2 NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL ME SPECIFICATIONS AND P.O. REQUIREMENTS HEAT NUMBER ; 528697 TRANS AM PIPING PRODUCTS Shipment/Seq #: 5 7 - 1 - KEAID BK:

STUDBOLTS

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FITTINGS

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P.O. # 510428

SIGNATURE:

DATE | RECEIVED

APPROVED BY Q.C. INSPECTOR

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TX2T\S XH SWTS SLEET NIBBTES VIOE

**DUSTRIA MECCANICA LIGURE** SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTHED BY RINA

TRANS AM PIPING PRODUCTS LTD.

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Certificate Nr 18004 Invoka Nr 1031 Oel, Note Nr 1537

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1603D CAS	ARZA LIGURE	E - Genova - Ital	y - P.zza Marco (	16030 CASARZA LIGURE - Genova - Italy - P. 7222 Marco Cappell,4 - Tel.0188,467661 - Fex 0165,466510 / MATERIAL TEST DEPARTMENT This certificate has been ganerated by computer and need not to be signed for velicity according to DIN EN 10204 Param	3.467661 - Fex	0165,46651	10 J MATERIAL	NEST DEPARTME	'NT This certifi.	cate has been gene	rated by comp	uter amd need n	ot to be signe	l for velidity (	Recording to	OIN EN 10	204 Page 4 . 16
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0000 HEAT TREATMENT Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool 9 0 0 0 0 0 0 Normalized at 900°C / Air Cool Normalized at 900°C / Air Cool Normalized at 900°C / Air Cool 159 - 161 159 - 161 159 - 161 8888 38.0 0.88.0 0.88.0 0.88.0 MATERIAL IN ACCORDANCE TO 494.0 494.0 494.0 ASME SA ASTM A350-048 Gr. LF2 cl.1 ASME SA ASTM A350-04a Gr. LF2 d.1 ASME SA ASTM A350-048 Gr. LF2 cl.1 355,0 355,0 355,0 355,0 .... 0 0 0 0 0 0 0 539229 539229 539229 ÆĀT 73413 538697 539229 539229 539229 78092 39699

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> Normalized at 890°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool

**ELECTRIC FURNACE** 

ACTURER'S SYMBOL

STUDBOLTS

FITTINGS

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ASME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B

539229

SPECIFICATIONS AND P.O. REQUIREMENTS

QUALITY CONTROL DEPARTMENT; MANUFACTURER'S SYMBOL. PC COMPRESSION
RECEIVED JUN 2 4 2000 INSPECTION AUTORITY DATE NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS

APPROVED BY Q.C. INSPECTOR

E832806 510428 SIGNATURE: # O.4

HEAT CODE NOTES TRANS AM PIPING PRODUCTS - T - S :# pas\Jnencins :8 88 KEA.D 89**†**T **L698ES** HEYL NOWBEK

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INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204; 2004 / 3.1 TRANS AM PIPING PRODUCTS LTD. Certificate Nr. 17837  Invoice Nr. 918  COMPANY WITH QUALITY SYSTEM 150 909: 200  COMPANY WITH SYSTEM 150 909: 200  COMPANY WITH SYSTEM 150 909: 200  COMPANY WITH SYSTEM 150 909: 200  COMPANY WITH SYSTEM 150 909: 200  COMPANY WITH SYSTEM 150 909: 200  COMPANY WITH SYSTEM 150 909  COMPANY WITH SYSTEM 150 909  COMPANY WITH SYSTEM 150	Dated 04 09 2007	Dated 30:08 2007	Dated 30.08 2307		
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TRECATE EN 10204:2004 / 3.1 NALITY SYSTEM ISO 9001-2000 RTRIED BY RINA	TRANS AM PIPING PRODUCTS LTD.		233081 Endeavor Drive S.E.	Calgary, Alberta T2P 2G6	
INSPECTION CER COMPANY WITH C	INSPECTION CERTIFICATE EN 10204;2004 (3.1		COMPANY WITH QUALITY SYSTEM 150 9001-2000	CERTIFIED BY RINA	

16030 CASARZA LKUAE: Genova - Italy - P. 222 Marco Cappelii, 4. Tel 0198.467361 - Faz 10185.466510 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be aligned for vaileding according to DIN EN 10204 Page 13 . 16.

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C106 - 635 DOC 200-0000797 O-20   C106 - 635 DOC 200-0000797 O-20   C106 - 635 DOC 200-0000797 O-20   C106 - 635 DOC 200-0000797 O-20   C106 - 635 DOC 200-0000797 O-20   C106 - 635 DOC 200-0000797 O-20   C106 - 635 DOC 200-0000797 O-20   C106 - 635 DOC 200-0000797 O-20   C106 - 635 DOC 200-0000797 O-20   C106 - 635 DOC 200-000079 O-20   C106 - 635 DOC 200-000079 O-20   C106 - 635 DOC 200-000079 O-20   C106 - 635 DOC 200-000079 O-20   C106 - 635 DOC 200-000079 O-20   C106 - 635 DOC 200-000079 O-20   C106 - 635 DOC 200-000079 O-20   C106 - 635 DOC 200-000079 O-20   C106 - 635 DOC 200-000079 O-20   C106 - 635 DOC 200-000079 D-20   C106 - 635 DOC 200-000079 D-20   C106 - 635 DOC 200-000079 D-20   C106 - 635 DOC 200-000079 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 DOC 200-000079 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 DOC 200-00079 D-20   C106 - 635 D	258627 027 C06 - 635 2006-22201-0000797-027 PAINPOLE TBE NAT 3-60 1" L115 mmid.4 117" A 1056BAP1 5LB 538627 021 C06 - 635 2006-22201-0000797-027 PAINPOLE TBE NAT 3-60 1" L115 mmid.4 117" A 1056BAP1 5LB 538697 021 C06 - 837 2007-22201-0000797-021 C06 - 741 2006-22201-0000797-021 C06 - 741 2006-22201-0000797-021 C06 - 837 2007-22201-0000797-021 C06 - 837 2007-22201-0000797-021 C06 - 837 2007-22201-0000797-021 C06 - 837 2007-22201-0000797-021 C06 - 837 2007-22201-0000797-021 C06 - 837 2007-22201-0000797-021 C06 - 837 2007-22201-0000797-021 C06 - 837 2007-22201-0000797-021 C06 - 837 2007-22201-0000797-021 C06 - 837 2007-2201-000071-000 C06 - 837 2007-2201-000071-000 C06 - 837 2007-2201-000071-000 C06 - 837 2007-2201-00007-000 C06 - 837 2007-2201-00007-000 C06 - 837 2007-2201-00007-000 C06 - 837 2007-2201-00007-000 C06 - 837 2007-2201-00007-000 C06 - 837 2007-201-00007-000 C06 - 837 2007-201-00007-000 C06 - 837 2007-201-00007-000 C06 - 837 2007-201-00007-000 C06 - 837 2007-201-00007-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 2007-201-000 C06 - 838 201-000	3		SATISFACTORY
Clock	Supplementary   Color   Colo	15LB .		SATISFACTORY
Cloth	The color of the	5.6	-	SATISFACTORY
Teach   Color   Colo	Conc. SWAGE TBE NPT S-150 2"x1/2" WPB			SATISFACTORY
	HEAT   TITEM		,	SATISFACTORY
	NEAT   ITEM   MATERIAL   C% SI% Nor% S% P% Cr% NI% Nor% T7% Cu%   S38857   C21   ASTMA A106/B API SLB   C12C   C22C   C3820   C1006   C10C	9TB		SATISFACTORY
538657         021         ASTIM A1069B API 5LB         0.120         0.220         0.006         0.100         0.100         0.000         0.010         0.000 <td>538697         021         ASTM A106/B API 5LB         0,120         0,220         0,006         0,006         0,100         0,100         0,130<td>Cu% V%</td><td>C.E.%</td><td>OTHER ELEMENTS</td></td>	538697         021         ASTM A106/B API 5LB         0,120         0,220         0,006         0,006         0,100         0,100         0,130 <td>Cu% V%</td> <td>C.E.%</td> <td>OTHER ELEMENTS</td>	Cu% V%	C.E.%	OTHER ELEMENTS
Sample   S	539229         032         ASTMA A106/18 API 5LB         0,140         0,230         0,009         0,100         0,100         0,000         0,100         0,100         0,100         0,130 </td <td>0,130 0,001 0,000</td> <td>0000</td> <td></td>	0,130 0,001 0,000	0000	
September   Sept	523629         025         ASTIM A106/8 API 5LB         0,140         0,230         0,800         0,003         0,100         0,100         0,000         0,130           538299         027         ASTIM A106/8 API 5LB         0,120         0,220         0,800         0,100         0,100         0,000         0,130           538299         027         ASTIM A106/8 API 5LB         0,120         0,220         0,800         0,100         0,100         0,000         0,130           538299         027         ASTIM A106/8 API 5LB         0,140         0,220         0,800         0,100         0,100         0,000         0,130           72431         021         ASTIM A106/8 API 5LB         0,140         0,220         0,800         0,100         0,100         0,000         0,130           539229         026         ASTIM A106/8 API 5LB         0,140         0,220         0,800         0,000         0,100         0,130         0,100         0,130         0,100         0,130         0,100         0,100         0,130         0,100         0,130         0,100         0,130         0,100         0,130         0,100         0,130         0,100         0,130         0,100         0,130         0,100         0,100	0,130 0,002 0,000	000	,
Signosia   Signosia	538697         027         ASTM A106/B API 5LB         0,120         0,220         0,006         0,100         0,100         0,030         0,000         0,130           538229         042         ASTM A106/B API 5LB         0,140         0,230         0,900         0,000         0,100         0,030         0,000         0,130           538229         042         ASTM A106/B API 5LB         0,140         0,230         0,900         0,000         0,100         0,000         0,130           72431         021         ASTM A106/B API 5LB         0,140         0,220         0,000         0,100         0,100         0,130           72431         021         ASTM A106/B API 5LB         0,140         0,220         0,003         0,009         0,100         0,100         0,100         0,130         0,100         0,100         0,100         0,100         0,100         0,100         0,100         0,130         0,100         0,130 <t< td=""><td>0,130 0,002 0,000</td><td>0000</td><td></td></t<>	0,130 0,002 0,000	0000	
Name   Color	538229         042         ASTM A106/B API 5LB         0,140         0,230         0,000         0,000         0,130         0,000         0,100         0,000         0,130         0,100         0,000         0,130         0,100         0,100         0,130         0,130         0,130         0,130         0,130         0,100         0,130 <td>0,130 0,001 0,000</td> <td>0000</td> <td></td>	0,130 0,001 0,000	0000	
	538697         021         ASTM A106/9 API 5LB         0,120         0,820         0,006         0,006         0,100 <td>0,130 0,002 0,000</td> <td>0000</td> <td></td>	0,130 0,002 0,000	0000	
	72431 021 ASTM A234 WPB 0.195 0,200 0,970 0,021 0,014 0,090 0,050 0,010 0,005 0,100 0,100	0,130 0,001 0,000 0,000	0000	
539229         026         ASTMA A106/B API SLB         0,1440         0,2300         0,000         0,000         0,1400         0,1400         0,00	539229         026         ASTM A106/B API SLB         0,140         0,230         0,800         0,003         0,009         0,100         0,000         0,000         0,130         0,140         0,230         0,800         0,009         0,100         0,000         0,000         0,000         0,000         0,000         0,000         0,000         0,000         0,000         0,00         0,00         0,00         385,0         494,0         38,0         0,0         169 - 161         0,0	0,100 0,002 0,000 0,000	0,012	
HEAT         TIEM         TRET ACCURDANCE         TRET INFORMER ACCURDANCE         RECURDANCE FOR TREATMENT	HEAT   TTEM   TEST SPECINEDS   VINLO POINT   TESTS ESTREMONT   TEMP   SECT. CORP.   VINLO POINT   TESTS ESTREMONT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT. CORP.   VINLO POINT   TESTS ESCT.	0,130 0,002 0,000 0,000	0,000	
SSSSSSS         CALL         CALL         LANGE LANGE         No.         SSSS         CALL	538697         021         0,00         0,00         362,0         450,0         52,5         0,0         185 - 167         0,0         0,0           538637         021         0,00         0,00         355,0         494,0         38,0         0,0         165 - 167         0,0         0,0           539229         022         0,00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0         0,0           539229         025         0,00         0,00         362,0         456,0         52,5         0,0         159 - 161         0,0         0,0           539229         042         0,00         0,00         382,0         456,0         52,5         0,0         155 - 167         0,0         0,0           538697         021         0,00         0,00         382,0         456,0         38,0         0,0         155 - 167         0,0         0,0           72431         021         1,22,65         50,00         336,0         494,0         38,0         0,0         155 - 167         0,0         0,0           539229         025         0,00         0,00         336,0         494,0         38,0         0			NPE YELDPOWT
538637         021         0,00         0,00         362,0         450,0         52.5         0,0         165 - 167         0,0	538637         021         0,00         0,00         362,0         450,0         52,5         0,0         165 - 167         9,0           539229         032         0,00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0           539229         025         0,00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0           539229         027         0,00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0           539229         042         0,00         362,0         450,0         52,5         0,0         155 - 161         0,0           72431         021         122,65         50,00         362,0         494,0         38,0         0,0         155 - 167         0,0           539229         026         0,00         360,0         362,0         494,0         38,0         0,0         155 - 167         0,0           465         026         0,00         365,0         396,0         48,0         0,0         159 - 161         0,0           538597         026         0,00         360,0         38,0		-	2" WARKE >" C,0%
539229         032         0,00 <t< td=""><td>539229         032         0,00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0           539229         025         0,00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0           538229         027         0,00         0,00         352,0         450,0         52,5         0,0         159 - 161         0,0           539229         042         0,00         38,0         0,00         350,0         382,0         494,0         38,0         0,0         159 - 161         0,0           539229         042         0,00         38,0         362,0         494,0         38,0         0,0         155 - 167         0,0           7431         021         122,65         50,00         362,0         494,0         38,0         0,0         159 - 161         0,0           739229         025         0,00         360,0         365,0         494,0         38,0         0,0         159 - 161         0,0           73857         021         ASME SA ASTM A 106/A 10BM-06 Gr. B         Normalized at 880°C-920°C / Air Cool         100         159 - 161         0,0           738229         <td< td=""><td>0,0</td><td>0 0 0</td><td>0'0 0</td></td<></td></t<>	539229         032         0,00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0           539229         025         0,00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0           538229         027         0,00         0,00         352,0         450,0         52,5         0,0         159 - 161         0,0           539229         042         0,00         38,0         0,00         350,0         382,0         494,0         38,0         0,0         159 - 161         0,0           539229         042         0,00         38,0         362,0         494,0         38,0         0,0         155 - 167         0,0           7431         021         122,65         50,00         362,0         494,0         38,0         0,0         159 - 161         0,0           739229         025         0,00         360,0         365,0         494,0         38,0         0,0         159 - 161         0,0           73857         021         ASME SA ASTM A 106/A 10BM-06 Gr. B         Normalized at 880°C-920°C / Air Cool         100         159 - 161         0,0           738229 <td< td=""><td>0,0</td><td>0 0 0</td><td>0'0 0</td></td<>	0,0	0 0 0	0'0 0
539229         025         0,00         0,00         355.0         494.0         38,0         0,0         159 - 161         0,0         0,0         0	539229         025         0,00         0,00         355.0         494.0         38,0         0,0         159 - 161         0,0           538697         027         0,00         0,00         362,0         450,0         52,5         0,0         165 - 167         0,0           539229         042         0,00         0,00         385,0         494,0         38,0         0,0         159 - 161         0,0           538229         021         10,00         0,00         382,0         450,0         159 - 161         0,0           72431         021         122,65         50,00         399,0         494,0         38,0         0,0         165 - 167         0,0           739229         026         0,00         309,0         399,0         494,0         38,0         0,0         159 - 161         0,0           739229         026         0,00         0,00         399,0         494,0         38,0         0,0         159 - 161         0,0           738597         021         ASME SA ASTM A 106/A 105M-06 Gr. B         Normalized at 880°C-920°C / Alt Cool         40,0         159 - 161         0,0           539229         022         ASME SA ASTM A 106/A 106M-06 Gr. B         Normalized	0	7 .6 .0 0	0'0
538697         027         0,00         0,00         362,0         450,0         52,5         0,0         165 - 167         0,0	538697         027         0,00         6,00         352,0         450,0         52,5         0,0         165 - 167         0,0           539229         042         0,00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0           72431         021         1,2,65         50,00         38,0         48,0         0,0         165 - 167         0,0           539229         026         0,00         365,0         494,0         38,0         0,0         165 - 167         0,0           539229         026         0,00         365,0         494,0         38,0         0,0         156 - 162         0,0           HEAT         ITEM         MATERIAL IN ACCORDANCE TO         38,0         0,0         159 - 161         0,0           538229         022         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool         155 - 162         0,0           539229         022         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool         16 Cool	0'0	) O O O	0,0
538229         042         0,00         0,00         0,00         0,00         0,00         0,0 <th< td=""><td>539229         042         0,00         0,00         355.0         494.0         38.0         0,0         159 - 161         0,0           538697         021         0,00         0,00         362.0         450,0         52.5         0,0         165 - 167         0,0           72431         021         122,65         50,00         309.0         498,0         48,0         0,0         156 - 167         0,0           539229         026         0.00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0           HEAT         1TEM         MATERIAL IN ACCORDANCE TO         38,0         0,0         159 - 161         0,0           538529         022         ASME SA ASTM A 106/A 105M-06 Gr. B         Normalized at 880°C-920°C / Air Cool         100         159 - 161         0,0           539229         022         ASME SA ASTM A 106/A 106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool         100</td><td>0'0</td><td>0 0 0</td><td>0'0</td></th<>	539229         042         0,00         0,00         355.0         494.0         38.0         0,0         159 - 161         0,0           538697         021         0,00         0,00         362.0         450,0         52.5         0,0         165 - 167         0,0           72431         021         122,65         50,00         309.0         498,0         48,0         0,0         156 - 167         0,0           539229         026         0.00         0,00         355,0         494,0         38,0         0,0         159 - 161         0,0           HEAT         1TEM         MATERIAL IN ACCORDANCE TO         38,0         0,0         159 - 161         0,0           538529         022         ASME SA ASTM A 106/A 105M-06 Gr. B         Normalized at 880°C-920°C / Air Cool         100         159 - 161         0,0           539229         022         ASME SA ASTM A 106/A 106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool         100	0'0	0 0 0	0'0
538697         021         0,00         0,00         0,00         165 · 167         0,0         0,0         0,0         0 <t< td=""><td>538697         021         0,00         0,00         362.0         450,0         52.5         0,0         165 - 167         0,0           72431         021         122,65         50,00         399,0         498,0         46,0         0,0         156 - 167         0,0           539229         026         0,00         0,00         385,0         494,0         38,0         0,0         159 - 161         0,0           HEAT         ITEM         MATERIAL IN ACCORDANCE TO         38,0         0,0         159 - 161         0,0           538657         021         ASME SA ASTM A 106/A 105M-06 Gr. B         Normalized at 880°C-920°C / Air Cool         539229         025         ASME SA ASTM A 106/A 105M-06 Gr. B         Normalized at 880°C-920°C / Air Cool         400         600</td><td>0,0</td><td>0 0 0</td><td>0'0</td></t<>	538697         021         0,00         0,00         362.0         450,0         52.5         0,0         165 - 167         0,0           72431         021         122,65         50,00         399,0         498,0         46,0         0,0         156 - 167         0,0           539229         026         0,00         0,00         385,0         494,0         38,0         0,0         159 - 161         0,0           HEAT         ITEM         MATERIAL IN ACCORDANCE TO         38,0         0,0         159 - 161         0,0           538657         021         ASME SA ASTM A 106/A 105M-06 Gr. B         Normalized at 880°C-920°C / Air Cool         539229         025         ASME SA ASTM A 106/A 105M-06 Gr. B         Normalized at 880°C-920°C / Air Cool         400         600	0,0	0 0 0	0'0
72431         021         122,65         50,00         309,0         48,0         0,0         156 · 162         0,0         0,0         60         KV         20         104         100         10	72431         021         122,65         50,00         309,0         498,0         46,0         0,0         156 - 162         0,0           539229         026         0.00         0,00         159 - 161         0,0         169 - 161         0,0           HEAT TREATHENT           HEAT TREATHENT           538697         021         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool           539229         025         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool	0.0	0 0 0	0.0
639229         026         0,00         0,00         159 · 161         0,0         0,0           HEAT         ITEM         MATERIAL IN ACCORDANCE TO         HEAT TREATHENT         HEAT TREATHENT           638697         021         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool           539229         032         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool           539229         025         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool           539229         042         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool           72431         021         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool           539229         042         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool           72431         021         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool           539229         026         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool	639229         026         0,00         365,0         494,0         38,0         0,0         159 - 161         0,0           HEAT         ITEM         MATERIAL IN ACCORDANCE TO         HEAT TREATMENT           638697         021         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool           539229         032         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool           539229         025         ASME SA ASTM A106/A106M-06 Gr. B         Normalized at 880°C-920°C / Air Cool	≩	100 108 1	1 0,0
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**BORIS FIZZOTT!** 

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STUDBOLTS

RECEIVED UN 2 4 2008 PC COMPRESSION APPROVED BY Q.C. INSPECTOR 510478 SIGNATURE: P.O. # DATE

SPIDWEDT\Sed #: S 7 - 1432 97 TRANS AM PIPING PRODUCTS - REV'D BY 538697 TX41\\$ XH SWF2 SLEEF NIBBFE2 F106



## Phoenix \* Capitol \* Camco ੀ। ਹੋੜਕਾਵੀ **Cap Products**

Commanding a Higher Standards

**Certified Mill Test Report** 

2/20/2008

Customer

CE FRANKLIN LTD

P.O. 1971274-OR-2100 Heat No 23833

Heat Code X9U J

Phoenix Order # 530538

BOX 6776 STN "D"

CALGARY, AB T2P2E8

Part Number 15111008 Description

Material

1 X 4" XHSML BLK NIPL

Chemical Properties

C	Mn	P	S	Si	Cu	Cr	Ni	] [	C Eq. Long
0.130	0.570	0.014	0.004	0.200	0.270	0.100	0.100	] $\square$	0.274
Mo	V	Co	Al	Сь	N	Pb	Sn	Ta	Ti

Additiona	l Chemical	Propertie	5	
	-			

Cr + Cu + Ni
0.470

ASTM A106-1999e B / ASME SA106-2001 Edition, No Adden

**Mechanical Properties** 

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
67,800	51,600	35.0%			N/A	N/A	N/A	N/A

<sup>\*</sup> Hydro test passed. at 2500 psi.

## \* Bend test passed.

This material meets the requirements of the governing specifications We certify that the above material has been inspected and tested in accordance with the methods prescribed in the governing specification and the results of such inspections and test conform with applicable

We further certify this material was inspected with independent inspectors conforming to the requirements of EN10204 Section 3.1B. Comments:

MEETS HARDNESS REQUIREMENTS OF NACE MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

	PC COMPRESSION Cap Products, Ltd.  DATE RECEIVED JUN 0 6 2000 Winnipeg St  Vaniagra, ON NOM 1L0
	P.O. # 510340 SIGNATURE: W
	APPROVED BY Q.C. INSPECTOR

**IDUSTRIA MECCANICA LIGURE** SPA

INSPECTION CERTIFICATE EN 10204:2004/3.1 COMPANY WITH QUALITY SYSTEM ISO 9061-2000 CERTIFIED BY RIVA

క 9335 Endeavor Dave S.E. Celgary, Alberte 135 0A1

Cartificate Nr. 18314 trivotes Nr. 59 Del. Note Nr. 103 TRANS AM PIPING PRODUCTS LTD.

23.01.2008 18.01.2008 18.01.2008 19810 CASARZA LIGURE - Genove - Daily - Via Glamcerto Farse 26 - Tel 5168.457861 - Fex 0185.488610 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer sed nest to be eighed for validity according to DAN EN 10204 Page 14 - 17 P P P

HEAT CODE	HEAT		YOUR P.O.	OUR REFERENCE	RENCE	Ľó			-	DESCRIPTION	NO	!						DIM ACC. TO	California & Children	07100
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HEAT NUMBER : 23651 Shipment/Seq #: S 8 - 1019 119 Shipment/Seq #: 33651

APPROVED BY Q.C. INSPECTOR

TBE T X 4 XH SWIS SIEEF NIBBIES VIOE Wuxi Erquan Special Steel Tube Co.,Ltd. 19 Nanhu Middle Road Nanquan Town Wuxi City Jiangsu China

## MILL TEST CERTIFICATE

2520370

PAGE

CERTIFICATE

DATE	1750,25,2007								NO	: <b>070</b> 80	2-1-14		I OF	1
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MATERIAL		GR.B	ATOU BUTE	10:12/04/1	011971100	DD11	1011	2004	DO 1415	OL MIN	0117 12121	1.4	A \ 2003	
MANUFACTUR	E PROCESS		ESS COLD	DRAWING					••					
HEAT TREATM				D AT 730°C										
DESCRIPTION				EAMLESS I	PIPES									
		1 41 11-4-4		CHEMICAL		2S								
HI	BAT NO.	С	Sì	Mn	р	s	;	Cr	Т	Ni	Cu		V	Мо
	706-1082	0.20		0.53	0.013	0.0		0.03		0.01	0.04		0.000	0.000
				PHYSICAL	PROPERTI	ES								
			TENSILE	STRENGTI	YIELO	STR	ENG	nı 🗌	ELO	IGATI (	ON .		HARDN	ESS
HEAT NO.	Sample	no.	Resu	it(Mpa)	Res	sult(M	(pa)		ŀ	Result(%	<b>6</b> )	•	HRE	}
			М	N415	ě	4IN24	40			i <b>L</b> =50:1	מע			
Y706-1082	H334456-7	712-2		160		315				40			82	~~
Y706-1082	H334456-7	712-2		465		320				36			83	
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BENDING TEST	T	SATISTA	CTORY		LOT	NO.: 1	H334	456-7	1 <b>2-2</b>					
PLATTENING T	TEST	NOT AP	PLICABLE	}	BATC	HNO	D: EQ	0708	02-1					
PLARING TEST	Γ	NOT AP	PLICABLE											
HYDROSTATIC		SATISFA	ACTORY(2:	500psi ,5s)										
NDE: EDDY CL	IRRENT	SATISI	ACTORY	r										

"HEAT NUMBER ON EACH TUBE CORELATE WITH MILL TEST CERTIFICATE, EACH TUBE 100% EDDY CURRENT&HYDROSTATIC TESTED"

I CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED WITH THE ORDERED SPECIFICATION AND THAT THE TEST INFORMATION IS CORRECT AND CONTAINED IN THE RECORDS OF THE COMPANY.

SIGNATURE OF GAOC PEFF

PC COMPRESSION
DATE RECEIVED MAY 2.2.2008
P.O.# SID257
SIGNATURE: MO

Live 4

**IDUSTRIA MECCANICA LIGURE** SPA

INSPECTION CERTIFICATE EN 10204/2004 / 3,1

COMPANY WITH GUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

TRANS AM PIPING PRODUCTS LTD.

200061 Endeavor Drive S E Gelgery, Ameria 12P 206

24 10 2007

Dated Dated

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Certificate Nr. 18087 Invoice Nr. 1135 Del: Mote Nr. 1745

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16030 CASA.	RZA LIGURE -	Genova - Italy	1803D CASARZA LIGURE - Genova - Haty - P.122 Marco Cappelli,4 - Tel.0185,467861 - Fax (	Cappelli,4 - T.	4.0185.467661	- Fax \$185.	(86510 / MA)	TERIAL TEST	BIGE-488510 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and meed not so be signed for validity according to DIN EN 10204	T This ca	ırtificate haş	реел депеп	Med by com	puter and ne	ed not to be	ságned for v	Midity accor	ding to DHN		Page 12 - 21	
HEAT CODE	E MEAT	ITEM	YOUR P.O.		OUR REFERENCE	Ç,Ç		-		DESCRIPTION	Š		•				MIC	DIM. ACC. TO	-	MSUAL & DIMENS.	
A48	78878	104	CI-07 - 53	0 2007-2E2	CI-07 - 530 2007-2E201-0000820-104	g:	<u> </u>	ING 90 EL	FITTING 90 ELB. SW 3M 3/4" A350/LF2	3/4" A35(	VLF2						SE	SEE NOTE	SATIÈ	SATISFACTORY	
<u> </u>	73285	71.	26.75	0.200/-262	CJ-U7 - 530 2007-26201-0000620-112 CJ-07 - 630 2007 26201-0000620-112	2 3			FITTING THE SWING 2" ASSOLIFY	(350/LF2								SEE NOTE	SATIS	SATISFACTORY	
704	78087	± ;	20,000	232-1002 00	CI-UT - 550 2007-25201-0000520-174	<u>.</u> (	-		LING OW	2/1.1 MG	ASSURE :						<u>.</u>	SEE NOTE	SATIS	SATISFACTORY	
¥34	76573	2 5	2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	2007-252 A 2007-352	Ci-U/ - 550 2007-25201-0000620-118 Ci-O2 - 63A 2007-25201-0000820-123				FILLING 90 ELB. SW 6M 3/4" ASSOCIFY CITTING COLIDING SW 644 ** ASSOCIATION	74 P39	XLF2						iii i	SEE NOTE	SATIS	SATISFACTORY	
	538697	910	CL06 - 74	1 2006-2E20	CLOB - 741; 2006-2E201-0000954-018	1 69	Z	70. C. 19.	P. HERE (2007) 1980 171 75mm/3") A1068/AD: 41.8	1 1 75 H	30%LFZ 1/3") A 1061	2/AD: 43 [					֓֞֞֝֟֝֞֝֝֓֓֞֝֟֝֓֓֓֓֟֝֟֓֓֓֟֟ ֓֓֞	SET NOTE	SALS	SATISFACTORY	
	86591	8	CI-06-74	1 2006-2E2	CF-06 - 741 2006-2E201-0000954-064	2	Z	PLE PBE	P.NIPPLE PBE S-160 3/4" L150mm(6") A106B/API 5LB	L150mm	(6") A106E	WAPISLE		4			i ii	SEE NOTE	SATIS	SATISEACTORY	
	<b>~</b> 38697	025	S-80-C	5 2006-2E21	CH06 - 635 2006-2E201-0000797-025	. 52	E d	PLE TBE	P. NIPPLE TBE NPT S-80 1* L90mm(3.1/2") A106B/API 5LB	I* L90mm	1(3.1/2") A	106B/AP	¥ 979	4	_		S SS	SEE NOTE	SATIS	SATISFACTORY	
HEAT CODE	E. HEAT	TER	¥.	MATERIAL	ő	×35	Mn%	%	*	č.	NI%	Mo% T	TI% Cu%	, v	Mp%	ž	AP%	C.E.%	OTHER E	OTHER ELEMENTS	
A48	78878	<u>.</u>	ASTM A350 LF2 ct.1	50 LF2 ct.1	0,185	0,220	0960	0,023	0.016	0,110	0,050 Q	0,010	0,006 0,1	0,180 - 0,001	0000	0000	0.017	0.385			
5	73286	. 112	ASTM A350 LF2 cl.1	50 LF2 cl.1	0,200	0,190	1,090	0,015	0,011	0,100	0,050 : 0,0		-					0.421			
	78092	1.	ASTM A350 LF2 cl.	50 LF2 d.1		٥.		0,020					<b>-</b>					0.371			
A34	77255	. 119	ASTM A350 LF2 ct.1	50 LF2 cl.1		0,170	0,900	0,017	0,011 : 0		0,040,0							0.357			
	76573	121	ASTM A350 LF2 ct.1	50 LF2 ct.1	0,175	0,220	0,890	0,019	0,019 : 0	0,100	0.060,0	0,010			-	-		0.361		🛓	
	538697	910	ASTM A10	ASTM A106/B API SLB	···•	0,220		900'0	0,000	0,100		0,030						0,298			
	86591	8	ASTM A10	ASTM A106/B API 5LB		0		0,003						10 0,002		0000		0,311	**		
	238697	929	ASTM A10	ASTM A106/B API 5LB	LB 0,120	0,220	0,820	900'0	0,008	0,100	0,100	0000	0,000 0,130	30 0,001	0,000	0,000		0,298		5. F.	
HEAT CODE	E HEAT	TEM	TENT SPECIMEN	 	YULD POINT T	TEMBLE STRE	E STREMOHT ELC	MOATION IN	ELONGATION REDUCTION OF AREA HARONESS HA	EA HARDA	ļ	DEMO TEST	FLATTEMING TEST	TEST	•	PACT TEST . JO	JOHLERM	i ~	SHAPE :	VIELD BOMT	
	ļ	]	BECT. MM3	LENGHT ON N	NAMES 2 - 8,2%	When2 >		à	à			-		2	TYPE 10x10mm			1 **		Nam2 >=4.0%	
A48	78878	\$	122,65	90,00	329.0	532.0		33,5	SB.0	166	166 - 173	0,0	0.0	  -			49: 50	52	+	0.0	
줃	73286	-112	122,65	\$0,00 \$0,00	343,0	557,0		32,0	92,0	166	; 021 - 991	0.0	o o	_	 ≩	94	49 55	4	-	00	
	78092	  4	122,65	20,00	309,0	536,0		31,0	26,0	5	991 - 09	00	0,0		 ≥	4	54	98	-	0.0	
<b>8</b>	77255	£ 1	122,65	20,00	306,0	548,0		31,0	54,0	8	160 - 166	0,0	0,0		 ≩	4	_	8	-	00	
	76573	121	122,65	80.0	327,0	530.0		<u>ج</u>	58,0	<u>8</u>	58 - 163	0,	9		– ≥	- -	46 50	4		00	
	538697	8 8	8	000	362,0	450,0		52,5	00	\$	65 - 167	0,	0,0		••	<b>-</b> -	0	0	•	0,0	
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	э.	3	_ }	3	305,0	700		 N		В	ò	2	o :	ا ! !				0	 O	000	100
HEATCODE	E HEAT	TEM		MATE	MATERIAL IN ACCORDANCE TO	ORDANC	5				HEAT	HEAT TREATMENT	ENT		-	FURNACE	R.		ļ	Our Ref.	
A48	78878	\$	ASME SA	ASTM A34	ASME SA ASTM A350-048 Gr. LF2 &	F2 ct.1			Normaliz	ed at 900	Normalized at 900°C / Air Cool	5		į	, u	ELECTRIC FURNACE	PURNACE	: ! !	:	061085	
₽Ð	73286	112	ASME SA	ASTM A3	ASME SA ASTM A350-048 Gr. LF2 cf	,F2 ct.1			Normaliz	ed at 900	Normalized at 900°C / Air Cool	jo			W	ELECTRIC FURNACE	-URNACE			072039	
	78092	=	ASME SA	ASTM A3	ASME SA ASTM A350-04a Gr. LF2 of	F2 e.1			Normaliz	ed at 900	Vormalized at 900°C / Alr Cool	<u>8</u>			ш	ELECTRIC FURNACE	-URNACE			051423	
¥34	77255	119	ASIME SA	ASTM A3	ASME SA ASTM A350-048 Gr. LF2 of	.F2 0,1			Normaliz	ed at 900	Normalized at 900°C / Air Cool	⊽			<u> </u>	ELECTRIC FURNACE	URNACE	_		051343	
	, 76573	121	ASIME SA	ASTM A3	ASME SA ASTM A350-04a Gr. LF2 cl	.F2 cl. 1			Normaliz	ed at 900	Normalized at 900°C / Air Cool	<u> </u>			<u></u>	ELECTRIC FURNACE	FURNACE			970022	
	538697	048	ASME CA	ASTM A10	ASME SA ASTM A106/A106M-06 Gr.	9 G. B			Normaliz	ed at 980	Normalized at 880°C-920°C / Air Cool	. <u>Air Cool</u>			<u></u>	ELECTRIC FURNACE	URNACE			073039	
	19000	<b>\$</b> 8	ACMIT OF	ANIMAR AND AND AND AND AND AND AND AND AND AND	ASME SA ASTM ATUGMATUSMAGE GE.	5 c		÷	Normaliz	<b>6</b> 0 21 880	Normalized at 880°C-920°C / Air Cool	Air Cool			<u></u> !	ELECTRIC FURNACE	URNACE			073051	
	20000	C	Admit of	ASIMAL.	ASME SA ASTIM ATTOO/ATTOOMI-UG GE	a .		1	Normanz	ed at bou	Normalized at 880°C-920°C / Air Cool	Air Cool	:		<u>.</u>	ELECTRIC FURNACE	URNACE			073039	

NACE MR0175 ISO 1515671 - MSS SP 83 - SUPPLIED MATERIAL METS PO COMPRESSION QUALITY CONTRICTOR AND SO SECURITY OF THE SPECIAL SPECIFICATIONS AND P.O. REQUIREMENTS NOTES SPYTOWEUF\Sed #: 8 A - : HEND NOWBEK : 23869A

MANUFACTURER'S SYMBOL | MANUFACTURER'S SYMBOL

ROL DEPARTMENT

**1250** 

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STUDBOLTS

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FITTINGS

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RECEIVED 5104128

DATE

APPROVED BY Q.C. INSPECTOR

SIGNATURE

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LBE XH SWF2 SIEEF NIBBFES F106 1X31\S Liney 1103491

611067 1"XM MIDE

TILANGZHOU CHANGBAO PRECINION AND IPECIAL STEEL TUBE CO., LTD

10. 11 CHANGQI ROAD, CHANGZHOU TITY, JIANGSU PROVINCE, CHINA

4-# 10606735 (4083) / AD LOS SUNSVLAGARGETMOSPOG-12 (336)

RAMLESS CARBON STEEL PIPE PER PURCUASE

TEL:0519 8809635 FAX:0519 8809635

PROER:45000642

ZIP:213013

产品质量证明书

MILL TEST CERTIFICATE.

		EN10204/3.1.B			
产品名称 PRODUCT	SEAMLESS CARBON STEEL PIPE	さか代号 CUSTOMER'S NO.	9	证书号 CERTIFICATION NO.	4261101722007150
订货本位 CUSTOMER	SUNS INTERNATIONAL TRADING LIMITED	交換日期 bate of Delivery		U分合同 CONTRACT NO.	SUNSY1.86-8040731031-04-12 (336)
校算中位 URCHASER	van Leeuwen PIPE & Tube (Canada) Inc.	等户定年権号 CUSTOMER ORDER NO.	P.O.45000642	多次日期 DATE OF ISSUE	2006-12-22
标准 SPECIFICATIO N	ASTMIASME A SA186 GR.B SECTION II 2004 EDITION ADDENDA AGS	T./"检验印象 STAMP OF MILL INSPECTION		が可能母 LICENSE NO.	

HACT HARD   No.   1	MAKING METHOD		今級次略 前袋 COLD DRAWN STEEL GRA 机械性能 MECHANICAL PROPERTY	LWN HANICAL	ማዊ STEEL GRADE L PROPERTY	### PERTY	ASTM/ASM SA106 GR	SME &	, <del>4</del>	文章 DELIVERY 化学成份(%)	# O.	TTON CHEMI(	ANE SAL CON	進火 Itton annealed Chemical composition %		报告 SPECIFICATION		1 x SCH80 念相 METALLC	"xSCH80 长度 LENGTH METALLOGRAPHY		SR	
TATA 16 20 52 7 5 13 4 13 5 5 325 0.40% 3 223 0.40% 3 264 364 7475 16 20 52 7 5 13 4 13 5 5 325 0.40% 3 325 0.40% 3 326 7475 16 20 52 7 5 13 4 13 5 5 325 0.40% 3 325 0.40% 3 326 7475 16 20 52 7 5 13 4 13 5 5 325 0.40% 3 325 0.40% 3 326 7475 16 20 52 7 5 13 4 13 5 5 325 0.40% 3 325 0.40% 3 326	奇族中 HEAT NO.	X指挥体 TEST LOJ		ji 位于ES	<b>4</b> 1	本中文語 IMPACT TEST	HARD NESS		¥				% >	 **				KE-1871-89	脱碳是(0.01mm) DECARBURIZED LAYER	···· 第二字		-12M
7 31 A (HRB) 10 10 10 10 10 10 10 10 10 10 10 10 10		Ç.		斯原路 第一次S	歪 ★ 3.00	5(FT-LB)						-	•				7. E	AND INS O		•		<b>5</b> 2
T374   16 20 52 7 5 13 4 13 5 5 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 3 3.25 0.40% 4 3.25 5 3.25 0.40% 4 3.25 5 3.25 0.40% 4 3.25 5 3.25 0.40% 4 3.25 5 3.25 0.40% 4 3.25 5 3.25 0.40% 4 3.25 5 3.25 0.40% 4 3.25 0.40% 3 3.25 0.40% 4 3.25 0.40% 4 3.25 5 3.25 0.40% 4 3.25 0.40% 4 3.25 0.40% 1 3.25 0.40%			(Mpm)	(Mpa)	3	1 2 3 A	(HRB)			Ja Ja		<b>*</b>	,¥	•	*	¥			k	7		
73/74   16   20   52   7   5   13   4   13   5   5   3.25   0.40%   3   3.25   0.40%   3   3   3.75   0.40%   3   3   3.75   0.40%   3   3.75   0.40%   4   3   5   3.25   0.40%   4   4   3   5   3.25   0.40%   4   4   3   5   3.25   0.40%   4   4   3   5   3.25   0.40%   4   4   3.75   16   20   52   7   5   13   4   13   5   5   3.25   0.40%   4   4   3.25   0.40%   4   4   3.25   0.40%   4   4   3.25   0.40%   4   4   3.5   3.25   0.40%   4   4   3.25   3.25   0.40%   4   4   3.25   3.25   3.25   0.40%   4   4   3.25   3.25   3.25   0.40%   4   4   3.25	/ASME AZ :	SA166 CR. 3	¥15	>240	∞	1		% ≘ 		∧ ≈ ∧ ∺		Λι ै	% % &	. !								
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7475   16 20 52 7 5 13 4 13 5 5   3.25 0.40%   4	0606755	42611463	445/450	330:335	50/51			16 20	2	¥1	; EI	. <del>.</del>	15				3.25	0.40%				6 7 7 4
7475   16 20 52 7 5 13 4 13 5 5   3.25 0.40%   4   14.75   16 20 52 7 5 13 4 13 5 5   3.25 0.40%   4   14.75   16 20 52 7 5 13 4 13 5 5   3.25 0.40%   4   12.5 0.40%   2.25	9878080		445/450	330/335			73/74	22	S.	. 2	£.	13					3.25	0.46%		. 4	2	2
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RATS 16 20 52 7 5 13 4 13 5 5 3 13 23 0.40%	0606755	42612124	455/450	331327	18/8/18				S	, t	<u></u>	<u> </u>	50				135	0.40%		•		620.7
EAR FOR STEENING EXPANSION COATING HYDROSTATIC HYDROSTATIC VISUAL&DIMENSION	0606755	42612125	446/450	322:327	45.5/46				<b>.</b>	2		**	. vi				, ×	20 T/05		T 4		7.038
CONTRACTOR IS UP COMERE SELON TO THE SAC GOOD BUTTOTAL) 20  DATE RECEIVED MAY 2 TREED THE SALISFACTORY BESTELS IN ACCORDANCE WITH THE REQUIRMENTS OF THE ABOVE MA	ANTM E. Detech		*(ASTM E LTRASON DETECTION	(£ 13) Z Z Z N	8年 BENDE		ika Attene		∯"□ PANSIQ		秦 M M TING		本形成器 ROSTAT		(医时间 OSTATE		P. M. &.	ENSION		7 2	29 <u>18</u>	3.264 4.90K
CONTOSTION IS UPO CONTRESSION TOWNS OF SUPPLY SUPPL	0000	-	COOD		000		COOD				:		I MPa	- 05	IME Ser		000		i HOE		i	
	# 提	<b>要审检(</b> 化學/A	摩标题(CAC 2分为产品分	SE LENGT PÉRTHIS	TIPES A	H-KLANNE	MALEDNA	S CONTRACTOR	100	品品	ESS	Š	WANTE-1	SC Cress	IO+%VH	PRODUC	TAKAL	C02%	あり(July f) 第71分数人 Application	£ )	1782 3	4.908
EIN HAS MANUFACT	本表別利用	報酬報信也	<b>建加强的套</b>	346 Att	で変数なる		MTE	RE	EIN		图	Ł									2	
	F HERE BY CE	RTIFY THAT	MATERIA	L DESCR	зн сави	Z Z	S MANUE		30	120	MTH	SATISE	CTORY	SECULTS 1	N ACCO	KDANC	E WITH	THE REQUIRM	ENTS OF THE AB	OVE MA	TERIAL	

APPROVED BY Q.C. INSPECTOR SIGNATURE: A

INSPECTION CERTIFICATE EN 10204;2004 / 3.1

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233061 Endeavor Drive S.E.	Catgary, Alberta 12P 2G5
900	

-	1. W.L.		,			INS	PECTION	ERTIFICA	INSPECTION CERTIFICATE EN 10204;2004 / 3.1	2004/3.1	Ε.	RANS AMP	IPING PRC	TRANS AM PIPING PRODUCTS LTD	ä	Certific	Certificate Nr 1808	B.	Dated 24 10 2007	12
	RIAM	DUSTRIA MECCANICA LIGURE SPA	MCA L	JOUR	E SPA	ō	OMEPANY WIT	TH QUALITY SYSTEM CERTWHED BY RINA	COMPANY WITH QUALITY SYSTEM ISO 9001-2000 . Certhfed by Rima	9001-2000	€_ :	233061 Endeavor Drive S E Catgary, Alberta 128	Enteavor Drive S.E. Getgary, Alberta T2P	2,65	5		Shvokce Nr 1135 Del. Note Nr 1745	த சு	Dated 24 10 2007 Dated 24 10 2007	E. €
16010 CASA	RZA LIGURE	· Genova - Italy	· P.zza Marco	Cappelli,4 · T	18039 CASARZA LIGURE - Gerova - Italy - P.228 Marco Cappelli 4 - Tel. (1985. 467261 - Fax	Fax 0155.46	5510 / MATE	RIAL TEST O	XEPARTMENT	This certific	ate has been g	generated by	соприн	nd reed not (	o be signed	los validily.	ccording to	OIN EN 1	0195.466510 / MATERIAL TEST DEPARTMENT This certificals has been generaled by computer and need not to be signed for validity according to DIN EN 19264 Page 12 . 21	7
HEAT CODE	E HEAT	ITEM	YOUR P.O.		OUR REFERENCE	Ω.Τ			ă	DESCRIPTION							DIM. ACC. TO		VISUAL & DMENS	· ui
A48	78878	<u>\$</u>	Cl-07 - 50	30 2007-2E2	CJ-87 - 538 2007-2E201-000820-104		FI	G 90 ELB	. SW 3M 3/	FITTING 90 ELB. SW 3M 3/4" A350/LF2	2						SEE NOTE	•	SATISFACTORY	· >-
Ē.	78092	- <del>1</del>	26-26-26	30-2007-2E2N	CI-07 - 530-2007-2E201-0000620-114	4 4			FITTING COUPLING SW 3M 1,1/2"	FITTING 1EE SW 3M 2: A350/LF2 FITTING COUPLING SW 3M 1,1/2" A350/LF2	50/LF2						SEE NOTE		SATISFACTORY	<b>&gt;</b> >
A34	77255	119	CI-07 - 55	30i 2007-2E2k	CI-07 - 530 2007-2E201-0000820-119	¢s.	FITTIN	G 90 ELB	SW 6M 3/	FITTING 90 ELB. SW 6M 3/4" A350/LF2	2 2					٠	SEE NOTE		SATISFACTORY	
	76573	12.	C-01	30; 2007-2E2	CI-07 - 530i 2007-2E201-0000820-121		ALLE S	G COUPL	ING SW 6	FITTING COUPLING SW 6M 1" A350/LFZ	72	7					SEE NOTE		SATISFACTORY	. 🔪
	538697	018	2-98-7	41; 2006-2E21 11 2006-2E21	CI-06 - 741; 2006-2E201-0000954-018		d N	LE TBE N	IPT S:80 1	P.NIPPLE TBE NPT S:80 1" L75mm(3") A106B/API 5LB	A106B/AP	151.8					SEE NOTE		SATISFACTORY	Ċ
	538697	925	8 6	4 ): 2006-2E20 35: 2006-2E20	CI-06 - 741; Aug-26;01-0000334-064 CI-06 - 635; 2006-26201-0000797-025			1. THE TAR IN	7-160 3/4" L IDT S.RO 1"	P.NIPPLE PBE 5-160 3/4" L150mm(6") A106B/API 5LB P NIPPI F TRE NDT S.80 1" ( 90mm/3 1/2") A106B/API 4( B	A106B/API /2*\ A106B	SLB Working					SEE NOTE		SATISFACTORY	 
			· ·	-				}	3		2010			:				:	SALISFACTORY	
HEAT CODE	E. HEAT	TEM	¥ !	MATERIAL	ర్థ	* *	Xue X	**	٠ 	Cr%   N4%	<b>M</b> 0%	*	% 0	~ *	N KGW	*	AI% CE.%		OTHER ELEMENTS	
A48	78878	- 5	ASTM A3	ASTM A350 LF2 cl.1	0,185	0,220	0,960	0,023	0,016 0,	0,110 0,050	0,010	900'0	0.180	0.001	0.000	0.000	0.017   0.385		:	٠. ٠
J	73286	: 112	ASTM A3	ASTM A350 LF2 cl.1	0.200	_			0,011 : 0,	0,100   0,050		0,019	0,140		_	<b>.</b>				
	78092	7	ASTM A3	ASTM A350 LF2 cl.1	0,180	_	0,850				-	0.005	0.250			<b>_</b> -	-			
. A34	77255	÷ ;	ASTMA3	ASTM A350 LF2 d. 1	0.180	0		<b>-</b>	•••			0,005	0,130	0000				25		
	76573	121	ASTM A3	ASTM A350 LF2 ct.1		ο,				<i>.</i>		0.00	0,180		-	0,000 ; 0,005	05 0,361	<u>ب</u> س		
	23869/	8 6	ASTM A1	ASTM A106/B API 5LB ASTM 4406/B 421 619	 100 0	0				·		0,000	0,130					<b>*</b>	K.,	·
	538697	52	ASTM A1	ASTM A106/B API SLB	0,120	0,220	0.820	900	0,009	0,100   0,070 0,100   0,100	0000	8	0,130	0,002	0.000.0	0,000 0,036	36 : 0,314 00 : 0,298	%		٠.
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			SECT. THE LENGH	1.	Natural 1-0,2%	Mmm3			ż				<u></u>	TYPE TOLISMO	ب ب	-	-	0.00	_=	
A48	78878	호	122,65	80	329,0	532.0	33,5	eņ.	58,0	166 - 173	3 0,0	 	0,0	≥	4	49	50	52	<del>İ</del>	
FPU	73286	112	122,65	20,00	343,0	557,0	32,0		57,0	166 - 170	0'0   0		0.0	≩	4	6			2 6	
	78092	114	122,65	20,00	309,0	536,0	31,0	 o.	56,0	150 - 166	0,0		0,0	≥	9	7			000	
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						-1-		
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			SECT. mm2	- ENGNA	Merce 2-0,2%	Wmrn2	***	
A48	78878	\$	122,65	90'09	329,0	532.0	33,5	+
FPU	73286	112	122,65	8000	343,0	557,0	32,0	
	78092	14	122,65	20,00	309,0	536,0	31.0	-
A34	77265	119	122,65	20,00	306.0	548,0	31,0	
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•	86591	964	000	000	295,0	432,0	42,0	•
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HEAT CODE	HEAT	ITEM		MA	FRIAL IN AC	MATERIAL IN ACCORDANCE TO	!	1
A48	78878	Š	ASME S	AASTMA	ASME SA ASTM A350-04a Gr. LF2 ct.1	LF2 ct.1	•	
FPU	73286	112	ASME S	A ASTM A	ASME SA ASTM A350-04a Gr. LF2 ct.1	LF2 cf.1		
	78092	114	ASME	A ASTRA A	ASMIE SA ASTM ABSOLDER GETED ALT	E221		

Our Ref.

061085

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FURNACE

HEAT TREATMEN

Normalized at 900°C / Air Cool Normalized at 900°C / Air Cool Normalized at 900°C / Air Cool Normalized at 900°C / Alr Cool

Normalized at 900°C / Air Cool

072039 051423 051343 970022

073039 073051

ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A350-04a Gr. LF2 cl.1 ASME SA ASTM A350-04a Gr. LF2 dt. 925 121 538697 86591 538697 76573

Normalized at 860°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool

INSPECTION AUTORITY

ASME 816.11/05 - ANSI 831.1/831.3 - IML STD - ANSI 81.1-818.2.2 - INSPECTION AUTORI NACE MR0175.ISO (5156/1 - MSS SP 83 - SUPPLIED MATERIAL INC.) SCALIDE MEMORIAL INC. SCALIDE MATERIAL INC. SCALIDE N RECEIVED DATE

QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL | MANUFACTURER'S SYMBOL

€

STUDBOLTS

FITTINGS

**BORIS FIZZOTTI** 

SIGNATURE: PO #

E832806 510428

APPROVED BY Q.C. INSPECTOR

TRANS AM PIPING #: psg/Jnemgid2 S 1 - E 60 60 8X: **T250 L698ES** HEFT NOMBER

NOTES

**IDUSTRIA MECCANICA LIGURE** SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.4

COMPANY WITH C

TRANS AM PIPING PRODUCTS LTD.

Certificate Nr 18004

Dated Dated

Myorie Nr 1377 Dated 29 09 2007 CA Del. Note Nr 1377 Dated 29 09 2007	an D185.496510 / MATERIAL TEST DEPARTMENT This cortificate has been generated by computer and need not to be signed for validity according to DIN EN 19204 Page 11 · 16
0 233051 Endeavor Drivel S E Calçary Alberta 12P 2.08	cartificate has been generated by computer and need
COMPANY WITH DUALITY SYSTEM ISO 9981-2000 CERTIFIED BY RINA	Fax 0186.486510 / MATGRIAL TEST DEPARTMENT TWS.
DUSTRIA MECCANICA LIGURE SPA	16039 CASARZA LJGURE - Genova - Italy - P.zza Marco Cappelli,4 - Tet.0185,467661 - Fan D

FITTING ROUND HPLUC SW 1" A105N   FITT

- KEA,D BX:

TRANS AM PIPING PRODUCTS - T S **L698ES** HEAT NUMBER

STUDBOLTS

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FITTINGS

BORIS FIZZOTTI

医32800

P.O. # 510478

DATE

3

SIGNATURE:

APPROVED BY Q.C. INSPECTOR



# Phoenix \* Capitol \* Camco Cap Products 1121171

Commanding a Higher Standard...

**Certified Mill Test Report** 

4/18/2008

Customer

CE FRANKLIN LTD

P.O. 2017458-OR-2100

Heat No 23833 Heat Code X9U

Phoenix Order # 543552

Material

ASTM A106-1999e B / ASME SA106-2001 Edition, No Adden

BOX 6776 STN "D"

CALGARY, AB T2P2E8

Part Number 15111004 Description

1 X 2" XHSMLS BLK NIP

**Chemical Properties** 

C	Mu	P	S	Şi	Cu	Cr	Ni		C Eq. Long
0.130	0.570	0.014	0.004	0.200	0.270	0.100	0.100		0,274
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti
0.020	0.002								

Additiona	l Chemical	l Propertie	9	
		" "		

Cr + Cu + Ni
0.470

**Mechanical Properties** 

Charpy Minimum Impact -

MECHAINER	roperacs							r .
Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
67,800	51,600	35.0%	<u> </u>		N/A	N/A	N/A	N/A
07,000	1 21,000	301070						

<sup>\*</sup> Hydro test passed. at 2500 psi.

\* Bend test passed.

This material meets the requirements of the governing specifications. We certify that the above material has been inspected and tested in accordance with the methods prescribed in the governing specification and the results of such inspections and test conform with applicable requirements.

We further certify this material was inspected with independent inspectors conforming to the requirements of EN10204 Section 3.1B.

Comments:

MEETS HARDNESS REQUIREMENTS OF NACE MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

PC COMPRESSION 25 Vinnipeg St
DATE RECEIVED JUN 0 6 2088 Instra, ON NOM ILO
P.O. # 510340
SIGNATURE: APPROVED BY Q.C. INSPECTOR

INSPECTION CERTIFICATE EN 10204.2004 / 3.1

5 TRANS AM PIPING PRODUCTS LTD

Certificate Nr. 17973 Invoice Nr. 861 Del. Note Nr. 1337

31,07,2007 233061 Endeavn Drive S.E. Calgary, Alberta 72P 2G8 COMPANY WITH QUALITY SYSTEM ISO 9601-2000 CERTIFIED BY FMA

SATISFACTORY Our Het. SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY Page 14 -VISUAL & DIMEN SATISFACTORY SATISFACTORY SATISFACTORY OTHER REPUBNIS United Solids 073042 N10307 07/125 07/125 N10307 N10307 073034 0,000,000,000 WELD POS 073034 MANUFACTURER'S SYMBOL 報信のいける かいう € Dated Peted and need not to be signed for validity according to DM EN 10204 STUDBOLTS 70-DRAL ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE CER SEE NOTE 0,373 0,385 0,317 0.373 0,385 0,266 ၀၀တ္တစ္တ 0 0,013 0,020 0,020 0,013 ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** ELECTRIC FURNACE **ELECTRIC FURNACE** 0,000 88000 ELECTRIC FURNACE ELECTRIC FURNACE 0,013 0000 QUALITY CONTROL DEPARTMENT | MANUFACTURER'S SYMBOL ξ ₹ PURNACE -------000,0 440 FITTINGS 0,000 90,0 90,0 8 8 0,002 0,002 0,002 ≨ ≨ 0,005 0,005 0,130 0,200 0,200 0,130 0,240 Š ORIS FIZZOTTI This certificate has been generated by nom P.NIPPLE TBE NPT S-160 1" L65mm(2.1/2") A1068/API 5LB 000,0 0,005 0,005 0000 HEAT TREATMENT P.NIPPLE TBE NPT S-60 (\* LS1mm(2") A106B/API SLB P.NIPPLE TBE NPT S-80 (\* LS1mm(2") A106B/API SLB Normalized at 880°C-920°C / Air Cool Normalized at 880 °C-920 °C / Air Cool Normalized at 880°C-920°C / Air Coo FITTING COUPLING THRD NPT 6M 3/4" A350/LF2 FITTING COUPLING THRD NPT 6M 3/4" A350/LF2 0,00 0,010 0,010 0.010 0,010 0,010 0.010 Normalized at 880°C / Air Cool Normalized at 880°C / Air Cool Normalized at 900°C / Air Cool Normalized at 900°C / Air Cool Normalized at 880°C / Air Cool DATERECEIVED JUN 2 4 2008 CONC.SWAGE TBE NPT S-80 2"x1" WPB CONC.SWAGE TBE NPT S-80 2"x1" WPB CONC.SWAGE TBE NPT S-80 2"x1" WPB 156 - 171 156 - 171 154 - 162 151 - 163 166 - 171 0,050 0,060 0,060 0,050 0,070 0,070 0000 160 - 154 166 - 171 EX 22 826 APPROVED BY Q.C. INSPECTOR PC COMPRESSION INSPECTION AUTORITY 0,140 0,080 0,100 0,100 0,080 0,060 0,060 16000 CASARZA LIGURE - Genova - Baly - P.zza Marco Cappelli, 4 - Tel0165,467661 - Fax 0185,446510 / MATERIAL TEST DEPARTMENT 0,009 0,012 9000 0,012 0,015 0,015 0,012 ŗ 5 0.018 0,003 0,024 0,024 0,048 0,010 0,010 0,018 SID428 48.00 88.00 0.980 SIGNATURE: 0,480 0960 0,920 0,960 0,780 NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS MATERIAL IN ACCORDANCE TO ASME SA ASTM A234/A234M-08a Gr. WPB ASME SA ASTM A234/A234M-06a Gr. WPB ASME SA ASTM A234/A234/A08a Gr. WPB Ġ ASME B16.11/05 - ANSI R31.1/831.3 - IML STD - ANSI B1.1-B18.2.2 510,0 526,0 177,0 477.0 ASME SA ASTM A350-04a Gr. LF2 cl.t. ... 98 0 190 0,190 0,230 0,210 9. 87. P.O. # ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A350-04a Gr. LF2 cl. 1 ASME SA ASTM A108/A106M-06 Gr. B CI-06 - 463 2006-2E201-0000574-020 Cl-06 · 827 2997-2E201-0000011-040 2007-2E201-0000263-008 CI-07 - 297 2007-26201-0000339-073 CH67 - 380 2007-25201-0000541-143 CI-07 - 399 2007-2E201-0000574-009 CI-06 - 635 2906-2E201-0000797-022 CI-06 - 805 2006-2E201-0001072-012 0,195 0,150 0,130 0,180 0,180 0,195 0,150 OUR REFERENCE Š 314,0 321,0 321,0 314,0 309,0 314,0 304,0 NDUSTRIA MECCANICA LIGURE SPA ASTM A106/B AP! 5LB ASTM A106/B AP1 5LB ASTM A106/B API 5LB SPECIFICATIONS AND P.O. REQUIREMENTS ASTM A350 LF2 d.1 ASTM A350 LF2 cl.1 ASTM A234 WPB ASTM A234 WPB ASTM A234 WPB 50,00 50,00 90'0 8 8 MATERIAL YOUR P.O. Cl-07-241 122,65 122,65 8,8 0000 9,0 012 040 073 073 080 080 080 012 040 073 073 073 080 020 012 040 073 073 020 020 8 6 4 8 8 8 욯 HEAT 72433 538981 53878v Ē 72433 538961 HEAT 72433 72433 53878 75791 75791 72433 72433 53878 53676 Ē 538981 72433 53878 538961 75791 75791 72433 72433 72433 75791 75791 72433 72433 75791 75791 HEAT CODE HEAT CODE

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KEA,D BX:

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TRANS AM PIPING PRODUCTS

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Shipment/Seq

HEAT NUMBER

**NDUSTRIA MECCANICA LIGURE** SPA

WSPECTION CERTIFICATE EN 10204:2004 / 3.1

Curtificate Nr 18270 Del. Note 21r 1 TRAMS AM PIPING PRODUCTS LTD.

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02.01.2008 02.01.2008 02.01.2008 1803 CASAZA LIGURE - Genova - Haly - VIa Glancario Farina 25 - Talori BE 487861 - Fax 6185.486510 / MATERIAL 1EST DEPARTMENT This certificate has been generated by contributer and not to be eigned for validity socording to DIN EM 1920s Page 8 - 18 VISUAL & DIMENS. SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY Oate Dated DAR, ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE 9335 Emberor Drive S.E. Calgay, Alberta T3S 0A1 P.NIPPLE TBE NPT S-160 3/4" L38mm(1.1/2") A106B/AP! 5LB FITTING COUPLING THRD NPT 3M 1/4" A105N FITTING ROUND H.PLUG THRD NPT 3/4" A105N CONC.SWAGE TBE NPT S-80 1"x3/4" MSS SP 95 WPB FITTING HALF COUPL THRD NPT 3M 1,1/2" A105N FITTING 90 ELB. SW 3M 1.1/2" A350/LF2 FITTING CAP THRD NPT 6M 3/4" A105N COUPANY WITH QUALITY SYSTEM ISO 9004-2500 CERTIFIED BY RINA Ç Ci-07 - 294 2007-2E201-0000340-026 Ci-07 - 380 2007-2E201-0000541-020 Ci-07 - 380 2007-2E201-0000541-056 CI-07 - 598 2007-2E201-0000863-075 CI-07 · 598 2007-2E201-0000983-127 CI-07-241 | 2007-2E201-0000283-009 CI-07 - 444 2007-2E201-0000665-022 OUR REFERENCE YOUR P.O. 022 075 127 003 026 056 HEAT

OTHER ELEMENTS

C.E.%

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MANUFACTURER'S SYMBOL \$ 5 5 ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** ELECTRIC FURNACE ELECTRIC FURNACE MANUFACTURER'S SYMBOL ELECTRIC FURNACE Ξ 호 FURNACE ឧឧឧ 호호호 GUALITIC CONTROL DEPARTMENT 0000 HEAT TREATMENT Normalized at 880°C-920°C / Air Cool Normalized at 880°-920°C / Air Cool Normalized at 880°-920°C / Air Cool Normalized at 680°-920°C / Air Cool Normalized at 880°.920°C / Air Cool Normalized at 880\*-920°C / Air Cool RECEIVED JUN 2 4 2008 -9999 Normalized at 880°C / Air Cool Normalized at 900°C / Air Cool 162 - 166 158 - 166 162 - 164 159 - 164 PC COMPRESSION PREPERTION AUTORITY 0,0 48,0 52,0 55,0 ASME SA ASTM A234/A234M-08a Gr. WPB 38.0 32.0 4.2 MATERIAL IN ACCORDANCE TO SUPPLIED ASME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 526,0 538,0 528,0 DATE MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS ASME SA ASTM A106/A106M-08 Gr. B ASME SA ASTM A105-05 ASME SA ASTM A350-04a Gr. LF2 cl.1 NACE MR0175 ISO 15156/1 - NACE MR103 - MSS SP 83 ASME SA ASTM A106-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A108-05 022 026 026 056 EA1 78352 74193 77763 72475 78350 79141 86591 HEAT CODE NOTES 육 ģ ₹

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Our Ref.

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STUDBOLTS

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FITTINGS

DRIS FIZZOTTI

APPROVED BY Q.C. INSPECTOR

5/0428

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SIGNATURE

VIEW POINT

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엹 7¥¥ 쓚 Shipment/Seq TOTS 8 S :# **73**5 -BK: AM PIPING PRODUCTS **KEA,D TPT6**L HEAT NUMBER

LBE A234-WPB 1X3/4 XH CONC SMYCE NIBBLE

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Shipment/Seq #: S 8 - 3 TRANS AM PIPING PRODUCTS **1013 153** - Kenid Bi:

APPROVED BY Q.C. INSPECTOR

INSPECTION CERTIFICATE EN 10204;2004 / 3.1 COMPANY WITH QUALITY SYSTEM ISO W001-2000 CERTIFED BY ANA

**NDUSTRIA MECCANICA LIGURE** SPA

Dated 02.01.2008 Dated 02.01.2008 Dated 02.01.2008 Certificate Nr. 16270 Itwolee Nr. 1 Def. Note Nr. 1 5 TRANS AM PIPING PRODUCTS LTD. 9335 Endeavor Drive 6.E. Calgary, Alberta 735 0A1

18630 CASAI	ZA LIGURE .	Geneva - Haly	· Via Glancario	18000 CASARZA LIGURE - Genova - Haly - VIR Glancario Farina 25 - Tol. 0185,467865 -	0145,407665		18610 / WAT	ERUAL, TEST	Fox 0488.486610 / WATERIAL, TEST DEPARTMENT		bertificate h	se been gen	eratiod by c	omputer and	I need not b	be sligned	for validity a	ecording to 1	Take certificate has been generated by computer and need not to be signed for validity according to DIV. EN 10204	Pace 13 - 1
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28 128	77814	131	CI-07 - 596	CI-07 - 598 2007-2E201-0000963-131	-0000963-13	<u>=</u>	FEE	IG TEE S	FITTING TEE SW 3M 1" A350/LF2	A350VLF2							Ť	UIM ACC. TO	- <del> </del>	VISUAL & DIMENS.
	25853	932	Ct-07 - 294	CI-07 - 294 2007-2E201-0000340-032	-00000340-03		D.N.	LE TBE	P.NIPPLE TBE NPT S-160 1.1/2" L75mm/3") A1068/API FI B	0 1 12" L	.75mm(3"	A106B/	200					SEE NOTE	_	SATISFACTORY
	163226	20	CI-07 - 45K	CI-07 - 450 2007-2E201-0000872-002	-0000872-00	<u></u>	P	JE 18E	P.NIPPLE TBE NPT S-80 1/2" L65mm(2.1/2") A1068/API 51.8	1/2" Le5n	mm(2.1/2	") A106B	API 51.8							SATISFACTORY
	163226	8	CI-07 - 450	CI-07 - 450 2007-2E201-0000672-005	0000672-00		din's	LE TBE	P.NIPPLE TBE NPT S-80 1/2" L150mm(6") A106B/API 5LB	1/2" 1/6	Omm(6")	4106B/A	15.8					OCE NOTE		SATISFACTORY
<u></u> ,	27090	919	CI-07 - 450	CI-07 - 450 2007-2E201-0000872-019	0000872-01	- -	A.G.	ZE TBE	P.NIPPLE TBE NPT S-XXS 1.1/2" L100mm(4") A106B/API 5LB	S 1.1/2"L	L100mm(	4") A106E	WAPI SEE					SEE NOTE		SATISFACTORY
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•	79141	017	CI-07-241	2007-2E201-0000263-017	-0000263-01 0000263-01			SWAGE	CONC.SWAGE TBE NPT S-80 1"X1/2" MSS SP 95 WPB CONC.SWAGE TBE NPT S-160 1"X1/2" MSS SP 95 WPB	S-80 1"X	1/2" MSS	SP 95 W	<b>▼</b>	ŀ	•		••	SEE NOTE		SATISFACTORY
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	79141	005	ASME SA A	ASME SA ASTM A234/A234M-06a	1234M-DGE	Gr. WPB	Gr. WPB		Normafiz	Normatized at 880°C / Air Cool	C/Arc	8					ELECTRIC FURNACE			073087
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INSPECTION CERTIFICATE EN 10204;2004/3,1

COMPANY WITH GRALLTY SYSTEM ISO 9001-2000

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<b>WOUSTIKIA MECCANICA LICURE SPA</b>		3	MCA L	JGURE	S S			CERTIFIED	BY RUNA	CERTIFIED BY RINA		8338	odesvor Drav Calgary, Alb	9335 Endeavor Drive S.E. Celgary, Alberta T3S DA1		క	Dot. Note Nr	 Ž	Detad Detad	02.01.2008
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· <del></del>	35112	8	CI-07 - 29	CI-07 - 294 2007-2E201-0000340-043	-0000340-04	3	P.NIP	LE TBE !	NPT S-XX	P.NIPPLE TBE NPT S-XXS 1"   150mm/s", 41069/45	mm(6") A	10000					<u>ā</u>	DIM, ACC, TO		VISUAL & DIMENS.
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පි	78153	016	C1-07 - 44	CF-U7 - 38Q 204-25201-0000541-135 CF-07 - 4441-2047-35201-0000005-045	-0000541-13 -0000685-04		Z L L	NOINS O	F/F SW	FITTING UNION F/F SW 3M 1/2" A350/LF2	350/LF2		Ì				# t	SEE NOTE	SATIS	SATISFACTORY
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	1	3	Cl-0/ - 57	CI-U/ - 5/5 2007-2E201-0000924-002	0000824-003		CONC	SWAGE 1	TBE NPT	CONC.SWAGE TRE NPT S-80 1"X1/4" MSS SP 95 WPB	/4" MSS	3P 95 W		N. Carlot			20 C	SEE NOTE	SATIS	SATISFACTORY
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3	19348 X18806	136	ASTM A10	ASTM A106/B API SLB	0,170	0,190					_		— <b>-</b>	0,180 0,003				0.236		
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- S	<u> </u>	—,	ASME SA ASTM	STM 4350-0	A350-04a Gr. LF2 cl	 1				Normalized at d80°C-920°C / Alr Cod Normalized at 000°C / Alr Cod	/3.0X8/	AF Cool			匝	ELECTRIC FURNACE	URNACE	_		033055
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<b>∑</b>	E MR0175	ISO 15156/	1 - NACE M	IR103 - MSS	SP 13 - St	PPLIED	Т			3	3		ROL DEP	QUALITY CONTROL DEPARTMENT	MANUFAC	MANUFACTURER'S SYMBOL	YIMBOL	MANUFACTURER'S SYMBOL	TURER'S	SYMBOL
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HEAT NUMBER : 79141 TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 8 - 1013 127

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INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

TRANS AM PIPING PRODUCTS LTD.

Dated 17,03,2006 Dated 17,03,2006 Dated 17,03,2006

Certificate Nr 101138 Invoice Nr 95 Del. Note Nr 190 ð 7025 - 44th Street S.E. Calgary, Alberta T2C 4EB todio Casarza Ligure - Genova - Haly - P.22a Marco Cappelli,4 - Talo185.467651 - Fax 0185.466510 / Material Test Department - This certi COMPANY WITH CHALITY SYSTEM (SO BOOT-2000 CERTIFIED BY RINA

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APPLIEST   COLOR   APPLIEST   COLOR   APPLIEST   APPL		33798	946	CI-05-819	2005.1E2	201-0000639-0 201-0000639-0		֓֞֞֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	COMME	LIBENP.		WSS.	dM 56 ds	ប្រ				SE	NOTE	SATISF	*ACTOR
1,2,2,2,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,	C19	AR2237	5	Cl-05-847	72005-167	201.000656.0					27 MG 20	COL W. 12	zi					S	NOTE	SATISF	ACTOR
APPRIOR   COLOR   PRAT   TIEM   MAYTEMAL   CY   SW   Mark   SW   PY   CYN   NIW   Mark   NIW		32499	042	CI-06-117	2006-1E2	201-0000015-0	7	E	46 COUT	LING THE	TO NPT GIV	11%' A3	SOULF2					S S	NOTE	SATISE	ACTOR
Name	HEAT COD		TEM	MAT	FERIAL	5	\$1%	Mn%	75	**	<u> </u>	1		}	}-	7	1	No.	·		5
72073   Oct   ASTIN ASSOL F2 of 1   OLIVE	CZ2	AR5064	025	ASTM A 10	2	0.190		0.960	0.020	0.007		Į.	ļ	+	-1		1	4-	-	I HER EL	CMENT
75929   OSS   ASTIMAZIA MUSIS   OS		72073	<u>4</u>	ASTM A35	0 LF2 d.1	0,180		1,050	0.010	0.014								620'n	585.0		
78092   0090   ASTIMAZIA WPB   0.180   0.180   0.200   0.020   0.020   0.000	. H80	76303	031	ASTM A10	ž.	0,195		0.940	0,022	0,025		<u>'</u>		_			•••	2000	0000		
CROSS    C		78092	800	ASTM A23	4 WPB	0,180		0,850	0,020			_	_		·		<b>—</b> v.	0000	9000		
APSIGNA   APSI		78092	600	ASTM A23	4 WPB	0,180		0.850	0,020			· • ••						000		ق ان	Ţ
AR2237   ASTIM A1056   O.100		33798	046	ASTM A10	ψ	0.205	_	0,970	0,021	-·· <b>"</b>							<b>-</b> 1.	3 6	200		
Color   Colo	<u>و</u>	AR2237	33.	ASTMATO	: ا ا	••••	_	0,980	0,023			·						0000	0.393		
Normalized at State 2 ANCE MRIGHT   TEN   September   Ten   September   Ten   September   Ten   September   Ten   September   Ten   September   Ten   September   Ten   September   Ten   September   Ten   September   Ten   September   Ten   September   Ten   September   Ten   Ten   September   Ten	 	"!	3	ASTM A35	0 LF2 Cl.1	٠.		0,920	0,021					-··				0000	0.399		
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122-65   90,00   306,0   564,0   31,0   56,0   170-172   90,0   00,0   KV   20   104   100   105   1     76303   034   122,66   90,00   306,0   564,0   31,0   56,0   160-164   0,0   0,0   0,0   0,0   0,0   160-164   0,0				SECT. ATTRE	ENGHT mm	\$2,0× 5 mm55	Mineral ve	4	 و	3		.			TYPE	ş	- p	-	] <u>.</u>		
12.03   0.44   12.85   90.00   2.25.0   2.55.0   3.50   3.50   160 - 164   0.0   0	C22	AR506#	. 025		20,00	306.0	564,0		1,0	56,0	170	172	0'0	0,0		 		<u></u>	<u>-</u>	ļ	\$
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72073   044   ASME SA ASTM A350-04a Gr. LF2 cl.1   Normalized at 900°C / Air Cool   ELECTRIC FURNACE   INTERACCIAI     76303   031   ASME SA ASTM A105-05     76303   031   ASME SA ASTM A105-05     76303   031   ASME SA ASTM A105-05     76303   031   ASME SA ASTM A105-05     76303   031   ASME SA ASTM A105-05     76303   031   ASME SA ASTM A105-05     76303   031   ASME SA ASTM A105-05     76304   046   ASME SA ASTM A105-05     76305   046   ASME SA ASTM A105-05     76305   046   ASME SA ASTM A105-05     76306   ASME SA ASTM A105-05     76307   046   ASME SA ASTM A105-05     76308   ASME SA ASTM A105-05     76309   ASME SA ASTM A105-05     76300   ASME SA ASTM A105-05     76300   ASME SA ASTM A105-05     76300   ASME SA ASTM A105-05     76300   ASME SA ASTM A105-05     76300   ASME SA ASTM A105-05     76300   ASME SA ASTM A105-05     76300   ASME SA ASTM A105-05     76300   ASM	27	AR5064	. 052	ASME SAA	STM A10	35-05				Normaliz	ed at 890°.	-920°C / A	Vir Cool				in Chart	00,400	-		
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IXI/4 XH CONC SWAGE NIPPLE

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INSPECTION CERTIFICATE EN 10204:2004/3.1

24.11.2006 24.11.2006 24.11.2006 Numera >=1,0% DIM, ACC, TO : VISUAL & DIMENS. SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY arer and need not to be signed for validity according to DIN EN 10204 Page 5 - 7 SATISFACTORY OTHER ELEMENTS YAELD POINT 8 Date Over SEE NOTE 0.382 0,393 0,393 0,382 SEE NOTE SEE NOTE SEE NOTE 0,393 0,005 | 0,373 Certificate Nr 101438 SEE NOTE SEE NOTE SEE NOTE 0,373 C.E.X Invoice Nr 381 Del. Nato Nr 745 9000 0,024 0,025 0,025 0.011 0.025 0,0 8 0000 0000 0000 0000 0000 000'0 გ **ឱ**ឱឱឱឱឱឱ 0,000 000'0 0,000 900 9,00 0,00 90,0 0.000 ž TRANS AM PIPING PRODUCTS LTD. \$\$\$\$\$\$\$\$ 0,002 0,002 0,002 0,002 0,002 0,002 0000 7025 - 14th Street S.E. Calgay, Alberta T2C 4E8 0,140 0,140 0,170 0,170 0.170 0,140 0,140 Š 888 LATTENEN This certificate has been generated by con 0,010 0,000 0,005 0,005 0.010 800 90,0 0,000 3/4"x3/8" A105N Ž FITTING HEX.BUSHING MIF THRO NPT 1"x3/4" A105N FITTING HEX. BUSHING M/F THRD NPT 1"x3/8" A105N FITTING HEX.BUSHING MIF THRD NPT 1"X1/4" A105N PITTING HEX.BUSHING MIF THRD NPT 4"x2" A105N FITTING HEX.BUSHING M/F THRD NPT 4"x3" A105N 0,030 0,630 0,030 0,020 0,020 0,020 0.010 0,010 %o FITTING HEX.H.PLUG THRD NPT 1" A105N FITTING HEX.H.PLUG THRD NPT 1" A105N 162 - 170 0,110 0,110 62 - 170 152 - 170 660,0 0,#10 0,060 0.060 0,050 FITTING HEX.BUSHING MAF THRD NPT 0,050 ž DESCRIPTION COMPANY VATH QUALITY SYSTEM ISO 9041-2009 CERTRIED BY RAM 0,110 0,00 0,100 0,100 0,110 0,009 i 0,070 0,070 ž 16030 CASARZA LIGURE - Gunova - Italy - P.123 Marco Cappali,4 - Tel,0185,467661 - Fox 0185,466510 / MATERIAL TEST DEPARTMENT 0.015 0,015 6000 0,012 0,007 0,007 0,007 ķ 0,018 0,023 0,020 0,018 0,024 0.020 0.023 000 32,0 32,0 စ္ကြ 32,0 0,910 0,910 0960 0,960 0,860 0,920 86 0,960 Zug 595,0 521.0 621,0 621,0 Ç. 0,260 0,260 0,220 0,160 0,160 2004 C)-06 - 719 2006-1E201-0000508-032 CL06 - 719 2006-1E201-0000508-034 CI-06 - 719 2006-1E201-0000508-035 C)-06 - 719 2006-1E201-0005608-039 CI-06 - 719 2008-1E201-0000508-640 CI-06 - 715;2006-1E201-0000508-037 Ct-06 - 511 2008-1E201-0000375-021 CI-06 - 562 2006 1E201-0000403-011 0,190 0.190 8 0,190 0,190 0,180 0,180 0,190 ΰ YOUR P.O. OUR REFERENCE 396.0 **INDUSTRIA MECCANICA LIGURE** SPA 90,00 50.00 50.00 90 90 90 MATERIAL SECT. FIRMS ' LENGH TEST SPECIMEN ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A 105 122,65 122.65 122,65 939 8 83 8 2 5 021 AQ2073 AR5064 AR5064 AR5064 AR5064 **4R5064** HEAT AQ2073 AR5064 AR5054 AR5064 HEAT 402073 77912 HEAT 75754 77912 77912 75754 75754 77912 75754 HEAT CODE HEAT CODE HEAT CODE 96.V 8 2 3 9 5 C15 C15 8 2 66¥. <u>8</u> 8 C35 8

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PC COMPRESSION Š RECEIVED DATE SPECIFICATIONS AND P.O. REQUIREMENTS

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APPROVED BY Q.C. INSPECTOR

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T.W.T.	INSPECTION CERTIFICATE EN 10204:2004 / 3.1	IRANS AM PIPHUG PRODUCTS LTD.	Certificate Nr. 17081 Immice Nr. 13	Dated 10.01.2007	
	COMPANY WOTH QUALITY SYSTEM ISO 9001-2000	233/61 Endeavor Drive S.E. Caloary, Alberta 129 206	Del, Note Mr 10		
<b>DUSTRIA MECCANICA LIGURE SPA</b>					
16030 CASARZA LIGURE - Genova - Naly - P.22a Marco Cappell, 4 - Tel.0185-957661 - Par	. Pax DTS, 4665:0 / MATERIAL TEST DEPARTIMENT This certificate has bean generated by computer and need not to be signed for validity accounting to DRN EN 10264 Page 3 · 5	s has been generaled by computer and need not to be signed	for velidity according to DRK El	N 10264 Page 3 · 5	

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	81848		CI-06 - 741	C1-06 - 741 2006-2E201-0000954-063	00854-063		P.NIPPL	P.NIPPLE TBE MPT 8-XXS Z. L15UMM(6") ATUBB/API 5LB	S-XXS Z		) Altobio	AP 12.5					TO THE POPULATION OF THE POPUL		SALISFACIORI	5 8
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: E62	71322	•••	CI-06 - 799 2	CI-06 - 799 2008-2E201-0001041-001	01041-001	. :	FILENCE	FITTING 90 ELB. THRD NPT 2/3M 1/8" A105N	RD NP C	Z/3W 1/B.	201						SEE NOTE	_	SATISFACIORY	5
A89	71147	-	CI-08 - 799 1	CI-06 - 799 2006-2E201-0001041-002	01041-002		PHENC	FITTING 90 ELS. THRD NPT 2/3M 1/4" A105N	RD NPT 2	2/3M 1/4" )	7105N						SEE NOTE		SALISTACION	5
GZ1	73858	003	CI-06 - 799 :	CI-06 - 799 2006-2E201-0001041-003	01641-003		FITTING	FITTING 90 ELB. THRD NPT 2M 3/8" A105N	RD NPT	2M 3/8" A1	S.						SEE NOTE		SATISTACIONY	2
A87	22469	90	CI-06 - 799	CJ-06 - 799 2006-2E201-0001041-004	01 <b>041</b> -004		E E	FITTING 90 ELB. THRD NPT 2M 1/2" A105N	RD NPT	2M 1/2" A1	NSO.						SEE NOTE		SATISFACTORY	Š
A64	77612	900	CI-06 - 799	Cl-06 - 799 2006-2E201-0001041	01041-005		FITTING	FITTING 90 ELB. THRD NPT 2M 3/4" A105N	RD NPT	2M 3/4" A1	NSO			į			SEENOTE		SATISFACTORY	÷ 6 I
HEAT CODE	DE HEAT	T	MATERIAL	Flat	Š	Six	76a% S	%d %S	Š	ž	%.OM	14%	Şaş	*	Mb%	ž	٠ ا	C.E.% OTH	OTHER ELEMENTS	INTS
¦ i	81848	990	ASTM A106/B API 5LB	/B API 5LB	0,160	0.230	0.760 0	0,005 0,013	3 0,140	080'0 0	0.050	0,000	0,230	080'0	000'0	0000'0	0,004	0,361		
	81848		ASTM A106/B API 5LB	AB API SLB	0 160	0.230		0,005 0,013	3 0,140	080'0 0	0,050	0000	0,230	0.080	000'0	0000	0,004	0,361		
	347932		ASTM A106/B API 51.8	(B API 51.63	0.130	0.180		0,004   0,014				0.000	090'0	0000	0,000	0000	0,000,0	0,321		
F62	71322	-	ASTM A105		0,200	0.210		-	3 0,070	•••		0,018	0,140	0,017	000'0			0,386		
989	71147		ASTM A105		0,185	0,210	0,860	0,017   0,014		<b></b> -		0,005	0,180	0.00	000'0			0,369		
6Z1	73858		ASTM A 105		0,190	0,220	1,000					0,019	0,150	0,020	0000			0,400		
A87	22469	906	ASTM A105		0,180	0.290		•		<b></b> .		0.007	0,170	0,00	0,002			0.359		
A64	77612	900	ASTM A105		0.185	0,200	0,900,0	0,021   0,013	3 0,100	090'0 0	0,010	0,005	0.190	0,002	0,001	000	0,000	0,374		
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			SECT, rung LENGHI ROM	Ē	Mere >=0,2%	Name >=	3					-	- -	TYPE 10x10mm	<del>ب</del>	-·-	~	1.020	Warman >= ( 0X	<u>*</u>
-	81848	999	000		336,0	491,0	42,0	. <b>.</b> -	0,0	166 - 170			00			0	0	0		0,0
	81848		<b>,</b>		336,0	491,0	42.0	• • •	0.0	166 - 170		<b>-</b>	0.0			•		0		0,0
	347932	٠			335.0	453,0	48.0		0.0	146 - 150	8	•	0'0		•	o 	0	0		8
E62	. 71322	50	122,65 5	-	318,0	524,0	32,0	. <del>.</del> .	. 0,78	162 - 166	-	•	0,0	≩ :	×		96	<u>-</u>		0,0
A89	71147	005	122,65	50,00	309,0	563,0	31.0		54.0	160 - 164	٠,	-	0	≩	ส -		2	 86		0,0
621	73858			-,	350,0	525,0	30,0	-	53,0	160 - 166			0.0	≥ :	2 :	<del>-</del>	9	<u>م</u>		0 :
A.87	22469	_			319,0	578,0	31.0		0,0	162 - 168			0.0	≥ }	∺ ¥		20 2	 	<b>-</b>	۱ و د
. A64	77612	002	122,65 : 5	50,00	336,0	548,0	31.0		0,40	160 - 166	3		0.0	⊊	Z	25	35	S ;	•	
HEAT CODE	DE HEAT	T		MATERIA	MATERIAL IN ACCORDANCE TO	DANCE T	۰				HEAT TREATMENT	ATMENT				FURNACE		STEEL MILL	• 	Our Ref.
į į	. 81848	990	ASME SA A	ASME SA ASTM A106/A160M	160M-04b	04b Gr. B		2	malized	Normalized at 880°C-920°C / Air Coo	20°C / Air (	100			ELEC	ELECTRIC FURNACE	RINACE	T.REUNIDOS		063054
	81848	063	ASME SA A	ASIVE SA ASTIM A106/A160M	160M-04b	-04b Gr. B		₹.	ımalized (	Normalized at 880°C-920°C / Air Cool	20°C / Air (	- - - - -			ELEC	ELECTRIC FURNACE	NACE	T.REUNIDOS		20 20 20 20 20 20 20 20 20 20 20 20 20
	347932	2 050	ASME SA A	ASME SA ASTM A106/A160M	160M-04b	-046 Gr. B		2	malized:	Normalized at 880°C-920°C / Air Cao	20°C / Air (	Cool			ELEC	ELECTRIC FURNACE	NACE	MANNESMAN	z	063016
E62	11322		ASME SA A	ASME SA ASTM A105-05	IC.			2	emalized :	Normalized at 880*-920°C / Air Cool	C/Air C	7			E EC	ELECTRIC FURNACE	WACE	RIVA ACCIA		
A89	71147	005	ASME SA A	ASME SA ASTM A105-05	S			ž	emalized (	Normalized at 880*-920°C / Air Cool	oc/≱ic	죳			ELEC	ELECTRIC FURNACE	<b>₩ACE</b>	RIVA ACCIA		
621	73858		ASME SA A	ASME SA ASTM A105-05	·			£	malized:	Normalized at 880°-920°C / Air Cool	C/Air C	쿗			ELEC	ELECTRIC FURNACE	SNACE	RIVA ACCIAI	_ ₹	052081
A87	22469		ASME SA A	ASME SA ASTM A105-05				. <u>2</u>	(malized)	Normalized at 880*-920°C / Air Cool	rc/Air C	쿗			FIEC	ELECTRIC FURNACE	SNACE	LEALI SPA		061270
A64	77612		ASME SA A	ASME SA ASTM A105-05	0			Š.	malized:	Normalizad at 880*-920°C / Air Cool	C/Air C	<u> 0</u>			<u> </u>	ELECTRIC FURNACE	NACE	RIVA ACCIA)		051400
9	A CRASS DATE	11105 ANS	ACKAE BYG 14MS ANSTRUM (MR34 3 . IM STD . ANSI	LIME STO.		B1 1.818 2.2	ļ	INSPECT	INSPECTION AUTORITY	     	CRIMITY	QUALITY CONTROL DEPARTMENT: MANUFACTURER'S SYMBOL	DEPART	KENT MA	NUFACT	RER'S SY	- "	MANUFACTURER'S SYMBOL	RER'S SYM	BOL
-	NACE MIR	0175 ISO 151	NACE MR0175 ISO 15166/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS	83 - SUPPL	ED MATE	RIAL ME	ETS					!		! 		! ! !	♣ ·   	 		: · ·
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					0	200	NOISSERGMONCO			<b>-</b>	'n	BORIS FIZZOTT	107				_	2000	<u>?</u>	
					į	•				•										

PC COMPRESSION P.O.# 5/04/28 DATE

APPROVED BY Q.C. INSPECTOR SIGNATURE:

HEAT WUMBER : A64
TRANS AM PIPING PRODUCTS - REV'D BY:
Shipment/Seq #: S 7 - 1012 7

¥102N 3\f" CF 5000 LB SCKD 80 EFF

INSPECTION CERTIFICATE EN 10204: 2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9601-2040 CERTHIED BY RINA

25.05.2007 27.04.2007 27.04.2007 Paked Paked Daled Cordificate Nr. 17588 Invoice Nr. 456 Del. Note Nr. 765 ð TRANS AM PIPONG PRODUCTS LTD. 233081 Endesvor Orive S.E. Celgary, Alberta T2P 206

SATISFACTORY SATISFACTORY 6438 CASAQZ LIGURE . Genova - Italy - P 222 Metro Cappelle, 4 - Tels 1954 467661 - Fan 1854 465610 / UATERNAL TEST DEPARTMENT Tris cardificate has been generated by computer and more not to be signed for validaty according to DNN EN 10204 Page 9 - 14 VISUAL & DIMENS, SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY OTHER ELEMENTS 0,000,000,000 VIELD POLI R DEM, ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE C,E,% 0,391 0,382 0,375 0,371 0,371 0,392 0,266 0,311 0000 0,000 0,024 0,010 600'0 0,025 0,000 0,000 8 2 2 2 2 2 5 00000 0000 0,000 0,000 Ě ឧឧឧឧୱୱឧ 0,000 0,000 0,00 0,016 0,022 0,003 0.00,0 0,002 ই ই ই ই ই ই 0,00 Š 0,180 0,130 0,220 0,240 0,140 P.NIPPLE TBE NPT \$-80 3/4" L100mm(4") A106B/AP1 5LB 900,0 0.00 0,021 0,000 0,000 000 0,018 FITTING HEX.H.PLUG THRD NPT 1.1/2" A 105N
FITTING 90 ELB. SW 3M 2" A3504.F2
FITTING COUPLING SW 3M 1.1/2" A350/LF2
FITTING HEX.H.PLUG THRD NPT 2" A 105N
P.NIPPLE TBE NPT \$-80 1" L150mm(6") A 106B/API 5LB Ě RESID TEST 0,010 0,010 0,010 0,010 0,010 0,010 0,010 FITTING ROUND H.PLUG THRD NPT 🕆 A105N FITTING COUPLING THRD NPT 3M 1" A105N 158 - 160 153 - 156 151 - 153 160 - 164 160 - 166 152 - 156 0,050 0,070 0,050 0,060 0,060 0,050 0,070 HESS IN × DESCRIPTION 0,050 0,150 0,090 0,090 0,130 0,080,0 90 56,0 56,1 56,0 56,3 0,015 0,010 0,010 0,020 0,009 0.00 900,0 0.034 ŕ 0,017 0,010 0,022 0,008 0,015 0.910 0.850 960 0,480 1,070 0,930 564,0 Ę 529.0 519,0 510,0 0,180 0.150 0.150 0,210 0,230 0,210 0,260 0,210 CI-06 - 799 2006-2E201-0001041-231 CI-06 - 463 2008-2E201-0000574-027 CI-06 - 635 2006-2E201-0000797-020 CI-07 - 297 2007-2E201-000039-042 CI-07 - 297 2007-2E201-0000339-070 CI-07 - 297 2007-2E201-0000339-039 CI-07 - 297 2007-2E201-0000339-064 0,150 2007-2E201-0006339-01 0,185 0,190 0,180 0,180 0,180 ć OUR REFERENCE 378,0 309,0 323,0 327,0 316,0 316,0 NDUSTRIA MECCANICA LIGURE SPA YELD ASTM A106/B API 5LB ASTM A106/B API 5LB ASTM A350 LF2 cl.1 ASTM A350 LF2 cl.1 MATTERIAL TEST SPECTUEN ASTM A 105 ASTM A105 ASTM A105 ASTM A105 YOUR P.O. CI-07 - 297 12,65 22,66 32,25 35,25 122,65 122,65 122,65 Ē E 042 042 070 070 8 942 훒 047 042 039 064 070 070 027 22 23 8 020 231 78092 08/74193 06/74193 53878 08/72779 96/72779 06/72779 06/74193 HEAT 62829 HEAT 162829 HEAT 78196 76305 78092 78557 78196 78305 78092 53878 78196 76305 HEAT CODE **(EAT CODE** HEAT CODE EFW 629 EGM EFW G29 629 €29 E OE

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78557 017 ASME SA ASTM A105-05	ASME SA ASTM A105-00			22	Normalized at 880*920°C / Air Cool	/ Air Cool	ELECTRIC FURNACE		011133	
79 039	ASME SA ASTM A105-00			Ž	Normalized at 880°920°C / Air Coct	/ Air Cool	ELECTRIC FURNACE	RIVA ACCIAL	077036	
76305 - 064 - ASME SA ASTM A359-042 Gr.	ASME SA ASTM A359-64a	Ò	r. EF2-ch4	*	Normalized at 900°C / Air Cool-	Cool	ELECTRIC FURNACE RIVA ACCIA	RIVA ACCIA	051275	4
78092 070 ASME SA ASTM A350-04a Gr.	ASME SA ASTM A350-04a	ŏ	r. LF2 d.1	ž	Normalized at 900°C / Air Cool	Cool	ELECTRIC FURNACE	RIVA ACCIAI	051 423	
06/74193   231   ASME SA ASTM A105-05	ASME SA ASTM A105-05			ž	Normalized at 880°920°C / Air Cool	/ Air Cool	ELECTRIC FURNACE	RIVA ACCIAL	072035	
53878   027   ASME SA ASTM A106/A106M-06 Gr. B	ASME SA ASTM A106/A106V		1-06 Gr. B	Ž	Normalized at 880°C-920°C / Air Cool	C/Air Cool	ELECTRIC FURNACE	PODBREZOVA	063148	
162829 020 ASME SA ASTM A106/A106M-08 CA. B	ASME SA ASTM A 106/A 106M		-08 Gr. B	ž	Normalized at 880°C-920°C / Air Cool	•	ELECTRIC FURNACE	BENTELER		
NOTES ASME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 -	ISI B31,1/B31,3 - IML STD - ANSI		81.1-818.2.2 -	INSPECT	NSPECTION AUTORITY	QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL MANUFACTURER'S SYMBOL	MANUFACTURER'S SYMBOL	MANUFACTURER'S	SYMBOL	
NACE MR075 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS	315671 - MSS SP 83 - SUPPLIED M/ D P.O. REQUIREMENTS	₹	ATERIAL MEETS							
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						BORIS FIZZOTTI	FITTINGS INCL	STUDBOLTS C	R	
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APPROVED BY Q.C. INSPECTOR

SIGNATURE

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Otar Ref.

STEEL MILL

FURNACE

HEAT TREATMEN

MATERIAL IN ACCORDANCE TO

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**KEAID BX:** 

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L S :# Shipment/Seq :--TRANS AM PIPĮNG PRODUCTS REAT NUMBER INSPECTION CERTIFICATE EN 10204:2004/3.1

TRANS AM PIPING PRODUCTS LTD.

IRANS AM PIPING PRODUCTS LTD. Certificate Nr. 1808/ Dated 24.10.2007	233/f61 Endeavor Drive S.E. Del Noto Ivr 1745 Dated 24 10 2007 Calgey. Alberta 12P 2G6 CA	Jenova - Haly - P.zza Marco Cappaki, J. Tei,0485.467861 - Faz 0185.468610 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be eigned for validity according to DIN EN 10214 Page 5 - 21	CIRL ACC TO MORTH P PROFESSION		
MOTEURIOR CENTIFICALE EN 10204; EN04.15.1	COMPANY WITH QUALITY SYSTEM 160 9001-2000 Certified by Rina	22 0115-168610 / MATERIAL TEST DEPARTMENT THE CONFIGER	Q.TY DESCRIPTION	P.NIPPLE TBE NPT S-80 3/4" L5/mm(2") A106B/API 5LB	
	<b>ECCANICA LIGURE</b> SPA	епоva - Haly - P.zza Marco Cappalit, 4 - Теї.0485.467961 - F	ITEM YOUR P.O. OUR REFERENCE	007 CI-07 - 450 2007-2E201-0000572-007	CAR CCAROOR INCICATION THE CITY OF

MATERIAL IN ACCORDANCE TO HEAT TREATMENT	Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-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	COMPRESSION
MATERIAL IN ACCORDANCE TO	ASME SA ASTM A106/A108M-06 Gr. B ASME SA ASTM A106/A108M-06 Gr. B ASME SA ASTM A106/A108M-06 Gr. B ASME SA ASTM A106-05 ASME SA ASTM A106/A108M-06 Gr. B ASME SA ASTM A106/A108M-06 Gr. B ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05	NOTES ASME B16.11/05 - ANSI B31.1/1831.3 - IMIL STD - ANSI B1.1-B18.2.2 . INSPECTION AUTORITY DUMUTY CONTINUED IN THE MEDIAL CONTINUED IN THE STATE OF THE STATE
ITEM	007 018 057 026 056 056 033	35 - ANSI ( ISO 15156
HEAT CODE HEAT	162829 27090 27090 78483 538697 74794 30449	SME B16.11/A
HEAT COD	A46 28A FTE	NOTES AS

Our Ref.

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FITTINGS

ORIS FIZZOTTI

4 2008 **E832806** MTERIAL METPLE COMPRESSION RECEIVED 510428 P.O. # DATE

SPECIFICATIONS AND P.O. REQUIREMENTS

APPROVED BY Q.C. INSPECTOR SIGNATURE

**S6** 7250 KEA,D BX:

HEAT CODE

SP:Fwerr\sed #: 2 1 - 1 LEFFE YW DIDING DKODNCIS FÆSE TROSSS

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**IDUSTRIA ME** 16030 CASARZA LIGURE - Ge

HEAT NUMBER :

2717

TRANS AM PIPING PRODUCTS - REV'D BY:

Shipment/Seq #: S 8 - 1625





NO.303, JEN-HSIN ROAD JEN-WU HSIANG KAOHSIUNG HSIEN, TAIWAN R.O.C.(81460)



An ISO-9001 Registered Manufacturer

TEL: (07) 371-0497, 371-1536, 372-0260 FAX: (886-7) 371-3864, 371-3882 WEB SITE:http://www.bothwell.com.tw & MAIL:bothwell@www.bothwell.com.tw or box@mail.bothwell.com.tw

### MILL & INSPECTION CERTIFICATE TEST

ACCORDING TO EN10204/DIN50049/3.1.B CUSTOMER: SEYBOLD INTERNATIONAL CORP.

INVOICE NO: BW079609107

ORIGIN: TAIWAN

DATE: 12/19/07 PAGE: 7

CERT NO: 73119 ORDER NO: 7196(CI-07-531) L/C NO:

-			BOTH		<del></del>		·			201	CIFICATION	· ·
TTEN	1	ATERIAL	WELL		B. 1	ESCRI	) 1			AST	1 A105H -05 E SA105H -406	
	HEAT	NO.	BT.CD.		• .	COCKE	LITAW		QUAN	TITY ASI	SALVUM -APC	'
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939	392982	***	2702	BOUND :	PLUG 1" )	IPT.			ĺ	•		ļ
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50	C	Si	Ma	₽	S	Cu	Cr	Ni	Ke	V	Cb(Nb)	CE
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Max	0.350	0.350	1.050	0.035	0.040	9.466	6.300	0.400	0.120	9.480	.	0.430
034	0.210	8.286	0.840	0.015	9.015	0.170	0.070	0.050	0.010	0.002	0.001	0.381
935	0.190	0.250	1.030	0.015	9.007	0.040	8.650	4.020	9.000	0.000	0.000	9.378
<b>636</b>	0.2 <u>1</u> 8	0.200	●.860	0.015	9.016	0.150	0.050	8.040	0.018	0.003	8.002	0.379
837	●.230	8.200	0.850	0.017	0.015	0.160	0.080	0.000	6.620	8.083	8. <b>5</b> 62	0.375
038	9.219	0.210	0.860	0.017	0.013	9.168	0.060	0.050	0.010	0.062	0.001	0.382
938	0.200	0.190	♦.830	0.017		0.150	0.880	0.650	9.010	0.002	0.001	0.370
<b>039</b>	0.200	0.150	0.830	0.021	0.012	0.130	9.100	9.650	0.610	0.002	0.001	0.370
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i		58.3 55.9	31 31		64.1 83.3	142 🚜	<b>Q.</b> (	MANAGER	PC C	OMPR	ESSION	2 4 20

PDF created with pdfFactory trial version www.pdffactory.com

P.O. # 5104Z8 SIGNATURE: APPROVED BY Q.C. INSPECTOR

INDUSTRIA MECCANICA LIGURE SPA

HSPECTION CERTIFICATE EN 10204:2064 / 3.1

Cartificate Nr 17873 trivoice Nr 1861 Dol. Note Nr 1397 ్ట TRANS AM PIPING PRODUCTS LTD.

Dated 09.08.2007 Dated 31.07.2007 Dated 31.07.2007 233081 Endeavor Drive S.E. Calgary, Atheria 12P 266

COMPANY WITH QUALITY SYSTEM ISO 9001-2000 Centified by Rina

				14030 CASARZA LIKUURE - CHRINGE - KAPI - LEE	1			DES	DESCRIPTION						-	Mile Act.	-	VISUAL & UNITERS.
HEAT CODE HEAT	ITEM	YOUR P.O.	OUR REFERENCE	ENENCE	P. 0	1	TOP NOT	11 100 3	200 1 100 100 1 100 1 100 A 100 BIAPI 5LB	46") A106	3/API 5LB				80 6	SEE NOTE	SATISE	SATISFACTORY
	018	CI-06 - 827	CI-06 - 827 2007-2E201-0000011-018	0000011-018		FITTING 9	OELB. T	IRD NPT	FITTING 90 ELB. THRD NPT 3M 1.1/2" A105N	A105N	1	1			, W	SEE NOTE	SATISE	SATISFACTORY
74961	8	CI-07 - 380	CI-07 - 380 2007-20201-0000541-005	-0000341-005		PITTING	ALCON TA	IN OUT :	PITTING UNION FIF THRO NPT 3M 1/2" A105N	A105N	1				<i>₩</i>	SEE NOTE	SATISE	SATISFACTORY
35281	910	CI-07 - 380	CI-07 - 380 2067-26-201-00005-1-000	0000541-131		FITTING TEE SW 3M 1" A350/LF2	EE SM 3	M 1. A35	OAF2	. 6	Q Q				<u>w</u>	SEE NOTE	SATISE	SATISFACTORY
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55287	600	C-05-46:	3 2006-2E201	-0000954-003		P,NIPPLE	TBE NP1	T S-80 1/4	* L65mm(2.	1/2") A10	38/AP! 5L		·	+	- 4	CER	OTHERE	OTHER ELEMENTS
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463   2006-22201-0000574-070   25287   002   Ci-06 - 463   2006-22201-0000574-070   25287   003   Ci-06 - 463   2006-22201-0000574-070   25287   003   Ci-06 - 463   2006-22201-0000574-070   25280   Ci-06 - 741   2006-22201-00005574-070   25280   Ci-06 - 741   2006-22201-00005574-070   Ci-06 - 463   2006-22201-00005574-070   Ci-06 - 463   2006-22201-00005574-070   Ci-06 - 463   2006-22201-00005574-070   Ci-06 - 741   2006-22201-00005574-070   Ci-06 - 741   2006-22201-00005574-070   Ci-06 - 741   2006-22201   Ci-06 - 741   2006-22201   Ci-06   Ci	1987   131   131   132   132   133   134	1987   131   131   132   132   133   134	1987   131   131   132   132   133   134	1987   131   131   132   132   133   134	14   13   14   14   14   14   14   14	1987   230   Co.	Color - Ariginose   Colo	1942   194

T\S. CF 3000 LR SCKD ONION

HEAT NUMBER : 9CU TRANS AM PIPING PRODUCTS Shipment/Seq #: S 7 -

APPHOVED BY Q.C. INSPECTOR

80,# 510478

SIGNATURE

INDUSTRIA

INSPECTION CERTIFICATE EN 10204:2804 / 3.1 TRANS AM PIPING PRODUCTS LTD. Gentificate Nr 1792 Dated 10 01.2337 Investe Nr 7	Dated	1. Fax 0185.486510 / MATERIAL TEST DEPARTMENT This cortificate has been generated by computer and nood not to be signed for validity according to DNN EN 19204 Page 7 - 10
M. L.W.L.	DUSTRIA MECCANICA LIGURE SPA	. (0

1745   124	HEAT CODE	JE HEAT	ITEM	YOUR P.O. C	OUR REFERENCE	± 0.17				DESCRIPTION	₹	1			4		¥	DIM, ACC, 10	VISUAL & UIMENS	
1714   124	HG7		123	CI-06 - 718 200	6-2E201-0000918	121	Ė	IG 45 EL	B. SW 5M	1" A105h	_						S	NOTE	SATISFA	SCTOR
17.17   10.18   10.00   10.00   12.0		71415	124	Ct.06 - 718 200	6-2E201-0000916	1.124		IG RED.1	PEE SW 64	W111/2×	SOLID BR	ANCH A	105N				SE	NOTE	SATISE	CTOR
Color   Colo	}	31700	670	C3-06 - 718 200	6-2E201-0000916	:-128	Ê	IG CROS	S THRD N	IPT 3M 1.	1/4" A105	Z					띬	NOTE	SATISE	KCTOR.
Title   Titl		62885	022	CI-06 · 453 200	G-2E201-0000574	-022	P,NIP	PLE TBE	NPT S-80	1 L75mn	1(3") A106	B/API SL	ø				SEE	NOTE	SATISF	CTOR
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1711   1712   1714   1714   1715	200	22460	Ş	CL06 - 718 200	6.2E201.0000916	1004	Ë	IC 90 ELL	B. THRO N	IPT 2M 1/2	2" A105N						SEE	NOTE	SATISFA	CTOR
Third   Coop   Fig. 1   Third   Mark   St. 1   Third   Mark   St. 1   Third   Mark   St. 1   Third   Mark   St. 1   Third   Mark   St. 1   Third   Mark   St. 1   Third   Mark   St. 1   Third   Mark   St. 1   Third   Mark   St. 1   Third	000	71147	500	CI-06 - 718 200	6-2E201-0000918	1-025	Ē	15 90 EU	B. THRD N	<b>IPT 2/3M</b>	1/4" A105						SE	NOTE .	SATISFA	<b>ACTOR</b>
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17.50   17.5	HEATCOL		TEM	MATERIA		٠.,	ž.	š	- أ		;			·-		ŀ	<b>į</b> .	- [	THEN EL	
1146   124   ASTIMATIONS APPI BLE   0,120   0,205   0,210   0,310   0,010   0,010   0,000	HG7	79023	121	ASTM A105	0,1	-	080	0,020		_								0.405		
11170   018   ASTINA ATOS   0.206   0.200   0.200   0.000	E10	71415	124	ASTMA105	1.0		0.910	0,018										0,380		
Color   Colo		31709	049	ASTM A105	0,2	_	0.970	0,018						-		•••		0,409		
1147		62885	022	ASTM A106/B			0.640	0,006			,							0,286		
Color   Colo	A89	71147	018	ASTM A105			0,860	0,017										698'0		
Title   Titl	A87	22469	8	ASTM A105	ő		0,850	0,017							٠,			0,359		
Total   Title   Titl	988 88	71147	025	ASTM A105	0,1		0.860	0.017							٠.			0,369		
Name   Name	ED.	76150	260	ASTM A105	0,1		0,920	0.022		-	٦,					. :		0,375		
			1	TEST SPECIMEN	:		1.	GATION RI	EDUCTION OF A	INEA WARD	ļ.,	ı	FLATTEMINS 1	ESY	1	CY TEST - 3	N.E.km2	- S	٠.	YIELD FOUT
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122 65   50,00   365,0   356,0   322,0   320   163-165   0,0   0	EIO.	71415	124			522.0		2,0	90'0	159	- 163	00	0,0	•	≥	2		8	-	0,0
62885         022         0.00         0,00         0,00         156 - 162         0,0		31709	048			636,0		2,0	59,0	5	- 165	0,0	0.0	-	≥	R		<u>ක</u>		0
122.66   50,00   369,0   563,0   31,0   54,0   160 - 164   0,0   0,0   KV   20   104   100   1		62885	022			498,0		4,0	0'0	156	- 162	0,0	0,0					; ۵	φ.	0'0
22469         004         122 65         50,00         319,0         54,0         162 - 168         0,0         0,0         KV         20         98         102           71177         025         122 65         50,00         399,0         563,0         31,0         54,0         160 - 164         0,0         0,0         KV         20         98         95           79129         122 65         50,00         396,0         563,0         34,0         56,0         160 - 162         0,0         KV         20         96         95         95           DE FIRE STATION ALOS         122,65         50,00         396,0         34,0         56,0         160 - 162         0,0         KV         20         95         95         95           DE FIRE STATION ALOS         Normalizad at 880°-200°C / Air Cool         122,6         45,0         160         KV         20         96         95 <td>A89</td> <td>71147</td> <td>018</td> <td></td> <td></td> <td>963.0</td> <td></td> <td>0,</td> <td><u>\$</u></td> <td>19C</td> <td>. 164</td> <td>00</td> <td>9 0</td> <td></td> <td><b>≥</b> :</td> <td>-</td> <td></td> <td>8</td> <td><b>.</b> .</td> <td>0 0</td>	A89	71147	018			963.0		0,	<u>\$</u>	19C	. 164	00	9 0		<b>≥</b> :	-		8	<b>.</b> .	0 0
11147   025   122.65   50.00   309.0   563.0   31,0   54,0   160 - 164   0.0   0.0   KV   20   104   100   100   120   120   50.00   306.0   360.0	A87	22469	\$			578,0		0,	<u>2</u>	162	- 168	0	0,0		≥ :			<b>5</b>		0, 0
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DOE         HEAT TREATMENT         FURNAGE           79023         121         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           79023         121         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           71415         124         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           22865         022         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           22469         049         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           22469         040         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           7117         018         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           76150         097         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           76150         097         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           76150         097         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           76150         097	<u>101</u>	76150	. 260			564.0		4.0	26.0	₹ 1	- 162	0	;	:	 		i	8	-	3
79023         121         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           71415         124         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           21709         049         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           62865         022         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           71147         018         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           22469         004         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           71147         018         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           71147         025         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           76150         097         ASIME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           76150         097         ASIME SI 1.105 - ANSI B1.1-B18.2.2 -         RISSECTION AUTORITY         QUALITY CONTROL           ANDELECTRICALINEMENTS         RECURRACE         ELECTRIC FURNACE         AIR COOL         ELECTRIC	HEAT COC	!	TEM		MATERIAL IN A	CCORDANCE	10				HEA	T TREATH	ENT		-	FURN	KCE	STEE	- M3LL	Our Ref
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62885         022         ASME SA ASTM A106/A160M 04b Gr. B         Normalized at 880°-020°C / Air Cool         ELECTRIC FURNACE           71147         018         ASME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           22469         004         ASME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           71147         025         ASME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           76150         097         ASME SA ASTM A105-05         Normalized at 880°-920°C / Air Cool         ELECTRIC FURNACE           ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ASME B16, 11/05 - ASME B16, 11/05 - ANSI B1 1-B18.2.2 - ASME B16, 11/05 - ASME B16, 11		31709	049	ASME SA AST	M A105-05				Normali	zed at 88	J920°C /	Air Cool			ш.	LECTRIC	FURNACE		ζį	062091
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APPROVED BY Q.C. INSPECTOR PC COMPRESSION DATE RECEIVED JUN 2 P.O. # SICHZ8 SIGNATURE:

HEAT WUMBER : A87

TRANS AM PIPING PRODUCTS - REV'D BY:

TEAT WUMBER : A87

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INDUSTRIA MECCANICA I KAIDE CEDA

INSPECTION CERTIFICATE EN 18204:2014 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9461 2098

Certificate Nr. 17586, Investor Nr. 488 Del. Note Nr. 765 TRANS AM PIPING PRODUCTS LTD.

Oated 25.05.2007 Oated 27.04.2007 Dated 27.04.2007 233061 Endeaver Orive S.E.

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MEAT CODE	JE HEAT	E ME	YOUR P.O.		OUR REFERENCE	_	Ф.Т.			DESCRIPTION	NOIL.		:					DIM. ACC. TO	C. TO VIS	VISUAL & DMENS	Š
6	AR2240	110	CI-06 - 7!	CI-06 - 799 2008-2E201-0001041-167	01-0001041	1-107	E.	TING HE	FITTING HEX.BUSHING M/F THRD NPT	WIF THE		1/2"x1/4" A105N	4105N					SEE NOTE	-	SATISFACTORY	à
- <del>5</del>	74795	600	CI-07 - 1	CI-07 - 164 2007-2E201-0000138-009	301-0000138	6004	歪	TIMG TEE	FITTING TEE THRD NPT 2M 1/2" A 105N	T 2M 1/2"	A 105N		-					SEE NOTE	_	SATISFACTORY	⋩
36	74524	028	Cl-07 - 11	CI-07 - 164 2007-2E201-0000138-028	01-0000138	1028	듄	TING 45 E	FITTING 45 ELB. THRD NPT 3M 3/4" A 105N	NPT 3M	3/4" A10.	Ķ						SEE NOTE		SATISFACTORY	¥
£	74524	190	Ci-07 - 1	CI-07 - 164 2007-2E201-000013B-067	101-000013E	7967	<u>E</u>	TING CR	FITTING CROSS THRD NPT 6M 1/2" A105N	NPT 6M	1/2" A105	z						SEE NOTE	_	SATISFACTORY	ž
GO	77284	88	CI-07 - 18	CI-07 - 164 2007-2E201-0000138-099	01-0000138	8607	E	TING HE	FITTING HEX.BUSHING IMF THRD NPT 1.1/2"x1/4" A105N	WIF THE	D NPT 1	.1/2×1/4	A105N				•	SEE NOTE		SATISFACTORY	à
28A	74795	138	CI-07 - 1	CI-07 - 164 2007-2E201-000013B-118	01-000013	118	Ξ.	TING 45 E	FITTING 45 ELB. SW 3M 3/4" A105N	M 3/4" A1	OSN							SEE NOTE		SATISFACTORY	₹
A87	22469	200	CI-07 - 23	CI-07 - 297 2007-2E201-0000339-002	91-0000338	1002	Ē	TING 80 E	FITTING 90 ELB. THRD NPT 2M 1/2" A105N	NPT 2M	1/2" A105	<b>Z</b>						SEE NOTE		SATISFACTORY	<u>~</u>
±09	74795	908	CI-07 · 28	CI.07 . 297 2007-7F201-0000339-006	01-0000338	900-	<u>E</u>	TING TEE	FITTING TEE THRD NPT 2M 1/2" A 105N	T 2M 1/2"	A105N						-	SEE NOTE	_	SATISFACTORY	<u>}</u>
HEAT CODE	E HEAT	<b>1</b>	ž	MATERIAL	ర	74K	X MrX	%6 7	P%	Crit	MP%	No.	TIM:	Cak	7.7. N	Nb% N	N% A1%	W CEW		OTHER ELEMENTS	2
c	AR2240	110	ASTM A108	103	0.1	<u></u> .	_			0.180	0,140	0,040		_					86		
±09	74795	80	ASTM A105	8	6.0					0,110	090'0		_		_				8		
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٤	AR2240	110	122.65	⊢	367.0		0.689	34.0	58.0	-	991 - 09	0.0	_		₹	20	8	90	┝	⊢	_
j E	74795	2 2	122.65	50.03	316.0	- A	549.0	32.0	26.0		58	00	_	-	≩	8	\$	_	-	000	-
ş	74524	83	122,65	20.00	316,0	78	526,0	34,0	54,0	_	62 - 168	0,0	•	٠.	₹	8			5	-	_
Ŧ	74524	290	122,65	90,08	326,0	8	963,0	31.0	54,0		162 - 168	0'0	_	9.	≩	8	_	•	-	2	_
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28×	74795	118	122,65	80,08	306,0	33	628,0	34,0	26.0	_	62 - 168	0.0	0	0,0	≩	8	_			0,0	_
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<b>1</b> 09	74795	906	122,65	20,00	316,0	<u> </u>	549,0	32,0	26,0	_	58 - 164	0,0	<del>-</del>	 9	\$	8	\$	105 109	-	-	
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5	AR2240	110	ASME SA	ASME SA ASTM A 105-05	05-05				Noma	Normalized at 880*920°C / Alr Coo	10*920°C,	/ Alr Cool				ELECTRIC FURNACE	CFURN	厂	RODACCIAL	I N10228	8
<u> </u>	74795	60	ASME SA	ASME SA ASTM A 105-05	05-05				Norma	Normalized at 880°920°C / Air Cool	30-920°C	/ Air Cool				ELECTRIC FURNACE	CFURN		RIVA ACCIA		<u>_</u>
30A	74524	828	ASME SA	ASME SA ASTM A105-05	05-05				Norma	Normalized at 880°920°C / Air Cool	30-920°C	/ Air Cool				ELECTRIC FURNACE	CFURN	_	RIVA ACCIAI		2
1	74524	729	ASME SA	ASME SA ASTM A105-05	05.05				Nome	Normalized at 8801920T. / Air Cool	30:02C	/ Air Cool				ELECTRIC FURNACE	CELEN	7	RIVA ACCIAI	<del>-</del>	2
EDO	77284	8	ASME SA	ASME SA ASTM A105-05	05-05				Norma	Normalized at 88019201C / Air Cool	30-820C	/ Air Cool				ELECTRIC FURNACE	FURN		RIVA ACCIA		2
28A	74795	18	ASME SA	ASME SA ASTM A105-05	92-05				North	Normalized at 880*920°C / Air Cool	30.920.C	Air Cool				ELECTRIC FURNACE			RIVA ACCIA		<u> </u>
A87	.22469	8	ASMES	ASME SA ASTM A 105-05	8				Norma	Nomnatized at 880-920 C / Air Cool	2026-00	A C C C				ELECTRIC FURNACE			LEAL SPA		-
2	74795	98	ASME SA	ASME SA ASTM A105-05	90-90				Norma	Normalized at 880%2000 / Air Cool	3026-00	/ Air Cool				ELECTRIC FURNACE	25	-	RIVA ACCIA	4   071087	_
NOTES A	ASME B16,11/05 - ANSI B31.1/B31.3 - IML STD - ANSI	105 - ANSI	B31.1/B31	1.3 - IML ST	D-ANSI	81.1-818.2.2 -	1.2.2.		INSPECTION AUTORITY	AUTORITY	9	DALITY C	ONTROL D	EPARTME	NT MAN	QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL	R'S SYME	-	NUFACTUR	MANUFACTURER'S SYMBOL	5
z 	NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED	5 ISO 1515	36/1 - MSS	SP 83 - 3U	TPPLIED N	MTERIA	MATERIAL MEETS														Γ
ິ !	SPECIFICATIONS AND P.O. REQUIREMENTS	ONS AND	P.O. REOL	JIREMENT	<sub>s</sub>										-	SOME	3		CTUDDOUTO	(	
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Shipment/Seq #: S 7 - L271 4
TRANS AM PIPING PRODUCTS - REV'D BY:

E8 32806

P.O. # 5/0428

SIGNATURE

APPROVED BY Q.C. INSPECTOR

REAT NUMBER : 252716

TRANS AM PIPING PRODUCTS - REV'D BY: P.O. # /Seq #: L-08 - 10164 3

1/2X8 XH SMLS STEEL NIPPLES A106 TBE

MAYERIAL TEST REPORT YAM DEUTSCHLAND GmbH (3.1 NACH EN 18204:2004) PARAGRAPH 16:50 Werk Zeithaln Glaubitzerstrasse 1 0-01619 Zalitzán No. : 5007/2007 Page: 1 ( 5 ) Date: 06.06/2007 (401) VALLOUREC & MANNESMANN TUBES Vellouree Group

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Customer		1
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LTD.		
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Orderer		Order-No. VM1889
VALLOUREC TUBES CANADA	INC. / \$200 MAINWAY UNIT \$	Dula 18.04.2007
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COTF DIVISION OF EMCO		· · · · · · · · · · · · · · · · · · ·
(Bapt., 802, 1994)	HOT FINISHED SEAMLESS LINE FOR	WE WANT OF BERNYCE &
Description of the product	API SPEC. 51, PSL 1, 03.2004#	
	ASTM A 405 M - 08 A /	· .
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	EDITION 2004, ADDENDA 2006 / CS	
	ASME BOILER AND PRESSURE VE EDITION 2004, ADDENDA 2006 /	SHEL CODE, SECTION II, PART A.
	NACE MR 0175/ISO 16158-2:2009/CI	OR.1:2005 /
ľ	EN ISO 16166-2:2003, ANNEX A.2.1.	
	NACE STANDARD MR 0103-2005, P. COTF SPEC, CECH-3, REV. F. 03-20	
	X 42	~~ <b>=</b>
	I GRADE B (ASTMA 106 W / ASMES	
	# I GRADE 290 (CSA Z245.1, CAT.1)# #DOED LENGTH 20 FT#	
	SINGLE LENGTH TOLERANCE IN	(+ 4,03/- 0,00#
1	RESIDUAL MAGNETISM DOES NOT	EXCEED 30 GAUSS #
1	ENDS PLAIN, SOUARED TO TUBE /	₩Q5 #
1	WITHOUT RUST PROTECTION #	
1	OUTSIDE DRY VARMSH	
1	<u> </u>	

(F1A)	(A89)	(6)4}	(240)	(840)
V&M Kee	Cust. Hers	fleet text	Ohnensions	Single length
2		MRS-Order-No.: 758/4619.4	NPS 1/2 W X SCHED: 80,000 IN	

PC COMPRESSION
DATE RECEIVED JUN 2 4 2008 APPROVED BY Q.C. INSPECTOR

VEHI DECTREHLAND GMMH Week Zeithein Glaubizarstrasso 1

(HO4)

# VALLOUREC & MANNESMANN TUBES Valloures Group

No.: 500772907 Page: 21 5 Date: 06.08.2007

MATERIAL TEST REPORT (S.1 NACH EN 10204:2004) PARAGRAPH 16 90

(403)



D-01519 Zelthein


(A13)	(AON)	(804)	<b>#</b> 11)	(B13)
YAM form	Cust. Item	Quentity	Total length .	Weight
1			π	lice .
2		329	6.580,02	7,147

HEAT CHEEK	CAL AMALYSIS							····			<del></del>
gno7.1]	<b>(5</b> 15)				1		i	1		i	
Hest	Process	Ç	34	Min	P	8	AI	Cu	Cr :	NI.	Mo
		%	*	*	%	*	%	%	%	*	*
min	-	-	0.100	0,20		-	, -	-	٠		-
mex	-	0.260	0.500	1.06	0.030	0.0350	-	D,400	0.400	0.490	0.150
√252716	Oxygen (BOF)	0.190	0.170	0.74	0.010	0,0020	0.030	0.660	9.100	0.030	0.010

(1967.1) Fleet	v *	Ti %	NSACS	C::	B %	CQ:24	EF 14	EF 02 %			
prên	•	-		•	•	•					
mex	0.080	0,0400	0,110	•	6,0010	.40	1,00	0.15	1	 	
262716	<0.004	0.0030	0,001	0.0340	0.0801	.35	0.22	0.01			

CQ 24	CAE=C+F X(1948 + 31/24 + CUM5 + N1/20 +(CR+MO+V+CO)(6 +58)
EF 14	EF + CR + MO + NI + CU + V
6F 02	EF = V + TI + N#

Hoats fully idled

EF#ND+V+ MAX, DIREN EF=0.005%(HEAT 252716)

PRODUCT CHRISICAL ANALYSIS

VAN DEUTSCHLAND Gebil

Wierk Zeithein Glaubitzerskuuss t D-01819 Zeithain (446)

YALLOUREC & MANNESHANN TUBES

Vallourse Group

MATERIAL TEST REPORT (3.1 NACH EN 10204:2004) PARAGRAPH 16 SO (A02)

No.: 500772N07 Page: 3 J 6 Date: 06.06.2007 **\^03** 

(CITE)

## PRODUCT CHEMICAL ANALYBIS

# <b>47.1</b> )	(000.1)	1						}	[		1
Heat	Test Place	C	BJ	Min	P	8	iA.	Cu	Ç	M	Mo
	1.	*	%	*	*	%	*	*	%	*	%
tolin		1 -	0.100	0.29	-	-				-	-
enes.		0.250	9.500	1.06	0.030	0.0360	•	0.400	0.400	0.400	D.150
252716		0.212	D.164	0.72	0,812	0.0029	0.021	0.088	0.100	0.065	0.018
252716	1	0.201	0.166	0.72	0.011	0.0026	0.024	0,006	0.100	0.054	0.018

(807.1)	(C85.1)									
Heat	Test Place	v	π	Nb/Cb	Co.	2				-
]	j	%	*	*	%	. %	L			
rpire		-	•	-	•	- "				<u> </u>
mex		0.090	0.0480	0.110		0.0010		<u> </u>		1
252716		9.002	0.0020	9.002	9.0030	6.0004			·	
252716		9.002	0.0020	0.002	0.0030	1000.0		·	<u> </u>	

CHECK ANALYSIS ON 2 TUBES PER HEAT

TENSILE TEST RESULTS

\*\*\*\*\*\*\*\*\*\*\*\*

Test temperature (ces)

Direction (care

FULL SECTION TEST SPECIMEN

ROOM TEMPERATURE

tongitudinal

								1	7		
(DATT. 1)	(C06.1)	(C10)	(C11)	(012)	(CIN)	(CH4.1)	ŀ	} ·	!		
Float	Test Piece	Dimension	Y\$	TS	Elong.	Retio			<u> </u>		
<u> </u>			ReH	R_	2'	R/R <sub>m</sub>		i		1	1
Į.	<u> </u>	cam .	posi	pei	%	• -			٠		<u> </u>
(Prin	<del></del>		42000	60000	21.0	•				1	
STAIR.	•	-	· ·	110000		<u> </u>		<u> </u>	<u>i</u> _	<u> </u>	<u> </u>
				*****		0.69			Т —		
252716	54561	21,403003.60	49468	71366	41.3		<u>1</u>	J	<u> </u>		

HARDNESS HRC MAX. 22

(WITHOUT TESTING, ONLY CERTIFICATE)

HARDHESS TEST RESULTS

VAN DEUTSCHLAND Greb Work Zeithein
Work Zeithein
Glaubitzaraketese 1

D-01619 Zeithain

(461)

M

# VALLOUREC & MANNESMANH TUBES

No.: 59077ZN07 Page: 4 / 5 Date: 08.08.2007

MATERIAL TEST REPORT

(3.1 NACH EN 10204:2004) PARAGRAPH 16 SO

(444)

(A02)

Valentree Group

## HARONESS TEST RESULTS

(687.1)	(000.1)	(C21)						
Heal	(000.1) Test Place	Vehice	 		L		<u> </u>	
		. HA					<u> </u>	<u> </u>
min	·	-	 				l	
FPEK	i	220.0				<u> </u>	<u> </u>	
252716	S4881	163.0						

### 2044

### OTHER TESTS ON PIPE

Test	Conditions	Test rate	Plesuit
HEAT THEATMENT	NOT FINISHED IN THE RANGE OF NORMALIZING TEMPERATURE		
HYDROSTATIC TEST	3000 PSI, HOLDING TIME 6 SEC.	EACH PIPEI TUBE	NO LEAKAGE
FLATTENING TEST			SATISFACTORY
BENDING TEST			SATISFACTORY
APPEARANCE AND DIMENSIONS (DC1)		GACH PIPE/ TUBE	SATISFACTORY
VERIFICATION TEST		EACH PIPE /TUBE	SATISFACTORY
HARDNESS TEST		HB MAX. 200,0	
HARONESS TEST		HRC MAX. 22	
PIPE PRODUCTION METHOD	SEAMLESS, HOT-ROLLED		

- EDDY CURRENT TEST ACC. TO CSA Z 248.1:2002;SATISFACTORY
- KILLED STEEL
- HYOROSTATIC TEST: 20,7 MPA, HOLDING TIME 5 SECLEACH PIPE!
- TUBE: NO LEAKAGE

### (844, 944)

MARKING, EDENTIFICATION



PAINT STENCILED ON ONE BIDE VAMAY VALLOUREC & MANNESMANN APPMONOGRAM SUDIBLE YEARCYYYY)MORTH 21,3 X 3,73 NW 1/2 X SCHED.80 TERMS OF DELIVERY PSLIJA 108/3A 108/2A/8.1 X 42 / B / 6 / 280 CAT I PROCESS OF MANUFACTURE SMLE SS HEAT-NO. TEST PRESSURE BAR TEST PRESSURE PS 3000 NDE TUBE/PPE LENGTH MM TUBE/PPE LENGTH FT WAGERMANY CUSTOMER ORDER-NO. VM 1888 ORDER-NO. USER 4680 103-00

DATE	2007	ď.

(COL)

The supplied products are in complicace with the requirements of the order

VAM DEUTSCHLAND GmbH Werk Zelfnahr Glaubitzenstrasse 1

D-01619 Zeithalin

(1401)

# VALLOUREC & MANNESMANN TUBES

Valloures Group

MATERIAL TEST REPORT (3.1 NACH EM 10206/2004) PARAGRAPH 18 SO

No.:60077Zh07 Page:57 5 Date: 06.08.2007

(A06, Z02, I03)

Date	06.08.2007
Validated by	Inspection Representative
	RACZ
13	(08525) 792318
Ð	(03025) 781145
8	ULRIKE RACZOVATUBES DE
Stamp	

This testinguist and cartification respectively may neither by resulting our band for play products. Different are requested as initialization of don

# **NDUSTRIA MECCANICA LIGURE SPA**

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

TRANS AM PIPING PRODUCTS LTD.

Cerufficate Nr. 18887 Involce Nr. 1136 Del, Note Nr. 1745

16030 CASARZA LIGURE - Genova - Italy - P. 222 Marco Cappelli, 4 - Tel,0186.457661 - Fax 0188.466310 / MATERIAL TEST DEPARTMENT This cartificate has been generated by computer and seed not to be signed for validity according to DIN EN 19204 Page 11 - 21 24 10 2007 24 10 2007 24 10 2007 Dated Dated రే COMPANY WITH QUALITY SYSTEM ISO 9001-2060 CENTIFIED BY MINA

VISUAL & DIMENS.	SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY	OTHER ELEMENTS			VELD POINT	0.0	0	0 0	0 0	0 0	Our Ref.	063056	92170	073042	N10268	061490	051229	765140	SYMBOL	
i		;—	. <u> </u>		SHAPE		· • ·			·								]	MANUFACTURER'S SYMBOL	
DHM. ACC. TO	SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE	C.E.%	0.340	0,387 0,396 0,394 0,401			8,		8 E		-	1					<del></del>		<b>_i</b>	
ā	R R R R R R R R R	₹	0,000	0,012 0,013 0,013 0,025	JOH EKONZ	, 0	105			88 88	ļ,	URNAC	URNAC	URNACI URNACI	URNAC	URNAC	URNAC			
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		KON.	0.000	0,000 0,000 0,000,0	WPACY TEST	╀					: 	E.E.			EFE	ELE	<u> </u>			
		\$	0,008	0,000 0,001 0,002 0,027	TVDE 41-40mm		≩		≩ ≩	<b>≩</b> ≩										
		% 0	0,210 0,190 0,160 0,130	0,010 0,160 0,210 0,160	PLATTENENG TEST	0,0	0.0		0.0	 0,0,								NEDAOT	THE COURT OF THE STATE OF THE S	
	5LB (Pf 5LB API 5LB	**	0,000	0,001 0,006 0,006 0,022	_	 		. <u> </u>			TWENT	00	- i	<b>5</b> 5	}			OMTON		
	068/API A1068/A A1068// 350/LF2 F2	Wo%	0,020 0,010 0,050 0,030	0,010 0,010 0,010	BEND TES	0,0	0 6	3 0,	<b>0</b> 0	0,0	HEAT TREATMEN	C/AirC	/ Air Co	)	Cool	Cool	<b>1</b> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AL PAIN		•
, No.	m(3") A10 A105N Dmm(6") M(3.1/2") M(3.4" p 350/LF2 OALF2	×.	0,070 0.050 0,130 0,100	050'0	HARDNESS ND	160 - 162	60 - 166	165 - 167	160 - 166 166 - 170	152 - 160 160 - 166	<b>#</b>	Normalized at 860°C-920°C / Air Coo	Normalized at 880*-920*C / Air Cool	Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool	Normalized at 900°C / Air Cool	Normalized at 900°C / Air Cool	Normalized at 900°C / Air Cool Normalized at 900°C / Air Cool	, ,		-
DESCRIPTION	3M 3/4" 3M 3/4" 1/2" L156 1" L90mi D NPT 3 3M 1" A 3M 1. 72	 64.5	0,210 0,080 0,170		AREA HARD	15	<u>5</u> €		 克 藻	<del>2</del> <del>2</del> <del>2</del>	 	ed at 86	ed at 88	90 at 99	ed at 90	©6 He per	ed at 90	VIOLET	SION	4
	PT S-80 NG SW NG SW PT S-80 PT S-80 NG THR RD NPT SW 3M	*	0,008		EDUCTION OF A	8	54,0	00	8, 9, 0, 0	59,0 57,0		Normaliz	Normaliz	Normalis Normalis	Normaliz	Normaliz	Normaliz Normaliz	NAPECTION ALITORITY	RES	14111
	P NIPPLE TBE NPT S-80 (1" L75mm(3") A108B/API 5LB FITTING COUPLING SW 6M 3/4" A105N P.NIPPLE TBE NPT S-80 1/2" L150mm(6") A106B/API 5LB P.NIPPLE TBE NPT S-80 1" L150mm(3.1/2") A106B/API 5LB FITTING COUPLING THRD NPT 3M 3/4" A350/LF2 FITTING CAP THRD NPT 3M 1" A350/LF2 FITTING CAP THRD NPT 3M 1.1/2" A350/LF2 FITTING CAP THRD NPT 3M 1.1/2" A350/LF2	2%	0,007 0,015 0,004 0,006		£	  -			,-									RINCOE	RIAL MEEPIC COMPRESSION	L
	NITTING NITTING NITTING NITTING NITTING NITTING NITTING	Mm%	0,680		ELCHIDATION S.20	38,0	32,0	52,5	37.0 32.0	35,0			Principal Security						သူ	
0.17	<del>-</del>	 %	0,230 0,0210 1,0220 0,0220 0,000		ILE STREMAHT	481,0	563,0	450,0	533,0	525,0 542,0	RDANCE TO		4	, 0 00	-	-	T +	04922	AL, MEE	í
	0-013 2-005 7-025 0-100 0-101	S %	0,160 0,2 0,180 0,2 0,135 0,2 0,120 0,2		TEXE		ŭ5 <del>-</del>					1-06 Gr. B	Č	9 C C C C			. LF2 cl.1	, d	WATERIV	Ė
OUR REFERENCE	CI-07 - 294 2007-2E201-0000340-013 CI-07 - 380 2007-2E201-00000541-103 CI-07 - 450 2007-2E201-0000672-006 CI-06 - 635 2008 2E201-00000797-025 CI-07 - 530 2007-2E201-0000820-059 CI-07 - 530 2007-2E201-0000820-101 CI-07 - 530 2007-2E201-0000820-101 CI-07 - 530 2007-2E201-0000820-101			6000	VIELD PONT ITEN	359,0	306.0	362.0	306,0 316,0	336,0	MATERIAL IN ACCO	ASME SA ASTM A106/A106M-06	ASME SA ASTM A105-05	ASMESA ASTM A106/A106M-06 C	ASME SA ASTM A350-048 Gr. LF2	ASME SA ASTM A350-04a Gr. LF2	ASME SA ASTM A350-04a Gr. LF2 ASME SA ASTM A350-04a Gr. LF2	INV	PPLIED	
OURRE	2007-2E20 2007-2E20 2007-2E20 2007-2E20 2007-2E20 2007-2E20	RIAL	ASTM 4106/B AP! 5LB ASTM 4105 ASTM 4106/B AP! 5LB ASTM 4106/B AP! 5LB	LF2 d.1 LF2 d.1 LF2 d.1 LF2 d.1			90,00	8 8	00,08 00,08	50,00 50,00	MATE	STM A10	ASME SA ASTM A105-05	STMA10	STM A35	STM A36	STM A36 STM A36	18.49	83 - SUI	
YOUR P.O.	77 - 294 57 - 380 57 - 450 57 - 530 57 - 530 57 - 530 57 - 530	MATERIAL	ASTM A106 ASTM A105 ASTM A106 ASTM A106	ASTM A350 LF2 d.1 ASTM A350 LF2 d.1 ASTM A350 LF2 d.1 ASTM A350 LF2 d.1	TEST OPECHEN SECT. IND.2   LENGHE		122,65   5		122,65 122,65 6	122,66	1	WE SA A	ME SA A	A VO III	WE SA A	MESAA	AE SA A	1/821 2	MSS SP	
. • '	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	 <b>.</b>	A & & & & & & & & & & & & & & & & & & &	A A A A		0	73.0		2 2	5 5	3	ASI	<u> </u>	2 Z	ASI	₩.	<u> </u>	MSI B31	5156/1 ND P.O.	
ITEM	000 000 000 000 000 000 000 000 000 00	TEM	25 8 8 8 25 8 8	099 100 103	ITEM	93	5 5	82	8 8	<u></u>	ITEM	013	<u>5</u> 5	8 8	660	5	5 5	1/05. A	75 ISO 1	
HEAT	56074 74193 763226 538697 75943 72435 75347	HEAT	56074 74193 163226 538697	75943 72435 75347 76077	HEAT	56074	74193	538697	75943 72438	75347	HEAT	56074	74193	538697	75943	72435	75347 76077	ASME BIR 11/05 ANSI B21 1/821 2 184 CTD AND B1.	NACE MR0175 (20 15) 50 15 15 15 15 15 15 15 15 15 15 15 15 15	;
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HEA		Ŧ		GP7	Ŧ	<u>.</u>				. &	-8111						GP7	-		
	LBE	•	37 Pr/:	. 🗇	/X	:	ΒX	<b>9</b> ₹	ιΛ	₽Я • 0 S	s T. -	SJ			8 80 T		Ð		ged bib bib	

HEAT NUMBER : 163226 TRANS AM PIPING PRODUCTS Shipment/Seq #: S 7 - 3

STUDBOLTS 🚫

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FITTINGS

ORIS FIZZOTTI

E8-32806

510428

P.O. #

SIGNATURE

APPROVED BY Q.C. INSPECTOR

DATE RECEIVED JUN 2 4 2008

INSPECTION CERTIFICATE EN 10204:2004 / 3,1

TRANS AM PIPING PRODUCTS LTD.

1600 CASARZA LKGURE - Gunova - Raly - P. Low Warrer Capapetiff, A. 7-191995467661 - Fax 9195-44650 J MATERIAL TEST DEPARYMENT This certilitate has been generated by compouler and need not to be signed for validity according to OIN EN 19284 Page 16 . 17 29.04.2006 29.04.2006 04 05 20M SATISFACTORY SATISFACTORY VISUAL & DIMENS. SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY OTHER ELEMENTS YELD POMY Mineral >11.0% 0000000 Our Ref 051024 051189 870468 8 051025 042078 MANUFACTURER'S SYMBOL Daked MANNESMANN Dated RIVA ACCIA! STEEL MILL RIVA ACCIAL RIVA ACCIA RIVA ACCIA PIETRA DIM. ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE 0.000 000'0 0,400 SEE NOTE SEE NOTE SEE NOTE SEE NOTE 0,405 C.E.X 6,391 0.373 0,422 Cerulicale Nr 18477 Envoice Nr 518 Def. Nine Nr 784 8 0.030 **ELECTRIC FURNACE** ELECTRIC FURNACE **ELECTRIC FURNACE** 9000 **ELECTRIC FURNACE** ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** ELECTRIC FURNACE 9000 0,000 000'0 QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL 0,025 0,002 0,025 5 ž MPACT TEST - JOKNEYORS 000,0 FURNACE 8 000 0,000 0000 ž ð 20 8 8 8 8 0,000 0000 0,000 0,002 9 0,00 0,000 0,00 ₹ ≥≥≥ 000,0 0,028 0,030 900,0 0,080 ⋛ 0,00 0,002 Cagary, Alberta 12C 4E8 0,240 0,170 0.19 9.180 0,140 0,020 0,170 0.220 Š - 7025 - 44th Sireet S.E. 0,00000 P.NIPPLE TBE NPT S-80 1" CLOSED L. 38mm A 108B/API 5LB P.NIPPLE TBE NPT S-80 1/2" L115mm(4½") A108B/AP! 5LB P.NIPPLE TBE NPT S-160 1" L140mm(51/2") A1068/AP! 5LB 0,013 0,013 0,015 0,018 0,000 0.00 0000 0,000 ¥. HEAT TREATMENT Normalized at 880°C-920°C / Air Coof Mormalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 680°-920°C / Air Cool Normalized at 880\*-920°C / Air Cool 900 0.030 0,020 0,010 0.020 0,00 0,00 FITTING 45 ELB. THRD NPT 3M 1.1/2" A350/LF2 Mo% 0.010 Normalized at 900°C / Air Cool Normalized at 900°C / Air Cool Normalized at 900°C / Alr Cool FITTING 90 ELB. THRD NPT 3M 1" A350/LF2 FITTING CROSS THRD NPT 6M 1½" A105N FITTING UNION FIF SW 6M 3/4" A350/LF2 FITTING TEE THRD NPT 3M 3/8" A 105N 090'0 0,170 060'0 060'0 0,050 0,030 0,050 0,000 160 - 168 60 - 162 56 - 160 180 - 185 160 - 164 148 - 165 60 - 168 % 2 **DESCRIPTION** COMPANY WITH QUALITY SYSTEM ISO 9001:2000 CERTIFIED BY RINA INSPECTION AUTORITY 0,110 0,070 0,040 0,200 0.150 0,110 0,040 0.020 Š 2282 00 0,016 0,016 0,014 0,00 0,012 0.003 0,014 0,0,0 ž 0,007 0,002 0,010 0,024 0,015 0,015 50,0 90.0 ķ 31,0 32,0 36,0 31,0 5,0 45,0 0.0 0,970 0,640 0,630 050 0,940 8 0,880 × NACE MR0175 ISO 15156/1 - MSS \$P 83 - SUPPLIED MATERIAL MEETS: MATERIAL IN ACCORDANCE TO NOTES ASME B16.11/01 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.22 -Č 564,0 510,0 548,0 596,0 516,0 471,0 0.96 539.0 0,230 0,160 0,210 0,200 0,290 0,230 0,230 None 2 ASME SA ASTM A 106/A 160M-04b Gr. B ASME SA ASTM A106/A160M-04b Gr. B ASME SA ASTM A106/A160M-04b Gr. B ASME SA ASTM A350-04a Gr. LF2 cl.1 ASME SA ASTM A350-04a Gr. LF2 dl.1 ASME SA ASTM A350-04a Gr. LF2 cl. 1 0,130 CI-06 - 314 2006-2E201-0000328-116 CI-06 - 314; 2006-2E201-0000326-140 CI-06-116 2006-2E201-0000044-023 CI-06 - 116, 2006-2E291-0000044-094 CI-05 -754 | 2005-2E201-0001193-009 CI-05-866 2005-2E201-0001376-050 CI-06 - 168 2006-2E201-0000143-038 CI-06-252 2006-2E201-0000268-061 0,150 0,190 0,190 0,130 0,190 0.190 0,190 **NDUSTRIA MECCANICA LIGURE** SPA OUR REFERENCE VIELO PONT 908 319.0 358,0 372,0 329,0 306,0 399,0 332.0 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASTM A106/B API 5LB **ASTM A106/B API 5LB** ASTM A106/B API 5LB ASTM A350 LF2 ct.1 ASTM A350 LF2 ct.1 ASTM A350 LF2 cl.1 50,00 50,00 50.00 50.00 MATERIAL 50,00 8 8 8 TEBY SPECIMEN YOUR P.D. ASTM A105 ASTM A105 122,65 122,65 122,65 122,65 122.65 000 800 8 8 88 198 8 8 8 020 023 8 83 600 S 8 5 8 8 061 8 86 68 68 68 68 88 198 8 96 HEAT CODE HEAT 700790 212302 Ħ 700790 HEAT 700790 212302 HEAT 39699 39700 77914 74285 39700 55175 77914 212302 700790 55175 74285 39659 39700 9911 39699 55175 212302 9911 9911 74285 39696 55175 77914 77914 39700 99111 HEAT CODE HEAT CODE HEAT CODE 몵 ¥25 8 呈 **F**22 9 2 95 ¥ 96 문 呈 350 ¥ 8

RECEIVED JUN 2 4 2008 E8-32806 PC COMPRESSION 510428 SIGNATURE # O. DATE

MA

**SNAAT** 

0

STUDBOLTS

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FITTINGS

BORIS FIZZOTTI

SPECIFICATIONS AND P.O. REQUIREMENTS

APPROVED BY Q.C. INSPECTOR

2 80 EEA.D S pes/inemqidz 9 :# : Y8 PRODUCTS **bibing** SLISS HEAT NUMBER

**TBE** HX 1/5X41/5 SLEEF NIBBLES SWE 90IA

NSPECTION CERTIFICATE EN 10204/2004 / 3.1

Company with quality system 130 9001-2000 Certered by Rina

24.01.2008 22.01.2008 22.01.2008 Detted Detted Certificate Nr. 18319 Erveide Nr. 58 Del, Nese Nr. 122 ర TRANS AM PIPMG PRODUCTS LTD. 9335 Endeavor Drive S.E. Celgary, Alberts T38.0A1

IDUSTRIA MECCANICA LIGURE SPA 16030 CASARZA LIQURE - Qunova - Hely - Vra Gler

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Conference   Con	•	55287	<b>6</b>	CI-07 - 69	1 2007-2E201	0001160-00	9	P.N.P.	LE TBE!	NPT S-80	3/8" 1.10	Omm(4")	4408074	ſ					DIM. ACC. T		AL & CIMIEN
Section   Continue	<b></b> .	160000	2 8	CI-07 - 89	1 2007-2E201.	40001160-01		PNP	LE TBE	NPT S-80	172 1.10	Omm(4")	A 106E/A	•		8			SEE NOTE	SATE	SFACTORY
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Table   Tabl	<b>TP</b> 6	72966	910	G-08 - 114	4 2008-2E201-			d Z	LE TBE !	PT S-80	3/4" L12	5mm(5"),	4106B/A	25.5					SEE NOTE	S a	SFACTORY
STATE   STAT	56A	73413	979	CI-08 - 114	2008-2E201-	9000035-0194 0000035-034	<u>-</u>		G TEE T	ARD NPT	2M 1" A	105N								2	SFACTORY
Color   Hart   Title   MATTERIAL   CSY   STA   Barts   St.   Factor   MATTERIAL   CSY   STA   MATTERIAL   CSY   STA   Barts   St.   CSY   STA   MATTERIAL   CSY   STA   MATTERIAL   CSY   STA   MATTERIAL   CSY   STA   MATTERIAL   CSY	I	876464	032	CI-08 - 114	4 2008-2E201-	0000032-03%	-·	2 2	3 30 ELB	THRD I	4P1 98.1	* A105N							SEE NOTE	6 4.	YACIOKY SEACTOBY
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15223   23    ASTHA A1098   PATE   101   0.10   0.004   0.007   0.004   0.007   0.004   0.007   0.004   0.007   0.004   0.007   0.004   0.007   0.004   0.007   0.004   0.007   0.004   0.007   0.004   0.007   0.004   0.007   0.004   0.007   0.004   0.007   0.007   0.004   0.007   0.00		71678	12	ASTM A10	5/8 API 5/10	2 4	3 6			_					ļ	┝┈	╂╾	╁	∔.		
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17286   1010   1027		99123	2	ASTM A106	S/R API SER	5 6		_		_	<b>-</b>	-						_			
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THE PC COMPRESSION AND 4 2008 BORIS FIZZOTTI PITTINGS IML  O. # 570428 E832806		ME 816.11/0	5 - ANSI B	31.1/B31.3 -	- IML STD - A	NS: R:	249 2 2	-					3			<u>۔</u> ا	LECTRIC	FURNAC	بة 		072121
THE RECEIVED JUN 2 4 2008 BORIS FIZZOTTI FITTINGS IML.  3.# 510428 E832806  GNATIBE: 6.2	≨ :	CE MR0175	ISO 15156/	1 - NACE MI	R103 - MSS	SP 83 - 84		-	YOUR THE	OK NO.	TORITY	9	ALI7 00	NTROL DE	PARTMEN	THANG	ACTURER	SYMBO	├-	CTURERY	&VWBO
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510428 E832806							- 1111	ш.	ĬÝĒ	, O	%  ≥  }		38 BO	IS FIZZO	Ē	<b>E</b>	\$3 ₹	ĭ.	STUDE	) 01.78	K
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TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 8 - 1035 38 Shipment/Seq #: S 8 - 1035

APPROVED BY Q.C. INSPECTOR

1/2 X 4 XH SMLS STEEL NIPPLES A106

APPROVED BY Q.C. INSPECTOR

SIGNATURE:

HEAT NUMBER : 163226 TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 7 - 1520 93

**IDUSTRIA MECCANICA LIGURE SPA** 

INSPECTION CERTIFICATE EN 10204:2004 / 3.1 COMPANY WITH QUALITY SYSTEM 180 9/101-2000 CERTIFIED BY RINA

TRANS AM PIPING PRODUCTS LTD.

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24 10 2007 24 10 2007 24 10 2007 Dated Dated Dated Certificate Nr. 19087 trivoice Nr. 1135 Del. Note Nr. 1745 233061 Endeavor Orwe S E Catyary Alberta T2P 206

25.40	HEAT 74795 35281 72475 73624 53878 63918 63918	1 <b>TEM</b> 072	YOUR P.O			<u>_</u>			DES										
FITTING CAPE SWY 3M 2" A 105M   FITTING CAPE SWY 3M 2" A 105M   FITTING CAPE SWY 3M 2" A 105M   FITTING CAPE SWY 3M 2" A 105M   FITTING CAPE SWY 3M 2" A 105M   FITTING CAPE SWY 3M 2" A 105M   FITTING CAPE SWY 3M 2" A 105M   FITTING CAPE SWY 3M 2" A 105M   FITTING CAPE SWY 3M 2" A 105M   FITTING CAPE SWY 3M 2" A 105M   FITTING CAPE SWY 15M 2" A 105M   FITTING	74795 35281 72475 73624 53878 63918 53878	072			TENESTE ST	į				2011								,	AL & SMERS
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Full PPLE TER NPT S-100   127   115   mm/27   140   68   AP	73624 53878 63918 53878 163226	038	CI-07 - 53	30 2007-2E20	1-0000620-098		E I	COUPLIN	G THRO	APT 3M 3/8	- A350ALF	٠.					SEE NOILE		ISFACTORY
Purpple Tee NPT S-80 1"L51 mm/2") A 1058AP1 SLB   SEE	53878 63918 53878 163226	122	CI-07 - 53	30 2007-2E20	1-6000620-122		DNELLIS	COUPLIN	G SW 6M	1.172 A35	OVLF2	1				. `	SEE NOIR		ISPACTORY
P. NIPPLE TEBE NIPT S-160 1/2 Lift flatments 1/127) A 1068/API 15LB   SEE   SPECIAL LIFT S-80 1/2 Lift months 1/127) A 1068/API 15LB   SEE   SPECIAL LIFT S-80 1/2 Lift months 1/127) A 1068/API 15LB   SEE   SPECIAL LIFT S-80 1/2 Lift months 1/127) A 1068/API 15LB   SEE   SPECIAL LIFT S-80 1/2 Lift months 1/127) A 1068/API 15LB   SEE   SPECIAL LIFT S-80 1/2 Lift months 1/127) A 1068/API 15LB   SEE   SPECIAL LIFT S-80 1/2 Lift months 1/127) A 1068/API 15LB   SEE   SPECIAL LIFT S-80 1/2 Lift months 1/127) A 1068/API 15LB   SEE   SPECIAL LIFT S-80 1/2 Lift months 1/127) A 1068/API 15LB   SEE   SPECIAL LIFT S-80 1/2 Lift months 1/127) A 1068/API 15LB   SEE   SPECIAL LIFT S-80 1/2 Lift months 1/2 L	63918 53878 163226	<del>0</del> 12	CI-07 - 29	34 2007-2E20	1-0000340-012		P.NIPPLI	TRE NE	1 5-80 1-1	( z)mm(z)	ATOSEVAPI	are				•	SEE NOIL		ISPACIORY
P. NIPPLE TBE NIPPLE	53878 163226	34	CI-06 - 82	27, 2007-2E20	1-0000011-034		PNIPPL	TBENP	TS-160 1/	2" L115mm	(4.1/2") A1	068/API 5				'	SEENOIL		ISFACTORY
State   Stat	163226	910	CI-06 - 74	11.2006-2E20	1-0000954-018	,	PINIPPL	E TBE NP	T S-80 1" L	L51mm(2") /	A106B/API	3 B	•	63. addition (64			SEE NOTE		ISFACTORY
State   Name   State   Name   State   Name   State   Name   State   Name   State   Name   State   Name   State   Name   Stat		\$	, CI-07 - 46	30 2007-2E20	1-0000672-004		PINPPL	TRE NP	T S-80 1/2	" L90mm(3.	1/2") A106	B/API SLE	*			7.7	SEE NOTE		SFACTORY
1,220   0,520   0,002   0,005   0,016   0,000   0,00	HEAT	HTEN	Y	TERML	క	SP%			<b></b>	:   <del>-</del>	M60%	*	%πο					<u>-</u>	R ELEMENTS
1,280   0,980   0,025   0,016   0,250   0,140   0,022   0,001   0,0004   0,002   0,0000   0,0001     1,280   0,026   0,016   0,170   0,0000   0,000   0,170   0,0000   0,000   0,0001     1,280   0,026   0,016   0,010   0,0000   0,010   0,0000   0,170   0,0000   0,000   0,0000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000     1,280   0,000   0,000   0,000   0,000   0,000	74795	. 220	ASTMA1	! : :	0.205	<b>.</b>		-	<u>.</u> .		į <b>.</b> .	800	,	-	<b>-</b>				<b>!</b>
1,220	35261	980	ASTM A3	50 LF2 d.1	0,180			<b></b> .				0,00	-		· -·				
1,280   1,200   0,014   0,017   0,080   0,070   0,010   0,00	72475	860	ASTM A3	50 LF2 cl.1	0,210		_		-			000							
1,220   0,480   0,010   0,00	73624	122	ASTM A3	50 LF2 cl.1	0,185	-					- —	0000							
1,240   0,650   0,005   0,005   0,005   0,010   0,000   0,170   0,005   0,000   0,00	53878	012	ASTM A1	OG/IB API SL	 60	230						0000	• •						
1,230   0,480   0,009   0,009   0,000   0,140   0,000   0,140   0,00	63918	34	ASTMA	06/1B API 51.		240						0000	.,	<b></b> .				. <u></u> .	
Color   Colo	53878	016	ASTM A1	06/18 AP! 5L		8						0000						4	a rideality
Control of Africa   Control of Africa   Local Of Africa   Local Control of Africa   Local Cont	163226	604	ASTM A1	06/B APT 5L		$\dashv$		ᆜ	-⊸ĺ	-		0,000	;	- :		<u>. –</u> .			- Acous
Se3,0   31,0   54,0   160-162   0,0   0,0   KV   20   36   90   90   90   90   90   90   90   9	HEAT	TEM	TEST 24				_		TON OF AREA	HARDNESS HIP		PLATTBI	. 닏.		~			SHAPE	YIELD POINT
563,0 31,0 54,0 160-162 0,0 0,0 KV 20 96 90 50 557,0 33,6 58,0 162-165 0,0 0,0 KV 46 52 58 533,0 31,0 61,0 152-165 0,0 0,0 0,0 KV 46 52 58 533,0 31,0 61,0 154-162 0,0 0,0 0,0 KV 46 56 60 60 647,0 37,5 0,0 164-168 0,0 0,0 0,0 0,0 KV 46 56 60 60 647,0 37,5 0,0 164-168 0,0 0,0 0,0 0,0 0,0 0 0 0 0 6461,0 37,5 0,0 164-168 0,0 0,0 0,0 0,0 0,0 0 0 0 0 0 6461,0 37,5 0,0 169-170 0,0 0,0 0,0 0,0 0,0 0,0 0 0 0 0 0 0 0			9ECT, IM12		Mnm2 >=0,2%	Mmm2 >=	Ā	-				-		TPE 10x14cm	-	-	•	-0 %	Mingel > =1,4%
557.0 33.6 58.0 162 165 0.0 0.0 KV 46 52 58 538.0 162 165 0.0 0.0 0.0 KV 46 52 58 533.0 31,0 61,0 153 164 0.0 0.0 0.0 0.0 KV 46 56 56 50 60 61,0 153 164 162 0.0 0.0 0.0 0.0 KV 46 56 60 60 61,0 154 162 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	74795	072	122,65	20,00	306,0	563,0	3,16		2,0	\$60 - 162			0,0	≩	ଛ			<u>-</u>	00
533.0 34,0 52.0 162 166 0,0 0,0 KV 46 54 50 533.0 31,0 61,0 159 164 0,0 0,0 0,0 KV 46 56 50 477.0 32,0 0,0 159 164 0,0 0,0 0,0 0 0 495.0 0,0 169 170 0,0 0,0 0,0 0 0 495.0 0,0 0,0 0,0 0,0 0 0 477.0 52.0 0,0 169 170 0,0 0,0 0,0 0 477.0 52.0 0,0 169 170 0,0 0,0 0,0 0 495.0 43,0 0,0 169 170 0,0 0,0 0,0 0 495.0 KV 46 56 56 60 60.0 0,0 0,0 0,0 0 0 60.0 0,0 0,0 0 0 60.0 0,0 0,0 0 60.0 0,0 0,0 0 60.0 0,0 0,0 0 60.0 0,0 0 60.0 0,0 0 60.0 0,0 0 60.0 0,0 0 60.0 0	35281	88	122,65	90,00	354.0	577,0	33,6		58,0	162 - 163	<i>.</i>	-	0,0	≥	<b>9</b>			-	0,0
### 533,0 31,0 61,0 158 -164 0,0 0,0 KV -46 56 60 477,0 52,0 0,0 154 -162 0,0 0,0 0,0 0,0 0 0 0 0 0 0 0 0 0 0 0	72475	860	122,65	50,00	316,0	538,0	34,		22,0	162 - 168			0,	≥	9			-	0,0
477.0 52.0 0.0 154 - 162 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	73624	12	122,65	20,00	345,0	533,0	31,6		0,0	153 - 164			0,0	≩	<del>9</del>	SR '	9	-	0,0
Mormalized at 880°C-920°C / Air Cool   Normalized at 88	53878	015	8	00'0	0,606	477.0	92,		0 0	154 - 162						÷ 6	-	۰ د	0.0
Normalized at 860°-920°C / Air Cool   Restrict Furnace   Rectrict Fu	63918	85 S	8	0,5	324,0	461,0	7.0		0 0	164 - 165						5-6	) (	<u> </u>	000
Normalized at 860°-920°C / Air Cool   ELECTRIC FURNACE	53878	919	8	00'0	3060	477,0	25,6		2 0	154 - 162			 D'0			5 c	o ∢		0.0
HEAT TREATMENT  Normalized at 880°-920°C / Air Cool  Ci.1  Normalized at 900°C / Air Cool  Ci.1  Normalized at 900°C / Air Cool  Ci.1  Normalized at 900°C / Air Cool  Ci.1  Normalized at 900°C / Air Cool  Ci.1  Normalized at 900°C / Air Cool  Ci.1  Normalized at 900°C / Air Cool  Ci.1  Normalized at 900°C / Air Cool  Ci.1  Normalized at 800°C-920°C / Air Cool  Ci.2  Normalized at 800°C-920°C / Air Cool  Ci.3  Normalized at 800°C-920°C / Air Cool  Ci.4  Normalized at 800°C-920°C / Air Cool  Ci.5  Normalized at 800°C-920°C / Air Cool  Ci.6  Ci.7  C		8	8	0.00	351,0	495,0	- F		00	169 - 170		_				•	0		0,0
Normalized at 880°-920°C / Air Cool   Normalized at 900°C / Air Cool   Normalized at 900°C / Air Cool   Normalized at 900°C / Air Cool   Normalized at 900°C / Air Cool   Normalized at 900°C / Air Cool   Normalized at 800°C-920°C / Air Cool   Normalized at 860°C-920°C / Air Cool   Normaliz		TEM		MATE	RIAL IN ACCO	RDANCE T	0				HEAT TRE	ATMENT	!	!	2	RNACE		:	Our Ref.
Normalized at 900°C / Air Cool ci.1 Normalized at 900°C / Air Cool ci.1 Normalized at 900°C / Air Cool ci.1 Normalized at 900°C / Air Cool ci.1 Normalized at 900°C / Air Cool ci.8 Normalized at 900°C 920°C / Air Cool ci.8 Normalized at 860°C-920°C / Air Cool ci.8 Normalized at 860°C-920°C / Air Cool ci.8 Normalized at 860°C-920°C / Air Cool ci.8 Normalized at 860°C-920°C / Air Cool ci.8 Ci.8 Ci.8 Ci.7 COMPRESSION COMPRESSION CALE RECEIVED IUN 2 4 2000 RS FIZZOTT COMPRESSION COMPRESSION CALE RECEIVED IUN 2 4 2000 RS FIZZOTT COMPRESSION CALE RECEIVED IUN 2 4 2000 RS FIZZOTT COMPRESSION CALE RECEIVED IUN 2 4 2000 RS FIZZOTT COMPRESSION CALE RECEIVED IUN 2 4 2000 RS FIZZOTT COMPRESSION CALE RECEIVED IUN 2 4 2000 RS FIZZOTT CALE RECTRIC FURNACE CALE RECTRIC FU	74795	072	ASIME SA	ASTM A10	15-05	!   		<del>-</del> -	Normalized	1 at 860°-924	0°C / Air Ca	lo.			ELECTI	RIC FURN	ACE		071087
CLITINGS INTO MAILE RECTRIC FURNACE  CLITINGS INTO MAILE RECTRIC FURNACE  CLITINGS INTO MAILE RECTRIC FURNACE  CLITINGS INTO MAILE RECTRIC FURNACE  CLITINGS INTO MAILE RECTRIC FURNACE  CLITINGS INTO MAILE RECTRIC FURNACE  CLICTR	35281	8	ASME SA	A ASTM A35	70-042 Gr. LF.	2 cl.1			Normalized	f at 900°C /,	Air Cool				ELECT	RIC FURN	ACE		072078
Normalized at 800°C / Air Cool  Normalized at 860°C-920°C / Air Cool  Normalized at 860°C-920°C / Air Cool  Normalized at 860°C-920°C / Air Cool  Normalized at 860°C-920°C / Air Cool  Normalized at 860°C-920°C / Air Cool  Normalized at 860°C-920°C / Air Cool  Normalized at 860°C-920°C / Air Cool  ELECTRIC FURNACE  NORMALIZED  NO	72475	860	ASME SA	A ASTM A35	10-049 Gr. LF.	2 cl.1		<del></del> .	Normalized	1 at 900°C /.	Air Cool				ELECTI	RIC FURN	ACE		N10311
Normalized at 880°C-920°C / Air Cool  Normal Air Cool  Normalized at 880°C-920°C / Air Cool  Normalized at 8	73624	22	ASME SA	A ASTM A35	10-048 Gr. L.F.	2 cl. 1		=	Normalized	t at 900°C /.	Air Cool				ELECT	RIC FURN	ACE		
Normalized at 880°C-920°C / Air Cool  1.8  Normalized at 880°C-920°C / Air Cool  18.2.2.  Normalized at 860°C-920°C / Air Cool  18.2.2.  Normalized at 860°C-920°C / Air Cool  18.2.2.  Normalized at 860°C-920°C / Air Cool  18.2.2.  P.C. COMPRESSION  DATE RECEIVED IUN 2 4 2008 RS FIZZOTT  FITTINGS IMI.	53878	012	ASME SA	A ASTM A10	36/A106M-06			. <del></del> .	Normalized	t at 880°C-9.	120°C / Air (	2007			ELECT	RIC FURN	ĄČE		073034
Normalized at 880°C-920°C / Air Cool   ELECTRIC FURNACE   ELECTRIC FUR	63918	034	ASME SA	ASTM A10	36/A106M-06				Normalized	1 at 880°C-9	120°C / Air (	500			ELECTA	RIC FURN	ACE		073063
18.22. 18.22. 19.23. DATE RECEIVED JUN 2 4 2000 RESCOTT FITTINGS IML	53878	910	ASME SA	ASTM A10	36/A 108M-06	60	4		Normalized	1 at 880°C-9.	20°C / Air (	78			ELECTA	RIC FURN	ĄÇE		073034
18.22. IAL MEETS: PC COMPRESSION DATE RECEIVED JUN 2 4 2000 BESTOOM P.O. # 570428 FR 2238	163226	8	ASME SA	A ASTM A10	36/A 106M-06	<b>6</b>			Normalized	1 at 860°C-9.	120°C / Air (	<u> </u>			ELECTF	RIC FURN	ACE		073042
DATE RECEIVED JUN 2 4 2008 BRZOTTI FITTINGS IMI. P.O. # 570428 FR 2228	AE B16.11/	05 ANS	(B31,1/B31	1.3 - IML ST	D - ANSI 81.1				THE NAME OF	NAT N		COMTROL	DEPARTE	MENT MA	HJFACTUR	ER'S SYND		JFACTURE	R'S SYMBOL
DATE RECEIVED JUN 2 4 2008 PIZZOTTI FITTINGS IMI.	E MR0175	150 151	56/1 - MSS	SP 83 - SU	PPLIED MAT	-	ĕ	S	MPHE	SSION		: :		' 	:	:			:
# 5/0428 F842874	CIFICATIC	ONS AND	P.O. REQL	JIREMENTS	<i>,</i> ,	DAT		CEIV		11 131 2	4		ļ		GOVERNATION OF		Ė	0000	(
# 2525X #					٠	- 1	•		1	*	<b>3</b>	WEE FL	Z0TTI	•			ō	CDROCIS	3)
						٦ 0		メバイン	4	ダイグない	χ	_							
		74795 75281 73624 53878 163226 163226 72475 73624 53878 163226 163226 163226 163226 163226 163226 163226 163226 163226 163226 163226 163226 163226 163226	74795 072 72475 072 53878 012 53878 012 53878 016 163226 004 HEAT ITEM 74795 072 35281 096 72475 096 73624 122 53878 012 63918 034 53878 012 63918 012 63918 012 63918 012 63918 012 63918 012 63918 012 63918 016 163226 004 HEAT ITEM 74795 096 73624 122 53878 016 63918 034 53878 016 63918 096 72475 096 72475 096 73624 122 53878 016	74795 072 ASIMAA 35261 096 ASTMAA 72475 098 ASTMAA 63918 034 ASTMAA 163226 004 ASTMAA 163226 004 ASTMAA 163226 004 ASTMAA 74795 072 122.65 73624 122 65 73624 122 65 73624 000 63918 034 0.00 63918 034 0.00 63918 034 0.00 63918 034 SAME S/ 74795 096 ASME S/ 74795 096 ASME S/ 73624 122 ASME S/ 736261 1405 ASME S/ 736261 1405 ASME S/ 736261 1405 ASME S/ 736261 1405 ASME S/ 736261	74795 072 ASTIM ATUS 35261 096   ASTIM ATSO LEZ G.1 72475 099   ASTIM A360 LEZ G.1 73624 122   ASTIM A166B API 61 63918 034   ASTIM A1064B API 61 63918 034   ASTIM A1064B API 61 63918 034   ASTIM A1064B API 61 163226 004   ASTIM A1064B API 61 74795 072   122.65 50,00 73624 122 60,00 0,00 73624 122 60,00 0,00 73624 122 65 50,00 73624 122 60,00 0,00 63918 034 0,00 0,00 63918 0,00 0,00 0,00 63918 034 0,00 0,00 63918 0,00 0,00 0,00 0,00 63918 0,00 0,00 0,00 0,00 63918 0,00 0,00 0,00 0,00 63918 0,00 0,00 0,00 0,00 63918 0,00 0,00 0,00 0,00 63918 0,00 0,00 0,00 0,00 63918 0,00 0,00 0	35261 096 ASTM A350 LF2 cl.1 0,180 72675 096 ASTM A350 LF2 cl.1 0,180 72674 122 ASTM A350 LF2 cl.1 0,180 73624 122 ASTM A106/B API 5LB 0,140 63918 034 ASTM A106/B API 5LB 0,140 63918 034 ASTM A106/B API 5LB 0,140 63918 034 ASTM A106/B API 5LB 0,140 63978 016 ASTM A106/B API 5LB 0,140 63978 016 ASTM A106/B API 5LB 0,140 73624 122 65 000 306,00 73624 122 65 50,00 306,0 73624 122 65 50,00 306,0 73624 122 65 50,00 306,0 73624 122 65 50,00 306,0 73624 122 65 50,00 306,0 73624 122 65 50,00 306,0 73626 122,65 50,00 306,0 73626 122,65 50,00 306,0 73626 122,65 50,00 306,0 74795 072 ASME SA ASTM A106/A106/A-06 73627 096 ASME SA ASTM A350-04a Gr. LF. 73624 122 ASME SA ASTM A106/A106/A-06 63918 034 ASME SA ASTM A106/A106/A-06 63918 034 ASME SA ASTM A106/A106/A-06 63918 034 ASME SA ASTM A106/A106/A-06 63918 034 ASME SA ASTM A106/A106/A-06 73620 004 ASME SA ASTM A106/A106/A-06 73620 004 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 004 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 ASME SA ASTM A106/A106/A-06 73621 016 016 010 0.00 0.00 0.00 0.00 0.00 0	(220) (220)	1,230 0,930 0,530 0,520 0,930 0,520 0,930 0,520 0,930 0,520 0,930 0,520 0,520 0,480 0,520 0,480 0,520 0,480 0,530 0,480 0,510	1,220 0,930 0,025 0,025 0,025 0,025 0,025 0,032	1,220 0,930 0,025 0,015 0,015 0,025 0,030 0,030 0,030 0,035	1,220 0,930 0,025 0,015 0,015 0,025 0,030 0,030 0,030 0,035 0,045 0,045 0,045 0,045 0,025 0,045 0,045 0,025 0,045 0,045 0,025 0,046 0,045 0,046	1,280 0,980 0,025 0,015 0,100 0,000 0,280 0,280 0,026 0,015 0,100 0,026 0,000 0,000 0,280 0,026 0,015 0,100 0,280 0,026 0,000 0,000 0,280 0,000	1,280 0,980 0,025 0,015 0,100 0,000 0,280 0,280 0,026 0,015 0,100 0,026 0,000 0,000 0,280 0,026 0,015 0,100 0,280 0,026 0,000 0,000 0,280 0,000	1,280 0,980 0,025 0,015 0,100 0,000 0,280 0,280 0,026 0,015 0,100 0,026 0,000 0,000 0,280 0,026 0,015 0,100 0,280 0,026 0,000 0,000 0,280 0,000	1,280 0,980 0,025 0,015 0,100 0,000 0,280 0,026 0,015 0,100 0,026 0,015 0,100 0,026 0,026 0,015 0,100 0,226 0,026 0,015 0,100 0,220 0,220 0,026 0,000 0,026 0,026 0,026 0,026 0,026 0,026 0,020 0,026 0,020	1,220   0,990   0,025   0,015   0,020   0,010   0,000   0,170   0,00	1,280   0,980   0,025   0,015   0,020   0,010   0,000   0,170   0,00	1,220	1,220

THEAT NUMBER : AH80 TRANS AM PIPING PRODUCTS - REVID BY:

P.O. # /Seq #: I-06 - 16365



1/2 X 3 XH SMLS STEEL NTPPLES A106

# CANVIL CERTIFICATE OF TEST

Reference No.:

Date: 11/13/2006

Order Number:

Shipped To:

TRANS AM PIPING PRODUCTS LTD. 7025-44TH STREET SE

CALGARY

AB T2C 4E8

Part Number:

¥3053

Description:

1/2x3 B XS SML NIP 106B  $\checkmark$ 

Specification: ASTM Al06 GRADE B/ ASME SA106 GRADE B

# CHEMICAL ANALYSIS %

	Heat Code								Cr
P514208	AH80 🗸	.21	.53	.016	.023	.21	.02	.02	.02
			v 	Cb/Nb	*				*

CE (LONG FORMULA) = .31

MECHANICAL PROPERTIES

\_\_\_\_\_\_\_

Yield Strength psi: 47,600 Mpa: Tensile Strength psi: 67,000 

Elongation %2": 37.00 | Red.Area%: | Hardness BHN:

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Heat Treatment:

MEETS NACE MR0175 HARDNESS LESS THAN OR EQUAL 22HRC Hydrotest/NDE: NDE Bend: GOOD

> We certify that this is a true and correct copy of the mill certificate, issued by the manufacturer of the steel employed or the laboratory which has determined it, as retained in the records of the company. CANVIL makes no representation beyond those of the manufacturer or its agent.

RODUCTS LTD. ANTHONE BY BY CONSTANS PECTOS BUT BY THE TRP 200 TRANS AM PIPING COMPRESSION 2008 E832806 SIGNATURE: DATRECEIVED S10428 2 P.O. # Š NSP.

Dated Dated

Certificate Nr. 1729 Involce Nr. 723 Del. Note Nr. 1141

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HEAT COOL   HEAT   TIEM   YOUN'P O. OUN REFERENCE   Q.TY   HITTING TEE SWY BM 1/4" A 106N   1780		1			_							,							
CODE   HEAT   TIEM   YOURP P.O.   OUR REFERENCE   Q.TY   FITTING TEE SW 3M 1.1/4"	Puge 20 .		SATISFACTORY	SATISFACTORY	SATISFACTORY	SATISFACTORY	SATISFACTORY	SATISFACTORY	SATISFACTORY	SATISFACTORY	OTHER ELEMENTS		•	•		7			
CODE   HEAT   TIEM   YOURP P.O.   OUR REFERENCE   Q.TY   FITTING TEE SW 3M 1.1/4"	ding to DIN	LACC, TO	E NOTE	E NOTE	NOTE	NOTE	NOTE	NOTE	NOTE	NOTE	C.E.%	0,378	0,381	0.394	0,334	0,397	0.361	0.283	
CODE   HEAT   TIEM   YOURP P.O.   OUR REFERENCE   Q.TY   FITTING TEE SW 3M 1.1/4"	dity accor	Ò	S	8	S	SE	SE	SE	SEE	<u> </u>	% ₹	0000	0,005	0.022	0,000	0,029	0,023	0.031	
CODE   HEAT   TIEM   YOURP P.O.   OUR REFERENCE   Q.TY   FITTING TEE SW 3M 1.1/4"	had for val										% %	0000	0,000	0,000	0,000	0000	80,0	000	
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CODE   HEAT   TIEM   YOURP P.O.   OUR REFERENCE   Q.TY   FITTING TEE SW 3M 1.1/4"	need en					1106B/AJ			106B/AP	105N	Mo%	0,010	0,010	0,010	0000	0,030	0,010	0,028	-
CODE   HEAT   TIEM   YOURP P.O.   OUR REFERENCE   Q.TY   FITTING TEE SW 3M 1.1/4"	cortificate f	NOIT	Z		Z	mm(3°) /	A105N	" A105N	mm(2") A	M 1/2" A	×	0.044	090'0	0,040	0,130	0,100	0,040	90,10	
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CODE   HEAT   ITEM   YOUNR P.O. OUR REFERENCE   Q.TY	DEPARTME	!	W 3M 1.1	W 3M 2"	SW ON	NPT S-80	F/F SW	F/F SW	NPT S-16	I F/F THP	å	0,021	0,010	0,014	0,010	0,009	0,013	0,012	
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18079 CASARZA LIGURIE - Genova - Raiy - P. ZTR MWCO CAGORK.4 - TBI.0185.     HEAT CODE	A67651 · F4	NCE	0541-070	0641-071	0541-093	0797-018	0222-064	1041-232	0011-038	0138-070	<b>%</b>	0.196	0,180	0,195	0,135	0,190	0,185	0.141	
18039 CASARZA LIGUME - Gennova - Hary HEAT CODE HEAT ITEM TUB 028107 070 FOT 37869 071 56A 73413 093 L812 75891 232 L812 75891 232 L807 X19309 070 HEAT CODE HEAT ITEM TUB 028107 070 FOT 37869 071 56A 73413 093 L812 75891 070 L812 75891 070 L812 75891 093	• P.zza Marco Cappetti, 4 · Tel. 9188	YOUR P.O. OUR REFER	CF-07 - 380 2007-2E201-000	CI-07 - 380 2007-2£201-000	CI-07 - 380 2007-2E201-000	CI-06 - 635 2006-25201-000	CI-07 - 213 2007-2E201-000	CI-06 - 799 2006-2E201-000	CI-06 - 827 2007-25201-000	CI-07 - 164 2007-2E201-000	MATERIAL	ASTM A105	ASTM A105	ASTM A105	ASTM A106/8 API 5LB	ASTM A105	ASTM A105	ASTM A106/B API 5LB	
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	18030 CASARZA		· ·		-	7									<u>-</u>	_		<u>•</u>	

Our Ref. 101-1 PM 900258 072026 061500 00000000 YIELD POINT 073042 062118 063152 072046 MANUFACTURER'S SYMBOL 072047 € RIVA ACCIAI STUDBOLTS RIVA ACCIAI BENTELER PIETRA <u>\$</u> \$ \$88 105 0,023 ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE 888 0 ŝ 5 MANUFACTURER'S SYMBOL 8 MPACT TEST - JOHNEVERS 불 8 € 8 FURNACE 0 0 0 0 0 0 0 0 ន្តន 8 0,000 FITTINGS 0,000 ≩≩ ⋧⋧⋧ ⋧ QUALITY CONTROL DEPARTMENT 6,12,0 5,12,0 6,00 FLATTENING TEST **BORIS FIZZOTTI** 0,000 HEAT TREATMEN Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool **BENG TEST** 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 880°-920°C / Air Coot Normalized at 880"-920°C / Air Cool 0,010 90000 153 - 157 156 - 159 163 - 165 169 - 170 152 - 156 152 - 160 157 - 160 0,040 HARDNESS NO INSPECTION AUTORITY 0,070 REDUCTION OF AREA 0,0 57,8 0,012 0,006 ELCHOATION 34,0 32,0 32,5 0.58 0.58 0.08 0.08 0.08 1,010 NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS ₽ B31.1/B31.3 - IML STO - ANSI B1.1-B18.2.2 -495,0 509,0 551,0 505,0 501,0 529,0 555,0 MATERIAL IN ACCORDANCE 008'0 ASME SA ASTM A106.05 ASME SA ASTM A106/A109M.06 Gr. ASME SA ASTM A106/A106M-06 Gr. 0,141 351,0 410,0 308,0 306.0 311,0 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 SPECIFICATIONS AND P.O. REQUIREMENTS 50,90 50,90 50,00 50,00 0,00 50,00 0,00 0,00 60,00 TEST SPECIMEN ASTM A105 122,65 122,65 122,65 122.65 122,65 122,85 000 ASME B16,11/05 - ANSI Ξ 070 071 093 016 232 232 039 070 093 5 X19969 76901 81463 X19309 163226 X19969 X19309 028107 HEAT 028107 37969 63226 X19309 HEAT 73413 37969 73413 81463 76901 HEAT CODE HEAT CODE 1318 L507 ŝ 1318 L812 \$ 5 G 1,812 L507 § § 2 pas/inamqids 99ET :# OST -L. S TRANS AM PIPING PRODUCTS BX: KEA:D **T**23350 HEAT NUMBER

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SLEEF NIBBFES V106 ΗX ٤ 7/5 STWS X

18030 CAS

**NDUSTRIA MECCANICA LIGURE** SPA

APPROVED BY Q.C. INSPECTOR

HEAT NUMBER : 163226 TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 7 - 1400 70

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HEAT CODE	HEAT	TEM	YOUR P.O.	OUR REPERENCE	REMOE	<b>a.</b> ₹	ļ		ā	DESCRIPTION	ž						ON	DIM. ACC. TO	VISUAL & DIMENS	MENS.
	90009	ŝ	CL.06 . 927	CL.06 . 827 2007 2F201 0000011-052	200011-062		OG N	E TAE A	D NIDDI E TRE NOT S. 160 2" ( 155mm/4 1/2") 4105B/4DI 51 8	2" ( 1 \$5m	4 ("C/1 \$/m	110CB/AD	42		!		7 330	SEC MOTE	CATICEACTORY	è
	214751	1 2	CI-06 - R27	2007-2E201-0000011-058	000011-058		ddiv	195	P NIPPI F THE NPT S-XXS 3/4" I 51mm(2") A1068/API 51 R	3/4   514	nm(2") A16	769/4P1 5					1 11	SEE NOTE	SATISEACTORY	2
	36628	88	CL-06-827	2007-2E201-00	900011-085		d	LE TBE	P.NIPPLE TBE NPT S-XXS 1" L100mm(4" A106B/API 5LB	1.100	m(4") A10	6B/API SI	) cq				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SEE NOTE	SATISFACTORY	Ž
	36628	8	CI-06 - 827	CI-06 - 827 2007-2E201-000011-066	000011-066		P.NIPP	LE TBE	P.NIPPLE TBE NPT S-XXS 1" L115mm(4.1/2") A106B/API 5LB	1.115	IM(4.1/2")	A106B/AF	1.5LB				SEE	SEENOTE	SATISFACTORY	TORY
	39167	88	CI-07 - 213	CI-07 - 213 2007-2E201-0000222-058	000222-058		Ž	3 COUPL	FITTING COUPLING THRD NPT/SW 3M 2" A105N	NPT/SW	3M2" A1	NS S	*	2			SEE	SEE NOTE	SATISFACTORY	TORY
·-	763226	902	CH07 - 284	CH07 - 294 2007-2E201-0000340-005	200340-005	•	P.NPP	LE TBE A	P.NPPLE TBE NPT S-80 1/2" L65mm(2.1/2") A1068/API 5LB	/2" L65mr	n(2.1/2") A	106B/API		をはいる地です			SEE	SEE NOTE	SATISFACTORY	TORY
	53880	줧	CH07 - 294	CL07 - 294 2007-2E201-0000345-022	000340-022		P.NPP	LE TBE A	P.NPPLE TBE NPT S-80 1.1/2" L150mm(6") A1068/API 5LB	:1/2" [15]	mm(67) A:	106B/API		¥			SEE NOTE	E STO	SATISFACTORY	TORY
	56071	8	CI-07 - 294	CI-07 - 294 2007-2E201-0000349-024	200340-024		PMPP	LE TBE N	P.NPPLE TBE NPT S-80 2" (,75mm(3") A1068/API 5UB	. 1.75mm(	37) A106B)	API SUB					SEE NOTE	VOTE	SATISFACTORY	TORY
HEAT CODE	NEAT	TEM	TAM	MATTERIAL	É	S1%	Mn%	š	I,	S-2	Ni% Mot	*	ź	*	**	**	AT C	C.E.% O	OTHER ELEMENTS	ENTS
	60206	052	ASTM A106	ASTM A106/B AP! SLB	0.130	0.240	0.680	600.0	0.004	0.040	0.040 0.010	0000	0,170	0.005	0000	0.000	0.000	0.265		
	214751	8	ASTM A106	ASTM A106/B APT 5LB	0,140	0,170	_			_			٠	900	000			0.317		
	36628	982	ASTM A100	ASTM A106/B APH 5LB	0,180	_									0000			9000		
	38628	8	ASTM A100	ASTM A106/B API 5LB	0,180										0000			9,338		
······································	39167	£	ASTM A105	, i	0.190			_							0,00				4	
	103220 63880	§ §	ACTM A106	ASTM ATOME APTOLE	5 2	9 6	0,870	2000		0,000	0,130 0,030	200	200	200	9 8	000	0000	, 450 C		
	12099	8 8	ASTM A10	ASTM A106/B API 5LB	61.0									9000	0,000	-		0,324		
HEAT CODE	HEAT	3	TEST SPECIMEN	THEM WELL	WELD POWT TEN	SIL S STREMOUT	HT ELOHOLTION	† <del>•</del>	SOUCHON OF AREA	EA HAPONESS IN	╁	GEND TEST FILE	FLATTEDENC TEST		PAPACT TEST	Į,	Hemid	- A	-	WELD PORT
	Ц		PECT, med LENGHT	•		Wmm2 >=	]	-	į		$\dashv$	$\neg$		TYPE 18s10mm			•	٩	_	E TO
	90209	250			308,0	519,0	40,0	- Q	0.0	156		0.0	0.0		_	0	0	0		0,0
	214751	88			310,0	\$\$.0 \$4,0	0,64	•	0.0	142 - 150		- 8	0,0			<u>•</u>		-	_	0,0
	36628	56			0,15	5 48	32,0	<u> </u>	0;	160 - 162		9.0	0 6			•		0	_	0,0
	36628	9 9			311,0	484 0, 24	2 6		0,7	160 - 162			9 6	Š	_			- ;		0.0
	162998	8 8	6,70	9000	351.0	8 8 5 8	3.0		5 6	100-104			2 6	2	₹ —	=	<b>≥</b> 	_ ` <u>*</u>		000
	53880	8 8			307.0	546.0	2 4		, ¢	156 - 160			9 0						- -	9 6
	56071	054	80		424,0	526,0	8,0		0,0	59		0,0	0,0			•	-		_	200
HEAT CODE	HEAT	TEN		MATERIA	MATERIAL IN ACCORDANCE TO	NDANCE Y	0		_		HEATT	HEAT TREATMENT			<u> </u>	FURNACE		-		Our Ref.
	A0206	953	ASME SA A	ASMESA ASTM A106/A106M-08 GLB	106M-08	e /*			Mamaliza	A at RRO	Montalized at 880°C, 920°C. / Air Cort	Air Cool			FIFE	FI ECTRIC FIGNACE	PNACE		18	003106
	214751	658	ASME SA A	4STM A106/A	106M-06				Normalize	xd at 880°	Normalized at 880°C-920°C / Air Cool	F Cool			ELEC	ELECTRIC FURNACE	PINACE		8 6	073087
	36628	2965	ASME SA A	ASME SA ASTM A106/A106M-06 Gr. B	106M-06	ш Ж			Normalize	*d at 8801	Normalized at 880°C-920°C / Air Cool	žír Cool			ELEC	ELECTRIC FURNACE	RNACE		8	650630
	36628	98	ASME SA	ASTM A106/A	106M-06.	E, B	-	:	Normalize	xd at 880°	Normalized at 880°C-920°C / Air Cool	Air Cool			ELEC	ELECTRIC FURNACE	RNACE		8	690090
	3916/	3 8	ASME SA A	ASME SA ASTIMATOS-05 ASME SA ASTIMATO6/A1064-06 GER	5 1068/LOG (	٠ د	A SHALL SAN	×	Normelize	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Normalized at 880~920°C / Air Cool Normalized at 880°C,920°C / Air Cool					ELECTRIC FURNACE ELECTRIC EL IBNACE	FNACE		<b>Z</b> 6	N10313
	53880	ង្គ	ASME SA A	ASME SA ASTM A106/A106M-06	1061/1-06	8.5	ath a		Normalize	d at 880%	Normalized at 880°C-920°C / Air Cool	<b>7</b> 000 ≥			ELEC	ELECTRIC FURNACE	HNACE		8	063149
	12095	024	ASME SA	ASME SA ASTM A106/A106M-06 Gr. B	10644-06	31.8			Normaliza	d at 880%	Normalized at 880°C-920°C / Air Cod	Vir Cool			ELEC	ELECTRIC FURNACE	RNACE		8	063011
MOTES AS	ME B16.11/	05 ANS	B31.1/B31.3	ASME 816.11/05 - ANSI 831.1/831.3 - IML STD - ANSI 81.1	ANSI B1.1	-B18.2.2 -	L	MSM	INSPECTION AUTORITY	TORRITY	COAL	ITY CONTI	COALITY CONTROL DEPARTMENT		MANUFACTURER'S SYMBOL	MER'S SY	<del>  -</del>	MANUFACT	MANUFACTURER'S SYMBOL	MBOL
ž	CE MR0175	1 ISO 1515	6/1 - MSS SI	NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS	JED MATE	RIAL ME	ETS							<u> </u>						
<u></u>		INS AND	OPECATIONS AND P.C. RECURRENTS	ACMEN IO	Ĺ				***************************************						OCH PLES			e Contract	Ę	_
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INDUSTRIA MECCANICA LIGURE SPA

Inspection certificate en 16204:2004 / 3.1

Dafed 13.02.2007 Dafed 13.02.2007 Dafed 13.02.2007 Cartificate Nr. 17255 Invoice Nr. 171 DM. Hote Nr. 265 TRANS AM PIPING PRODUCTS LTD. 233061 Endeavor Drive S.E. Calgary, Alberta T2P 206

Company with quality system 150 9001-2009 Certwied by Rina

14000 CASARZA LIGURE - Genova - Haby - Paza Marco Cappedig 4 - Teld 186.441661 - Fax 0186.446810 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DN EN 10204 Page 1 - 3

HEAT CODE	HEAT	ITEM	YOUR P.D.	OUR REFERENCE	RENCE	<u></u>		1		DESCRIPTION	1		i	Ì		į		DIM, ACC. TO	VISUAL & DIMENS	
	306460	800	158	C. 06 188 208-25201,0000143-098	000143-096	Ĺ		PAN SAF MOUNT	PT S-160 1	S-160 1" L100mm(4") A106B/API 5LB	(1) A 106BV	API SLB	i				SEE	SEE NOTE	SATISFACTORY	CTORY
	200000	200																ļ	VOCTORTORY	
	385163	<del>2</del>	C-06 - 166	3 2006-2E201-0	000143-102		Ž	Tr in N	P.NIPPLE 19E NP1 S-16U 1" LIDUMINIO JANOBIAPI DED	) HELIPAGE I	A MODE	35					2000	3	ていってい	5
	365163	\$	CI-06-463	CI-06 - 463 2006-2E201-0000574-054	000574-054		P N	7E 18E N	P.NIPPLE TBE NPT S-160 1" L100mm(4") A106B/AP! 5LB	, L.100mm(	") A106B.	AP1 5LB					SEE NOTE		SATISFACTORY	Š
	205452	ğ	C1.08 - 463	C1.08 - 463 2006-2F201-0000574-058	000574-058	_		NETTEN	PINIPPLE TRE NPT 5-160 1" L150mm/6") A1068/AP! 5LB	" L150mm@	77 A106B/	4P! 5LB					SEE NOTE	FOTE	SATISFACTORY	5
	2000	3 2	200	Ci no ese pore 2010s 0000207-054	A40-T07000		200	M TAT TA	D NIDDLE TRE NDT S.80 1/7"   \$1mm/7" A1068/API 51 B.3	"1 Stront?	" A 1 DER	10 to 10					TON HER	H L	SATISFACTORY	CTORY
	# 6	5	20.00		100000				The state of the s	******	00000	0 19 10 4					SEC MOTO	Ş	CATICEACTODY	ģ
	365163	ŝ	C-12-03	000-191-000-10732-0007 GSG - 007-10	000-101000				- 70 C L	100 to 10			_					. [	CATIONACIONAC	
1	63259	888	CI-08 - 741	CI-06 - 741 Z006-22 Z01 -0000554-025	000354-025			28 15 15 15 15 15 15 15 15 15 15 15 15 15	P.NRPPLE 186 NPT 6-60 1.14 F.LOGRIRI(4 ) RIVORAPT 3.5 FISTENC OF FIRE THRO NPT 3M 1" A 105N	3M 1" A1(	7 ( t) ( t) ( t) (t) (t) (t) (t) (t) (t)	DO LAWYO					SEE NOTE	2 E	SATISFACTORY	
Ē	(316)	â	5	The second		<u>.</u>    -		3								-				
HEAT CODE	HEAT		E	MATERIAL	Š	31%	Ž.	ž	ž.	<u>*</u>	<u>خ</u>	ž	ž	\$	ž	-1	ş	ν. Σ.Ε.Υ.	OTHER ELEMENTS	EN 1S
    -	385163	960	ASTM A10	ASTM A106/B API 5LB	0,120	0,170	0,970	0000	0,017   0,0				000	000	90,0		_	0,302		
	385183		ASTIM A10	ASTIM A106/8 API 5LB	0.120	0,170	0.970	_	0,017 0,060	090 090	0,010	0,00	8,0	90,0	000	_		0,302		
	266463		ASTR A10	ASTRA ATRAÑA API SI B	0.120	0.170	0.970	0.003	0.017 0.0	0,060 0,050	0,010	900	90,00	8	000	0000	0000	0,302		
	285163		ASTM A10	ASTRA A105/B API 51.8	0,120	0.170	0.970						0,040	9	0000	_	0000	0,302	١.	
	54094		ASTN A10	ASTM A106/B API 51.8	9	0.250	0.500						0.180	0,003	0000			0.266		
	366163		ASTM A10	ASTM A 106/B API 5LB	0.120	0.170	0.970	0000	0,017 0,0		0,010	0000	0,040	000	900			0,302		
	63259	윊	ASTIN A10	ASTM A106/B API SLB	0,120	0,210	0,700						0.150	0,005	000'0			0,263		
Ī	79167	610	ASTM A105	ç	9 <u>5</u>	0,210	0960	0,018	0,014 0,1	0,110 0,050	0,010	600,0	0.190	200	8	8		BS (		
HEAT CODE	HEAT	TER	TEST SPECIMES	_	WELD FORM THE	ALE STREET	Ē.	TOTAL SECTION	UCTION OF AREA	A HARDHETS IN	- BEND 789	_	PLATTEMANO TEST		1	5000 L83	2	Ţ		VIGLD POINT
			SECT. CERT LENGHT PLE	-	Married San, 276.	- Amount	•	: 	 : !		!	ļ	1	144E 46140	1	1	•	4.		Manual Val.
	365163	968	8,0		3200	472,0	<b>1</b> 0	51,0	0,0	156 - 164			o, ;			-	÷ .			0,
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	54094	8	000		0.606	547,0	₹	49,0	0,0	- 58 - 54 - 54			<b>0</b>			<u>-</u>	<u> </u>	0	_	0,
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_	63259	22	000		306,0	49B,0	4	47,0	0,0	160 - 164			9			_	•	0	•	Ö
Ξ	79167	33	122,65		307.0	626.0	₩	32.0	5. 0.	160 - 166	9		0.0	₹	22	98	8	98	1	8
HEAT CODE	EAT	Ē		MATERU	MATERIAL IN ACCO	ORDANCE TO	٤				HEAT TRI	REAT TREATMENT			_	FURNACE		STEE	STEEL MILL	Our Red
	13	8	ACME OA	A SENS CA ASTTA A 106/A 10801 OF CA B	A 1 DELL OR	4			Normalizer	Normalized at 890°C-920°C / Air Cool	POTC / Alt	200			E FC	ELECTRIC FURNACE	RNACE	MANN	MANNESMANN 063057	063057
	202100	9	ACTUAL OF	ASIME SA ASIMI ALIONALIONNAS OF B	A 1084 DE 1	i d			Normalized	Normalized at 880°C-920°C / Air Cool	320°C / Air	8			FLEC	ELECTRIC FURNACE	RNACE	MAN	MANNESMANN DE3057	063057
	365463	žž	ACIME SA	ASME SA ASTM AFORMATORNA OF B	A TORNEDS	<u>.</u>			Normalized	Normalized at 880°C-920°C / Air Cool	320°C / Air	S			ELEC	ELECTRIC FURNACE	RNACE	MAN	MANNESMANN 063057	063057
	366463	5 8	ASME SA	ASME SA ASTM A 106/A 106/A 06 Gr. B	A10674-08	0			Nomelized	Normalized at 880°C-920°C / Air Cool	120°C / Air	Š			ELEC	ELECTRIC FURNACE	RNACE		MANNESMANN 063057	063057
	54094	34	ASME SA	ASME SA ASTM A106/A106M-06 Gr. B	\$106M-06	•	***************************************	奢	Normalized	Normalized at 880°C-920°C / Air Cool	320°C / Air	80			ELEC	ELECTRIC FURNACE	RNACE	PODB	PODBREZOVA	063147
	365163	8	ASME SA	ASME SA ASTM A106/A106M-06 Cr. B	A106M-06		ŗ		Normalized	Normalized at 880°C-920°C / Alr Cool	320°C / All	Çoo .			ELEC	ELECTRIC FURNACE	RNACE	MAN	MANNESMANN 063057	063057
	63259	625	ASME SA.	ASME SA ASTM A106/A106M-06 Gr. B	4106M-06 (	8. 10.			Normalized	Normalized at 880°C-920°C / Air Cool	920°C / Ail	Ş			ELEC	ELECTRIC FURNACE	RNACE	P008	PODBREZOVA	063142
Ŧ	79167	619	ASME SA	ASME SA ASTM A105-05	名				Normalizer	Normatized at 880*-920°C / Air Cool	O'C/Air(	700,			ELEC	ELECTRIC FURNACE	RNACE	RIVA ACCIAL		061071
NOTES AS	MF R16 11	ns. ANSI	B31.1/B31.	ASME R16 11475 - ANSI R31 1/831.3 - BUL STD - ANSI B1.1-818.2.2 -	ANSI B1.1	818.22	<u> </u>	INSP	INSPECTION AUTORITY	ORITY	OUALIT	QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL	L DEPART	WENT RE	MUFACT	JRER'S ST	CHB CL	MANUFA	MANUFACTURER'S SYMBOL	SYMBO
	NACE MR0175 ISO 15156/1 - MSS SP 83 - SUF SPECIFICATIONS AND P.O. REQUIREMENTS	5 ISO 1515	6/1 - MSS 5	NACE MR0175 ISO 151561 - MSS SP 83 - SUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS	LIED MATI	ERIAL M	ETS				<u></u>						"			
<b>.</b>												ROBISJEZZOTT	TTOZZ	·•••	FITTINGS	₩	 <u></u>	STUDE	STUDBOLTS 🤇	3
						<u> </u>		PC	PC COMPRESSION	PRES	Š	-			; ; ;					<b>1</b>
!	-	ŀ	!	! !	<b>i</b>		1	•		711	2	3000								
							DATE	- 1	RECEIVED	7	MAY - U & CUUB	100 E	Ī							
						1														

HEAT WUMBER : S4094 Shipment/Seq #: S 7 - 1112 14

APPROVED BY Q.C. INSPECTOR

510158

P.O.#

SIGNATURE:

HEAT NUMBER AI6

TRANS AM PIPING PRODUCTS - REV'D BY: 2.

1/2 X 2 XH SMLS STEEL NIPPLES A106

P.O. # /Seg #: L-07 - 5983

P.O. Box 40, Simcoe, Ontario N3Y 4K9 Tel. (519) 426-4551 Fax (519) 426-5509

# **Certificate of Test**

Part Number:

Y3052 Description: 1/2x2 B XS SML NIP 106B

Heat Code:

AI6 /

Reference No.:

Specification:

ASTM A106-02 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL PIPE

Chemical Analysis %

Γ	Heat No.	<u>C</u>	Мn	Þ	S	Si	<u>C</u> u	<u>Ni</u>	Cr	Mo	V	Cb/Nb
	32358	0.21	0.50	0.012	0.016	0.25	0.19	0.06	0.05	0.01	< 0.01	
l		CE (L(	NG F	ORMUI.	A) = 0.33	<b>:</b>						
$\mathbf{I}_{-}$		CE (LC	JNG F	JKMUL.	A) = 0.33	i .						

Mechanical Properties

Yield Strength PSI:41,600

Tensile Strength PSI:64,000

MPa:000

MPa:000

Elongation % 2": 43.00

Reduction in Area %: 0.00

Hardness BHN: N/R

Heat Treatment:

MEETS NACE MR0175-2002

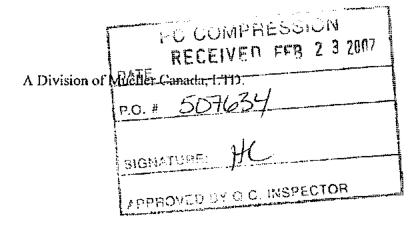
HARDNESS LESS THAN OR EQUAL 22 HRC

Bend: GOOD

Hydrotest/NDE: NDE

We certify that this is a true and correct copy of the mill certificate, issued by the manufacturer of the steel employed or the laboratory which has determined it, as retained in the records of the company. CANVII. makes no representation beyond those of the manufacturer or it's agent.





**NDUSTRIA MECCANICA LIGURE** SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM (SO 9001-2000 CENTIFIED BY MINA

TRANS AM PIPING PRODUCTS LTD.

233061 Endeavor Dave S.E. Calgary, Alberta T2P 2G6

Caráficate Nr. 17502 Invoice Nr. 589 Del. Note Nr. 919

06.06.2007 25.05.2007 25.05.2007

Dated Dated Dated

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HEAT CODE	HEAT	TEM	YOUR P.O.	<b>COUR REFERENCE</b>	NG N	0.17		i		DESCRIPTION	Tion		!		i		i	* 000 MIN		
30A	4524	600	CI-07 - 213 2007-2E201-0000222-00	07-2E201-0000222-00	222-009		NILL IN	G 45 FI E	THRD	MC TOW	FITTING 45 FIRE THROUGH 2M 1" A 105N		:	1	:		:		٠	VISUAL & UNIMENS
A93 7	72430	600	CI-07 - 213, 2007-2E201-0000222-00	07-2E201-0000	222-009		FITTE	G45ELE	THEO	NO TON	FITTING 45 ELB. THRD NPT 2M 1" A 105N							SEE NOTE		SATISFACTOR
213	45258	.01	CI-07 - 213, 2007-2E201-0060222-01	07-2E201-0000	222-011		FITTIN	GCROS	3 THRD	NPT 7M	FITTING CROSS THRD NPT 2M 1 1/4" A 105A	OSN.						TON LICE		SAUSFACIOR
N59 7	77912	.045	CI-07 - 213; 2007-26201-0000222-04;	07-2E201-0000	222-045		NE LE	G HEX.H	PLUG T	HRO NP	FITTING HEX HIPLUG THRO NPT 1" A105N	. Z						200		SATISFACTORY
<b>.</b>	71548	ā	CI-07 - 213 2007-2E201-0000222-07	07.2E201.0000	222-071		FITTIN	GCOUP	ING TH	RD NPT	FITTING COUPLING THRD NPT 3M 1" A105N EL GALV	OSN EL C	ALV.					TON PER MO	 U L	SATISTACTORY
<u>.</u>	77065	.071	CI-07 - 213 2007-2E201-0000222-07	07-2E201-0000	222-071		ZELLE.	GCOUP	ING THE	ZO NPT	FITTING COUPLING THED NPT 3M 1" A105N F! GALV	DSN FI	<u> </u>							SALISTACIONS
TN2 : 7	78485	600	. CI-07 - 297: 2007-2E201-0600339-00	07-2E201-0000	339-009		FITTIN	GCROS	3 THRD	NPT 2M	FITTING CROSS THRD NPT 2M 3/4" A 105N	7						SEE NOT		SATISFACIORY
\$	¥ 54094	638	CI-06 - 168 2006-2E201-0000143-01	08-2E201-0000	143-018		P.NIPP	LE TOE I	WPT S-80	) 1/2" L36	P.NIPPLE TBE NPT 5-80 1/2" L38mm(11/2") A106B/API 5LB	A106B/A	PI 5LB					SEE NOTE	ef fri	SATISFACTORY
HEAT CODE HEAT	HEAT	MEM	MATERIAL		Š	2.5	Mn%	*5	ž	Š	NP%	Mo%	*11	%rio	× ×	Nb%	N.K	Al% CE%		OTHER ELEMENTS
30A 7	74524	600	ASTM A105		0,210	0,240	0.910	0.019	0.018	0600	0.040	0.010	9000	0.150	0.000	i		·	1	
	72430	600	ASTM A105		0,195 i 0		0,940		0.013	0.000	0.050		0.005	0.110	5000	٠.	٠,		3 6	
213	45258	<u>=</u>	ASTM A105	٠.			940		0.014	0900	100		000	0.230	8	8			- -	
N59	77912	045	ASTM A105		0,190	0.460	0,910		0.009	0,070	0.050	··· •	0.010	0.170	2000	٠.				
	71548	50	ASTM A105				096'0	020'0	9,016	0,10	0000	0.010	0.006	0.170	0.002			0.003		
-	77065	120	ASTM A105	٠	Ξ.		0.630	0,021	0,016	0.110	0,070		0000	0.270	0.002	0.001				
TN2	78485	8	ASTM A105			0,220	. 0/6/0	0.022	0,016	0600	0000		9000	0.180	0.002	-		1013 0 307		
٠	54094	918	ASTRI A 106/R ADI SI D						_							-				

QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL. HEAT TREATMENT Normalized at 880°C-920°C / Air Cool Normalized at 880°-920°C / Alr Cool 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 880\*-920°C / Air Cool Normalized at 880"-920°C / Air Cool 162 - 168 162 - 166 160 - 168 160 - 168 160 - 162 155 - 160 160 - 168 INSPECTION AUTORITY ASME 816.1705 - ANSI 931.77631.3 - IML STD - ANSI B1.7-B18.7.2. NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS MATERIAL IN ACCORDANCE TO . ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A106/A1060A-06 Gr. B ASME SA ASTM A105-05 ASME SA ASTM A 105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 臣 88 \$ 5 5 HEAT 74524 72430 77912 45258 71548 77065 78485 54094 HEAT CODE MOTES A33 ZT3 N59 8 8 īNZ

SPECIFICATIONS AND P.O. REQUIREMENTS

TAAMS.AM PIPING PRODUCTS

HEAT NUMBER

BORIS FIZZOTTI

털 FITTINGS

€ STUDBOLTS

Our Ref.

SYEEL PALL RIVA ACCIAI RIVA ACCIA! RIVA ACCIAI RIVA ACCIAI

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72430 45258 77912 71548 77065 78485 \$4094

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MPACE TEST - JOULEAN

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PLATTERING TEST

BEND TEST

HARDNESS KO

THEMSKE STRENGHT

YELD FORMT

TEBY SPECIMEN

HEAT

HEAT CODE

061492

041113

ELECTRIC FURNACE

RIVA ACCIAL 061030 PODBREZOVA 063147 MANUFACTURER'S SYMBOL

> DATE RECEIVED JUN 2 4 2008 E83287 APPROVED BY Q.C. INSPECTOR 50428 SIGNATURE: #.O.d.

STWS HX 1/SXTI/S

EET SLEEP NIBBLES PIOS

INDUSTRIA MECCANICA LIGURE SPA

16030 CASARZA L/GURE . Geneve - Hely - P. 228 Marco Cappelly A - 7 et 0165 A67661 - Fex 6165 466510 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204. Page

Dated 05 06 2007 Dated 25.05 2007 Dated 25.05 2007

INSPECTION CERTIFICATE EN 10204;2004/3,1 COMPANY WITH QUALITY SYSTEM ISO 9001,2000 CERTMEDS BY REMA	TRAMS AM PIPING PRODUCTS LTO.	. 2330F1 Cridesvor Divis S.E. Dol, Note Nr. 919 Calculation all and P. 200 Critical and St. 2
	. INSPECTION CERTIFICATE EN 10204;2004/3.	_

			TOUR P.O.	OUR REFERENCE	CRCE.	-	:		-	DESCRIPTION	2							DIM. A	DIM. ACC. TO V	VISLIAL & DIMENS
	. 53878	029	CI-06 - 635	CI-06 - 635 2006.2E201.0000797.029	00797-029		iddin d	N 191 H	PT S-80	P.NIPPLE TRE NPT S-80 1" 1.15/mm/6" \ A1/68/4501 51 R	m(6") A14	ORB/API	4 5	:		-	: :	` .	İ	
	54094	013	CI-06 - 741	CI-06 - 741, 2006-2E201-0000954-013	00954-013	-	P.NIPPL	E TBE N	PT S-80	P.NIPPLE TBE NPT S-80 1/2" L125mm(5") A105BJAP1 51 B	mm(5") A	106R/AF	4 E							SALISFACTORY
	72475	89	CI-06 - 805	CI-06 - 805 2008-2E201-0001072-003	01072-003		CONCS	WAGET	BE NPT	CONC. SWAGE TBE NPT S-80 1/2"x3/8" MSS SP 95 WIPR	3/8" MS	S SP 95	NDA.					SECT NOTE		SALISTACTORY
	72475	016	CI-06 - 805	CI-06 - 805; 2006-2E201-0001072-016	01072-016		CONC.S	WAGET	BE NPT	CONC.SWAGE TBE NPT S-160 1/2"x3/8" MSS SP 95 WPB	×3/8 M	58 SP 96	WPB	1				DE NOTE		SATISFACTORY
8	AR2240	86	CI-07 - 164	CI-07 - 164 2007-2E201-0000138-095	00138-095	•	FITTING	HEX.BL	SHING	FITTING HEX.BUSHING MF THRO NPT 3/8"X1/4" A105N	NPT 30	YX1/4" A	105N					OCCUPACION OF THE PROPERTY OF		SATISTACIONY
. 18A	78462	900	CI-07 - 213	CI-07 - 213 2007-2E201-0000222-008	00222-008		FITTING	45 ELB.	HRON	FITTING 45 ELB. THRD NPT 2/3M 1/4" A105N	1/4" A10	Z								SATISTACTORY
HM3	72474	8	CI-07 - 297	CI-07 - 297 2007-2E201-0000339-003	00339-003	-	FITTING	90 ELB.	THRO N	FITTING 90 ELB. THRD NPT 2M 1,1/2" A105N	1/2" A10	Z.						DE CA SES		SATISFACTORY
A52	28877	<b>6</b> 63	CI-07 - 297	CI-07 - 297 2007-2E201-0000339-063	00339-063	- •	FITTING	90 ELB.	SW 3M	FITTING 90 ELB. SW 3M 1" A350/LF2	2							SHE NOTE		SATISFACTORY
HEAT CODE	E HEAT	TEM	MATERIAL	RIAL	Š	****	Mn%	3.%	*	2,0	× × ×	Mo%	15%	Curk	*	MHA			-	
	53878	620	ASTM A 108/B API 51 B	AB API 51 B	0.550	0.20	0.480	0.040	900.0	0.080	· .	1.	-		1	٠į٠	4 -			VINER ELEMENTS
	54094	013	ASTM A 106/B API 5LB	/B API 5LB			٠.				<b></b>	<b></b>	ea i	0.180	200	8 8			0,200	
	72475	:003	ASTM A234 WPB	WPB					<b>.</b>			:		1,00	3 6				0.200	
	72475	910	ASTM A234 WPB	WPB	-			<u></u> .							3 6		3 6	7100	0000	
8	AR2240	560	ASTM A105	-			-			٠.				9 6	500				080'0	
18A	78482	8	ASTM A105											9	200	٠.			004.0	
: Ham3	72474	00:	ASTM A105											0.250	960	-	•	7 6	9000	
A52	78877	88	ASTM A350 LF2 ct.1	LF2 cl.1								<b>.</b>		0.200	000			<b>-</b>	\$0\$'0 80° 0	
HEAT CODE	HEAT	TEM	TESTSPECIMEN	MEN YELD POWT	1.7	PENSHLE STREWGIST	ELCHIGATION	h	CHOW OF AR	18			- 6	100				7	·È	į.
1			SECT. mm2 LENGHT mm	MGHT mm. Maren? >=0,7%		Then 1	*		3	. j	.			Į,	TVP.E 10c10mm					THELD POINT
	53878	620	0 00 0	0000	309,0	477,0	52,0		0,0	2	54 - 162	. 0.0	C	٥		<u> </u>	] c	٥		The same of the sa
	54094	013	0 00'0	300 : 300		547,0	40,0		00	160	160 - 164	00		0.0		-	<b>,</b>	<b>,</b>	•	0,0
	72475	88		900	306,0	542,0	45,0		0,0	160	160 - 164	0.0					•		,	
	72475	.016			308,0	542,0	45.0		0'0	160	160 - 164	0.0	0.0	0			• •	ò	•	
ខ	AR2240	- 095		50.00 285	285,0	652.0	38,0	-	47.0	162	62 - 169	0.0	0.0	q	≥	20	4			5 6
18A	78482	900				522.0	31,0	٠.	58,0	160 - 164	<u>2</u>	00	00		₹	20	100	3 2	  	9 6
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	53878	029	ASME SA AS	ASME SA ASTM A106/A106M-06 Gr. B	06M-06 Gr.	62		·	Vormalize	Nomalized at 880°C-920°C / Air Cool	C-920°C	/ Air Coo		!		10	TO TOTAL	-		
:	54094	013	ASME SA AS	ASME SA ASTM A 106/A 106M-06 G- 8	-09W-06				Vormalize	Normalized at 880°C-020°C A to Co.	0.000	400							COBREZ	PUCBREZOVA DE3148
	72475	003	ASME SA AS	ASME SA ASTM A234/A234M-06a Gr. WPB	34M-06a G	r. WPB		\$	Vormalize	Normalized at 680°C. / Air Con	CARIC					֓֞֜֜֞֜֜֜֜֜֜֜֜֜֓֓֓֓֓֜֜֜֜֜֓֓֓֓֓֓֓֓֜֜֜֜֓֓֓֓֓֓	ESCULNIC FURNACE			PUDBREZOVA 063147
	72475	946	ASME SA AS	ASME SA ASTM A234/A234M	34M-06a G	Ba Gr. WPB		-	Cormalize	Mormalized at 880°C / Air Cool	1	7					֡֜֝֜֝֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֓֓֓֓֜֜֜֜֜֜֓֓֓֓֓֓֜֜֜֜֓֓֓֓		KIVA ACCIA	æ :
00	AR2240	98	ASME SA ASTM A 105-05	3TM A105-05					Acmeratiza	Normalized at 880°.920°C / 6ir Cool	0000	ور در الم					ELECTRIC FURNACE		RIVA ACCIA	
18A	78482	98	ASME SA ASTM A 105-05	3TM A 105-05					dorn alize	Normalized at 880°-920° / Air Cool	0000					֓֞֞֞֜֜֞֜֞֜֜֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֓֓֓֡֓֓֡֓֡֓֡֓֡֓֡	ELECTRIC PURINACE	'	ROUACCIAI	• • •
HM3	72474	903	ASME SA ASTM A 105-05	3TM A 105-05				. =	Mormalize.	Normalized at 880°-920°C / Air Cool	0.000	200					CLECTRIC FURNACE	- :	RIVA ACCIA	· 
A52	78877	83	ASME SA AS	ASME SA ASTM A350-049 Gr	a Gr. ŁF2 cl.1	D		-	formalize	Normalized at 900°C / Air Cool	C / Air Co	} } }					CLECTON FURNACE		RIVA ACCIA	
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SPIDWEDT\Sed #: 8 J - 1310 126

HEAT WUMBER : 72475

STUDBOLTS 🚫

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FITTINGS

BORIS FIZZOTTI

E83286

APPROVED BY Q.C. INSPECTOR

SIGNATURE

P.O. #

DATE RECEIVED JUN 2 4

PC COMPRESSION

1/5X3/8 XH CONC SMYCE NIBBITE

INDUSTRIA MECCANICA LIGURE SPA

MSPECTION CERTIFICATE EN 10204:2004/3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2800 CERTIPLED BY NIMA

19030 CASARZA LICURE - Genova - Naty - P.222 Marco Cappelli 4 - Tel 0105-467661 - Fax 0105-48510/ MATERIAL TEST DEPARTMENT This confiduois been generated by computer and seed not to be signed for validity according to DM EN 18204 Page 4 . • 4

Dated 15.01.2007 Dated 15.01.2007 Dated 15.01.2007 Certificate Nr. 101469 Invokes Nr. 20 Del. Natar Nr. 30 ð TRANS AM PIPMG PRODUCTS LTD. 233061 Endeavor Drivo S.E. Calgary, Aberta T2P 2G6

5	HEAT	HEN	YOUR P.O.	OUR REFERENCE	ENCE	7.				DESCRIPTION	NOLL			3					DIM. ACC. TO	VISUAL & DIMENS.	DIMENS
	A se we we	002 013 015 015	C1-06 - 534 C1-06 - 534 C1-06 - 650 C1-06 - 650	122222	000387-002 000387-013 000462-002 000462-015		0000 0000	SWAGE SWAGE SWAGE	CONC.SWAGE TBE NPT S-80 1/2'X1/4" MSS SP 95 WPB CONC.SWAGE TBE NPT S-160 1/2'X1/4" MSS SP 95 WPB CONC.SWAGE TBE NPT S-80 1/2'X1/4" MSS SP 95 WPB CONC.SWAGE TBE NPT S-160 1/2'X1/4" MSS SP 95 WPB	75-80 1/2 75-80 1/2 75-80 1/2	2'X14" N 2'X14" N 2'X14" N	SS SP 94 SS SP 94 SS SP 94 ASS SP 9	WPB WPB		g.			## ## ## ## ## ## ## ## ## ## ## ## ##	SEE NOTE SEE NOTE	SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY	CTORY CTORY CTORY
HEAT CODE	HEAT	TEP.	MATERIAL	FILE	8	**	<b>15</b> 0%	*	*	*	%E	Mo%	*	*	*	XqN	X.	Ark.	CE%	OTHER ELEMENTS	PARENTS
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1			SECT. rem2 LB	Ē		Hand >=			*	_ [			-	<b>1</b> ,	TYPE 19118mm	ç. E	-¦ -¦	-	ĭ	\$ 0.0 o.1	Winns >=1,6%
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	72475	8	000		306,0	542,0	4	45.0	0.0	9 4	160 - 164	0.0		000					0 0	0 (	0,0
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HEAT CODE	HEAT	HEM		MATERIA	MATERIAL IN ACCORDANCE TO	RDANCE	٤.	-		-	7	HEAT TREATMENT	TMENT				FURNACE	1	STEE	STEEL MILL	Our Ref.
	*		ASME SA A	ASME SA ASTM A234/A234M-05a ASME SA ASTM A234/A234M-05a ASME SA ASTM A234/A234M-05a ASME SA ASTM A234/A234M-05a	234M-05a 234M-05a 234M-05a 234M-05a	Gr. WPB	* * * * * * * * * * * * * * * * * * * *		Normal Normal Normal	Normalized at 880°C / A# Cool Normalized at 880°C / A# Cool Normalized at 880°C / A# Cool Normalized at 880°C / A# Cool	80°C / Ak 80°C / Ak 80°C / Ak	8 8 8 8 8 8 8 8 8 8 8				E E E E E E E E E E E E E E E E E E E	ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE	RNACE RNACE RNACE RNACE	RIVA ACCIAI RIVA ACCIAI RIVA ACCIAI RIVA ACCIAI	CCIAL	
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	CE MR017	S ISO 15150 DNS AND P	NACE MR0175 ISO 16156/1 - MSS SP 83 - SUF SPECIFICATIONS AND P.O. REQUIREMENTS	NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATI SPECIFICATIONS AND P.O. REQUIREMENTS	JED MATI	ERIAL MEETS	ETS								ļ						
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J/SXI/4 XH COMC SWAGE NIPPLE

HEAT NUMBER : 72475
TRANS AM PIPING PRODUCTS - REV'D BY:
Shipment/Seq #: S 7 - 1039 20

Shipment/Seq #:

2810

TRANS AM PIPING PRODUCTS - REV'D BY:

S 8 - 1076

1/2" FS HEX HEAD PLUGS A105N



高雄縣仁武卿烏林村仁心路 303 號

NO.303, JEN-HSIN ROAD JEN-WU HSIANG

KAOHSIUNG HSIEN, TAIWAN R.O.C.(81460) TEL: (07) 371-0497, 371-1536, 372-0260 FAX: (886-7) 371-3864, 371-3882



An ISO-9001 Registered Manufacturer

### MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN10204/DIN50049/3.1.B

ORIGIN: TATWAN

CUSTOMER: TRANS AN CERT NO: 80468

ORDER NO: 7283(CT-67-594)

INVOICE NO: BW079610133 T /# NO.

WEB SITE:http://www.bothweil.com.tw E-MAIL:bothweil@www.bothweil.com.tw or box@mail.bothweil.com.tw

DATE: 03/05/08

B4CF. 14

LEKI	NU: 804	φ <u>σ</u>	EDEE NU:	7283(CI	-67-5	99)	L/C	NO:			₽.	AGE: 14	
ITEM	BOTH WELL HT.CD.	HEAT.	ATERIAL NO.		•	DESC	RIPTI	ON		QUANTIT	Y ASME S	FICATION: 105N - 05 1105N - 406	
060	2741	394572		CAP 1"	CODO	NDT			·	<del></del>	DIMEN:	SION: (6.11 - 200	
061	2698	392983					2" 6000# N	Date .			AGIL S	20C	•
062		395456		HEX PL			2" UUQU∤ 71. 	rı			l		
063	2771	395811		HEX PL			-				SURFAC	CE: Jakgood	
064	2722	394174		HEX PL		NPT				Ì	.   ** ***	wr down	
064	2776	395813		HEX PL		NPT							
<b>8</b> 65	2738	394576		BEX PL		NPT	•				<u>;  </u>		
FTER	horr				C I	EXIC	L CO	H P O S	ITI	N (%)	<u> </u>	•,	
	BOTE	С	Si	Ka	?	S	Cas	Cr	Ni	Mo	¥	Cb (Nb)	CE
Kie	RT.CD.	- 1	0.100	0.600	-	_			<del>  </del>	-			<del> </del>
Max		0.350	0.350	1.050	0.63	85 9.040	0.400	0.380	0.400	0.120	0.089		0.430
060	2741	0.210	0.180	0.870	0.01	8 0.011	0.150	0.080	0.076	0.020	0.002	0.001	8.390
061	2698	0.200	0.200	0.836	0.02	3 0.010	0.170	0.110	0.050	0.010	0.002	9.001	0.377
062	2810	<b>0.200</b>	0.200	●.870	0.01	16 0.916	0.130	0.070	0.670	0.010	0.602	0.00I	0.375
963	2771	0.200	0.190	0.830	9.01	7 0.011	<b>8</b> .150	0.080	0.050	0.010	0.002	0.001	0.370
064	2722	0.206	0.180	0.820	0.01	6 0.015	0.170	0.060	0.050	0.010	0.002	0.001	0.366
064	2776	0.200	0.216	0.830	0.01		0.210	0.120	0.068	0.026	0.002	0.001	0.385
065	2738	0.200	8.200	8.849	0.42	3 0.611	0.190	●.080	0.060	0.010	0.002	0.001	0.375
			MECH.	ANI	CAL	TES	r	Remark:		<del>!</del>			
ITEM	BOTH	Tensile	Yield	El	NO. 1	R of A	Hardness	NORMALEZ	ED : 850°	C			
- 1	WELL.	Strength	Strengt		ion	P 64 W	(AVG.)	ļ					
	RT.CD.	(KSI)	(ISI)	0	- 1	(%)	(EB)	İ					
Kin		70.6	36.0		.0	30.0	(111)	Į.					
Max		-	-		-	-	187	•					•
020	2741	77.8	59.9	31	.0	63.8	143	TE CENT	Try Tue 1	BOVE MENT	TONEN =		AIM DOP
061	2698	79.2	57.6	31	.0	63.2	141	MANUFA	CTURED A	ND TESTED	IN ACC	DRDANCE I	AVE BEEN VIIN THE
	2810	89.0	60.0	30	.4	61.8	144	SPECIF	ECATIONS	SHOWN			
	2771	79.8	55.9	31	.4	63.3	145	-	/	′ . /		CH	, 
· · · · · · ·	2722	77.6	5 <del>9</del> .5	36		64.1	143	C.C.	. Ide	1			THE PARTY OF THE P
· [	2776	77.5	50.8	33	- 1	65.2	142	<u> </u>	.C. MANA			INSPECTOR	
	2738   9 REV: 0	77.7	60.5	31	.0	65.4	142	CHI	N CHEENS TO	Bie KE			

PDF created with pdfFactory trial version www.pdffactory.com

E837806 P.O. #40428 SIGNATURE: APPROVED BY Q.C. INSPECTOR

**NDUSTRIA MECCANICA LIGURE** SPA

INSPECTION CERTIFICATE EN 18204;2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9081-2009 CERTIFIED BY FONA

19:04:2006 11:04:2006 11:04:2006 Dated Dated Certificate Nr. 16400 Invoice Nr. 425, Del. Note Nr. 659 3 TRANS AM PIPMG PRODUCTS LTD. 7025 - 44th Street S.E. -Calgary, Alberta T2C 4E8

WISUAL & DIMIENS. SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY OTHER ELEMENTS BOTTOM >=1,0% YIELD POSIT 041324 052062 051323 051400 MANUFACTURER'S SYMBOL 052044 051364 9  $\bigcirc$ 15030 CASARZA LIGURE - Genova - AMY - P. 228 Marco Cappell, 4 - Tel. 0185,487861 - Fax 0185,486310 / MATERSAL TEST OEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 RIVA ACCIAI RIVA ACCIAI RIVA ACCIA! RIVA ACCIAI RIVA ACCIAI STJOBOL75 1:020 RIVA ACCIAL DIM. ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE 0.408 0.408 S E C 0,391 **₫** 6 ELECTRIC FURNACE ELECTRIC FURNACE 0,020 ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL 0.015 0.020 ELECTRIC FURNACE 0,007 0.00 0,014 0.007 0,000 0,015 Ş 8 8 ş 8 ELECTRIC FURNACE ş 50 to 풀 8 8 ₹ 8 8 8 ই FURNACE 0000 000'0 0000 0,000 0000 \*\*\*\* FITTINGS 000 000'0 0,000 98.0 0,00 0.00 90,0 0,00 0,002 0,002 0,016 0,002 000 0.001 0,021 \$\$\$\$\$\$\$ 0,00 0,240 0,170 0,180 0,190 0,190 0,190 BORIS FIZZOTT 2 0.010 0,005 600'0 0,018 0,015 0,005 0,005 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 880°-920°C / Air Cool Normalized at 880°-920°C / Air Cool Normalized at 880°-920°C / Air Coof Normalized at 880°-920°C / Air Cool 0.010 0,010 0.010 0,010 0,010 0,020 Mo%. FITTING 90 ELB. THRD NPT 2M 3/4" A105N FITTING 90 ELB. THRD NPT 2M 11/2" A105N FITTING 45 ELB. THRD NPT 2M 1/2" A105N FITTING 90 ELB. THRD NPT 3M.2" A105N FITTING 90 ELB, THRD NPT 3M 2" A105N FITTING TEE THRD NPT 2M 3/8" A105N FITTING TEE THRO NPT 2M 3/8" A105N FITTING TEE THRD NPT 2M 3/4" A105N 0,080 0,080,0 090'0 0.070 0,050 0,00 152 - 158 158 - 166 0,060 0.080 164 - 166 ž **163 - 165** 63 - 165 60 - 166 152 - 158 160 - 166 PC COMPRESSION DESCRIPTION 0,130 0,130 0,130 0,130 0,090 INSPECTION AUTORITY 0,100 0,011 Ş CTION OF AREA 2 Z 6 0 RECEIVED 0,018 6.014 0,020 0.012 0,013 0,018 0,012 0,013 Ķ P.O. # 510428 0,016 0,006 0,027 0,025 0,024 0,024 0,022 ×, 31,0 1.050 1,030 88,0 0,960 0,910 0,900 × E 81.1-818.2.2 - NACE MR0175 ISO 15156/1 - SUPPLIED MATERIAL MEETS DATE MATERIAL IN ACCORDANCE TO Ģ. 536,0 515,0 520,0 0,200 0.130 0,180 0,200 539,0 525,0 0,180 0,180 0,170 쭚 1 ASME B16.11/01 - BS.3799 - ANSI B31.1/B31.3 - IML STD - ANSI CI-06 - 314; 2006-2E201-0000328-029 CI-06 - 314 2006-2E201-0000328-002 CI-06 - 314 2008-2E201-0000328-029 CI-06 - 314 2006-2E201-0000328-004 CI-06 - 314 2006-2E201-0000328-007 CH06 - 314 2006-2E201-0000328-015 CI-08 - 314 2006-25201-0000328-007 CI-06 - 314 2006-2E201-0000328-009 0,185 0,196 0,196 0,190 0,185 0,185 0,190 0,185 **OUR REFERENCE** Š STATE COMMO YELD PORT 350,0 350,0 364,0 354,0 330,0 320,0 334,0 308,0 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A 105-05 SPECIFICATIONS AND P.O. REQUIREMENTS 50,00 50,00 50,00 MATERIAL 50 50 50 50,00 50,00 50,00 50,00 TEST SPECIMEN YOUR P.O. ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A f05 ASTM A105 122,65 SECT, mm2 122,65 122,65 122,65 122,65 122,65 122,65 122,65 029 0029 0024 0007 0007 015 8 83 88 83 \$ 5 8 907 909 915 023 002 007 007 015 0023 0023 0023 0023 ģ ¥ Ŧ 79944 73215 74884 77612 ¥ 77514 75499 73215 37609 37609 79944 74884 77612 77514 HE41 37609 75499 79944 73215 74884 77612 77514 79944 73215 37609 37609 75499 77612 77514 74884 HEAT CODE 3000 000 **JEAT CODE** HEAT CODE HEAT 5 ž 돌 **A**22 Ë 5 3,5 **9** 줊 Ę A42 됳 줌 Đ



9 1229 9 S :# Shipment/Seq BEA.D W PIPING PRODUCTS SNAAT MOMBER TABH

E8-3284

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SIGNATURE:

APPROVED BY Q.C. INSPECTOR

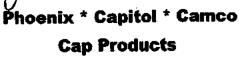
HEAT NUMBER

TRANS AM PIPING PRODUCTS - REV'D BY:

Shipment/Seq #:

8 - 1222

3/8 X 4 XH SMLS STEEL NIPPLES A106 TBE



Commanding a Higher Standard

Certified Mill Test Report

5/21/2008

Customer

P.O. EI-08-312

710812 Heat No

Heat Code YO3

Phoenix Order # 549707

TRANS AM PIPING PRODUCTS LTD. AB

9335 ENDEAVOR DRIVE S.E.

CALGARY, AB T3S 0A1

Part Number

15110408

Description

Material

3/8 X 4" XHSML BK STL NIPL

**Chemical Properties** 

С	Mn	P	S	Si	Сu	Cr	Ni	] [	C Eq. Long
0.180	0.490	0.016	0.025	0.220	0,040	0.030	0.030	] [	0.275
Mo	v	Со	Al	Cb	N	Pb	Sn	Ta	Ti

Additiona	l Chemica	l Propertie	s	
				I

Cr + Cu + Ní	
0.100	

ASTM A106-1999e B / ASME \$A106-2001 Edition, No Adden

**Mechanical Properties** 

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	RofA	BHN	Test 1	Test 2	Test 3	Average
73,000	49,300	36.0%			N/A	N/A	N/A	N/A

Hydro test passed, at 2500 psi.

\* Bend test passed.

This material meets the requirements of the governing specifications We certify that the above material has been inspected and tested in accordance with the methods prescribed in the governing specification and the results of such inspections and test conform with applicable

We further certify this material was inspected with independent inspectors conforming to the requirements of EN10204 Section 3.1B.

Comments:

MEETS HARDNESS REQUIREMENTS OF NACE MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

CapProducts, Ltd.

25 Winnings St

#2 W HILL				and the same of th	EVAN STORES
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	P.O. #	510428	E8328	<u>0</u>	
	SIGNA		N.		
	APPRO	OVED BY Q.	C. INSPEC	TOR	

INDUSTRIA MECCANICA LIGURE SPA

HEAT CODE

á TRANS AM PIPING PRODUCTS LTD.

Our Ref. 29.07.2005 29.07.2005 29.07.2005 053029 MANUFACTURER'S SYMBOL Manna series 053031 053031 VISUAL & DIMENS SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY OTHER ELEMENTS 053031 053032 053009 043069 SATISFACTORY 200000000 SATISFACTOR € Taks certificate has been generated by computer and need not to be algored for validity according to TAK EM 10204 Page T.REUNIDOS STUDBOLTS Dated Dated Outed STEEL MALL 00000 PIETRA PIETRA PIETRA PIETRA PIETRA DIM. ACC. TO 80,0 000'0 0,000 SEE NOTE 0000 000 0,000 0000 SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE 2°,50 0,000 Continents Nr. 15649 Invoice Nr. 927 Dat. Note Nr. 1404 SEE NOTE SEE NOTE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL 0,030 0,030 0,030 0,035 0,036 0,036 MEACT TEST - JOULERALT 室 FURNACE 00 0,000 00000 000'0 89 800 9000 FITTINGS 0,000 0.000 0,00 0000 0.00 80,0 0,000 TYPE 1921 0,000 90.0 0000 0,000 989 0000 7025 - 44th Street S.E. Calgay, Ameria T2C 4EB BORIS FIZZOTTI 0,140 0,200 0,140 0,140 6,1 0,210 0,125 0,140 P. NIPPLE TBE NPT S-160 11/2" L. ISORIM(6") A 106B/API 5LB P. NIPPLE TBE NPT S-160 2" L 150mm(6") A 108B/API 5LB P. NIPPLE TBE NPT S-80 1/4" CLOSED L. 22mm A 106B/API 5LB P.NIPPLE TBE NPT S-80 11/2" L140mm(51/3") A106B/API 5LB P.NIPPLE 18E NPT S-80 3/8" L38mm(11/5") A106B/API 5LBv 0,000 PINIPPLE TRE NPT S-80 1/2" L150mm(6") A106B/API 5LB 00000 P.NIPPLE THE NPT S-80 1%" L125mm(5") A1068JAPI 5LB 0,000 HEAT TREATMENT 8 Ě Normalized at 880°C-920°C / Air Cool Normafized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 880°C-920°C / Air Cool Normalized at 680°C-920°C / Air Cool BEND TEST 0000 0,010 0,010 0,010 0,010 0,040 0,046 160 - 165 146 - 156 0,160 150 - 158 150 - 156 0,070 0.070 0,070 0.070 0,120 HANDMESS HIS 149 - 154 DESCRIPTION INSPECTION AUTORITY Company with quality system iso 9001-2900 Certified by RMA B1.1-818.22 - NACE MR01751SO 15156/1 - SUPPLIED WATER MEETS
B1.1-818.22 - NACE MR01751SO 15156/1 - SUPPLIED WATER MEMBERS | PC COMPRESSION 0,070 0.070 0,070 **0**,100 0,180 0,040 0.070 INSPECTION CERTIFICATE EN 16204/2004 / 3.1 REDUCTION OF AREA 18030 CASARZA LKURE - Carova - Haly - P.224 Marco Cappell, 4 - Tel.0185,467681 - Fax \$185,466510+ MATERIAL TEST DEPARTMENT 0,018 0.014 0,014 0,014 0.020 0,014 9,014 0.007 ž 0,007 900,0 0.000 2000 0,007 0,007 32,3 36,0 33,0 32,3 <del>4</del>0 32,3 0.880 0.610 0.610 0,810 0.610 0.610 0,830 MATERIAL IN ACCORDANCE TO TENSER STRENGHT 500,0 500,0 500,0 497,0 524,0 Ţ 512.0 0,230 5000 0,240 0,240 0,240 ASME SA ASTM A108/A180M-04b Gr. B ASME SA ASTM A106/A160M-04b Gr. B ASME SA ASTM A106/A160M-04b Gr. B ASME SA ASTM A 106/A 160M-045 Gr. B ASME SA ASTM A106/A160M-04b Cr. B ASIME SA ASTM A108/A160M-04b Gr. B ASME SA ASTM A106/A160M-04b Gr. B ASME SA ASTM A106/A160M-04b Gr. B ASME B16.11/01 - 85.3799 - ANS/ B31.1/B31.3 - (ML STD - ANS) CI-05 - 203 2005-2E201-0000225-108 Cf.05 - 203 2005-2E201-0000225-039 CI-05 - 203 2005-26201-0000225-041 CI-05 - 203 2005-2E201-0000225-042 Cl-05 - 203 2605-2E201-0000225-043 CI-05 - 203 2005-2E201-0000225-074 CI-05 - 203 2005-2E201-0000225-061 CI-05 - 203 2005-2E201-0000225-00 0,150 0,160 0,140 0,140 0,140 YELD FORMS **OUR REFERENCE** 384,0 384,0 384,0 384,0 328,0 ASTM A 106/B APt 5LB ASTM A109/B API 5LB ASTM A105/B API 5LB ASTM A106/B API SLB ASTM A106/B AP! 5LB ASTM A106/B API 5LB ASTM A105/B API SLB ASTM A106/B API 9LB 888 800 MATERIAL 0.0 TEST SPECMEN YOUR P.G. 8 8 8 9,0 8 Ē TER 69 훉 \$ ¥ 8 윩 42 £ 4 4 4 8 8 48B6417 48B6417 48B6417 48B6417 HEAT HEAT 95479 95479 95479 95532 HEAT HAT. 95479 95532 95479 95479 95479 95479 78854 95479 95479 95532 95492 95479 95479 78854 95479 78854 95492 95479 78854 95492 HEAT CODE

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HEAT CODE

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY MITH QUALITY SYSTEM ISO 9001-2000 CEPTIFIED BY ANA

TRANS AM PIPING PRODUCTS LTD.

Dated 18.05.2007 Dated 18.05.2007 Dated 18.05.2007 Certificate Nr. 101629 involce Nr. 154 Del. Note Nr. 322

to be storted for validity according to DUN EN 90286 Page 1 - 1

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- 19830 CASANZA LIGINE - Grovs - Alby - P. zza Blacco Cappalis 4 - Tal 2165 AG1861 - Fax 0185 465510 1 MATERIAL TEST DEPARTMENT - Tab cardiscate has been generated by computers and need **INDUSTRIA MECCANICA LIGURE SPA** 

Figure 1999   Figure 1997	HEAT CODE	HEAT	ITEM	YOURP.O. OI	OUR REFERENCE	ERENCE	·	OTY	:		DESCH	DESCRIPTION	:						0	DIM ACC TO	Ment	VISITAL & DIRECTOR
FITTING PECK IP DLOG THRID NET 167 A 3604 P2   STER NOTE	NCT	73499	. F	CI-06-417	2006-1E201	0000267-1	057	<u> </u>	TING III	A TAT NOW	SW 3M A"	A 105N M	UTAMAI E	JEE LANDER								
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SEE NOTE   SEE NOTE		78487	Ş	860	2008-1E201	TOTO COM.	5	<u>. 0</u>						NCD Y		,			SEE	E S	SATISE	ACTORY
Columbia   Columbia	<u>-</u>	73288	8	CI-06-719	2008-1E201-	900000	Ē	<u> </u>	TTINGH	LF COUP	LSW6M	1" A105N	L. 7000M.	NCOL.						NOTE NOTE	SATISE	ACTORY ACTORY
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AND THE COUNTY CONTROL DEPARTMENT NAMERY SYMBOLTS  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 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 880°-920°C / Air Cool  RECTRIC FURNACE  RIVA ACCIAI  RECTRIC FURNACE  RIVA ACCIAI  RECTRIC FURNACE  RIVA ACCIAI  REFINAL MEETS  BORIS FIZZOTTI  FITTINGS   ML STUDBOLTS	NCT	73499	31	ASME SA	ASTM A105	5				NO.	nalized at	880°-920	C/Air Co	9			FE	TRIC FI	PNACE	<u>!</u> 	1	2000
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HEAT NUMBER : 72475 TRANS AM PIPING PRODUCTS Shipment/Seq #: 7 7. **1318 II** :- KEA.D BA:

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APPROVED BY Q.C. INSPECTOR

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TRANS AM PIPING PRODUCTS - REV'D BY: S 6 - 1290 Shipment/Seq #:



3/8" FS HEX HEAD PLUGS A105N



### **抬鍵鎖工股份有限公司** 高雄縣仁武鄉烏林村仁心路 303 號 BOTH-WELL STEEL FITTINGS CO., LTD.

NO.303, JEN-HSIN ROAD JEN-WU HSIANG KAOHSIUNG HSIEN, TAIWAN R.O.C.(81405)

An ISO-9001 Registered Manufacturer



TEL: (07) 371-0497. 371-1536, 372-0260 FAX: (886-7) 371-3864, 371-3882 WEB SITE: http://www.bathwell.com.tw E-MAIL:bothwell@www.bathwell.com.tw or bax@mail.bothwell.com.tw

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54	78.0	62.4	35.6	67.5	143	HANUFACT	URED AND	TESTED 1	LI, YCCUBI MWOD ATTI	DANCE WITH	naad aut i	
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58	77.8	60.3	34.0	00.0	TAN		C. MANAGE			INSPECTO	_	1

SHENG CHENG LEE

CHUN CHIEH HUANG

**IDUSTRIA MECCANICA LICIURE SPA** 

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

	-   <u> </u>					_	NSPECT	INSPECTION CERTIFICATE EN 16204:2004 / 3.1	CATE EN 1	0204:200	473.1	à	TOANG AM MINISTER DOORS OF THE	Coo Civid	1					!	i
												₹			25.5	si.	Ē	Cardificate Nr. 18270	18270		02:05:2008
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1803¢ CAS.	ARZA LIGURE	- Gemova - Italy	y - Vir Glance	ario Parina 28	18036 CASARZA LIGURE - Genova - tray - Via Glanciano Parina 28 - TALOFEE, 497861 - FIX	14 - Fax 014	5.488510 /	0188-488810 / MATERIAL TEST DEPARTMENT. The confidence has been generated by computer and need not to be signed for validity according to law FM annual	ST DEPARTA	WEBST Th	ile certificate		nerated by	all animode	nd read not	to be eigne	a for validit	v accordin	S NO S	5	:
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Ĭ	674858	<b>8</b>	ASME SA	ASME SA ASTIM A 105-05	05-05				Noma	fizada!	Nomination of RAD 5900°C / Air Cool	\$ 0 ta				FLECT	ELECTRIC FURNACE	NACE		072086	8
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HEAT NUMBER : S4A TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 8 - 1013 1

STUDBOLTS 🚫

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FITTINGS

**BORIS FIZZOTT** 

APPROVED BY Q.C. INSPECTOR

SIGNATURE:

P.O.#

V102M 1/4" CF 5000 L2 SCED 30 EFF

2008 PC COMPRESSION DATE RECEIVED MAY 2 9

FITTINGS

**BORIS FIZZOTT** 

SATISFACTORY SATISFACTORY 1 23 CONTRUME - GRADAR LIGHTRE - GRADAR - 1223 MAKE CARA - TALORS - FAX 91854 FAX ACCORDANS - FAX 91854 FAX ACCORDANS - FAX 91854 FAX ACCORDANS - FAX 91854 FAX ACCORDANS - FAX 91854 FAX ACCORDANS - FAX 91854 FAX 9185 VISUAL & DIMENS. SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY VIELD POINT SATISFACTORY OTHER ELEMENTS TAGE . MANUFACTURER'S SYMBOL MANUFACTURER'S Dated Dated RIVA ACCIAI RIVA ACCIAI RIVA ACCIAL STUDBOLTS RIVA ACCIA RIVA ACCIA RIVA ACCIAI RIVA ACCIA! RIVA ACCIA DWN. ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE Ç.E.% 0,395 0,404 0.382 Cortificate Nr. 17729 divolce NF 723 Del: Note Nr 1141 និន្ ₹ <u>\$</u>8 ₹ ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** ELECTRIC FURNACE ELECTRIC FURNACE 0,020 0,005 0.018 0.017 0,023 0,013 0,023 0,012 8 芸 8 홍홍 휺 5 ₹ \$ 5 £ FURNACE 8 2 000 3 22222222 0,001 000 TRANS AM PIPING PROCUCTS LTD. 0,002 0,020 0,002 0,002 0,002 0,003 \$\$\$\$\$\$\$ 0,020 9 QUALITY CONTROL DEPARTMENT 233061 Endeavor Drive S E Calgary, Albaria T2P 2C6 0,150 0,150 0,230 0,150 0,180 20000000000 0,010 0,018 0,005 0,018 0,005 0,005 0,006 HEAT TREATMENT Normalized at 880\*-920°C / Air Cool Normalized at 880\*-920°C / Air Cool BELIND TELET Normalized at 880"-920"C / Air Cool Normalized at 860\*-920°C / Air Cool Normalized at 880"-920°C / Air Cool Normalized at 880°-920°C / Air Cool Normalized at 860"-920"C / Air Cool Normalized at 880\*-920°C / Air Cool 8 88 0.010 0,010 0,020 0,010 0,010 FITTING 90 ELB. THRD MPT 2M 2.1/2" A105N FITTING TEE THRD NPT 2/3M 1/4" A105N FITTING 90 ELB. THRD NPT 2M 1/2" A105N FITTING TEE THRO NPT 2/3M 1/4" A105N FITTING 45 ELB. THRO NPT 2M 3/8" A105N APPROVED BY Q.C. INSPECTOR FITTING 45 ELB. THRD NPT 3M 3" A105N FITTING TEE THRD NPT 3M 1/2" A105N 1636 FITTING TEE THRD NPT 3M 1/2" A105N 0,040 0,000 0,040 160 - 168 161 - 165 159 - 163 160 - 168 0,060 0,060 58 - 162 161-164 161 - 164 DESCRIPTION COMPANY WITH QUALITY SYSTEM ISO 9061-2006 CERTWIED BY RINA INSPECTION AUTORITY ESPA 0,100 0,10 0,100 0,090 0 0 0 0 0 0 0 800 Š 58,0 0,014 0.034 0.014 0.018 0.012 0,017 0.018 0,017 ž P.O. # 510285 0,009 600'0 0,026,0 0,020,0 0,023 0.019 9,0 SIGNATURE: 33,0 33,0 32,6 32,0 32,0 32,0 32,0 32,0 0,980 0.910 0,950 0,980 0,870 0,970 NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS MATERIAL IN ACCORDANCE TO B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 Ç 524,0 539,0 572,0 530,0 527,0 536,0 543,0 572,0 0,160 0,210 0,160 0,210 0,170 CI-07 - 380 2007-2E201-0000541-005 CJ-07 - 380 2007-2E201-0000541-010 Ci-07 - 380 2007-2E201-0000541-012 Ci-07 - 380 2007-2E201-0000541-010 CI-07 - 380 2007-25201-000541-004 CI-07 - 38G 2007-2E201-0000541-009 CI-07 - 380 2007-2E201-0000541-002 CJ-07 - 380 2007-2E201-0000541-001 0,210 0,180 0,190 0,180 0,180 0,185 0,185 0,205 Ğ OUR REFERENCE **INDUSTRIA MECCANICA LIGURE** SPA 385,0 306,0 395,0 318,0 325,0 305,0 ASME SA ASTM A105-05 ASME SA ASTM A 105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 50,00 50,00 50,00 9000 MATERIAL TEST SPECIMEN YOUR P.O. ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 122,65 122,65 122,65 122,65 122,65 122,65 122,65 122,65 ASME B16,11/05 - ANSI 8 9 8 88 용 욯 06/74169 06/74169 06/74169 06/74169 06/74169 06/74169 06/74169 06/74169 77003 HEAT 77966 75498 8878 77003 74416 77003 74416 74416 77985 75498 75498 77003 74416 74524 74524 74524 77965 75498 HEAT CODE **EAT CODE** EAT COD **JEAT CODE** 동안 3 ₹ SE L ≨∄ ž ₹ ₹ 5 A59 PΣ \$ 5 5

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Our Ref.

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PRODUCTS

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HEAT NUMBER

PIPING

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Custome Custome Ch**ent** 

CE FRANKLIN LTD.

1900 - 300 - 5th AVENUE S.W.

CALGARY, ALBERTA, CANADA T2P 3C4

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DATA / Date

09/06/05

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**CERTIFICATO DI COLLAUDO** TEST CERTIFICATE CERTIFICAT DE CONTROLE

CERTIFIED BY DNY

1313245-0R-2100

**CONTRACO** de commande

DROWS Purchase order Commande MATERIALE Steel quality / Mathére COLATA Heat / Course \$1% M5% C % 3 % p ob Ca % ta S ν % MC% | 1:% AT# CEX CRBN ASTH A105/01 129809 0.216 1.070 0.005 0.008 00.09 00.16 0.025 0.000 0.274 0.001 0.035 0.402 0.172 Nb#= 0.001 ---> 00.11 0.020 0.002 0.230 0.001 0.031 0.384 FFNT ASTM A105/02 17 12003 0.190 \ 0.230 | 0.900 | 0.010 | 0.011 | 00.09 ...> Nbx= 0.002 FLLT ASTM A105/02 7**86**14 0.180 | 0.190 | 0.880 | 0.007 | 0.010 | 00.09 | 00.06 | 0.010 | 0.000 | 0.200 | 0.018 | 0.023 | 0.367 Nb#= 0.000 ...> 0.195 0.190 0.900 0.019 0.014 00.06 00.06 0.010 0.000 0.180 0.002 0.000 0.375 73309 CODR ASTM A105/01 Nb#= 0.001 .... CAP+79948 0.180 0.210 0.910 0.020 0.019 00.13 00.08 0.010 0.009 0.230 0.002 0.005 0.380 LALL ASTM A105/02 .... Nbx = 0.001920905 0.180 0.250 0.800 0.017 0.029 00.04 00.12 0.030 0.000 0.210 0.003 0.030 0.349 9YB ASTM A105N/01

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<b>PREVA</b> Test	:	Fest spenimen		ENERWMENTQ IVmm, ≥	RBTTURA Numm>≥	ALLUNGAMENTO % 2	CONTRAZIONE Na ≥	DUNEZZA H8	PIEGA Bend Test	SCHACC. Flatt lest	ı		RESILIE mpaci lesi /	
Épreuv≢		Section / Sect	LUNGHEZZA Langin / Longeur	Yield poirs Limite d'élastic M	Tensole strengra Bupture	F engation Allongement	Assumment of area Symption	Haldnesa De <i>rek</i> a	Pliage	Aplattiss	ueurā mis. Unit system	1840 1508	T, "C Test (mp	VALORE VALUE / Dochees
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FLLT	1	60.1	35.0	299.0	510.0	31.2	69.5	143-150	İ		J	KV	0	198 - 196 - 190
COOR	1	126.6	50.0	314.0	529.0	31.0	65.0	159-163	İ		J	KY	0	46-40-40
LALL	1	126.6	50.0	321.0	518.0	34.0	60.0	156 - 159	ļ		J	KV	0	44 - 46 - 4D
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NAM- A 610

/CERT.2442.89 PAPANI

PREVA Tost Epreuve MOTE / Remarks : Notes EN10204/3.1 ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.99.02 EVAST\*209816 MEGA CRBN /CERT.60.04 EVASI\*242020 NEGA ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. FENT ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.77.04 EVASI\*247491 MEGA\* **FLLT** ELECT.FURNACE-NORMALIZED AT 900 C COGLED IN STILL AIR. /CERT.1055.02 METALFAR CODR LALL ELECT.FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR. /CERT.725.05 NETALFAR\*

1	PROVA Test Eoreuve	POS. 1501 738	QUANTITÀ Quantity Quantite	GODIÇE ÇLIBATE Customer sode Code climit	DESCRIZIONE - Oescription / Description
i	CRBN	051	150	1095726	CHOSS S 3000 NPT A/SA105N 1/4V
	FFNT	052	100	109605 <del>9</del>	: CROSS S. 3000 NPT A/SA105N 1/2
	FLLT	053	72	1095646	CROSS S. 3000 NPT A/SA105N 1
:	CDDR	054	12	1090685	CROSS S. 3000 NPT A/SA105N 1.1/2
į	LALL	055	100	1095232	CROSS S. 3000 MPT A/SA105N 2
:	9YB	056	100	1095161	COMPLING S. 3000 NPT A/SA105N 1/8

ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

PC COMPRESSION RECEIVED MAY 0 1 2006 DATE 506295-00 INV P.O. #

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2 = ...

VISUAL AND DIMENSIONAL

> 0K QK 0K OK :

SIGNAT !:

APPROVED BY D.G. INSPECTOR

MATERIAL ACCORDING TO:

NACE MR. 0175 Ed. 2003.

ENTE UFFICIALE IN COLLABOR Inspection Authority Service Inspection Office.

CAPO COLLADO Shet Inspection OP ponsable assurance o

DOC. CER

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

1/4 X 5 XH SMLS STEEL NIPPLES Al06

HEAT NUMBER : 47322 TRANS AM PIPING PRODUCTS - REV'D BY: Shilpmont/seq #: 8 3 - 1247 71

E832806

510428

P.O. #

DATE

SIGNATURE:

PC COMPRESSION RECEIVED JUN 2

APPROVED BY Q.C. INSPECTOR

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	_			ASME SA ASTRA ATMA SECTOR BY A SMALL SA ASTRA ATMA STORES OF B	<b>.</b>				<b>Z</b> :	Normalizad at 889°C-920°C / Air Cun	1 886°C-820	\$ 15 C	<b>z</b> ·			ELECTRIC PURBLACE	FURBIAC	E PODBREZOVA	2004	-	
-	-	_	SMESAAS	ASME SA ASTIMATOR-99 CL	- 42				ž B	MUTURATION AL ANN TO WELL TO AN LOOP HOMERIZARD AT BERT C. 028°C. / Air Cool	(864°C; 026°C	C/44 Con	5 =		,···	ELECTRIC FURNACE ELECTRIC FURNACE	FURNACI FURNACI	<u> </u>			
MOTES ASM	E B 18.11.99	85,3709 . AL	NS4 B31, 1463	ASME B16.11.96 - B5.3799 - ANSI B31.1631.3 - BM, STD - MACE		WR0175-89 .	<u>_</u>	DESPE	DESPECTION AUTORITY	PORUTY	8	LIVCORT	QUALITY CONTROL DEPARTMENT MAMERACTURERS SYMBOL	RTHAENT	MANUFAC	TURBRYS S	SYMBOL.	MANGING	MANUFACTIONERS EVIDORS	NAME OF THE PARTY	
£	ANSEST.1-618.2.2 • NACE MADE 175-UZ	· FOACE HOR	71/2-02 11/2-02								<u> </u>	1		<del>                                     </del>					Ę		
											-	;	Markey 1.		FITTHARS	, LM.L		STUDBOLTS	Q •	_	

HEAT NUMBER

TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 7 - 1292



1/4 X 3 XH SMLS STEEL NIPPLES A106



### Phoenix \* Capitol \* Camco Cap Products

Commanding a Higher Standardon

Certified Mill Test Report

5/8/2007

Customer

P.O. CI-07-324

Heat No 23944 Heat Code RYS

TRANS AM PIPING PRODUCTS LTD. AB

Phoenix Order # 470912

233061 ENDEAVOUR DRIVE S.E. CALGARY, AB T2P 2G6

ASTM A106-1999e B / ASME SA106-2001 Edition, No Adden

Part Number

15110306

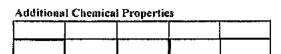
Description

✓1/4 X 3" XHSML BK STL NIPL



**Chemical Properties** 

	С	Mα	P	S	Si	Cu	Cr	Ni		C Eq. Long	g
	0.200	0.440	0.012	0.013	0.280	0.070	0.060	0.060		0.296	
ĺ	Мо	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti	
	0.010	0.001									



Cr + Cu + Ni
0.190

**Mechanical Properties** 

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	RofA	BHN	Test i	Test 2	Test 3	Average	
70,000	46,300	30.0%			N/A	N/A	N/A	N/A	44 ×



This material meets the requirements of the governing specifications. We certify that the above material has been inspected and tested in accordance with the methods prescribed in the governing specification and the results of such inspections and test conform with applicable requirements.

Comments:

MEETS HARDNESS REQUIREMENTS OF NACE MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

DATE	PC COMPR RECEIVED			25 W	Products, Ltd. annipeg St stra, ON NOM 1LO
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INSPECTION CERTIFICATE EN 10204:2004/3.1

TRANS AM PIPING PRODUCTS LTD.

Dated 11.04.2008 Dated 10.04.2008 Cartificate Nr 18811 Invoice Nr 357

Dated 10.04.2008	DRN EN 16204 Page 4 + 7	. TO VISUAL & DIMENS.	TE SATISFACTORY	,		,	•		•••	ľ	-L_	9	/	ga.	- · · ·		····		1=0 2=[] N/mm2	<del>-</del> (		- <del>,</del>	000	 -			actoo	083023	072079		072092	061353	061270	MANUFACTURER'S SYMBOL		STUDBOLTS (X)
Def. Note Nr 803	be algred for validity according to	DIM. ACC. TO	SEE NOTE	SEE NOTE	SEE NOTE	SEE NOTE	SEE NOTE	SEE NOTE	SEE NOTE	Nb% N% AP% C.E.%	0.002 0.000 0.013 0.399	0,000	0,012 ; 0,000	0,000 0,027	0,001 0,000 0,023 0,351	0.000 0.012	0,000 0,032	TEST - JOUL		20 95 91 93	66 56 56 107	105 104	99 101	100 107	20 100 107 110	FRNACE	ELECTRIC FLIRNACE	ELECTRIC FURNACE	ELECTRIC FURNACE	ELECTRIC FURNACE	ELECTRIC FURNACE	ELECTRIC FURNACE	ELECTRIC FURNACE	·		FITTINGS IMIL 8
9335 Endeavor Drive S.E. Cagary, Alberta 138 0A1	This certificate has been generated by computer and need not to be algred for velidity according to CRN EN 16204		E+FEMALE)				A105N (NUT+MALE+FEMALE)	FEMALE)	•	71% Cu% V% NE	1	0,150   0,005	0,270   0,004	0,073 0,080	0,000 0110 000,0	0.110 0.003	0,170 0,001	ļ	TYPE 10x15mm	25	200		- 10: -	_	Ω 0.0 0.0	1	† —	5						QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL		BORIS FIZZOTTI FIT
· ·•		DESCRIPTION	FITTING UNION F/F THRD NPT 3M 1" A105N (MALE+FEMALE) P NIPPI E TRE NPT S-80 1/4" I \$1mm/2" A105N/ADI 51 P	HRD NPT 3M 1/2" A105N		THRD NPT 3M 3" A105N	HRD NPT 3M 2" A105N (NUT			Cr% NP% No%	0.100 0.160 0.030	0,040 0,050 0,020	0,250 0,140 0,032	0,056 0,025 0,024	0.080   0.080   0.000	0,080 0,060 0,000	0,090 0,080 0,010	OF AREA HARDNESS ME BEND TEST	97	100 - 100		180 - 184	156 - 171	163 - 171	,0 158 - 171 0,0 ,0 158 - 164 0,0	HEAT TREATMENT	Normalized at 880"-920°C / Air Cool	Normalized at 880°C-920°C / Air Coo	Normalized at 880°-920°C / Air Cool	Normalized at 880*-920°C / Air Cool	Normalized at 880°-920°C / Air Coof	Normalized at 880°-920°C / Air Cool	Normalized at 880*-520*C / Air Cool	INSPECTION AUTORITY COUNLITY CO		_
CONPANY WITH QUALITY SYSTEM 19.7 9001-2000 CERTIFIED BY RIVA	IX 0186.486510 / MATERIAL TEST DEPARTMENT	a.n	T FITTING UNION F/F TO SEE A PER SEE	FITTING UNION FIF THRD NPT 3M 1/2"	· FITTING COUPLING THRD NPT 3M 4"	FITTING COUPLING THRD NPT 3M 3"	: FITTING UNION F/F THRD NPT 3M 2"	FITTING UNION FIF THRD NPT 3M 2"	FITTING UNION FIF THRD NPT 3M 2"	Mrr% 5% p%	0 0,970 0,002 0,008	0,650 0,005	0,980 0,025	1,280 0,006	0.940	0,940 0,020	0,850 0,017	ELUNGATION REDUCT	24.0		32.6	31,0	33,2	33.5	,0 33,5 55,0 ,0 31,0 56,0	CE TO	Mom		E S	TOON:	TON:	Nor	Norm			NOISSELL STORE TERRITOR
LIGURE SPA	6030 CASAFZA LIGURE - Genove - Italy - Vie Glancario Farine 25 - Tel.0168.467681 - Fax 016	OUR REFERENCE	CI-08 - 236 2006-2E201-0000354-024 CI-08 - 741-2006-2E201-0000954-066	CI-08 - 236 2008-2E201-0000354-023	CI-08 - 236 2008-2E201-0000354-034	CI-0B - 236 2008-2E201-0000354-033	CI-08 - 236: 2008-2E201-0000354-028	CI-08 - 236 2009-2E201-0000354-026	CI-08 - 236 2008-2E201-0000364-026	MATERIAL C% 88%	A105 0.190 0,280	8 API 5LB 0,140	0,180	4105 0,175 0,185	0.195	0,195		VIELD POINT TEM	122 AS SO DO SOM CONTRACTOR SOM	0,000	50,00 392,0	50,00 309.0	20,00	50,00 310,0	50,00 309,0 568,0	MATERIAL IN ACCORDANCE TO	ASME SA ASTM A105-05	ASME SA ASTM A106/A106M-06a Gr. B	ASME SA ASTM A105-05	ACME OF ACTIVITION OF CO.	ASME SA ASTM A105-05	ASME SA ASTM A105-05	ASME SA ASTM A105-05	ASME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 -	NACE MR0175 ISO 151567 - NACE MR103 - MSS SP 83 - SOPPERED	CIND AND T.C. RECCIRENTS
<b>IDUSTRIA MECCANICA LIGURE SPA</b>	JRR - Genove - Italy - Via Gland	TEN	024	023	3 034	033	028	920	026	ITEM	4 024 ASTMA105	990	023	66 034 ASTMA105	38	970	9 026 ASTMA105	ITEM	100	200	88	034	033	8 88	9 026 122,65	AT ITEM	624	990	023	3 8	97	928	926	6.11/05 - ANSI B31.1/B3	(0175 ISO 15156/1 - NAC	
<b>JDUSTRIA</b>	16030 CASARZA LIGU	HEAT CODE HEAT	UX5 17164				6EU 72430	. BEU 72430	· UU4 22469	HEAT CODE MEAT	UXS 17164			73K 747866	•		UU4 22469	HEAT CODE HEAT	11X5 17184	•	9CU 35281				UU4   22469	HEAT CODE HEAT	UX5 17164		9CU 35281				UU4 22469	NOTES ASME B16	NACEME	

HEAT NUMBER : 80491 TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 8 - 1143 47

APPROVED BY O.C. INSPECTOR

SIGNATURE:

1/4 X S XH SWPS SLEEP NIBBPES P106

LBE I/fXII/S XH SWFS SLEEF NIPPLES A106

BX:

!**€ 1∉€** KEA.D

Spr Dueur \ Sed L :# 99ET S PRODUCTS **DIDING** MA SNAAT €2841 HEAT NUMBER

ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B ASME SA ASTM A106/A106M-06 Gr. B

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ASME SA ASTM A360-048 Gr. 1F2 cl.1

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**IDUSTRIA MECCANICA LIGURE** SPA

HEANS AM PENNG PRODUCTS LT 2008 COMPANY WITH COMMITTANTEST OF THE COMPANY WITH COMPANY WATER THE C PC COMPRESSION DATE RECEIVED JUN 2 4 E8292 510428 SIGNATURE: PO.# INSPECTION CERTIFIC

Certificate Nr. 17729 Invoice Nr. 723 Dat. Note Nr. 1141 ⋨

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Page 16 · 22 VISUAL & DIMENS. SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY generated by computer and need not to be signed for validity according to DIN EN 10204 DIM. ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE NOTE SEE NOTE SEE NOTE SEE NOTE SEE P.NIPPLE TBE NPT S-80 1/4" L38mm(1.1/2") A106B/API 5LB P.NIPPLE TBE NPT S-80 1.1/2" L100mm(4") A106B/API 5LB P,NIPPLE TBE NPT S-160 1" L51mm(2") A106B/API 5LB 16034 CASARZA LIGURE - Genova - Naty - P.222 Marco Cappoll, 4 - Yel (1183, 487661 - F27 0185 465510 / MATERIAL TEST DEPARTMENT - This carlificale has been FITTING ROUND H.PLUG SW 1/2" A105N FITTING ROUND H.PLUG SW 1"- A105N DESCRIPTION FITTING CAP SW 3M 1.1/2" A105N FITTING CAP SW 3M 1" A350/LF2 Ţ CJ-06 - 799| 2008-2E201-0001041-143 CI-06 - 799 2006-2E201-0001041-162 Ci-06 - 799 2006-2E201-0001041-163 CJ-06 - 799 2008-2E201-0001041-211 CI-06 - 827 2007-2E201-0000011-017 CI.06 - 332 2008-2E201-0000395-058 CI-06 - 799 2008-25201-0001041-173 CI-06 - 332 2008-2E201-0000385-001 YOUR P.O. OUR REFERENCE 0017 8 2 2 8 <del>2</del> 32841 > HEAT CODE. HEAT 72437 72436 78703 78196 66260 81463 74067

FITTING COUPLING THRD NPT 3M 1.1/2" A105N EL.GALV. ř

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MATERIAL IN ACCORDANCE TO

ASME SA ASTM A105-05

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

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

Normalized at 680°-920°C / Air Coof

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062010 021407 N10249 063113 061441 07302 PODBREZOVA PODBREZOVA RIVA ACCIAI PIETRA ELECTRIC FURNACE ELECTRIC FURNACE

STUDBOLTS

FITTINGS

**BORIS FIZZOT7** 

MANUFACTURER'S SYMBOL

MANUPACTURER'S SYMBOL

QUALITY CONTROL DEPARTMENT

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

Normalized at 900°C / Atr Cool

Normalized at 880\*-920°C / Air Cool

INSPECTION AUTORITY

NACE MR0175 ISO 15168/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS

ASME 816.11/05 - ANSI 831.1/831.3 - IML STD - ANSI B1.1-818.2.2

NOTES

ASME SA ASTM A 105-05

ES HEX HEYD BUNGS VIORN uÐ/T

18030 CASARZA LIGURE - Sanoya - Kaby - Via Giancario Parina 28 - Tal. 0186.457861 - Fax Ords.48830 / Materisa, Test Department **NDUSTRIA MECCANICA LIGURE SPA** MATERIAL ASTM A105 YOUR P.O. ASTM A105 8 8 8 8 8 8 සි සි සි සි සි සි HEAT AR2237 ÆAT AR2237 73413 72469 74795 74525 78482 30449 79141 73413

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM 190 \$604-2000 CERTIFED BY RINA

11.03.2008 07.03.2008 07.03.2008 Darled Darled Cartificate Nr. 18467 Involce Nr. 234 Def, Note Nr. 401 ð TRANS AM PIPING PRODUCTS LTD. 9335 Endeavor Drive S.E. Celgay, Alberta T3S 0A1

This continuate has been gunerated by computer and read not to be signed for validity according to D.N.EN 10204 Page 4 - 10

VISUAL & DIMENS. SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY Mines seriox OTHER ELEMENTS Our Ref. 081500 081316 071087 061553 071435 YIELD PORY N10233 061090 072061 MANUFACTURER'S SYMBOL € Sales STUDBOLTS 0.0 DIM. ACC. TO SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE 0,402 0,373 0,389 0,389 0,389 SEE NOTE C.E.% 98 0,377 ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE 0,016 0,012 0,026 ELECTRIC FURNACE QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYNBOL 0,023 **ភ**ភិភិទិ**ទ**ទិ<u>ទិ</u>ទិ 0,021 Š 를 \$ 5 5 5 2 2 5 8 3 FURNACE 0000 0000 0000 0000 0000 0000 FEBT . . **ន**ឧន្តន្តន FITTINGS 0,002 0,001 0000 TYPE SOUSE \$\$\$\$\$\$\$\$\$ 0,002 0,002 0,002 0,002 0,000 ŝ 0,190 0,140 0,160 0,160 RO TEST 200 FIZZOTTI 8 9 8 9 9 9 9 0,008 0,005 0,005 0,005 0,000 0,005 £ HEAT TREATMENT JUN 2 4 2008 Normalized at 880°-920°C / Alr Coof Normalized at 880°-920°C / Air Cool Normalized at B80\*-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 880"-920°C / Air Cool Normalized at 880\*-920°C / Air Cool FITTING HALF COUPL THRD NPT 3M 3/4" A105N 800 0,010 0,010 0,010 0,030 0,010 0,010 %0gg FITTING HEX.H. PLUG THRD NPT 1/4" A105N FITTING RED.TEE THRD NPT 3M 3"x1" A105N E832802 FITTING M/F ELB. THRD NPT 3M 1/4" A105N FITTING 90 ELB. THRD NPT 2M 3/4" A105N FITTING 45 ELB. THRD NPT 2M 3/4" A105N FITTING 45 ELB. THRD NPT 3M 3/4" A105N FITTING TEE THRD NPT 2M 3/4" A105N 160 - 164 169 - 174 160 - 164 163 - 165 162 - 168 162 - 168 000 0,080 0,080 0,050 0,0<del>60</del> 0,050 0,090 60 - 164 RECEIVED JUN 2 Ě DESCRIPTION **INSPECTION AUTORITY** 0,080 0,110 0,140 0,090 0,070 0,100 0,070 ξ CITIZEN OF AREA 55,0 5,0 5,0 0.88 0,014 0,015 0,020 0,013 0,016 0,011 900'0 0,014 ž 510428 0,026 0,018 0,018 0,022 0,013 89 9,018 š <u>C</u> 37,0 33,0 31,0 31,0 SIGNATURE: 0,950 0,920 0,830 1,020 1,060 50, ž PO.# DATE MATERIAL IN ACCORDANCE TO Ç ASME B16.11/05 - ANSI 831.1/831.3 - INL STD - ANSI B1.1-818.2.2 639,0 539,0 570,0 528,0 577,0 513,0 536,0 0,210 0,220 0,190 0,200 0,220 NACE MR0175 ISO 15156/1 - NACE MR103 - MSS SP 83 - SUPPLIE MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS CI-08 - 190 2006-2E201-0000213-003 CH08 - 190 2008-2E201-0000213-008 CI-08 - 190 2006-25201-0000213-019 CI-08 - 190 2006-2E201-0000213-030 CJ-08 - 190 2008-2E201-0000213-048 CL08 - 190 2008-2E201-0000213-008 CI-08 - 190 2008-2E201-0000213-031 CI-08 - 190 2008-25201-0000213-035 0,195 0,205 0,185 0,195 0,185 0,195 0,180 0,180 OUR REFERENCE Š YELD POINT ME SOLUTION 306,0 322,0 309,0 320,0 311,0 316,0 305,0 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM A105-05 50,00 50,00 50,00 50,00 50,00 90,06 90,06 50,00 TEST SPECIMEN ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 MEGT, mm2 122,65 122,65 122,65 122,65 122,65 122,65 122.65 122,65 048 000 018 030 031 032 008 018 030 031 035 38 048 908 908 908 908 938 AR2237 HEAT AR2237 72469 74795 74525 79141 78482 30449 73413 HEAT 72469 74795 74525 78482 30449 73413 72469 74525 79141 79141 74795 HEAT CODE 900 000 **HEAT CODE** HEAT CODE HEAT VOTES 5 ş X 8 F. 2 X X ₹ ₹ 154 ర్జ ဦ \$ 22 \$ 8 8 24 8 ₹ F 5 82 쳟 ₹

APPROVED BY Q.C. INSPECTOR

Contract No.: 06HGC01038 L/C NO. SFAHDS-00773

Name of Customer: CE FRANKLIN

MILL TEST REPORT

HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

Add: 10 Dalixincun, Hengyang City, Hunan, China Tel and Fax: +86 734 8873739 8872942 6993 Cable:

Carolian	$\Xi$	P.O.NO.:PO.1441650-OR-2100-A	50-OR-2100-A				į	ille i est neron	į	į			Fel and	Fax: +80	Tel and Fax: +86 734 8873739 8872942	39 88729	42	G
Page: 3.66   SLB/X42, PSL1-2004, NACE MR-O176-1986   CERTIFICATE NO: 0603045	Ē;	on: Seam	ess Carbon St	teel Pipe For Oil A	Ind Gas	Se.		Date: M.	AR. 29, 24	909			Cable: P.C.	42100				H
BUNDLES   PIECES   FEET   QUANTITY   WEIGHTIONT     CATUAL   ACTUAL   ACTUAL     CATUAL   ACTUAL   AC	₹.	A CT THE A CO	D Society	OLES, [55.811M]	1, 80020F			P	ige: 3/6									<u>C</u>
HEAT   SIEBL   SIZE   SIZE   SIZE   BUNDLES   PIECES   FEEF   QUANTITY   ACTUAL   Colored   Co	ا ز	TOUR PARTY	TA/ZOOZ-BC	Vob-ZUUZa, ASH	ME SAS	B/SA1068	-2004,	NPI SLB/	X42, P8	11-2004	, NACE	MR-017	3-1999		CERTIF		D: 0603045	)
10.0   0610795   X42	-	NO.	NO.	STEEL		(V)	IZE			BUNDLE		PIECES	ļ 	FEET	QUANT	_	ACTUAL	54
10.00   0621924   X42   5-46   27-70   154-720FT   X-3-7-3   10   6-10   17200   20, 250   10-200	8	3400706	0610795	X42	SAO	2**0.	154"*20F	ļ.	4	=	+	671	-	13420	1M)		werumi(MI)	US
13   0621939	8	3400707	0610791	X42	240	2**0.	154"*20F		10.7	8	-	488	<u> </u>	9760	16.20	1		1
13   0621919   X42   Sev.   2*0, 154*40FT   X45CS   10   744   8800   20.080   12.750   10   0621919   X42   Sev.   2*0, 218*20FT   X45CS   10   704   8800   22.080   12.750   10   0621919   X42   Sev.   2*0, 218*20FT   X45CS   10   704   14080   32.128   12.8	3	3400708	0621924	X42	545	2**0.	54"*20F		14.0	2	_	610		12200	20.02	+		14
10	5 8	3400705	0621923	X42	SÃO	2″*0. ]	54**40F	اً	5.3	9		192	  -	7680	12, 75			E
CHEMICAL   COMPONDESTRUCTIVE TEST   CHEMICAL   CHEMICAL   COMPONDESTRUCTIVE TEST   CHEMICAL   CHEMICAL   COMPONDESTRUCTIVE TEST   CHEMICAL   CH	X S	3200413	V 6161290	X42	500	2,*0.	18***20F		So	10		440	_	8800	20.080			
The column of the column of	티	10300401	0621919	X42	3	2,*0.	18" *20F		200	16		704		14080	32, 128			1
CHEMICAL   COMPOSITION   Statement   CHEMICAL   COMPOSITION   Statement   CHEMICAL   COMPOSITION   Statement   CHEMICAL   COMPOSITION   Statement   CHEMICAL   COMPOSITION   Statement   CHEMICAL   COMPOSITION   Statement   CHEMICAL   COMPOSITION   Statement   CHEMICAL   COMPOSITION   Statement   CHEMICAL   COMPOSITION   Statement   CHEMICAL   COMPOSITION   Statement   CHEMICAL   CH	<u>ام</u>	DEF TOEDS		X42		7. *0.	**20F		<b>S</b>	ı		70		4080	32, 128	-		15
Collision				CHONDESIAGE	IIVE I	EST.					HEMIC,	ב	<b>APOSITI</b>	NO.				41
Column   C	1	HOT BOLLS	+	CURRENT IEST	ULIKA	ONIC LEST	1	Ţ	┪	2			<u>ي</u>	<u>Q</u>	adl v	Г	1 CE	- /
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Column   C	_  -	HOT POLLE		ž			- 1				.0	Γ	Г	0.01	Т		┸	5
COLLED	Ţ	HOT-ROLLE	31:	ž			- 1						Т	0.01	Т		4	, · (
Column   C	'ا ٦	ACI-ROLLE	חני	ž			l	_			_	Γ	0	0.01	700	. [	1	Ь
Column	٦Į,	HOT-ROLLE	a	ok			ı	Т		Т	Т	Г	Т	0 0	004	[	40 0.30	2,
Part	٦	HOT-ROLLE	g	OK				Г	1	Г	Т	Г	┰	0 0	500	4	42 0.30	K
STRENGTH   YIELD STRENGTH   ELONGATION   IMPACT   HARDNESS   TEST   TEST   TEST		g) 90	(ISo	ISd) so		۲		٦ .		-		┰	YDROS	TATIC	100 F	<del> </del>	20 U. 34	i je
State   Stat	$\dashv$	ENSILE ST	RENGTH	YIELD STRE	NGTH	ELONG/	YTION	λĬ	(PACT	<u> </u>	AKUNE	2	TES	_	TPCT	 ;	TEST	3
76125         54375         33.0         HRC         4.5/5         3000PSI         OK           79025         58000         33.0         HRC         5/6         3000PSI         OK           80475         58000         36.0         HRC         7/6         3000PSI         OK           76850         50025         27.5         HB         137         3000PSI         OK           77575         50750         29.0         HB         140         3000PSI         OK           78300         28.0         HB         135         3000PSI         OK           1. We hereby certify that the material has been manulactured, sampled, tested and inspected in accordance with the required standards.         HB         135         3000PSI           2. Properties compliance toDIN 50049 3.1B /UNI EN 10204 3.1B         3.BRINELL /Rockwell hardness certified to NACE MR-0175-99.         QUALITY MANAGER.         2.B.	Ţ	83375		60175		34,	0			HE	1	2	3000P	Si		╀	OK	)
19025   58000   33.0   HRC 5/6   3000pST   OK     80475   58000   36.0   HRC 7/6   3000pST   OK     76850   50025   27.5   HB 137   3000pST   OK     77575   50750   29.0   HB 140   3000pST   OK     78300   50750   28.0   HB 135   3000pST   OK     1. We hereby certify that the material has been manufactured, sampled, tested and inspected in accordance with the required standards.   2. Properties compliance toDIN 50049 3.1B /UNI EN 10204 3.1B     3. BRINELL /Rockwell hardness certified to MACE MR-0175-99.	J	76125		54375		33.	0			HR.	Ī	2	3000P	×		<del> </del>	45	HE
No.   No.	1	(206)		28000		33.	o			H			3000F	iz.		<u> </u>	ž	A
76850   50025   27.5   718   137   3000pSi   OK   71575   50750   29.0   HB   140   3000pSi   OK   718300   50750   28.0   HB   140   3000pSi   OK   718300   1. We hereby certify that the material has been manufactured, sampled, tested and inspected in accordance with the required standards.   2. Properties compliance to DIN 50049 3.1B /UNI EN 10204 3.1B   3. BRINELL /Rockwell hardness certified to MACE MR-0175-99.   QUALITY MANAGER.   2. Properties compliance to DIN 50049 3.1B /UNI EN 10204 3.1B   3. BRINELL /Rockwell hardness certified to MACE MR-0175-99.   COLOURED   COLOUR	-	80475		28000		36.	0				<u>آ</u> ,	L	3000				3	T
77575         50750         29.0         1.	Į	76850		50025		27.	2				ı		3000			1	<del>S</del>	-6
1. We hereby certify that the material has been manufactured, sampled, tested and inspected in accordance with the required standards.  2. Properties compliance to DIN 50049 3.1B /UNI EN 10204 3.1B  3. BRINELL /Rockwell hardness certified to NACE MR-0175-99.	ŀ	77575		50750		29.	0					_	3000			+	4 2	, 22
1. We hereby certify that the material has been manufactured, sampled, tested and inspected in accordance with the required standards.  2. Properties compliance toDIN 50049 3.1B /UNI EN 10204 3.1B  3. BRINELL /Rockwell hardness certified to NACE MR-0175-99.	ı	78300		50750		28.	0				ı	_	30000			+	ź į	
QUALITY MANAGER	₹		Ve hereby certify t	that the material has be	een manulac	tured, sampled	I, tested and	inspected in	accordanc	e with the rea	Tuired stanc	dards					4	, ,
QUALITY MANAGER ( )		2. Pr	operties comp	pliance toDIN 500	149 3.1B	JNI EN 102	204 3.1B					İ						۱-۲
A SUPPLIED TO SUPP		3, BR	UNELL /Rock	kwell hardness cer	tified to N	ACE MR-0	175-99						Č	7		<	A CT	D
		10 %	בנט זעשאניטינור	· ·									Š	-		1	_	2

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

B. For pipes > 1" longitudinal strip specimen were used; the width of [ A. For pipes ≤1" full length specimen were used;

5. Origin: Made in China.

6. Materials confirm to ANSI B36, 10

PC COMPRESSION BANE PETPETIVE 114" MAY P.O.# 510213 SIGNATURE:

APPROVED BY Q.C. INSPECTOR

APR 03 2006

Description: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE Date: FEB. 10, 2006

Name of Customer: CE FRANKLIN

Contract No: 05HGC12453

HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

MILL TEST REPORT

Add: 10 Dalixincun, Hengyang City, Hunan, China Tel and Fax: +86 734 8873739 8872942 Cable: 6993

P.C.

] SCH 80 SULS PIPE HEAT #: 621373

3. 095 BEND 3,600 CERTIFICATE NO: 060202 QUANTITY ACTUAL WEIGHT(MT) TEST 8 OK 송 9K OK 충 0.34 0 0 0 9 31, 476 12, 285 38, 325 38, 325 30.980 38, 325 TEST 2,555 0.0020.003 0.002 0.0 0.01 ŝ 0.02 0.01 0.0 SPEC: ASTM A538-2002/A1068-2002a, ASME SA53B/SA1068-2004, API 5LB/X42, PSL1-2004, NACE MR-0175 16800 00891 18960 7400 CHEMICAL COMPOSITION 3000PSI 3000PSI 3000PSE 3000PSF 3000PSI 3000PSI 3000PSI 0.03 0.03 0.04 0.04 0.04 0.03 PIECES 933 948 840 840 840 HARDNESS ಶ 0.10 60.0 0.07 158 156 155 157 HRC HRC HRC 0.006 0.008 읲 읲 黑 呈 0.007 0.0120.007 BUNDLES 0.013 0.007 0.015 0.007 0.013Page: 3/6 かい/150%でい 2057.60 200 1501 Μ'n 0.64 0.61 99.0 0.65C 20-1511 0.35 0.30 0, 29 0, 31 0.31 2"\*0.218"\*20FT 2"\*0.154"\*20FT 2"\*0.154"\*20FI 2"\*0.154"\*40FT 2\*\*0.218\*\*20FT 2"\*0,218"\*20FT 2"\*0.218"\*20FT 0.19 0.19 0.200.19 0. 20 **ELONGATION** 28.0 27.5 30.0 32.0 33.0 35, 0 **ULTRASONIC TEST** X42 KONDESTRUCTIVE TEST TOTAL: 4642PIECES, 75BUNDLES, 192, 271 MT, 96540FT 250 035 YIELD STRENGTH 3,0 200 48575 61625 90609 52925 49300 61625 47850 CURRENT TEST GRADE X42 Ŏ. 용 일 위 의 의 의 EDDY ( NO. 0621356 0621356 0621373 0621369 0610316 TENSILE STRENGTH 0610316 0621357HOT-ROLLED
HOT-ROLLED 75400 94250 93525 81925 75400 94250 CONDITION 73950 HOT-ROLLED HOT-ROLLED HOT-ROLLED HOT-ROLLED HOT-ROLLED 961302901 | DECIVERY 961102804 961202909 961102803 961202912 961102803 961202911

1. We hereby certify that the material has been manufactured, sampled, tested and inspected in accordance with the required standards. 2. Properties compliance to DIN 50049 3.1B /UNI EN 10204 3.1B **REMARKS**:

HEAT CODE: 2DE

- BRINELL /Rockwell hardness certified to NACE MR-0175-99.
- SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2")
- A. For pipes≤1" full length specimen were used;
- B. For pipes > 1" longitudinal strip specimen were used; the width of the gauge length po
  - 5. Origin: Made in China.

6.Materials confirm tn ANSI B36.10, A-530/A-530M

ntion DAME	RECEIVED JON 1 7,000	<u> </u>
SIGNA APPRC	SIGNATURE: W APPROVED BY Q.C. INSPECTOR	

QUALITY MANAGER

MAY 15 2006

Contract No.: 06HGC01038

## HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

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	Add: 10 Dalixincun, Hengyang City, Hunan, China	9 8872942					CATE NO: 0603045		WEIGHT(MT)	-								TAN 7/C	)	4. 7	4.65	1 4. 944	5. 412	3. 524	5.176	9 5.17		TEST	ğ	ğ	ğ	ğ	ğ			人ないままで		( C A A A
	incun, Hengyang	Tel and Fax: +86 734 8873739 8872942	•	2 5	100		CERTIFICATE	QUANTITY	(ML)	32. 128	32, 128	32, 128	33.003	6.717	3.630	26.241	%	N IPR	Т	Т	╗	╗	۵	Ŧ	7	0.003 0.009	FLATTEN	ESI	-	   <del> </del>				ğ	Ø.	1		MANAGES
	Add: 10 Dalix	Tel and Fax: +	Cable, 600	C4016: 0993		4000	888	FEET		14080	14080	14080	9/40	1640	1380	7620	APOSITION -	CR IMO	2	700	70.00	T	0.02	0.02	0.01 0.01	O U. UI U. UI	TEST	1 E.S.1	3000001	200000	Socoror	3000F3I	SUMPSI	SOURS	3000PSI			OUALITY MANA
CO LTD						MACE MD-0478 4000		PIECES	102	100	107	107	104	78	69	381	CHEMICAL CO		0.07	0.0	000	00 00	0. 13	00.00	0.07	70.70	HARDNESS R	139	142	130	155/166	1557	200	107	155	ired standerds.		
TUBE (GROUP)	· . :	REPORT		29, 2006	4/6	PSI 1-2004		BUNDLES	21	2	3					12	C		0.015 10.007	T	Т	Т	T	7	T	Т		<u> </u>		1	H H				€[	rdance with the requ		
HENGYANG STEEL TUBE (GROUP) CO., LTD		MILL TEST REPORT		Date: MAR. 29, 2006	Page:	. API 5LB/X42			ľ	ľ	OFT OFT	ı	1	٦,	1	Ur! 13996		SI	0.55 0.94	0.52	7-	т	т	Т	0.51	7										and inspected in acco	B	
HUNAN HEN		_		a		SPEC: ASTM A538-2002/A1068-2002a, ASME SA53B/SA1068-2004, API 5LB/X42. PSL1-2004. NACE		SIZE	2"*0.218"*9	2"*0 218"*9	2"*0.218"*20FT	2"*0 344"*9	2"*0 436"*9	3-1/9**0 309	9 " LO 016 TO	3 *U. 610 *2UF	10	ULIRASONIC TEST C	0. 20	0.20	0.18	0.17	0.21	0.17	0.17	(%) 9	ELONGATION	27.5	29.5	28.5	28.5	29.0	28.0	35.0	99.0	<ul> <li>we nereby certify that the material has been manufactured, sampled, tested and inspected in accordance with the required standards.</li> </ul>	<ol> <li>Properties compliance to DIN 50049 3.1B /UNI EN 10204 3.1B</li> </ol>	<ol><li>BRINELL /Rockwell hardness certified to NACE MR-0175-99.</li></ol>
				Oil And Gas Us	<u>5</u> MT, <u>62620</u> FT	ASME SA53	_		9	(35)	250	(30) (30)	12.7			NONINEGROUP TO THE	į.	+								(PSI)	RENGTH	00	00	75	25	25	25	75	1	ias been manufach	50049 3.1B /U	certified to NA
	3	ARLIN	Y.A	Steel Pipe For (	NDLES, 165.97	106B-2002a,	STEEL	GRADE	X42	X42	X42	X42	X42	X42	647	NONDECT	TOTAL STATE	EDUT CURRENI IESI	Š	OK	¥	Š	QK K	OK OK	ğ	ISA) so	YIELD STRENGTH	52200	49300	51475	55825	55825	52925	54375		ry that the material	mpliance toDIN	ockwel! hardnes
26HGC01038	Name of Customer, OR DD ANICE IN	HIGH CELEVAN	P.O.NO.:PO.1441650-OR-2100-A	Description: Seamless Carbon Steel Pipe For Oil And Gas Use	TOTAL: 3131PIECES, 81BUNDLES, 165.975MT, 62620FT	A53B-2002/A	HEAT	NO.	3 0610786	5 0621917	3 0621921V	4	0513231	0610790	1	L	لـ د	+	LLED	LLED	TED	TED	LLED	LLED	CLED	(PSI)	TENSILE STRENGTH	80475	76125	79750	79750	79025	73225	76850	We have been been	. We nereby certif	. Properties con	BRINELL /Ro
Contract No.: 06HGC01038	Jame of Custor	vanie or custor	*O.NO.:FO.14	Description: Se	OTAL: 31311	PEC: ASTM.	BATCH		963300403	963300405	4	┥	863300525	963101711	-	DELIVERY	_	TOTAL TOTAL	ON-TON	HOT-ROLLED	HOT-ROLLED	HOT-ROLLED	HOT-ROLLED	HOT-ROLLED	HOT-ROLLED			<b>8</b>	76	79	79	79	73	76	REMARKS.		6	ei.
		- F	-	<b>-</b> 1	<u>ר</u> ן	S)	Ş	<u> </u>	7		_	-	9	17	18	<u>L</u>	<u> </u>	-	: ]			12	91	11	18	Ž		41	_		22	9	14	18	۳			

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

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

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

5. Origin: Made in China.

6. Materials confirm to ANSI B36.10

**QUALITY MANA** APPROVED BY Q.C. INSPECTOR PCCOMPRESSION RECEIVED JUN SIGNATURE: DATE PO.#

Contract No.: 06HGC01038

Name of Customer, CE FRANKLIN L/C NO. 5FAHDS-00773

P.O.NO.:PO.1441650-OR-2100-A

### MILL TEST REPORT

HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

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

1	"h" s	C.F.	18	0	فد	M	25	P	P	Ē,	He	Sant	L#	4	H	ર દ	יוני	787	8-	3	ħ	Sec	l Co	DE	3		1.	5
872942			NO: 0603045	ACTUAL	WEIGHT(MT)								Ö	0.29 🗸	0.29	0.30	0.30	0.32	0.33	0.29	SEND	320	ŠČ	j j	ě	Šě	ď	ď
lei and Fax: +86 734 8873739 8872942			CERTIFICATE	CUANIFF (	(IW)	10.085	10.085 8 994	9 833	5.361	3,800	10, 699		M PB	0.00 0.011		П	0.00 0.014	T	710 0 00 0	0. 00 011	TEST							1,
lei and Fax: +86	Cable: 6993 P.C. 421001	. 6		FEET	00601	10900	4900	2740	3940	3080	6480	1	丁	╗	0.03	Т	0.00	Ţ	Т	T)	TEST	2500PSI	2500PSI	2500PSi	2500PSI	2500PSI	2500PSI	2500PS[
		68-2004, API 5LB, PSL1.2004, NACE WR-0175-1999		PIECES	570	510	245	137	197	154	324	4	0 03	0.00	300	0	0.04	0.04	0.03 0.01	_	UNESS	- 1	4.5	130	127	5.5	4.0	127
	29, 2006 2/6	L1.2004, NAC	2 101410	DONDLES	5	5	4						0.016 10 027	7	0.015 0.030	0.015 0.030	0.015 0.020	0.014 0.020	0.016 0.027			E	HEC		€ .	3	THE THE	QL I
1	Date: MAR. 29, 2006 Page: 2/6	4, API 5LB, PS			20FT 1132566	20FT 1.73.54	1	1	Ι.	1	N	NAT IS	24	0.24 0.49	0.24		0. 22	0.26 0.	0.24	∵ Ak —	IMPAC						  -	
	Se	B/SA106B-200	SIZE	777	-:I.	∹ا۔		1-1/4 *0 140 *20F	1-1/2**0.145"*20FF	1-1/2"*0.200"*20F		ULTRASONIC TEST C	0.20	0. 20	0.21	0.21	0.23	0. 23	0. 20	(%) 0	ELONGATION 41.0	48.0	43.5	33.0	31.0		33.0	
	Description: Seamless Carbon Steel Pipe For Oil And Gas Use TOTAL: 2077PHECES, 27BUNDLES, 49,197MT, 41540FT SPEC: ASTM ASTR-2002/A408E	BATCH HEAT STOOM ASME SAGSBISA10		+-	2	285	Q .	2000	OFS.	C#5	팃								0 c (PCT) T	VIELD STRENGTO	44950	44950	46400	44225	44225	44225	47850	Il hus been manufacts
2100-A	Description: Seamless Carbon Steel Pipe For Oil And Gas U TOTAL: 2077PHECES, 27BUNDLES, 49,197MT, 41540FT SPEC: ASTM A53R-2002/A408E	AT CAPET	_	5	88-3 1						NONDE	EUDY CURRENT TEST	ž į	á	S d	ŠŽ	Šě	ð			_	4	4(	46	44	44	47	1. We hereby certify that the material has been manufactured sample
F.O.NO.:PO.1441650-OR-2100-A	2077PIECES, 27	BATCH HEAT	<u></u> .	538 062	563200539 06201988-3		Н	_	552101401 06301166-3	203200545 06201988-3		OLD-DRAWN/7xn	OLD-DRAWN(78671	OLD-DRAWN(7807)	OLD-DRAWN(780°C	OLD-DRAWN(780°C)	OLD-DRAWN(780°C	OLD-DRAWN(780°C	ob (PSI)	TENSILE STRENGTH	00969	00969	71775	67425	68875	68875	~I	
F.C.NO.	TOTAL:	BA	2	6 5632	5632		┪	┪	11 5695	┥	NO.	6 2010-1	COLD-	7 DOLD-	8 COLD-1	3-C101 6	1-0.101 01	1.0.01 11	CN		9		, [	200	200	O.I.	27.0	KEMAKKS:

has been manufactured, sampled, tested and inspected in accordance with the required standards. 2. Properties compliance to DIN 50049 3.1B /UNI EN 10204 3.1B

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

4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2") A. For pipes ≤ |" full length specimen were used;

B. For pipes > 1" longitudinal strip specimen were used; the width of the gauge length portion is 3.44"

6.Materials confirm to ANSI B36.10 5. Origin: Made in China.

PC COMPIPERTY MANAGER AUS 1 6 2006 RECEIVED

SIGNATURE: # O t

APPROVED BY C.O. NOSPETOR

SCH80 SMLS PIPE HEAT#: 5111541-3

060202

ÿ

CERTIFICATE

SPEC: ASTM A53B-2002/A106B-2002a, ASME SA53B/SA106B-2004, API 5LB, PSL1-2004, NACE MR-0175-1999

SIZE

COANTITY SE SE 1.210 986 3.692

FEET

PIECES

BUNDLES

1132559 112255 राज्य ह

/2"\*0.294"\*20F \*0. 147\*\*20F

3/4"\*0.113"\*20F 3/4"\*0.154"\*20F

540 ŝ 7 A

身 9

GRADE STEEL

HEAT

3840 5500 1560

4620 7620

275 275 231 381

13594 1138±6 MERCH **9**0,2,5€

1132114

Add: 10 Dalixincun, Hengyang City, Hunan, China

HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

MILL TEST REPORT

Date: FEB, 10, 2006

Description: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE

Name of Customer: CE FRANKLIN

Contract No: 05HGC12453 L/C NO. SFAHD5-00774 P.O.NO: 1441611-OR-2100-A

TOTAL: 2331PIECES, 17BUNDLES, 37,089MT, 46620FT

Tel and Fax: +86 734 8873739 8872942 Cable: 6993

421001

P.C.

WEIGHT (MT

8

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0. 20 0.19 0.20 0.20

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COLD-DRAWN(780°C)

COLD-DRAWN(780°C)

COLD-DRAWN(780°C)

COLD-DRAWN(780°C

COLD-DRAWN(780°C)

COLD-DRAWN(780°C

COLD-DRAWN(78C

CONDITION

DELIVERY 561100516

561200533 561100514

76111122

0.20

ULTRASONIC TEST

EDDY CURRENT TEST OK

**¾**11.

B NONDESTRU

\*0.179\*\*20FJ

\*0.179\*\*20F

"\*0.179"\*20FT "\*0.133"\*20F

7620

381 88

COMPOSITION

CHEMICAL

8

8.8 8

8

7,536 . 520

0.00 0.00 FLATTEN

HYDROSTATA

HARDNESS

MPACI

**ELONGATION** 

YIELD STRENGTH 44225

TENSILE STRENGTH 68150

71050

68875

68150 67425

REMARKS:

00969

44950 46400 44950 44225

45.5

33.0 42.0 43.0

44.0 46.0 42.0 42.0

0.20

0.20

HEAT COOE! 1-15,

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2500PSI

2500PSI

2500PS1 2500PS1

HRC 黑黑 景

医离

2500PSI 2500PSI

2500PSI

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힞 Q K

PUALITY MANAGE

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

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

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

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

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

PC COMPRESSION DATE RECEIVED MAY B. For pipes > 1" tongitudinal strip specimen were used; the width of the gauge length portion is 3/4"

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

6.Materials confirm tn ANSI B36.10, A-530/A-530M

5. Origin: Made in China.

LISEY

HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST REPORT

Date: MAR. 08, 2007 Page: 1/4

DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE

Name of Customer: CE FRANKLIN P.O.NO.: PO.1641961-OR-2100-A

Contract No.: 06HGC11639-1-4 L/C NO. 7F 4HD5-00084

Add: 10 Dalixincum, Hengyang City, Huran, China Tel and Fax: +86 734 8873739 8872942

Cable:

421001 P.C.

ſ		Т		П	7	Т	7	Т	T	Т	7		7	Т	Т	Т	Т	_	1	Т	T		Ţ	Т	
	NO: 07-02	- 1	ACTUAL WEIGHT(MT)	N/A	N/A	N/A	N/A	N/A	N/A	  -  -						-	4	BEND	1631	Š	¥6	ğ	ЖO	ă	ă
	CERTIFICATE NO: 07-02-	- 1	QUANTITY (MT)	5.062	12.56	14.932	10,048	2.353	10.897		v GE	0.000 0.289	0.01 0.321	0.01 0.321	╗		0.000 0,289	FLATTEN	Į.	N/A	N/A	N/A	N/A	N/A	N/A
		1	FEET	10240	12700	15100	10160	1820	0099	%	ΨO	0.00	0.01	0.01	_	0.01	8	ATIC .	1	IS	SI	SI	Sĭ	Į.	Şi
	, CSA 224		FF	10	12	16	10	1	٥	COMPOSITION	<u>ئ</u>	0.02	ı	0.03	0.02	1 0.05	1 0.02	HYDROSTATIC	EST	2800 PSI	2800 PSI	2800 PSI	2800 PSI	2800 PSI	2800 PSI
	75-1999		PIECES	512	635	755	808	91	330	- 1	Z O	32 0.01	3 0.01	0.01	0.01	03 0.01	0.00 20		-	3	2,5	2.5	.5	3	_
	CE MR-0		ES						_	CHEMICAL	S	0.016 0.02	0.017 0.03	0.017 0.03	0.025 0.04	0.007 0.03	0.016 0.02	HARDNESS		HRC	HRC 2.	HRC 2	HRC 3.	HRC 2,	HRC3. 5
_	2004,NA		BUNDLES	3	5	9	4	1	9		<u>а</u>	0.016 0.	0.016 0.	0.016 0.	0.021 0.	0.027 0.	0.016 0	_							
Page: 1/4	.B, P9L1		:	YZSEE	1132ach	3.2.5.6	33356	NA BASO	112330		Min	0. 44	0.47	0.47	0.53	0.55	0.44	Ak (J)	IMPACT	N/A	N/A	N/A	N/A	N/A	N/A
	4, API 5			١.	-	1					:S	0.22	0.23	0, 23	0.28	0.25	0.22	_	z			_	L		
	068-200		SIZE	1/2"*0. 147"*20FT	1**0.179**20FT	1**0.179**20FT	1**0.179**20FT	1"*0.250"*20FT	1-1/2"*0, 200"*20FT		ssr C	0.21	0.23	0.23	0.20	0.20	0.21	6 (%)	ELONGATION	31.5	43.0	38.5	43.0	42.5	32.5
표	338/SA1			1/2	1,1	1,	1,	-	1-1/	TEST	ULTRASONIC TEST	N/A	N/N	N/A	N/A	N/A	N/A	L		_	  -		_		
.852MT, 56620FT	ASME SA			L			-	<u> </u>		STRUCTIVE TEST	T ULT	┝		_	_	_	_	os (PSI)	D STRENGTH	46400	45675	47125	46400	45675	45675
LES. 55.852N	SPEC: ASTM ASSB-2002/A1068-2002a, ASME SASSB/SA1068-2004, API SLB, PSL1-2004,NACE MR-0175-1999, CSA 2245.1		STEEL	8	<b>_</b>	<u></u>	<u>_</u>	m	п	NONDESTR	EDDY CURRENT TEST		ğ	ğ	ş	ğ	ğ	1	YIELD SI	46	45	47	\$€	45	45
ES. 25BUND	B-2002/A1(	<b>GORY 1-200</b>	HEAT	07300249-1	07301185-1	07301185-1	17301184-1	17201255-1	07300249-1	_	<u>.                                    </u>	t	_				_	PSI)	TRENGTH	.5	Į.	¥9	S S	35	32
TOTAL: 2831PIECES, 25BUNDLES, 55.	ASTM A53	GRADE 290 CATEGORY L2005	BATCH	18	т-	┰		572100696 07201255-	572200987	DELIVERY	CONDITION	NORMALIZED	NORMALIZED	NORMALIZED	NORMALIZED	NORMALIZED	NORMAL 12ED	(ISA) 90	TENSILE STRENGTH	71775	70325	73225	71050	70325	70325
TOTA	SPEC	PRADI	Š.	ľ		╁	1		$\vdash$	╄	o Z	+		+	╁	-	<del> </del>	.  ;		†-	, ,	+	t	<u>_</u>	Ţ.,

REMARKS: 1. We hareby certify that the material has been manufactured, sumpled, tested and inspected in secondance with the required standards.

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

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

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

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

5. Origin: Made in China.

6.MATERIALS CONFIRM TO ANSI B36.10,, A-530/A530M-2003

QUALITY MANAGER:

APPROVED BY Q.C. INSPECTOR PC COMPRESSION DATE RECEIVED 510395 SIGNATURE: NO P.O.#

### 1/2" SCH 80 SM IS PIPE HEAT #: 06/06555-1 HEAT CODE: .5Q

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

HENGYANG VALIN STEEL TUBE CO., LTD MILL TEST REPORT

6993 Cable:

421001 P.C.

Date: AUG. 23, 2006

DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE

Name of Customer: CE FRANKLIN P.O. NO.: PO.1521057-OR-2100-A

Contract No.: 06HGC06324 L/C NO. 6FAHD5-00415 TOTAL: 1343PIECES, 2BUNDLES, 15,399MT, 26860FT

HEAT	BATCH HEAT STEEL		Ĺ				0.00	2	6		Ţ,	QUANTITY	ACTUAL
	GKADE	מ	SIZE		-	BUNDLES	LES	al.	rieces	1221	.1	(MT)	WEIGHT(MT)
	CARS 8		1/2"*0.109"*20F1	,_	C.V.E.V	1		1	110	2200	0	0.848	N/A
1 1	B 540		1/2"*0, 147"*20FT		13358	3		39	550	11000	)0	5.438	N/A
ŀ	8		3/4"*0.113"*20FT	_	215/21/			[]	114	0877	0	1.179	N/A
	8		3/4"*0.154"*20FT		9/80			)†	406	8120	0	5, 45	N/A
	8 SH2		1"*0.133"*20FT		11 उत्तर	1		)[	163	3260	0	2, 484	N/A
0	NONDESTRUCTIVE	TIVE TEST					CHEM	CHEMICAL COMPOSITION	COMPO	SITION	%		;
5	EDDY CURRENT TEST ULT	ULTRASONIC TEST	0	Si	uМ	P	S	ರ	ź	ე ე	Mo	V AL	CE
۲	OK	N/A	0.21	0.24	0.47	0.019	0.018	0.03	0.01	0.05 (0	0.00	0.000 0.000	0.000 0.301
١	OK.	N/A	0.21	0.26	0.48	0.017	0.021	0.03	0.01	0.03	00.00	000 0 000 0	0. 000 0. 299
۲	OK	N/A	0.20	0.26	0.47	0.018	0.022	0.05	0.02	0.03	0.01	0. 000   0. 000	0.000 0.291
۲	OK OK	N/A	0.21	0,26	0.48	0.017	0.021	0, 03	0.01	0.03 (	00 0	0.000 0.000	0,000 0,299
۲	Ж Ж	N/A	0.21	0.21	0.46	0.016	0.022	0.03	0.01	0.03	00.0	0.000 0.000	0. 000 0. 295
	os (PSI)	(%) 9	(3		Ak (J)		HABL	HABINEGE	HY	HYDROSTATIC	LIC	FLATTEN	BEND
>	YIELD STRENGTH	#   ELONGATION	\TION		IMPACT	_	74.50	COUNT		TEST		TEST	TEST
ŀ	43500	35.0	0		N/A		HRC	3.5		1000 PSI		N/A	OK
ı	44225	43.0	0		N/A		HRC	3.5		1000 PSI		N/A	ÖK
	44950	41.0	0		N/A		HRC	4.0		1450 PSI		N/A	ğ
	44950	44.0	0		N/A		HRC	4.0		1450 PSI		N/A	š
	44950	43.0	0		N/A		HRC	4.5		1450 PSI		N/A	Š

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

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

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

QUALITY MANAGER:

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

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

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

5. Origin: Made in China.

6.MATERIALS CONFIRM TO ANSI B36.10



### LETTER OF COMPLIANCE

TO WHOM IT MAY CONCERN,

WE HEREBY CERTIFY THAT ALL MAS BALL VALVES: 8-SERIES BRONZE,
C-SERIES CARBON STEEL, AND G-SERIES STAINLESS STEEL BALL VALVES ARE
MANUFACTURED IN ACCORDANCE WILL ALL PUBLISHED SPECIFICATIONS

REGARDS,) M. A. STEWART & SONS LTD.

EDMONTON BRANCH MANAGER

)" HC: 0108

	PC COMPRESSION
DATE	RECEIVED JUN 0 5 2008
P.O. #	510340
	TURE: W
APPRO	OVED BY Q.C. INSPECTOR



Date: 05/31/2007

### CERTIFICATE OF COMPLIANCE

Sales Order::883552

Customer : CE FRANKLIN LTD

Purchase Order : 1782826-OR-2100

Part Number: 9K-820-023100-280

SKU Number : 1402917

Description: 2" 1000 FNPT DUCTILE NACE SCV

These valves were manufactured and tested, and are in accordance with Cameron Valves & Measurement's standard practices / procedures, and were produced following an ISO 9001 - 2000 Quality system.

VALVE DESCRIPTION 2" (DI) THREADED END 1000# PSI WORKING PRESSURE

PRESSURE TESTS

Hydrostatic Shell Test

1500 PSI

0.5 MINUTES

Hydrostatic Seat Test

900 PSI

0.5 MINUTES

MATERIAL TEST REPORTS

All materials used conform to NACE MR-0175, latest edition.

PART DESCRIPTION

MATERIAL SPECIFICATION

Body

**ASTM A395 DUCTILE IRON** 

Cover

ASTM A395 DUCTILE IRON

Clapper/Arm

ASTM A351 CF8M Stainless Steel

Whealley Sung check HEAT #\$ 911522 002991

Cameron Valves & Measurements Representative

PC COMPRESSION
DATE RECEIVED FER 1 3 2008
P.O. # 50980/
SIGNATUHE //
APPROVED BY Q.C. INSFECTOR

150V



### LETTER OF COMPLIANCE

TO WHOM IT MAY CONCERN.

WE HEREBY CERTIFY THAT ALL MAS BALL VALVES: B-SERIES BRONZE,
C-SERIES CARBON STEEL, AND G-SERIES STAINLESS STEEL BALL VALVES ARE
MANUFACTURED IN ACCORDANCE WILL ALL PUBLISHED SPECIFICATIONS

REGARDS) M. A. STEWART & SONS LTD.

RANDYK, LONG EDMONTON BRANCH MANAGER

k: 1206

PC COMPRESSION

DATE RECEIVED JUN 0 5 2008

P.O. # SIDSHO

SIGNATURE: P

APPROVED BY Q.C. INSPECTOR



Date:

November 8, 2004

SALES ORDER #: 55105

**CUSTOMER:** 

**CE FRANKLIN** 

DFC FIGURE #:

820-013100-231

**PURCHASE ORDER #:** 

1191115-OR-2100

SKU #:

1402811

### **CERTIFICATE OF COMPLIANCE**

These valves were manufactured and tested, and are in accordance with Dresser Flow Control's standard practices / procedures, and were produced following an ISO 9001-94 Quality System.

VALVE DESCRIPTION

1" (DI) THREADED END 1000# PSI WORKING PRESSURE

WHEATLEY SWING CHECH

PRESSURE TESTS

Hydrostatic Shell Test Hydrostatic Seat Test

<u>1500</u> PSI 900 PSI **MINUTES MINUTES** 

### **MATERIAL TEST REPORTS**

All materials used conform to NACE MR-0175, latest edition.

### PART DESCRIPTION

**MATERIAL SPECIFICATION** 

Body

Cover

Clapper/Arm

**ASTM A395 DUCTILE IRON ASTM A395 DUCTILE IRON** 

ASTM A351 CF8M Stainless Steel

Regards,

HC: 1085544, 1079245, 1064921, 1042203

Quality Control Representati

**Dresser Flow Control** 

PC COMPRESSION DATE RECEIVED JUN 0 3 2008

510327 P.Q. # SIGNATURE: /

APPROVED BY Q.C. INSPECTOR



. 77

### LETTER OF COMPLIANCE

TO WHOM IT MAY CONCERN.

WE HEREBY CERTIFY THAT ALL MAS BALL VALVES: B-SERIES BRONZE,
C-SERIES CARBON STEEL, AND G-SERIES STAINLESS STEEL BALL VALVES ARE
MANUFACTURED IN ACCORDANCE WILL ALL PUBLISHED SPECIFICATIONS

REGARDS,

M. A. STEWART & SONS LTD.

RANDYK, LONG

EDMONTON BRANCH MANAGER

1 1007

PC COMPRESSION 9 2008

DATE RECEIVED APR 0 9 2008

P.O. # SIO O3/

SIGNATURE: AC

APPROVED BY Q.C. INSPECTOR

and the state of the state of the state of



Date:

October 2, 2003

SALES ORDER #:

48371

CUSTOMER:

CE Franklin Ltd.

DFC FIGURE #:

820-503027-131

**PURCHASE ORDER #:** 

925925-OR-2100

SKU#:

1405077

### **CERTIFICATE OF COMPLIANCE**

These valves were manufactured and tested, and are in accordance with Dresser Flow Control's standard practices / procedures, and were produced following an ISO 9001-94 Quality System.

VALVE DESCRIPTION

1/2" (WCC) THREADED END 2160# WORKING PRESSURE (

### PRESSURE TESTS

**Hydrostatic Shell Test Hydrostatic Seat Test** 

3250 PSI 2400 PSI **MINUTES** MINUTES

### **MATERIAL TEST REPORTS**

All materials used conform to NACE MR-0175, latest edition.

### PART DESCRIPTION

MATERIAL SPECIFICATION

Body Cover

Clapper/Arm

ASTM A216 WCC Carbon Steel ASTM A216 WCC Carbon Steel ASTM A351 CF8M Stainless Steel

Regards,

Quality Control Representa

**Dresser Flow Control** 

Wheatley Surns check HEAT CODE: 2110/275

PC COMPRESSION RECEIVED MAR C 6 2008

3707 - 97th Street, Edmonton, Alberta T6E 6J2 Telephone: (760) 463-6868 Fax: (760) 465-1244

SIGNATURE:

APPROVED BY Q.C. INSPECTOR





204821 ...sc



Tensile Report D77954

Customer: Material: Customer I Specificat Test Results:	<u>12L14</u> Inso: <u>1</u>	E METALS 250"HEX X 6" T HN: TENSILE PE	<u>EST B</u>				.0.#: <u>21-764871</u> cs: <u>1</u>
No.  1  Comments:	Size (IN) <u>505</u>	Yield (PSI) <u>66.000</u>	/ ###	Tensile (PSI) 66.900	 Elong, (%) <u>10</u>	Reduction (%)	Hardness <u>149 BHN</u>

HIVDC-4Q.

Date: 4/12/2007

Operator: JON DOWN

BAN HOLE (05-0012-063 HEATIST 2717 291/4/c=D031 HEATIST A. Martine 4-19-07

7825 Hillmont Houston, Texas 77040 (713)690-2703

2000 East 151 St. Maryville MQ. 64468 U.S.A. LiMF Steel & Wire Co.

Order ID: C035411/1

Cust. PO Number: 27-15267

Castle Metals (Grand Prairie)

Printed: 4/5/2007

Material Certification.

LMP Part number: 1551250-003 - 12L14 EX 1 250 X 12 CD

Customer Part Number: 53104

0.00 0.00 CHEMICAL ANALYSIS ≯§ 0.503 0.00 5.00°. ģ ZŠ ω<mark>ģ</mark> 777291 , જુદુ HEATH 0.670 - 1.895

2 € Cross Section Area Reduction(%) PHYSICAL PROPERTIES Elozgation [%) Yield (psi) 65,759 777293 Tensile (psi) 66,466 HEAT. #

Manufactured in the USA

MEUTS THE REQUIREMENTS OF: G12144-27; UNSFC12144 EN 10204 3.1, DIN EN 10204:2005 3.1

SIRVED Cast

Grain Size

MEETS THE REQUIREMENTS OF; G12114-06; UNS#G12114

Meets the requirements of ASTM A108-03e1

Reduction Ratio

CASTLE METALS-DAL DATE RECOUND REC'ID FROM LAM APPROVED BY.

i Mechanical results in accordance to ASTM ES, E10, E11 and A370. All other tests are ptriormed in accordance with the requirements of applicable specifications unless otherwise noted. LMP herety

2 kiny modification of this certificate of inspection as provided by LMP Sheel & Wire without the expressed written consent of LMP Sheel & Wire regards the validity of the extitional. This sentificate shall not be coprided

3 The chemistry analysis provided within this cartification is pravided by LMP Steal & Wirds material producer LMP does not postern chemical analysis on certified material.

RECEIVED

APR - 9 2007

A This material is free from mercury contamination.

No welding or weld tepair was performed on this material.

6. 180 9601.2000 certified. Certificate NO. 990815, Expires October 29, 2008.

DAW MT # 05-0012 06/3 CASTLE. DA Farried R. Krosel

Quality Control Managor

W-7-DOGISTICS.

09:17 06/98/00

₩780 435 0483



M. A. Stewart & Sons Itd.

Editories, Aberta, Corner THE SVS LEE TAB

Phone 1-800-202-7-578 Plane (ALL) ALL PER FAX (ALL) SUE DASE

MARCH 21, 1996

LUBLIN. LETTER OF COMPLIANCE

(MAS #CSSDR-1 / CSCR-2)

We hereby certify that the MAS Models #CSSDR-1 and CSCR-2 are manufactured in strict complience with the specifications listed in Brochure #CA D899

Should you require additional technical data, please do not heritate to call,

Yours truly,

M. A. STEWART & SONS LTD.

Edmonton Branch Manager

PC COMPRESSION RECEIVED MAY 1 2 2008 PO # 510142

SIGNATURE:

APPROVED BY Q.C. INSPECTOR



### **CERTIFICATE OF COMPLIANCE**

TYCO SALES ORDER: 3079308-00

CUSTOMER: PC Compression Inc.

**CUSTOMER PURCHASE ORDER: 506677-00** 

PRODUCT DESCRIPTION: H5RDC-2 and H5RDC-22

We hereby certify that the valve(s) furnished on the aforementioned order are in accordance with standard materials, manufacturing, production and test specifications, and meet the requirements of the purchase order for which they are required.

Supplied by Tyco Flow Control ISO 9001-2000

PC COMPRESSION

DATE RECEIVED IIII 10 2000

P.O. # 506677-00 TW

SIGNATURE: HC.

APPROVED BY Q.C. INSPECTOR

John Buisman
Operations Manager
Tyco Flow Control



### Material Test Report Data - Certificate of Test

11/05/2007

AGS GROUP INC 4144 78 AVENUE

EDMONTON, AB T6B 3M8

CANADA

DAN-Item 5	LOC Orde Qty 1305	Ē	ber: 8022 AN-LOC HSL07				Cus Product B7M ATS	stomer P(		r: 01238 Size X 2-1/2" F		Mill Hea 4510		i	Standa ASTM A1	
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The products referenced in this report were manufactured, sampled, tested and inspected in accordance with the specifications listed and any supplementary requirements or other requirements designated in the purchase order or contract and were found to meet those requirements. This report also certifies that the results shown are correct as contained in the company records and conform to the requirements of the listed standards. The results shown relate only to the items tested as identified above. The material noted within this document complies with the mechanical testing requirements within ASTM 193/194, as applicable. This certificate shell not be reproduced except in full, without the written

Isaac Armijo

Authorized Signatory (Typeset signatory indicates the use of Digital Password Authorization.)

DATE	PC C RECT	OMPRI SIVED	FER	N.	7019
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APPRO	OVED BY	Q.C. IN	SPECT	of	

### INSPECTION CERTIFICATE

Certificate No. : J420070510116

L/C No. : CAD-AGS P/0 No.: 0117844

Date | ssued : 2007/05/10 Date Tested: 2007/04/14 Date Shipped: 2007/05/11

Specifications : ASTM A194/A19418 - 04a Date Manufactured : 2007/04/03

Customer : AGS GROUP INC.

Description : ASTN A194 GR. 24M HEAVY HEX NUTS WITH 100% HARONESS TEST, PLAIN

Grade: GR. 2HK

Size : 1/2-13UNC Marking : 2HM UNDERLINE,KPF LOGO

30, 100 PCS Lot #6. : F2J0900300 Surface Condition : PLAIN Q'ty Shipped:

FIELD OF TESTING : MECHANICAL TESTING LAB. 10. : 111983 CERT. NO. : 882-01

CHANGCHEONGBIK-DO, KOREA 380-250 TEL : (043) 849 - 1114 FAX : (043) 849 - 1234

FACTORY : 601 YONGTAN-DONG, CHEMOJU-CITY,

STANDA-00 OF CERTIFIED: (SO/TS 16949, ISO 9001, (SO 14001

E)

: TS-01899, AC-01899, EAC-01899 CERT. NO.

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Reference : RESULTS OF 100% HARONESS TEST ARE WITHIN THE REDUIREMENT(HARBEA-HARBS) SPECIFIED IN ASTAN A 194/A194M COMPLIES WITH EN102043,18

Chief of Quality Management Dept IN-SUB CHOE



Order NO.(수주변호): 20070329~806 Manufacture No.(제초번호): P0701378050000 Commodity(書母): AISI1045 ST-BAH 17.00

Specification(규칙): AlSI1045

Customer(수요가): (주)캐이되어프

# INSPECTION CERTIFICATION

Certificate No.(증명서번호): HY070329006-01 Date of Issue(崔懋智凡): 2007/03/29 Pecking(巫母): 拠号 Coeting(II):

### ИЧЯП

HAN YOUNG STEEL WIRE CO., LTD
Head office & Chungiu morks
630-13 Youngtan-dong. Chungju-city, Chungbuk, Korea
Tel: (OKS)863-6544 Fex: (OK3)863-8865
Arean Office
688-4 Choi-dong, Danwan-Qu, Ansah-city, Kenngji-do, Korea
Tel: (OS1)491-5050 Fex: (OS1)491-4693

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P.O.BN8231 : 2004,09,16 04-383 01.02 (CEKTIFICATE NO.) 要祭衛無軸 CASE NO (COMMODITY) SEAMLESS STAINLESS STEEL TUBE (NO.115 MEIGUI STREET, SUJIATUN DISTRICT, SHENYANG, P.R. CHINA) (CUSTOMER ORDER NO.) ASTM A269/ASTM A213/ASME SA213 TP316/TP316L 奴称 路 号:S4901 欰 ш (DATE OF ISSUE) 周 织 ₩ 三京不銹鋼管(沈陽)有限公司 SANKYO STAINLESS TUBE(SHBN YANG) CO., LTD. 中国·瀋陽市蘇家屯区玖東街115号 DX AX CERTIFICATE) 寸法: 1/2"OD × 0.035"WT × 20FT (MILL (CUSTOMER) MARMON / KEYSTONE CANADA (SANKYO & CO., LTD.) 三京物遊株式会社殿 法大者: (SUPPLIER) 品 名: CONTIRA

SOLUTION HEAT TREATMENT: 000 9 5000 1100 °C × 2.20Mfin/W.Q 着 考 (Remarks) EN 10204/3.1.B 事し点が対象 **丸龍牛街質** 斯斯斯斯斯斯斯 Eddy Cyment (1) 子子 (1) (1) 安徽共聚 (Flavior) (Grain Size) 抽品效质 OC PEVE NOV 6 9 2094 lindbert Test) (単分)と ERB 67.0 67.5 68.3 68.8 69.2 67.5 63.1 65.1 65.6 65.0 63.5 63.1 64.8 65.2 8 **5** X W (Tomeon Test) 出版り当た MPa 485 580 585 585 575 570 570 580 Composition 22 22 22 X 282 ä 0.2%重力 (0.7. Y.S.) MPa 5 270 275 275 275 275 285 285 285 X 100 1673 1673 1673 1633 1800 (Total Lengths) ¥ ź 903 X 88 ž ¥ A 14 (Osentity ø (Nines) 159 8 192 ž 182 Ä 747 464 株 成 000 × (Moof Per) 本 (Per.) \$ ¥ <u>:</u> 2 Ξ ≋ 000 × ទាននេងន がを V30959V (Head No.) 最小的的 榖 大 (Max) V30984 V30978 V30957 V30983 TOTAL (KST) 001 X 82222 少维烈其 清 正 | b (文 (Unit Designanted) (Mfg. No.) (KST) 200 × **3233**8 Æ 日本ト部の 4.2 등 8 (Los No.) 8 ಠ 25.22 # ★ (Max) V30984 (新年, Ya.) 04-03-004 04-03-004 04-03-004 **成小()(m)** 经存货的 04-03-004 04-03-004 中華原語 Hear No. V30978 V30983 V30959 SANIBAG)

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P.O.

SIGNATURE:

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APPROVED BY Q.C. INSPECTOR

8 M.S.D.S.





Copeland Customer Service (800) 996-4660 www.copeland-corp.com

### **Material Data Safety Sheet**

From:

Copeland Customer Service

Subject:

Copeland Fuel Gas Booster Oil

### **CAUTION:**

This oil is intended for use only in the Copeland Fuel Gas Booster.

Use of any other oil in the Copeland Fuel Gas Booster oil may result in failure and is not covered by warranty.

### **Dispose Waste Oil Properly:**

If the oil has not been contaminated it can be disposed the same as a synthetic motor oil.

If the oil is contaminated the end user must comply with all applicable regulations for disposal of hazardous materials.

### Supplier:

CPI Engineering Services INC. 2300 James Savage Rd. Midland, MI 48642

Emergency Number: (989) 496-3780

Form No. 2001-125 Page 1 of 5 Revision 1 Issued 12/17/01

Copeland is a registered trademark of Copeland Corporation. ©2001 Copeland Corporation.

### Section 1

# **Product Name and Information**

Product (Trade Name and Synonyms): CP-6006 Series

Chemical Name: Polyalphaolefin

Chemical Family: Synthetic Hydrocarbon

Formula: C<sub>10n</sub>H<sub>20n+2</sub> CAS#: Proprietary

# Section 2

# **Components and Hazard Statement**

**This product is non-hazardous.** The product contains no known carcinogens. No special warning labels are required under OSHA 29 CFR 1910.1200.

**FDA Statement.** This product complies with FDA 21 CFR 178.3570 regarding lubricants for incidental food contact.

# Section 3

# Safe Handling and Storage

**Handling.** Do not take internally. Avoid contact with skin, eyes, and clothing. Upon contact with skin, wash with soap and water. Flush eyes with water for 15 minutes and consult physician. Wash contaminated clothing before reuse.

Storage. Keep container tightly sealed when not in use.

### Section 4

# **Physical Data**

Appearance: Clear, water-white liquid

Boiling Point: >300°F

Vapor Pressure: <0.01mmHg @ 20°C Specific Gravity (water=1): 0.79-0.85 Volatiles, Percent by Volume: 0%

Odor: None

Solubility in Water: Insoluble

Evaporation Rate (butyl acetate=1): Nil

Form No. 2001-125 Page 2 of 5 Revision 1 Issued 12/17/01

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Section 5

# Fire and Explosion Hazards

Flash Point (by Cleveland Open Cup): 320-530°F (160-276°C)

Flammable Limits: not established Autoignition Temperature: no data

HMIS Ratings:

Health: 0 Flammability: 1

Reactivity: (

NFPA Ratings: not established

Extinguishing Media: Dry chemical; CO<sub>2</sub> foam; water spray (fog)

Unusual Fire and Explosion Hazards: None

**Special Fire Fighting Techniques:** Burning fluid may evolve irritating/noxious fumes. Firefighters should use NIOSH/MNSA-approved self-contained breathing apparatus.

Use water to cool fire-exposed containers. Use water carefully near exposed liquid to avoid frothing and splashing of hot liquid.

Section 6

# **Reactivity Data**

Stability: Stable

Hazardous Polymerization: Will not occur Incompatible Materials: Strong oxidizers Conditions to Avoid: Excessive heat

Hazardous Decomposition Products: Analogous compounds evolve carbon monoxide, carbon dioxide, and other unidentified fragments when burned. See

Section 5.

Form No. 2001-125 Page 3 of 5 Revision 1 Issued 12/17/01

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### Section 7

### **Health Hazard Data**

Threshold Limit Value: 5mg/m3 ACGIH

Situations to Avoid: Avoid breathing oil mists

First Aid Procedures:

Ingestion: Consult physician at once. DO NOT INDUCE VOMITING. May

cause nausea and diarrhea.

Inhalation: Product is not toxic by inhalation. If oil mist is inhaled, remove to fresh

air and consult physician.

To the best of our knowledge the toxicity of this product has not been fully investigated. Analogous compounds are considered to be essentially non-toxic.

### Section 8

### Personal Protection Information

Respiratory Protection: Use in well ventilated area

Ventilation: Local exhaust

Protective Gloves: Not required, but recommended, especially for prolonged

exposure.

Eye/Face Protection: Goggles

### Section 9

### Spill or Leak Procedures

in Case of Spill: Wear suitable protective equipment, especially goggles. Stop source of spill. Dike spill area. Use absorbent materials to soak up fluid (i.e. sand, sawdust, and commercially available materials). Wash spill area with large amounts of water. Properly dispose of all materials.

### Section 10

### Waste Disposal Methods

Incinerate this product and all associated wastes in a licensed facility in accordance with Federal, state, and local regulations.

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The information in this material safety data sheet should be provided to all who use, handle, store, transport, or are otherwise exposed to this product. CPI believes the information in this document to be reliable and up to date as of the date of publication, but makes no guarantee that it is.

For additional information or if questions arise, please contact Copeland Customer Service.

Copeland Customer Service:

Phone: (800) 996-4660 Fax: (937) 493-2447

E-mail: scroll@copeland-corp.com

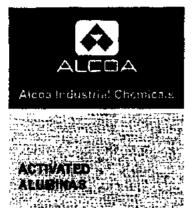
Copeland Corporation 1675 W. Campbell Rd. P.O. Box 669

Sidney, Ohio 45365-0669 Phone: (937) 498-3011 Toll Free: (800) 440-6512

Form No. 2001-125 Page 5 of 5 Revision 1 Issued 12/17/01

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PRODUCT DATA

# Smooth spheres of uniform size and high crush strength for drying gases and liquids

### Product Information

F-200 is a smooth sohere of activated alumina produced by Alcoe's unique manufacturing process, and is available in a variety of sizes. F-200 is an excellent desiccent for drying a wide variety of liquids and gases. Afthough all molecules are adsorbed to some extent on F-200. those molecules having the highest polarity are preferentially adsorbed. Stream conditions such as pressure, concentration and molecular weight of the molecules, temperature, and site competing molecules affect the efficiency of adsorption.

### **Product Benefits**

- 1.Uniform ball size. This property is especially useful in high pressure gas debydration where minimizing pressure drop is important. The uniform size and sphericity of F-200 prevents adsorbent segregation during pneumatic loading, thus minimizing channeling and yielding more efficient use of the entire desiccent tower.
- 2. High crush strength. F-200 has a high crush strength which allows rapid pneumatic toading of towers. The high crush strength also allows use of tailer towers that make more efficient use of the desiccant. F-200 activated atumina is biobly resistant to amine attack. Furthermore, F-200's high crush strength enables it to dehydrate acid containing gases and liquids, such as CO2, for a longer operating life.
- 3. Low abrasion. The low abrasion of F-200 ensures less dualing during transport, loading, and service life which reduces pressure drop and minimizes downstream valve and filter plugging, common with dustier products.
- 4. High adsorptive capacity. F-200's high surface area and tailored pore distribution provide a high dynamic H<sub>2</sub>O adsorption capacity. With proper tower design and effective regeneration, F-200 can achieve an

ultra low H<sub>2</sub>O effluent specification (i.e. dew point), F-200 also has excellent cyclic stability that yields a long life.

### **Applications**

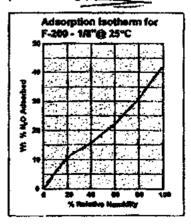
1. Drving. Hearly all gases and liquids can be dried with F-200. Water removal is often necessary for efficient processing, storage, and transportation of fluids.

The 3/16° size is normally recommend for vapor phase dehydration applications where pressure drop minimization yet high H<sub>2</sub>O adsorption capacity is desirable. The 1/4" size provides the lowest pressure drop characteristics in vacor phase service but does not have as high an H<sub>2</sub>O adsorption expecity as do smaller diameter sizes of F-200.

The 1/8" and 7 x 14 Tyler mesh size are recommended for use in flouid dehydration and other mass transfer limited adsorption applications.

F-200 is rapidly becoming the industry standard for drying compressed air. Providing long service life with performance at or below dew point specifications. F-200 is a "peace of mind" product for both large and small dryers.

F-200 is appropriate for use in dehydrating gases in both thermally regenerative (350 to 600°F) and pressure swing (PSA) modes.



- 2. Acid removal. Transformer oils, lubricating oils, and refrigerents form degradation acids upon use. F-200 will remove these ecids during use. In the manufacture of chlorinated and/or fluorinated hydrocarbons, removal of these residual halides and water is essential for a noncorrosive product.
- Process stream purification.
   F-200 is excellent for removal of highly polar compounds such as
- TBC, alcohols, ethers, etc. It also readily adsorbs heavy metal ions from hydrocarbons.
- Hydrocarbon adsorption. Under proper operating conditions, the pore size distributions and surface chemistry of activated alumines are conducive to the adsorption of hydrocarbons.

Typical Properties of F-200 Activated Alumina

Physical			·	
	7x14 Tyler mesh	1/8 Inch	3/16 inch	1/4 inch
	(2.6 mm)	(3.2 mm)	(4.6 mm)	(6.4 mm
Surface erea, m²/g	360	355	340	325
Total pore volume, cc/g	0.5	0.5	0.5	0.5
Packed Bulk Density, Ibe/fil <sup>3</sup> (kg/m <sup>3</sup> )	48 (769)	48 (769)	48 (769)	46 (769)
Crush Strength Ros, (kgs)	11 (5)	30 (14)	<b>65 (25)</b>	70 (32)
Abrasion loss, wt%	0,1	0.1	0.1	0.1
Water Adsorption Data		<u>-</u>		
Static sorption @ 11% RH	8	8	7	7
Static sorption @ 58% RH	22	22	21	19
Static sorption @ 97% RH	42	42	40	38
Chemical	wt%_			
Al <sub>2</sub> O <sub>3</sub>	93.1			
SiO <sub>2</sub>	0.02			
Fe <sub>Z</sub> O <sub>3</sub>	0.02			
Na <sub>ž</sub> O	0.30			
LOI (250 - 1100°C)	6.5			

Nothing herein shall be consisted as an invitation to use processes covered by patents without proper amangements with individuals or companies owning those patents.

Information presented herein is believed to be securate and reliable but is not intended to meet any specification and deas not imply any guarantee or warranty by Alcon.

MSDS Number-149

Aloga Industrial Chemicals

PRODUCT

USA 302040301437 PUN 2 64.2

United States of Asserice & Latin America Alone Industrial Chemicale Advertisets & Catalysts Division 18010 Barture Point Lame, Suite 250, Houston, TX F7079, USA Phone: 880-221-7922 or 281-870-8686 • Fax: 281-870-9644 Bou



CUSTOMER: 45322366 SALES AREA: ABOD

DATE : 09.01.2003

PC COMPRESSION
A DIV OF PYRAMID CORP
607- 15 AVE
NISKU, AB
TOC 2G0 CA

RE: MATERIAL SAFETY DATA SHEETS

FIND ENCLOSED THE NEW/REVISED MATERIAL SAFETY DATA SHEETS FOR PRODUCTS THAT OUR RECORDS INDICATED ARE REQUIRED. SHOULD YOU HAVE ANY QUESTIONS REGARDING THESE DOCUMENTS, PLEASE CONTACT OUR WHMIS CONTROLLER IMMEDIATELY SO THAT WE MAY FURTHER ASSIST YOU. LISTED BELOW IS THE NAME OF OUR WHMIS CONTROLLER FOR YOUR ACCOUNT.
BRENNIAG CANADA INC. REQUIRES, AS A CONDITION OF SALE, THAT VITAL SAFETY AND HEALTH INFORMATION BE COMMUNICATED TO ALL END-USERS,

ITEM	MSDS NUMBER	DESCRIPTION LANGUAGE	# OF COPIES	REFERENCE/ ORDER NUMBER
1	HCI0872/03A 00062014	ACTIVATED ALUMINA ENGLISH	(ALL GRADES) 01	REVISION

SUZANNE LAVOIE
REGIONAL WHMIS COORDINATOR
Alberta District
Brenntag Canada Inc.
777-8 TH. AVE. S.W., 19TH. Floor
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Phone: 403-263-8660 Fax: 403-233-7011

### Brenntag Canada inc.



#### MATERIAL SAFETY DATA SHEET

ACTIVATED ALUMINA (ALL GRADES), SOLID

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Brenntag Canada Inc. 43 Jutland Road. Toronto, Ontario M8Z 2G6 (416) 259-8231

WHMIS Number: 00062014 Index: HCI0872/03A

Effective Date: 2003 January 08 Date of Revision: 2003 January 08

#### EMERGENCY TELEPHONE NUMBERS

Toronto, ON (416) 226-6117 Edmonton, AB (780) 424-1754 Montreal, QC (514) 861-1211 Calgary, AB (403) 263-8660 Winnipeg, MB (204) 943-8827 Vancouver, BC (604) 685-5036

#### PRODUCT IDENTIFICATION

Product Name: Activated Alumina (All Grades), Solid.

Chemical Name: Aluminium Oxide.

Synonyms: Alumina; Aluminum Trioxide; Alumina Feedstock; Alumina Activated; Activated Alumina AA; Alumina 202 HF; Alumina AA-400; Alumina A2; Alumina A2 Dupont; Alumina A201; Alumina A203 CL; Alumina A204-4; Alumina A204-4E; Alumina A206; Alumina ABS; Alumina Bed Support; Alumina CL-750; Alumina D201; Alumina DD PG; Alumina DD2; Alumina DD 431; Alumina DD 432; Alumina DD447-165; Alumina DD450; Alumina DD 831; Alumina F200; Alumina F200; Alumina F200; Alumina S201; Alumina S400; Alumina S431; Alumina S501; Alumina S2001; Alumina S-100 SR; Alumina S201; Alumina S400; Alumina Selexorb CD; Alumina Selexorb CDX; Alumina Selexorb CL-750; Alumina Selexorb COS; Alumina Selexorb SPCL; Alumina Spent A2 Dupont; Alumina Support Balls; Alumina T-162 Tabular; Alumina Tab. T-1061; Selexorb CL-750; Selexorb COS; Alumina DRM; Alumina CG-20; DD-931; CL-760; CP-5; DD-710; SRU; HF 200; A-1; A-2; A-201; A-202HF; A-206; A-300; A-302; A-305CS; 1/2" CBS; D-201; LCPP; S-200; S-201; S-2001; DrySep; A-203 (Cl); S-501, Claus Catalyst; Activated Alumina Grade A & AA; Alumina Desiccant; Catalit Alumina; Adsorbent Alumina; MMS-411-120 Aluminum Oxide. Chemical Family: Inorganic Oxide.

Molecular Formula: Al203.

Product Use: Catalyst. Drying agent. Abrasives. Chemical intermediate.

CAS #: 1344-28-1,

WHMIS Classification / Symbol: Not regulated. / Not required.

READ THE ENTIRE MSDS FOR THE COMPLETE HAZARD EVALUATION OF THIS PRODUCT.

### 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Activated alumina adsorbs certain gases and liquids. While the alumina itself is principally inert, the bead/powder may exhibit properties of absorbed material. (3) Dust is irritating to respiratory tract. Low hazard for usual industrial or commercial handling. See "Other Health Effects" Section. Can decompose at high temperatures forming toxic gases. Contents may develop pressure on prolonged exposure to heat.

### POTENTIAL HEALTH EFFECTS

The following health effects data pertains only to Activated Alumina. Activated alumina adsorbs certain gases and liquids. While the alumina itself is principally inert, the bead/powder may exhibit properties of absorbed material. (3)

. Inhalation: Product may be mildly irritating to the nose, throat and respiratory tract and may cause coughing and sneezing. Excessive contact with powder may cause drying of mucous

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membranes of nose and throat due to absorption of moisture and oils. See "Other Health Effects" Section.

- . Skin Contact: This product may cause irritation due to abrasive action. Excessive contact with powder may cause drying of the skin due to absorption of moisture and oils. May cause defatting, drying and cracking of the skin. May cause staining.
- . Skin Absorption: Not likely to be absorbed through the skin.
- . Bye Contact: This product may cause irritation, redness and possible damage due to abrasiveness. Excessive contact with powder may cause drying of mucous membranes of the eyes due to absorption of moisture and oils.
- . Ingestion: This product may cause mild gastrointestinal discomfort. Ingestion of large amounts may cause intestinal obstruction.
- Other Health Effects: Bffects (irritancy) on the skin and eyes may be delayed, and damage may occur without the sensation or onset of pain. Strict adherence to first aid measures following any exposure is essential.
- May cause staining, metal fume fever, pulmonary fibrosis and pneumoconiosis. Metal fume fever can be caused by inhalation of fumes formed in the air from welding or heating the metal. Symptoms of metal fume fever occur about 4 to 12 hours after exposure and usually last about 24 hours. Recovery is complete with no apparent permanent disability. The symptoms resemble the "flu" and include: sweating, shivering, headache, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness and tiredness. (4)

A metallic or sweet taste in the mouth, dryness or irritation of the throat and coughing may occur at the time of exposure to the metal fumes. (4)

Some workers develop a short-term immunity so that repeated exposure to the fumes does not cause metal fume fever. This immunity is quickly lost after short absences from work (weekends or vacations). (4) Pneumoconiosis is the deposition of dust in the lungs and the tissue's reaction to its presence. When exposure to the dust is severe or prolonged, the lungs' defenses are overwhelmed.

A severe scarring of the lungs (fibrosis), referred to as Shaver's disease, has been associated with production of corundum abrasives which involved exposure to the fine airborne fumes of Aluminum Oxide and Silica. This disease worsens even after exposure has stopped and has caused death in serious cases. Exposure to Crystalline Silica or to the mixed dust is believed to be responsible. Early symptoms of the disease include cough, excessive mucous productions and shortness of breath upon exertion. Modern exposure controls have almost removed the threat of this disease. (4)

Evidence of scarring of the lungs (pulmonary fibrosis) has been reported among workers exposed to Aluminum Oxide dust or fume has, in some cases, been attributed to Aluminum Oxide exposure. However, some of the reports were individual cases, the exposure was usually mixed and other studies have failed to show similar effects. (4)

Some changes in the lung function and chest X-rays have also been observed in workers exposed to aluminum oxide. However, these changes have been attributed to chronic bronchitis related to excessive dust exposure and not specifically to Aluminum Oxide. (4)

Prolonged and repeated exposure to Aluminum may cause pulmonary fibrosis, numbness of the fingers and encephalopathy (a degenerative disease of the brain).

There may be a relationship between aluminum exposure and a brain disease which causes early senility (Alzheimer's Disease), but at present this is unproven and controversial. Asthma-like symptoms have been reported in association with refining aluminum materials and fumes from aluminum soldering. (4)

Ingestion of large amounts of Aluminum salts over a prolonged period of time may lead to phosphate deficiency, based on animal and human information. Prolonged ingestion of vary large amounts (several grams/day) may result in osteomalacia (softening and bending of the bones). (4)

3. COMPOSITION, INFORMATION ON INGREDIENTS (Not Intended As Specifications)

WHMIS Number: 00062014

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Hazardous Ingredients: None according to Controlled Products Regulations.

Non-Hazardous Ingredients	CAS No.	ACGIH TLV	ŧ
Aluminium Oxide	001344-28-1	10 mg/M3 as Al *A4	85 - 95
Calcium Oxide		<del>-</del> -	
(Lime)	001305-78-8	2 mg/M3	5 - 10
Sodium Oxiđe	001313-59-3	Not Listed.	1 - 5
Water	007732-18-5	Not Listed.	Balance.

A4 = Not classifiable as a human carcinogen. (ACGIH-A4)

#### 4. FIRST AID MEASURES

#### FIRST AID PROCEDURES

The following recommendations pertains only to Activated Alumina.

- . Inhalation: If respiratory problems arise, move the victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical advice IMMEDIATELY.
- . Skin Contact: Start flushing while removing contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness, or a burning sensation develops and persists and obtain medical advice.
- . Eye Contact: Immediately flush eyes thoroughly for 5 minutes with running water. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention.
- . Ingestion: Do not attempt to give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. DO NOT induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. Obtain medical attention IMMEDIATELY.

Note to Physicians: Treat symptomatically. Medical conditions that may be aggravated by exposure to this product include diseases of the skin, eyes or respiratory tract.

### 5. FIRE FIGHTING MEASURES

#### FLAMMABLE PROPERTIES

Flammability Class (WHMIS): Not regulated.

Flash Point (TCC, Deg. Celsius): Non-combustible (does not burn).

Autoignition Temperature (Deg. Celsius): Not applicable.

Flammability Limits in Air (\*): LEL: Not applicable. UEL: Not applicable.

Hazardous Combustion Products: Thermal decomposition products are toxic and may include oxides of aluminum, calcium and irritating gases.

Unusual Fire or Explosion Hazards: Minimize air borne spreading of dust. Closed containers exposed to heat may explode. Spilled material may cause floors and contact surfaces to become slippery.

Sensitivity to Mechanical Impact: Not expected to be sensitive to mechanical impact.

Rate of Burning: Not available. Explosive Power: Not available.

Sensitivity to Static Discharge: Not expected to be sensitive to static discharge.

#### EXTINGUISHING MEDIA

Fire Extinguishing Media: Use media appropriate for surrounding fire and/or materials.

#### FIRE FIGHTING INSTRUCTIONS

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Page 4

Instructions to the Fire Fighters: Spilled material may cause floors and contact surfaces to become slippery.

Fire Fighting Protective Equipment: Use self-contained breathing apparatus and protective clothing.

#### 6. ACCIDENTAL RELEASE MEASURES

Information in this section is for responding to spills, leaks or releases in order to prevent or minimize the adverse effects on persons, property and the environment. There may be specific reporting requirements associated with spills, leaks or releases, which change from region to region.

Containment and Clean-Up Procedures: Minimize air borne spreading of dust. Wear respirator, protective clothing and gloves. Avoid dry sweeping. Do not use compressed air to clean surfaces. Vacuuming or wet sweeping is preferred. Return all material possible to container for proper disposal. Do not allow to enter sewers or watercourses.

Any recovered product can be used for the usual purpose, depending on the extent and kind of contamination. Where a package (drum or bag) is damaged and / or leaking, repair it, or place it into an over-pack drum immediately so as to avoid or minimize material loss and contamination of surrounding environment. Replace damaged containers immediately to avoid loss of material and contamination of surrounding atmosphere.

Collect product for recovery or disposal. For release to land, or storm water runoff, contain discharge by constructing dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Ventilate enclosed spaces. Notify applicable government authority if release is reportable or could adversely affect the environment. See Section 13, "Disposal Considerations".

#### 7. HANDLING AND STORAGE

#### HANDLING

Handling Practices: Use normal "good" industrial hygiene and housekeeping practices.
Minimize air borne spreading of dust. Sweep up immediately to eliminate slipping hazard.

Ventilation Requirements: See Section 8, "Engineering Controls".

Other Precautions: Use only with adequate ventilation and avoid breathing dusts. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use.

#### STORAGE

Storage Temperature (Deg Celsius): See below.

Ventilation Requirements: General exhaust is acceptable.

Storage Requirements: Store in a cool, dry and well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Avoid moisture contamination. Prolonged storage may result in lumping or caking. Protect from direct sunlight. Protect against physical damage.

Special Materials to be Used for Packaging or Containers: Confirm suitability of any material before using.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommendations listed in this section indicate the type of equipment which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

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#### ENGINEERING CONTROLS

Engineering Controls: General exhaust is acceptable. Local exhaust ventilation preferred. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Ventilate low lying areas such as sumps or pits where dense dust may collect.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection: Safety glasses with side shields are recommended to prevent eye contact. Use chemical safety goggles when there is potential for eye contact. Contact lenses should not be worn when working with this material.

Skin Protection: Gloves and protective clothing made from cotton, canvas, rubber or plastic should be impervious under conditions of use. Prior to use, user should confirm impermeability. Discard contaminated gloves.

Respiratory Protection: No specific guidelines available. A NIOSH/MSHA approved dust mask for concentrations of nuisance dust up to 100 mg/M3 particulate. An air-supplied respirator if concentrations are higher or unknown.

If while wearing a respiratory protection, you can smell, taste or otherwise detect anything unusual, or in the case of a full facepiece respirator you experience eye irritation, leave the area immediately. Check to make sure the respirator to face seal is still good. If it is, replace the filter, cartridge or canister. If the seal is no longer good, you may need a new respirator. (4)

Other Personal Protective Equipment: Wear regular work clothing. The use of coveralls is recommended. Locate safety shower and eyewash station close to chemical handling area. Take all precautions to avoid personal contact.

#### EXPOSURE GUIDELINES

Recommended Exposure Limit: None established for this product.

	ACGIH TLV	OSHA PEL	NIOSH REL
	(STEL)	(TWA) (STEL)	(TWA) (STEL)
		4	
Aluminum Oxide		15 mg/M3 as Al (Total dust)	
Calcium Oxide (Lime)		5 mg/M3	2 mg/M3 +

#### 9. PHYSICAL AND CHEMICAL PROPERTIES (Not intended as Specifications)

Physical State: Solid.

Appearance and Odour: Dry, white granules: fine sized, beads pucks, or powder. Odourless. Odour Threshold (ppm): Not applicable.

Boiling Range (Deg Celsius): 2,980.
Melting/Freezing Point (Deg Celsius): 2,045 to 2,072.

Vapour Pressure (mm Hg at 20 Deg. Celsius): Not applicable.

Vapour Density (Air = 1.0): Not applicable.

Relative Density (g/cc): 3.0 to 3.7.

Bulk Density: 640 to 691 Kg/M3; 40 to 60 lb/ft3.

Viscosity: Not applicable.

Evaporation Rate (Butyl Acetate = 1.0): Not applicable.

Solubility: Not soluble in water.

\* Volatile by Volume: 0 \*.

pH: Not available.

Coefficient of Water/Oil Distribution: Not available.

Volatile Organic Compounds (VOC): Not applicable.

#### 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

Activated Alumina (All Grades), Solid

WHMIS Number: 00062014

Brenntag Canada Inc. Date of Revision: 2001 January 08 Page 6

Under Normal Conditions: Stable. Under Fire Conditions: Not flammable. Hazardous Polymerization: Will not occur.

Conditions to Avoid: High temperatures, sparks, open flames and all other sources of ignition. Minimize air borne spreading of dust. Sweep up immediately to eliminate slipping hazard.

Materials to Avoid: Strong oxidizers. Lewis or mineral acids. Chlorine trifluoride. Ethylene Oxide. Vinyl Acetate.

Activated alumina adsorbs certain gases and liquids. While the alumina itself is principally inert, the bead/powder may exhibit properties of absorbed material. (3)

Decomposition or Combustion Products: Thermal decomposition products are toxic and may include oxides of aluminum, calcium and irritating gases.

#### 11. TOXICOLOGICAL INFORMATION

Toxicological Data: None established for this product.

Aluminium Oxide Meaningful toxicological test data

could not be found for this substance.

Calcium Oxide Meaningful toxicological test data

could not be found for this substance.

Carcinogenicity Data: The ingredient(s) of this product is (are) not classed as carcinogenic by ACGIH, TARC, OSHA or NTP. See "Other Studies Relevant to Material".

Reproductive Data: No adverse reproductive effects are anticipated. Mutagenicity Data: No adverse mutagenic effects are anticipated.

Teratogenicity Data: No adverse teratogenic effects are anticipated.

Respiratory / Skin Sensitization Data: None known.

Synergistic Materials: None known.

Other Studies Relevant to Material: In animal studies, another insoluble Aluminum compound (Aluminum Hydroxide) was not embryotoxic or fetotoxic, unless administered in the presence of citric acid, lactic acid or ascorbic acid. In these cases, there was also maternal toxicity. Very high oral exposure of rats to soluble Aluminum compounds has caused fetotoxicity, in the absence of maternal toxicity. It is not known if Aluminum or its insoluble compounds would have a similar effect. (4)

An insoluble Aluminum compound (Aluminum Hydroxide) produced no evidence of embryo or fetotoxicity when administered orally to mice. However, when it was administered with common dietary constituents, such as citric acid, lactic acid and ascorbic acid, fetotoxicity was observed in the presence of maternal toxicity. These studies indicate that Aluminum absorption may be greatly enhanced by certain dietary constituents. Other reports have indicated that very high oral doses of soluble Aluminum compounds during lactation have caused fetotoxicity, in the absence of maternal toxicity. It is not known if Aluminum or its insoluble compounds would have a similar effect. (4)

Application of a compound containing 96.7 % atomized Aluminum caused irritation to the eyes, but no corneal opacity and cleared up within seven days. Slight inflamation and small lens opacity have been observed following implantation of Aluminum particles into the eye. No irritation was observed after application of a compound containing 96.7 % atomized Aluminum to intact or abraded skin. (4)

#### 12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available. May be harmful to aquatic life.

Environmental Fate: Not available. Can be dangerous if allowed to enter drinking water intakes. Product has an unaesthetic appearance and can be a nuisance. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

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#### 13. DISPOSAL CONSIDERATIONS

Deactivating Chemicals: None required.

Waste Disposal Methods: This information applies to the material as manufactured. Reevaluation of the product may be required by the user at the time of disposal since the product uses, transformations, mixtures and processes may influence waste classification. Small quantities (less than 25 Kg) of unused portions of this product may be discarded with normal, non-hazardous industrial wastes. Large quantities (25 Kg or more) of unused portions of this product may be discarded with normal, non-hazardous wastes, however such disposal should be cleared with the intended recipient. Disposal of post-service material must be done in accordance with local regulations.

The product may pose new hazards as a result of its use. It may be necessary to test the post-service flash point and/or leachable heavy materials, and/or benzene, toluene, ethylbenzene and xylene (BTEX) as well as total extractable hydrocarbons (TEH) and mineral oil and grease (MOG). Disposal may be dependent upon whether or not it meets regulatory criteria for control as a hazardous waste. The intended recipient should be consulted prior to initiating disposal.

Safe Handling of Residues: See "Waste Disposal Methods".

Disposal of Packaging: Empty containers retain product residue. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. Do not expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death. Do not dispose of package until thoroughly washed out.

#### 14. TRANSPORTATION INFORMATION

CANADIAN TDG ACT / U.S. DOT CLASSIFICATION: Not regulated.

#### 15. REGULATORY INFORMATION

#### CANADA

CEPA - NSNR: All constituents of this product are included on the DSL.

CEPA - NPRI: Aluminium Oxide.

Controlled Products Regulations Classification (WHMIS): Not regulated.

#### USA

Environmental Protection Act: All constituents of this product are included on the TSCA inventory.

OSHA Hazard Communication (29CFR 1910.1200) Classification: Not regulated.

HMIS: 1 Health, 0 Pire, 0 Reactivity. (3) NFPA: 1 Health, 0 Fire, 0 Reactivity. (3)

INTERNATIONAL: Aluminium Oxide is found on the following inventories: BINECS (European
Inventory of Existing Commercial Chemical Substances), ACOIN (Australia), MITI (Japan) and
Korea.

#### 16. OTHER INFORMATION

### ADDITIONAL INFORMATION AND SOURCES USED

- RTECS-Registry of Toxic Effects of Chemical Substances, Canadian Centre for Occupational Health and Safety RTECS database.
- Clayton, G.D. and Clayton, F.B., Eds., Patty's Industrial Hygiene and Toxicology, 3rd ed., Vol. IIA, B, C, John Wiley and Sons, New York, 1981.
- Supplier's Material Safety Data Sheet(s).
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