

# **QUALITY CONTROL MANUAL**

## **HUSKY ENERGY**

PO#: 4500184872 WO#: 4026205

**UNIT # SAA-07165** 

**JOB # I-702** 

## **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
7	MTR'S
8	M.S.D.S.



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QPS CERTIIFED: QC-36066

JOB # I-702 **UNIT # SAA-07165** 

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

SERIAL NO: 07DA3042

QPS CERTIFIED: QCC-21386

COMPRESSOR: C-210

> MAKE: COPELAND SCROLL MODEL NO: ZNH22C3A-TXX-265

INLET PRESS: MIN 15 PSIA / MAX 65 PSIA

MAX DISCHARGE PRESS: 450 PSIA

275VAC / 3 PH / 60 Hz

PEAK OPERATING AMPS: 16.3

RPM: 3500

SERIAL NO: 07CA9093D

COMPRESSOR OIL FILTER: F-210

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

**COMPRESSOR OIL** 

SEPARATOR: MAKE: COPELAND SCROLL

V-210

PART NO: 548-1897-02

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 SERIAL NO: 07DA3045 QPS CERTIFIED: QCC-21391

COMPRESSOR: C-220

MAKE: COPELAND SCROLL MODEL NO: ZNH22C3A-TXX-265

INLET PRESS: MIN 15 PSIA / MAX 65 PSIA

MAX DISCHARGE PRESS: 450 PSIA

275VAC / 3 PH / 60 Hz

PEAK OPERATING AMPS: 16.3

RPM: 3500

SERIAL NO: 07CA9076D

COMPRESSOR OIL FILTER: F-220

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

COMPRESSOR OIL V-220

**SEPARATOR:** MAKE: COPELAND SCROLL

PART NO: 548-1897-02

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: 2007

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

CORROSION ALLOWANCE: .0625"

CRN NO: OH5415.21345 SERIAL NO: 8600.350

PUMP: P-610

MAKE: SANDPIPER

MODEL NO: PCC1, GABTXNSX

MWP: 100 PSI

45 GPM @ 40 SCFM SERIAL NO: 1517875

DISCHARGE SCRUBBER: V-120

MAKE: LO TECH MANUFACTURING

YEAR BUILT: 2006

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

CORROSION ALLOWANCE: .0625"

CRN NO: OH5415.21345 SERIAL NO: 8600.211



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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: 0512033039

COOLER FAN MOTOR: D-510

MAKE: EBM

MODEL NO: W1G250-HH37-52

**24 VDC** 

QPS CERTIFIED: QCC-40364

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: LO TECH MANUFACTURING

YEAR BUILT: 2007

MAWP: 600 PSI @ 650°F MDMT: -20°F @ 550 PSI

CORROSION ALLOWANCE: .0625"

CRN NO: OH5415.21345

SERIAL NO: 8600.336

C/w ACTIVATED ALUMINA STRAINERS

MAKE: CROWN WEST PART NO: STRAINERAA LOT NO: CWC544862A



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#### **COMPONENTS CONTINUED**

LEFT DRYING TOWER: V-130

MAKE: LO TECH MANUFACTURING

YEAR BUILT: 2007

MAWP: 600 PSI @ 650°F MDMT: -20°F @ 550 PSI

CORROSION ALLOWANCE: .0625"

CRN NO: OH5415.21345 SERIAL NO: 8600.341

C/w ACTIVATED ALUMINA STRAINERS

MAKE: CROWN WEST PART NO: STRAINERAA LOT NO: CWC544862A

METER RUN: FE-1401

MAKE: NUFLO

ASSEMBLY NO: 40422-0085

CRN NO: OF1120.213 SERIAL NO: X701397-1-10

HEATER: H-410

MAKE: CATA-DYNE MODEL NO: MKII 2424

120 V START

SERIAL NO: 343810

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: 219206

**PSV-1201 PRESSURE SAFETY VALVE** 

MAKE: MERCER

MODEL NO: 91-17D51V07E1

CRN NO: OG8841.5C

SCFM: 329

SET PRESSURE: 150PSI SERIAL NO: C000127



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#### **COMPONENTS CONTINUED**

## PSV-1401 PRESSURE SAFETY VALVE

(SHIP LOOSE)
MAKE: MERCER

MODEL NO: 91-17D51V06E1

CRN NO: OG8841.5C

SCFM: 188

SET PRESSURE: 80 PSI SERIAL NO: C000146

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

MAKE: MERCER

MODEL NO: 91-17D51V07E1

CRN NO: OG8841.5C

SCFM: 329

SET PRESSURE: 150PSI SERIAL NO: 313673

## **CONTROL VALVES:**

#### **LC-1101 LEVEL CONTROLLER**

MAKE: MURPHY

MODEL NO: L1200 NDVO

## **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: KIMRAY

MODEL NO: 212 SGT BP

OPERATING PRESSURE: 125 PSI DESIGN PRESSURE: 175 PSI

# ACV-1401 AIR CONTROL VALVE FAIL OPEN

MAKE: BURKERT NPT 1" PMED 232 PSI PILOT 29 -145 PSI PART NO: 454614

# ACV-1301 AIR CONTROL VALVE FAIL CLOSE

MAKE: BURKERT NPT 1" PMED 232 PSI PILOT 27 -145 PSI PART NO: 454628

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

MAKE: BURKERT NPT ½" PMED 232 PSI PILOT 39 -145 PSI PART NO: 454626

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

MAKE: FISHER

MODEL: 67 CFR-362 SC 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: 175 @ 150°F SPRING RANGE: 35-100 PSI

# TCV-2101 / TCV-2201 TEMPERATURE CONTROL VALVE

MAKE: ROSTRA VERNATHERM

MODEL: 0230-08-00/200

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

MAKE: FISHER MODEL NO: 912

## **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: N-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: 17424876

# 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

PANEL

DATE: 04/20/07

CSA APPROVAL: LR29807

AMPS: 20/5/30

VOLTS: 480 VAC / 120 VAC / 24 VDC

FREQ: 60 HZ PHASE: 3

SERIAL NO: A131-7878



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#### **COMPONENTS CONTINUED**

#### **VFD CONTROLLERS**

MAKE: CONTROL TECHNIQUES

MODEL: COMMANDER SE

MODEL NO: SE33400750-SE11T-10HP

VDF 1 SERIAL NO: 2065100632 VDF 2 SERIAL NO: 2064000661

#### **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: PSB5488427

## TRANSFORMER

MAKE: SIEMENS CAT NO: MT0500A

c/w 5A FUSE

#### **THERMISTAT**

MAKE: HOFFMAN PART NO: 35347001

#### **HEATER**

MAKE: DBK

MODEL NO: FGC1031.2 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-24915

#### **OPERATOR CONTROL PANEL**

MAKE: ALLEN-BRADLEY

MODEL: PANEL VIEW 300 MICRO

CAT. NO.: 2711-M3A18L1

#### **ESD BUTTON**

MAKE: ALLEN BRADLEY

CAT. NO.: 800T-FX6D4; 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: 1/4" LM X 2" FACE

## **PI-2103 PRESSURE INDICATOR**

MAKE: KIMRAY

SCALE: 0-160 PSI / 0-1120 KPA

SIZE: 1/4" LM X 2" 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

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 1/2" 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: 0906

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: 1206, 1006

1" FP SWING CHECK VALVE

MAKE: WHEATLEY 2000-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: 0206

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: C700

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

MODEL: G-2 2000-PSI WOG

CRN: OC0374.123456789

HEAT CODE: 1006

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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## **COMPONENTS CONTINUED**

STUDS: SA-193, B7M

SIZE: ½" X 3" ½" X 2 ½"

NUTS: SA-194, 2HM

SIZE: ½"

GASKETS: 316SS SIZE: 1" 150# RF

TUBING: 1/2" X 0.035 WALL

HEAT CODE: 4507046

3/8" X 0.035 WALL

HEAT CODE: 672-1336



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## **FITTINGS:**

DESCRIPTION:	GRADE:	HEAT NO:
2" FS THRD UNION 3000	SA-105N	LLAL
2" FS THRD 90° ELL 2000	SA-105N	NDDF
2" FS THRD TEE 2000	SA-105N	NRBR
2" X 1" FS THRD RED TEE 3000	SA-105N	56788, FGB
2" X 8" XS NIPPLE	SA-106B	IB5789, AI88
2" X 7" XS NIPPLE	SA-106B	AI77
2" X 6" XS NIPPLE 2" X 5 ½" XS NIPPLE 2" X 5" XS NIPPLE 2" X 4" XS NIPPLE 2" X 4" XS NIPPLE 2" X 3" XS NIPPLE 2" X 1½" XS NIPPLE 2" X 1½" XS SWAGE TBE 2" X 1" XS SWAGE TBE 2" X ½" XS SWAGE TBE 2" X 1¼" XS SWAGE TBE 2" FS THRD PLUG	SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA234-WPB SA234-WPB SA234-WPB SA234-WPB	IB5799 AH73 IB5800 IB5763 AH73 AI77 AILL AIFZ
1 ½" FS THRD 90° ELL 2000	SA-105N	FUSU, 997
1 ½" X ½" FS THRD RED TEE 3000	SA-105N	56980
1 ½" X 4" XS NIPPLE	SA-106B	Al91
1 ½" X 3" XS NIPPLE	SA-106B	AH81
1 ½" X 2" XS NIPPLE	SA-106B	PZP
1" 150# RF BLIND FLANGE	SA-105N	9447, 7C15
1" 150# RF THRD FLANGE	SA-105N	9447, 9336
1" FS THRD UNION 3000	SA-105N	UU2, UU
1" FS THRD 90° ELL 2000	SA-105N	GU9, A34, NDCL,
1" FS THRD TEE 2000 1" X ½" FS THRD RED TEE 3000 1" FS THRD CROSS 2000	SA-105N SA-105N SA-105N	A46, DSL 2453 2455 NNRT



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## **FITTINGS CONTINUED:**

DESCRIPTION:	GRADE:	HEAT NO:
1" X 8" XS NIPPLE 1" X 7" XS NIPPLE 1" X 6" XS NIPPLE 1" X 5 ½" XS NIPPLE 1" X 5" XS NIPPLE 1" X 4 ½" XS NIPPLE 1" X 4" XS NIPPLE	SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B SA-106B	R4D, AH75 R4D Al92, AH75 S3T AH75, Al12 R4D Y607-1216, Al12, 9PO, Al92, QX8
1" X 3 ½" XS NIPPLE 1" X 3" XS NIPPLE 1" X 2 ½" XS NIPPLE 1" X 2" XS NIPPLE 1" X 34" XS SWAGE TBE 1" X ½" XS SWAGE TBE 1" X ½" XS SWAGE TBE 1" X ½" XS SWAGE TBE	SA-106B SA-106B SA-106B SA-106B SA234-WPB SA234-WPB SA234-WPB	FB5650, 92V R4D 88T AH75, S3T AIFP AIDK AIEE, ABAG, AIFP, AFQZ 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	G30 RB7 AH76 N20
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 3 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 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	UE9 NBAL NLSR AI90 NDL AG88 AI90 AI90 55175, PZR AH16 NDL S3R AHQE LBTT



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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	DCXX AI17 AJ13 AICX 3361
1/4" FS THRD 90° ELL 2000 1/4" FS THRD TEE 3000 1/4" FS THRD CROSS 3000 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-105N	FRBS NCNL 56275, 55994 AH68 Q5F B
PIPE:		
2" SCH 80 SMLS PIPE 1" SCH 80 SMLS PIPE	SA-106B SA-106B	2-CB 1-KV, 1-KX, 1-KY, 1-KZ
½" SCH 80 SMLS PIPE	SA-106B	.5-M



PO#: 4500184872 WO#: 4026205

QPS CERTIIFED: QC-36066

JOB # I-702 UNIT # SAA-07165

## **MECHANICAL INFORMATION**

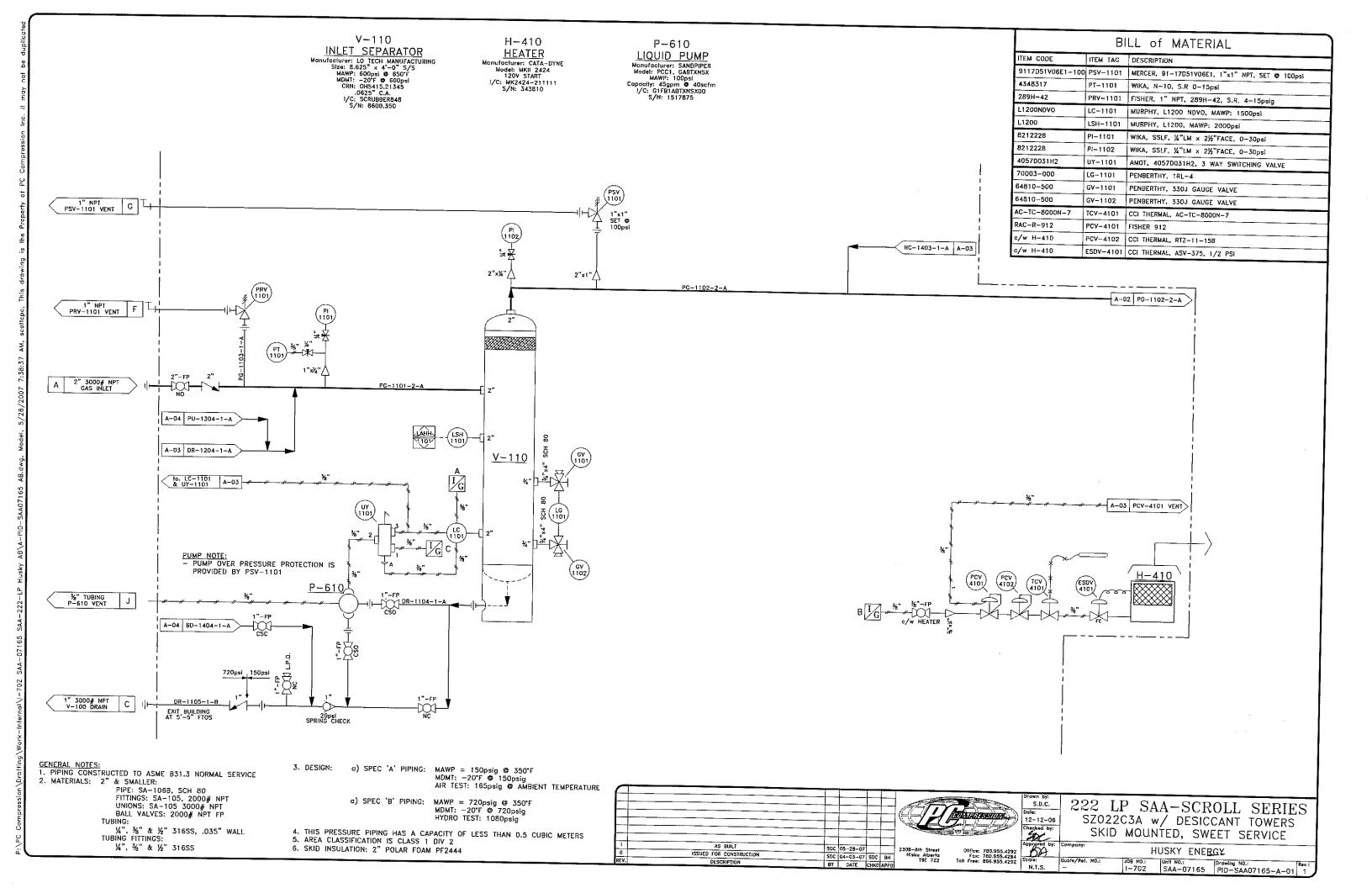
## **COMPRESSOR OIL**

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

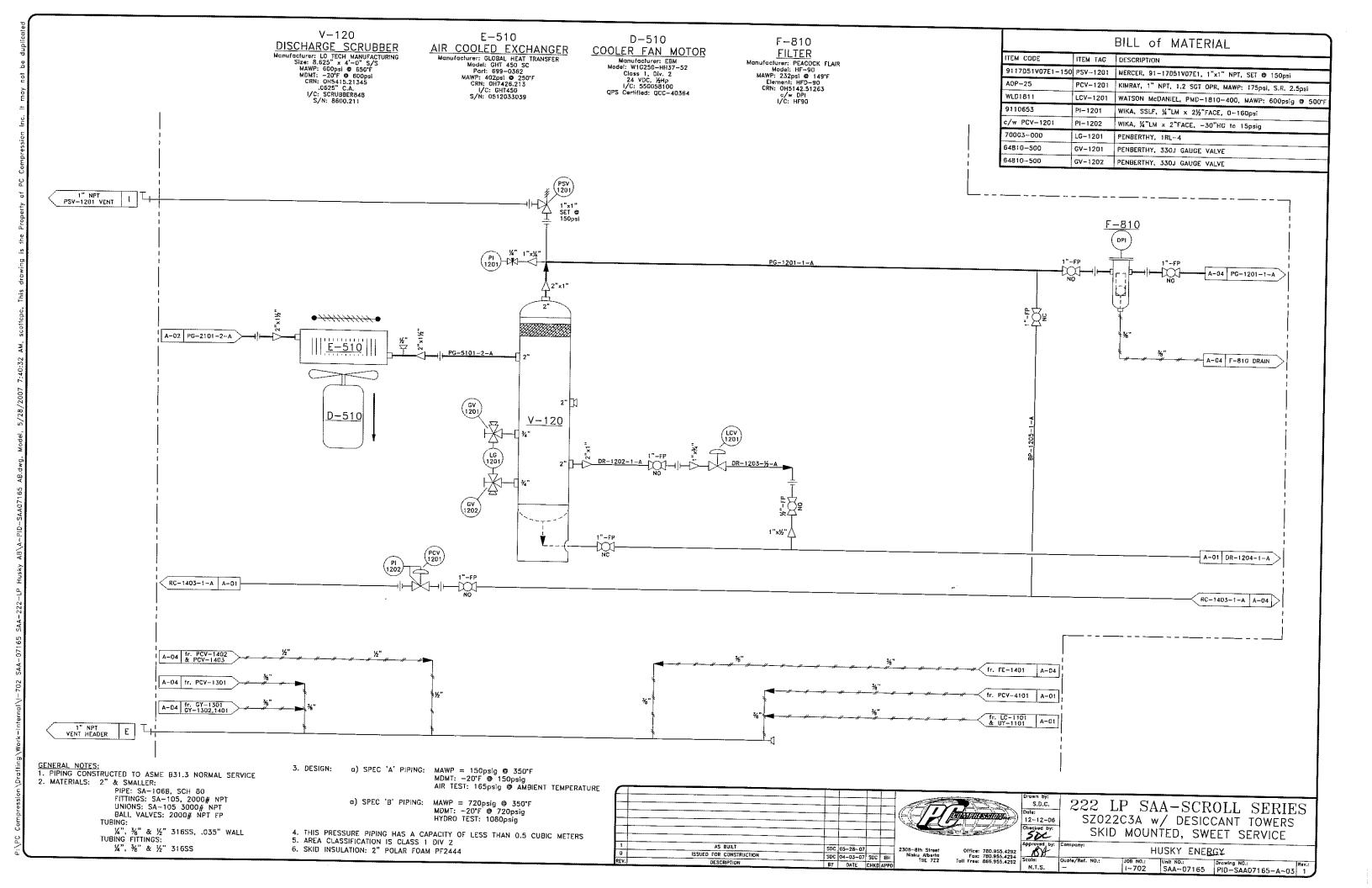
## **DRYING TOWER MEDIA**

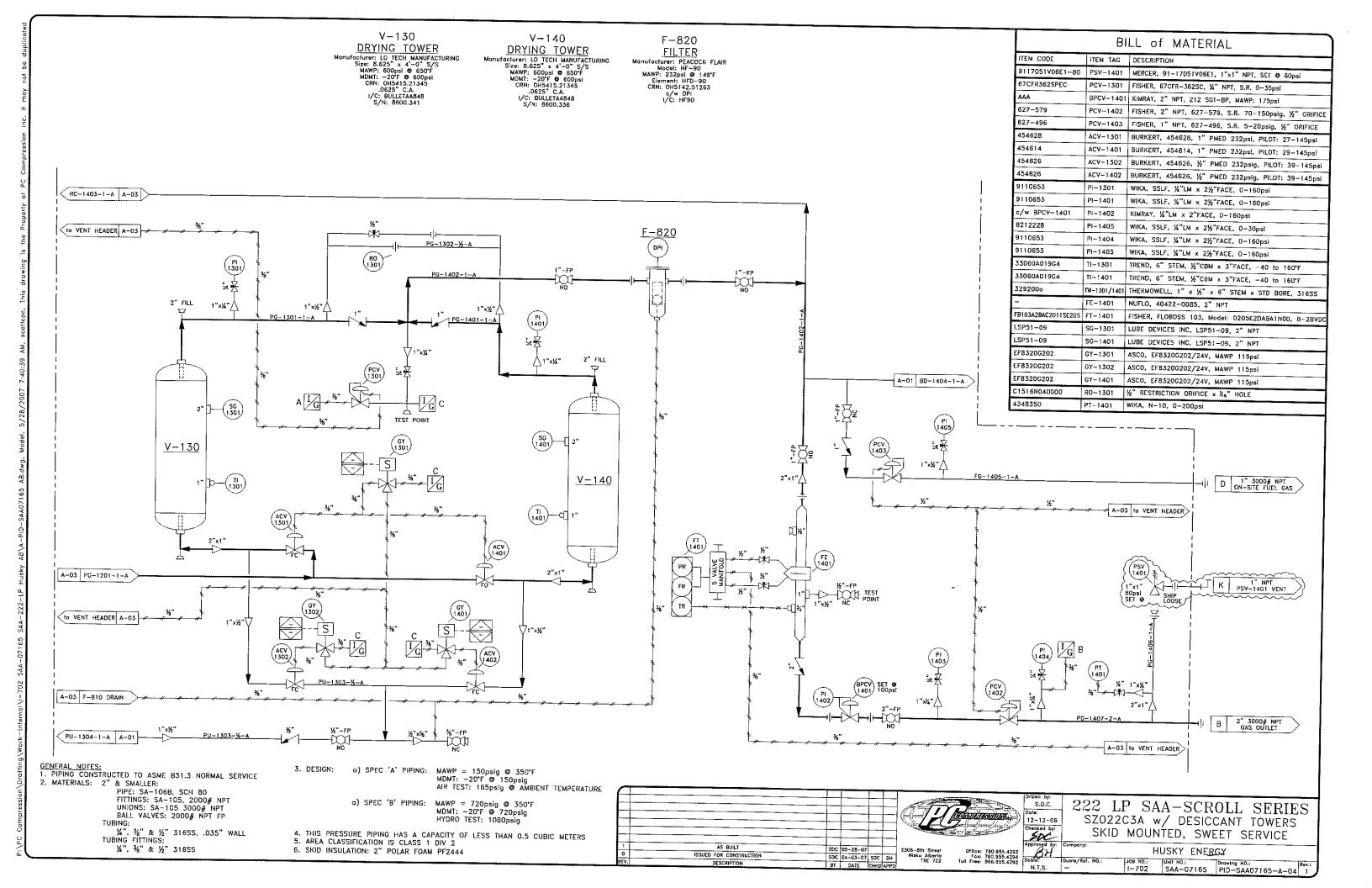
ALCOA INDUSTRIAL CHEMICALS
ACTIVATED ALUMINA (ALL GRADES) SOLID F-200
ALUMINUM OXIDE
SUPPLIED BY BRENNTAG STINNES LOGISTICS

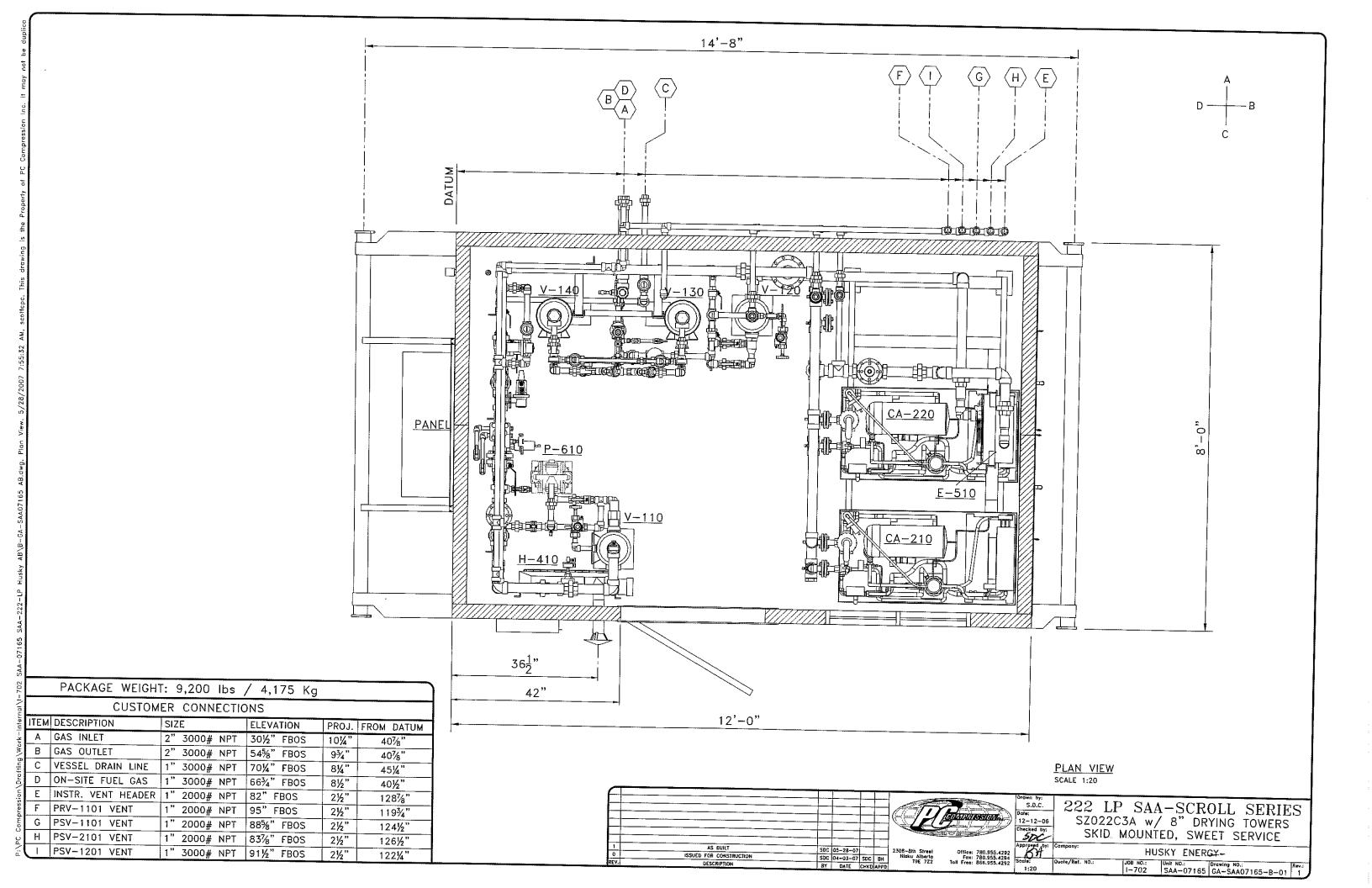
P&ID'S WELD MAPS / X-RAY REPORTS

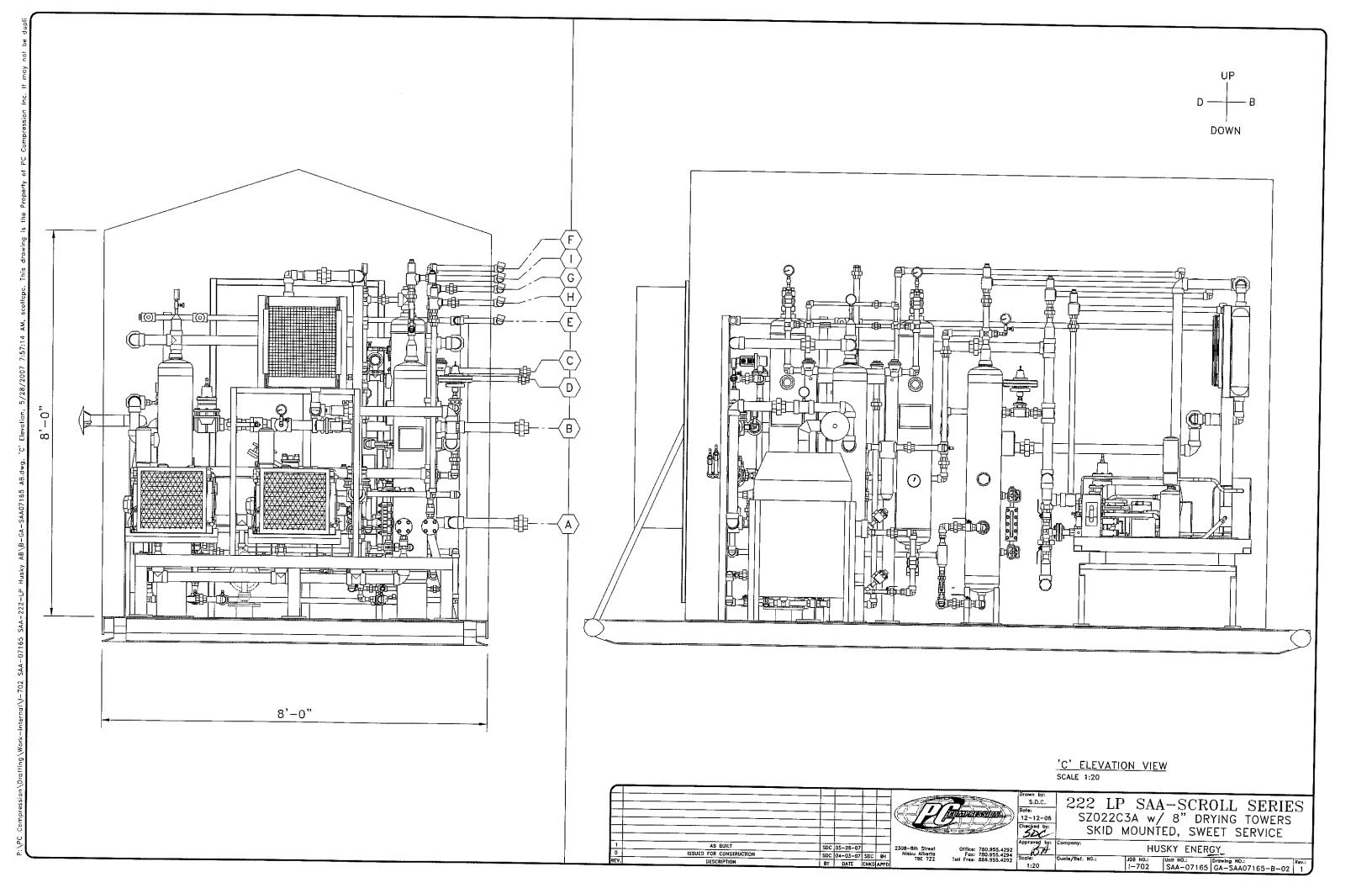


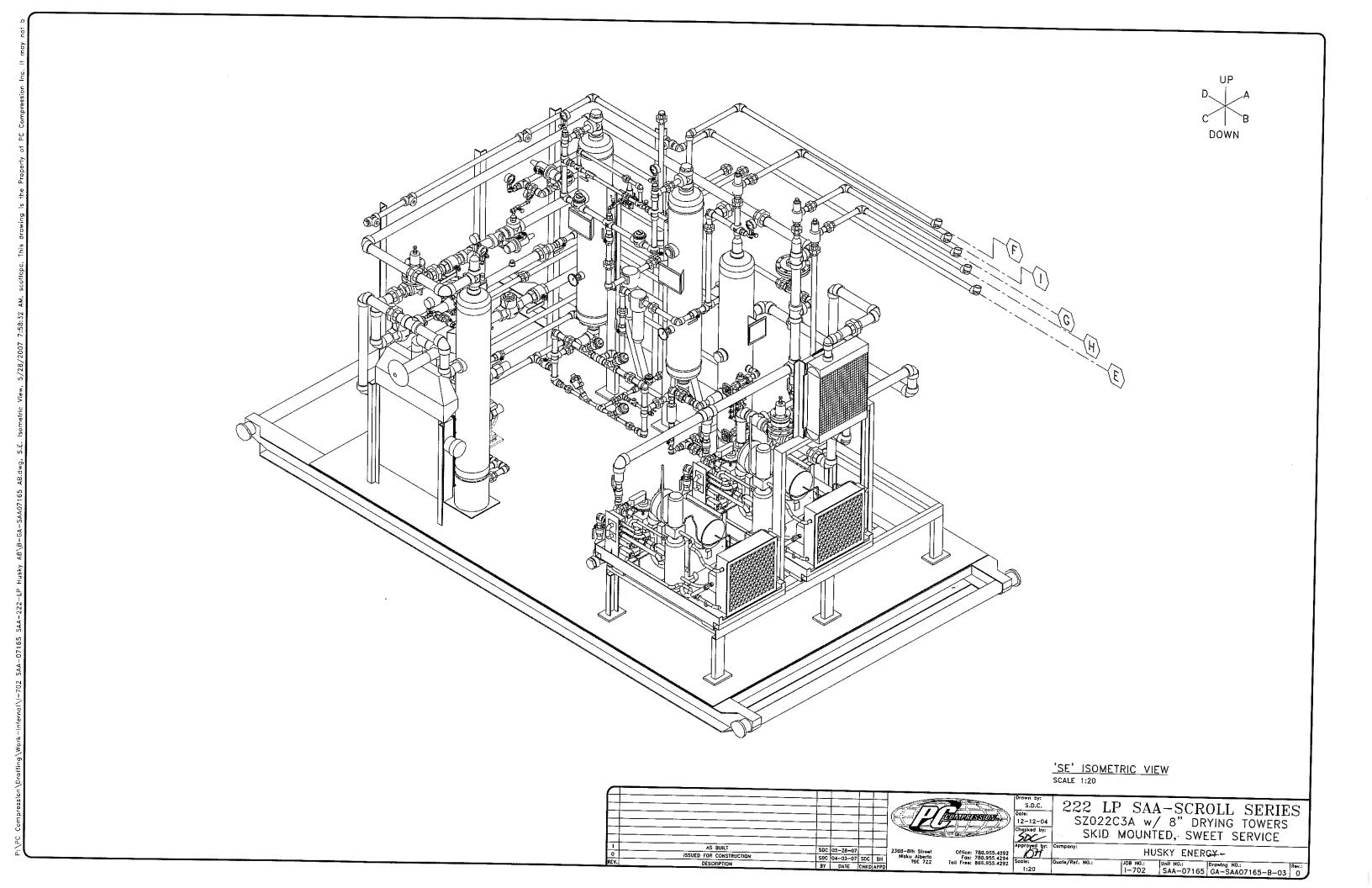
CA-210/220 C-210/220 F-210/220 V-210/220 COMPRESSOR ASSEMBLY E-210/220 BILL of MATERIAL COMPRÉSSOR M-210/220LUBE OIL FILTER Monufacturer: COPELAND SCROLL
Model: SZ022C3A-E0E-234
Inlet Pressure: 2" W.C. / MAX 10psi
Discharge Pressure Setting: 215psi
275VAC/SPhase/60Hz
Peak Operating Amps: 16
H.P.: 10 LUBE OIL SEPARATOR COMPRESSOR COOLER Manufacturer: COPELAND SCROLL Model: ZNH22C3A-TXX-265 Inlet Pressure: 15psi / MAX 65psi Discharge Pressure: 450psi 275VAC/3Phase/60Hz Peuk Operating Amps: 16.3 R.P.M.: 3500 COOLER FAN MOTOR Manufacturer: COPELAND SCROLL Part No: 513-0019-01 Monufacturer: SUPER RADIATOR COILS
CRN: OH6358.2
CRN: 0H0741.3
MAWP: 250psi © 300°F
MOMT: -20°F © 250psi Manufacturer: COPELAND SCROLL Part No: 548-1897-02 Rated Pressure: 250psig ITEM CODE Manufacturer: EBM Model: W1G250-HH37-52 Class 1, Div. 2 24 VDC, ½Hp ITEM TAG DESCRIPTION 9117D51V07E1-150 PSV-2101 MERCER, 91-17D51V07E1, 1"x1" NPT, SET ⊕ 150psi BPCV-2101 KIMRAY, 2" NPT, 212 SGT-BP, MAWP: 175psi H.P.: 10 I/C: SZ022C3A-EDS-234 S/N CA-210: 07DA3042 S/N CA-220: 07DA3045 QPS CERTIFIED: CA-210: OCC-21386 CA-220: QCC-21391 c/w 8PCV-2101 S/N C-210: 07CA9093D S/N C-220: 07CA9076D PI-2103 KIMRAY, 1/2"LM x 2"FACE, 0-160psi PCV-2101 FISHER, 98H-4, S.R. 35-100psi c/w CA-210 TCV-2101 ROSTRA VERNATHERM, 0250-08-00/200 675GE8001 PSL-2101 LO SUCTION PRESSURE, CCS 675GE8001, SET @ 2"WC DECR 6900GE18 PSH-2101 HI DISCHARGE PRESSURE, CCS 6900GE18, SET @ 145psi INCR. 6900TE16 TSH-2101 HI DISCHARGE TEMPERATURE, CCS 6900TE16, SET 9 240°F INCR. c/w CA-210 TT-2101 TEMPERATURE THERMISTER c/w CA-210 SWAGELOK, 1/4"LM x 21/2"FACE, 0-200psi PI-2101 /w CA-210 PI-2102 SWAGELOK, 14"LM x 21/2"FACE, 0-200psi PG-2101-2-A PCV-2201 FISHER, 98H-4, S.R. 35-100psi A-01 PG-1102-2-A c/w CA-220 TCV-2201 ROSTRA VERNATHERM, 0250-08-00/200 PG-1102-2-4 675GE8001 PSL-2201 LO SUCTION PRESSURE, CCS 675GE8001, SET @ 2"WC DECR 6900GE18 PSH-2201 HI DISCHARGE PRESSURE, CCS 6900GE18, SET @ 145psi INCR 6900TE16 HI DISCHARGE TEMPERATURE, CCS 6900TE16, SET @ 240°F INCR. PG-2101-2-4 TSH-2201 PG-2101-2-A c/w CA-220 TT-2201 TEMPERATURE THERMISTER c/w CA-220 PI-2201 SWAGELOK, 1/2"LM x 21/2"FACE, 0-200psi 2"x1"\ 2"x1" c/w CA-220 PI-2202 SWAGELOK, 1/2"LM x 21/2"FACE, 0-200psi 2"x1"\ === 1" 150# 1" 150# 1" 150# CA-220 CA-210 (PI 2202) PI 2102 (PSL 210) PCV 2201 PSV 2101 (SG)-(SG)-(SG)-1"x1" SET © I 150psi = 1" NPT PSV-2101 VENT PSH 2201 BPCV SET @ 100psi (1CV 2201) C-220 (TCY) C-210 A-03 PG-2101-2-A M - 220M - 210E-220 E-210 GENERAL NOTES:
1. PIPING CONSTRUCTED TO ASME B31.3 NORMAL SERVICE
2. MATERIALS: 2" & SMALLER: a) SPEC 'A' PIPING: MAWP = 150psig @ 350°F MDMT: -20°F @ 150psig AIR TEST: 165psig @ AMBIENT TEMPERATURE 3. DESIGN: PIPE: SA-106B, SCH 80 FITTINGS: SA-105, 2000# NPT UNIONS: SA-105 3000# NPT a) SPEC 'B' PIPING: MAWP = 720psig @ 350°F 222 LP SAA-SCROLL SERIES S.D.C. MDMT: -20°F ♥ 720psig HYDRO TEST: 1080psig BALL VALVES: 2000# NPT FP Contrassius. SZ022C3A w/ DESICCANT TOWERS 12-12-06 TUBING: ¼", %" & ½" 316SS, .035" WALL TUBING FITTINGS: Checked by: 4. THIS PRESSURE PIPING HAS A CAPACITY OF LESS THAN 0.5 CUBIC METERS SKID MOUNTED, SWEET SERVICE 5. AREA CLASSIFICATION IS CLASS 1 DIV 2 ¼", ¾" & ½" 316SS 6. SKID INSULATION: 2" POLAR FOAM PF2444 AS BUILT HUSKY ENERGY SSUED FOR CONSTRUCTION SDC 04-03-07 SDC 8H Unit No.: Drawing No.: Rev.: SAA-07165 PID-SAA07165-A-02 1

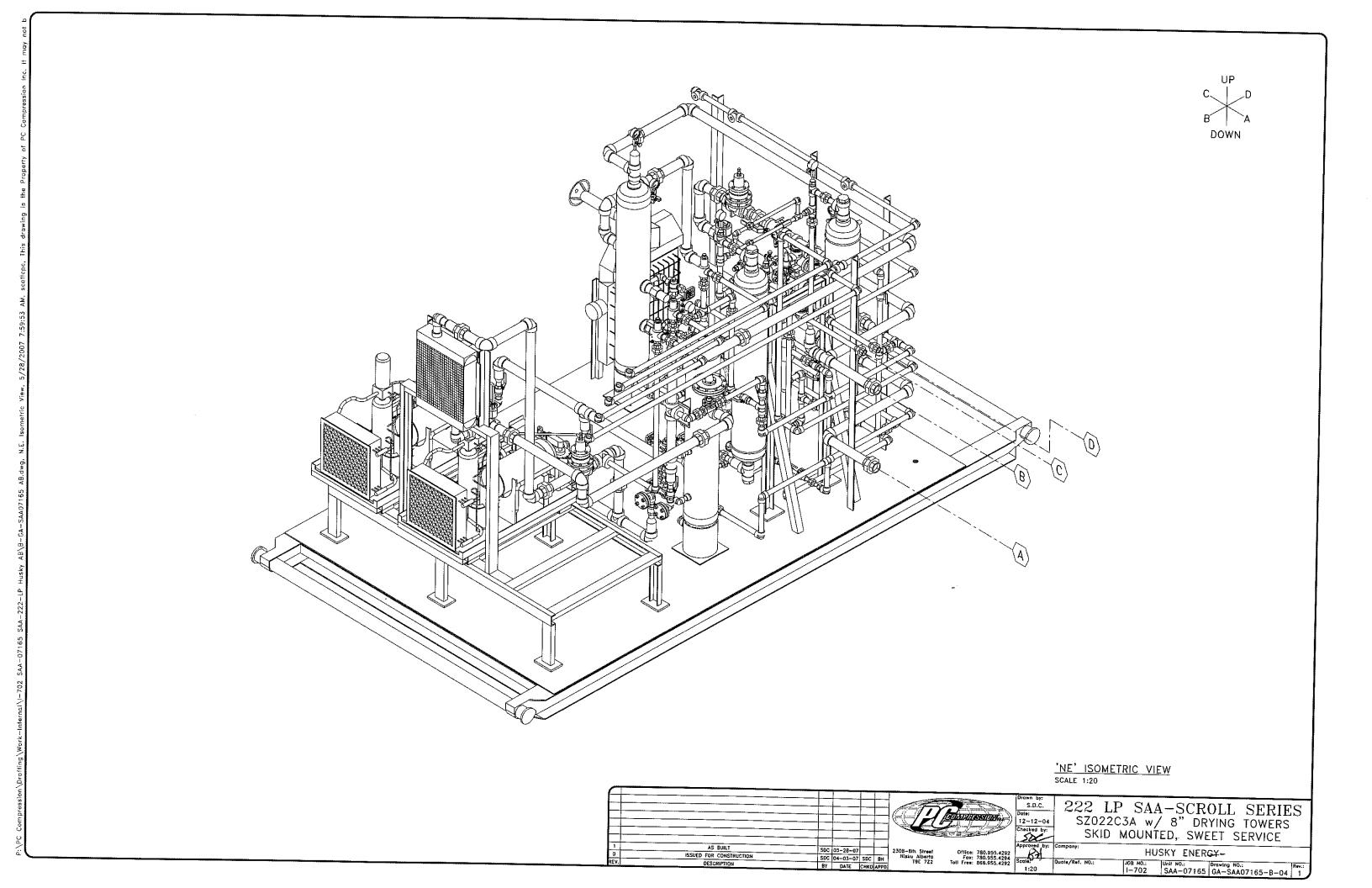


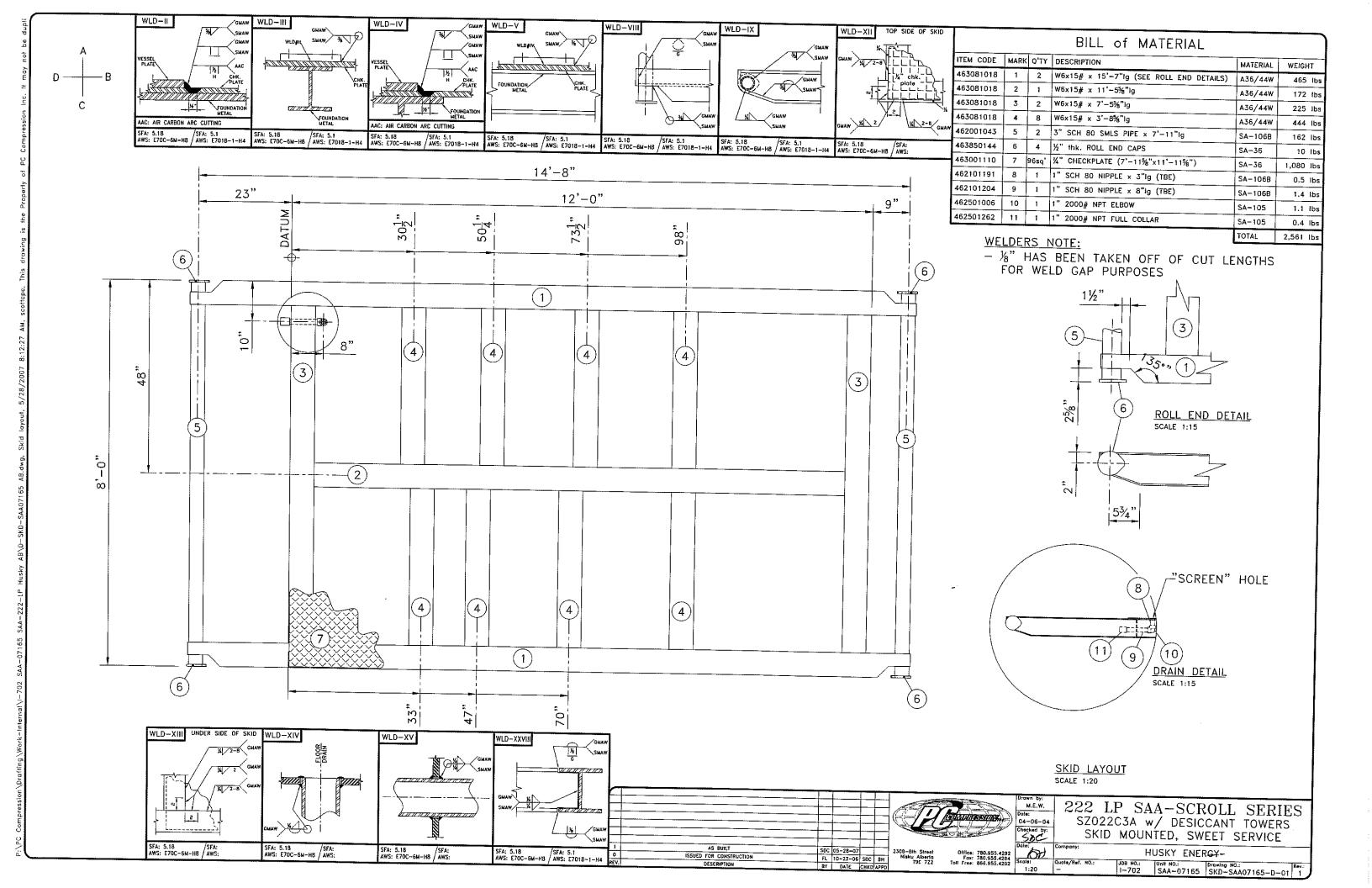












Drawn by:

M.E.W.

Drawn by:

M.E.W.

Dollar:

SZ022C3A w/ DESICCANT TOWERS

SX022C3A w/ DESICCANT TOWERS

SXID MOUNTED, SWEET SERVICE

AS BUILT

AS BUILT

DESCRIPTION

SDC 05-28-07

HUSKY ENERGY

Fox: 780.955.4292

Totl Free: 866.935.4292

N.T.S.

Drawin by:

M.E.W.

SZ022C3A w/ DESICCANT TOWERS

SKID MOUNTED, SWEET SERVICE

Approved by:

Company:

HUSKY ENERGY

Scale:

N.T.S.

Unit NO.:

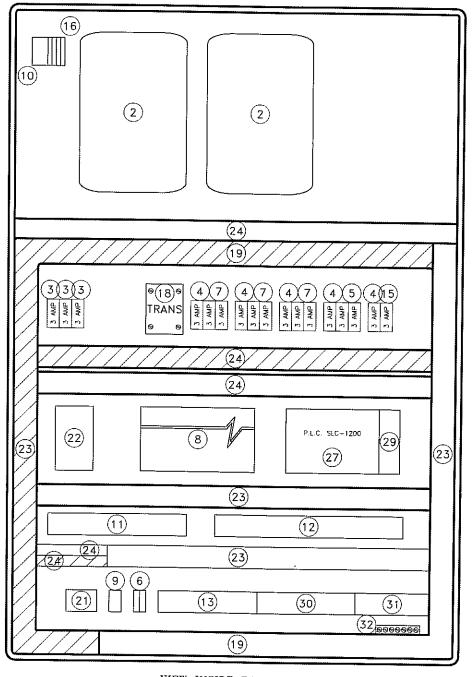
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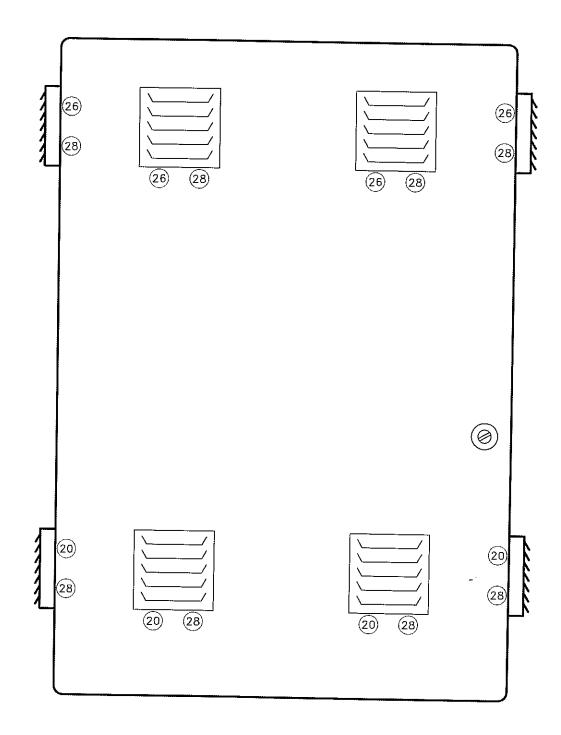
191 772

SAA-07165

SDK-SAA07165-E-01

11





BILL of MATERIAL MARK Q'TY DESCRIPTION 1 Hoffman C-SD 6036 12 Enclosure 2 2 V.F.D. Control Teck V3 3 | 3 | Power Lugs Ferraz FSPDB 3A 4 6 Fuse Blocks Ferraz USM2 9 Fuse ATQR 2 1 120 VAC Power Term. 7 9 Fuse ATQR 20 8 1 Power Supply Phoenix Quint 30A 1 A-TEMNC Heating T-Stat 10 | 1 | A-TEMNO Cooling T-Stat 1 24 VDC Power Term. 1 Discreef I/P Term. 13 Discreet O/P Term. 14 15 4 Fuse ATM-1 16 4 WDU-4 17 18 1 MT0500A Transformer 19 - 40 \* 100 Wire Duct 20 4 A-FLT44 Filter 21 9 Weidmuller WDU 6 Motor Terminals 22 1 100 Watt Heater 23 - 60 x 100 Wire Duct 24 - 25 x 60 Wire Duct 25 26 4 Cooling Fan 24 VDC 1 1762-L40-BXB 1200 PLC 28 8 A-VK44 Vented Louver 29 1 1762-IF20F2 Analog Card 30 1 Analog I/P & O/P Term. 31 Flow Boss / PT-1401 Terminals 32 1 Ground Strip

VIEW INSIDE PANEL



2308–8th Street Nisku Alberto TSF 772

Fax: 780.955.4292 Fax: 780.955.4294 Toll Free: 866.955.4292

PC JOB NO.: 1-702 PC Unit NO.: SAA-07165



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Pyranid Electic Corporation

V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE

PANEL LAYOUT COMMANDER SE

O.

INTERIOR DE BRANTINOS

AS BUILT PCCT BEAR EIA CESTE
DESCRIPTION BY APPT ME 348 27/2805 BE

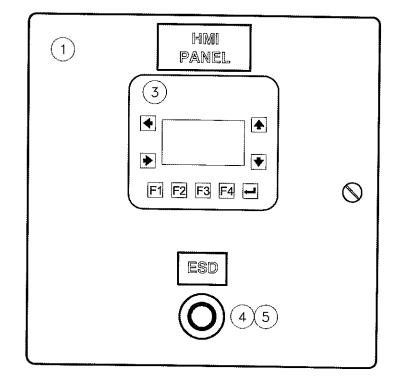
PANEL LAYOUT COMMANDER SE

PC072705-00-0001

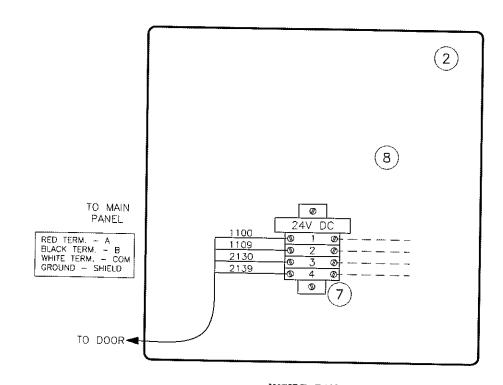
-0001 01

compression\Orafting

	ВІ	LL of MATERIAL
MARK	Q'TY	DESCRIPTION
1	1	Hoffman C-SD-12 †26LG
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 Bradley Calbe
7	4	WD-4 Terminal



FRONT OF DOOR



INSIDE PANEL



PC JOB NO.: 1-702

PC072705-00-0002

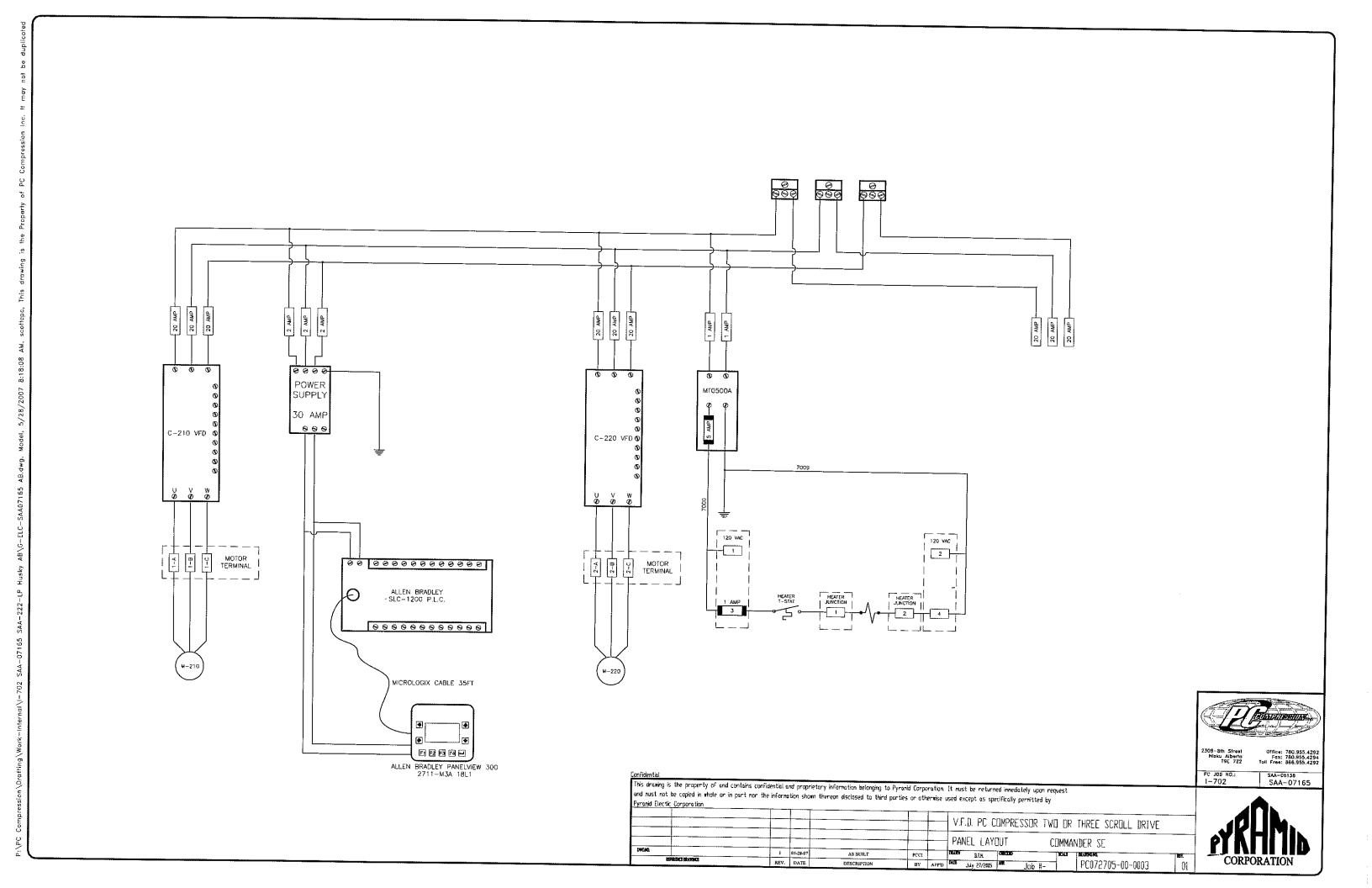
PC Unit NO.: SAA-07165

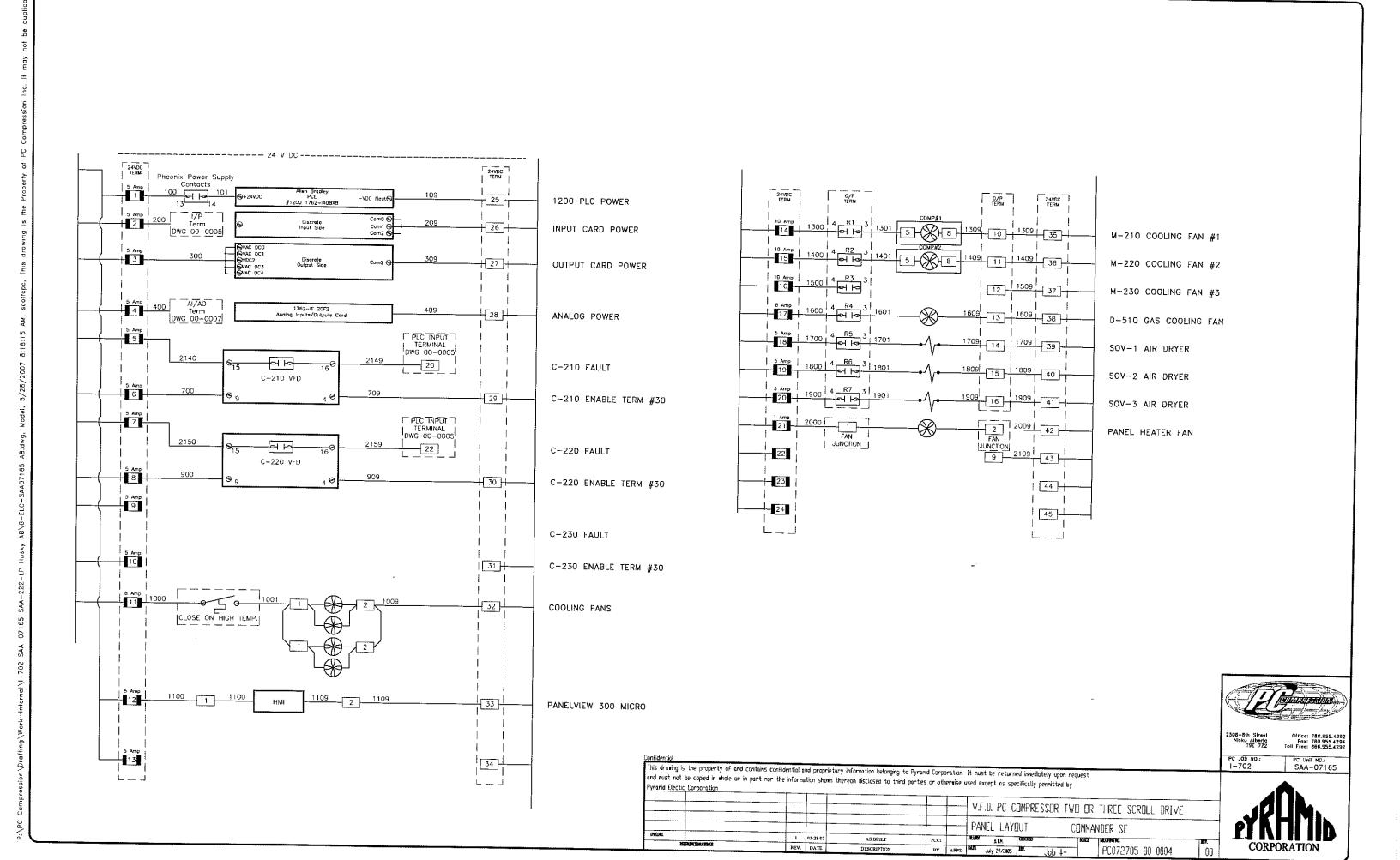


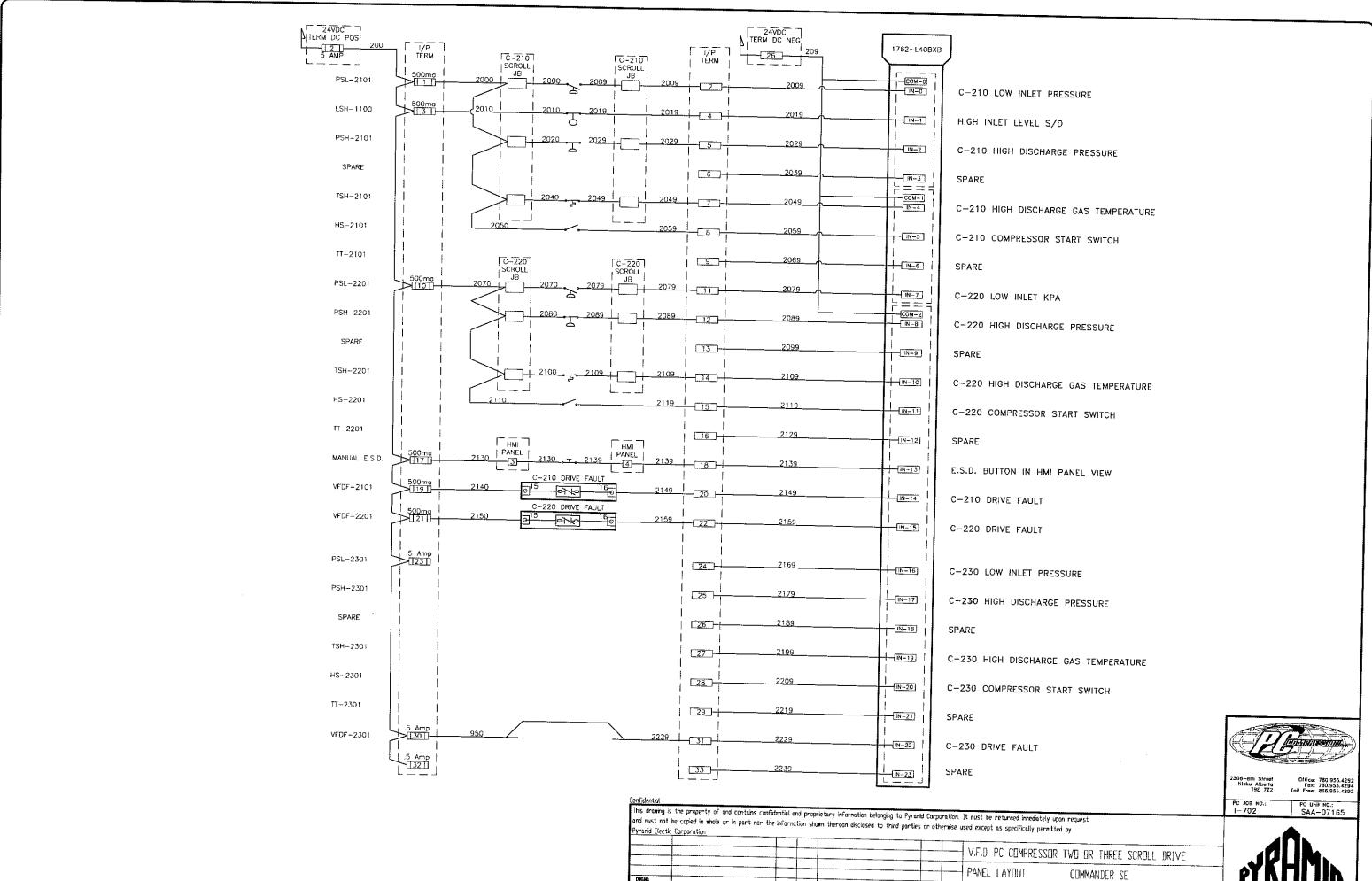
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REV. DATE

V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE PANEL LAYOUT COMMANDER SE PCCI BEAM BIM CECES
BY APPED MIS July 27/2005 BM 1 95-28-07







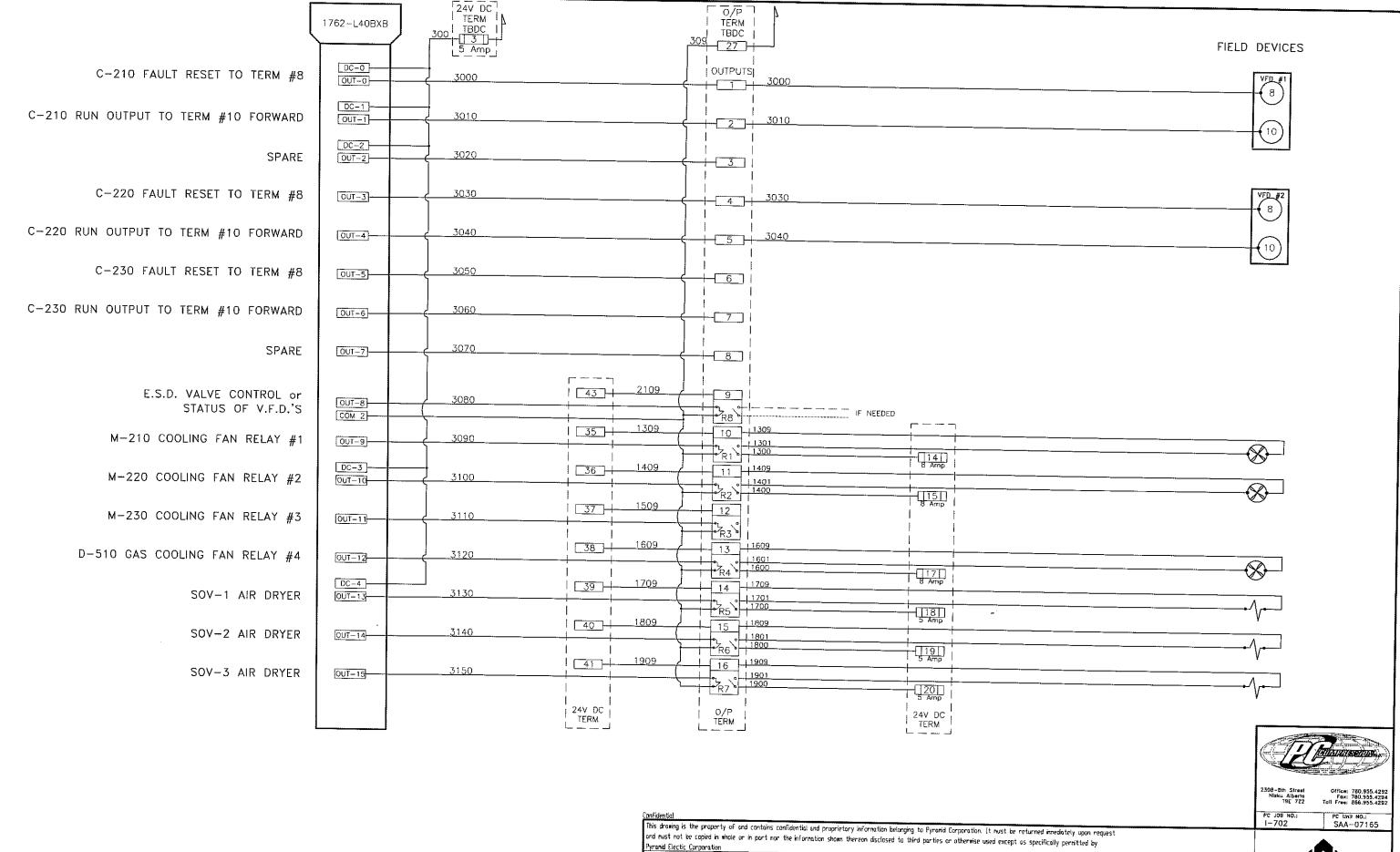
DINGHO.

AS BUILT

PCCI | MANN BIH | CHR. | Dr. | APP'D | SANS July 27/2005 | TM.

BIR CHEXAGO

PC072705-00-0005



PRANTION CORPORATION

V.F.D. PC COMPRESSOR IWO OR THREE SCROLL DRIVE

COMMANDER SE

PC072705-00-0006

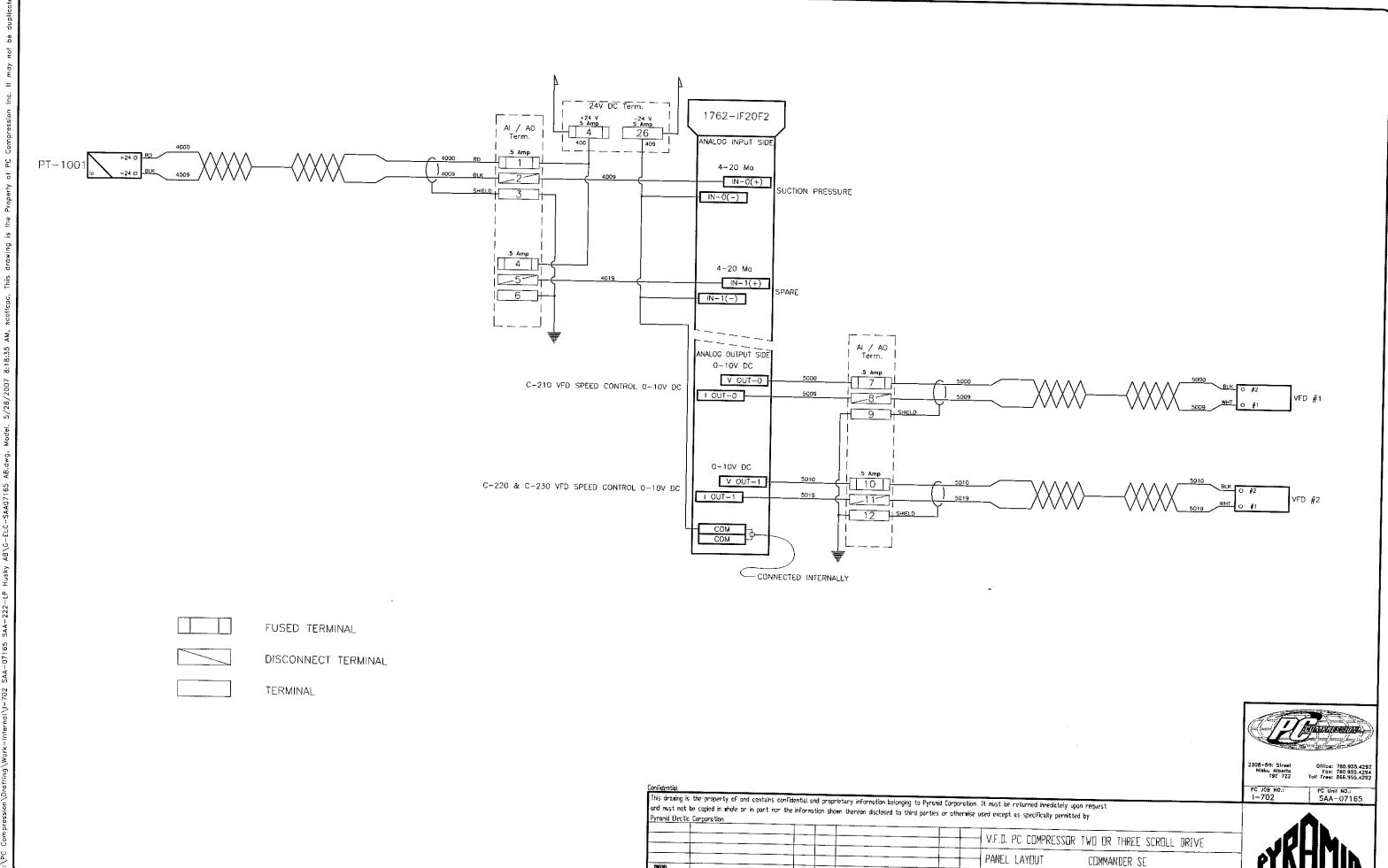
PANEL LAYOUT

CHECKEN B.T.M. CHECKEN

BY APP'D DATE July 27/2005

AS BUILT

DESCRIPTION

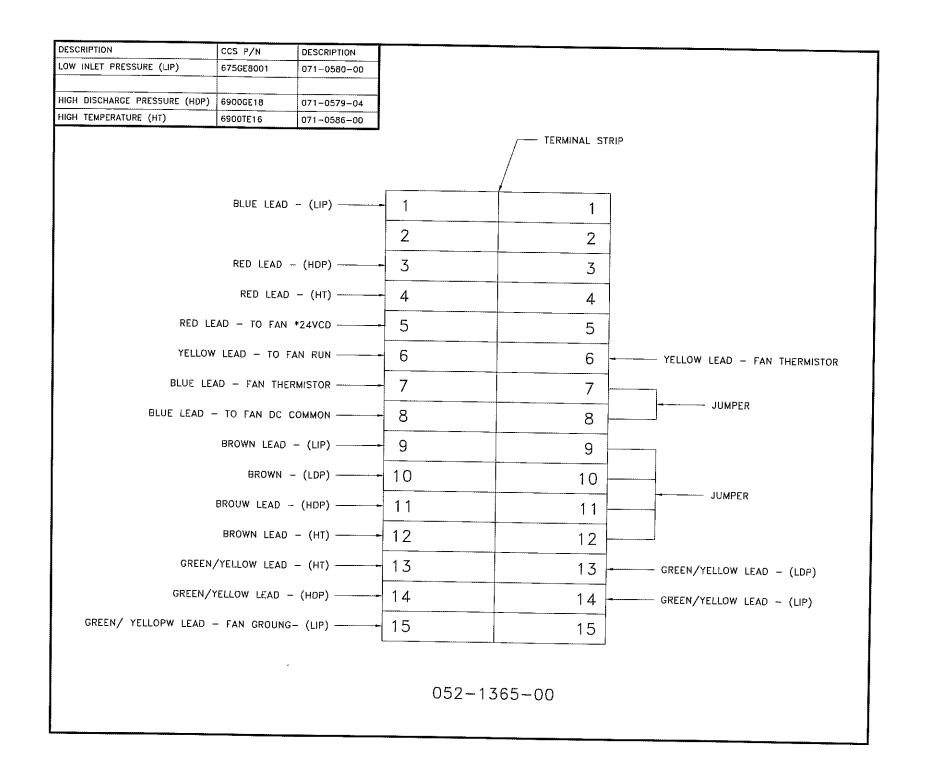




DELTHI BILK CHREED

PC072705-00-0007

AS BUILT





PC JOB NO.: 1-702

PC Unit NO.: SAA-07165

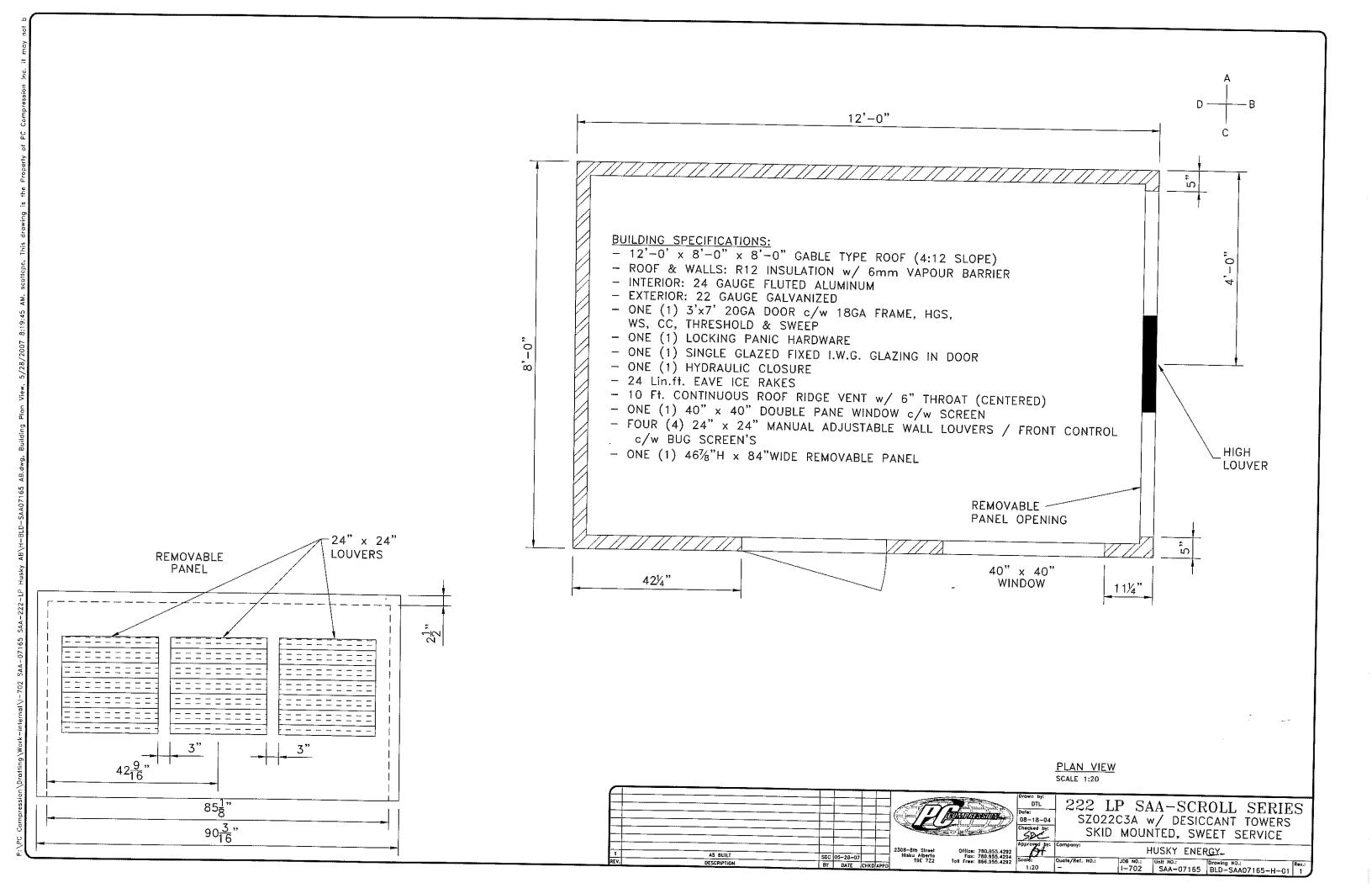
**COPELAND** CORPORATION

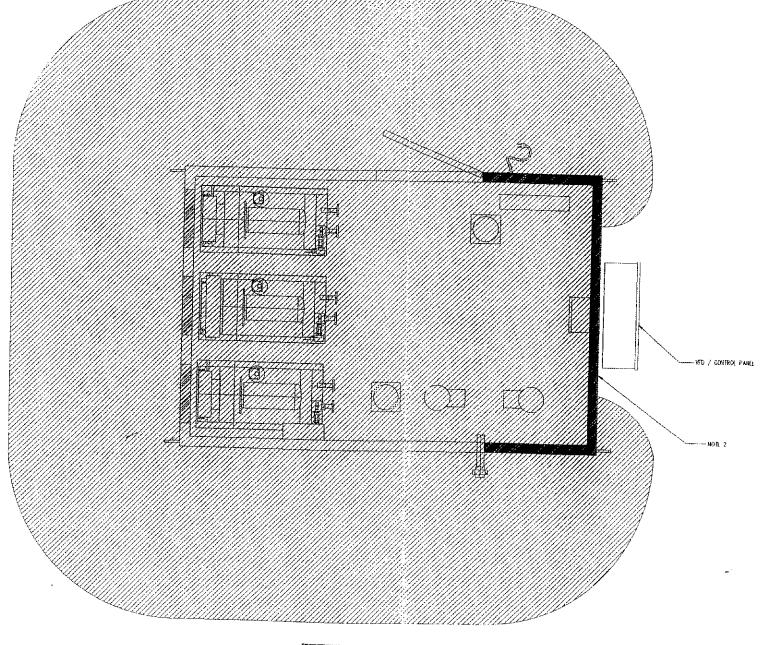
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V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE PANEL LAYOUT AS BULLT I 05-28-07

052-1365-00

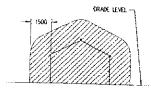
COMMANDER SE





SON OF STREET OF THE STREET OF CLASS ( ZONE 2 CLASS ( ZONE 2
UP 10 450mm ABOVE GRADE
FOR HEAMER THAN ARE CASES

## CLASSIFICATION LEGEND



STANDARD MULTIPACK SCROLL BOOSTER COMPRESSOR BUILDING

THE MITERIOR OF THE COMPRESSOR BUNDING HAS BEEN ELASSIND AS CLASS 1, 70% 2 OP DMSON 2 BASED ON A FUGITHE DESISORS SILDLY DATED 02/12/2X PAMOS PROJECT # 223-47. AREQUARE VENERATION IS PROMOMED BY MARTINAL HEAVING ECOLORS. THE CASE PRESENT IN HIS BIRDING IS ESSIMILALLY NAW MATURAL GAS ECOMPIENT SURFAME FOR GAS GROUP AS OF DIS ACCEPTABLE ROMALLES FORWERS HAVE A MARGINAL SURFACE TEMPERATURE LESS THAN 467°C OR HAVE A TI ( OR LOWER ) TEMPERATURE CODE.

- SOLARITO CONSTIDUES.

  BY CLUSS I, DIVISION 2, OR ZONE 2, AREA CLASSIFICATION ASSIGNED TO THE INTETRICT OF THE CONFIDENCES. ID INSTANCT OF THE STREAM CONFIDENCES OF BUILDING OF THE STREAM CONFIDENCES. IF THIS STREAM CONFIDENCES OF THE STREAM CONFIDENCES OF THE STREAM CONFIDENCES. IF THIS STREAM CONFIDENCES OF THE STREAM CONFIDENCES.
- THE FACULTIES ARE MAINTAINED IN A MAINTER THAT WILL ENSURE SIGNATIONAL LEVELS OF COMPUSTRICE GAS (ABOVE 1-5% OF THE LEL) DO NOT EXIST UNDER MIRBLAL OPERATION EDWEATIONS.
- IT IS RECOMMENDED THAT COMBUSTIBLE CAS DETECTION SSCHEME OF ISTALLED AND MANIAMED BY ACCORDANCE WITH BE MANISACTUREN'S RECOMMENDATIONS OF IN ACCORDANCE WITH MANISACTUREN'S RECOMMENDED PRACTICE TELLS PART II, INSTALLATION OPERATION AND MAINTENANCE OF COMBUSTIBLE CAS DETECTION INSTRUMENTS.

PERMIT TO PRACTICE RAMOO ELECTRICAL CONSULTING LTD.

Date 2003/06/03

VRY VRY SLF DRN DES CHE ENC

PERMIT ALMELIA: P 6426 The Association of This and to Engineers. Geologists and Geophysicials of Magna

> E11199 Electrical Consulting Ltd.



03 03 04 STANDARD

PC COMPRESSION INC.

- COMPRESSOR MULTIPACK SCROLL BOOSTER COMP. STANDARD MODEL AREA CLASSIFICATION DRAWING —

V. YOURSE S. PEDERSON 1:15 1=15 2347[100 1004] DWG SCALE
PLOTTING RATIO:
COMPUTER FILE RO:
GLD DWG NO;
DWG, NO: A1-22347-E100

PCI20-GA2

PC COMPRESSIONS MIC. - 8'X12' SKID AFRANGEMEN

03 83 24 ISSUED FOR AREA CLASSFICATION

issue/revision description

a GUSCOMISTO OF SUSAIDERNAM
CERTIFICATE OF AUTHORIZATION
PRICO ELECTRICA CONSULTING LTD
CESS
FERESSOR OF CONSULT HELD BY
ESCRETATE
SUSAIDERNAM
STORYMAN
STOR

PSV'S



## MERCER VALVE INSPECTION AND TEST REPORT

BRANCH: Edmonton

Serial #: 219206 /

Work Order: 409196 🗸

Customer PO#: 508127 /

Date: Facility:

Cust. Ref.:

A#:

3/28/2007

NISKU

LSD:

Customer: PC COMPRESSION

**PSV Location:** 

Cust Id:

Valve PO: 508127

**VALVE DATA** 

Man.:

Mercer

Model: 9117D51V06E1

Inlet: 1 inch MNPT

Orifice: .122

Serial: 219206

Outlet: 1 inch FNPT

Conn: Threaded Set Pres:

100 PSI ₩

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 228 SCFM

Lift Lever:

Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: OG8841.5C

**CUSTOMER INSTRUCTIONS** 

Valve Instruct. Factory Set

Instructions:

Sold New Valve

Reset Required?

RESET INFORMATION: New Pressure:

New Cold/Diff Set:

New Capacity:

COMPONENTS INSPECTION

Components Installed

Components Removed

New Model #:

Standard

Spring #:

05-006

New Inlet Size:

Trim:

Valve Medium:

Gas / Air

Temperature:

Disassembly:

Inspection: Richard Anderson Reassembly:

**BPM** 

FINAL TEST:

**Test Medium:** 

Simmer: Leakage: Set Pressure:

B.P. Test:

Cold/Diff Set:

70 F

Test Gauge:

Reseat:

Tested by:

FINAL INSPECTION:

SEAL Installed:

End Protectors Installed:

Painted:

Palletized:

Ship Container:

Flex Gaskets Supplied:

Final Inspection: Richard Anderson

**Customer Inspection** 

INSPECTION ID#:

Comments:



## MERCER VALVE INSPECTION AND TEST REPORT

BRANCH: Edmonton

Serial #: C000127

Work Order: 409196

Customer PO#: 508127

Date:

A#:

3/28/2007

Facility:

NISKU

Cust. Ref.:

LSD:

Customer: PC COMPRESSION

**PSV** Location:

Cust Id:

Valve PO: 508127

**VALVE DATA** 

Man.: Conn:

Set Pres:

Mercer Threaded

Model: 9117D51V07E1

Inlet: 1 inch MNPT

Orifice: .122

Serial: C000127

Temp; 70 F

Outlet: 1 inch FNPT Cold/Diff Set Press: PSI

Cap: 329 SCFM >

Lift Lever:

150 PSI 1

Back Press: 0 PSI Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: OG8841.5C

**CUSTOMER INSTRUCTIONS** 

Valve Instruct. Factory Set

Instructions:

Sold New Valve

Reset Required?

RESET INFORMATION: New Pressure:

New Cold/Diff Set:

New Capacity:

COMPONENTS INSPECTION

Components Installed

**Components Removed** 

New Model #:

Trim:

Standard

Spring #:

05-007

New Inlet Size:

Valve Medium:

Gas / Air

Temperature:

Disassembly: Inspection: Richard Anderson

Reassembly:

**FINAL TEST:** 

Test Medium:

Reseat:

Simmer: Leakage:

BPM

Set Pressure:

B.P. Test:

Cold/Diff Set:

70 F

Test Gauge: Tested by:

FINAL INSPECTION:

Painted:

Ship Container:

Flex Gaskets Supplied:

Final Inspection: Richard Anderson

SEAL Installed:

~

End Protectors Installed:

**Customer Inspection** 

Palletized:

INSPECTION ID#:

9615

Comments:



## MERCER VALVE INSPECTION AND TEST REPORT

BRANCH: Edmonton

Serial #: C000146 √

Work Order: 409196 🗸

Customer PO#: 508127 🗸

Date:

Cust. Ref.;

A#:

3/28/2007

Facility:

NISKU

LSD:

Customer: PC COMPRESSION

**PSV Location:** 

Valve PO: 508127

Cust Id:

**VALVE DATA** 

Man.:

Mercer

Model: 9117D51V06E1

Serial: C000146

Conn: Set Pres: 80 PSI 🗸

Threaded

Inlet: 1 inch MNPT

Orifice: .122 Temp: 70 F

Outlet: 1 inch FNPT Cold/Diff Set Press: PSI

Cap: 188 SCFM \*

Lift Lever:

Cap Assembly: Closed

Back Press: 0 PSI

Trim: Standard

Code Symbol: UV

CRN#: OG8841.5C

**CUSTOMER INSTRUCTIONS** 

Valve Instruct. Factory Set

Instructions:

Sold New Valve

Reset Required?

RESET INFORMATION: New Pressure:

New Cold/Diff Set:

New Capacity:

COMPONENTS INSPECTION

Components Installed

Components Removed

New Model #:

Trim:

Standard

Spring #:

05-006

New Inlet Size:

Disassembly:

Valve Medium:

**BPM** 

Gas / Air

Temperature:

Inspection:

Richard Anderson

Reassembly:

**FINAL TEST:** 

**Test Medium:** 

Simmer: Leakage: Set Pressure: B.P. Test:

Cold/Diff Set:

70 F

Reseat: Test Gauge:

Tested by:

FINAL INSPECTION: End Protectors Installed:

Painted:

Palletized:

Ship Container:

Flex Gaskets Supplied:

SEAL Installed:

Final Inspection: Richard Anderson

**Customer Inspection** 

INSPECTION ID#:

9648

Comments:



## MERCER VALVE INSPECTION AND TEST REPORT

BRANCH: Edmonton

Serial #: 313673

Work Order: 409457

Customer PO#: 507662-00

Date:

3/8/2007

Facility:

A#:

Cust. Ref.:

NISKU

LSD:

Customer: PC COMPRESSION

**PSV Location:** 

Cust Id:

Valve PO: 507662-00

**VALVE DATA** 

Man.:

Mercer

Model: 9117D51V07E1

Serial: 313673

Corin: Threaded Set Pres:

150 PSI

Inlet: 1 inch MNPT

Orifice: .122 Temp: 70 F

Outlet: 1 inch FNPT Cold/Diff Set Press: PSI

Cap: 329 SCFM

Lift Lever:

Back Press: 0 PSI Cap Assembly: Closed

Trim: Standard

Code Symbol: UV

CRN#: OG8841.5C

**CUSTOMER INSTRUCTIONS** 

Valve Instruct. Factory Set

Instructions:

Sold New Valve

Reset Required?

RESET INFORMATION: New Pressure:

New Cold/Diff Set:

New Capacity:

**COMPONENTS INSPECTION** 

Components Installed

Components Removed

PC COMPRESSION

P.O. #

507662-00 IM

New Model #:

Trim:

Standard

Spring #:

05-007

SIGNew Inlet Size

Disassembly:

Valve Medium: Inspection:

Gas / Air

Richard Anderson

Temperature:

70 F

Q.C. INSPECTOR Reassembly:

**FINAL TEST:** 

Test Medium:

Reseat:

Simmer:

Set Pressure:

Leakage:

**BPM** 

B.P. Test:

Cold/Diff Set:

Test Gauge: Tested by:

FINAL INSPECTION:

SEAL Installed:

End Protectors Installed: 🗸

Painted: \_\_\_

Palletized:

Ship Container: 🗸

Flex Gaskets Supplied:

Final Inspection: Richard Anderson

**Customer Inspection** 

INSPECTION ID#:

9490

QF-087

Comments:

MFG. DATA REPORTS

## 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

RECEIVED APR 0 5 2007

## Certificate Of Compliance

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, 2004 Edition, 2006 Addenda.

and the second second						
CRN	0H5415	5.21345				
S/N	8600.3	50				· ·
Diameter	8.625	Inches	Over	all Length	56	Inches
Year Built	2007					
MAWP	600	PSIG	@	650	$ ceil_{ m oF}$	
MDMT	−20 °F	•			,	
C.A.	0.0625	Inches				
Radiograph	у	N/A				
PWHT:	Time	N/A	min.	Temp.	N/A	$^{\circ}F$
Hydro Teste	ed @	780	PSIG			

Quality Control Manager BJ SYLYSKI

April 4, 2007

DATE: 2006-02-1	ORDER NO. 5298 P.LNO. 5K02	- 1	EXAMENATION		••								-	, Cittain	ביין דיין	2	KSI KSI % XI	33.5 60	85.0	44.08 71.10 304	21.5	65.77	68.20	68.20 33.0	65.37 34.0	62,32 36.0	70.37 25.0	29.0	63.82 29.0	
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SHANGHAI GATEWAY FITTINGS CO. LTD	1033,Shusng-zhu Rosd Hus-ing town,Jis-ding District, Shunghai, Chine IEL: 86-21-54145661 FAX: 86-21-5414563	VISUALADINE	DVBPECTION	GOOD	G00D	6005	0000	0000	9000	0000	0000	GOOD	0000	*	t	201	3		\$	ĸ	471	0	0	Φ.	<b>5</b> (	> <	> 0	<b>,</b>		
CTION	toed Hue-tir 45661		;									,	\ \ \	CHEMICAL COMPOSITION	ž	*15	3		8	ðı.	Ø,	0	۰ ۵	36		> 5	> =	· c	,	
SPE AI GA	huang-zhu Road H tai, China 86-21-54145661	MFG NO	}	51.147	SL140	5L157	51.15	51.161	51.162	SH14	SF02	6B02	¥ 6A10	CAL CO	Cu	2		,	2	7	~	٥	٥ (	5 0	0 0			C	ì	COOTING.
ANGH	1033, Shuang-zh Shanghai, Chine TEL: 86-21-5							_						CHEM	S	1000			R	12	12	15	* :	4 7	2 -		, <u>x</u>	200		-980°C, AB
N. H.S.		MITTY	PCS	ង	8 8	8	35	007	3 2	90	100	000	0091		Ъ	1000		V.#	2	19	Ω.	# !	2 5	25		2	12	12		PERN 620 C
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ATTONAL B-03	PB-03														Si	*300	2	2		88	N !	<u> </u>	2 <u>Y</u>	2 4	1	2	S.	61		I. TRIMPEKA
234 WP	A234 W 106 Gr. 16.9-01	PRODUCT & SIZE													U	*100		ş	3	2:	7 5	<u> </u>	2 2	1 2		81	91	91		With Find
49	D: ASME SA234 WFB-03 S: ASTM A106 Gr. B ASME B16.9-01	PRODUC		RE-4-2 STD	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	74.040		0400 2000	A P. 4 Car.		0.510		s of D	MATERIAL	THAP CHANG		MIN	Ĺ		1-2255	2000	I DESCRIPTION	DL0533192	DE05333031	DL0421359	DL0327562	DI-0426267	DL0426267	. A. Carrent Cont.	(INVESTMENT FOR FORMED WITH FRALL TRAPERATURE BETWEEN 526°C - 986°C , AIR COOLING
RCHASI	STANDARD; MATERIALS; INSP.SPEC.;	73.0	_	THE PER 4		_	_		-	_	_	•	9			_	۲.	TAMOME	-					_			_		(Archite)	W. W.
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N: NORMALIZANG AT TEMPERATURE BROT '0.5 KB. , AIR COOLING. NACE MR-81-75 : LATERACTORY

WE HERRERY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCIENCED AND ALSO WITH THE PUNCHASER'S REQUIREMENTS AND THAT THE TEST REBUILD SHOWN HEREIN ARE CORRECT.



# INSPECTION CERTIFICATE (BS EN 10204 3.1; 2004 - ISO 10474 3.1B: 1991)

SIDERCA 5.A.I.C. Dr Jorge A. Simini 250 (82804MHA) Campana Buenos Aires, Argentina

(54) 3489 433100 tel. (54) 3489 433405 fax

مستطون في مهمونات					i			
VAN LEEUWEN CANADA					uring Order	Número / Number	Fecha / Date	Pág./Page
Producto / Product					5/4589.02	318942	08/05/2006	
SMLS LINE PIPE					Orden de Compra/ Purchase Order 45000442	tem Referen 00002 450004	ttem Referencia del Cliente / Customer Reference 00002 45000442	mer Reference
Norma / Standard								
API 5L/ASTN/ASME A/SA 53/106 +CSA Z245.1ED 2002 + P4.17-01/02	3SA 2245	.1ED 2002 + P4.17-01/02			Grado / Grade	Extremo	Extremos / Ends	
Dimensiones / Dimensions	Acode to				B/X4Z+Z90SS	BEVELI	BEVELLED AT 30 DEG. ASTM	<b>X</b>
- <del>1</del>	<b>4</b>	40 42.55 KGMT 28.58 LB/FT	Longitud / Length S.R. (SP)	Superficie Exte	Superficie Externa / External Surface VARNISHED	Cantidae 251	Cantidades / Quantities 251 Pz 1647.07 m	70345 Kg
						251	251 Pcs 5403,77 Ft	155084 1 b
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Test   Size   Area   Ray,   V.   EUL   Ray,   V.   Ray,   Ray,   V.   Ray,	Total   Size   Area   Req.   V.   EUL   Req.   V.   Req.   V.   Req.   Y.   Y.   Req.   Y.   Y.   Req.   Y.   Y.   Y.   Y.   Y.   Y.   Y.					l :		-			Offset M	potpe	Ľ	### H	8	_		T	띪	+	`	-	ag ag				.
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## INSPECTION CERTIFICATE

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

SiDERCA S.A.I.C.
Dr. Jorge A. Simini 250
(82804N/HA) Campana
Buenos Aires, Argentina

(54) 3489 433100 tel. (54) 3489 433405 fax

70345 Kg 155084 Lb Referencia del Cliente / Customer Reference 45000442 Pag./Paga BEVELLED AT 30 DEG. ASTIM 1647.07 m 5403.77 Ft 08/05/2006 Fecha / Date Cantidades / Quantities Extremos / Ends 251 Pz 251 Pcs Número / Number ftern 00002 Orden de Compra/ Purchase Order Expediente/ Manufacturing Order Superficie Externa / External Surface VARNISHED 5/4589.02 B/X42+2905S Grado / Grade 45000442 FNSAVOS OI IIMICOS / CUEMIC Longitud / Length (S.R. (SP) Peso Nominal / Nominal Weight 42.55 KG/MT 28.58 LB/FT API 5L/ASTN/ASME A/SA 53/106 +CSA 2245,1ED 2002 + P4.17-01/02 Schedule \$ 8.20 mm 0.322 inches Dimensiones / Dimensions VAN LEEUWEN CANADA Producto / Product SMLS LINE PIPE Cliente / Customer Norma / Standard 219.10 x 8 5/8 x

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# **NSPECTION CERTIFICATE**

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

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

(54) 3489 433100 tel. (54) 3489 433405 fax

Referencia del Cliente / Customer Reference 70345 Kg 55084 Lb NNNNN LLLL PPPPP TENARIS SD 5L0098 @ MM.YY ASTWASME A/SA 53/106 API5L CSA 2245.1 B/X42PSL1/290 CATI SS S 219,1 8,2 28,58 B/SCHAG STD 2400PSI PO45000442 5/4589.02 MADE IN ARGENTINA Pág./Page STEEL MAKING PROCESS: E.A.F.7LE, AND CONTINUOUS CASTING FULL ALUMINION KILLED AND FINE GRAIN PRACTICE. BEVELLED AT 30 DEG. ASTM -THE LE PRACTICE INCLUDES A FINAL INJECTION OF CALCIUM SILICIDE WRE FOR MICROINCI USION SHAPE CONTROL. 1647.07 m 5403.77 Ft 08/05/2006 Fecha / Date Cantidades / Quantities Extremo / Ends 251 Pz 251 Pcs 45000442 Número / Number VISUAL AND DIMENSIONAL INSPECTION: SATISFACTORY ltem 00002 MANUFACTURING PROCESS SEAMLESS HOT ROLLED. MATERIAL FREE FROM MERCURY CONTAMINATION PPP = Peso / Weight Orden de Compral Purchase Order Expediente/ Manufacturing Order Superficie Externa / External Surface 5/4589,02 MANUFACTURED BY SIDERCA Marcas / Marking LLL ≈ Longitud / length HWXXXXX ≈ Colada / Heat B/X42+290SS Satisfactorio / Satisfactory Grado / Grade \*MATERIAL CONDITIONS\* Resultado / Results \*ACIERAGE PROCESS\* 45000442 ROLLING PROCESS\* CONTROLS. VARNISHED PABRICÁGIÓN DE ACERO: FUNDICIÓN POR ARCO ELEGTRICA Y COLADO CONTINUO - ACERD O ALMADO MUSILUMINIO. -LA PRACTICA DE AFINO EN EL HORNO-CUCHARA INCLUYE UNA INYECCIÓN FINAL DE UNA VARILLA DE SUBCURO DE CALCIÓ PARA ÓBITENER UNA FORMA GLOBILLAR DE EYENTUALES MICRÓ NOLLUSIÓNES. Longitud / Length S.R. (SP) NNNNN = Número de tubo / Nbr of pipe Prueba Hidráulica / Hydrostatic Test Y/T = Año / Trimestre Year / Quarter Segundos / Seconds Peso Nominal / Nominal Weight Tiempo / Time -FABRICADIÓN DETUBO: LAMINADO EN CALIENTE Y SIN COSTURA 42.55 KG/MT 5,00 28.58 LB/FT API 5L/ASTM/ASME A/SA 53/106 +CSA Z245.1ED 2002 + P4.17-01/02 -MATERIALIBREDE CONTAMINACIÓN DE MERCURIO. -CONTROLVISUALY DIMENSIONAL SATISFACTORIO Schedule 4 Valor / Value & = Monograms / Monogram SIDERCA <del>2</del> Presión / Pressure Estarcido (Tubo) / Stencilling (Pipe) MM.YY = Mes / Año Month / Year CONDICTIONES DEL MATERIAL\* inches \*PROCESO DE ACERACIÓN\* PROCESO DE LAMINACIÓN \*FABRICADO POR SIDERCA\* Dimensiones / Dimensions VAN LEEUWEN CANADA 0.322 Producto / Product Cliente / Customer SME'S LINE PIPE Norma / Standard CONTROLES Unidad / Unit 219.10 x 8 57 8 Š

CLINE

HARDNESS ACCORDING TO NACE MR-01-75 LATEST EDITION.

NOT REPAIRED BY WELDING.

"MATERIAL PROPERTIES"

-LA DUREZA CUMPLE CON LA NORMA NACE MR 04.75 ULTIMA EDICIÓN.

-NO REPARADO POR SOLDADURA

\*PROPREDADES DEL MATERIAL\*



# INSPECTION CERTIFICATE

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

Dr Jorge A. Simini 250 (82804MHA) Campana Buenus Aires, Argentina

(54) 3489 433100 tel (54) 3489 433405 fax

70345 Kg 155084 Lb Referencia del Cliente / Customer Reference -MATERIAL COMPLIES WITH HARDNESS HV500 MAXIMUM 248 VICKERS ACCORDING TO CSA Z245.1.02 REQUIREMENTS. BEVELLED AT 30 DEG. ASTM 1647.07 m 5403.77 Ft 08/05/2006 Fecha / Date Cantidades / Quantitles Extremo / Ends 251 Pz 251 Pcs 45000442 Número / Number -EDITION OF REGULATION: NACE MR 01.75 LATEST EDITION - MATERIAL COMPLIES WITH CSA 2245.1 GR 241/290 CAT I ltem 00002 -EDITION OF REGULATION: API 5, 437 Editor 2004 Orden de Compra/ Purchase Order EDITION OF REGULATION: ASME SA 59/01 Expediente/ Manufacturing Order -EDITION OF REGULATION: ASME SA 106/01. -EDITION OF REGULATION: CSA 2246, 1762 EDITION OF REGULATION: ASTM A106/04b. -EDITION OF REGULATION: ASTM A53/04a. Superficie Externa / External Surface VARNISHED 5/4589.02 Grado / Grade B/X42+290SS 45000442 \*STANDARDS\* Longitud / Length EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS DE MICRODUREZA HV500 MAXIMO 248 S.R. (SP) - EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS CSA 2245.1 GR 241/290 CAT I Peso Nominal / Nominal Weight 42.55 KG/MT API 51.JASTW/ASME A/SA 53/106 +CSA Z245.1ED 2002 + P4.17-01/02 28.58 LB/FT EDICION DE LA NORMA: NACE MR-01-75 ULTIMA EDICION EDICION DE LA NORMA: API 5L, 43° Edition 2004. EDICION DE LA NORMA: ASME SA 106/01. EDIGION DE LA NORMA: ASTM A106/04b. -EDICION DE LA NORMA: ASME SA 53/01. Schedule EDICION DE LA NORMA: CSA 2245.1/02. EDICION DE LA NORMA: ASTM A53/04a. 各 VICKERS SEGÚN CSA Z245.1.02 0.322 Inches 8.20 mm Dimensiones / Dimensions VAN LEEUWEN CANADA Cliente / Customer Producto / Product SMLS LINE PIPE Norma / Standard 219,10 x "NORMAS" Š

400S: E.M.I. LONG (EXT.) NOTICH 5% IGN DESTRUCTIVE TEST: SATISFACTORY

E.M.I. TRANSV (EXT./INT.) NOTCH 10%

+ E.M.I. LONG (INT) NOTOH 10%

\* M.P.I. LONG, (EXT./INT.) AT ENDS.

ONE YELLOW LONGITUDINAL BAND,

END MARKING ONE ORANGE BAND

Projectoris/Ent/Projectors: Projector For FLAT/Beveled Pare: Supplementation (Projector)



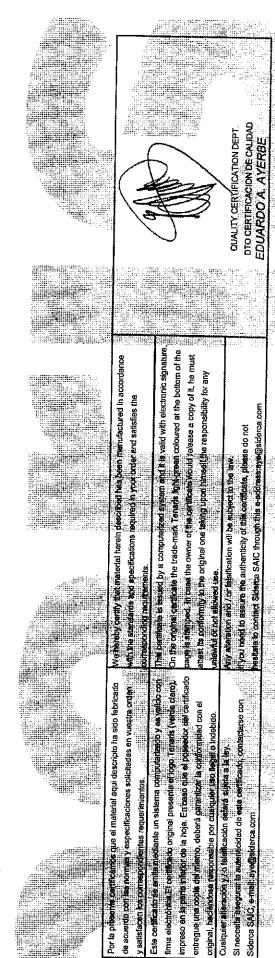
# INSPECTION CERTIFICATE

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

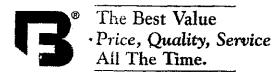
SIDERCA S.A.I.C. Dr. Jorge A. Simini 250 (82804MHA) Campana Buenos Aires, Argentina

(54) 3489 433100 tel. (54) 3489 433405 fax

Cliente / Customer			1				
VAN LEEUWEN CANADA			Expedientel Manuacuming Order	Número / Number	ıζ	Fecha / Date	Pág./Page
Practical / Product			MADOS/U.C.	318942		08/05/2006	2 /
SMLS LINE PIPE			Orden de Compra/ Purchase Order	llem R	eferencía del	Referencia del Cliente / Customer Reference	er Reference
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Mormo / Standard							
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2	The rectified to the second of	/ Length	Superficie Externa / External Surface	වී	Cantidades / Quantities	antities	
#	42.33 NG/MI 28.58 I R/FT	S.R. (SP)	VARNISHED		251 Pz	1647.07 m	70345 Kg
					251 Pcs	5403.77 Ft	155084 Lb



## CERTIFIED MILL TEST REPORT



LOG NO. 304580 PAGE 9

BONNEY FORGE
P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330
(814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906
www.bonneylorge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 11/07/06

CUSTOMER'S Order No.: 9109934-00

RECEIVED Bonney Order No044493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY

5105 75TH STREET

DEC 1 3 2006 387 793

EDMONTON ALBERTA

EDMONTON ALBERTA, TEE5S5 CANAD

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

				SA/A105N		
023	120	3582	7523661	11/2 3M A105N CDUP T C	. 040 MD	
024	1450	3611	7523726	1/2 3000 A105N HCP T C	060 MD 25	. 18C . 01C
025	800	3594	7523882	2 3000 A105N HCP T C	,040 MD 83	
026	84	3364 NUT-GM	7524129	11/2 3M A105N UNAR T C 180 MN 810 P 011 S NI 080 CU 150 CR 110 M0 AL 022 NB 002 CE(LONG FORMULA) = 0.36 T/5 7/250 Y/S 54125 EL 32.40 RA 70. BRINELL HARDNESS1: 139 HARDNESS2: 1	. 017 V	

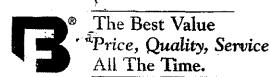
\*\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*

We certify that the duta 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 pliecks.

Kylee Fleck

CMTR: REV 1

### CERTIFIED MILL TEST REPORT



LOG NO. 304580 PAGE 15.

BONNEY FORGE

P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17068-0330 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906

mos.eprofyer.nod.www

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

**Date** 

11/07/06

CUSTOMER'S Order No.: 9109934-00

Bonney Order No044493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY

5105 75TH STREET

387793

EDMONTON ALBERTA

EDMONTON ALBERTA, TAESSS CANAD

ITEM

QUANTITY LOT NO.

GRADE OR SPECIFICATION NO CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS

1. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.

DEC 1 3 2006

- 2. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REGUIREMENTS.
- 3. CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- 4. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2003 AND NACE MR0175-2003.
- 5. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204 3.1.8. (EUROPEAN STANDARD).
- ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.
- 7. CERTIFYING TO ASTM A350 LF2 04A REVISION.
- 8. THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SASSO-LFZ.
- 9. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH A350-LF2.
- 10. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.

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

We certify that the date 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 checks.

Kylee Fleck

CMTR: REV 1

### CERTIFIED MILL TEST REPORT



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

LOG NO	306749	PAGE _	3
	4496 CROGHAN PIKE • (800) 345-7548 • FAX (8		A 17066-0330

**CUSTOMER** 

7158 45000180

Date 01/29/07

CUSTOMER'S Order No.: 4022114-00

RECEIVEDN#3730

Bonney Order N2000002293

SHIPPED TO: C

1

FEB 2 6 2007

10035

ITEM	QUANTITY LO	TINO. GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:	
007	50 3730 <b>2</b>	SA/A105N  3/4 3M A105N COUP T 7523572  C .200 MN 1.030 P .011 S .020 SI .210  NI .030 CU .090 CO .003 CR .040 MD .010  V .000 AL .025 NB .014  CE(LONG FORMULA) = 0.39  T/S 74375 Y/S 52500 EL 32.50 RA 66.10  BRINELL HARDNESSI: 130 HARDNESS2: 130	
OOB	15 2774	21/2 3M A105N HCP T 7529015 C .200 MN 1.010 P .010 S .024 SI .180 NI .070 CU .160 CR .130 MD .040 V .004 CB .002 AL .018 CE(LONG FORMULA) = 0.42 T/S 74751 Y/S 48756 EL 32.30 RA 65.57 BRINELL HARDNESS1: 141 HARDNESS2: 137	
	8350	C .220 MN 1.030 P .014 S .022 SI .180 NI .040 CU .180 CR .120 MD .020 V .002 CB .001 AL .020 CE(LONG FORMULA) = 0.43 T/S 77750 Y/S 52500 EL 30.80 RA 64.45 BRINELL HARDNESS1: 150 HARDNESS2: 147	
009	50 3322	1/4 3M A105N CAP T 7522720  C .200 MN 1.050 P .007 S .021 SI .220  NI .020 CU .070 CD .004 CR .030 MD .010  V .000 AL .021 NB .014  CE(LDNG FORMULA) = 0.39  T/S 77750 Y/S 54125 EL 33.25 RA 70.75  BRINELL HARDNESS1: 139 HARDNESS2: 137	

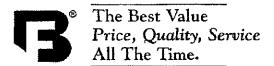
\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*

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

Cris Boozel

CMTR: REV 1

### CERTIFIED MILL TEST REPORT



LOG NO. 306749 PAGE 16

BONNEY FORGE
DO PAY 230 1408 CROSHAN DIVE - MICHIEL HIGH DA 4200 PAGE

P.O. BOX 330 • 14496 CHOGHAN PIKE • MOUNT UNION, PA 17066-033 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906 www.bonnoylorge.com

**CUSTOMER:** 

Date 01/29/07

CUSTOMER'S Order No.: 4022116-00

Bonney Order No000002293

SHIPPED TO:

10035

ITEM 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 A105QT WAS QUENCHED AND TEMPERED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- 3. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- 4. CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- 5. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.
- 6. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204 3.1.B. (EUROPEAN STANDARD). 2005 EDITION.
- 7. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2003 AND NACE MR0175-2003.

\*\*\*\*\* 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 full, or as obtained by additional laboratory checks.

Cris Boozel

CMTR: REV 1

### DELCOPTE S.A. RACCORDS ACIER-STEEL FITTINGS

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67 JBZ

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17, Avenue du Corbeau - BP 597 156156 59605 MAURILUGE CEDEX FRANCE Tel: 27 69.14.14 Fax: 27.64.25.69

CERTIFICAT DE RECEPTION - ACCEPTANCE CERTIFICATE (DIN 50049 3,1.b -EN 10204 3.1.b) Order

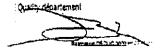
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86 fC3	0.195	0.170:	9,900	0.015		0.022		0.002	0.070	0.250	0.001 0.001		
87.FCG	0.190	0.200	0.930	0.013	0.022	0.080	0.010	0.003	0.050	0.190			
89 G50	0.180	0,260	0.860	0.009	0.010	0.060		0.001	0.130	0.180	0.001		
90 BFS	0.180	0.250	0.960	0.014	0.024	0.130		0.002	0.080,	0.210,			
91.FID	0.180	0.170	0.890	0.013	0.010	0.090	0.020	0.019	0.060	0.180	0.000	-	
92 BHP	0.195	0770	1,050 <sup>1</sup>	0.013	0.022;	0.090	0.010	0.003	0.050	0.140	0.001		
93 ULL	0.185	0.158	1.080,	0.010	0.033	0.127	0.039	0.001	0.085	0.153	0.000		
94 JBZ	0.180	0.190	1,160	0.015	0.027	0.130	0.030	<b>0.000</b>	0.090.		= 0.000		
95 JWB	0.220	0.280 <sub>1</sub>	0.700	0.007	0.009	0.060	0.010	0.002	0.090	0.240	0.001		
IECHANICA	L TESTS			·			·	·	<del></del>				
tem Identi-	Re 0.2%	Rm	. A%	. 2	*	нв	··••				· · · · · · · · · · · · · · · · · · ·		
lication	N/mm²	N/mm¹						,		<b></b>			
ini iasi	250.0	485.0	0, 2	2.0	30.0	, .	:						
79 FH44	315.0	508.0	D. 3	2.9	57.5 15			·····			•	<del></del>	
80 FC4	327.0			1.7.	55.9 16		į						
81 JPN	256.0			4,0	45.0 16		i						
84 HRG	279.0	r		4.0	45.0 16				$\alpha I$	. 0	nia		
85:JVF	275.0	495.0	Q 3	5.0	51.0 15	\$			U/V	) 4	1042 90		
86 FC3	321.0	,		2.3	56.5 170		!		ŤŦ	۱-۷-	an .		
87 FCG	319.0			2.5	56.9 155		Į						
89 650	339.0			0.0	58.0 15				a	v -	COVO)		
90 BFS	319.0			1.0	63.0,15			_	W	7 ح	WW		
	311.0			3.3	58.3:14								
91 FID					in an as								
92 SHP	304,0 324.0	501.0		6.0: a s	70.0 15								
	304,0 324.0 362,0,	501.0	o <sup>;</sup> 3	9.5 3.0	63.0 16 59.0 15	3							

Société garantie que les produits objets du présent certificat respectant et leur totalité les specifications suivantes (pour les aciers carosne)

0 <= 0.05 \line{C} P <= 0.05 \line{C} S <= 0.05 \line{C} S \li

From certifions que les produits énumérés chidessous sont conformes aux préscriptions de la commande et des specifications et out subs, sans objection, les contrôles d'aspect et de dimensions. Les cereby certiny that above mentioned products are in accordance with the requirements of the order sont sherufactions and have meen other ked without objection for surface and dimensionset control.



/000000000/00/03/02/I (A02)

VERTEILER: SIEHE UNTEN

CSA 245.1 ACC TO PAR. 16 SOUR SERVICE, MATERIAL TEST REPORT 3.1.B

47/ 56/0001 Zur Lieferanzeigen-Nr. To delivery note no A I avis d'expédition

40451 Nr./ No

(A06)

2875-64TH AVENUE PIPE & TUBE LID. VAN LEEUWEN

CDN-T6P1R1 EDMONTON/ALBERTA

Lieferwerk Supply-plant Usine expéditrice ZEITHAIN (B01 - B04)

CEERIPS ON DAY SO NOT

Verwender User Utilisateur

Verwender-Baresk-Nr. 27.02.06 Node-coornande utilisateur 45000484 Bestelf-Datum Date of order Date de commande

Bestimmungsland Destination Pays de destination CANADA

HT 231914

HOT FINISHED SEAMLESS LINE PIPE #
API SPEC. 5 L, PSL 1, 03.2004 # ASTM A 106 - 04 A /
ASTM A 530 - 04 / ASME SA 106, EDITION 2004 /
ASME SA 530, EDITION 2004 /
ASME BOILER AND PRESSURE VESSEL CODE, SECTION II, PART A,

EDITION 2004, ADDENDA 2005 / CSA Z 245.1:2002 /
NACE MR 0175/ISO 15156-2:2003 / EN ISO 15156-2:2003,
ANNEX A.2.1.2 # VAN LEEUWEN SPEC.NO.: VLCN-3, REV D, 07.2002 # GRADE B / ASTM A 106 / ASME SA 106)
/ GRADE 290 (CSA Z245.1, CAT. I) # IN RANDOM MILL LENGTH 18 - 22 FT #

RESIDUAL MAGNETISM DOES NOT EXCEED 30 GAUSS # WITHOUT RUST PROTECTION # OUTSIDE DRY VARNISH ENDS PLAIN, SQUARED TO TUBE AXIS # INSIDE

(B11 - B13)

(B14)

RECEIVED FEB 2 6 2007

Item	Deliv.	Deliv. Dimension / Item text	/ Item text	Quantity/pcs	kg/lbs	Total length m/ft
2	Part	NPS 1	SCHEDULE X 80,000 IN	1.600	31.786	9.680,00
		V & M FR IN BUNDL. 2 SLINGS	V & M FRANCE NO/ITEM LA1183/02 IN BUNDLES OF MAX. 4000 KG, WITH 6 STEEL BANDS AND 2 SLINGS (NYLON) FOR CONTAINER		70.07	31.758,53

F01/

2

VALLOUREC & MANNESMANN TUBES

V&M-Aufrage-Nr. (A08)
V&M-oder no
No. de commande V&M 856/4017 8

Kunden-Bastell-Nr. (A07)
Purchaser-order-no
No. de commande client VM1645

V & M DEUTSCHLAND GmbH · Posttach 33 02 30 · 40435 Dusseldorf

5.05.06

Lieferdatum Delivery Date Date d'expédition

7/

(A03)



	M VALLOUREC	VALLOUREC & MANNESMANN TUBES	rubes		Ŀ			9 10	ì	0				Nr. / No	Blett/Page
					2 ¥	V&M-Nr./No Kunden-Nr./Purchaser no./client No	chaser no./i	` 1	856/4017 VM1645	<b>2</b> 0				51	2/4
Results of ladle analysis (S) (B08) HEAT NO STEELMAR	ער	check analysis (K) (C71	1				<u>с</u> ,	w	D	CR		NI	MO	۵	
<del>4</del>	S OXY K	OXYGEN	0,260 0,190 0,209 0,215	0,100 0,190 0,186 0,186	i	1,06 0,74 0,77 0,76	0,030 0,011 0,011	0,0350 0,0020 0,0030 0,0037	0,400 0,020 0,022 0,022	0,400 0,050 2 0,051 2 0,049	1	0,400 0,040 0,045 0,046	0,150 0,010 0,001 0,001	0,080 <0,004 0,002 0,002	
HEAT NO	STEELMAK. PROCESS	PROCESS	TI	NB/CB	G B	පි	政	CAE1	31 CAE2	2 EF1	EF2	Ži.			
4	S OXY K K	OXYGEN	0,040 0,002 0,002 0,002	0000	110 001 002 002	0,0030 0,0030 0,0030	0,0010 0,0002 0,0002 0,0002	0,40 002 0,33 002	13 0,50	3 0,12	00	01			
CAE1 = C +	MN F X ( +	SI CU 24 15	NI + 20	CR+M	CR+MO+V+CO 5	.0 + 5B	_	CAE2 =	W + 5	CR+MO+V +5	+ Λ+(	NI+CU			
EF1 = CR +	MO + NI +	CU + V	EF2	+ > "	+ II	NB								RECEIVED	<b></b>
EF=NB+V= MAX. ( EF=0,005% (HEAT CHECK ANALYSIS Tensile test results	0,03% 23191 ON 2	.4) TUBES PER	HEAT										1 1	FEB 2 6 2007	
(C00)	(B08)	(010)		(C02)	12)	(C01)	)	(003)	(C11)		(C12)		(013)		
Sample	Heat	Test piece	æı					Test	Yield/proof strength	f strength	Tensil	Tensile strength	-	on (%) Y/T	73
MINIMUM MAY TWITH	o O	dimension mm		piece piece type direct	ijon	piece piece loc. orient		temperature Grad C	ReH 42(	PSI 2000	Egu ,	00009 184	AL 2" 22, (	Ratio 0	••
87327 87327 87328 87329	231914 231914 231914	33,40	4,10 04,55	03 101 03 101 03 101	longit longit longit			RT RT RT	4 4 8 4 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	49891 48441 49166	7 7 7	73677 73241 72951	43,4	000	68 66 67
87330	231914				ngit			RT	48	731	7	2516	45,	0	7

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'A TAL	VALLOUREC & MANNESMANN TUBES	AHNESMAHN	TUBES		*	V&M·Nr./No	,	856/4017 8			#	
<b>,</b>					Κū	Kunden-Nr./Purchaser no./client No		VM1645	;		40451 3/	4
(C00) (B08)	(8)	(C10)			(C02)	(C01)	(C03)	(C11)	(C12)	(C13)		
Sample Heat	ñ	Test piece		Test	Test	Test Test	Test	Yield/proof strangth	Tensile Strength	Elongation (%)	Z L/A (%)	
no		dimension		piece	piece p	piece piece t	piece temperature				Ratio	
					_	loc. orient.	Grad C	ReH PSI	Rm PSI	AL 2"	*	
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	~#	3,40			ongit		RT	50471	73241	46.3	69'0	
	1914 3	3,40		03	longit		RT	49746	72661	4 ሊ	8	
	e-1	3,40			+ - 510		Ē	70C0V		1 4		
	× -	> C			Old L		1 E	70700	07077	4. 0.	\ o \ o	
	<b>.</b>	04.0	4,00		TOURTE		Υ. Τ.	T98/.7	72081	45,5	99'0	
87336 23	231914 3	3,40	4,60	03	longit		RT	49601	73677	49,8	0,67	
8/33/ 23		3,4°C	4,55		ongit		X.	50616	73241	46,2	69'0	_
Code references to the tensile	ensile test	ĮĻ.										
Н.	)CE :		03 FULL		SECTION TH	TEST SPECIMEN	MEN					
HARDNESS HRC MAX.	. 22											
(WITHOUT TESTING,	, ONLY	CERTIFICATE)	'ICATE)									-
Hardness test results	i		•									
	(B08)	(C31)	(031)	_	(C31)	(C31)						
Sample	Heat		٥	(C30) HV								
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on on one		Value 1	Value 2	a .		Value 4						
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87337 23	231914	154,0	_									
results	(DO1 - D99)	•					-	Identification of the products	ייים אסמין	7		
ENI	HOT FI	NISHED	IN THE		RANGE OF N	NORMALIZING		PAINT STENCILED C		5		
TEMPERATURE							_	V&M47				
-HYDROSTATIC TEST:	T: 300	3000 PSI,					-	VALLOUREC & MANNESMANN	SMANN			
HOLDING TIME 5	ς:	ATISFA	CTORY				~	API-MONOGRAM				
-FLATTENING TEST: SATISFACTORY (CSD)	SATIS	FACTOR	Y (CSD	=				51,0150.5				_
-BENDING TEST: S	SATISFACTORY (CSO)	TORY (	(250)					VEAR (VVVV) /MONTH				
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VALLOUREC & MANNESMANN TUBES	V&M-Nr./No	856/4017 8	Nr./ No Blatt/Page	Page
,	Kunden-Nr./Purchaser no./client No	VM1645	40451 4/4	4
-VISUAL AND DIMENSIONAL INSPECTION SATISFACTORY (D01)		NW 1 X SCHED.80 TERMS OF DELIVERY PSL1/A106/SA106/Z245.1	106/2245.1	
-PIPE PRODUCTION METHOD: SEAMLESS, HOT-ROLLED		B / 290 CAT I PROCESS OF MANUFACTURE SMLS		<del></del>
- EDDY CURRENT TEST ACC. TO CSA Z 245.1:2002 - KILLED STEEL		SS HEAT-NO.		
		εx.		
		TEST PRESSURE PSI 3000		[
		NDE		_
		WA		
		GERMANY	FFB 2 S 2731	
		CUSTOMER ORDER-NO. VM1645		
	_· ,	ORDER-NO. USER 45000484		
		DATE: 2006/04		7

INDICATIONS IN PARENTHESES CORRESPOND TO THE IDENTIFICATION ACC. TO EN 168-86.

RECEIVING AGENT'S STAMP (Z02) SYMBOL OF THE MANUFACTURER'S WORK (AD4)

THE SUPPLIED PRODUCTS ARE IN COMPLIANCE WITH THE REQUIREMENTS OF THE ORDER

(A05) V & M DEUTSCHLAND GMBH, WERK ZEITHAIN, ABNAHME

computer-system and is valid without signature. Alteration or use for other products are regarded as falsification of documents and

will be subject to criminal prosecution.

This testimonial and certification respectively is recorded by

(ZO1) V G. S. SEITHAIN, GLAUBITZERSTRASSE 1 O1619 ZEITHAIN, GLAUBITZERSTRASSE 1 ZEITHAIN, 5.05.2006, TELEPHONE: (03525) 792318 TELEFAX: (03525) 791146

ULRIKE.RACZ@VMTUBES.DE E-MAIL:

### Zeugnisverteiler

3 X VALLOUREC TUBES CANADA 1141 KING ROAD

CDN-L7R3X5 BURLINGTON/ONTARIO

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

Fax: (780) 440-5172

### Certificate Of Compliance

RECEIVED AUG 1 0 2006

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, 2004 Edition, 2005 Addenda.

	and the second second			and the second second		
CRN	0H541:	5.213				
S/N	8600.2	11√				
Diameter	8.625	Inches	Overa	ll Length	56	Inches
Year Built	2006				<u> </u>	<b></b> ;
MAWP	600	PSIG	@	650	°F	*. 
MDMT	−20 °F	•	× .	-		
C.A.	0.0625	Inches				
Radiograph	y	N/A	1			
PWHT:	Time	N/A	min.	Temp.	N/A	°F
Hydro Teste	ed @	900	PSIG			<b></b>   -1, *., -1, *.

Quality Control Manager BJ SYLYSKI

August 9, 2006

IN PECTION CERTIFICATE SHANGHAI GATEWAY FITTINGS CO., LID

PURCHASER, SEYBOLD INTERNATIONAL CORP.

ASTM A234 WPB-00

DATE

																									•	
ORDER NO; P.I.NO; CERTIFI.NO;	MAGNETIC PARTICLE HXAMINATION											PHYSICAL T	SJ.	KSI	99	85.0	68.92	68.92	68.92	70.37	63 8व		74.00	74.00	4.5	70.37
ORO THE	MAGNE												ΥS	KSI	35.9		43.53	43.53	43,53	50.06	80.08	41.35	1.98	80: T	44.98	42.80
	HEAT HESTMEN T (NOTH)	Z	; Z.	Z	γ.	2	z	Z	Z	2	z		SZ.	9001		20	0	0	O	O	0		٥	0	ٿ	-· ت
et. 5662	HARDNESS MAX, 197 HB	02-1	85-69	93-87	3-69	86-75	96-84	8562	87-73	8358	9114		د ا	001*		8	0	¢	၁	0	ာ	0	0	c	O	Ö
fin-ding District. 86-21-54145662	HAR	8	8	0	80	οκο	ゔ	οσ	òo	œ	Ģ.		Σto	<u> </u>		15	ဝ	သ	0	φ	0	Φ,	0	c	ວ	O
1035, Shuang-shu Road Hua-ning town, Jia-ding District, Shanghai, China TEL: 86-21-54145661 FAX: 86-21-541450	VISUAL ADIME NTCONAL INSPECTION	GOOD	GOOD	COOD	CCOO	COCD	GOOD	6000	GOOD	0,000	300b	6.9	Ü	*100		Ct-	(f)	Μ,	۰۰۰,	0	0	0	רו	c-1	r·)	60
cad Hus-tity 45661	5	 				ļ						CHEMICAL COMPOSITION	Z	Q()[#		<del>0</del> 4	, ,	-		5	0	ტ·	<b>-</b>			٧.
ntang-shu Road III ai, China 86-21-541-45661	MFG NO.	5/2104	50106	502	SF02	SFOI	50113	SC71	5070	+K36	Ď.	CAL CON	Cu	*100		¢,	***			0	0	۰ .	<u>.</u>	<b>-</b> :	0.	-
1033, Shuang-shu Shanghai, China TEL: 86-21-5												CHEMI	s	*1000		Ç.	55	언	12.2	rii (	× !	£ (	<b>n</b> :	<u> </u>	5	<del>-</del>
<u>;</u>	QUANTITY PCS	20	75	S	S :	25	7.5	9.	۰	<u>ک</u> کھ	20		Ci,	*1000		ς.	12	<u>e</u>	12	2	٠,	2 :	90.0	20 1	xc ;	+ <del></del>
	QUA P					***		N 1	N	oa ;			E Z	() ()	29	108	4	ا ۱۰۰ ا	47	ф. М	F, (	77	ç, ;	8 3	0 0	ç
3B-00													N	001*	01		공	24	র :	9:	ן, פ	2 6	3 (	3 8	3 ?	7,1
4234 WI 106 Gr. E 16.9-93	& SIZE												υ	*](#)		8	r. -4	t · t		20	0 5	0 :	4 7	ν (	7 :	- <u>x</u>
ASME SA234 WPB-00 ASTM A106 Gr.B ASME B16.9-93	PRODUCT & SIZE	6	s" sm	9	9	) 2	0 f		(4.5/1)	CIS.	STD	MATERIAL	CHARGENO		ZIE	MAX	5400161	540(01.5)	SAIROIDI	17EU327302	107076	12143	4504200	450/1940	4504000	YCO.
STANDARD: MATERIALS: INSP.SPEC:	ļ	CAP-1"STD	CAP-1-1.2" STD	CAP-7 STD	CAP-6" STD	CAP-8" STD			KC-5" [-1,4" S/1)	RC-Z -: -1/2" SID	Kt>3	MAT	CHAR		SCANESARD		540	240	7 K	7.00	Ž:	- û			100	+
STAN MATI	N.C.	21	23	3	7 L	2 2	2 5	7 0	Ç (	62	ş		Til	Σ!	0		21	7 (	9 6	4 6	3 2	ין ני א ני	7 7	9 6	ų r	2

N. NORMALIZING AT TEMPERATURE 680 WOLFER. AIR COOLING.

NACH MR-01-74: SATHSFACTORY

WE HIRRERY CERTIFY THAT THE PRODUCT DESCRIBED HIRFIN HAS BEEN MANI FACTURID IN ACCORDANCI. WITH THE SPECIFICATIONS CONCERNID AND ALSO WITH THE PPRCHASIBES REQUIREMENTS AND THAT THE FEST RESULTS SHOWN DENEIN ARE CORRECT.

Catified Test Report 01:20/2006

Seamless Tubular Products

Raioin #出

V&M STAR

CUSTOME	CUSTOMER: V VALLOCREC'TCBES CANADA	CLECT	BES CANAL	<b>7</b> 4					DESC	SEAMLESS HOT ROLLED	S HOT RO	TED	Ç	CUSTOMER ORDER NUMBER:	(ORDER)	AL'ABED	. VM1564	2564
SILN: UI0168		GRADE: A	PI 51, X42:B	API 51, X42:8 P5L 2 Rev. October 4, 2004	Atober.	4,2004							Æ	MILL ORDER NO:	ER NO:	•	246	
OD: \$.625	S WALL:		0.372	LESART	T: 2	28.58		E.	FEB	DE L		٥	*	W/ONO:				
COMMENT	COMMENT: Melted and Memberland is the U.S.A.	terminetur.	ed in the U.S	¥.									_	TOT NO.				
This pipe is a	This pipe is also manufactured to: ASTM A 106B/C Rev. 04 ASTM A 53B Rev. 05 ASME SA 106B/C Rev. 04 ASME SA 53B Rev. 04 VAM Star's QA program meets the requisements of DIN EN 1020A/Rev. 2004 Tensor	ed to: A51	M A 106B/C	Rev. 046 AST	X A53	B Rev.05.	ASNŒ S.	A 106B/C Rov.	WSY 10	IE SAS3B R	lov.04 V&A	H Starte Q	A program	nects the n	ng teleperatura ha		N 10204/Res	2004 True
3.1. Secretical	<ol><li>Secisfies NACE MR0 103-2005.</li></ol>	3-200S.										•	1		•			
CUST POSA	CUST PO\$ 45000364 ITEM CODE# \$00	CODE	9							1								
HECHANK	HICHANICAL PROPERTIES:	3717	LONGITUDINAL	UDINAL								-						
			VOLTORS SPECIAL VALUE SPECIAL	2				Cara Mari			7.80	1		i X	T. E. L.	18(4, 4)		
	WITSTERNAN TO		1	ANTA/SOLD		VIETE	-	TENSIT H	Ċ	CACE I EVOTE				KARDK	KARDKESS: 81 HRBW AVG	HRBW AV	9	
=		0.333	_	0.5057		Z		7.6.4	¥.	,	3		3 0	EYE		6		
i a	0000	0000	•	0.0000		90		0.0		1 ¢				MACE TEST		Z STECKI	SATESPIES NACE MR-01-75	ξ.
	0.000	0000	-	0.0000		90		0.0		,			3 6	OTHER	j 			
	0000	200		0,000		•		6		•			3 5	COLLAPOR				
66	0000	0000		00000		9 0		9 0		<b>₽</b> €			0.6	SAE	į			
NSPECTIONS	ÿ								.,	Ë			AF: 0	~		750	_	
IYDROSTA	PEDROSTATIC TEST (paly: 2350 for a 5 second minimum	45: 2350	for a 5 w	cend minit		-				DALET PLUG SIZE: INCHES	G SUZE: II	NCHES				2 B	Required CE Max of 0.43	: 0{0,43
TOTOGEN	HINGCAL ANALYSIS:		61 Electro	61 Electromagnetic Impacted.	F	Coference	Stendard	ciference Stendard was a test joint with 10% ID and OD Longitudinel and Transverse applies	A with 10	大田町の	O Longitor	dine and	Catheroppe	*Outbox				
	U	M	A.	**	2	Ĉ	果	Ċ	ž	,S	Ē	>	3	3	æ	F	Z.	ă
IEAT:	973	9.76	0.604	0000	0.23	0.14	<del>0</del> .08	90.0	0.02	0.010	0.001	0.001	9000	0.0028	0.0001	0.007	90000	73.0
RODUCT 1)	1) 021	0.73	0.003	900	0.24	0.14	9.0	900	0.02	0.010	0.003	0.001	Q.037	0.0025	0.000	0.00	0.0000	9.37
RODUCT 2)	(2)	6.73	0.003	900.0	0.23	0.14	<b>8</b> 0.0	90.0	0,02	0.007	0.00	0.001	0.037	0.0027	10000	0.002	0.0003	
RODUCT 3)	3) 0.00	0.00	0.000	0.000	0.00	000	0.00	000	0.0	0.00	0000	0.000	0.000	0.000	0.0000	0000	0000	8
RODUCT 4)	0,00	0.00	0.000	0000	900	000	000	0.00	90'0	0.000	0.000	0000	00070	0.0000	0.0000	0.000	0,000	00.0
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RECEIVED JUN 0 6 2006

TIME: PRODUCT METALLURGIST

INTER APPROVED: 01/20/2006

17. Z. C.

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is messial has been preduced and usted in accordance with the requirements of applicable specifications unless otherwise listed below. We hereby certify that the above test remits are representative of those named in the records of the company. Any modification to this certification as provided by Vathl SIAR without the expires of the respect of the test report. Vall SIAR is transmissive of the material to meet specific applications.

Page 1 of 1

### CERTIFIED MILL TEST REPORT



LOG NO. 227196 PAGE 5

BONNEY FORGE

P.O. BOX 330 • U.S. RTE 522 SOUTH • MOUNT UNION, PA 17086-0330 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906 www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 03/02/06

CUSTOMER'S Order No.: 9106933-00

Bonney Order No.029648

\_\_\_\_\_

350374

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY

5105 75TH STREET

EDMONTON ALBERTA

EDMONTON ALBERTA, T6E585 CANAD

ITEM	QUANTITY LOT NO.	GRADE OF SPECIFICATION NO CHEMICAL ANALYSIS PHYSICAL PROPERTIES, REMARKS
		SA/A105N
021		2 3000 A105N HCP T C .200 MN 1.030 P .008 S .019 SI .220 NI .030 CU .120 CD .004 CR .040 MB .010 V .000 AL .015 NB .015 CE(LDNG FORMULA) = 0.39 T/S 78500 Y/S 56375 EL 32.10 RA 65.15 BRINELL HARDNESS1: 137 HARDNESS2: 139 2 3000 A105N HCP T
	RECEIVED MAY 1 5 2006	C .190 MN .990 P .007 S .024 SI .200 NI .040 CU .090 CD .003 CR .040 MD .020 V .000 AL .022 NB .014 CE(LONG FORMULA) = 0.38 T/S 75625 Y/S 57875 EL 33.60 RA 69.45 BRINELL HARDNESS1: 137 HARDNESS2: 137
೦25	550 3136 7524773	3/4X 1/2 3M/6M A105N HXBU T C
	3180 7524773	

### \*\*\*\*\* 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 checks.

Cris Childers

CMTR: REV 1 QUALITY PROCESS MANAGER

LOG NO.	225415	PAGE	1

BONNEY FORGE P.O. BOX 330 • U.S. RTE 522 SOUTH • MOUNT UNION, PA 17066-0330 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906 www.bonneyforge.com

WESTLUND INDUSTRIAL SUPPLY **USTOMER:** 

5105 75TH STREET

01/09/06 Date

USTOMER'S Order No.: 9105834-00

HIPPED TO:

Bonney Order No 024886

WESTLUND INDUSTRIAL SUPPLY

337893

FEB 0 6 2006

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**EDMONTON ALBERTA** 

EDMONTON ALBERTA, T6E5S5 CANAD

TEM	QUANTITY LOT	NO.	GRADE OR SPECIFICATION NO CHEMICAL ANALYSIS: PHYSICAL PROPERTIES: REMARKS:
			SA/A105N
200	25 <b>5</b> 6498	7520034	3/4 3M A105N STEL T C .190 MN 1.040 P .013 S .018 SI 190 NI .040 CU .140 CD .003 CR .060 MD .020 V .001 AL .027 NB .011 CE(LONG FORMULA) = 0.39 T/S 75127 Y/S 52284 EL 33.15 RA 71.62 BRINELL HARDNESS1: 137 HARDNESS2: 135
<b>205</b>	100 3322	7520220	1/4 3000 A105N HCP T C .200 MN 1.050 P .007 S .021 SI .220 NI .020 CU .070 CD .004 CR .030 MD .010 V .000 AL .021 NB .014 CE(LONG FORMULA) = 0.39 T/S 77750 Y/S 54125 EL 33.25 RA 70.75 BRINELL HARDNESS1: 137 HARDNESS2: 137
317	575 5 <b>661</b> 3	7522657	1/2 3000 A105N 90EL T C
<b>02</b> 3	700 3334	7523572	3/4 3M A105N COUP T C    180 MN    .980 P    .014 S    .021 SI    .180 NI    .040 CU    .130 CO    .003 CR    .070 MO    .020 V    .000 AL    .018 NB    .013 CE(LONG FORMULA) = 0.37 T/S 75000 Y/S 54375 EL 32.35 RA 67.00 BRINELL HARDNESSI: 135 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, or as obtained by additional laboratory checks.

Cris Childers

CMTR: REV 1

**QUALITY PROCESS MANAGER** 



Siderca S.A.I.C. Dr. Jorge A. Simini 250 (82804/H/IA) Campana Buenos Aries, Argentha (54) 3489 433 00 tel (54) 3489 433 00 tel

## INSPECTION CERTIFICATE (EN 10204 3.18 - ISO 10474 3.18)

Cilente / Customer VAN LEEUWEN CANADA			Expedientel Manufacturing Order 50271.01	 Número / Number 216063	Fecha / Date 03/09/2004	Pág./Page 1 / 7
Producto / Product Seamless steel line pipe			Orden de Comprai Punchase Order PO 60011724 (1502) q 40 4	 n Referencii 01	Item Referencia del Cilente I Customer Reference 00e01	ler Reference
Norma / Standard API 6.JASTIM A1000 SAME SA100 ASTM A53 + CSA 2245 1-98	+ CSA 2245 1-98		Gado / Gade (BQ42+290SS	Extremos / Ends	Extremos / Ends PLAIN END DEBURRED	
Dimensiones / Dimensions Schadule 33.40 x 4.55 mm 88	Schadule Peso Nominal Moninal Weight  3.24 KGMT  2.17 LB/FT	Longitud / Length S.R. (SP)	Superficie Externa / External Surface VARNISHED	Cartidades / 4545 Pz 4545 Pcs	Cantidades / Quantities 4545 Pz 30223.35 m 4545 Pcs 99157.97 Ft	99850 Kg 218368 Lb

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CALLITRA



Siderca S.A.I.C Dr Jorge A. Simini 250 Esta Odrikla, Campana Buenos Ares, Argentiza (54) 2489 423100 tel (54) 3489 433100 tel

INSPECTION CERTIFICATE

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Ciente / Customer VAN LEEUWEN CANADA				Expediental SA	Expedientel Manufacturing Order 5f0271.01	Número / / 216	0 / Number 216063	Número I Number Fecha I Date 216063 03/08/2004	Pág./Page 2.1.7	
Producto / Product Seamless steel line pipe				Orden de Com PO 60011724	pred Purchase Order	ttem 00001	Referencia d	item Referencia del Cilente i Customer Reference	er Reference	
Norma / Standard API SL/ASTM A106/ASME SA106/ASTM A53 + CSA 2245 1-38	06/ASTM AS:	3+CSA 2245 1-38		Grado / Grade B/X42+2985\$	\$ <b>2</b>		Extremos / Ends PLAIN END DEBURRED	nds Deburred		
Dimensions         Schedule         Peso Nominal I Naminal I           33.40         x         4.55         mm         80         3.24         KGM           1.315         x         0.179         inches         2.17         LBFT	Schedule 80	Peso Nominal I Nominal Weight 3.24 KGMT 2.17 LBFT	Longitud / Length S.R. (SP)	Superficie Externa   External Surface VARNISHED	ıl Surface		Cantidades / Quantities 4545 Pz 30223.3 4545 Pcs 99157.9	ntidades / Quantities 4545 Pz 30223.35 m 4545 Pcs 99157.97 Ft	99050 Kg 218368 Lb	_

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CALI 17864



Siderca S.A.I.C Dr. Jorge A. Simini 250 Bresod-MHA Campana Buenos Aires, Argentina (54) 3489-433100 tea (54) 3489-433100 tea

### JAN 0 6 2006

INSPECTION CERTIFICATE (EN 10204 3.18 - ISO 10474 3.18)

VAN LEEUWEN CANADA				20	Expedientel Manufacturing Order 5/0271.01	N//mero / / 216	o / Number 216063	Numero / Number Fecha / Date 216063 03/08/2064	Pág./Page 3 / 7
Producto / Product Seamless steel line pipe				ο <b>α</b>	Orden de Compraj Purchase Order PO 80011724		Referencia	Item Referencia del Cifante / Customer Reference	ner Reference
Norma / Standard API 5JJASTN A108/ASNE SA108/ASTN A53 + CSA 2245 1-98	ASTM A53	+ CSA 2245 1-38		Gr. BAD	Grado / Grade BXX42+290SS		Extremos / Ends PLAN END DEB	Extramos / Ends PLAN END DEBURRED	
Oimensiones   Dimensions 33.40 x 4.55 mm 1.315 x 0.179 Inches	Schedule 80	forninal Weight F. KGIMT	Longitud / Langth S.R. (SP)	Superficie Externa VARNISHED	Superficie Externa / External Surface VARNISHED		Cantidades 4545 Pz 4545 Pcs	Cartidades / Quartities 4545 Pz 38223.35 m 4545 Pcs 99157.97 Pt	99050 Kg 218368 Lb

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CEQ 1s	C+(MNMG)+(CR+MO+V)/5+(MH-CU)/15	₹.	ŧ	3	暑					П		CE0 2	12	2	(PAN)	3)+{SI(	<u>+</u>	CURS	1	C+F((MNV6)+{S\(Z4)+(C\(L)\(IS)\+(N\(Z0)+(CR+MO+V+NB)\(S+(5^1B)\)	*	[₹	8	±(5*B)			PCE.									
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			(EN 10204 3.18 - ISO 10474 3.18)	- ISO 10474 3	(18)			(54) 3489	433405 fax
Clente / Customer					Expediental Manufacturing Order 5/0271.01	Numero / Number 216063	Ser Fechal Date 03/08/2004		Pág.IPaga 4 / 7
Producto / Product Seamless steel line pipe				. '	Orden de Comprei Purchase Order PO 60011724	Kern Rei 00001	Referencia del Cliente I Customer Referenca	/ Customer Re	sference
Norma / Standard API 5L/ASTM A106/ASME SA106/ASTM A53 + CSA Z245 1-98	ASTM A53 + CSA Z245	1-98			Grado / Grade BXX42+280SS	2 5	Extremos / Ends P.A. END DEBURRED	9	
Dimensiones / Dimensions         S           33.40 x 4.55 mm         1.315 x 0.179 inches	Schedule Peso Nominal / Nominal Weight 80 3.24 KGMT 2.17 LB/FT	inel I Nominal Weight 3.24 KGNNT 2.17 LBFT	Longliud   Length S.R. (SP)	Superficie Exte	Superficie Externa / External Surface VARNASHED	C	Certificades / Quentities 4545 Pz 30223.35 m 4545 Pcs 99157.97 Pt	7 7 7	99050 Kg 218368 Lb

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NOTAS / NOTES:	NOTES	1 1	暑	H* Análisis de colada / Heal Analysis.	룡	圛	割	ᇕ	اءً	P.	P = Andësis de p	톑	8	휳	roducto / Product Analysis	<u> </u>		3	ğ	C.s. * Carbono Equivalente/Equivalent Carbon		Page 1	3	ۇ	[ <u>ş</u>			R= Ratio	اوا	1	PM / Par	- PPM / Part per million	8			П	
CEQ 1 = C+(MM/B)+(CR+MO+V)/5+(NH+CU)/15	3	M/6)+(CR	₹	V)15+(N		35					П	لت	CE03=		+F(()	100	SI24;	Š	10	C+F((IMVB)+(SI24)+(CLF15)+(NIZ0)+(CR+MO+V+NB)/5+(5*B))	CR.	÷¢	80	(5°B)			PCM=										
Sum 1 ×		CR+CU+MO+NI+V	[≩								П	لت	200												П	لتت	SUM 3-										
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### INSPECTION CERTIFICATE (EN 10204 3.18 - ISO 10474 3.18)

Siderca 5.A.1.C Dr Jorge A. Simini 250 (8.2804MHA) Campana Buenos Aires, Argentina (54) 3489 433100 tel (54) 1489 433100 tel

Cliente I Customer VAN LEEUWEN CANADA	Expedientel Manufacturing Order Nú. 5/0271.01	Nimero / Number 216063	Fecha / Date 83/08/2004	P6g./Page 5 / 7
Producto / Product Seamless steel line pipe	Suchase Order	Kem Referencia 00001	Referencia del Cliente I Customer Reference	er Reference
Norma / Standard API 5LJASTIM A106/ASIME SA106/ASTIM A53 + CSA Z245 1-98	Grado / Grade BIXA2+290SS	Extremo / Ends	Extremo / Ends PLAN END DEBLIRRED	
Demonsiones / Dimensions Schedule Peso Nominal I Nominal Weight Longitud / Langth 33.40 x 4.55 mm 80 3.24 KG/MT S.R. (SP) 1.315 x 0.179 inches 2.17 LB/FT	Superficie External Surface VARNISHED	Cantidades / Cuantilias 4545 Pz 3623.3 4545 Pcs 99157.9	1 Quantities 30223.35 m 99157.97 Ft	99050 Kg 218368 Lb
Maxy ** Monograms / Monogram SIDERCA NANNAN = Número de tubo / Nbr of pipe LLI MAXY ** Mes / Año Month / Year YIT = Año / Trimestre Year / Quarter	Marcas / Marking LLL ≈ Longitud / length PPP ≈ Peso / Weighi HNXXXXX ≈ Colada / Heat	@ ■ Monogr	<b>@ ●</b> Monograms / Monogram AP!	-
Estarcido (Tubo) / Stancilling (Pipe) NNNINI LLILL PPPPP TENARIS SD 51.0098 @ MIM.YY A/SA106 ASTM A53 APISL CSA 2245.1-98 B/X42PS HNXXXXX	53 APISL CSA 2245.1-98 BIX42PSL1/290 C1 SS S 1,315 X 0,179 1 SCH 80 XS 2,17 3000PSI PO 60011724 5/0271.01 MADE IN ARGENTINA	SI PO 60011724 5/0	271.01 MADE IN AR	GENTINA
Tarjota / Card : SIDERCA MADE IN ARGENTINA P.O.: PO 60011724 OF: 50271-01			RECEIVED	VED
PIECES: LENGTH: WEIGHT(KG): LIFT: SIZE: 33,40 X 4,55 GDO:B/X42+290SS SPEC: API+ASTM HEAT: CL.Y.L. CANADA			JAN 0 6 2006	2006
*FABRICADO POR SIDERCA*	*MANUFACTURED BY SIDERCA*			
*PROCESO DE ACERACIÓN* FABRICACIÓN DE ACERO: FUNDICIÓN POR ARCO ELECTRICO Y COLADO CONTINUO. ACERO	*ACIERAGE PROCESS* -STEEL MAKING PROCESS: EAF# F AND CONTINKOUS CASTING. FIRE ALLMANHAM MILED AND	HOUS CASTING .	EIR! AITHENSINE	I ED AND
CALMADO AL ALUMINIOLA PRACTICA DE AFINO EN EL HORNO - CUCHARA INCLUYE UNA INYECCIÓN FINAL DE UNA VARILLA DE SILICIURO DE CALCIO PARA OBTENER UNA FORMA GLOBULAR DE EVENTUALES MICROINCLUSIONES.	FINE GRAIN PRACTICE.  -THE LF PRACTICE INCLUDES A FINAL INJECTION OF CALCIUM SILICIDE WIRE FOR MICROINGLUSION SHAPE CONTROL.	OF CALCIUM SILIC	IDE WIRE FOR	
-MATERIAL LIBRE DE CONTAMINACIÓN DE MERCURIO.	-MATERIAL FREE FROM MERCURY CONTAMINATION.	ž		
'PROCESO DE LAMINACIÓN' FABRICACIÓN DE TUBO: LAMINADO EN CALIENTE Y SIN COSTURA,	*ROLLING PROCESS*	KLED.		
.controles	CONTROLS'			
-CONTROL VISIONE T DIMENSIONAL: SATISFACTORIOCONTROL NO DESTRUCTIVO TUBO (C.N.D.):SATISFACTORIO.	-VISUAL AND DIMENSIONAL INSPECTION: SATISFACTORYPIPE NON DESTRUCTIVE TEST (N.D.T.): SATISFACTORY.	ACTORY. TORY.		



### INSPECTION CERTIFICATE (EN 10204 3.18 - ISO 10474 3.18)

Siderca S.A.I.C Dr. Jorge A. Simini 250 (B.2004MHA; Campana Buenos Aires, Argentina (54) 3489 433100 ter (54) 3489 433100 tex

Ciente I Customer					Expedientel Manufacturing Order SN271 81	Número / Number 216063	Ψ.	Fecha / Date	Pág./Page
Producto / Product Seamless steel line pipe	 				Orden de Compral Purchase Order PO 60011724	Hem 50001	Referencia del C	Referencia del Cliente I Customar Reference	ar Reference
Noma   Standard API \$LASTM A106/ASME SA106/ASTM A53 + CSA 2245 1-98	(ASTM A53	+ CSA 2245 1-88			Grado / Grade BXX2+290SS		Extremo / Ends PLAN END DEBLIRRED	BURRED	
Dimensiones / Dimensions 33.40 × 4.55 mm 1.315 × 0.179 inches	Schedule 80	Schedule Peso Mominel ! Nominel Weight 3.24 KGMMT 2.17 LBFT	Longitud   Length S.R. (SP)	Superficie Exte	Superficie Externe / Externel Surface VARNISHED		Cantidades / Quantities 4545 Pz 30223,3 4545 Pcs 99157,9	uantities 30223,35 m 99157.97 Ft	99050 Kg 218368 Lb
*CONDICIONES DEL MATERIAL*	<u>.</u> .			*MATERIAL	MATERIAL CONDITIONS*				
-NO REPARADO POR SOLDADURA	URA.			-NO REPAIR	-NO REPAIR BY WELDING.				
*PROPIEDADES DEL MATERIAL*	*,1			*MATERIAL	"MATERIAL PROPERTIES"				
LA DUREZA CUMPLE CON LA	NORMA NA	4.A DUREZA CUMPLE CON LA NORMA NACE MR 01-75 ULTIMA EDICION.		-HARDNESS	HARDNESS ACCORDING TO NACE MR-01-75 LATEST EDITION.	ATEST EDF	JON.		
-EL MATERIAL CUMPLE CON LI	OS REGUI	EL MATERIAL CUMPLE CON LOS REQUISITOS DE ASTM A530/A530M EDICION 98.	JN 98.	-MATERIAL /	MATERIAL ACCORDING TO REQUIREMENTS OF ASTM ASSMASSOM EDITION 98.	F ASTM AS	30/A530M EDITI	JON 98.	
-EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS CSA 2245.1.98	OS REQUE	RIMIENTOS CSA 2245.1.98 GR 241/	GR 241/290 Cat I.	-MATERIAL (	MATERIAL COMPLIES WITH CSA 2245,1:98 GR 241/290, Cat. I REQUIREMENTS.	241/290 Ca	I. I REQUIREME	ENTS.	
*NORMAS*				*STANDARDS	8				
-CERTIFICADO DE ACUERDO CON: EN 10204 3.1.8/95 - ISO 10474 3.1	CON: EN 1	0204 3.1.8/95 - ISO 10474 3.1.8/92.		CERTIFICA	-CERTIFICATE ACCORDING TO : EN 10204 3.1.8/95 - 150 10474 3.1.8/92.	196-1501	0474 3.1.8/92.		
-EDICION DE LA NORMA : ASME SA 196/01.	4E SA 106/	<del>д</del> .		-EDITION OF	EDITION OF REGULATION: ASME SA 106/01.				
-EDICION DE LA NORMA: ASME SA 53/01.	4E SA 53/0:	<del></del> -		-EDITION OF	EDITION OF REGULATION: ASME SA 53/01.		œ	RECFIVED	
-EDICION DE LA NORMA: NACE MR-01-75 ULTIMA EDICION	E MR-01-7	'S ULTIMA EDICION	•	-EDITION OF	EDITION OF REGULATION: NACE MR-01-75 LATEST EDITION	TEST EDITI	_		) ]
-EDICION DE LA NORMA : API 51, 42º Edition 2000.	5L, 42° Edib	ion 2000.		-EDMON OF	EDITION OF REGULATION: API 51, 42" Edition 2000,	. '000		JAN 0 6 2006	98
-EDICION DE LA NORMA: CSA Z245.1/88.	2245.1/98.			-EDITION OF	EDITION OF REGULATION: CSA Z245.1/98.				-
-EDICION DE LA NORMA: ASTM A53/02.	'M A53/02.			-EDITION OF	EDITION OF REGULATION: ASTM A53/02.				
-EDICIÓN DE LA NORMA: ASTM A108/028.	M A108/02	<b>69</b>		-EDITION OF	EDITION OF REGULATION: ASTM A108/02a.				
Observaciones / Remarks									
HYDROSTATIC TEST PRESSURE .207 KPA*100 = 3000 PSI (5 8ec.).	E 207 KPA	4*100 = 3000 PSI (5 sec.).							
HEAT TREATMENT: AS ROLLED.	Ċ.								
NON DESTRICTIVE TEST SATISFACTORY	SFACTOR	>							
INSPECTION METHODS: E.M.I. LONG.(EXT./NT.) NOTCH 10%.	LONG.(EXT	LAINT.) NOTCH 10%.							
				,					
HARDNESS ACCORDING TO NACE MR-01-75 LATEST EDITION.	CE MR-01	-75 LATEST EDITION.							

### = Tenaris

## INSPECTION CERTIFICATE (EN 10204 3.1B - ISO 10474 3.1B)

Cliente / Customer VAN LEEUWEN CANADA				Expedientel Manufacturing Order 5/0271.01	Nümero / Number 218063		Facha / Date 63/08/2064	Pag/Page
Producto / Product Seamless steel line pipe				Orden de Compral Purchase Order PO 60011724	Nem 00001	Referencia	Referencie del Cliente I Customer Reference	ner Reference
Norma I Standard API SUASTM A106/ASME SA108/ASTM A53 + CSA Z245 1-98	3 + CSA Z245 1-38			Grado / Grade BXX2+290SS		Extremo / Ends PLAIN END DE	Extremo I Ends PLAIN END DEBURRED	
Dimensiones / Dimensions Schedule 33.40 x 4.55 mm 80 1.315 x 0.179 inches	Schedule Peso Nominal I Nominal Weight 80 3.24 KGMT 2.17 LBFT	Langitud / Lengin S.R. (SP)	Superficie Exte	Superficie External Surface VARNESHED		Cardidades / Quantities 4545 Pz 30223.3 4545 Pcs 99157.8	Antidades / Quantities 4545 Pz 30223.35 m 4545 Pcs 99157.87 Ft	99050 Kg 218368 Lb
ONE BLUE & ONE ORANGE BANDS ON BOTH ENDS.	OTH ENDS.							

RECEIVED JAN 0 6 2006

Por la presente certificamos que el material aqui descripto ha sido fabricado	We hereby corffly that material herein described has been menufactured in accordance	(
de acuerdo con las normas y especificaciones solicitadas en vuestra orden	with the standards and specifications required in your order and safefies the	
y satisfacen los correspondentes requerimientos.	corresponding requirements.	
Este ceráficado se emite mediante un sistema computantzado y es valido con	This certificate is issued by a computerized system and it is valid with electronic signature.	
firma electrónica. El certificado criginal presenta el togo Tanaris (verde claro),	On the original certificate the trade-mark Tenants light-green coloured at the bottom of the	
Impreso en la parte inferior de la hoja. En caso que el possedor del certificado	Impreso en la parte inferior de la hoja. En caso que el possedor del certificado page la stançed, in case the owner of the certificate would refesse a copy of it, he must	
entregue una copia del mismo, deberà garantizar la conformidad con el	ettest its conformity to the original one taking upon himself the responsibility for any	\ <b>3</b>
original, haciendose responsable por cusiquier uso llegal o indebido.	uniawird or not allowed use.	<u> </u>
Cualquier afteración y / o falsificación estará sujeta a la ley.	Any alteration and / or falsification will be subject to the law.	QUALITY CERTIFICATION DEPT,
Si necestra seegurar la autenticidad de esta certificado, contactarse con	if you need to assure the authenticity of this certificate, please do not	DTO CERTIFICACION DE CALIDAD
Siderca SAVC, e-mail: aye@siderca.com	hesitate to contact Siderce SAIC through this e-address:sye@alderca.com	EDUARDO A. AYERBE



16030 CASARZA LIGURE, Genova - Italy - P. 228 Marco Cappell, 4 - Tel 0185, 467661 - Fax 0185, 46519 / MATERIAL TEST DEPARTMENT

INSPECTION CERTIFICATE DIN 50049/3,1B - EN 10204/3,1B

COMPANY WITH QUALITY SYSTEM ISO 9002 CERTIFIED BY RINA

SEYBOLD INTERNATIONAL CORP.

29 10 2003 Osted Dated Certificate Nr 12945 invoice Nr 1888 Del, Note Nr 2270

Page 1 - 2

S 3080, YONGE ST. SUITE 2044 TORONTO MANSNI CANADA This certificate has been generated by computer and need not to be signed for validity according to DN EN 10204

Our Ref. YIELD POINT VISUAL & DIMENS OTHER ELEMENTS SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY 021497 970053 MANUFACTURER'S SYMBO 021432 031142 631208 201090 202070 SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY STEEL ME ACC. TANARO RIVA ACCIA RIVA ACCIAI RIVA ACCIA! RIVA ACCIA RIVA ACCIA RIVA ACCIAL SIDER SCAL DIM. ACC. TO 0.417 0,433 SEE NOTE C.E.Y SEE NOTE 8 ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** ELECTRIC FURNACE ELECTRIC FURNACE **ELECTRIC FURNACE** ELECTRIC FURNACE **ELECTRIC FURNACE** ELECTRIC FURNACE ELECTRIC FURNACE QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL 0,000 FURNACE 96 000'0 000'0 000'0 000'0 MPACT TEST 22244222 FEB 1 3 2006 RECEIVE 0,000 0,000 0,000 0,000 0,000 0,000 0,025 0.004 0.001 0.003 0.003 **\$\$\$\$\$\$\$**\$ TYPE 184 0,190 0,200 0,200 0,180 0,220 0,230 0,190 0,190 0,180 0.030 FLATTENING TEST HEAT TREATMENT 0,019 0,021 FITTING COUPLING THRD NPT 3M 15" A350/LF2 CODE: 22298 × Normalized at BBD\*-920°C / Air Cool Normalized at 880"-920°C / Air Cool Normalized at \$80°-920°C / Air Cool Normalized at 880\*-920°C / Air Cool Normalized at \$80\*-920°C / Air Cool Normalized at 880"-920°C / Air Cool Normalized at 880\*-920°C / Air Cool Normalized at 880\*-920°C / Air Cock FITTING 90 ELB. THRD NPT 2/3M 1/8" A105N CODE: 24765 FITTING HEX.H.PLUG THRD NPT 1/4" A105N CODE: 24955 BEAD TEST FITTING 80 ELB. THRD NPT 3M 2" A350/LFZ CODE; 22287 FITTING CROSS THRD NPT 2M 11/2" A105N CODE: 24761 Normalized at 900°C / Air Cool Normalized at 900°C / Air Cool 0,010 8 X X FITTING CAP THRD NPT 3M 11/2" A105N CODE, 7292 FITTING UNION FIF SW 3M 11/4" A105N CODE: 7584 FITTING COUPLING SW 3M 2" A105N CODE: 7532 FITTING 90 ELB. SW 3M 1" A105N CODE: 7432 HARDAESS H 156 - 158 160 - 166 162 - 166 0,050 0,080 0,050 0,050 0,060 0,060 0,050 0,050 165 - 167 160 - 162 160 - 168 158 - 164 160 - 164 168 - 164 000 FITTING TEE SW 3M 1" A106N CODE: 7479 DESCRIPTION INSPECTION AUTORITY 0.090 0,130 REDUCTION OF AREA 0,012 0,010 0,019 0.011 0.026 0.026 0.026 0.026 0.014 0,012 0,013 0.01 EL ONGATION ž .... 1,120 1,050 0,960 0,920 0,990 0,840 0,650 1.188 MATERIAL IN ACCORDANCE TO TENSUE STRENGHT 2 8 Ž Nama >= 588,0 567.0 0,180 568.0 588,0 0,190 0.170 0.156 ASME B16.11.96 - BS.3799 - ANSI B31,1/B31.3 - IML STD - NACE MR0175-99 -0,220 2003-2E201-0001148-011 2003-2E201-0001148-013 2003-2E201-0001148-016 2003-2E201-0001148-016 2003-2E201-0001148-003 2003-2E201-0001148-008 2003-2E201-0001148-007 2003-2E201-0001148-008 2003-2E201-0001148-010 0,195 0,195 0,190 0,195 0,195 0,200 0, 185 0, 195 0, 180 ASME SA ASTM A350-00c Gr. LF2 cl.1 ASME SA ASTM A350-00c Gr. LF2 cl.1 0.200 **OUR REFERENCE** Minnt > 12,2% YIELD POWT 341,0 366,0 366,0 320,0 364,0 361,0 318,0 361.0 ASME SA ASTM A105-01 ASME SA ASTM A 105-01 SECT. mm2 LENGHT mm ASTM A350 LF2 cl.1 ASTM A350 LF2 cl.1 ASTM A350 LF2 cl.1 50,03 50,00 50,00 50,00 MATERIAL TEST SPECIMEN YOUR P.O. ASTM A105 45027586 45027586 45027586 45027586 45027586 45027586 45027586 **45027586** 45027586 45027588 122,65 122,65 122,65 122,65 122,65 122,65 122,65 122,65 122,65 ANSI B1.1-818.2.2 - NACE MR0175-02 8 55 88 9013 5 5 8 ¥¥ HEAT HEAT 941043 941043 941043 77307 941043 70432 35187 35032 73219 78702 73219 73218 35032 78702 35032 78702 72275 7307 35187 77307 HEAT CODE HEAT CODE HEAT CODE HEAT CODE MEZ G91 MZ MEZ 691 MZ G85 T95 MEZ G91 MZ 583 193 795 98 G94 98

STUDBOLTS

**BORIS FIZZOTTI** 

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AB-24 (side 1) 2004/10

### ALBERTA MUNICIPAL AFFAIRS

ABSA - the pressure equipment authority 200, 4208 - 97 Street

Edmonton AB T6E 5Z9

RECEIVED APR U 5 2007

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

In 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 Adi, governing the construction and installation of pressure vessels.

Au moment de l'expédition d'un appareil sous pression, ce formulaire compléte correctement, dolt êtré envoye au hurseu de l'inspecteur en chef de la

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Ultimate owner Utilisateur		Name and	address/ N						-	.,							
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### 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

RECEIVED APR 0 5 2007

### Certificate Of Compliance

BULLET

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, 2004 Edition, 2006 Addenda.

				and the second second		
CRN	0H5415	5.21345				
S/N	8600.33	36				:
Diameter	8.625	Inches	Overal	l Length	56	Inches
Year Built	2007					<b>-</b>
MAWP	600	PSIG	@	650	°F	·
MDMT	-20 °F	•			•	
C.A.	0.0625	Inches				
Radiograph	y	N/A				
PWHT:	Time	N/A	min.	Temp.	N/A	°F
Hydro Test	ed @	780	PSIG			<b>-l</b>

Quality Control Manager BJ SYLYSKI

April 3, 2007

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ž	PURCHASER: SEYBOLD INTERNATIONAL CORP.	BOLD INTE	NATIONAL	CORP	No.	NI	SPEC	NOIL	INSPECTION CERTIFICATE	IFIC.	ATE			DATE	DATE: 2006-02-1	2-1
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we henery certify that the frondct described herein has been manufactured in accordance with the specifications concerned and also with the forchasers requirements and that the test rebuils shown herein are correct.



## INSPECTION CERTIFICATE

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

SIDERCA S.A.1.C. Dr Jorge A. Simini 250 (82804MHA) Campana Buenos Aires, Argentina (54) 3489 433100 tel. (54) 3489 433405 fax

70345 Kg 155084 Lb Referencia del Cliente / Customer Reference 45000442 Pág./Page Extremos / Ends
BEVELLED AT 30 DEG. ASTM 1647.07 m 5403.77 Ft 08/05/2006 Fecha / Date Cantidades / Quantities 251 Pz 251 Pcs Número / Number 318942 Werr 00002 Orden de Compra/ Purchase Order Expediente/ Manufacturing Order Superficie Externa / External Surface VARNISHED 5/4589.02 Grado / Grade B/X42+290SS 45000442 Longitud / Length S.R. (SP) Peso Nominal / Nominal Weight 42.55 KG/MT 28.58 LB/FT API 5L/ASTWASME A/SA 53/106 +CSA 2245,1ED 2002 + P4.17-01/02 Schedule \$ inches Ē VAN LEEUWEN CANADA Dimensiones / Dimensions 0.322 8.20 Producto / Product SMLS LINE PIPE Cliente / Customer Norma / Standard Z19.10 x 8 5/8 x 219.10

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## INSPECTION CERTIFICATE

SIDERCA S.A.I.C. Dr. Jorge A., Simini 250 (82804MHA) Campana Buenos Aires, Argentina

(54) 3489 433100 tel. (54) 3489 433405 fax

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

70345 Kg 155084 Lb Referencia del Cliente / Customer Reference 45000442. Pág./Page BEVELLED AT 30 DEG. ASTIM 1647.07 m 5403.77 Ft 08/05/2006 Fecha / Date Cantidades / Quantities Extremos / Ends 251 Pz 251 Pcs Número / Number 318942 Rem 00002 Orden de Compra/ Purchase Order 45000442 Expediente/Manufacturing Order ENSAYOS OF HIMICOS / CHEMICAL ANA! VSES Superficie Externa / External Surface VARNISHED 5/4589.02 B/X42+290SS Grado / Grade Longitud / Length S.R. (SP) Schedule | Peso Nominal / Nominal Weight 42.55 KG/MT 28.58 LB/FT API 5L/ASTW/ASME A/SA 53/106 +CSA 2245.1ED 2002 + P4.17-01/02 4 8.20 mm 0.322 inches Dimensiones / Dimensions VAN LEEUWEN CANADA Producto / Product SMLS LINE PIPE Cliente / Customer Norma / Standard 219.10 x 8 5/8 ×

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### INSPECTION CERTIFICATE (BS EN 10204 3.1; 2004 - ISO 10474 3.1B; 1991)

SIDERCA S.A.L.C. Dr. Jorge A. Simini 250 (82804WHA) Campana Buenos Aires, Argentina (54) 3489 433100 tel. (54) 3489 433405 fax

70345 Kg 155084 Lb Referencia del Cliente / Customer Reference 45000442 ESTANCIO (1100) / STENDENININ (1400)
NINNIN LLLL PPPPP TENARIS SD 5L0098 @ MM.YY ASTWASME A/SA 53/106 APISL CSA 2245.1 B/X42PSL1/290 CATI SS S 219,1 8,2 28,58 B/SCH40/SID/2400PSI PO45000442 5/4589.02 MADE IN ARGENTINA Pág./Page @ Monograma / Monogram API BEVELLED AT 30 DEG. ASTM 1647.07 m 5403.77 Ft 08/05/2006 Fecha / Date Cantidades / Quantities Extremo / Ends 251 Pz 251 Pcs Número / Number 318942 Item 00002 PPP = Peso / Weight Orden de Compra/ Purchase Order Expedients/ Manufacturing Order Superficie Externa / External Surface VARNISHED 5/4589.02 Grado / Grade B/X42+290SS HNXXXXX = Colada / Heat Satisfactorio / Satisfactory Resultado / Results 45000442 LLL = Longitud / length Marcas / Marking Longitud / Length NNNNN = Número de tubo / Nbr of pipe S.R. (SP) Prueba Hidráulica / Hydrostatic Test Y/T # Año / Trimestre Year / Quarter Segundos / Seconds Schedule | Peso Nominal / Nominal Weight Tiempo / Time 42.55 KG/MT 5,00 28.58 LB/FT API 5L/ASTIWASME A/SA 53/106 +CSA 2245.1ED 2002 + P4.17-01/02 셤 Valor / Value & = Monograma / Monogram SIDERCA 2400 Presión / Pressure Estarcido (Tubo) / Stencilling (Pipe) MIM.YY = Mes / Año Month / Year 8.20 mm 0.322 inches VAN LEEUWEN CANADA Dimensiones / Dimensions Producto / Product Cliente / Customer SMLS LINE PIPE Norma / Standard Unidad / Unit 219.10 x 8 5/8 × 2

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## INSPECTION CERTIFICATE

SIDERCA S.A.I.C.
Dr. Jorge A. Simiri 250
(8280-4MHA) Campana
Buenos Altes, Argentina
(54) 3489 433100 fel.
(54) 3489 433405 fax

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

70345 Kg 155084 Lb Referencia del Cliante / Customer Reference -MATERIAL COMPLIES WITH HARDNESS HV500 MAXIMUM 248 VICKERS ACCORDING TO CSA Z245.1.02 REQUIREMENTS. BEVELLED AT 30 DEG. ASTM 1647.07 m 5403.77 Ft Fecha / Dafe 1647.07 Cantidades / Quantities Extremo / Ends 251 Pz 251 Pcs 45000442 Número / Number -EDITION OF REGULATION: NACE MR.01-75 (ATEST EDITION - MATERIAL COMPLIES WITH CSA 2245.1 GR 241/290 CAT I 11em 00002 -EDITION OF REGULATION: API STANS EGITATION Orden de Compra/ Purchase Order Expediente/ Manufacturing Order -EDITION OF REGULATION: ASME SA 106/01. -EDITION OF REGULATION: ASME SA 63/03 -EDITION OF REGULATION: CSA 2245, TM2 EDITION OF REGULATION: ASTM A106/04b. EDITION OF REGULATION: ASTM A53/04a. Superficie Externa / External Surface VARNISHED 5/4589.02 Grado / Grade B/X42+290SS 45000442 "STANDARDS" Longitud / Length -EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS DE MICRODUREZA HV509 MAXIMO 248 VICKERS SEGÚN CSA 2245.1.02. S.R. (SP) - EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS CSA 2245,1 GR 241/290 CAT I Peso Nominal / Nominal Weight 42.55 KG/MT API 5L/ASTW/ASME A/SA 53/106 +CSA Z245.1ED 2002 + P4.17-01/02 28.58 LB/FT -EDICION DE LA NORMA: NACE MR-01-75 ULTIMA EDICION -EDICION DE LA NORMA: API 5L, 43° Edition 2004. EDICION DE LA NORMA: ASME SA 106/01 -EDICION DE LA NORMA: ASME SA 53/01. EDICION DE LA NORMA: ASTM A106/04b. TVE TEST. SATISFACTORY, Schedule -EDICION DE LA NORMA: CSA Z245.1/02. -EDICION DE LA NORMA: ASTM A53/04a. 0.322 inches 8.20 mm VAN LEEUWEN CANADA Dimensiones / Dimensions Cliante / Customer Producto / Product SMLS LINE PIPE Norma / Standard 219.10 x "NORMAS" 8 5/8

ONE YELOWITHINAL BAND.

E.M.I. TRANSV.(EXT./INT.) NOTCH 10%

HODS: E.M.! LONG(EKT.) NOTCH 5%.

END MARKING: ONE DRANGE BAND.
Protectors/End Protectors.

NON LIETABLE CLOSSED PLASTIC PROTECTOR FOR FLAT / BEVELED PRPE. SUPPLIER METALCENTRO



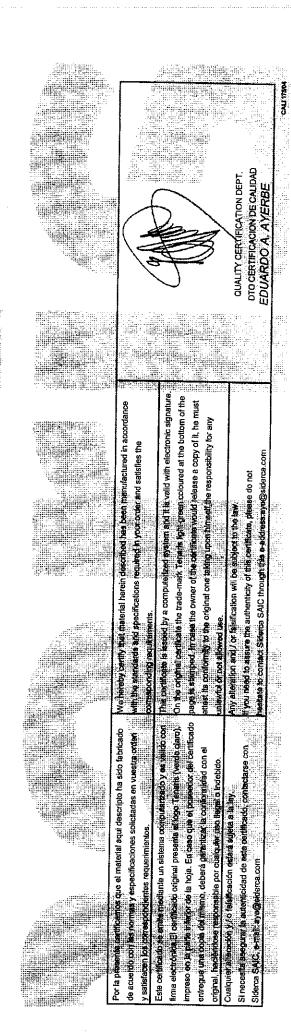
## INSPECTION CERTIFICATE

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

SIDERCA S.A.I.C. Dr. Jorge A. Simini 250 (82804MHA) Campana Buenos Aires, Argentina

(54) 3489 433100 tel. (54) 3489 433405 fax

MADA         Expediente/ Manufacturing Order         Nümero / Number         Fecha / Date           5/4589.02         318942         08/65/2006           3/18942         08/65/2006         08/65/2006           A5000442         1tem         Referencia del Cliente / Custome           A5000442         1tem         Referencia del Cliente / Custome           A5000442         45000442         1tem         Referencia del Cliente / Custome           A5000442         45000442         1tem         Referencia del Cliente / Custome           B/A2245,1ED 2002 + P4.17-0102         B/A224290SS         BEVIELLED A130 DEG. ASTM           B/A224290SS         BRYA224290SS         BEVIELLED A130 DEG. ASTM           A2.55 KGMT         S.R. (SP)         VARNISHED         VARNISHED         Caritidades / Quantities           28.88 LB/FT         28.58 LB/FT         1547.07 m         251 Pz. 1547.07 m	, 07 -ta0									
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INDUSTRIA MECCANICA LIGURE SPA

I.M.I.

BAL KING LTD.

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### CERTIFIED MILL TEST REPORT



LOG NO. 304580 PAGE 9

BONNEY FORGE
P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0830
(814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 11/07/06

CUSTOMER'S Order No.: 9109934-00

RECEIVED Bonney Order No. 344493

www.bonneyforge.com

DEC 1 3 2006<sup>31</sup>

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY

5105 75TH STREET

EDMONTON ALBERTA

EDMONTON ALBERTA, T6E5S5 CANAD

GRADE OR SPECIFICATION NO. ITEM QUANTITY LOT NO. CHEMICAL ANALYSIS. PHYSICAL PROPERTIES, REMARKS SA/A105N 023 120 3582 7523661 11/2 3M A105N COUP T . 190 MN 1.040 P .021 SI C .010 \$ . 22C NI .030 CU 002 CR . 060 00 . 040 MG .016 . 000 AL. . 022 NB .014 CE(LONG FORMULA) = 0.38 T/S 72250 Y/S 50250 EL 31,60 RA 63,95 BRINELL HARDNESSI: 132 HARDNESS2: 130 7523726 1/2 3000 A105N HCP 024 1450 3611 1,000 P C . 009 8 . 200 MN .020 SI . 18C NI 040 CU .150 CO . 003 CR 040 MO .010 . Q21 NB . 015 000 AL CE(LONG FORMULA) = 0.39 T/S 74750 Y/S 53875 EL 33.15 RA 67.25 BRINELL HARDNESS1: 132 HARDNESS2: 135 025 800 3594 7523882 2 3000 A105N HCP C MN 00% 1.010 P .012 \$ .024 51 .190 NI 030 CU . 120 CO .003 CR ,040 MD . 010 .000 AL . 021 NB . 016 CE(LONG FORMULA) = 0.39T/S 73618 Y/S 52513 EL 32.30 RA 66.83 BRINELL HARDNESSI: 132 HARDNESS2: 130 026 84 7524129 11/2 3M A105N UNAR T **3364** NUT-CM C 180 MM .810 P .011 5 . 290 .027 SI NI .017 V OBO CU . 150 CR . 110 MO 001 AL 055 MB . 002 CE(LONG FORMULA) = 0.36T/S 77250 Y/S 54125 EL 32.40 RA 70.35 BRINELL HARDNESSI: 139 HARDNESS2: 144

\*\*\*\*\* 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 offecks.

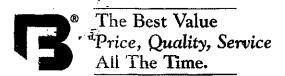
by Million

Kylee Fleck

**CMTR: REV 1** 

**QUALITY PROCESS MANAGER** 

### CERTIFIED MILL TEST REPORT



304580 PAGE \_\_\_15 LOG NO.

P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330 (614) 542-2545 • (800) 345-7546 • FAX (814) 542-4906 www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 11/07/06

GUSTOMER'S Order No.: 9109934-00

Bonney Order Npp44493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY

387793

5105 75TH STREET

EDMONTON ALBERTA

EDMONTON ALBERTA, TAESSS CANAD

ITEM

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

THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.

RECEIVED DEC 1 3 2006

- 2. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- GERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- 4. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2003 AND NACE MR0175-2003.
- 5. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204 3.1 8 (EUROPEAN STANDARD).
- ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.
- CERTIFYING TO ASTM A350 LF2 04A REVISION.
- THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SASSO-LF2
- 7. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH A350-LF2.
- 10. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.

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

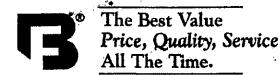
We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks.

Kylee Fleck

**QUALITY PROCESS MANAGER** 

CMTR: REV 1

### **TEST** CERTIFIED MILL



302442 PAGE \_\_\_13 LOG NO.

P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17086-0330 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4908 www.bonneylorge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY

Date 08/23/06

CUSTOMER'S Order No.: 9109088-00

Bonney Order No 40455

378307

RECEIVED OCT 2 3 2006

EDMONTON ALBERTA

5105 75TH STREET

EDMONTON ALBERTA, T6E5S5 CANAD

ITEM	QUANT	IITY LO	T NO.	GRADE OR SPECIFICATION NO CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS
		•		SA/A105N
037	<b>610</b>	3479	7523696	2 3M A105N COUP T C .190 MN 1.060 P .015 5 .023 SI .180 NI .040 CU .180 CO .003 CR .050 MO .020 V .000 AL .022 NB .012 CE(LONG FORMULA) = 0.40
				T/S 77250 Y/S 54750 EL 32.40 RA 66.55 BRINELL HARDNESS1: 130 HARDNESS2: 135
039	20	3447		11/4 3000 A105N HCP T C .200 MN 1.010 P .013 S .017 SI .210 NI .040 CU .210 CD .003 CR .040 MD .020 V .000 AL .020 NB .014 CE(LONG FORMULA) = 0.40 T/S 75250 Y/S 53000 EL 32.30 RA 66.55 BRINELL HARDNESS1: 135 HARDNESS2: 137
040	1530	3477		2 3000 A105N HCP T C .200 MN 1.040 P .010 S .018 SI .210 NI .040 CU .190 CO .004 CR .040 MD .010 V .000 AL .019 NB .015 CE(LONG FORMULA) = 0.40 T/S 73492 Y/S 50251 EL 33.50 RA 64.97 BRINELL HARDNESS1: 135 HARDNESS2: 132
		3508	7523882	2 3000 A105N HCP T C .200 MN 1.070 P .018 S .019 SI .220 NI .010 GU .030 CU .002 CR .070 MU .004 V .000 AL .022 NB .013 CE(LONG FORMULA) = 0.40 T/S 77904 Y/S 54040 EL 31.90 RA 68.94 BRINELL HARDNESS1: 130 HARDNESS2: 137

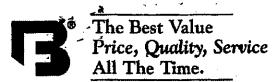
\*\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*

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 checks.

Cris Childers

CMTR: REV 1 **QUALITY PROCESS MANAGER** 

### CERTIFIED MILL TEST REPORT



302442 PAGE 31 LOG NO.

**BONNEY FORGE** 

P.O. BOX 330 • 14498 CROGHAN PIKE • MOUNT UNKON, PA 17066-0330 (814) 542-2545 • (800) 345-7548 • FAX (814) 542-4908

ww.bonneylorge.com

CUSTOMER: WEBTLUND INDUSTRIAL SUPPLY

08/23/06 Date

CUSTOMER'S Order No.: 9109088-00

Bonney Order No.40455

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY 5105 75TH STREET

378307

RECEIVED

OCT 2 3 2006

**EDMONTON ALBERTA** EDMONTON ALBERTA, Tée585 CANAD

ITEM

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.
- CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- 4. THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SASSO-LF2.
- 5. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH A350-LF2.
- CERTIFYING TO ABTM A350 LF2 04A REVISION.
- 7. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.
- 8. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN. 2 INCH OR 50 MM GAGE LENGTH.
- 9. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204 3.1.B.
- 10. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2003 AND NACE MR0175-2003.

\*\*\*\*\* 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 laboratory checks.

Cris Childers

**CMTR: REV 1 QUALITY PROCESS MANAGER** 

### Lo Tech Manufacturing Inc.

Fuel Gas Scrubbers • Desiceant Dehydrators • Check Valves

7719 - 69 Street Edmonton, Alberta T6B 1V4 Phone: (780) 440-5064 Fax: (780) 440-5172

### Certificate Of Compliance RECEIVED APR 0 5 2007

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, 2004 Edition, 2006 Addenda.

CRN	0H5413	5.21345				
S/N	8600.34	41				
Diameter	8.625	Inches	Overa	ll Length	56	Inches
Year Built	2007			e e e e e e e e e e e e e e e e e e e		<b>-</b>
MAWP	600	PSIG	@	650	°F	
MDMT	−20 °F	• . 				
C.A.	0.0625	Inches				
Radiograph	y	N/A				
PWHT:	Time	N/A	min.	Temp.	N/A	°F
Hydro Test	ed @	780	PSIG			<b>-</b>

Quality Control Manager BJ SYLYSKI

April 3, 2007

STANDARD   ASARGE NOTE   ASA	Æ	4,	INTERNA	TONAL (	CORP.	SHA	NCHY	SPEC M GAT	TION	INSPECTION CERTIFICATE SHANGHAI GATEWAY FITTINGS CO.LTD	TFIC,	ATE,			DATE: 2006-02-1	2006-0	7.
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State   Stat		PRODUCT	F & SIZE		QUA	NITTY		MFG NC		VISUAL ADDRESS NATIONAL INSPECTION		ONESS 197 HB	HEAT TREATMEN T (NOTE)	MACRUETIC EXAME	PARTICIE		ł
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100   5F1162   GOOD   B8-70   N   N   SF162   GOOD   B8-70   N   SF162   GOOD   B8-70   N   SF162   GOOD   B8-70   N   SF162   GOOD   B8-70   N   SF162   SF		CAP-2" STD			<b>ਲ</b> :	8		52.161		0000	8	Ę,	Z				
100		CAP-2-1/2" STD			× ¥	2 2		SH14		000	* 5	5.7-	2 2				
MAIN   C   Si   MAIN   P   S   CA10   CACOD   S1-72   N   FHYSICAL TEST		CAP-6" STD			7	2		SF02		GOOD	83	\$	z				
ALL   C   Si	-	CAP-6 STD			2 3	88				GOOD	87.	<b>₩</b> €	z				
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NACE MR.41-75 : AATERACTORY WE REREAY CERTEY THAT THE PRODUCT DESCRIBED HEADD HAS BREN MANUFACTURED BY ACCORDANCE WITH THE REPORTACIONAL CONCRIBED ALSO WITH THE PUNCHASER'S REQUIREMENTS AND THAT THE		N: NOOMALIZING	AND TANGE	RATURE 84	OC COSER,	AIR COOLD	Ğ										
WE HEREBY CERTBY THAT THE PRODUCT DESCRIBED HERED HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE THE PROTUCT ALLOW NOTE AND ALSO WITH THE PUNCHASER'S REQUIREMENTS AND THAT THE		NACE MR-41-75	FATTSFACT	TORY	-												
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# INSPECTION CERTIFICATE (BS EN 10204 3.1: 2004 - ISO 10474 3.1B: 1991)

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

(54) 3489 433100 tel. (54) 3489 433405 fax

Cliente / Customer VAN LEEUWEN CANADA			Expediente/	Expediente/ Manufacturing Order 5/4589,02	Número / Number 318942		Fecha / Date	Pág./Page
Producto / Product SMLS LINE PIPE			Orden de Co 45000442	Orden de Compra/ Purchase Order 45000442	lem   Referencia   00002   45000442	ferencia de 000442	Item Referencia del Cliente / Customer Reference 00002 45000442	ar Reference
Morma / Chandrad								
API 5L/ASTWASME A/SA 53/106 +CSA Z245.1ED 2002 + P4.17-01/02	iD 2002 + P4.17-01/02		Grado / Grade B/X42+290SS		EXI	Extremos / Ends	ds	
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						251 Pcs	5403 77 Ft	1550R4 I h

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YOS	
<b>ENSAYOS</b>	

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# INSPECTION CERTIFICATE

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

SiDERCA S.A.I.C. Dr Jorge A. Simini 250 (82804MHA) Campana Buenos Aires, Argentina

(54) 3489 433100 tel. (54) 3489 433405 fax

70345Kg 155084Lb Referencia del Cliente / Customer Reference 45000442 Pág./Page 2 / 5 Extremos / Ends BEVELLED AT 30 DEG. ASTM 1647.07 m 5403.77 Ft 08/05/2006 Fecha / Date Cantidades / Quantities 251 Pz 251 Pcs Número / Number 318942 Kem 00002 Orden de Compra/ Purchase Order 45000442 Expediente/ Manufacturing Order Superficie Externa / External Surface VARNISHED 5/4589.02 B/X42+290SS Grado / Grade Longitud / Length S.R. (SP) Schedule | Peso Nominal / Nominal Weight 42.55 KG/MT 28.58 LB/FT AP! 5L/ASTNI/ASME A/SA 53/106 +CSA 2245,1ED 2002 + P4.17-01/02 **\$** 8.20 mm 0.322 inches VAN LEEUWEN CANADA Dimensiones / Dimensions Cliente / Customer Producto / Product SMLS LINE PIPE Norma / Standard 219.10 x

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# **INSPECTION CERTIFICATE**(BS EN 10204 3.1: 2004 - ISO 10474 3.1B: 1991)

SIDERCA S.A.I.C. Dr Jorge A. Simini 250 (82804MHA) Campana Buenos Aires, Argentina (54) 3489 433100 tel. (54) 3489 433405 fax

SA 53/106 +CSA 7245.1ED 20 mm 40 inches A0 sgram SIDERCA sión / Pressure Valor / Valor / Valor ENARIS SD 5L0098 @ MM. Y ENARIS SD 5L0098 @ MM. Y ERO: FUNDICIÓN POR ARC INO EN EL HÓRNÓ-CUCHA Ö DE CALCIO PARA Ó BITEN	002 + P4.17-01/82  ominal / Nominal Weight	Orden de Compra/ Purchase Order 4500442  Superficie Externa / Externa / Surface VARNISHED  Marcas / Marking  LLL = Longitud / length PPP = Peso / Weight HNXXXXX = Colada / Heat  Resultado / Results Satisfactorio / Satisfactory  KAZPSL 1/290 CATI SS S 219,1 8,2 28,58 8 360 H/40 STD:	ttem Referencia del 60002 4500442 Extremo / Ends BEVELLED AT Cantidades / Qt Pz 251 Pcs 251 Pcs	Referencia del Cliente / Customer Reference 4500442  Extremo / Ends BEVELLED AT 30 DEG. ASTM Cantidades / Quantities 251 Pcs 1647.07 m 70345 Kg 251 Pcs 5403.77 Ft 155084 Lb  @ Monograma / Monogram AP!	er Reference 155084 Lb
Norma / Standard  API 5LJASTHJASME A/SA 53/106 +CSA 2245.1ED 2002 + P4.17.01/10  Dimensions / Dimensions   Schedule   Peso Nominal / Nominal 219.10 x 8.20 mm	weight Longthud / Length  NRT S.R. (SP)  NFT S.R. (SP)  NRT S.R (SP)  NRT S.R (SP)  NRT S.R (SP)  NRT S.R (SP)  NRT S.R (SP)  NRT S.R (SP)  NRT S.R (SP)  NRT S.R (SP)  NRT S.R (SP)  NRT	Superficie Externa / External Surface VARNISHED  as / Marking  = Longitud / length	Externo / E BEVELLEI Cantidades 251 Pc 251 Pc @= Monog	nds / Quantities / Quantities 1647.07 m 5403.77 Ft rama / Monogram Ai	70345 Kg 155084 Lb 01
Dimensions / Dimensions   Schedule   Peso Nominal / Nominal 219.10 x 8.20 mm 40 2.55 KGR 8 5/8 x 0.322 Inches   219.10 x 8.20 mm 2219.10 x 8.20 mm 2219.10 x 8.20 mm 22.55 KGR 219.10 x 8.20 mm 22.55 KGR 219.10 x 8.20 mm 22.55 KGR 22.50 mm	AMT S.R. (SP) WET S.R. (SP) WET S.R. (SP) WET  Ma  Ma  Mero de tubo / Nbr of pipe Sulfica / Hydrostatic Test oo/ Time ndos/ Seconds 5,00  ANSA 53/106 APISL CSA Z245.1 B/X42	VARNISHED  VARNISHED  Las / Marking  = Longitud / length	Cantidades 251 Pcs 251 Pcs (@≃ Monog	/ Quantities 1647.07 m 1647.07 m 1640.07 Ft rama / Monogram Ai 14589.02 MADE IN A	70345 Kg 155084 Lb
8 = Monograma / Monogram SIDERCA NT = Año / Trimestre  MM.YY = Mes / Año Month / Year YTT = Año / Trimestre  Presido / Pressure Triento  Unidad / Unit Valor / Valor / Valor Bogun  PSI 2400 Signum  PSI 2400 5.0  Estarcido (Tubo) / Stencilling (Pipa)  NNNNN LLLL PPPPP TENARIS SD 5L0098 ® MM.YY ASTMJASME / HNXXXXX  *FABRICAGIÓN DE ACERACIÓN*  FABRICAGIÓN DE ACERACIÓN*  CALBADO ALGADO NO BLE HÓRMO* CUCHARRA INCLUYE UN VARILLA DE SILIGIURÃO DE CALCIGRARA ÉBERNER UNA FORMA	Ma Thero de tubo / Nbr of pipe LLL  tre Year / Quarter  aulica / Hydrostatic Test  bo / Time  ndos / Seconds 5,00  ASA 53/106 APISL CSA Z245.1 B/X42	cas / Marking  = Longitud / length	@ = Monog	rama / Monogram AF	ol ARGENTINA
Priesa Hidra.  Presión / Pressure  Unidad / Unit PSI  2400  Estarcido (Tubo) / Stencilling (Pipe) NNNNNN LLLL PPPPP TENARIS SD 5L0098 @ MM. YY ASTM/ASME / HNXXXXX  "FABRICADO POR SIDERCA"  "FABRICADO MALALUMÍNIO.  "LA PRÁCTICA DE ACIDO EN EL HÓRMO" CUCHARRA INCLUYE UN VARILLA DE SILIGIURO EN CALCIGIPARA ÓBITENER UNA FORMA	áulica / Hydrostatic Test ndos / Seconds 1,00 ANSA 53/106 API5L CSA Z245.1 B/X42	Resultado / Results Satisfactorio / Satisfactory Satisfactorio / Satisfactory Satisfactorio / Satisfactory Satisfactorio / Satisfactory Satisfactorio / Satisfactory Satisfactorio / Satisfactory		i/4589.02 MADE IN /	ARGENTINA
Preside / Pressure  Unided / Unit Valor / Valor   Segund PSi  Estarcido (Tubo) / Stencilling (Pipe)  NNNNNN LLLL PPPPP TENARIS SD 5L0098 @ MM. YY ASTM/ASME / HNXXXX  "FABRICADO POR SIDERCA"  "PROCESSO DE ACERACIÓN"  "ARRICAGIÓN DE ACERACIÓN"  "ARRICAGIÓN DE ACERACIÓN"  "ARRICAGIÓN DE ACERACIÓN"  "ARRICAGIÓN DE ACERACIÓN"  "ARRICAGIÓN DE ACERACIÓN"  "ARRICAGIÓN DE ACERACIÓN"  "ARRICAGIÓN DE ACERACIÓN"  "ARRICAGIÓN DE ACERCIÓN POR ARRONA LA PRACIONA PORMA	5,00 5,00 5,00 5,00 5,00 5,00 5,00 5,00	Resultado / Results Satisfactorio / Satisfactory Satisfactorio / Satisfactory SL 1/290 CATI SS S 219,1 8,2 28,58 B-SC H40431D:		14589.02 MADE IN A	ARGENTINA
Unidad / Unit Valor / Valor   Segun PSi	1,00 1,00 1,00 1,00 1,00 1,00 1,00 1,00	Satisfactorio / Satisfactory SL 1/290 CATI SS S 219,1 8,2 28,58 B-SCH40431D:		14589.02 MADE IN A	ARGENTINA
Estarcido (Tubo) / Stencilling (Pipe) NNNNNN LLLL PPPPP TENARIS SD 5L0098 @ MM. YY ASTM/ASME / HNXXXXX  "FABRICADO POR SIDERCA"  "PROCESO DE ACERACIÓN"  FABRICACIÓN DE ACERACIÓN"  FABRICACIÓN DE ACERACIÓN"  FABRICACIÓN DE ACERACIÓN CON LA LUMINIO.  LA PRÁCTICA DE ACINO EN EL HÓRMO. CUCHARA INCLUYE UN VARILLA DE SILIGIURO DE CALCIGRARA ÓBIENER UNA FORMA	,00 : A/SA 53/106 APISL CSA Z245.1 B/X42	SL1/290 CATI SS S 219,1 8,2 28,58 8 8 CH(0.51)D?		14589.02 MADE IN A	ARGENTINA
Estarcido (Tubo) / Stencilling (Pipe) NINININ LLLL PPPPP TENARIS SD 5L0098 @ MM.YY ASTMJASME / HNXXXXX  'FABRICADO POR SIDERCA'  'FABRICAGION DE ACERACIÓN'  FABRICAGION DE ACERO: FUNDICIÓN POR ABGO ELEGTRICO'  OAL MADO ALALUMÍNIO.  LA PRÁCTICA DE ACINO EN EL HÓRMO: CUCHARA INCLUYE UN VARILLA DE SILIGIURO DE CALCIO PARA ÓBSTENER UNA FORMA	: A/SA 53/106 API5L CSA Z245.1 B/X42	'SL 1/290 CATI SS S 219,1 8,2 28,58 8 8 CH40 81D		7/4589.02 MADE IN A	ARGENTINA
*FABRICADO POR SIDERCA*  *PROCESO DE ACERACIÓN*  FABRICACIÓN DE ACERO: FUNDICIÓN POR ARCO EL EGTRICO*  GALMADO ALIALUMINIO.  -LA PRÁCTICA DE AEINO EN EL HÓRMÓ - CUCHARA:INCLUYE UN VARILLA DE SILIGIURO DE CALCIGRARA ÓBIENER UNA FORMA			200PSI PO45000442		
FROCESO DE ACERACIÓN*  FABRICAGIÓN DE ACERO: FUNDICIÓN POR ABRO ELEGTRICON  CALLA DO ALIALUMÍNIO.  LA PRÁCTICA DE ARINO EN EL HÓRNO: CUCHARA INCLUYE UN VARILLA DE SUIGURO DE CALCIO PARA ÓBIENER UNA FORMA		*MANUFACTURED BY SIDERCA*			
FABRICAGION DEACERO. FUNDICIÓN POR ABGO ELEGTRICON CALMADO ALLA UNINO.  LA PRÁCTICA DE ARINO EN EL HÓRNÓ. CUCHARA INCLUYE UN VARILLA DE SUIGURIÓ DE CALCIÓ PARA ÓBIENER UNA FORMA		ACIERAGE PROCESS*	<b>1</b>		
LA PRÁCTICA DE ARINO EN EL HÓRMO-CUCHARA, INCLUYE UN VARILLA DE SILIGIURO DE CALCIO PARA ÓBIENER UNA FORMA	PY COLADO CONTINUO - ACERO	STEEL MAKING PROCESS: E.A.F.A.M. CONTINUOUS CASTING - FULL ALUMINIUM KILLED AND FINE GRAIN PRACTICE	TINUOUS CASTING.	ULL ALUMINIUM KA	LED AND
	JNA NYEGGIÓN FINAL DE UNA NA GLOBULAR DE EVENTUALES	-THELLE BRACHDEINCLUDES A FINAL INJECTION OF CALCIUM SILICIDE WIRE FOR MICROINCLUSION SHAPE CONTROL	N OF CALCIUM SILIC	DEWIREFOR	
-MATERIAL IIBRE DE CONTAMINACIÓN DE MERCURIO.		WATERIAL FREE FROM MERCURY CONTAMINATION	NC F		
PROCESO IN LAW MACIÓN		WOLUNG PROCESS*			
-FABRICACION DETUBO: LAMINADO EN CALIENTE MISIN COSTURA	ITIPA	MANUFACTURING PROCESS: SEAMLESS HOT ROLLED	ROLLED.		
-CONTROLES: -CONTROLASIJA -COMENSIONA SATISTA CATORIO		CONTROLS*	2-		
		VISUAL AND DIMENSIONAL INSPECTION SATISFACTORY	SFACTORY.		
-NO REPARADO POR SOLDADURA.		MATERIAL CONDITIONS NOT REPAIRED BY WELDING			
*PROPREDADES DEL MATERIAL* -LA DUREZA CUMPLE CON LA NORMA NACE MR 01:75.ULTIMA EDICIÓN	EDIGION	MATERIAL PROPERTIES*			
		A CONTROL OF THE PROPERTY OF THE PROPERTY OF THE PORT	HEOLEDINON		



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

SIDERCA S.A.I.C. Dr Jorge A. Simini 250 (82804MHA) Campana Buenos Aires, Argentina

(54) 3489 433100 tel. (54) 3489 433405 fax

VAN LEEUWEN CANADA			Francisco (Nondentino)	Alimony / Alimbor	_	
			5/4589.02	318942	recha / Date 08/05/2006	Pág./Page 4 / 5
Producto / Product SMLS LINE PIPE			Orden de Compra/ Purchase Order 45000442	Item Referenci 00002 45000442	a del	ner Reference
Norma / Standard API SL/ASTM/ASME A/SA 53/106 +CSA Z245.1ED 2002 + P4.17-01/02	2245.1ED 2002 + P4.17-01/02		Grado / Grade BIX42+290SS	Extrem	Extremo / Ends BEVELLED AT 30 DEG. ASTM	
Dimensions / Dimensions         Schedule           219.10 x 8.20 mm         40           8 5/8 x 0.322 inches	ile Peso Nominal / Nominal Weight 42.55 KGMT 28.58 LBrFT	Longitud / Length Superficie Ex S.R. (SP) VARNISHED	<b>4</b> .5	Cantid 251 251	Cantidades / Quantities 251 Pz 1647.07 m 251 Pcs 5403.77 Ft	70345 Kg 155084 Lb
- EL MATERIAL CUMPLE CON LOS RE -EL MATERIAL CUMPLE CON LOS RE VICKERS SEGÚN CSA 2245.1.02.	- EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS CSA 2245.1 GR 241/290 CAT I -EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS DE MICRODUREZA HV500 MAXIMO 248 VICKERS SEGÚN CSA 2245.1.02.		- MATERIAL COMPLIES WITH CSA Z245.1 GR 241/290 CAT I -MATERIAL COMPLIES WITH HARDNESS HV500 MAXIMUM 248 VICKERS ACCORDING TO CSA 2245.1.02 REQUIREMENTS.	1/290 CAT   MAXIMUM 248 VI	CKERS ACCORDING TO	) csA
*NORMAS* -EDICION DE LA NORMA: ASME SA 106/01EDICION DE LA NORMA: ASME SA 33/01EDICION DE LA NORMA: ASME SA 33/01EDICION DE LA NORMA: ASME SA 245,1/02EDICION DE LA NORMA: API 5L, 43° Edition 2004EDICION DE LA NORMA: ASTM A53/04aEDICION DE LA NORMA: ASTM A106/04b.	06/01. 3/01. 01-75 ULTIMA EDICION 02. cition 2004. 4a.	STAN -EDITI -EDITI -EDITI	*STANDARDS* -EDITION OF REGULATION: ASME SA 106/01EDITION OF REGULATION: ASME SA 53/01EDITION OF REGULATION: NACE MR. 01-75 LAIES -EDITION OF REGULATION: API 51, 42, Editorized -EDITION OF REGULATION: ASTM A53/048EDITION OF REGULATION: ASTM A106/04b.	A TEST EDITION		77 P. 11 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Observations i Ranarks NON DESTRUCTIVE TEST: SATISFAGIORY:  (KSPECTION METHODS: E.M.! LONG:(EXT.) NOTGH 5%  + E.M.! LONG:(RVT); NOTGH 10%  + E.M.! TRANSV.(EXT./INT.) NOT  + M.P.! LONG: (EXT./INT.) AT ENI  ONE YELLOW LONGITEDINAL BAND.  END MARKING: ONE DRANGE BAND.	EST: SATISFAOTORY:  S. E.M.I. LONG: [EXT.), NOTGH 5%  + E.M.I. LONG: (EXT./INT.) NOTCH 10%  + M.P.I. LONG: (EXT./INT.) AT ENDS:  DDINAL BAND.  RANCE BAND.					
Von LETABLE CLOSED PLASTIC PRO	Protections (End Protectors) NON LITTABLE CLOSED PLASTIC PROTECTOR FOR FLAT / BEVELED PIPE SUPPLY SU	PALIER METALCENTRO				



## INSPECTION CERTIFICATE

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

SIDERCA S.A.I.C.
Dr. Jorge A. Simini 250
(82804MHA) Campana
Buenos Aires, Argentina

(54) 3489 433100 tel. (54) 3489 433405 fax

70345 Kg 155084 Lb Referencia del Cliente / Customer Reference Pág./Page BEVELLED AT 30 DEG. ASTM 1647.07 m 5403.77 Ft 08/05/2006 Fecha / Date Cantidades / Quantities Extremo / Ends 251 Pz 251 Pcs 45000442 Nürnero / Number 318942 #em 00002 Orden de Compra/ Purchase Order Expediente/Manufacturing Order Superficie Externa / External Surface VARNISHED 5/4589.02 Grado / Grade B/X42+290SS 45000442 Longitud / Length S.R. (SP) Schedule | Peso Nominal / Nominal Weight 42.55 KG/MT 28.58 LB/FT API 5L/ASTWIASME A/SA 53/106 +CSA 2245,1ED 2002 + P4.17-01/02 <del>\$</del> 8.20 mm 0.322 inches Dimensiones / Dimensions VAN LEEUWEN CANADA Producto / Product SMLS LINE PIPE Cliente / Customer Norma / Standard 219.10 × 8 5/8 ×

	QUALITY CERTIFICATION DEPT. DTO CERTIFICACION DE CALUAD EDUARDO A, A YERBE COUTRAIN DE CALUAD
Intrinsterial harein described has been menufactured in accordance and specifications required in your order and satisfies the teaments.  Beef by a computerized system and it is velid with electronic signature calls the trade-mark Teriaria light-green coloured at the bottom of the must been the owner of the cyriticalia-yould release a copy of it, he must be the original one taking uportificined the responsibility for any	Not use.  Of Resinication will be subject to the law.  If the authenticity of this certificate, please do not intents.
don Wetherby Confry I  don With the stendards  coon This Conficients is selected.  Cool This Conficients is selected.  Cool This Conficients is selected.	Minavitt of tool of the contact of t
de acueido con las fontilas y especificaciones solicitadas en vuestra orden de acueido con las fontilas y especificaciones solicitadas en vuestra orden y satisfactor los comecondentes requerimientos.  Este certificado se entiemediante un sistema computantesco y es yando con firma electroriba. El certificado orginal presente estido, toran se yando con impreso en la parte infectio orginal presente estido. Toran caracterista de los portes de la pois entregue una copie del prisento, debra gatantizar la confermidad con el nominal presente el confermidad con el nominal presente el confermidad con el nominal presente el confermidad con el nominal presente el confermidad con el nominal presente el confermidad con el nominal presente el confermidad con el nominal el confermidad el con	Cuelquier affernering y to faisificación estára supela a la ley. Si nocesita subgurar la suberificación estára supela a la ley. Sidorca SALO, e-mail: s-ye@esiderca.com

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MERLER DATES. THE ACC. TO VISUAL & DIRECTOR. THE CASE OF THE PARTY OF THE PA ľ ANY CHIN 244 174 2400 3400 1000 ATTENS COUNTING THATO WAT ALK T AND PACKAGE NATE - PRINCE WITH WED See 2, 14 Plum, Dutle Heart, Blasse Post HEW Baylouth ACTIT COOKING WIG 19524 Property by exception and medical in its object FEB 2 6 2007 ₹ GUALITY CONTROL OUTAITMENT \$ L51-81 +4 23 8 E NO PART PROPERTY. 3 HEAT THEATHERY ME ENGLTD. E pirrelined at Lath-LathC1 Air Cod 3 COLO COLO This confibition has 81.2 THE PARTY OF THE P WEPPETTON CENTHOLITE EN 1936-12404 / 3.5 COMPLETY WITH GLALLITY BYTHTM IEO Seen Jages GENYAGO OFF RANA \$ \$ INDUSTRIA MECCANICA LIGURE SPA r š 2 3 Table Later and Person Street 1 3 25 SAN AND MATERIAL MACCORDANCE TO 5 ASAE BIS 1195 - ANS BOTHBOLD MESTO - ANS BIT LENGTE - NACE MORTERO 151541 - ANS ST 33 - RUPLED MATERIAL MESTS SPECHCATIONS AND P.O. MEGINNEMBETS 2014-2E201-8006-723-018 8 YOUR P.O. OLK REFERENCE 1828 2034-2E201-8009F22-0 35 26 26 26 MATERIAL ASTRACIO ag n E ME Ē LM.I. HEAT COLLE HEAT HEAT COOR THEAT HEAT CODE. HEAT 14 C\$124. HEAT CODE Notes

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### **REPORT** CERTIFIED **TEST** MILL

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

LOG NO. 304580 PAGE BONNEY FORGE P.O. BOX 330 • 14496 CROCHAN PIKE • MOUNT UNION, PA 17066-0330 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906

www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 11/07/06

CUSTOMER'S Order No.: 9109934-00

Ronney Order No044493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY 5105 75TH STREET

DEC 1 3 2006 387

EDMONTON ALBERTA

EDMONTON ALBERTA, T6E5S5 CANAD

ITEM	QUANT	ITY LOT	NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
		· · · · · · · · · · · · · · · · · · ·	n gagagagagagagaga nara ni Figurah ni - 1, haddi da b	8A/A105N
023	120	3582	7523661	11/2 3M A105N COUP T C
624	1450	3611	7523726	1/2 3000 A105N HCP T C 200 MN 1 000 P .009 S .020 SI 18C NI 040 CU 150 CD .003 CR 040 MO .01C 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
02 <del>5</del>	800	3594	7523882	2 3000 A105N HCP T C .200 MN 1.010 P .012 S .024 SI .190 NI 030 CU .120 CO .003 CR .040 MD .010 V .000 AL .021 NB .016 CE(LONG FORMULA) = 0.39 T/S 73618 Y/S 52513 EL 32.30 RA 66.83 BRINELL HARDNESS1: 132 HARDNESS2: 130
026	84	3364 NUT-GM	7524129	11/2 3M A105N UNAR T C
			*****	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 taboratory offects.

Kylee Fleck

CMTR: REV 1

**QUALITY PROCESS MANAGER** 

## CERTIFIED MILL TEST REPORT



304580 \_\_ PAGE \_\_\_\_15 LOG NO. \_

BONNEY FORGE BONNET FUNDE P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906 www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 11/07/06

GUSTOMER'S Order No.: 9109934~00

Bonney Order Npp44493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY

5105 75TH STREET

387793

EDMONTON ALBERTA

EDMONTON ALBERTA, TAESSS CANAD

ITEM

QUANTITY LOT NO.

GRADE OR SPECIFICATION NO CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS

THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.

RECEIVED DEC 1 3 2006

- THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REGUIREMENTS.
- 3. CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.
- THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2003 AND NACE MR0175-2003.
- 5. THE MATERIAL SUPPLIED WAS INSPECTED AND MAMUFACTURED IN ACCORDANCE WITH EN DIN 10204 3.1.8. (EUROPEAN STANDARD).
- 6. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.
- 7. CERTIFYING TO ASTM A350 LF2 04A REVISION.
- 8. THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SA350-LF2
- 9. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH ABSO-LF2.
- 10. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.

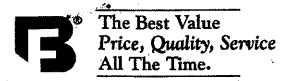
***** END UP CERTIFICATION ****	
**** END OF CERTIFICATION ****  We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory check	ks.

Kulee Fleck

CMTR: REV 1

**QUALITY PROCESS MANAGER** 

### MILL TEST CERTIFIED REPORT



302442 LOG NO. PAGE \_\_13

**BONNEY FORGE** 

P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330 (B14) 542-2545 • (B00) 345-7546 • FAX (B14) 542-4906 www.bonneytorge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

08/23/06 Date

CUSTOMER'S Order No.: 9109088-00

Bonney Order No.40455

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY

378307

RECEIVED

5105 75TH STREET

OCT 2 3 2006

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.040 MO

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. 020

**EDMONTON ALBERTA** 

EDMONTON ALBERTA, T6E585 CANAD

CHADE OR SPECIFICATION NO ITEM QUANTITY LOT NO. CHEMICAL AGALYSIS, PHYSICAL PROPERTIES, REMARKS SA/A105N 037 410 3479 7523696 2 3M A105N COUP T .015 5 C . 190 MN 1.060 P .023 51 NI .040 CU . 160 CO .003 CR .050 MD

> . 022 NB .012 . 000 AL CE(LONG FORMULA) = 0.40T/S 77250 Y/S 54750 EL 32.40 RA 66.55 BRINELL HARDNESSI: 130 HARDNESS2: 135

039 20 3447 7523823 11/4 3000 A105N HCP . 200 MN 1,010 P .013 5 NI .040 CU . 210 CD .003 CR .000 AL . 020 NB . 014

CE(LONG FORMULA) = 0.40T/S 75250 Y/S 53000 EL 32.30 RA 66.55 BRINELL HARDNESSI: 135 HARDNESS2: 137

3477 Q4Q 1530 7523882 2 3000 A105N HCP

. 010 5 C . 200 MN 1,040 P .018 51 . 210 .004 CR . 040 MD NI . 040 CU . 190 CO . 010 . 000 AL .017 NB .015

CE(LONG FORMULA) = 0.40

T/S 73492 Y/S 50251 EL 33,50 RA 64.97 BRINELL HARDNESSI: 135 HARDNESS2: 132

3508 7523882 2 3000 A105N HCP

.018 5 . 220 . 200 MN 1.070 P . 019 SI . 002 CR NI . 030 CO . 010 CU .070 MO .004

. 000 AL . 022 NB .013

CE(LDNG FORMULA) = 0.40T/S 77904 Y/S 54040 EL 31.90 RA 68.94

BRINELL HARDNESS1: 130 HARDNESS2: 137

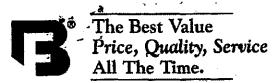
\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*

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 checks.

Cris Childers

**CMTR: REV 1 QUALITY PROCESS MANAGER** 

## CERTIFIED MILL TEST REPORT



302442 PAGE 31 LOG NO.

**BONNEY FORGE** 

P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4908 www.bonneylorge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY

5105 75TH STREET

Date 08/23/06

CUSTOMER'S Order No.: 9109088-00

Bonney Order Na040455

378307

RECEIVED

OCT 2 3 2006

**EDMONTON ALBERTA** 

EDMONTON ALBERTA, T6E5S5 CANAD

ITEM

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 A105-05 / ASME SA105-04 EDITION.
- 4. THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SASSO-LF2.
- 5. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH A350-LF2.
- 6. CERTIFYING TO ASTM A350 LF2 04A REVISION.
- 7. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.
- 8. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN. 2 INCH OR 50 MM GAGE LENGTH.
- 9. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204 3.1.B.
- 10. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2003 AND NACE MR0175-2003.

\*\*\*\* 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 laboratory checks.

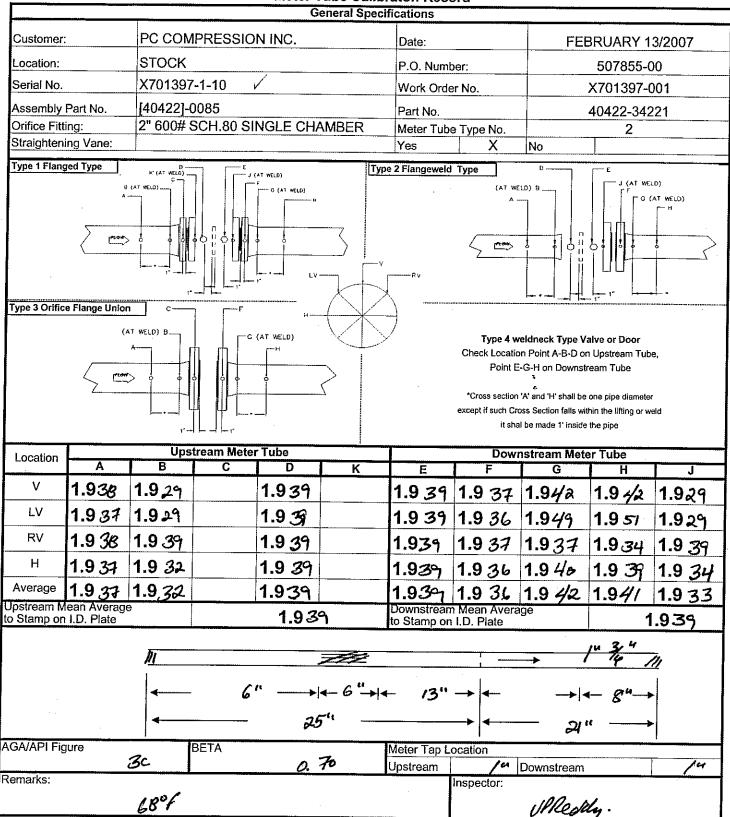
Cris Childers

**QUALITY PROCESS MANAGER** 

CMTR: REV 1



## Meter Tube Calibraton Record





www.c-a-m.com Phone: 780.468.2941 5151-67th Ave., Edmonton, AB T6B 2R8 rev.3 01/02/07





## **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.



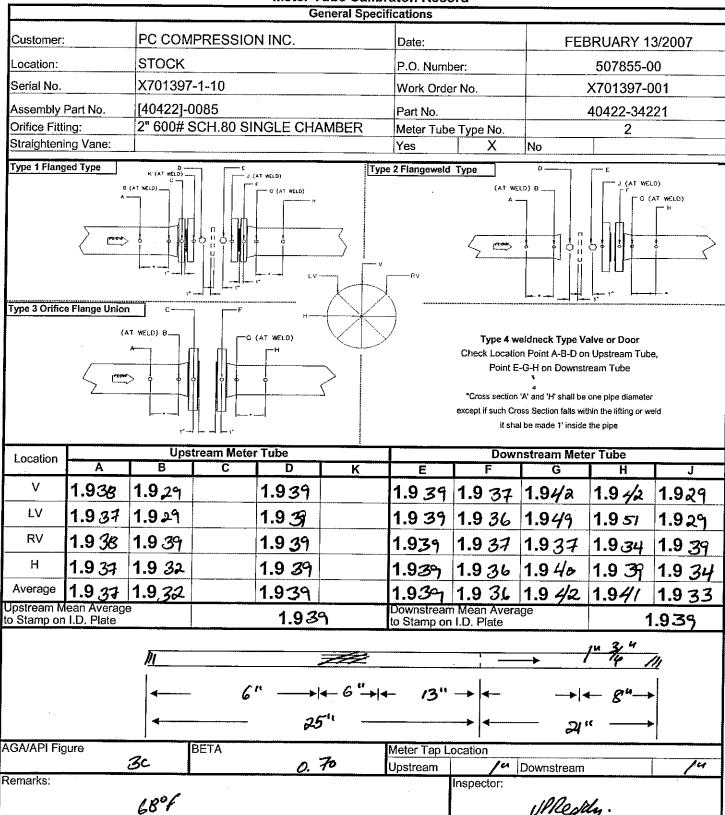
Form No. AB-121 Rev. (2004/09) Dated at Edmonton, this 3rd day of March, 2005

Chief Inspector and Administrator

Certificate No.: 4486



## Meter Tube Calibraton Record



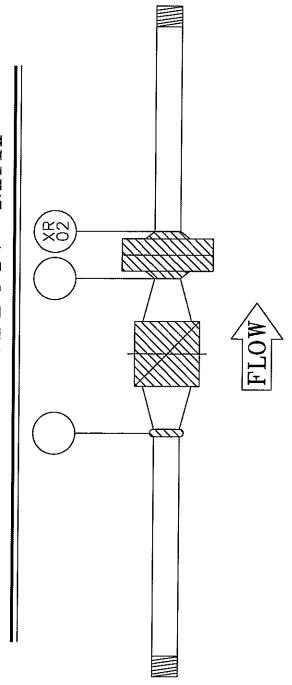


www.c-a-m.com Phone: 780.468.2941 5151-67th Ave., Edmonton, AB T6B 2R8 rev.3 01/02/07

	<b>C</b> CAMER	ON M	easuren T OF CAN	ent Syste ADA	ems
SINGL	E CHAMBEI	R	4042	22 -3422	21
SIZE	2.0 SE	R. NO.	X	701397-	1-10
BORE	1.939	W.P.	1480	FLG.	600
TRIM	SWEET	C.R.N	l. NO.	0F112	0.213

	<b>(</b> ССАМІ	ERON Mea	asurement Sys I, ALBERTA, CAN	stems IADA	
METER RUN ASSY. NO.	(40	422) - 008	<b>3</b> 5	MAX. BORE	
SER. NO.	X701397-1-10	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.	X701397-001	DATE	02 / 07	CERTIFIED BY	Cameron

# WELD AND RADIOGRAPHY IDENTIFICATION MAP



DESCRIPTION: 2" 600# SCH. 80 SINGLE CHAMBER METER RUN

SERIAL No.: X701397-1-10

CUSTOMER: PC COMPRESSION INC.

. TAG No.: P/0 No.: 507855-00

W/O No.: X701397-001 END USER:

RIVEST TECHNOLOGIES INC. KEN MARTIN RADIOGRAPHY UNIT: \_\_

W - 2398

MARJA MAHONEY

FILE No.:

WELDER: \_\_\_\_

DATE: FEBRUARY 16/2007

SYMBOL:

QUALITY ASSURANCE INSPECTOR



Measurement Systems

5151-67th AVENUE EDMONTON, ALBERTA T6B 2R8



## RADIOGRAPHIC INSPECTION REPORT

2450-80 Ave, Edmonton, Alberta T6P1N2 Phone:(780)469-8333 Fax:(780)469-8884

Jeff Kinsella

RT#5271

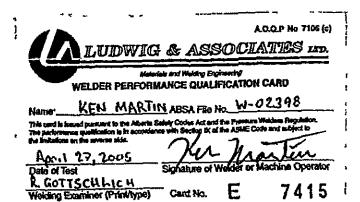
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				Thickne	ess	Cass														
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ontr	act terms or	reference. All Certi	ficates a	and/or Repor	rts are the	e result of	work pe	rformed	d in cor	forman	ce with	applica	able spec	ifications a	nd standa	ards to the	best of ou	performing this work or ability and intent.	However, the	Company
ill n	ot be respon	sible for deviation w A.M.	vithin the	e normal limi	ts of accu	racy in ac	cordano	e with t	the star	ndard p	ractices	KMS	Code A	ceptance	shall requ	ire Client a	nd Manu	facturer Representat	ive's signature FIL <b>M</b>	es.
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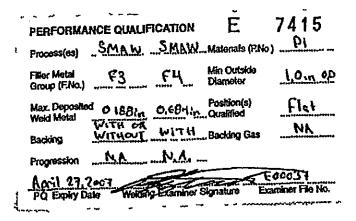
Film Interpretation is done in accordance with the specified code, to the best of my professional ability.

Radiographer Kelly Mock SNT/CGSB Level II Cert #6246
The above interpretation is a professional opinion, final film interpretation is the responsibility of the client.

I am in full agreement with the contents of this report and accept receipt of the associated film. Client Representative:



7976



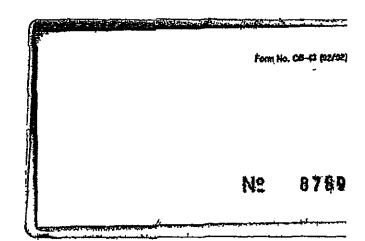
ADQP No 7106 (c)

PERFORMANCE QUALIFICATION PI **FCAW** GMAW Materials (PNo) Process(es) Min Outside Filler Metal F6 F6 10,000 Diameter Group (FNo) GMW 5P0-45\* Position(s) FCAV FLAT Max Deposited 0,110 m. 0 672 m. Qualified WITH OR WITHOUT WITH OR WITHPYI Backing Gas Backing Progression Very Down N/A E-00272 October 19 2008. PG Expiry Date Examiner File No

LUDWIG & ASSOCIATES in Materials and Welding Engineering WELDER PERFORMANCE QUALIFICATION CARD \_ABSA File No \_\_ Name Ken Mortin This card is issued pursuant to the Alberta Satety Codes Act and the Pressure Welders Regulation October 19 Date of Test Signature of Welder or Machine Operator Jarred Hitchings Welding Examiner (Printrype) 7976 Card No

LABOUR 4 pena Boller and Pringurir Vessel Safety Grade "B" Pressure Welder's Certificate of Competency the second see Kan Martin h provisions at the Solians and Presoure Vesselt Act in 1906 "B" Preseure Waldar's Conjugate of Computatoy and 1906 in pressure welding in accordance with the prescribed Delect at Edmonlog, this Second 19 93 June

w. 02398 ABB F# No.



## MATERIAL TEST REPORT

Date: Purchase Order: Customer:

13-Jan-05

XP00076 Nuflo Measurement Systems

Description:

Heat Treatment:

Pattern:

Material:

40726-015 (B510273)

Normalized & Tempered

2" Single Chamber Body ASTM A216 WCB

•4123	0.043	0.010	0.029	0.071	0.074	0.019	0.022	0.500	0.889	0.234	20	04-35
.3735	0.045	0.013	0.014	0.065	0.040	0.021	0.019	0.465	0.827	0.215	17	04-34
0188.	0.051	0.015	0.020	0.025	0.064	0.018	0.022	0.459	0.745	0.237	16	04-33
-39 <b>2</b> 3	0.055	0.010	0.025	0.071	0.087	0.017	0.019	0.380	0.681	0.246	19	04-32
•362 <i>H</i>	0.047	0.014	2.10.0	0,069	0.049	0.023	0.021	0.417	0.705	0.222	19	04-31
03901	0.047	0.012	0.029	0.042	0.035	0.015	0.025	0.456	0.900	0.219	19	04-25
3868	0.055	0.013	0.032	0.065	0.029	0.025	0.021	0.528	0.816	0.228	19	04-24
-3646	0.045	0.012	0.015	0.077	0.042	0.021	0.032	0.513	0.856	0.200	19	04-23
3687	0.056	0.015	0.018	0.116	0.116	0.032	0.019	0.400	0.699	0.211	18	04-22
.3706	0.042	0.010	0.025	0.017	0.017	0.019	0.017	0.423	0.728	0.235	18	12-04-21
											Batch	
	0.300	0. 030	0. 200	0.500	0. 500	0.045	0.040	0.600	1.000	0.300	Max> Qty in	Heat No.
CE	Си	V	Mο	Ni	Cr	S	P	Si	Mn	С		
					Chemistry	(						

# MECHANICAL PROPERTY REPORT

Date: Purchase Order: Customer: 13-Jan-05

Nuflo Measurement Systems XP00076

Load:

Equipment:

King Portable Hardness Tester

Type of Ball:  $3000~\mathrm{kg}$ Regular

Pattern:

Material: Description:

40726-015 (B510273)

2" Single Chamber Body ASTM A216 WCB

10 secs 237 Max (Brinell)

Normalized & Tempered

Heat Treatment:

Hardness Required:

**Holding Time:** 

Hea	12-(	2	04	04	04	2	0,4	94		04
Heat No.	12-04-21	04-22	04-23	04-24	04-25	04-31	04-32	04-33	04-34	04-35
Qty in Batch	18	18	19	19	19	19	19	16	17	20
Hardness	145	148	144	145	147	144	144	145	145	144
Hardness Obtained	148	148	144	148	145	145	147	145	147	145
T.S. Mpa	527	515	490	494	495	498	507	498	495	492
Y.S. Mpa	305	312	272	265	260	270	282	265	272	270
Elong %	26	24	27	24	27	26	28	26	24	27
R.A.	39	41	39	42	38	40	37	41	38	42
% of Batch Tested	10%	10%	10%	10%	10%	%0.1	10%	10%	10%	10%



MST1201 4/21/06

## Highland Foundry Ltd CHEMICAL AND PHYSICAL ANALYSIS

Page 1 10 41 23

Product#. .

40726-002

Order/Item# 27741 /

1

Customer Part# 40726-002 Customer

NUFLO MEASUREMENT SYSTEMS

ACCOUNTS PAYABLE

7944 10TH STREET N.E.

CALGARY AB T2E 8W1

CANADA

2" SINGLE LID

Customer P.O # XP60054

Approved by Shyan Sm

Quality Assurance Technician

Melt#	Quantity	Date	Heat	Treat	BATCH #	ŧ	Specification
2-6283	5	3/21/06			VUZ -		ASTM A216 GRADE WCB
				.,			
C	.2100	MN	7300		SI 45	500	P * 0150
ču•	***************************************	٧.	.0100				

YIELD KSI 50.0 ELONGATION % 30

PHYSICALS

TENSILE KSI 75 6

RED OF AR % 52

CE: 3730





CLYENTE / Customer / Clark

PRODUCTO Anich - Produit

FLANGES

SU PEDIDO Nº Yeur Cirder No. Vaire Cole, N.º

4875837-00

DE of.- de 112/02/2006

Certified acc. PED 97/27/2G by TÜV Phtsidard

NDRMAS APLICABLES Raquements - Nomes Applicabes

ASSESS OF THE PARTY OF THE PART

MATERIAL CORRESPONDIENTE

**VETWARDEN-03** ASSET SATISFIEDS

NACE MR-01-75/03

lerial Comespossient - Quelità

Sieel Making - Etaboration de l'acev WOOD DE FUSION ()

Y = Carigene sesion

PARTICIA Page

CANTEDAD Quantity Quantity

Discription DESCRIPCION

Observe bors PERMARKS CHSCRYACICAES

COCHON X Court

W-INT-MC RESIDENCE OF J. Sharigh

6 X X

HALL BURL

25528888888

7530234 7530234 7533130 7533041 7531621 7531620 7531702

ក្នុងស្នង<u>អត្ត</u> អ<mark>នុ</mark>ខ

VAN 3/4 1600LB SIXXS RF A105N VAN 3 900LB SIXXS RF A105N BLIND 1 1500LB RF A105N BLIND 1.1/2 1500LB RF A105N THR 3 900LB RF A105N

3046 31844 44944 23244 3046 41246 27346

550

321 347 347 347 347

VM 2 800LB SB0 RF A105N VM 2 600LB SB0 RF A105N SW 94 600LB S160 RF A105N VM 1 1500LB S160 RF A106N

## CERTIFICADO DE INSPECCION

Works Certificate - Certificat d'Usine

PECHA

87/03/2006

₹ ₹<u>.</u>

106392

P HOLA

DIN EN 10204/3.1 ISO 10474/3.1









ULIVA FORUA, S COOP.

B\* Zubělaja, 3 - Amar. 14 20580 Ořia II (Gjouzkou) SPAIN

E-mark sorja@forging.uima.es Tol.: 34 - 943 780552 au. 34 - 543 781606

Hark of fectors

Marque du fabricant MARCA DEL FABRICANTE

DEPARTAMENTO QUALITY ASSURANCE

Department

A ARMAL 19.43

ō

55,350 65,350 65,350 65,350 65,350 NUFIO Negguremen 罗 0 impact has! Resilience DATE RESILENCE 3 APPROVED sme<sub>2</sub> 8 5 DUNCZA Se LEVELY 

Las dimensiones y la condición superficial se hazaron seixíactorias

 Distrension and surface condition were found acceptable Les dimensions el etais de auriace sont sebisfaisants

Los materiates citados cumplen les normes epiicables

- ikanulactuing equirements art saktiled - Les normes applicables soul respeciaes

EL INSPECTOR Works Inspector - L'impecteur

(\*) DESERVACIONES, N\_NORMALIZED AT 903 C AND ALLOWED TO GOOL IN STILL AIR

**Observations** 

232A4 273A5 30A6 319A4 312A6 412A6 488A6 452R4

0.180 0.180 0.180 0.180 0.180 0.200

0.256 0.256 0.236 0.236 0.236 0.236 0.236 0.236

0.007 0.007 0.007 0.007 0.007 0.007 0.007 0.007 0.007 0.007 0.007

0.0028 0.0028 0.0022 0.0025 0.0025 0.0025

0.089 0.089 0.089 0.029 0.029 0.190

0.080 0.080 0.010 0.010 0.110 0.040 0.160

0.002 0.0030 0.0030 0.0020 0.0030

0002

0.280 0.280 0.220 0.270 0.270 0.270 0.180 0.270

0.368 0.368 0.388 0.388 0.381

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0.100 0.130

COMPOSICION QUINICA - STEEL MARKER'S LADLE ANALYSIS - ANALYSE

HEAT NUMBER

56638

TRANS AM PIPING PRODUCTS - REV'D BY: Shipment/Seq #: S 6 - 1206

2X3/4-36 CL 3000 FS THREADED PIPET

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 SE SOLD TO: AB, CN T2C 4E8 CALGARY,

108083 MTR #:

PO #: CI-06-306

SALES ORDER #: C603337 DATE: 03/28/2006

HEAT CODE: 56638

CERTIFIED MATERIAL TEST REPORT

MATERIAL: A/SA105N 01

ITEM 9

Quantity

Description

0,390

X 1/2 3000 THP

CHEMICAL COMPOSITION:

LADLE

SI 0.190 CU 0.150 NI 0.040 S 0,018 . 030 0.060 0.020 0.000 0.014

CARBON EQUIVALENCY: MECHANICAL PROPERTIES:

LADLE

TENSILE PSI YIELD PSI

ELONG % RA % HARDNESS

PRODUCT 74,000 49,000

37.00% 67.00% 150 BHN 150 BHN

Normalized

Marie Dehmer

Quality Assurance Representative



Manufacturer of Piping & Pressure Vessel Components

4407 Haygood Si - Hauston, TX 77022 Phene: 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 EN16204 3.1

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

MTR #: 116506

PD #: CI-06-625

SALES ORDER #: C610554 DATE: 09/12/2006

CERTIFIED MATERIAL TEST REPORT

CONTACTO INTENTAL TEST REPORT

HEAT CODE: 56871

36 - 1 1/2 X 3/4 3000 THP

MATERIAL: A/SA105N 01

ITEM

Quantity

12

CHEMICAL COMPOSITION:

LADLE

C NN P S SI CU NI CR 0.190 0.019 0.210 0.130 0.040 0.040 0.040 0.040 0.040 0.040

CARBON EQUIVALENCY: MECHANICAL PROPERTIES:

LADLE

Ø. 350

TENSILE PSI

YIELD PSI

ELONG %

RA %

HARDNESS

PRODUCT

74, 239

50,635

32.45%

66, 95%

132 BHN 135 BHN

Normalized

Marie Dehmer Quality Assurance Representative



HEAT NUMBER TRANS AM PIPING PRODUCTS Shipment/Seq #

56895 - REV'D BY

1X3-36 CL 3000 FS THREADED PIPET A105N

- 1652 S 6 INTERNATIONAL

Manufacturer of Piping & Pressure Vessel Components

4407 Havgood 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 em ploving a single boundary of containment. No welding performed

We certify that the contents of this report are correct and accu rate 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 I

Page:

AM PIPING (CALGARY) - 44TH STREET S E RY, AB, CN 12C 4E8 SOLD TO: CĂLGARY,

MIR #. 119819

PD #: CI-06-/44

DATE: 11/10/2006 SALES URDER #: C613159

CERTIFIED MATERIAL TEST REPORT

HEAT CODE:

56895

liem 29

Quantity

Description



CHEMICAL COMPOSITION:

MATERIAL A/SA105N 01

LADLL

51 0.260 040 190 0.011 020 0.000 0.012

CARBON EQUIVALENCY: MECHANICAL PROPERTIES:

LADLE

886 0

TENSILE PSI

YIELD PSI

**LLUNG %** RA % HARDNESS

PRODUCT

74,750

31.40% 51,375

63 00%

130 BHN 135 BHN

Normalized

Marie Dehmer Quality Assurance Representative





## Inšpekčný certifikát Inspection certificate EN 10204 1991/A1 1995,3 1 B

77079

USA

Zakaznik/Prilemez - Customer/Consignes

CPW AMERICA CO

14800 ST MARY'S LANE, SUITE 140

**HOUSTON TEXAS** 

Lisic - Sheet No 1/2

C ext obj - External order No

Čislo potožar - lien rumos 🛴

C no, arij - Consignes oras- vc 51-1249/113-01(938

Číslo zakazky vytobcu - Manufacturer's works order number

060762

Br 68673/1/2 762A016

Čislo ložneho listu - Loading Bill No 796965, 796966, 796967

Cislo aviza - Dispatch note

764127, 764136, 764137

Vyrobok - Product

Rury ocel'ové bezošvé, ťahané za studena - rúry pre potrubia pre horl'avé média Seamless cold-drawn steel tubes - pipelines for combustible fluids

Vonkayši priemer - Outside diameter 60 300 mm

Vnutorny priemer - Inside diameter

49 250 mm -0 12 +0 05 mm

Dižka - Length

min 7629 mm max, 9144 mm

Inch rozmer - Inch

OD 2 375" X ID 1 939" X 80 SCH

Počet-kusov - Number of pieces

Celková dižka - Total length

1887 00 m ,6190 90 ft

Celkova hmotnosť - Total mass

14080 kg ,31041 10 lb

Materiál - Material

X42/PSL 1 API Spec. 5L/2004/, B/PSL 1 API Spec. 5L/2004/,

Grade B ASTM A 53 / A 53M/2004/, Grade B ASTM A 106/2004/,

Grade B ASME SA-106/2004/, Grade B ASME SA-53/2004/

Stav dodania - Products as delivered condition NBK

Technicke predpisy - Technical requirements/Demand

ASTM A 106/A 106M-04b , ASTM A 53/A 53M-04a , ASME SA-106 E2004 , ASME SA-53/SA-53M E2004 , API Spec 5L/2004 , S-00022H rev 2/96

	Čislo tavby	Počet kusov	Dižka	Flmomosť	Druh tayema
	Cast number	Number of pieces	<i>Length</i> [ m ]	<i>Mass</i> [ kg ]	Steelmaking process
00000	61616	212	1887	14080	E,

Druh occle - Steel grade uplne ukl'udnena ocel' - fully killed steel

Chemicke zlož	ente - Che	mical com	position				_				
×		C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cu [%]	Cr [%]	Ni [%]	Mo [%]	V [%]
Čislo tavby Cast number	Predpis -	Requirem	nts								
GEST THE STORY	min		0 29	0 10							
1	max	0 28	I 06		0 030	0 030	0 40	0 40	0 40	0 15	0 080
61616		0 15	0 65	0 24	0 008	0 006	0 28	0 06	0 08	0 01	0 009

Vyrobkova analyza - Product analysis

Čislo tavby Cast number		C [%]	Mn [%]	S1 [%]	P [%]	S [%]	Cu [%]	Cr	Nı [%]	Mo [%]	V [%]
61616	1	0 16	0 64	0 23	0 008	0 005	0 28	0.06	0 08	0 01	0 008
61616	2	016	0 65	0 24	800 0	0 005	0 29	0 06	0 08	0 01	800 0





Miesto Location

v Podbrezovej

SIM

Datum 16 05 2006

Date

Veduci kontrolneho a steskerholne ordellehend neddilentas Millios av Engmeering impection official



ŽELEZIARNE PODBREZOVA, a s , 976 81 Podorezova, SLOVAKIA Telefon / Phone -421 48 645 40 70, o45 40 71 Fox -421 48 645 40 72 www.oceloverury.sk www.steelhoon.sk ICO 3 | 562 141, IC DPH / VAT Nº SK2020458704 Bankove spojenie / Bank account Ciribank (Slavakia) a. s. Nº 2001940001/8130 Społacnosť je zapisana v Obchodnom registr Okresného sudu Banska Bystica, dobiel Sa, vložka čisla 69/5



## Inšpekčný certifikat Inspection certificate EN 10204 1991/A1 1995/3 1 B

List č - Sneet No 2/2

Skuška tanom - Tensue tes 20 °C

	Čisio tavoy Cast number	Vzorke č Test No	Rozmery Dimensions	Smar odpert. vzorky	Meazz MZu Yiela point - Prooj stress	Fevnost 1 ant. Tensile strength	Elongation
C Nr	Cust number	1 251 140	/mm/	Direction of the test piece	ReH/ MPa/	Rm/MPa/	Lo= 2"/ %/
			Predpis - Req	uirements min	290	415	<b>*</b>
				max			
1	61616	B012405/06	12 40x5 52	L	319	456	36 6

\* Taznest - Elongation min (1944\*So\*\*0 2)/(Rm\*\*0 9)

Skuška ohybom vyhovcia Bend test without objections

Skuška virtvymi prudmi vyhovela

Eddy current test without objections ASTM E-309 100 %

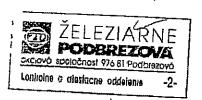
Disnost vnutorny povich Ra max 63 µm. Roughness inner surface Ra max 63 µm

Všetky vyrobky vyhovuju vyššie uvedenym normam a požiadavkam v objednavke All products meet requirements of above mentioned standars and requirements specified in order

Vizualna kontrola a rozmery vyhoveli (100 %)
Visual inspection and dimensional check without objections (100 %)

Micsto Location v Podbrezovej

Dátum 16 05 2006 Date Veduci kontrolneho a atestačneho oddelenia Ing Vojtas Miroslav Engmeering inspection official







TEST & CALIBRATION & PWHT REPORTS

5



## PRESSURE TEST CHECK LIST

JOB#: <u>I-702</u> UNIT#: <u>544-07165</u> TEST PRESSURE: <u>165 BJ Pag</u> Date of Test: Apr 25/07 P/F Soap test all pipe connections - unions, tee's, 90's, regulator's, etc. Test gauge and test recorder operational (complete with charts) Proper test relief valve used Charts marked with Job # , Unit # , Date , Minutes of Test , PSV S/N , Gauge S/A , Chart Recorder S/N , Date , Minutes of Test , PSV S/N , Vessel name plates, attached Valves installed correctly, flow direction Open / close valves for workability Sight glass installed Kimray body's plugged for air test Supports installed Heater stand installed U-bolts double nutted and tight Bolts/ studs and nuts length and correct material and tight All attachment welds completed Restrictive orifice blanks installed COMMENTS: \_\_

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

REV	ISION: 0	DATE:	11/08/01	SE	CTION 15 F	)	_
EXHI	BIT 15.3 PNEUMATIC T				CTION 15 F	AGE 9 OF	<u>9</u>
lOD :		NEUMATIC :			P10-5	5AA07165-,	A -0,
JOB 1	NO <u>J-702</u> TEST M	EDIUM <u>A</u> 96 n	DRA	WING NUM		4	1-03 -03
			LINE 1	LINE 2	BER	7	] ]
DIAKI	PRESSURE (25 psi) TIME: 2 ! 5 7 ME: 3 : 0 7			hors the de	FUAE2	LINE 4	
DIARI	RESSURE (50 psi) TIME: <u>3 * 10</u> ME: <u>3 * 10</u>						
1 SIWKI (	RESSURE (100 psi) TIME: 3: 33 1E: 3:33						
TEST PR START T END TIM	RESSURE (150 psi) IME: 3:36 IE: 3:46						
REQUIRE START T END TIMI	ED TEST PRESSURE ( 165 ps	ii)					
1 010011	PRESSURE ( /50 psi) IME: 4:02 E: 4:12						
NOTE:							
3. Es 4. Th 5. All	est pressure shall be 110 percent of a testing pressure relief valve with a sa ach test increment will be held for 10 le system will slowly and carefully be I necessary safety precautions shall I I aspects of pneumatic test adheres to anual and ASME B31.3.	et pressure not hig minutes and doct depressurized.	imented.		System		
TESTING	CONSULTANT: Sin	Janel.	/	F. A00	10/00	,	÷
Q.C. INSP	ECTOR:	hell	DAT		40101	_	
OWNER'S	REPRESENTATIVE:		DAT				

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

REVISION: 1

DATE: 12/09/04 SECTION 9 PAGE 7 OF 7

## EXHIBIT 9.3 PRESSURE PIPING TEST PREPARATION AND COMPLETION

	JOB NO: 7-702 SAA-07165 D	ATE: 25 April	1 2007
TES	T PREPARATION	Q.C. INSP.	ASSIGNED CONSTRUCTION PERSONNEL
1.	All non-conformity items corrected.		(/
2.	Test blinds correct thickness.		
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	·	
6.	Open and close position of all valves verified.		
7.	Shipping bars in place – bellows.	NIA	NA
8.	Stops in place hangers.	NIA	NIA
TEST	COMPLETION	× soc	M BY
1.	All temporary blinds removed.	~	
2.	Temporary gaskets changed for correct gaskets.	U IA	NIA
3.	Temporary supports removed.	n/ 1A	WA
4.	Shipping bars removed from bellows.	NA	WIA
5.	Spring hangers stops removed-cold setting checked,	WIA	WIA
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.	NA	NA
8.	Screens for pumps and compressors installed (initial start-up and permanent screens).	1/14	NIA

\* sec \* Bb

Complete All Fields in Report or Mark N/A METER CALIBRATION REPORT (REV. 04/08) 55-010-1070 Main Office - Nisku, AB. CLIENT: PC Compression (780) 955-2988 FACILITY: NEW INSTALLATION ☐ INSTALLATION CHANGE ☐ ROUTINE CALIBRATION & INSPECTION ☐ SWEET GAS SOUR GAS LOCATION: // Kr DATE: \_\_ TIME START: \_\_\_ \_\_ TIME FINISH:\_ METER CODE: GAS TO: \_\_\_ GAS FROM: \_\_ QIFFERENTIAL RANGE: ☑-METER TRANSDUCER ☐ COMPUTER MAKE: ☐BARTON ☐CANADIAN ☐ PMC ☐ FOXBORO ☐ COE ☐OTHER: INCHES OR MA INITIAL (AS FOUND) WC TESTER Proxim Report SERIAL # 2003 - BV-#CHART و روم (براطر DIFFERENTIAL RANGE: PRESSURE RANGE: ZERO ☐ 50-PSI CHECK ONE: ☐ 1003WC ☐ 100-PSI 250-PSi ☐ 500 PSI ☐ Temperature Element (3 pt. check) ☐ 200°WC \_\_\_\_\_ 400°WC 1000-PSI 1500-PSI 2500-PSI OTHER: OTHER: Pemperature Gauge (2 pt. cfleck) SENIOR | FLANGES MAKE BORE SIZE TUBE SIZE TUBE NO. OFIFICE FITTING UNIOR EXTRING UPSTREAM INSIDE DIAMETER METER RUN DOWNSTREAM-☐ BEVELLED SIZE (INSIDE DIAMETER) EDGES SHARP PLATE CLEANED ORIFICE DAMAGED OVER **PLATE** STBAIGHT RANGE YES NO ☐YES ☐ NO YES NO ORIFICE PLATE PULLED YES NO (If No, explain below) BEVEL INSTALLED-CORRECTLY YES □ NO METER CALIBRATION DATA (ATTACH CALIBRATION CHART AS REQUIRED) ATMOSPHERIC PRESSURE SET IN METER \_\_\_\_ PEN ARC AND SPACING ☐O.K. GORRECTED (EXPLAIN) CHART ☐ FAST ☐ SLOW \_ \_\_\_\_MIN. TIME ZONE IN USE 💭 MIST 🗌 PST 🔲 CST LEAK TEST . TOK. REPAIRED METER LEVEL: TYES . ADJUSTED. ROTATION: ☐ 24 HOUR ☐4 DAY ☐ 8 DAY ☐ 31 DAY OTHER: LLINEAR CHART SQUARE ROOT CHART COMBINATION CHART ZERO FLUID TRAPS IN TUBING LINES YES ☐ NO DRIP POTS YES NO STATIC PRESSURE RANGE: TOO STATIC PRESSURE TAP LOCATED ☐ UPSTREAM ☐ DOWNSTREAM... PSIG OR MA DEWPOINT AREA INITIAL D. WT TESTER FINAL (AS LEFT) (AS FOUND) ☐ BEFORE DEHYD AFTER DEHYD TEST LOCATION FLOWING GAS DEWPOINT . F TIME MANUAL DEW 100 14) OF POINT TESTER WATER VAPOUR -ĦŶĎRO WATER TEST ۰F PSIG. MODEL AND BADGE NO. PER MMCF CARBON TESTER RECORDER 250 Jan 20 500 500 4do 250 TEMPERATURE RANGE: °F OR MA PYRAMID **PYRAMID** TEST THERM WORKSHEET # AREA OFFICE (AS FOUND DIFFERENTIAL PRESSURE TEST EQUIPMENT **TEMPERATURE** PYRAMID TOOL I.D. SERIAL NUMBER MAKE / MODEL AMBIENT ROOM TEMP. CAL. DUE DATE

SIGNATURE PRINT FULL NAME LEGIBLY WHITE — PYRAMID MAIN OFFICE COPY (FILED WITH INVOICE) / GREEN – PYFAMID AREA OFFICE FILE / CANARY – CUSTOMER COPY (MAILED WITH INVOICE)
PINK — FIELD MEASUREMENT - METER COPY (LEAVE IN METER) / GOLDENROD — OPERATOR'S COPY (LEAVE WITH OPERATOR)

CALIBRATED &

INSPECTED BY:

PRINT FULL NAME LEGIBLY

SIGNATURE

IF APPLICABLE

WITNESSED BY:



Client

Manufacturer

Serial No

Pressure range:

PC Compression

3D

PEC-111380001

300 P.S.I.

Date

18-Apr-06

RECEIVED APR 1 9 2006

## INCREASING PRESSURE

APPLIED PR	ESSURE	INDICATED F	RESSURE	DIFFERENCE
0.000		0.0		0.000
50.045		50.0		-0.045
100.014		100.0		-0.014
150.057		150.8		0.743
200.071		201.4		1.329
250.112		251.8		1.688
300.011		302.0		1.989

## GAUGE CALIBRATED IN VERTICAL POSITION

THIS IS TO CERTIFY THAT THE GAUGE HAS BEEN INSPECTED AND TESTED AGAINST PRESSURE STANDARD:

RPM#

S/N:

677

Calibration due date:

30-Jun-06

Next Calibration date: 18-Apr/07

Calibrated by:



PRV INSPECTION AND TEST REPORT

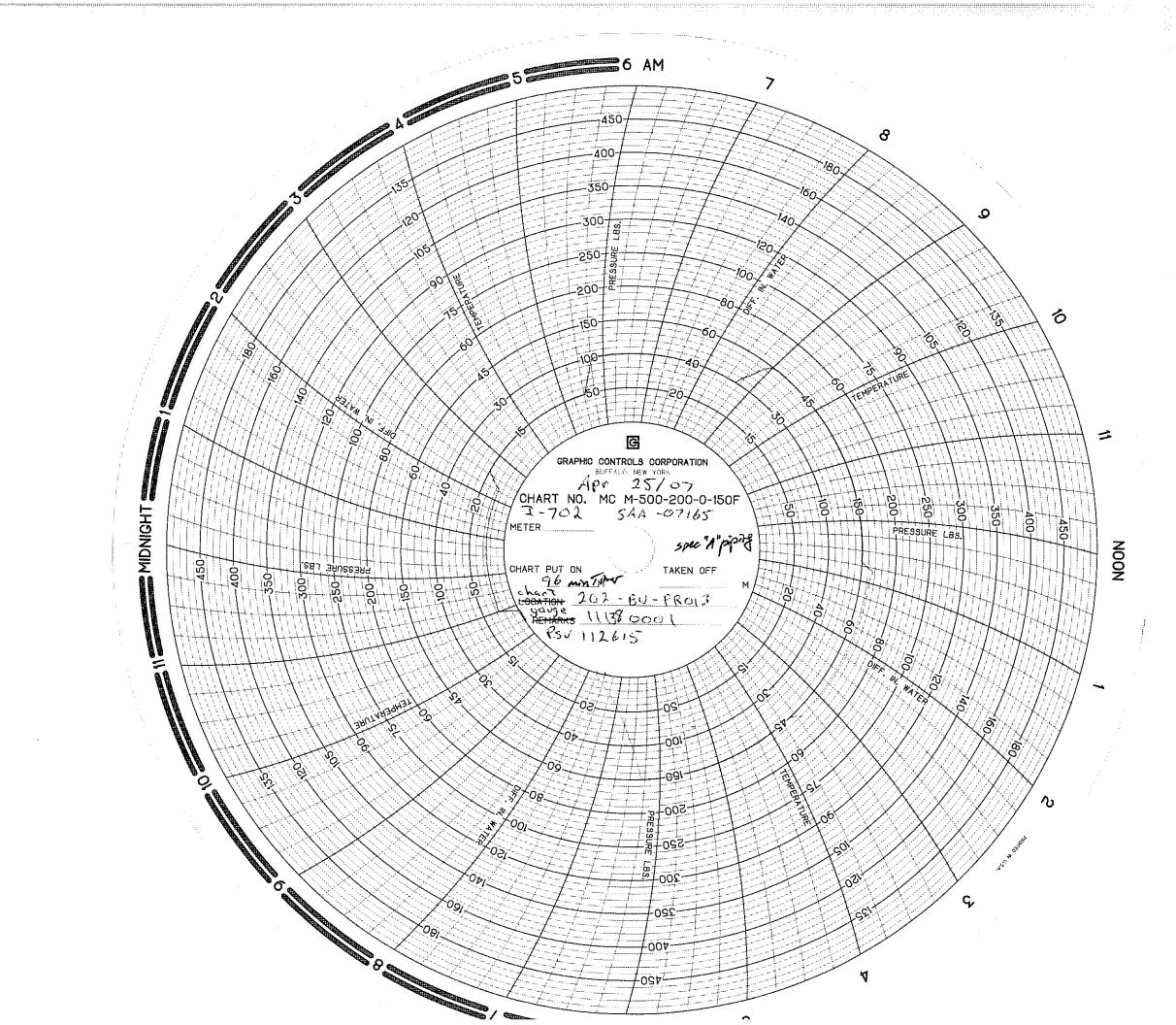
BRANCH: Edmonton

UVL ID#: 3965E

Work Order: 410047

Customer PO#:

Date: 6/11/2007 3:52:13 PM Customer: PC COMPRESSION Facility: NISKU LSD: **PSV** Location: RECEIVED JUN 1 3 2007 A#: Cust id: Cust. Ref.: Valve PO: **VALVE DATA** Man.: Mercer Model: 9117D51V07E1 Serial: 112615 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: Pretest, Service if Required ✓ Reset Required? Pretest Required? Replaces UVL ID#: Replaces Serial #: Replaces Cust ID#: RESET INFORMATION: New Pressure: New Cold/Diff Set: New Capacity: CONDITION AS RECEIVED **Visual Condition:** Fair Data Plate Condition: OK Date of last service: 05/07 **Seal Condition:** Top: Intact Bottom: N/A Insignia: UVL INDICATE FOULING Inlet: Clean Oulet: Clean Initial Insp. Signoff: Richard Anderson PRETEST Simmer: 178 PSI 179 PSI Set Press: Reseat: 160 P\$I Leakage: 0 BPM Test gauge: MVE-05 Tested by: Dave Hatch Pretest comments: COMPONENTS INSPECTION OK / ITEM CLEAN OILY RUSTY CARBON OTHER COMMENTS REPLACE REPLACED? REPAIRS PERFORMED MIN= N/A DISC: ACT= NOZZLE: MINE VITON CAP-LEVER ASSY: COMP SCREW and LOCKNUT: SPRING and BUTTONS: NUMBER: 05-007 SPINDLE / STEM: STEM RETAINER: DISC HOLDER: GUIDE / UPPER RING: LOWER RING: RING PIN(S): BELLOWS: GASKETS / SEALS: CONNECTION ENDS: OTHER: Comments: Disassembly: Inspection: Richard Anderson Reassembly: FINAL TEST: Test Medium: Аіг Simmer: 180 PSI Set Pressure: 182 PSI Reseat: 163 PSI Leakage: **OBPM** B.P. Test: 60 PSI Cold/Diff Set: N/A PSI ADJ. RING SETTING (NOTCHES): Upper: N/A Lower: N/A Test Gauge MVE-05 Tested by: Dave Hatch **FINAL INSPECTION:** SEAL: Top: ✔ Bottom: End Protectors Installed: 🗸 Painted: Palletized: Ship Container: 🗸 Flex Gaskets Supplied: Final Inspection: Richard Anderson Customer Inspection INSPECTION ID#: 29800 Comments: WARRANTY WORK.



## PRESSURE TEST CHECK LIST

	JOB#: 7-698_ UNIT#: SAA DRAIN SPOOLS.  TEST PRESSURE: 1080 psi hydro.  Date of Test: 19 MARCH 2007
	TEST PRESSURE: 1080 psi hydro.
P/F	Date of B" piping.
Vib	Visually Justect
ML	Soap test all pipe connections – unions tee's 00's months
N/4	gauge and test recorder operational (complete with about)
Mb	Provider varye used
wlat	Charts marked with Job # , Unit # , Date , Minutes of Test , PSV S/N / Vessel name plates, attached
MG	Valves installed correctly, flow direction
_M6_	Open / close valves for workability
NA	Sight glass installed
NA	Kimray body's plugged for air test
- W/A	Supports installed
N/A	Heater stand installed
N/4	U-bolts double nutted and tight
NA	Bolts/ studs and nuts length and correct material and tight
<u>N/4</u>	All attachment welds completed
NA	Restrictive orifice blanks installed
COMMENTS	
South	Just 19/03/03
2.C. Inspector	Date

-14

### PC COMPRESSION INC. QUALITY SYSTEM MANUAL

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# EXHIBIT 15.2 HYDROSTATIC PRESSURE TEST REPORT

HYDROSTATIC PDESCUES TEST DESCUE
DATE: 19 MARCH 8007. JOB NO. I-698
30B NO. 1-678
PROCEEDURE: Spec "B" piping 60 min Timer.
1 1100E.IDUNT:
Test Medium ARER
Test Medium WATER. Medium Temperature AMBIENT.
- Pressure to be raised from 0 psi to psi at a maximum rate of psi/min.
- Pressure to be held at <u>/o.po</u> psi for <u> min.</u>
- Pressure to be lowered from <u>rollow</u> psi to 0 psi at a maximum rate ofpsi/min.
<ol> <li>NOTE:</li> <li>System to be inspected by QC inspector prior to testing.</li> <li>Provide at least one vent at highest point during filling.</li> <li>Test medium must be at specific temperature.</li> <li>One calibrated pressure gauge must be at the high point of the system.</li> <li>The QC inspector to witness test.</li> <li>The pressure is not to be released until the test is accepted by the QC inspector or unless due to leakage and safety considerations.</li> <li>All necessary safety precautions shall be adhered to.</li> </ol>
ACTUAL TEST RESULTS: GAUGE NO: _//2700//
RECORDER NO: PC 18 1250046 MEDIUM USED: WATER
ACTUAL TEST PRESSURE: 1080 子1
ACTUAL MEDIUM TEMPERATURE: 73°F
ACTUAL HOLDING TIME: 18 minutes
COMMENTS:
SIGN OFF:  This certified that above statements are correct and the equipment described was free of leaks due to defective welds or equipment.  Q.C. INSPECTOR  OWNER'S REPRESENTATIVE  DATE  DATE

### PC COMPRESSION INC. QUALITY SYSTEM MANUAL

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# EXHIBIT 9.3 PRESSURE PIPING TEST PREPARATION AND COMPLETION

	JOB NO: 544 DPAN COLOR	DATE: 19 MARG	-
16	ST PREPARATION 1-10/	Q.C. INSP.	ASSIGNED CONSTRUCTION PERSONNEL
l. —	All non-conformity items corrected.	1	PERSONNEL
!, —	Test brings correct thickness. PLvgs .		+
	All items which could be damaged by test isolated or removed (control valves, safety valves, instrument expansion joints, etc.)	NA	1/4
	Equipment with internals (re: filters) that could be damaged, isolated as required.	NA	)/A
	Vents and drains	1000	MINI
····	Open and close position of all valves verified.	· ·	+
	Shipping bars in place – bellows.	114	1)/1
	Stops in place hangers.	NO	1/1
≣8:	T COMPLETION	+ SDC	* MG
	All temporary blinds removed.		
	Temporary gaskets changed for correct gaskets.	0)/4	1/1
	Temporary supports removed.	70/81	NIST
	Shipping bars removed from bellows.	1/4	111
	Spring hangers stops removed-cold setting checked.	NIOT	NIA
	Safety valves – "UV" or "V" symbol and correct pressure capacity.	N/A N/A	NA
	Safety valves vents correct size – adequately supported drain holes and/or weather hoods installed.	NA	a)/A
	Screens for pumps and compressors installed (initial start-up and permanent screens).	1/4	111

Complete All Fields In Report or Mark N/A METER CALIBRATION REPORT (REV. 04/03) 55-010-1070 CLIENT: PC Compression

Main Office - Nisku, (780) 955-2988

AB.	M
CORPO	RATION

LOCATION	Shop	Nisk	<u> </u>	DATE: _ <i>Sep.7</i> BAS TO:	17/00	5 TIA	ME START:		Т	IME FINISI	H:
METER CODE	: PC 19	3/250	1046 c	BAS TO:			GAS	FROM:			
FFERENTIAL (	RANGE:	1			METER	TRAI	NSDUCER	CON	1PUTER	-	
1	INCHES OR MA		MAKE: []	BARTON CANAL	DIAN 🗍 PN	IC FOXBO	ORO 🗌 CO	DE OTHER:			
WC TESTER	INITIAL (AS FOUND)	FINA! (AS LEAFT)	TYPE: P	ESSUR ROOMER	AL# 24	2A26	1/03	CHART#		BADG	ìE#
ZERO				IAL RANGE:		ESSURE RANG		50-PSI	l	CK ONE:	
$\overline{}$			☐ 200°WC	160 WC			250-PSI			=	Element (3 pt. ch
		/	OTHER:		_	1000-PSI OTHER:	[] 1500-PS	2500-P	1		Gauge (2 pt. ched
···	\	/				KE		BORE SIZE		SIZE	TUBE NO
			ORIFICE FITTING	SENIOR FL	ANGES			55112 6122		. 01	
	\		TTTING	JUNIOR -	<del></del>						
	X		METER RUN	UPSTREAM INSIDE DIAMETER			DC INS	WNSTREAM SIDE DIAMETER	3		
	<del>- /\-</del>			BEVELLED	SIZE (INS	SE DIAMETER)		SHARP	PLATE C	LEANED	DAMAGED
OVER	-/-		ORIFICE PLATE	STRAIGHT		$>\!\!<$		□ NO			
RANGE	<u> </u>			EDGE			[] YES	[] NO	YES		YES
		\	ORIFICE PLA	TE PULLED YES	☐ NO (If No	explain below)	BEVEL IN	STALLED CORF	RECTLY	YES	□ NO
	/										
			METER CALI	BRATION DATA (ATTA	CH CALIBRAT	ION CHART AS	REQUIRED)				
		$\overline{}$	ATMOSPHER	RIC PRESSURE SET IN	METER		YES	NO PSIG_		МА	·
/						ORRECTED					
/_		\_		FAST SLOW							
/		. \	1	O.K. REPAIR							
/		\				☐ 8 DAY					
ZERO		1	LINEAR	CHART	SQUARE ROC	T CHART	L	COMBINATIO	N CHART		
STATIC PRESSU	DE DANCE.		PLUID TRAP	S IN TUBING LINES	☐ YES		NO	DRIP POTS	3 [	YES	
	PSIG OR MA		STATIC PRE	SSURE TAP LOCATED	) [] ι	PSTREAM		DOWNSTREAM	سسيا		
D. WT	INITIAL	FINAL	DEWPOI	NT AREA						******	***************************************
TESTER	(AS FOUND)	(AS LEFT)	☐ BEFO	RE DEHYD		AFTE	P DEHYO		TEST LOC	ATION	
0	Started	0	TIME	FLOWING GAS		DEWPO			LBS.		MANUAL DEW
500	over	500	OF TEST	°F PSIG	, Jun 10 F		MATER VAPO	DUR F	WATER PER MMCF		OINT TESTER MODEL AND
1250	tem	1250			CARB	ON TEST	ER RE	CORDER			BADGE NO.
2500	Scrutch	2500	-								
2500	30 0/1	2500									
		200	المسيدا								
2000			REMARKS:	Redeniel	1 C/	sch +	Hluk	, — <del>——</del> >.			
1250	<u> </u>	(250	Stor	+ State			rtch	ita		hayo	ut.
0		0	7.	2//	6.4	·	me				
TEMPERATURE	RANGE: $U-I$ .	50	1 6	no tala	111101	-a	7,50				
	OR MA		PYRAMID				PYRAM				
	INITIAL (AS FOUND)	FINAL (AS LEFT)	WORKSHEE				AREA C	FFICE		· · · · · · · · · · · · · · · · · · ·	
TEST THERM	137	137	TEST	QUIPMENT E	DIFFERENTIA PRESSURE		STATIC PRESSI	JRE	. A 2 2	TEMPERA	ATURE
TEST THERM		<del>                                     </del>	PYRAM	IID TOOL I.D.			18.	10501	46		
*	79	73								1	
137 13	73	73	SERIA	L NUMBER -							
*	7 <i>3</i> 57	73 57	MAK	E/MODEL DATE			Con	25tal 2 26071	23	ٺ	IEI



Client

Manufacturer

Serial No Pressure range: PC Compression

3D

PEC-111270011

1500 P.S.I.

Date

18-Apr-06

RECEIVED APR 1 9 2006

#### **INCREASING PRESSURE**

APPLIED PRESSURE	INDICATED PRESSURE	DIFFERENCE
0.000	0.0	0.000
300.045	299.0	-1.045
600.024	599.0	-1.024
900.134	899.1	-1.034
1200.134	1200.0	-0.134
1500.023	1500.0	-0.023

#### GAUGE CALIBRATED IN VERTICAL POSITION

THIS IS TO CERTIFY THAT THE GAUGE HAS BEEN INSPECTED AND TESTED AGAINST PRESSURE STANDARD:

RPM#

S/N:

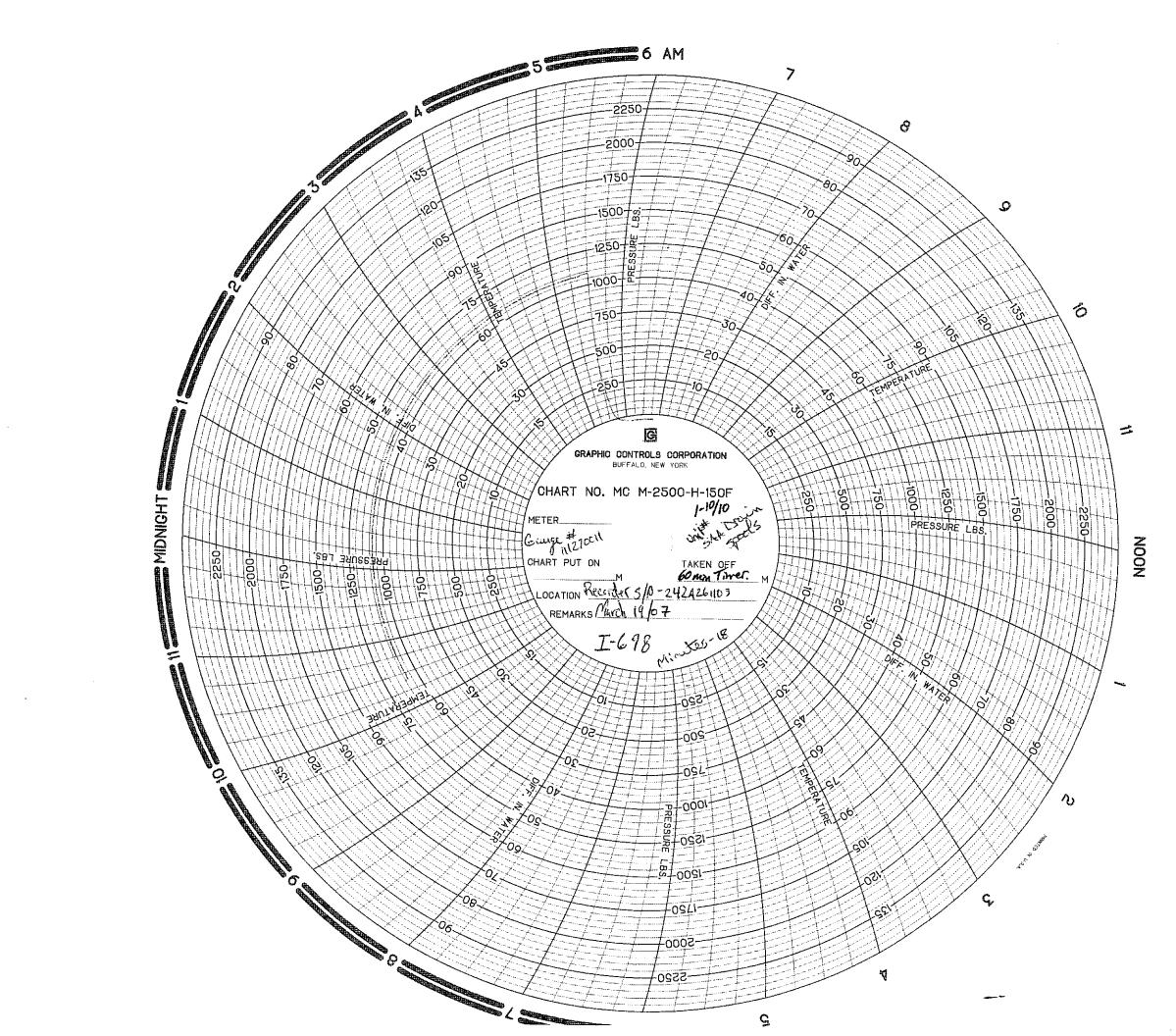
677.

Calibration due date:

30-Jun-06

Next Calibration date: 18-Apr-07

Calibrated by:



**AB 83 / CHECKLISTS** 

### PCCOMPRESSION INC. QUALITY SYSTEM MANUAL

REVISION: 1

DATE: 12/09/04 SECTION 9 PAGE 5 OF 7

# EXHIBIT 9.1 PRESSURE PIPING EXAMINATION AND INSPECTION SHEET

NO.	JOB NUMBER:	X-702	SAA-0716	5
NO.	FUNCTION	MANUAL REFER	SIGNATU	RE OR INITIAL
			Q.C. INSP.	OWNER'S INSP
1	Drawings: ABSA registration over 0.5m³. Approved by owner. Approved by Construction (signed & dated)	7.3 7.2	03/04/07	
2	ABSA Safety Codes Officer (when required) and Owner's Inspector notified.	8.4 9.3	03/04/07	
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	13/04/07	
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	
	Visual Examination of all completed welds. Welder's I.D. stamped and or recorded on drawings.	10.3(g)	NIA	
	Heat Treatment verified and recorded on Drawings.	13.3	NIA	
0	Each system checked against specifications and drawings before pressure test.	9.3(d) 9.3(f)	50c 25/04/07	
1	All deficiencies recorded and signed off by Q.C.I. and Owner's Inspector before pressure test.	ا ا	25/04/07	
2	Pressure Test checked. Gauge calibration verified, gauge # recorded.	15.4, 14.3	25/04/07	
3	System checked after test. Deficiencies recorded and corrected. Exhibit 15.2		5/05/07	
4	Construction data reports prepared and signed by Q.C.I. and Owner's Inspector. (AB-83)	9.3(a)	15/05/07	
5	Declaration from submitted to ABSA. (AB-81)	9.3(g)	NIA	<u> </u>
3 .	As built drawings accepted by Owner.		00//	<del></del>

HOLDS POINTS INDICATED BY AN ASTERISK \*

### PCCOMPRESSION INC. QUALITY SYSTEM MANUAL

REVISION NO: 1 DATE: 12/09/04 SECTION 9 PAGE 6 OF 7

# EXHIBIT 9.2 PRESSURE PIPING EXAMINATION GUIDE

	PRESSURE PIPING EXAMINATION	t. Was don't be found	
	JOB NO: 7-70	2 SAA-07.	165
···		SIGNATURE (	OR INITIAL JATE
		Q.C. INSP.	OWNER'S INSI
1.	Pipe material specification correct.	12/04/07	
	Flanges, ratings, schedule material specification correct.	SPC	
3.	Fittings, Tees, Return bends-Reducers couplings, Weldolets, etc. correct material specifications.	500	
4.	Valves identification – Manufacturers name tag, etc., correct.	13/04/07	
5.	Valves installed correct, flow direction, accesses, rising stems free from obstructions. Clearance for removal adequate.	20/03/07 Sec	
6.	Lubrication fittings, drains, etc., installed as required.	25/04/07	
7.	Bolts and studs length and material correct, studs at least flush with heads (max. thread exposure beyond nut should be about 2 threads)	25/84/07	
8.	Gaskets are correct type, material,	25/04/07 Sec / 1	
9,	All welding satisfactory and traceable to welders symbol.	25/04/07	
10.	Seal welding complete – threads covered.	NA	
11.	All attachment welds satisfactory.	SDC,	·· <u>···································</u>
12.	All N.D.E., heat treatment complete, records filed.	25/04/07.	
13. 	Guide anchors and shoes required installed correctly (high temp lines).	NA	
14.	ling Supposes	SOLINI	
15.	Spring hangers correct	25/04/07	<del></del>
16.	Lines have adequate allowance for expansion.	NIA	
17. ———	Bellows type expansion joint correct type and installed correctly.	NA	<del></del>
18. ———	Required cold spring applied.	NIA	
19,	Orifice runs have specified straight length of Pipe - located correctly etc.	25/04/07	
20.	All deficiencies recorded on non-conformance record.	X /-	<del></del>

Owner's Job No: I-702 / SAA-07165



1. Constructed By: PC COMPRESSION INC.

#### CONSTRUCTION DATA REPORT FOR PIPING SYSTEMS

In accordance with the provisions of the Safety Codes Act

Shop Construction  $\boxtimes$ ; Field Construction  $\square$ ; Final Data Report  $\boxtimes$ ; Partial Data Report  $\square$  (from one ABSA-authorized Contractor to another ABSA-authorized Contractor).

#### Complete both sides of this Form

		_2					contractor or s a T9E 7Z2						
	Alberta Ç	Quality Pro	gram N	lo. AQ	P- <u>2997</u>		(Address)		Expiry l	Date: <u>DI</u>	ECEMBEI	R 14, 20	07
2.	Construct	ted For:											
		<del></del>			(Name	of primary o	ontractor if diff	erent from	above)				
							(Address)						
	Alberta C	Quality Pro	gram N	lo. AQ	P		,		Expiry l	Date:			
	(Required when the primary contractor undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)  Owner: HUSKY ENERGY, 5516-59TH AVE. LLOYDMINSTER AB T9V 1A9												
				<del></del>		aine and add							
		ortable			(1.00	ation of instal	lation)			····			
	Alberia Ç	hality Pro	grain l	o AQ	P L	ation of fistal	lation) .e.g. Mar'l sup		Expiry	Date:			Sales de Berlin
4.	(Required wi Piping De	ien the owner esign Albe	undertake rta Res	s some/al zistratio	lofthe qua n No.: I	lity functions PP-	.e.g., Mai'l sup	piv NDE,	ewor, tie	n, fabrication	i, bydro test, f	mal assombl	y etol)
		•						(Re	quired if agg	regate piping	volume is ove	er 0.5m³)	
	(.	Alberta Kegisi	ration No	.)					_		o. (If used) (Alber	ta Registra	ation No.
	WPS No(	s). used: _					; Owner	's WPS	No(s). (I	f used):			
5.	Code:	ASM	E B31.1	Non E	Boiler Ex	ternal Pip	oing □;		ASM	ſE B31.1	Boiler Ex	ternal Pi	ping 🗆
	ASME B31.3 ⊠ - Service category: Normal ⊠, D □, M □, High Pressure □; B31.5 □; B31.9 □												
D	rawing No.	Fluid	Des.	Des.	Test	Test	Pipe Mat'l	C.A.	Pipe NPS	Flange	PWHT/	R.T.	Other
	Rev. No. Line No.	(Air/Stm. Etc.)	Press. kPa	Temp.	Press. kPa	Medium	Spec. & Grade	mm	& Schedule	Material & Rating	Preheat Temp. <sup>0</sup> C	%	NDE
-	PG-1101-2-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	2" SCH 80	SA-105N	N/A	N/A	VISUAL
Ī	PG-1102-2-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	2" SCH 80	CL 2000 SA-105N	N/A	N/A	VISUAL
F	PG~1103-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	1" SCH 80	CL 2000 SA-105N	N/A	N/A	VISUAL
Ī	DR-1104-1-A	LIQUID	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	1" SCH 80	CL 2000 SA-105N	N/A	N/A	VISUAL
ī	DR-1105-1-B	LIQUID	720 PSI	350°F	1080 PSI	WATER	SA-106-B	N/A	1" SCH 80	CL 2000 SA-105N CL 2000	N/A	N/A	VISUAL
F	G-2101-2-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	2" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
F	G-2102-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
F	G-5101-2-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	2" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
F	G-1201-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
Γ	DR-1202-1-A	LIQUID	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
D	R-12035-A	LIQUID	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	.5" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
I	DR-1204-I-A	LIQUID	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
E	BP-1205-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
P	G-1301-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
										0.5.2.000		<u> </u>	

											AB-83	3 2003/1
PG-13025-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	.5" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
PU-13035-A	LIQUID / GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	.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	SA-106-B	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
PG-1401-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	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	N/A	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	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
BD-1404-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
FG-1405-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
PG-1406-1-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	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	N/A	2" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
I/G A TO LC-1101	GAS	150 PSI	350°F	30 PSI AS REG.	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
LC-1101 TO UY-1101	GAS	150 PSI	350°F	30 PSI AS REG.	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
I/G B TO PCV-4101	GAS	150 PSI	350°F	110 PSI AS REG.	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
PCV-4101 TO H-410	GAS	150 PSI	350°F	5" WC AS REG.	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
I/G C TO UY-1101	GAS	150 PSI	350°F	110 PSI	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
UY-1101 TO P-610	GAS	150 PSI	350°F	110 PSI	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
I/G C TO GY-1301	GAS	150 PSI	350°F	110 PSI	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
GY-1301 TO ACV-1301 & ACV-1401	GAS	150 PSI	350°F	110 PSI	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
I/G C TO GY-1302	GAS	150 PSI	350°F	110 PS1	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
GY-1302 TO ACV-1302	GAS	150 PSI	350°F	110 PSI	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
I/G C TO GY-1401	GAS	150 PSI	350°F	110 PSI	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
GY-1401 TO ACV-1402	GAS	150 PSI	350°F	110 PSI	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
FE-1401 TO FT-1401 LOW	GAS	150 PSI	350°F	125 PSI	AIR/SOAP	SA-213 TP316L	N/A	1/2" .035"W	N/A	N/A	N/A	VISUAL
FE-1401 TO FT-1401 HIGH	GAS	150 PSI	350°F	125 PSI	AIR/SOAP	SA-213 TP316L	N/A	1/2" .035"W	N/A	N/A	N/A	VISUAL
F-810 & F-820 DRAIN	GAS	150 PSI	350°F	125 PSI	AIR/SOAP	SA-213 TP316L	N/A	3/8" .035"W	N/A	N/A	N/A	VISUAL
									<del></del>			<u> </u>
					·							
												<u> </u>
												<u> </u>
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artial Data E	Ponorta m		idontif	ad and a	outified b	W ARSA -au	th ouimo	daantmost	omo on lin	tod bolovi	awa atta a	had to

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
			727111			
	——————————————————————————————————————					

**Remarks:** Provide additional comments including noting any code work that was not performed by the ABSAauthorized 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. Endorse certificate 'A' or 'B' A. CERTIFICATE OF COMPLIANCE **B. CERTIFICATE OF COMPLIANCE** Signed by the subcontractor when supplying this certificate as a Signed by the primary contractor when supplying this certificate as a Partial Data Report Final Data Report We certify that the statements in this Data Report are We certify that the statements in this Data Report correct and that materials, construction and are correct and that piping job no. I-702 workmanship of the piping fabrication conform to the described in this Data Report was constructed in registered quality system and the applicable Piping accordance with the Province of Alberta Safety code(s). Codes Act and Regulations, and applicable Date: ASME Piping Code(s). Subcontractor Date: 15 MAY 2007 PC COMPRESSION Print Authorized Representative's Name Signature SCOTT CAMPBELL This certificate is not valid unless it forms part of a Final Data Report signed by Primary Contractor Print Authorized Representative's Name Signature CERTIFICATE OF INSPECTION I, the undersigned, employed by have inspected the piping job no. I-702 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: Date: Name: Sign.: Print Owner's Inspector's Name Owner's Inspector's Signature ABSA Safety Codes Officer (BOILER EXTERNAL PIPING ONLY)

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

7 MTR'S

MATERIAL ACCORDING TO NACE MR0175/ 2003.

CLIENTE Customer Client

CE FRANKLIN LTD.

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

537244 FOGLIO 4 Sheet Feuille

DATA / Date

09/01/07

79563

COMMESSA Job N. Confirmation de commande

CF	RTIF	CATO I	DI COLL	AUDO		OMPANY										COMME Job N.	SSA		79563
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PROVA									···		1	<del></del>				T	1		
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# I.E.G.A.

TEST CERTIFICATE

CLABITE Customer Client

CE FRANKLIN LTD.

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

CERTIFICATE N. 537244 FOGLIG 1
CERTIFICATE N. REV.1 Feb. 18

GATA / Date

07/02/07

COMMERSA

79563

order	1571574-0R-2100	Job M. Confirmation de commande
de		

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Epreuva	ļ.,	Steel qua! M A105/0	lly / Mallére	Heat,	Coulée	C%	51%	Ma %	5%	P%	Cr %	អាក	Na.			Cu %	V %	ATX	CE#
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PROVA Test	Music 1					OTTURA Ummer	AZZUNGANE S-2		ZHTRAZIONE %≥	1	R#27A HB	PIEGA	achiacc. Figil test	<b>!</b>		RE:	SOLIENZA Est / Presilenc	a	
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NBAL	1	30.6	25.0	312.0	5	33.0	29.	2	66.8	155-	160			j	ΚV	1	38-52	-48	
NDCL	1	30.6	25.0	303.0	5	10.0	31.3	3	68.6	146-	156	İ		3	ΚV		54-62	-52	
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NLSR	1	30.6	25.0	298.9	5	08.2	32.2	2	68.1	140-	145			)	ΚV	1	152-1	50-158	ı
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PROVA Yest Epreuve	HOTE	: / Remarks / Not	es	EN10204/	/3.1									MA IPA / Forme	:	1 = Ø	2=		
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PROVA Test Epinuve	POS. Hem Pos.	DIEASTITÀ Ovaniky Osaniké	Cus	KECLIENTE lomor code ade chest	DESCRIPTION	IOHE / Descript	ion / Descripti	pri										VISUAL DIMENS	
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PROVA Tost Epinuve	POS. Item Pos.	DKAITITÀ Ovaniky Ovaniké	GODIEE CLIENTE Gustomer Code Gode citest	DESCRIZIONE / Description / Description	VISUAL DIMENSIO	and Gnal
NBAL	<b>0</b> 01	450	1096411	90 DEG. ELBOW S. 2000 NPT A/SA105N 1/2		OK
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<b>LADD</b> F	¢03	880	1092381	90 DEG. ELBOW S. 2000 NPT A/SA105N 2		OK
NLSR	04	800	1095574	TEE S. 2000 NPT A/SA105N 1/2		OK
NADL	05	250	1094571	TEE S. 2000 NPT A/SAIO5N 1		OK
NRBR	05	1992	1095304	TEE S. 2000 NPT A/SA105N 2		OK
				PC COMPRESSION  ONTE RECEIVED APR 1  COMPUSE: HEAD  APEROVED BY O.G. INSPECTOR	3 2007	Futural Commence of the Commen

MATERIAL ACCORDING TO NACE MR0175/ 2003.

NOTE / Remarks / Notes

ENTE OFFICIALE DI COLLABORI Inspection Auditority Service Inspection Officiel

CAPO COLLAVOQ Citis Inspector DPT Hespenses eldernopes Baleup sonswares

M.E.G.A. S.p.A. - VIA DALLA CHIESA, 3 - SCANZOROSCIATE (BG) ITALY - TEL. +39 035 661280 - TELEFAX +39 035 665535

# I.E.G.A.

CLIEXTE Customer Client

CE FRANKLIN LTD.

1900 - 300 - 5th AVENUE S.W.

CENTIFICATE N. 537244 FOGUD 1 Centificate N. Staat Centificat N. REV.1 Footbe

DATA / Date

07/02/07

CALGARY, ALBERTA, CANADA T2P 3C4 79563 COMMERSA

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NBAL	1	1	30.6	25.0	312.0	53	33.0	29.2	2	66.8	155-	160		•	J		ΚV	(	38-52	2-48	
NDCL NDCC	1	1	30.6	25.0	303.0	1	10.0	31.3	1	68.6	146-				þ		K۷	ָ נ	. L		
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nadl Nrbr	1	1	60.1   22.6	35.0	308.0		28.0	28.0		66.0	140-				ļ.		ΚV	ŧ	. I		
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Test Epreuve			Remarks /		EN10204/3										TRIA Hope / F	ome	: 1	=0	2=		
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PROVA Test Eprovve	PO Po	:##	Cuanti Cuanti Cuanti	Cus	ICE CLIENTE tother code use client	DESCRIZIO	RKE / Descripti	ion / Descriptio	n									:		VISUAL DIMENS	
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	02	1	25		- 1	90 DE	G. ELBO	₩ S. 20	00 NP7	A/SA10	5N 1										OK
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THOUTD BY O.C. INSPECTOR

ENTE OFFICIALE DI COLLANDO Importion Authority Service Importion Official CAPO COLLEDDO Cidal (napeción DPT Responsable accurance qualité MATERIAL ACCORDING TO NACE MR0175/ 2003.

M.E.G.A. S.p.A. - VIA DALLA CHIESA, 3 - SCANZOROSCIATE (BG) ITALY - TEL. +39 035 661280 - TELEFAX +39 035 665535

JAN 1 8 2007

## 1095259

#### CERTIFIED MILL TEST REPORT

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LOG NO. 300980 PAGE 5

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Date 06/29/06

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370612

1387 CORNWALL RD.

OAKVILLE, ONTARIO, LAJ7T5 CANA

	UH	VATETE:	OMINATO	LOOVID CHIM
ITEM	QUANT	ITY LOT	NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS. PHYSICAL PROPERTIES, REMARKS.
:				SA/A105N
013	8	56788	7528973	2X2 X1/2 3M A105N TEE T C .200 MN 1.020 P .014 S .022 SI .220 NI .082 CU .280 CR .113 MO .019 V .025 AL .006 NB .009 CE(LONG FORMULA) = 0.43 T/S 82538 Y/S 56281 EL 30.75 RA 64.27 BRINELL HARDNESS1: 141 HARDNESS2: 150
014	24	56701	7520166	2X2X3/4 3M A105N TEE THRD C    .180 MN    1.000 P    .011 S    .022 SI    .230 NI    .066 CU    .190 CR    .104 M0    .017 V    .025 CB    .009 CE(LONG FORMULA) = 0.39 T/S 79250 Y/S 53375 EL 30.80 RA 62.75 BRINELL HARDNESS1: 137 HARDNESS2: 147
015	40 fg	56788 )	7520190	2X2X1 3M A105N TEE T C
016	100	3463	7522177	1/2X3/8 3M A105N REDU T C    180 MN    1.090 P    .011 S    .023 SI    .200 NI    .020 CU    .060 CO    .002 CR    .030 MO    .010 V    .000 AL    .020 NB    .016 CE(LDNG FORMULA) = 0.38 T/S 73250 Y/S 50500 EL 33.45 RA 67.70 BRINELL HARDNESS1: 132 HARDNESS2: 135
			****	ONTINUED ON NEXT PAGE ****
•		DA	NTE RE(	CEIVED MAR 1 9 2007cr s Childers
UM	ITR: REV 1			QUALITY PROCESS MANAGER
		2	_	11 /

SIGNATURE: #C

APPROVED IN DIE INSPECTOR

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

IRACO LIMITED. CASTLE HOUSE

Invoice Nr 199 Del. Note Nr 314

20.02.2007 21 02 2007 Dated Dated Certificate Nr 17278

STATION ROAD - NEW BARNET HERTFORDSHIRE ENS 1PE - UNITED KINGEDM COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA **NDUSTRIA MECCANICA LIGURE** SPA

Our Ref. 061475 VISUAL & DIMENS. SATISFACTORY YIELD POINT QUALITY CONTROL DEPARTMENT! MANUFACTURER'S SYMBOL | MANUFACTURER'S SYMBOL SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY 052098 16030 CASARZA LIGURE - Genova - Italy - P. 222 Marco Cappeli, 4 - Telo185.487661 - Fax 0185.465610 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 2 · 3 SATISFACTORY SATISFACTORY OTHER ELEMENTS 041204 0,0 0 0 0 0 0 RIVA ACCIAI RIVA ACCIAL STEEL MILL RIVA ACCIAI RIVA ACCIAI RIVA ACCIAI RIVA ACCIAI RIVA ACCIAI DIM. ACC. TO 0,378 SEE NOTE SEE NOTE SEE NOTE SEE NOTE 0,377 SEE NOTE SEE NOTE SEE NOTE C.E.% 0,384 0,384 0,373 0,391 0,403 111 SEE NOTE 105 0,391 15 102 8 109 8 ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE 88 0,018 0,018 0,005 0,023 0,012 8 94 110 0,005 0,023 0,017 106 FURNACE 8 106 108 0000 0,000 0,000 000'0 0,000 000'0 000 MPACT TEST 000'0 0,000 0,000 0,001 0.00 0,001 9,0 9,0 TYPE tox forms **\$\$\$\$** 0,003 0,002 0,001 0,002 0,016 0,001 0,001 0,150 0.170 0,150 0,150 0,150 0,170 0,190 0,250 FLATTENING TEST ខ្លុំ 1 Ball 67 0,000 1013.259 0.010 0,005 0,005 0,006 0.005 0,010 HEAT TREATMENT いっといい ASME SA ASTM A105-05 CONTROL NORMAIZED AT 880°-920°C / Air Cool ASME SA ASTM A105-05 Normalized at 880\*-920°C / Air Cool Mornalized 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 ormalized at 880°-920°C / Air Coo BEND TEST 0,0 0,0 0,010 0,010 0,010 0,010 0,010 0,010 0,010 0,020 FITTING RED. TEE THRD NPT 3M 2"x1" A105N L FITTING HALF COUPL THRD NPT 3M 3" A105N Mo% FITTING RED. TEE THRD NPT 3M 2"x1" A105N FITTING RED. TEE THRD NPT 3M 2"x1" AT05N FITTING HEX.H.PLUG THRD NPT 1" A105N FITTING 90 ELB. THRD NPT 2M 3" A105N FITTING 90 ELB. THRD NPT 2M 3" A105N HARDNESS HD 160 - 164 160 - 166 160 - 166 159 - 163 162 - 166 160 - 168 162 - 168 0,050 0,060 0,050 0,050 0,050 0,050 0.060 뚩 FITTING TEE THRD NPT 3M 3" A105N DESCRIPTION I SO (72 TON AUTORITY INSPECTION AUTORITY 0,110 0,100 0,080 0,110 0,130 060'0 0,120 0.070 AREA 56,0 98,0 54,0 54,0 0,009 0,018 0,016 0,013 0,015 0,017 0.012 0,017 0,019 0,018 0,019 0,017 0,023 0,020 0.023 32,0 32,0 32,0 33,0 3,0 0,870 0,980 066'0 0.910 0,970 0.960 NACE MR0175 ISO 15156/1 - MSS \$P 83 - SUPPLIED MATERIAL MEETS MATERIAL IN ACCORDANCE TO NOTES ASME B16.11/05 - ANSI B31.1/B31.3 - IME-STD. ANSI B11.1-B18.22. YIELD POINT TENSILE STRENGH 4 8 ဓ 350 Ξ Nmm2 >= 549,0 558,0 ASME SA ASTM A105-05
ASME SA ASTM A105-05
ASME SA ASTM A105-06 536,0 564,0 552,0 528,0 536,0 549,0 0,240 0,160 0,240 0,220 0,210 0,180 0,180 2006-2E201-0001060-043 2006-2E201-0001060-003 2006-2E201-0001060-019 2006-2E201-0001060-028 2008-2E201-0001060-003 2006-2E201-0001060-021 2006-2E201-0001060-021 2006-2E201-0001060-021 0,185 0,190 0,180 0,210 0,185 0,185 0,190 OUR REFERENCE Wmm2 >=6,2% 318,0 304.0 361,0 327,0 316,0 304,0 306.0 309,0 ASME SA ASTM A105-05 ASME SA ASTM A105-05 ASME SA ASTM'A105-05 SECT. mm2 LENGHT mm 50,00 50,00 50,00 50,00 MATERIAL TEST SPECIMEN ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 ASTM A105 YOUR P.O. 122,65 122,65 122,65 122,65 122,65 122,65 122,65 122,65 17043 17043 17043 17043 17043 17043 17043 17043 943 021 2 021 22 23 8 021 921 HEAT HEAT HEAT HEAT 74416 74416 77912 74413 74416 77180 72291 72474 74413 74416 74416 36561 77912 74413 77180 72474 36561 77180 72291 77912 74413 74416 74416 77912 77180 72474 36561 36561 72291 72291 HEAT CODE HEAT CODE HEAT CODE FGB DIU FGB EZE **8**28 FGB 뜌 臣 N 29 FGB EZC 표 핊 **8**20 ᇤ ᇤ N59 詽 

正年日記

SPECIFICATIONS AND P.O. REQUÍREMENTS

- **4** 

₹ FITTINGS

**BORIS FIZZOTTI** 

STUDBOLTS

SPROMED BY Q.C. INSPECTOR

<u>C</u>



Tel. (519) 426-4551 Fax (519) 426-5509

#### **Certificate of Test**

Part Number:

Y32066

Description: 2x8 B XS SML NIP 106B

Heat Code:

IB5789

Reference No.:

Specification:

ASTM A106-97 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: BECK MFG

Chemical Analysis %

<u>Heat No.</u>	<u>C</u> 0.21	<u>Mn</u> 0.53	<u>P</u> 0.014	<u>S</u> 0.033	<u>Si</u> 0.27	<u>Cu</u> 0.07	<u>Ni</u> 0.02	<u>Cr</u> 0.02	<u>Mo</u> 0.01	<u>V</u> 0.01	<u>Cb/Nb</u> •<0.01	
	CE (LC	ONG FO	)RMULA	A) = 0.32								

**Mechanical Properties** 

Yield Strength PSI:43,900

Tensile Strength PSI:66,500

MPa:000

MPa:000

Elongation % 2": 39.00

Reduction in Area %: 0.00

Hardness BHN: N/R

Heat Treatment:

Hydrotest/NDE: NDE

Bend: GOOD

Flatten: 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 it's agent.



A Division of Mueller (	Canada,	ĻŢ	Ď.	i i i i i i i i i i i i i i i i i i i
DATE RECEIVED	APR	1	Ţ,	200
10 # SORIUS	1891		7-3	36
SIGNATURE:	HC	_		_
APPROVED BY Q.C. INS	PECTO	F	uniia:	ili.tariar

NOV 3 0 2006





#### **Certificate of Test**

Part Number:

Y32066

Description: 2x8 B XS SML NIP 106B

Heat Code:

A188 -

Reference No.:

Specification:

ASTM A106-04 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

Chemical Analysis %

Heat No.	С	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
621137	0.19	0.49	0.014	0.023	0.24	0.05	0.02	0.02	0.01	< 0.01	
										,	

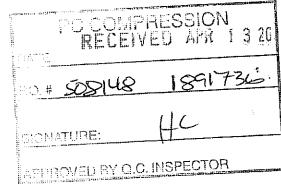
CE (LONG FORMULA) = 0.29

**Mechanical Properties** 

Vield S	Strength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	48,300	psi	72,000	32.00	0.00	N/R
MPa	000	MPa	000			
Heat Trea	tment:		MAX.HA		T EXCEED 22HRC	IN ACC.WITH

SEAMLESS. Bend: **GOOD** Hydrotest/NDE: NDE

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OCT 1 1 2006





#### **Certificate of Test**

Part Number:

Y32064

Description: 2x7 B XS SML NIP 106B

Heat Code:

AI77 /

Reference No.:

Specification:

ASTM A106-02 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

Chemical Analysis %

Heat No.	Ç	Mn	P	Ş	Si	Сų	Ni	Cr	Mo	V	Cb/Nb
39042	0.18	0.42	0.003	0.008	0.30	0.07	0.08	0.07	0.01	< 0.01	
										,	
	CE (L	ONG F	ORMUL.	A) = 0.2	8				_		

**Mechanical Properties** 

Yield S	Strength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	45,500	psi	67,000	33.00	0.00	N/R
MPa	000	MPa	000			
Heat Trea	tment:					
			MEETS N	IACE MR0175-2002	  -	
			HARDNE	SS LESS THAN OF	EQUAL 22HRC	
Hydrotest	/NDF· NI	Œ		F	Send: 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.

PO COMPRESSION RECEIVED Ark 1 3 2007
10. \$ 508148 1891736
SIGNATURE: #C
APPROVED BY Q.C. INSPECTOR

APR 1 2 2007







#### **Certificate of Test**

Part Number:

Y3206

Description: 2x6 B XS SML NIP 106B

Heat Code:

:IB5799

Reference No.:

Specification:

ASTM A106-97 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: BECK MFG

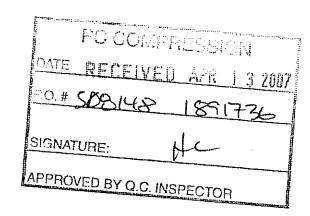
Chemical Analysis %

CHOMIT . X	11000, 000							_			
Heat No.	C	Mn	Р	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
	0.21	0.53	0.014	0.033	0.27	0.07	0.02	0.02	0.01	0.01	< 0.01
										. ,	
	CE (LO	ONG FO	ORMULA	A) = 0.32							

Mechanical Properties

Yield S	Yield Strength		Stength	Elongation % 2	Reduction Area	Hardness BHN		
psi MPa Heat Trea	43,400 000 dment:	psi MPa	66,500 000	34.00	0.00	N/R		
Hydrotest	/NDE: NE	DE		E	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.









### **Certificate of Test**

Part Number:

Y32055

Description: 2x5-1/2 B XS SML NIP 106B

Heat Code:

<u>AH73</u> ✓

Reference No.:

Specification:

ASTM A106 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

Chemical Analysis %

H <u>eat No.</u>	<u>C</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Си</u>	<u>Ni</u>	<u>Cr</u>	<u>Mo</u>	<u>V</u>	Cb/Nb
49762	0.19	0.44	0.009	0.015	0.27	0.07	0.06	0.07	0.01	< 0.01	
	CE (LO	ONG FO	ORMUL.	A) = 0.2	9						

**Mechanical Properties** 

Yield S	Strength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi MPa Heat Trea	46,300 000 tment:	psi MPa	69,000	34.00	0.00	N/R
				ACE MR0175 SS LESS THAN OR	EOIMI 221IDO	
Hydrotest/	NDE: ND				Send: 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.

Í	FC COMPRESSION
	DATE RECEIVED MAR 2 2 2007
	P.O. # 508145 Inu
1	
200	SIGNATURE: TC
A STATE	APPROVED BY Q.C. INSPECTOR

#### APR 1 2 2007







### **Certificate of Test**

Part Number:

Description: 2x5 B XS SML NIP 106B ~

Heat Code:

IB5800 ~

Reference No.:

Specification:

ASTM A106-97 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: BECK MFG

#### Chemical Analysis %

Heat No.	C	Mn	Р	S	Si	Сu	Ni	Cr	Мо	V	Cb/Nb
	0.19	(),49	0.014	0.023	0.24	0.05	0.02	0.02	0.01	0.01	< 0.01
										,	
	CE (LC	ONG FO	DRMULA	$\Lambda) = 0.29$							

**Mechanical Properties** 

Yield S	Strength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi MPa Heat Trea	48,300 000 tment:	psi MPa	72,000 000	32.00	0.00	N/R
Hydrotest	/NDE: NE	DE .		I	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.

POCOMER	ESS	0	N	
MIE RECEIVED	APR		3	2007
80.# SDS148	18	<u> 91</u>		36
SKONATURE:	He	/		
APPROVED BY Q.C. IN	SPECT	OF	}	



P.O. Box 40, Simcoe, Ontario N3Y 4K9 Tel. (519) 426-4551 Fax (519) 426-5509

#### **Certificate of Test**

Part Number:

Y3204 Description: 2x4 B XS SML NIP 106B

Heat Code:

IB5763

Reference No.:

Specification: ASTM A106-97 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: BECK MFG

Chemical Analysis %

	<u> </u>					_					
<u>Heat No.</u>	<u>C</u>	Mn	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Cu</u>	<u>Ni</u>	<u>C</u> r	Mo	V	Cb/Nb
	0.19	0.65	0.011	0.012	0.25	0.24	0.08	0.06	0.01	0.01	< 0.01
: -											
	CE (LO	ONG FO	DRMULA	A) = 0.34						,	

**Mechanical Properties** 

Yield Strength PSI:60,760

Tensile Strength PSI:75,980

MPa:000

MPa:000

Elongation % 2": 32.20

Reduction in Area %: 0.00

Hardness BHN: N/R

Heat Treatment:

Hydrotest/NDE: 3000 PSI

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 it's agent.



5	PRESSION VED APR Mueller Canadá, 270
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SIONATURE:	He
APPPOVED BY Q.C	. INSPECTOR





#### **Certificate of Test**

Part Number:

Y3203

Description: 2x3 B XS SML NIP 106B

Heat Code:

AH73 レ

Reference No.:

Specification:

ASTM A106 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

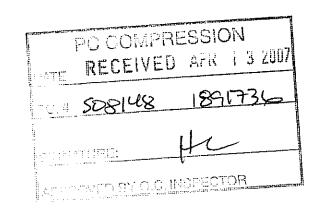
#### Chemical Analysis %

Не	at No.	C	Mn	Р	S	Si	Cu	Ni	Cr	Мо	V	Cb/Nb
49	9762	0.19	0.44	0.009	0.015	0.27	0.07	0.06	0.07	0.01	< 0.01	İ
		CE (LO	ONG F	ORMUL.	A) = 0.2	9					,	

#### **Mechanical Properties**

Yield S	trength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi MPa	46,300 000	psi MPa	69,000 000	34.00	0.00	N/R
Heat Trea	tment:					
			MEETS N	ACE MR0175		
			HARDNE	SS LESS THAN OF	R EQUAL 22HRC	
Hydrotest	NDE: NE	)E		F	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.



MAR 2.0 2007

1118861





### Certificate of Test

Part Number:

Y32025 Description: 2x2-1/2 B XS SML NIP 106B

Heat Code:

AI771

Reference No.:

Specification:

ASTM A106-02 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

Chemical Analysis %

Chemical A	IXILLY DIL	7.0									
Heat No.	Ç	Mn	P	S	<u>Si</u>	Cu	Ni	Cr	Mo	$\underline{\mathbf{V}}$	<u>Cb/Nb</u>
39042	0.18	0.42	0.003	0.008	0.30	0.07	0.08	0.07	0.01	< 0.01	
										,	
	CE (LO	ONG F	ORMUL.	A) = 0.2	8						

**Mechanical Properties** 

утеспані	carriope	Tuca				
Yield S	trength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi MPa	45,500 000	psi MPa	67,000 000	33.00	0.00	N/R

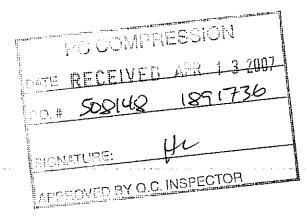
Heat Treatment:

MEETS NACE MR0175-2002

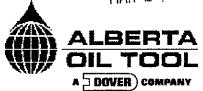
HARDNESS LESS THAN OR EQUAL 22HRC

Bend: GOOD Hydrotest/NDE: NDE

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MAR 2 7 2007



9530 - 60 Ave. Edmonton, AB T6E 0C1 Canada Ph. (780) 434-8566 Fax (780) 436-4329

**AILL** 

18/12/2006

0624039

Page 1 of 1

Date:

Heat No

# **MATERIAL REPORT**

Hengyang Steel Tube

AOT HEAT CODE AILLY

Source:

APPROVED BY:

Maintained By: Quality Department
Approved By: Director, Quality

C Mn 0.19 0.83 0  Mechanica  Tensile:  Yield:  Heat Treatment:  Other Tests:  USED FG 2" x 1-1	2" XF	i Seamle	ss Steel I	Pipe										
Specif	Specification:  Chemical Pr C Mn P 0.19 0.83 0.01  Mechanical  Tensile: Yield:  Heat Treatment:  Other Tests:  USED FOR 2" x 1-1/2 Meets: ME ME		ASTI	M A106B-0	2a,ASME	SA106B-0	R0175-99			<u>-</u> !				
Chen	nical P	roperti	es											
		P S 011 0.005	Si 0.41	Си <b>0.</b> 13	Ni 0.04	Cr 0.02	Mo 0.06	V 0.002		0.000				
Mech	nanica	l Prope	rties											
	Tensile:	804	75 psi		į	Elonga	tion (%):		29.0					
:	Yield:	5220	00 psi								· .			
						ŀ	lardness:	g contra and per many			arasanamenana arasanamenana	paring applications and asset		
Heat Tr	eatment:	Hot f	Rolled			Hydrosta	atic Test:	The state of the s			rne Ven	aya Aya	IN -4 o on	
Oth	Yield: 52200 psi  Hardness: HRC 6.0  Heat Treatment: Hot Rolled Hydrostatic Test: 3000 psi			de to to i	#-lu-lu/ 	Pil Ii	1 3 20							
					*			自入市	50	3178	1	891	736	
	ž			**********		w	**********		AZII JUQI	<u>.</u>	HC	_		
		OR 331537A		Itaania i										
Notes:	Meets: M	EETS ASTM	A234-0	)2/ASM		4-01 G	R.WPBS5	<b>38</b>	i kiti				i ana rasan	
	41*********			***********	DA013									
							dity Code	<del></del>						
							ed By:							
WE CE		THIS DOCU								RIGINAL				

Date: 21-Feb-07



9530 - 60 Ave. Edmonton, AB T6E 0C1 Canada Ph. (780) 434-8566 Fax (780) 436-4329 1155012 AIFZ

### **MILL TEST REPORT**

	nformati					<del></del>				<u>-</u>			
Raw Material Manufacturer:	Hen	be		Da		18/09/							
Description:	2" XH	Seamle	ss Steel	Pipe		Heat N		0611	812				
Specification:	ASTM A106B-02a,	ASME SA	106B-04,N	ACE MR01	L75-99			• • • • • • • • • • • • • • • • • • • •					
Chemical	Propertio	es								,			
C Mn	P S	Si	Cu	NI	Cr	Mo	V		Al				
0.20 0.92	0.015 0.010	0.45	0.09	0.04	0.02	0.01	0.004		0.00	,			
Mechanic	al Proper	ties											
Tensile:	Tensile: 73950 psi				Elongat	tion (%):		32.0			*:		
Yield:	4785	0 psi				***************************************							
					Н	lardness:		HRC 7					
Heat Treatment:	Hot R	olled			Hydrosta	atic Test:		CCON	COMPRESSION				
Other Tests:	Eddy Current &	Bend Tes	sts OK						RECEIV				
									508181		89173	6	
<b>#</b> **********	U8ED-FOR-33	4537A	634				(**********	16681188377	45787780074	<u>,</u>			
	.2" x:1" XH:Sn	nis Swag	ge Nipple	e 🗸	•		LUDDEE				<u></u>	,	
Notes:	Meets: MEETS MEETS		MR017			4-Q1 G8	WPB55	8 	are <b>i</b> 10	<u>.c.m</u>		,	
3	*****************	********			**********		**********						

WE CERTIFY THAT THIS DOCUMENT IS DIRECTLY TRACEABLE TO THE MANUFACTURERS' ORIGINAL MILL TEST REPORT AND THAT SAID TEST REPORT CAN BE SUPPLIED UPON REQUEST.

APPROVED BY:

Maintained By: Quality Department

Rev: C

Doc Name: MTR.mdb

Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1

OCT 3 0 2006

KEDDCO MFG. LTD. PO Box 999 645 Keddco St. Sarnia, Ontario N7T 7K6 Tel:(519)336-2960 Fax:(519)344-3181 Toll Free: 1-866-511-1381



KEDDCO MFG. LTD. 4120 - 78 Av. Edmonton, AB T6B 3M8 Tel: (780)438-4944 Fax: (780)435-3917 Toll Free: 1-800-661-3809

**Material Test Report** 

8-Jun-06 15155 Report Number: 2" SWAGES & BULL PLUGS H.R. **Heat Treatment:** Description: Specification: A234-WPB/SA234-WPB Material: C1022 MOD OA7470.5C CRN: 2" x 1/4" SCH80 SWABE 9BE **Chemical Analysis** C 0.180 Cu 0.150 0.003 1.030 0.050 Νi Mn K1196 **Heat Code:** 0.009 Cr 0.050 66525 0.018 Mo 0.020 Ti 0.000 Heat Number: S 0.250 0.013 Si 0.014 0.000 Nb **Mechanical Tests** 52200

Yield PSI: 55 Elongation @ 2"% 25

28
D Brinell Hardness:

Tensile PSI: Reduction of Area % `80400 0

Size:

2.375" RND Brinell Hardness:

151

CE= 0.382

**Charpy Impact Test** 

Individual Values (ft/lbs.)

(1)

(2)

(3)

N/A

We hereby Certify that the material described has been tested in accordance with the specifications, and the results are correct as contained in the records of the Company.

RECEIVED APR 132007

HANUNE:

PRODUCTOR

lan Shields Quality Assurance Manager

KEDDCO MFG LTD



INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2600 CERTIFIED BY RINA

16030 CASARZA LIGURE - Genova - Haly - P. 22a Marco Cappelli, 4 - Tel 0188.467661 - Fax 0185.486510 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 6 - 8

IRACO LIMITED- CASTLE HOUSE

Dated 10.01.2007 Dated 03.01.2007 Dated 03.01.2007

STATION ROAD - NEW BARNET HERTFORDSHIRE ENS 1PE - UNITED KINCERDM

Certificate Nr 17078 Invoice Nr 2 Del. Note Nr 4

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# E.G.A.

CERTIFICATO DI COLLAUDO TEST CERTIFICATE

CLIENTE Customèr Ciècnt

CE FRANKLIN LTD.

1572029-0R-2100

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

CENTIFICATOR. 535735/dobuo 1 Centificator. 505735/dobuo 1 Centificator. Feuito

DATA / Date

11/12/06

79566

COMMESSA Job II. Confirmation de commonde

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NOTE / Remarks / Notes

ENTE OFFICIALE III COLLANDS Inspection Authority Service Inspection Officiel

APPROVED BY Q.C. INSPECTOR

CAPO COLLAUDO Chiel Inspecion OPT Rosponsable assurance qualed

BERT. M.E.G.A. Luca Marcati



# 拍鍵鐵工股份有限公司

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) 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

### CERTIFICATE INSPECTION TEST ΜII

ACCORDING TO EN10204/DIN50049/3.1.B

CUSTOMER: SEYBOLD INTERNATIONAL CORP.

INVOICE NO: BW039208032

ISO 9001

An ISO-9001 Registered Manufacturer

ANSI - RAB

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PAGE: 5

DATE: 03/11/08

CERT NO: 31927

NO:

L/C ORDER NO: 4135(937230-OR-2100) SPECIFICATION: RAW BOTH ASTM / ASME **QUANTITY** MATERIAL ITEM DESCRIPTION A/SA 105N -01 WELL HEAT NO. HT.CD DIMENSION: ASME B16.11 - 2001 90D ELBOW 1/4" 2000# NPT 1096251 680 PC 785 001XH922 800 PC SURFACE: 90D ELBOW 1/2" 2000# NPT 10위6411 969 364782 002 384 PC BY VISUAL...GOOD 90D ELBOW 1" 2000# NPT 972 364784 003 285 PC 90D BLBOW 1" 2000# NPT 1096526 365445 2003 003 4031 PC 90D ELBOW 1" 2000# NPT 2010 366126 003 20 PC 90D ELBOW 1-1/4" 2000# NPT 1094580 2004 365446 004 200 PC 90D ELBOW 1-1/2" 2000# NPT 109550] 365071 997 005 COMPOSITION (%) CHEMICAL CE V ITEM Mo No Ni CrCu S Mn Ρ Ċ Si 0.600 0.100Mix 0.4500.0500.0200.1200.400 0.3000.0400.400 0.035 0.3501.050 0.350Max 100.0 0.3900.070 0.010 0.0000.0800.013 0.014 0.1100.210 0.880 0.210ÜÜİ 0.400 0.0100.000 0.0010.0800.080 0.370 0.0110.8400.023 0.210 002 0.2100.3900.010 0.001 0.010 0.070 0.2700.100 0.010 0.0230.2000.2000.860003 0.002 0.3800.010 0.0100.1200.0600.1700.012 0.021 0.8300.2100.200003 0.3700.0040.000 0.010 0.1000.050 0.017 0.200 0.010 0.810 0.1900.200003 0.380 0.002 0.070 0.020 0.010 0.120 0.012 0.200 0.021 0.850 0.220004 0.2000.380 0.020 0.0030.6200.060 0.120 0.190 0.025 0.015 0.820005 0.2000.200Remark: TEST MECHANICAL NORMALIZED: 850°C CONFORMS TO NACE MR0175-97 1 TEM R of A Hardness Elon-Yield STEEL MARKING PROCESS:ELECTRIC FURNACE Tensile Gation Strongth Strength (%) (HB) (%) (KSI) (KSI) 30.0 22.0 36.0 Mix 70.0 187 Max WE CERTIFY THE ABOVE MENTIONED FITTINGS HAVE BEEN 150 MANUFACTURED AND TESTED IN ACCORDANCE WITH THE 64.531.4 45.8 001 73.0 141 66.4 30.8 54.1 SPECIFICATIONS SHOWN 77.9 002 139 29.6 63.652.4 77.9 003 149 35.0 65.5 79.6 62.3 003 66.4 149 33.2 79.9 55.0 003 141 INSPECTOR 65.5 34.8 53.7 Q.C. MANAGER, OMPRE 78.6 004 THÌN CHIẾH HUANG SHENG CHENG 143 65.5 35.6 78.3 60.4 005

BW-D0839 REV:0

DATE 3 700 P.O. #

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

APR 1 2 2007



U.S. ROUTE 522 SOUTH P.O. BOX 330 NOUNT UNION, PA 17066 (814) 542-545 (800) 345-7546 FAX (614) 542-9977 TELEX 910-240-9091

### **CERTIFIED MILL TEST REPORT**

CCTF - DIV. OF EMCO LTD.

01/22/07

イカンと376
CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS

LOT NO.

2/1/2" X 1/2" 3M A105N Tee Threaded L

С	0.190	MIV	0.970	P	0.012	S	0.025	SI	0.250
NI	0.069	CR	0.086	МО	0.014	CU	0.200	ν	0.028
AL	0.007	ΝВ	0.010						
CE (	LONG F	ORMU	ILA) =	0.39	5				·
T/S	81250	ΥZ	S 5612	5 E	L 29.4	oo	RA 62.	050	
BRI	NELT. H	ARDN	ESS: 1	47	i				

- 1. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF NACE MR0175-2003 AND MR0103-2003
- 2. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204 3.1.B.
- 3. CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION
- 4. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM HEAT TREATING REQUIREMENTS.

This document has been electronically submitted.

Copyright © 1999 Bonney Forge

PO COMPRESSION

DATE RECEIVED APR 1 3 2007

MO.# SOSIUS 1891736

DIGNATURE: HAPPROVED BY Q.C. INSPECTOR

http://www.bonneyforge.com/mtr/report.cfm

1/22/2007

DEC 0 7 2006





### **Certificate of Test**

Part Number:

Y3154

Description: 1-1/2x4 B XS SML NIP 106B

Heat Code:

AI91

Reference No.:

Specification:

ASTM A106-04 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

Chemical Analysis %

Heat No.	С	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
621141	0.20	0.47	0.016	0.030	0.21	0.04	0.02	0.03	0.01	< 0.01	
	CTC (T.	<b>^</b>	<b>^D A</b> I I I	4) - 02	^					,	
	CE (L	JNG F	ORMUL.	A) = 0.3	U						

**Mechanical Properties** 

Yield S	Strength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	47,100	psi	68,000	35,00	0.00	N/R
MPa	000	MPa	000			
Heat Trea	tment:		OT ANCE TO	90		
			SEAMLES			
			MAX.HA	RDNESS DOES OT	EXCEED 22HRC.II	N ACC. WITH
			NACE MI	R0175		

Hydrotest/NDE: Bend: **GOOD 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. We make no representation beyond those of the manufacturer or its agent.

FG COMP	RESSION
DATE RECEIVE	D APR 1 3 2007
:0.# S08149_	
SONATURE:	He
APPROVED BY Q.C	MSPECTOR

APR 2 0 2006





# Certificate of Test

Part Number:

Y3153

Description: 1-1/2x3 B XS SML NIP 106B

Heat Code:

AH81\_\_\_

Reference No.:

Specification:

ASTM A106 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL PIPE

Chemical Analysis %

CHUMICHI	illuly on	,,,									
Heat No.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V.	Cb/Nb
P524617	0.21	0.58	0.016	0.030	0.23	0.03	0.02	0.02	0.01	< 0.01	
										1	
	CE (LO	ONG F	ORMUL.	A) = 0.3	2						

**Mechanical Properties** 

Yield S	trength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi MPa	45,700 000	psi MPa	64,500 000	33.00	0.00	N/R
Heat Trea	tment:				·	
				IACE MR0175	POLIAL TOURC	
			HARDNE	SS LESS THAN OF	CEQUAL ZZHRC	
Hydrotest	NDE: NE	DΕ		E	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.

DATE	PC COMPR RECEIVED	APR	13	200
P.O. #	508148	189	1730	<u></u>
SIGN	ATURE:	HC		
	ATURE: ROVED BY Q.C. IN	ISPECT	OR	



### Phoenix \* Capitol \* Camco **Cap Products**

Commanding a Higher Standardsm

### **Certified Mill Test Report**

3/6/2007

Customer

CE FRANKLIN LTD

BOX 6776 STN "D" CALGARY, AB T2P2E8

Part Number 15111504 P.O.

1750350-OR-2100

613633 Heat No

Heat Code PZP

Phoenix Order # 459293

Material

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

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

**Chemical Properties** 

C	Mn	P	S	Si	Cu	Cr	Ni		C Eq. Long
0.200	0,540	0.016	0.020	0.220	0.020	0.020	0.020	] [	0.301
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti
				0.000					

Additiona	I Chemica	l Propertie	S	

Cr + Cu + Ni
 0.060

Mechanical Properties

Charpy Minimum Impact -

CapProducts, Ltd.

1	Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
	68,500	45,500	34.0%		***************************************	N/A	N/A	N/A	N/A

### \* Eddy Current 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 MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

> 25 Winnipeg St Vanastra, ON N0M 1L0

PROVED BY O.C. INSPECTOR



# SHREE GANESH FORGINGS LIMITED C-3/C, 1.1.C. IND. AREA, THANE BELAPUR ROAD, PAWNE, NAVI MUMBAI, INDIA



						בים	CEDTIEICATE		EN 4000419 4	4 6770					CAU/F	QAD/F/04A-01		
CLIENT	: M/S.	CE FRANKLIN		PRODUCT	۲,	¥ ×	SHED	, _	N STEEL	FORG	EDFLAN	IGES	SER	TIFICA	TENO	EXP/20	CERTIFICATE NO.:EXP/2008-07/ 1889	889
ORDE	ORDER NO.: 1651347	: 1651347 - OR - 2100		MATERIA	IAL CATION	TA TA	1100	107					-	'n		:18.01.2007	200	
DATE	: 29.09.2006	99		מנוכו	CAI UK	ASIE	MASME	SPECIFICATION: ASTM/ASME AUSA 143N AND CSA 2.245.12 Gr.241 CAT	A AND	77 WS5	75.12 Gr	241 CAT	<del>-</del> -	I IEACT	MANI IEACTI IDEDIO DDANIO	NVC0 0	غ ا	F.7.
JOAN.	CN	i	DT 30 12 2008	DIMENS	SIONAL .	: <b>⊋</b>	Ā	ANS! R18.5	ις						ONER C	מאלם מ		**************************************
	JE 100 . EAF/2000-		٦			[	(		ا ج				SZ N	ECTO	INSPECTORS STAMP	MP:	5 11 1	
							CHEM	CHEMICAL ANALYSIS	<b>ALYSIS</b>									
S. 80	ITEM DESCRIPTION	CRIPTION	H.NO./H.CODE	8	QTY.	ე %	% Mn	% Si	s %	4 P	S Ct	₩ %	% Mo	no%	3%	qo%	%C.E	ART.NO.
-	1" 150 IBS BLRF\		609651 / 9447	9447	83	<del>0</del>	.87	.15	.032	.025	.031	710.	.00	88	190.	200.	¥	
2	2 ½" 150 LBS SORF	₹	513591 / 9614	9614	15	.20	16:	11	220:	.025	.025	.012	710.	700.	<b>8</b> .	.003	æ	PA PER
က	74" 150 LBS SWRF, SCH - 80	, SCH - 80	609651 / 9447	9447	22	-19	.87	÷5:	333	920	.031	710.	8.	8	§.	005	S.	
4	1* 150 LBS SWRF,	, SCH-80	609651 / 9447	9447	150	.19	.87	÷.	55.	.025	.031	.017	8.	886	8.	.002	怒	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
						Σ.	ECHAN	MECHANICAL PROPERTIES	PERTI	83								
	H NO ALCONE	TENSILE	YIELD Strength		% Elongation	ation		9			Hard	ness					HEAT	ĄŢ
S.KO.		Rm Nimm <sup>2</sup>	Rp Nimm²		3.4 G.L= 50 mm	E E		76 Kequetion Area 76 &	on Area	7 %	ā	NHR	<b>É</b>	5 5 7 8 8	MICKO SIRUCIURE		TREATMENT	MENT
1	609651 / 9447	488	305		37.60	ဓ	-	ις.	59.17	$\vdash$	~	149	_	Š		-	NORM	NORMALIZED
7	513591 / 9614	548	315		34.00	2	-	8	60.44		7	163		O.	_		NORMALIZED	ILIZED
ო	609651 / 9447	488	305		37.60	2	_	•	59.17		7	149		o.			NORMALIZED	VLIZED
4	851/	488	305		37.60	2	-	ਲੰ	59.17		7	149		O.K			NORMALIZED	\LIZED
REMARKS	କ୍ରନ <b>କ</b>	CHECKED FOR HARDNESS AND FOUND OK. NO WELDING DONE ON ANY PART OF JOB. Tensile test carried out at 50mm gauge length wil. AS PER NACE MR-0175-2000	VESS AND FOI IN ANY PART ( It 50mm gauge 175-2000	UND OF OF JOB length v	c with 10mm Dia	n Dia.		EVO			ECEIVED RECEIVED	A A	~	9 2007		WOR.	WORKS INSPECTOR	ECTOR
	We cel require	We certify that the material have been manufactured, tested and examined in accordance with all the requirement of the ordered standard and all test result are acceptable. For # $508207-0$	erial have been ered standard ≀	manufi and all to	actured, t	ested al Lare ad	nd exam xeeptable	e. P.O.	coordance	S with al	D 7		2		<i></i>	O O	D.P. CHAUDHARY	₹
								SIG	SIGNATURE:	# 4				THEMPSON		90E		
								APF	PROVE	D BY (	N C	APPROVED BY Q.C. INSPECTOR	OR					, <sup>5</sup> .J

Certificate No. (성적서번호)	9	JUN 1 5 2006	.c			INSP	;PEC	)T10	N CE	ECTION CERTIFICATE	FICA	Щ			[1 { }	KORFA	EI ANGE CO IT	_
Customer (주 문 자) Material	SEYBOLD							3	型 之 之	전 (구			THE WAY		7	한 194. Don	한국프랜지공업주식회사 194, Dongsu-Dong, Dong-Ku,	マゴ・
(제 절) P.O.NO. (발주번호)	5489(1502849-OR-2100)	2849-OR	1-2100)		ŗ I	W/O No. (작업지시반	POP 	6902050	5	Ssued (中 建	date (일)	2006	A 2000 S 1 S			Note of A	eliopoiliall, NORE.   동구 동부동 194번/	<b>₹</b> ₽
£ 0						Mechanical Properties			Tension (인 작,	) Test 시쒐)				Ist Jegam	Test (Charpy) 5 격시험)	Hardness Test (경도시험)		
. S	Ar	≆		Quantity		The duite of	\$ 100 m		T·S (인장강도)	E·L (연산量)		R·A (记四个卷월) 80	/:-		٥,	뫋	CODE NO	·
(暑년)	<b>船</b> )	<b>2</b> 0		(† <del>(†</del>	<u> </u>	Lot No. (栗트번호) (Control No.)	DSI 36000 Min(최全)		70000 Min	78 22.0 Min(割△5)	30.0 Min(割全)		(반경) (단위) Angle Ave( (각도) Min(	(단위) Ave (평균) : Min(최소) :		MAX 187	(첫 윤 대 전 )	
003 AN	AN 150 SO RF 2	21/2		10		5056	48300	000	78100	35.0		57.0				144 141	F18,5 F01	
004 AN	AN 150 SO RF	80		150		5C74	47600	000	78000	34.0		62.0				148 145	\$45% 401	<u>.</u>
005 At	AN 150 SW RF XS	(S 1 t		001		7C15 V	46600	300	77100	31.0		56.0				152 149	P 2 3 2 30 -	<u> </u>
001 A	AN 150 BL RF 1	\ <u></u>		001	-	7C15 1/	46600	300	77100	31.0		56.0				152 149	10.48501	<u> </u>
002 At	AN 150 BL RF 2	2		400		7015	46600	900	77100	31.0		56.0				152 149		
5	Chemical Composition (화학성본) (%)	1/100	Si 1/100	Mn 1/100	1/1000	1/1000	1/100	1/1000	1/1000	1/1000	1/1 <sub>000</sub>	1/1000	1/1000 1/1000		Cea 1/100		l le	
Lot No. (롯트번호) (Control No.)	<del>i                                     </del>				MAX 35	-	·	WAX 300	MAX 120	MAX 80	MAX 400	MAX 20			MAX 43	Normalizing (全 준)		Ā.
5056		ន	90	95	17	19	-	23	10	0,	10	9			40	Quenching (소 임)	ĵ.	
5C74		20	27	83	5	ω	-	8	10	0	10	10			37	Annealing (全 是)	ų O.	
7C15		21	25	91	œ	က	2	5	10	10	10	10			37	Tempering (会 路)	ာ့	
7015		21	25	91	8	က	2	10	10	10	10	10			37	Solution	S	
7015		21	25	91	ω	က	2	10	10	10	10	10			37	(고용화열처리)		
	Others	Works	Test Ce	rtificate t	to EN 10	Works Test Certificate to EN 10204/3.18	MR-01-	75	-194	) The state of the		08.40	NOISCHOOM	NO	e-result	ansıy .	Visual & Dimension Inspection (처수 및 약관검사)	
[2]	(音)	CSA Z	CSA Z245.12 GR 248 CAT I	3R 248 (	T TK			<u>.</u>	Level 300 (1997)	DATE	RECE	ECEIVED		1 4 2006		60	a ceef.	
Surveyor To : (검 사 관)	::	We h	nereby cer ification.	tify that n	naterial d	We hereby certify that material described herein has been tested specification. 본 성적서에 명시된 소재는 상기 사양예	erein has 명시된 소제	been te l는 상기 시	E 0	satisfied a 위역달이타시	is above i 험되었 <sup>2마</sup>	n accordi	satisfied as aboye in accordance with the	S C	Ы	ā	OA Department Manager (품질보증부장)	
KOFS-CA0	KOFS-CA0-035EN(3) 2001.10	5							Вушин-ка с Меді. (Салуст 230) 14	SIGNATURE	rure:		4	1	Programme database (124) and addition ab his		-	, S
									mesopts whitever a	APPROVED BY O.C.	WED E	3V O.V	RISPECTOR	10103 10103	garrance			

APPICYED BY O.C. MSPECTOR



# SHREE GANESH FORGINGS LIMITED C-3/C, T.T.C. IND. AREA, THANE BELAPUR ROAD, PAWNE, NAVI MUMBAI, INDIA



													ì		5		
				ž	SPECT	ONO	ERTIFI	INSPECTION CERTIFICATE -		EN 10204/3.1							
CLIENT	. M/S.	CE FRANKLIN	쫎	PRODUCT	×	<b>4CHINE</b>	CARBC	N STEE	. FORGE	MACHINED CARBON STEEL FORGED FLANGES	ES		CERI	<b>IFICAT</b>	E NO :E	CERTIFICATE NO.:EXP/08-07/ 2182	7/ 2182
ORD	ORDER NO. : 1502253	1502253 - OR 2100	W	MATERIAL	TOM	ACTU / A	one are	140EN AN	100	0 0			DATE		3:	. 05/03/2007	20
DATE	: 15,02,2006	900	5   1			Z / ELCY		A NCOL	E CSA C	TOTE : ASIM : ASME ASALUSIN AND CSALLASTER; AT CAL	ZAI CAI		MAN	FACTL	RER'S	MANUFACTURER'S BRAND	1
NO NO	INVOICE NO : EXP/2006-07/ 160	07/ 160 DT. 03.02.2007	7	DIMENSION SPECIFICA	NAL. TION:	7	ANSI B16.5	6.5					INSP	CTOR	NSPECTORS STAMP		٠,
						E	EMICAL	CHEMICAL ANALYSIS	S								
S.KO	ITEM DESCRIPTION	CRIPTION	H.NO./H.CODE	DE OTY	2 % C	F	13 % L	% S	d %	13 % C	Z X	% Mo	70% %Cn	Λ%	40%	₩CE	ART NO
က	12" 150 LBS BLRF	u	31306 / 9677	7 11	0.19	99.0				0.084	0.12	0.013	0.19	000	0.002	0.34	1074124
4	4" 150 LBS SOFF		602865 / 9292	_		2 0.75	5 0.18	8 0.022	2 0.022	0.030	0.019	9000	0.00	0.001	0.002	999	1074520
သ	21/2" 150 LBS SORF	¥	612876 / 9625	25 10	0.22	2 0.86		├		_	0.006	0.023	0.00	0.004	0.003	0.37	1073519
စ	1*150 LBS THRDRF 4	RF \	609651 / 9447	47 1/ 100	0.19	9 0.87	7 0.15	5 0.032	2 0.025	0.031	0.017	0.00	900.0	0.001	0.002	0.34	1068592
						MECH	ANICAL	MECHANICAL PROPERTIES	TES			,					
S. <del>K</del> O.	H.NO.M.CODE	TENSILE STRENGTH Rm Nmm²	YIELD STRENGTH Rp N/mm²	% Elong: % A G.L= 50	ation	% Reduction Area % Z	ction % Z	Hardness		MICRO STRUCTURE	w w			# TREA	HEAT TREATMENT		
က	31306 / 9677	507	258	38.00		65.39	6	153	+	o X	+	×	R AT 900°(	C TMD AT	800 ° C SOK	NOR AT 900 °C. TMD AT 600 °C. SOK TIME 2% HRS	RS
4	602865 / 9292	287	298	29.80	0	56.6	*	163		o X	+	2	OR AT 900°	C. TMD AT	080,08	HOR AT 900 °C. TMD AT 600 °C SOK TIME 2 HRS	S
က	612876 / 9625	523	319	27.2	0	55.77	<u></u>	156		O.K		2	OR AT 900°	C, TMD AT	050,009	NOR AT 900 °C, TMD AT 600 °C SOK TIME 2 HRS	SS
စ	60965119447	488	305	37.6	0	59.17	7	149		O.K		Z	OR AT 900	C, TMD AT	T 600 ° C SO	NOR AT 900 °C, TMD AT 600 °C SOK TIME 2 HRS	S
	- 1										111	TALLE . SEA SERVING SERVING					
KEM		CHECKED FOR HARDNESS AND FOUND OK. NO WEI DING DOME ON ANY BABT OF 10B	ESS AND FOU	ND OK.			T. C. C. C. C. C. C. C. C. C. C. C. C. C.						ucaunt F				
	3) Tensile t	Tensile test carried out at 50mm gauge length with AS PER NACE MR-0175-2000	50mm gauge   75.2000	ength with	10mm Dia.	ja ja	er passioner		D.	RECEIVED MAR 2 9 2001	MAR	07 6 7	3	- (4		WORK INSPECTOR	<u> </u>
<del></del>		We certify that the material have been man	terial have b	een manu	facture	1, tested	andex	) mined in	accords	ufactured, tested and examined in accordance with all the	all the	>		<u>ل</u> خ	P. CH.	D.P. CHAUDHARY	
	unber	requirement of the ordered standard and ail	sered standar	d and ail	lest res	test result are acceptable.	acceptal.	ë.					. <u></u>	·			
							-			1							



# SHREE GANESH FORGINGS LIMITED C-3/C, I.I.C. IND. AREA, THANE BELAPUR ROAD, PAWNE, NAVI MUMBAI, INDIA



	LSO 9001; 2000 Certificate: 04100 1999 0695-E3	KMTU
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				ISNI	SPEC	NOL	CERTI	PECTION CERTIFICATE - EN 10204/3.1	三 5	1020	1/3.1							
CLIENT		M/S. CE FRANKLIN	a.	PRODUCT		ACHINE	D CAR	: MACHINED CARBON STEEL FORGED FLANGES	EEL FO	3GED FI	ANGES		Ĕ	ERTIFI	CATE	VO. EX	CERTIFICATE NO.: EXP/2006-07/ 1194	7/ 1194
ORDE	ORDER NO. : 1594389 - OR 2100	- OR 2100	~ 4	MATERIAL	34	a de la composição de l	<u>.</u>	100	Š				_	DATE		: 09	: 09.10.2006	
חיד ארן	3000 20 90 .	¥	9	oreciricA HO	ON: AS	HITAOR	T Z	N: ASSEMBASME ASSA 103 N AND USA 2.245.12 GF.241 CALL	§ 3 ⊇	71.047.7	Z-7-15	=	<u> </u>					
ל ל		R		DIMENSION	AAL.									AANOF.	ACTUR	MANUFACTURER'S BRAND	: GNA	i C
NVOK	NVOICE NO: EXP/2006-07/ 091		DT. 26.09.2006	SPECIFICAT	TION		ANSIE	ANSI B16.5 NACE MR 0175 - 2000	ACE MR	0175 -	2000		<u> </u>	NSPEC	TORS (	INSPECTORS STAMP	110	
							HEMIC	CHEMICAL ANALYSIS	YSIS									
S.NO.	ITEM DESCRIPTION	RIPTION	H.NO.H	H.NO./H.CODE	QTY.	ပ လ	2€	න දෙ	8%	% P	<u>ن</u> %	:N %	% I¥o	nO%	۸%	q2%	%C.E	ARTINO
6	4" 150 LBS SORF		602865 / 9344	1 9344	15	77	.75	æ.	.022	.022	880	910	8	ĝ	ş	8	35	1073455
10	4" 150 LBS SORF		606386 / 9359	1 9359	೫	.23	88.	11:	020	930	030	916.	.012	88	8	8	39	1073455
11	1" 150 LBS THDRF		520410	520410 / 9336 🗸	125	22	.93	17.	.021	.023	150.	.017	596.	68	8	600	38	1068592
12	2 1/2 150 LBS THDRF	RF	606322 / 9392	1 9392	25	.22	<b>8</b> 5.	.15	.018	.029	030	.016	960	8	8	89.	88.	1074204
						MEC	HANIC	MECHANICAL PROPERTIES	ERTIES									
S.NO.	H.NO./H.CODE	TENSILE STRENGTH Rm N/mm <sup>2</sup>	YIELD STRENGTH Rp Nimm?	% EIO 6 = 70	% Elongation % A G.L= 50 mm	= _	% Rec	% Reduction Area % Z	rea %2		Hardness BHN		MECRO	MICRO STRUCTURE	35		HEAT	T I

. କ୍ରନ REMARKS

CHECKED FOR HARDNESS AND FOUND OK.
NO WELDING DONE ON ANY PART OF JOB.
Tensile test carried out at 50mm gauge length with 10mm Dia.

RECEIVED MAR 022000

ORKS INSPECTOR р.Р. СНАИБНАКУ

NORMALIZING NORMALIZING

0000 XXXX

**該該** 

56.64 59.67 60.06 53.41

29.80 35.60 32.00 29.60

298 328 304

567 490 518 493

<u>ල</u> ද

606322 / 9392

602865 / 9344

NORMALIZING NORMALIZING

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

**NDUSTRIA MECCANICA LIGURE** SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

IRACO LIMITED- CASTLE HOUSE

Invoice Nr 62 Del. Note Nr 102

Dated Dated Dated Certificate Nr 17104

17.01.2007 17.01.2007

19,01,2007

STATION ROAD - NEW BARNET HERTFORDSHIRE ENS IPE - UNITED KINGEDM

18030 CASARZA LIGURE - Gonova - Italy • P.222 Marco Cappelli, 4 - Tel.0185,467661 • Fax 0185,465610 I MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 19204 Page 3 - 7 DIM. ACC. TO SEE NOTE SEE NOTE SEE NOTE

042540) J. 10-07 ( 10-01 %

163000) છોકાનાં **વ** 

FITTING UNION F/F THRD NPT 3M 1/2" A105N (MALE).

DESCRIPTION

FITTING UNION F/F THRD NPT 3M 1.1/2" A105N

FITTING UNION F/F THRD NPT 3M 1" A105N FITTING 90 ELB. THRD NPT 2M 1/2" A105N FITTING 90 ELB. THRD NPT 2M 1" A105N

1515 1100

> 2006-2E201-0001060-001 2006-2E201-0001060-002 2006-2E201-0001060-007 2006-2E201-0001060-007

99

FITTING TEE THRD NPT 2M 1" A105N FITTING TEE THRD NPT 2M 1" A105N

585 420

§

FITTING: UNION F/F. THRD: NPT 3M 1" A105N ...

300 285

2006-2E201-0001043-004 2006-2E201-0001043-005 2006-2E201-0001043-004

17038

17038 17038 17043 17043

2006-2E201-0001043-003

₽.

YOUR P.O. OUR REFERENCE

HEAT

HEAT CODE

C51236

154AAAA

33952 33952 22469 78483 72966

VISUAL & DIMENS.

SATISFACTORY SATISFACTORY

SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SEE NOTE SEE NOTE SEE NOTE SEE NOTE

SEE NOTE

C.E.% **4**1%

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000'0 0,008

000'0

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0.140

000'0 0,005 0,002

0,012 0,024

0,040

0,050

600'0

0.027

.010

0,240 0,250 0,230 0,250 0,290 0,190 0,200 0,200

0,190 0,180 0,205 0,180 0,180 0,190 0,185 0,185

ASTM A105 ASTM A105 ASTM A105

ASTM A105

33952 33952 22469 78483 72966

78457

UUZ

A87 A46

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Sus Curk

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MATERIAL

TEM

HEAT C51236

HEAT CODE

154AAAA

17043

72966

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A46 A87

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0,370 0,392

0,021 0,021

0,012 0,000

0,002 0,002 6

MANUFACTURER'S SYMBOL

QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL

RIVA ACCIAI

STUDBOLTS

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FITTINGS

**BORIS FIZZOTTI** 

BS 1736

500 LAS

061095 061482 061482

RIVA ACCIAI RIVA ACCIAI

LEALI SPA

ELECTRIC FURNACE

Normalized at 880°-920°C / Air Cool

Normalized at 80°-920°C / Air Cool

INSPECTION AUTORIT

ASME SA ASTIM A105-05 PC COMPRESSION MINITED AT \$80°-920°C / Air Cool ASME SA ASTIM A105-05

ASME SA ASTRA 105-05 CETVED APR

NACE MR0175 ISO 15156/1 - MSS SP 8 DSUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS

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

ELECTRIC FURNACE

ELECTRIC FURNACE

ELECTRIC FURNACE ELECTRIC FURNACE

061270

Our Ref.

STEEL MALL

052066

061027

RIVA ACCIAI

SIDENOR SIDENOR

ELECTRIC FURNACE ELECTRIC FURNACE

ELECTRIC FURNACE

FURNACE

HEAT TREATMENT

MATERIAL IN ACCORDANCE TO

TEM

HEAT

HEAT CODE

72966

ASME SA ASTM A105-05

8 88 8

33952

78457 33952

UP5 UU2 A87

C51236

154AAAA

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

ASME SA ASTIMAMOBOS

005

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22469 78483 907

72966 72966

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60

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158 - 166

158 - 166

Vormalized 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

N/mm2 >=1,0%

1=0 2=E

TYPE 10x10mm ⋛

FLATTEWING TEST

BEND TEST

FDUCTION OF AREA

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≥ ≥ ⋛ ⋛

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

50,00

122,65

C51236

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HEAT CODE

33952 78457 33952 22469 78483 72966

UŪZ

A87 A46

50,00

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Want >=

Vmm2 >=0,2% YÆLD POINT

SECT. mm2 LENGHT mm

TEST SPECIMEN

TENSHE STRENGH

160 - 168

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122,65 122,65 122,65

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98 98

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88

YIELD POINT

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0,000

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0,003 0,001 0,003

0,003

900'0 0,005 0,002 0,007 900'0

0,010

0,010

0,060 0,060 HARDNESS HD

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0,200 0,170 0,190 0.190

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0.080 0,050

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> 0,020 0,017

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> > 0,150 060'0 060'0 0,110 0,110

0,810 0,850

> ASTM A105 ASTM A105

ASTM A105 STM A105

99

72966

TP5

0,900 0,810

0,002 0,00 0,000

0,032 0,012

SATISFACTORY SATISFACTORY

OTHER ELEMENTS

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1ts NO) JC50801 1450601

10/18/21

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INSPECTION CERTIFICATE EN 10204:2084/3.1 COMPANY WITH QUALITY SYSTEM ISO 9001-2006 CERTFIED BY RINA

S TRANS AM PIPING PRODUCTS LTD. 7025 - 44th Street S.E. Calgay, Alberta T2C 4E8

Certificate Nr 16641 Invoice Nr 679 Del. Note Nr 1038

13.06.2006 12.06.2006 12.06.2005

Dated Dated

UU         16836         005         CI-06 - 352 20           UU         16836         005         CI-06 - 352 20           76556         044         CI-06 416         20           76556         049         CI-06 416         20           77514         056         CI-06 416         20           77514         056         CI-06 416         20           HEAT         055         CI-06 416         20           HEAT         17EM         MATERIA         20           UU         16836         005         CI-06 416         20           10U         16836         005         ASTM A105         ASTM A105           76556         049         ASTM A105         ASTM A105           77514         056         ASTM A105         ASTM A105           77514         056         ASTM A105         ASTM A105           HEAT CODE         HEAT         ITEM         ITEM         ITEM	CI-06 - 352 2006.2E201-0000406.005 CI-06 - 352 2006.2E201-0000408-005 CI-06-416 2006.2E201-0000497-044 CI-06-416 2006.2E201-0000497-054 CI-06-416 2006.2E201-0000497-054 CI-06-416 2006.2E201-0000497-054 CI-06-416 2006.2E201-0000497-058 CI-06-416 2006.2E201-0000497-058	S ONG										2	DIST ACC TO	SACCIAL . DALLER
16836 005 7656 044 7656 044 77647 054 77594 005 77994 005 16836 005 16836 049 77556 049 77557 054 77554 058 77554 005 77554 005 77554 005 77554 005 77554 005 77554 005 77554 005 77554 005	2 2006-2E201-000040 2006-2E201-000049 2006-2E201-000049 2006-2E201-000048 2006-2E201-000048 2006-2E201-000048	33.0	( <u>)</u>	LINON FIF	FITTING UNION FIF THRD NPT 3M 1" A 195N	3K 1" 016	1				-			ALCON.
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76556         049         CI-06-416           78457         054         CI-06-416           75514         056         CI-06-416           75945         089         CI-06-416           7694         005         CI-06-416           16836         045         ASTM A10           16836         044         ASTM A10           76556         049         ASTM A10           77514         056         ASTM A10           77514         056         ASTM A10           79945         086         ASTM A10           79946         005         ASTM A10           78947         066         ASTM A10           78948         075         ASTM A10		7-044	FITTING	COUPLING	FITTING COUPLING THRD NPT 3M 1" A 105N	3M 1" A1	, N					# 6	SEE NOTE	SATISFACTORY
78457         054         CI-06-416           77514         056         CI-06-416           75945         005         CI-06-416           75946         005         CI-06-416           16836         005         ASTM A10           16836         044         ASTM A10           76556         049         ASTM A10           76556         049         ASTM A10           77514         056         ASTM A10           77514         056         ASTM A10           78945         089         ASTM A10           78946         005         ASTM A10           78947         075         ASTM A10           78948         075         ASTM A10		7-048	FITTING	HALF COU	FITTING HALF COUPL THRD NPT 3M 1" A105N	PT 3M 1" /	105N					200	SEE NOTE	SATISFACTORY
17914   USG   CI-06-416   T5945   088   CI-06-416		17-054	FITTING	CAP THRD	FITTING CAP THRD NPT 3M 1" A105N	A105N						ט פ	SEE NOTE	CATISTACTORY
79944   005   CI-0C-416   79944   005   CI-0C-416		2-056	FITTING	CAP THRD	FITTING CAP THRD NPT 3M 2" A105N	A105N						2 6	SEF NOTE	CATIONACION
HEAT         ITEM         MAI           16636         005         ASTM A10           16836         005         ASTM A10           16836         044         ASTM A10           76556         049         ASTM A10           77514         056         ASTM A10           77514         056         ASTM A10           75945         089         ASTM A10           79944         005         ASTM A10           HEAT         ITEM         ITES SECTIONAL           16836         005         122,65           16836         005         122,65	_	7-068	FITTING	90 ELB. SW 90 ELB. TH	FITTING 90 ELB. SW 3M 1" A105N FITTING 90 ELB. THRD NPT 2M 1 1/4" A105N	J5N 11 1/4" A10	NS					SE	SEE NOTE	SATISFACTORY
16836 005 ASTM A10 16836 005 ASTM A10 76556 044 ASTM A10 7855 049 ASTM A10 77514 056 ASTM A10 77514 005 ASTM A10 79944 005 ASTM A10 HEAT ITEM TISTS FOR A10 16836 005 122,65	MATERIAL C%	% IS	24m% 3	%d %8	8	2	-	) A	-	H	-	2	SEE NOTE	SATISFACTORY
16836 005 ASTM A10 76556 044 ASTM A10 76556 049 ASTM A10 77514 056 ASTM A10 75944 005 ASTM A10 HEAT ITEM SECTION A11 16836 005 122.65	-	0.202 0.260	+			+	+	+	<del></del>	$\dashv$	% *	AK.	C.E.%	OTHER ELEMENTS
76556 044 ASTM A10 76556 049 ASTM A10 77514 056 ASTM A10 75945 088 ASTM A10 79944 005 ASTM A10 HEAT ITEM TESTS FOR 16836 005 122.65				0,002 0,007	0,130	0,130							0,414	
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79944   005   ASTM A10   HEAT   ITEM   IEST SPEE   16835   105   122,65		0.210 0.200	0.900	0,024 0,013	0,011	0,080	0,010	0 003					0,354	
HEAT ITEM 16315PE 123.65 122.65									0,240 0,002	0.000	0000	0.013	0,402	
005 122,65	PECINEN YIELD POWT	TEMES	. 23 	$\overline{}$	JF AREA	HARDMESS HB	BEND TEST	-  ₽	-,I	'	ᅱᄐ	∃		SHADE
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044 122,65		582,0				158 - 170	2 0	2 6		≥ 3	<del>-</del>	<del></del> -	109	
049 122,65		582,0				170	9 0	3 0			20 36	96	<b>8</b> 8	
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man	MAIERIAL IN ACCORDANCE TO	CCURDANCE	2		į	至	HEAT TREATMENT	ENT			FURNACE	W.	STEE	STEEL WILL
200	ASME SA ASTM A105-05 ASME SA ASTM A105-05			No.	Normalized at 880*-920°C / Air Cool	80°-920°C	/ Air Cool			ELE	ELECTRIC FURNACE	URNACE	ABS	-
440	ASME SA ASTM A105-05				Normalized at 680°-920°C / Air Cool	30-920-C	/ Air Cool			EFE	ELECTRIC FURNACE	URNACE	ABS	
049	ASME SA ASTM A105-05			Non	Nomalized at 880*-920°C / Air Cool	80*-920°C.	Z Coo!				ELECTRIC FURNACE ELECTRIC ELIBIAGE	URNACE	ACC.TANARO	
72514 056 ASIME SA ASI	ASME SA ASTM A105-05			Non	Normalized at 880*-920°C / Air Cool	80*-920°C	/ Air Cool			1 11	ELECTRIC FURNACE	FRNACE	RIVE ACCIAL	NAKO 891341
980	ASME SA ASTM A105-05 ASME SA ACTM A106 06			NO.	Normalized at 880*-920°C <sub>4</sub> / Air Cool	90-920°C	/ Air Cool				ELECTRIC FURNACE	URNACE	RIVA ACCIA	
79944 005	ASME SA ASTM A105-05	ر ر 			Normalized at 880*-920°C/y Air Cool	80°-920°C	/ Air Cool			FE	ELECTRIC FURNACE	JRNACE	RIVA ACCIAI	
NOTES ASME B16.11/05 - ANSI B31.1/B31.3 - IMI. STD - ANSI B1.1-B18.2.2	- IML STD - ANSI I	31.1-B18.2.2	_	— i iii	INSPECTION AUTORITY OF	3	OCALITY CONTROL DEGARDAMENT	TDO! DEC	A Division of	בר בר	ELECTRIC FURNACE	JRNACE	RIVA ACCIA	CIAI 041324
NACE MR0175 ISO 15156/1 - MSS SP 83 - SUMPLIED MATER	ง 83 - รบลู้คนรับง	ATERIAL MEETS	113 [8] 5		-	T		TOUR OF	NU THE N	MANUFACTURER'S SYMBOL	URER'S	NHBOL.	MANUFAC	MANUFACTURER'S SYMBOL
SPECIFICATIONS AND P.O. REQUIRE	EMENTS UP 1	NEW Y	•									_		
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							13/74****	<u></u>	いこしにいたり		MAR 2	2 2007		
		1		ROTOPPECTOR	ECTOR		· <sub>1</sub>						r F	

INDUCINIA MIECCANICA LICUINE SPA   International part of the par	TRIA MI SARZA LIGURE - G DE HEAT 75349 77612 71624 75754 75754															Invoice Nr 70E		
CASE   CASE	ARZA LIGURE - G T 75349 77612 71624 75754 75754		<b>JEST</b>	JOURE	SPA SPA	COMP	ANY WITH CA CER	JALITY SYSTE TIFIED BY RIN.	M 150 9001-20 A	001	STATIO	N ROAD - NEV HERTFORDSI	V BARNET IIRE ENS 1PE	- UNITED KI		Jel. Note Nr. 1		i
Thirty   Thirty   Expression consists on the control of the cont		enova - Italy -	P.zza Marco C	Cappelli,4 - Tel.018	15.467661 - Fax	0185.486510	/ MATERIAL	TEST DEPART		certificate has	s been genera	ited by comp	uter and need	I nat to be si	gned for vali	lity according	to DAN EN 10	204 Page 1
17854   2   170016   2002.200.00049-00   200   171100 CELE 3N AMPS   200   2	75349 77612 71624 75754	1	YOUR P.O.	i .	RENCE	Q.T7	1		DESCRI	PTION					!	DIM. A		SUAL & DIM
17.071   1	77624 71624 75754 75754	7	17007/B	2006-2E201-00	300449-002	1 4-	TITING 90	LELB. THR	DINPTZM	1" A105N	\	46 5 216				SEEN		ATISFACTO
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17.0754   17.07076   2000-22201-000004-800   450   FTITINGS DEEL PHEN NYT 2M 17 A103M   1464-54   1800-100   150   FTITINGS DEEL PHEN NYT 2M 17 A103M   1464-54   1800-100   150   FTITINGS DEEL PHEN NYT 2M 17 A103M   1464-54   1800-100   150   FTITINGS DEEL PHEN NYT 2M 17 A103M   1464-54   1800-100   150   FTITINGS DEEL PHEN NYT 2M 17 A103M   1464-54   1800-100   150	75754	_ ru	17007/B	2006-2E201-00	00449-005			THE OWN SM	S/4" ATUSE PT 2M 1" ,	A LOSA		14014 + PICE!				SER		ATISFACTO
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1873-3   1707/18   2000-22201-0.00044-007   235   FITTING 90 ELB THRO NOT 200 A24 A LOGN   ACAS	76747	7	17007/B	2006-2E201-00	100449-007		TITING 90	ELB. THR	D NPT 3M	1/2" A105N	7	1005				SEEN		ATISFACTO
1964   1   1965   200	76253	<del>-</del> 1	17007/B	2006-2E201-00	300449-001		FITTING 90	ELB. THR	D NPT 2M	3/4" A105h	7	(Alban				SEEN		ATISFACTO
HAT   TITM	/6/4/		8//00/1	2006-2E201-00	100449-007		6 SNILLI	ELB. THR	D NPT 3M	1/2" A105N	<b>~</b>	3				SEE		ATISFACTO
The color   The	HEAT CODE HEAT	TEM	MAT	ERIAL		2			% Ü		·	İ	· 	Nb%	%N		]	IER ELEMEN
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Separation   Control   C	75754	ر ا	ASTM A10	vo ⊤		o .				· · ·					000'0		,382	
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HEAT   TIEM   Ties second   Vicinity   Color	76767		ASTM ATO	O H		<b>⊃</b> ,											377	
HEAT	76747	- 1	ASTM A10	n v		-								•			392	
12.56   50.00   38.0   38.0   57.0   32.0   36.0   56.0   156 - 156   156 -	- ;		TERT SDEC	NON	5 (		; }	o !	<u>ہ</u> ا۔		<b>-</b>	/ L'a .		<b>-</b>		ŀ	· :_	
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122.65   50,00   385,0   572,0   32,5   54,5   164 - 169   0,0   0,0   KV   20   139   102   1     122.65   50,00   319,0   517,0   32,0   69,0   165 - 159   0,0   0,0   KV   20   139   102   1     122.65   50,00   325,0   32,0   34,0   55,0   165 - 162   0,0   0,0   KV   20   139   102   1     122.65   50,00   325,0   322,0   34,0   55,0   165 - 162   0,0   0,0   KV   20   139   102   1     122.65   50,00   325,0   322,0   34,0   55,0   165 - 162   0,0   0,0   KV   20   139   102   1     122.65   50,00   325,0   322,0   34,0   55,0   165 - 162   0,0   0,0   KV   20   139   105   1     122.65   50,00   325,0   322,0   34,0   55,0   165 - 162   0,0   0,0   KV   20   139   105   1     122.65   50,00   325,0   325,0   32,0   34,0   55,0   165 - 162   0,0   0,0   KV   20   139   105   1     122.65   50,00   325,0   322,0   34,0   55,0   165 - 162   0,0   0,0   KV   20   139   105   1     122.65   50,00   325,0   32	77612	4				320,0	35,0	33	•	8 - 166	0.0	00	: <u>S</u>			9		
12,65   60,00   319,0   517,0   32,0   59,0   156-159   0,0   0,0   KV   20   103   108   102   1	71624	17		<u> </u>		572,0	32,5	Ŗ		14 - 169	0,0	0,0	€ 52			86	28	
12.56   50,00   319,0   517,0   32,0   55,0   155-159   0,0   0,0   KV   20   103   106   102   1     12.56   50,00   325,0   523,0   34,0   55,0   155-162   0,0   0,0   KV   20   103   95   1     12.56   50,00   325,0   325,0   323,0   34,0   55,0   155-162   0,0   0,0   KV   20   103   95   1     HEAT   ITEM	75754	ໝ		·• ·		517,0	32,0	29		6-159	0,0	0'0	<b>⊊</b> 			108	102 ; 1	
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122.65   50,00   306.0   552.0   30.0   56.0   160-168   0.0   0.0   KV   20 104 100   166   1	76747	<b>-</b>				523,0	34,0	55		6-162	0'0	0'0	₹		<b>.</b>	8	89	0
HEAT   TEX.65   50,00   325,0   553,0   155,-162   0.0   0.0   KV   20   103   96   99   1	76253	<del>-</del> ;				522,0	30,0	œ,	•	30 - 168	0,0	0'0	₹			100	1 28	O
HEAT   ITEM   MATERIAL IN ACCORDANCE TO   Normalized at 880°-920°C / Air Cool   ASME SA ASTM A105-05   Normalized at 880°-920°C / Air Cool   ASME SA ASTM A105-05   Normalized at 880°-920°C / Air Cool   ASME SA ASTM A105-05   Normalized at 880°-920°C / Air Cool   ASME SA ASTM A105-05   RIVA ACCIAI   RIVA ACC	-	,				523,0	94,0		·	6-162	0,0	0'0	₹	<b></b>			99 :	0
Normalized at 880°-920°C / Air Cool Normalized at 880°-920°C / Air		TEM		MATERIA	IN ACCORD	ANCE TO				HEA	TTREATM	IN.			FURNACE	;	STEEL W	
Normalized at 880°-920°C / Air Cool ELECTRIC FURNACE RIVA ACCIAI RIPED MATERIAI MEETS  VINDE MANUFACTURERS SYMBOL MANUFACTURERS SYMBOL STUDBOLTS  RIVA ACCIAI RIVA ACCIAI RIPED MATERIAI MEETS  VINDE MANUFACTURERS SYMBOL MANUFACTURERS SYMBOL STUDBOLTS  RIVA ACCIAI RIVA ACCIAI RIPED MATERIAI MEETS  VINDE MANUFACTURERS SYMBOL MANUFACTURERS SYMBOL STUDBOLTS  RIVA ACCIAI RIVA ACCIAI RIPED MATERIAI MEETS  VINDE MANUFACTURERS SYMBOL MANUFACTURERS SYMBOL STUDBOLTS	75349	2	ASME SA	ASTM A105-0:	ľ			Nor	ralized at 8	80"-920"C/	'Air Coof			H	CTRIC FL	RNACE	RIVA ACC	
Normalized at 880°-920°C / Air Cool   ELECTRIC FURNACE   RIVA ACCIAI	77612	₹	ASME SA	ASTM A105-0	ر د			Norm	nalized at 8	80°-920°C /	/ Air Cool			핍	CTRIC FL	RNACE	RIVA ACC	
Normalized at 880°-920°C / Air Cool   ELECTRIC FURNACE	71624	4	ASME SA	ASTM A105-0.	ır.			Non	nalized at 8	80°-920°C/	'Air Cool			핍	CTRIC FL	RNACE	RIVA ACC	<b>E</b>
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INSPECTION CERTIFICATE EN 10204:2004 / 3.1

7025 - 44th Steet S.E. Caigary, Alberta T2C 4E8

19 04 2006 11.04.2006 11.04.2006 Dated Dated Certificata Nr. 16400 invoice Nr. 425 Del. Note Nr. 659 ð TRANS AM PIPING PRODUCTS LTD.

COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RANA INDUSTRIA MECCANICA LIGURE SPA

DNIPPLE TRE NDT S-60 2" CLOSED L 61mm A106BAP1 8LB   SEE NOTE		HEAT CODE HEAT	ITEM	YOUR P.O.	OUR REFERENCE	TENCE	7			6				.				Page 1 10204 FA 10204 Page	DIN EN 10204	Page
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19277   023   ASTIM AVIGES 647 SLB   0.159   0.200   0.000   0.001   0.005   0.010   0.000		92977	030	ASTM A 106/B	A D1 61 0		+		-	_ .				3 0	š	Nb%	-		0	OTHER FIRESTS
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17254   072   ASTMA A10EB APP ISLB   0.150   0.200   0.050		87581	8	ASTM A106/B	API 5LB										000		—-			
Tright   ASTM A105   Graph	A34	1755E		ASTM A106/B	API 5LB										0000					
37699   014   ASTIMA 4105   0.185   0.202   1.080   0.024   0.018   0.018   0.000	<u> </u>	77514		ASTM A105							-				0000				_	
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Normalized at 880°C-920°C / Air Cool   ELECTRIC FURNACE		¢	}-		MAIERIALI	N ACCORD	ANCE TO					HEAT TRE	SATMENT		-		.i	ļ. -	-	3
Normalized at 880°C-920°C / Alr Cool   ELECTRIC FURNACE		77676		ASME SA AST	MA106/A16	0M-04b G	بر 00		Z	omalized	at 880°C.	920°C / Air	100					1	ובנו אוון	Our Ref.
Normalized at 880°C-920°C / Air Cool   ELECTRIC FURNACE     17254		928//		ASME SA AST	MA106/A16	0M-04b G	٠. 8			ormalized	at 880°C	920.0	3 6			FLECT	SIC FURN		₹	053112
17257   0.72   ASME SA ASTM A106/A FGOM_GALLGLE   Normalized at 880°C-920°C / Air Cool   ELECTRIC FURNACE   T7514   ASME SA ASTM A105-05   P.C.	-	0700	· ·	ASME SA AST	M A106/A16	OM-04b G	m m		Z	ormalized	at 880°C	920°C / Air	3 2			ELECT	RIC FURN		₹	053112
77514   77515   7751	A34	77255	*******	ASME SA AST	M A106/A15	OM-O4b.G	L.B.		Z	ormalized	at 880°C.	920°C / Air	3 8			ELECT	SIC FURN		₹	033091
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B1.1818.22 - NACE MR0176 ISO 1515671 - SUPPLIED MATERIAL MEETS  SPECIFICATIONS AND P.O. REQUIREMENTS P.O. # $SOSOSOSOSOSOSOSOSOSOSOSOSOSOSOSOSOSOSO$	OTES ASA	T Bits 1100	11 00 000	SIME SA ASTA	WA105-05	DATE	RFC	FIVE	C	omalized	at,880,193	OC/Air C	loo.			ELECTR		ACE		·,
P.O. # $SO8DS(o/D)$ BORIS FIZOTTI FITTINGS IML	in in in in in in in in in in in in in i	-818.2.2 - 1	VACE MR01	7- ANSI 631.1/	B31.3 - IME:	STD-AN	S		INSPECT	TION AUTO	RITY	QUALITY	CONTROL	DEPARTM	ENT MAN	LIFACTI IDE	Dre evan			
E7-(921) BORIS FIZZOTTI FITTINGS IML	SPE	CIFICATIO	NS AND P.C	J. REQUIREME		.O. #	₹ ₹()		1/2/2	100							2	- 1	ACTURER	SSYMBOL
				j			)	<i>≬</i> ⊘ }	) J		1921		BORIS FIZ	ZOTTI	<b>G</b>	TTINGS	¥	2 <u>.</u>	DBOLTS (	€
						VIVOID	1 2 2 2	H	1	-								-		

HEAT NUMBER : S 6 - 1229 3 SALID BY: S 6 - 1229 3

APPROVED BY O.C. INSPECTOR

# M.E.G.A.

CERTIFICATO DI COLLAUDO TEST CERTIFICATE CERTIFICAT DE CONTROLE •

CLUSHOTE CE FRANKLIN LTD.

1571815-OR-2100

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

CERTIFICATO M. 537649 FUGLIO 1
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CERTIFICATI NI.
REV. 1 Sheet
PROPERTY NI.

Certificat N. REV.1 Faulte

DATA/Data 23/02/07

Confessa 79564 Job N. Confessation de commande

PAOVA Test Enreuva		Steel o	LATERIALE unity / Matiéra	COLAT Heat / Co	ulée	G%	Si %	He 7	4 S%	P%	Cr%	H1%		Ma %	11%	1	2%	٧%	A72	CEX
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KAUL	W2	FM A105	703	063387	*	0.180	0.240 Nb:=		80   0.003 no	0.012	00.12	Ψυ.ι	10.	บบ๖	0.000	"	025	0.003	0.023	0.38
VRBR	AS	M A105	/05	06/7148	88	0.185	0.180	0.8		0.014	00.10	00.0	5 Q.	010	0.000	lo.	120	0.001	0.023	0.35
					1	>	Nb#=	0.0	01										İ	
PROVA		PREL est specimen	ETTA L/Epresuvette	SHERVAMENTO	ROT	TURA	WITHNEWNE	atto	CONTRAZIONE	III	PEZZA	PIRGA	BCHIA	DC.			RZS Impact (e	(LISHZA LI / Fidulijen	·	-
Test Epreuve	$\Box$	BEZIGNE	LUMONEZZA	Filmmir. Yiski pokit Limile d'éksücülé	Terrella	ninc,≥ Enisteria Studio	% ≥ Elengation Allengeme	n	% ≥ Reduction of are Striction	s.   14	RB udgess Durelé	Bend test Plage	Flatt, t Aptati	SE. 186		Tirs	7, °C	- Luu	PRE/Value/	Données
ARAL.	Į,	30.5	Length / Longeur 25 . U	312.0	l	33.0	29.	I_	65.8		-160		-	J		KV	ीका स्त्रा }		2-48	
NDCL	1	30.6	25.0	303.0	1	10.0	31.	- 1	68.6	1	-156			J		KV	•			
IDDF	1	59.5	35.0	346.6	50	1.4	25.	7	62.9	146	-149			J		KV	•	48-6	3-34	
ILSR	1	30.6	25.0	298.9	1	8.2	32.		68.1	140	-145			J	1	KV	(	152-:	150-158	3
NADL	1	60.1	35.0	308.0	i	28.0	28.	- 1	65.0	1	-145			J	,	KV	0	1		
VRBR	1	122.6	50.0	297.0	51	15.0	31.	1	69.9	140	-145			J		KV		48-5	2-60	
PROVA Test Egypuyo	æ	E/Remarks/	Notes	EN10204/	3.1									FORMA Shape	/Forma	1	= 0	2 =		
VBAL.	ELE	CT.FUR	NACE-NORM	ALIZED AT 9		OOLED	IN STIL	L AI	R. /CER	T.8596	.06 MEG	A/ISM	! *530	980	MEGA*					,,
VDCL.	ELE	CT.FUR	NACE-NORM	ALIZED AT 90	90 C C	COOLED	IN STIL	L AI	R. /CER	T.8642	.06 MEG	A/ISN/	<b>*53</b> 1	.508	MEGA*					
IDDF	ELE	CT.FUR	NACE - NORM	ALIZED AT 90	30 C C	D3100	IN STIL	L AII	R. /CER	T.117,	06 CARL	OTTO*9	3258	9 ME	GA*					
ILSR				ALIZED AT 9	-					T.56.0	6 EVASI	*53279	9 ME	EA*						
VADL				ALIZED AT 9				L AII			6.06 ME								•	
RBR	+	<del> </del>		ALIZED COOL	D IN	SIILL	AIR.		/CER	1.1471	.06 CAR	LOTTO,	5345	185 M	EGA*			<del></del>	VISUA	. AN
PROVA Test Epreuve	PDA Han Pos	n Dunanti	Y Cus	ice stiente tomer cade ode cilent	6 FECRIZIO	ME/Descrip	Sen / Clescripti	an											DIKEN	
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OCL	002	1 -	50   109652		***************************************				NPT A/SA1		<b>/</b> ::									0
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SIGNATURE:

APPROVED BY Q.C. INSPECTOR

ENTEUFFERMEDI COLLANDO

CAPO COLLANDO

MOTE / Ramurks / Hotes Entru ur production Authority Collabor Chief Inspection Office Inspection Offic

DOC. MERT M.E.G.A. Sergio Appiani

M.E.G.A. S.D.A. - VIA DALLA CHIESA. 3 - SCANZOROSCIATE (BG) ITALY - TEL. +39 035 661280 - TELEFAX 439 035 665535

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

RACO LIMITED. CASTLE HOUSE

Certificate Nr 17104 Invoice Nr 62 Del. Note Nr 102

Dated 19.01.2007 Dated 17.01.2007 Dated 17.01.2007

STATION ROAD - NEW BARNET HERTFORDSHIRE ENS 1PE - UNITED KINGEOM COMPANY WITH QUALITY SYSTEM ISO 9061-2000 CERTIFIED BY RINA INDUSTRIA MECCANICA LIGURE SPA 18030 CASARZA LIGURE . Genova - Italy - P. zza Marco Cappelli, 4 - Tol. 01955, 46661 - Fax 0185, 46661 - Fax 0185, 46661 of MATERIAL TEST DEPARTMENT This conflicte has been generated by computer and need not to be signed for validity according to DIN EN 19204 Page 3 - 7

1703   2008-2501-00000-2003   25 FTTMOLUMON FF THEO NFT 3M 1-72 A1694   1-67-4-7   1-6			-										* ** *			
1915 FITTING 90 ELB THRO NPT ZM 1" A108N   1.406.234   SEE NOTE   SATISFACE   SEE NOTE   SATISFACE   SEE NOTE   SATISFACE   SEE NOTE   SATISFACE   SEE NOTE   SATISFACE   SEE NOTE   SATISFACE   SEE NOTE   SATISFACE   SATI	: .: `		DE201-0001043-003		TTING UN	ION F/F THI	RD NPT 3A RD NPT 3A RD NPT 3A	112" A10 11" A105N 11.17" A1	SN (MALE)		4091 2880		:	SEE NOTE SEE NOTE SEE NOTE		ACTORY ACTORY ACTORY
280 FITTING TEE THRD NPT ZM 1** A105N  2420 FITTING THRD NPT ZM 1** A105N  2420 F			2E201-0001043-004 2E201-0001060-001 2E201-0001060-002		ITTING 90	ION F/F THI ELB. THRO ELB. THRO	RD NPT 3A NPT 2M 1/ NPT 2M 1″	/i 1" A105N 2" A105N ∵A105N∵		ଛିଛିଛି	કેલ્ફ કુક ફુક			SEE NOTE SEE NOTE SEE NOTE	SATISF SATISF SATISF	ACTORY ACTORY ACTORY
% MM%         S%         P%         Crk         N/K         W%         N%         <			2E201-0001060-007		TITING TE	ETHRD NP	T 2M 1" A	105N 105N	Š	(g)	1521			SEE NOTE	SATISE	ACTORY ACTORY
100   0,027   0,009   0,050   0,040   0,012   0,000   0,010   0,022   0,000   0,000   0,030     100   0,022   0,015   0,156   0,100   0,024   0,002   0,003   0,002   0,002   0,003   0,032     100   0,022   0,015   0,156   0,100   0,025   0,010   0,002   0,002   0,002   0,003   0,032     100   0,020   0,015   0,156   0,100   0,025   0,010   0,002   0,002   0,002   0,003   0,392     100   0,025   0,017   0,010   0,020   0,010   0,003   0,003   0,003   0,003   0,032   0,392     100   0,950   0,017   0,019   0,110   0,056   0,101   0,005   0,003   0,000   0,000   0,012   0,385     100   0,950   0,017   0,019   0,110   0,060   0,010   0,003   0,000   0,000   0,001   0,035     100   0,950   0,017   0,019   0,110   0,060   0,010   0,003   0,000   0,000   0,001   0,005     100   0,950   0,017   0,019   0,110   0,060   0,010   0,003   0,000   0,000   0,001   0,005     100   0,950   0,017   0,019   0,110   0,060   0,100   0,003   0,000   0,000   0,000   0,000   0,001   0,005     100   0,950   0,017   0,019   0,110   0,060   0,100   0,003   0,000   0,000   0,000   0,001   0,005     100   0,950   0,017   0,019   0,110   0,060   0,100   0,003   0,000   0,000   0,000   0,000   0,000   0,000     100   0,950   0,017   0,019   0,110   0,060   0,100   0,000   0,000   0,000   0,000   0,000   0,000     100   0,950   0,017   0,019   0,110   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     100   0,950   0,017   0,019   0,110   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     100   0,950   0,017   0,019   0,010   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     100   0,950   0,017   0,019   0,000   0,000   0,000   0,000   0,000   0,000   0,000     100   0,950   0,017   0,010   0,000   0,000   0,000   0,000   0,000   0,000   0,000     100   0,950   0,017   0,010   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     100   0,950   0,017   0,010   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000     100   0,950   0,017   0,010   0,000   0,000   0,000   0,000	ITEM	MATERIAL	స్త			%d	Cr%	•.			%^	%qN	· · ·	1	OTHER EI	EMENTS
Color   Colo		STM A105	0,190	! <del>.</del> .		•	: <del>:</del>	: ••				000'0			:	
150 0.850 0.015 0.105 0.100 0.024 0.002 0.200 0.003 0.002 0.002 0.002 0.302 0.305 0.002 0.001 0.002 0.001 0.002	•	STM A105 STM A105	0,180									0,002				
Second   Control   Contr		STM A105	0,180									0,002				
90 0,990 0,020 0,017 0,090 0,010 0,006 0,190 0,000 0,001 0,000 0,012 0,332 0,000 0,090 0,017 0,019 0,110 0,060 0,010 0,000 0,001 0,000 0,001 0,385 0,000 0,001 0,019 0,110 0,060 0,010 0,000 0,001 0,000 0,001 0,385 0,000 0,001 0,019 0,110 0,060 0,010 0,000 0,001 0,000 0,001 0,385 0,000 0,001 0,019 0,110 0,060 0,010 0,000 0,001 0,000 0,001 0,385 0,000 0,001 0,019 0,110 0,000 0,001 0,000 0,001 0,000 0,001 0,385 0,000 0,001 0,000 0,001 0,000 0,001 0,000 0,001 0,385 0,000 0,001 0,000 0,		STM A105	0,180									0,002				
STEEL ON OUT   COURT	•	STM A105	0,190									0,001				
### STREMUNITH GLONGATION REQUICIDION OF AREA MARQUESS HID.  ### STREMUNITH GLONGATION  ### STREMUNITH		STM A105	0,185									000,0				
150 300 670 155 - 160 0,0 0,0 KV 20 96 103 102 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ITEM	TEST SPECIMEN	YELD POINT TEN	BILE STRENGHT	ELONGATION	REDUCTION OF	AREA			ATTÉNING TESI		IMPACT T	EST - JOULE/cm	2	SHAPE	MELD POINT
003 122.65 50.00 315.0 545.0 30.0 67.0 155-160 0.0 0.0 KV 20 105 102 11  004 122.65 50.00 306.0 564.0 34.0 56.0 160-162 0.0 0.0 KV 20 105 100 109 1  122.65 50.00 306.0 564.0 34.0 56.0 160-162 0.0 0.0 KV 20 105 100 97 1  122.65 50.00 306.0 564.0 31.0 56.0 160-162 0.0 0.0 KV 20 105 100 97 1  122.65 50.00 306.0 564.0 31.0 54.0 162-168 0.0 0.0 KV 20 105 100 97 1  122.65 50.00 306.0 564.0 31.0 54.0 162-168 0.0 0.0 KV 20 96 102 101 1  002 122.65 50.00 306.0 564.0 31.0 54.0 162-168 0.0 0.0 KV 20 96 102 101 1  003 122.65 50.00 306.0 564.0 31.0 54.0 162-168 0.0 0.0 KV 20 96 102 101 1  004 122.65 50.00 306.0 564.0 31.0 54.0 156-162 0.0 0.0 KV 20 96 102 101 1  005 122.65 50.00 306.0 564.0 31.0 54.0 156-160 0.0 KV 20 96 98 102 101 1  006 122.65 50.00 306.0 564.0 31.0 32.0 57.0 156-166 0.0 0.0 KV 20 96 98 104 1  007 122.65 50.00 306.0 564.0 32.0 57.0 156-166 0.0 0.0 KV 20 96 98 104 1  008 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0				Nimm2 >=	, S	= <%	:-			:	TYPE 10x1	J	_:			mm2 >=1,0%
34,0 35,0 160-162 0,0 0,0 KV 20 105 110 97 1  34,0 56,0 160-168 0,0 0,0 KV 20 105 110 97 1  34,0 162-168 0,0 0,0 KV 20 105 100 97 1  34,0 162-168 0,0 0,0 KV 20 104 105 108 1  34,0 162-168 0,0 0,0 KV 20 104 105 108 1  34,0 162-168 0,0 0,0 KV 20 96 98 104 1  HEAT TREATMENT FURATORIN ELECTRIC FURNACE SIDENOR Normalized at 880°-920°C / Air Cool ELECTRIC FURNACE SIDENOR ELECTRIC FURNACE SIDENOR Normalized at 880°-920°C / Air Cool ELECTRIC FURNACE SIDENOR ELECTRIC FURNACE SIDENOR SIDENO			315,0	545,0	30'0	0,79		160	0,0	0'0	≥ :	Ñ I	8		 — ·	0,0
19.0 31,0 56,0 160-162 0,0 0,0 KV 20 105 100 97 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	******		309.0	564.0	34.0	56,0		162	0 0	000	<b>≩</b> ≩		50.			000
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32.0   54,0   162 - 168   0,0   0,0   KV   20   104   105   108   1   1   1   1   1   1   1   1   1				578,0	31,0	54,0	_	. 168	0,0	0'0	≩	2	86		<b></b>	0.0
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HEAT TREATMENT   FURNACE   STEEL MILL	•			٠.,	32,0	57,0	•	3-166	0,0	0,0	≩	2	96		-	0'0
HEAT TREATMENT  FURNACE  FURNACE  FLECTRIC FURNACE  Normalized at 880°-920°C / Air Cool  ELECTRIC FURNACE  FLECTRIC FURNACE  SIDENOR  FLECTRIC FURNACE  SIDENOR  FLECTRIC FURNACE  SIDENOR  FLECTRIC FURNACE  SIDENOR  FLECTRIC FURNACE  SIDENOR  FLECTRIC FURNACE  SIDENOR  Normalized at 880°-920°C / Air Cool  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLECTRIC FURNACE  FLANTA				4,	32,0	0623		. 166	0,0	0,0	₹		8		-	0'0
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Normalized at 880"-990"C / Air Cool ELECTRIC FURNACE Normalized at 880"-990"C / Air Cool ELECTRIC FURNACE ELECTRIC FURNACE 8.2.2. INSPECTION AUTORITY QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL AL MEETS		SME SA ASTM	A105-05		•	Norm	alized at 88	0-920°C/	Air Cool			ELEC	TRIC FUR	• • •	A ACCIAI	061095
AL MEETS SOURCE TO ROUND AUTORITY QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL		SME SA ASTM	A105-05		1	Norm	alized at 88	0°-920°C /	Air Cool			EFE	TRIC FUR		A ACCIAI	061482
AL MEETS SOURCETOR QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL		SME SA ASTM	A405-051 A F	Į.	) 	Norma	alized at 88	0920°C/	Air Cool			ELE	TRIC FUR		A ACCIAI	061482
	1/05 - ANSI B	31.1/B31.3 - IML	STD - ANSI B1.1	-B18.2.2		INSPECTION	AUTORITY	8	ALITY CON	TROL DEPAI	RTMENT .	AANUFACT	URER'S SYM	į	JFACTURER.	SYMBOL
	175 ISO 15156/	1 - MSS SP 83 -	SUPPLIED MATE	RIAL MEE		OFFICE	Œ		:		j					

STUDBOLTS 🛞

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FITTINGS

BORIS FIZZOTTI

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204;2004 / 3.1

16030 CASARZA LIGURE - Genova - Haly - P.zza Alarco Cappelli,4 - Tel.0185.467661 - Fax 0185.46561 - Fax 0185.465510 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 1 - 8

IRACO LIMITED. CASTLE HOUSE

Dated 10.01,2007 Dated 03.01,2007 Dated 03.01,2007

Certificate Nr 17078

1	finvoice Nr 2 Def. Note Nr 4 UNITED KINGERDM	
Harris Daniel Daniel	STATION ROAD - NEW BARNET HERTFORDSHIRE ENS 1PE - UNITED KINGGEM	
	COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA	

VISUAL & DIMENS.	SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY	OTHER ELEMENTS							YIELD POINT	Wmm2 >=1,0%	0'0	0'0	0 0	0.0	0.0	0'0	0.0	Our Ref.	062054	062093	061086	062093	061506	011206	051229	061027	R'S SYMBOL	. (
TO : VISUAL			6 4	 E	<b>4</b> 9	 2 E			SHAPE	1=0 2=[]		۳.	(O (					STEEL MILL	RIVA ACCIAI	RIVA ACCIAI	RIVA ACCIAI	RIVA ACCIAI	RIVA ACCIAI	ORI MARTIN	RIVA ACCIAI	RIVA ACCIAI	MANUFACTURER'S SYMBOL	
DIM. ACC. TO	SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE SEE NOTE	C.E.%	7 0,396			5 0,390		8 0,392	1:	m	109	105 109	99 106		·		100 105									†		<u>-</u>
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		Nb%	0,00	000'0	0000	000	0,001	0,002	IMPAC	Gmm .								! !	ᆸ	ᆸ.	ᇳ	ᆸ	ᆸ	교	<u>ш</u> і	ਜ਼	MANUFA	ĺ
		/ <sub>0</sub> /	0,002	0,002	0,021	000	0.002	0,002	. !	TYPE 10x16mm	≩	≩	≩ ≩	? ≩	₹	₹	≩										MENT	
	196526 1971/10 1967/10 1962/11 1945/11 1945/11 1945/11 1946/11	Cu%	0,180	0,170	0,160	0,190	0.210	0,170	FLATTENING TEST		0'0	0'0	0,0	0.0	0.0	0,0	0'0	:	:								DEPAR	
\	(2006) (2016)	T1%	0,005	0,005	0,019	0000	0,005	0,005	1					-				TWENT	5	ত	ਰ	ප	5	<u>ন</u>	-5 ·	õ	CONTROL	
1	1 5,5,	Mo%	0,020	0,010	0,00	0,030	0,010	0,010	BENO TEST	:	0'0	0,0	0, 0	0.0	0'0	0'0	0'0	HEAT TREATMENT	C / Air Co	C / Air Co	C / Air Co	C / Air Co	C / Air Co	3 / Air Co	D/Air Co	C/Air Co	QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL	
MOIL	FITTING 90 ELB. THRD NPT 2M 1" A10SN FITTING 90 ELB. THRD NPT 2M 3" A10SN FITTING 90 ELB. THRD NPT 3M 1" A10SN FITTING 90 ELB. THRD NPT 2M 3" A10SN FITTING 90 ELB. THRD NPT 2M 3" A10SN FITTING HEX.H.PLUG THRD NPT 1/2" A10SN FITTING HEX.H.PLUG THRD NPT 2"x1/2" FITTING HEX.BUSHING M/F THRD NPT 2"x1/2"		090'0	0,070	0,060	0,110	090'0	0,050	HARDWESS HD		163 - 165	166 - 170	160 - 162 166 - 170	162 - 166	160 - 164	160 - 164	162 - 168	Ī	Normalized at 880°-920°C / Air Cool	Normalized at 880°-920°С / Air Cool	Normalized at 880°-920°C / Air Cool	Normalized at 880°-920°C / Air Cool	2 Dominalized at 880°-920°C / Air Cool	Normalized at 880°-920°G / Air Cool	Normalized at 880°-920°C / Air Cool	Normalized at 880"-920"C / Air Coo	<b>3</b> — .	
DESCRIPTION	FITTING 90 ELB. THRD NPT 2M 1" A100 FITTING 90 ELB. THRD NPT 2M 3" A100 FITTING TEE THRD NPT 3M 1" A105N FITTING 90 ELB. THRD NPT 2M 3" A100 FITTING 90 ELB. THRD NPT 3M 2" A100 FITTING HEX.H.PLUG THRD NPT 1/2" A 100 FITTING HEX.BUSHING MIF THRD NPT FITTING HEX.BUSHING MIF THRD NPT FITTING HEX.BUSHING MIF THRD NPT	Cr%	0,120	0,120	0,090	060'0	0,110	0,100		<del>-</del>								:	ilized at 8	Hizeld at 8	ılizeldat 8	alizeed at 8	ılizedat 8	ilized at 8	alized at 8	alized at 8	INSPECTION AUTORITY	kuun v
	B. THRD HRD NP HRD NP B. THRD B. THRD T.P.LUG T BUSHING	%	0,014	0,020	0,010	0,00	0,016	0,018	REDUCTION OF AREA	14.7	58,0	58,0	49 C) 85	540	49 0	540	57,0		Norm					THE P			PECTION	
	10 90 EL 10 90 EL 10 90 EL 10 90 EL 10 HEX.1	%8	0,020	0,020	0,010	900'0	0,018	0,026	ELONGATION R		32,0	33,0	33,0	32,0	32,0	31,0	34,0			AND DESCRIPTION OF STREET, SAN THE STREET, SAN	このいの出にはい	! .	(,,)		12410	7	×	
		Mn%	1,000	096'0	090,	0.890	1,000	006'0		•								2		TOTAL SCHOOL STATE	Ú)	1	Z X		8	<u>Ω</u>		SH. \
Q.TY	200 200 200 200 200 200 200 200 200 200	%is	0,170	0,190	0,240	0,240	0,180	0,230	TENSILE STRENGHI	Wmm2 >≖	537,0	552,0	539,0	507,0	549,0	543,0	546,0	RDANCE TO		TANDAMENT .	0.	1	<u>.</u>		0/	0		IRIAL MEETS
NCE	2006-2E201-0000520-001 2006-2E201-0000520-013 2006-2E201-0000520-003 2006-2E201-0000520-003 2006-2E201-0000520-005 2006-2E201-0000520-025 2006-2E201-0000520-031	స్ట	0,185	0,180	0,190	0,195	0,185	0,205	OINT TER	£.	 Q.	Q	 O C	. 0		 Oʻ	 Q	MATERIAL IN ACCO		-	3	1	<u>-</u>		7	Ş	NSI B1.1	ED MATE
OUR REFERENCE	2006-2E201-0000520-001 2006-2E201-0000520-003 2006-2E201-0000520-014 2006-2E201-0000520-003 2006-2E201-0000520-020 2006-2E201-0000520-031 2006-2E201-0000520-031			<b></b>					YELD POINT	1. Mmm2 >=0,2%	329,0	340,0	306,0	331,0	366,0	364,0	309,0	TERIAL.	1105-05	SA ASTMATOSOS	1890 180	105-05	ASTANTA TOSTOS.	45TM A 105-05	ASTM A105-05	102-02	STD-A	SUPPLIE
	2006-21 2006-22 2006-23 2006-21 2006-21 2008-21 2008-21 2008-21	MATERIAL	ស្ត	55	ស្ត	5 W	<b>δ</b>	ς Σ	CAMEN	LENGHT mo	50,00	50,00	50,00	20,00	50,00	50,00	20,00	Ê	ASTM/	ASTM7	ASTM /	ASTM /			ASTM!	AU-IM-	3-IML	SP 83 - ( IREMEN
YOUR P.O.	17011/C 17011/C 17011/C 17011/C 17011/C 17011/C	MA	ASTM A105 ASTM A105	ASTM A105	ASTM A105 ASTM A105	ASTM A105	ASTM A105	ASTM A105	TEST SPECIMEN	SECT. mm2 - LENGHT mm	122,65	122,65	122,65	122,65	122 65	122,65	122,65		ASME SA ASTM A105-05	ASME SA	ASME SA ASTM A105-05	ASME SA ASTM A 105-05	ASME SA	ASME SA	ASME SA ASTM A105-05	ASME SA	ASME B16.11/05 - ANSI B31.1/B3 3 - IML STD - ANSI B1.1	NACE MR0175 ISO 15156/1 - MSSISP 83 - SUPPLIED MATE SPECIFICATIONS AND P.O. REQUIREMENTS UPIE:
HEM	47 77 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	ITEM	<b></b> €	14	നയ	27	47	47	TEM		_	<sub>دی</sub> :	<u>4</u> "	· &	27	47	47	ITEM	_	es.	7	<del>س</del> ــــ	ထ	27	47	4/	5 - ANS	ISO 1515 NS AND F
HEAT	79169 79564 78879 79564 73412 AK4583 75347	HEAT	79169 79564	78879	79564	AK4583	75347	78457	HEAT		79169	79564	79564	73412	AK4583	75347	78457	HEAT	79169	79564	78879	79564	73412	AK4583	75347	/649/	B16.11/0	MR0175 IFICATIO
	75 78 73 73 74 75 75		97.	78	2 K	. ¥	75	78			79	2.	2 62	73	7	75	₽		5/	75	75	Z,	57	₹	*	ζ:		NACE
HEAT CODE	AS S E H H H H H H H H H H H H H H H H H	HEAT CODE	DSI. EFE	HA7	EFE A88	N58	Ξ	至	HEAT CODE		JSO .		HA7	A88	N58	Ī	聖	HEAT CODE	DSF	EFE	HA7	 EFE	A88	N58	Ξ.	2	NOTES	

APPROVED BY Q.C. INSPECTOR

BORIS FIZZOTTI

FITTINGS IMI

STUDBOLTS (



高雄熙仁武卿為林村仁心路 303 號 **BOTH-WELL STEEL FITTINGS CO., LTD.** 

NO.303, JEN-HSIN ROAD JEN-WU HSIANG

KAOHSIUNG HSIEN, TAIWAN R.O.C.(81405)

An 1SO-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 E-MAIL;bothwell@www.bothwell.com.tw or box@mail.bothwell.com.tw

### MILL TEST INSPECTION CERTIFICATE &

ACCORDING TO EN10204/DIN50049/3.1.B

ORIGIN: TAIWAN

**CUSTOMER: CE FRANKLI** 

INVOICE NO: BW069501077

DATE: 06/06/06

CERT NO: 61211

ORDER NO: 5430(1476094-0R-2100

L/C NO: PAGE: 2

ITEM	RAW MATERIAL HEAT NO.	BOTH WELL HT.CD.	B E S C R 1	IPTION	QUANTATY	SPECIFICATION: ASTM / ASME A/SA 105N -03 * DIMENSION:
901	384304	2440	90D ELBOW 1" 2000# NPT	المطابق المتحادث	257 PC	ASME B16.11 - 2001
001	385113	2452	90D ELBOW 1" 2000# NPT	1096526	1092 PC	
901	385114	2454	90D ELBOW 1" 2000# NPT	1694524	1 PC	SURFACE:
002	9T066	2420	90D ELBOW 2" 2000# NPT	192341	746 PC	BY VISUALCOOD
662	383760	2442	90D ELBOW 2" 2000# NPT	1692571	33 <b>9</b> PC	DI TABUMICOOP
<del>98</del> 2	<b>9T056</b>	2446	90D ELBON 2" 2000# NRT	1892:70	220 PC	
<b>90</b> 3	385111	2453	TEE 1" 2000# NPT	19157	70 <b>0</b> PC	

ETEM	CHEMICAL COMPOSETION (%)												
2100	C	Si	Mm	P	S	Eu	Cr	Ni	Ko	V	Nb	CE	
Min	~	0.100	0.600	-	-	-	-	-	-	-	-	-	
Max	0.35	0.350	1.050	0.035	0.040	0.400	0.300	0.400	9.120	0.050	8.620	0.043	
001	€.200	0.198	0.850	0.013	0.007	0.160	0.060	0.050	0.010	0.003	0.064	0.370	
001	8.210	9.200	0.850	0.010	6.067	0.160	0.050	0.040	0.010	0.003	0.002	0.370	
001	0.220	0.220	0.860	0.017	0.007	0.110	0.060	9.040	0.010	0.602	0.003	0.390	
002	0.189	0.216	0.940	0.014	0.006	0.060	0.040	9.030	0.010	9.003	0.010	0.350	
602	0.200	0.230	0.869	0.018	0.010	0.130	9.199	0.050	0.020	0.005	0.000	0.380	
002	0.190	0.178	0.909	0.012	0.011	9.090	0.048	0.030	0.016	●. <del>60</del> 3	0.019	6.360	
<b>60</b> 3	0.210	0.200	0.840	0.009	0.008	9.100	0.050	0.040	0.010	6.092	0.001	0.370	

	"""				1	1 21002					
ITEN		MECHA	NICA	L TES	T	Remark: NORMALIZEI	D : 850°C				
	Tensile Strength	Yield Strength	Elon- Gation	R of A	Hardness	CONFORMS T STEEL MAKE				ACE	
	(KSI)	(KSI)	(%)	(%)	(EB)						
Min	70.0	36.0	22.0	30.0	*	7					
Max	-	-	-	-	187						
001	78.7	59.5	31.6	65.5	156	,		•		TINGS HAVE	
001	77.4	56.3	29.6	65.8	141	MANUFACT	URED AND	TESTED.	TV VCCO	IDANCE VIT	H THE
001	76.3	55.9	28.0	64.0	141	SPECIFIC	Allund 3	MONUTE C	JOON	TPRES	SION
882	77.2	54.4	34.4	67.5	143	ľ			REAL	Off.	
982	77.2	57.5	30.0	63.8	141	J	c L				1
992	74.0	51.4	31.8	65.2	141		T WANAC	ED,		THEPETT	- <u> </u>

BW-D0839 REV: 0

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### 截工股份有線公司

高雄縣仁武鄉為林村仁心路 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.bothwell.com.tw E-MAIL:bothwell@www.bothwell.com.tw or box@mail.bethwell.com.tw

### MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN10204/DIN50049/3.1.B

ORIGIN: TAIWAN

INVOICE NO: BWOG9501078

CUSTOMER: CE FRANKLIN CERT NO: 61561

OPDER NO: 5431(1476133-OR-2106

NA:

DATE: 07/25/06

PACE: 4

CERT	NO: 61501	L (	RDER NO:	; 5431(14	76133-0K-	Z1 <b>00</b> ]	L/C NG	:			PAGE:	4
ITEM	RAW MATERI MEAT N	THE R	T		DES	CRIPT	ION		QUAN	ITITY A	PECIFICATI STM / ASME /SA 105N - IMENSION:	
008	06021503	38 AB0	37 TEE 1	" 3 <del>000#</del>	NPT	(0)(7)	9		51		SME B16.11	- 2001
<b>009</b>	05122904	38   ABO	13 TEE 2	" 3 <del>900#</del>	NPT	i de la	1.5		31	15 PC		
009	<b>06</b> 022506	I/		" 3 <del>990#</del>			- 11				URFACE:	
	385108	245			/2" 30 <del>0</del> 0#		1. T. 1.			OPC B	Y VISUAL	. GOOD
	9T064 9T063				3000# 7		52.59		1	IAPC		
911 912	91063 06052806	235			" 3000# } 3000# NP1		95259 95902		1 -	26 PC	)	
	000000	7230	J. I.O.							310		
ITEN				CH	EMIC	AL C	OMPOS	ITIO	N (%)			
	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	CE
Min	-	0.100	9.600	-	-	-	-	-	-	-	-	-
Max	0.35€	0.350	1.050	0.035	0.040	0.400	0.300	0.460	0.120	9.050	0.020	0.430
008	0.210	0.240	6.840	0.011	0.010	0.160	0.060	0.046	0.020	0.010	0.003	0.380
008	0.210	0.220	0.870	0.010	8.616	0.130	0.030	0.848	0.020	0.001	-	0.370
609	0.200	0.240	0.840	0.013	0.012	0.170	0.050	0.050	0.030	0.001	0.003	0.370
016	0.190	0.210	0.850	0.019	0.006	0.110	0.100	4.666	0.020	0.003	0.002	0.370
011	0.190	0.210	0.930	0.014	0.007	0.070	8.898	0.030	0.010	0.003	0.010	0.370
<b>911</b>	0.200	0.250	9.960	0.014	0.006	9.070	8.976	0.040	0.010	0.003	0.010	0.380
<b>91</b> 2	9.200	0.236	0.860	0.016	0.015	0.110	6.849	0.040	0.010	0.010	0.002	6.370
ITEM		MEC	HANI	CAL	TES	ľ	Remark:	D : 850°C	·		· · · · · · · · · · · · · · · · · · ·	
11EM	Tensile	Yiel	d E1	on- I	R of A	Hardness	CONFORMS	TO NACE M				
	Strengt		? I	ion			STEEL HAK	ING PROCES	SS : ELEC	TRIC FUR	NACE	
	(RSI)	(KSI		<b>%)</b>	(%)		]					
Min	70.6	36.	1	0.5	30.0							
Max	-	<u> </u>		-		187						<u></u>
008	75.2	46.	ı 3:	3.6	63.2	156					TINGS HAVE	
<del>009</del>	77.3	55.	4 3	1.4	65.8	143					DANCE VIT	H THE
009	89.4	51.	9 3	8.8	63.6	143	SPECIFIC	CATIONS-S	MUNN Name	dan dan kanadaran dan di Santa Santa Santa Santa Santa	renteren er er er en en en er er er er er er er er er er er er er	meilinnane meele
010	78.9	57.	4 2	3.0	65.8	142	-		rQ		ch	UN
011	79. <b>G</b>	62.	3 3	2.4	67.3	156	ا كـ	CL				A
611	75.1	52.0	S 30	0.4	68.5	149	n	.c. Manag	I RE	EIVE	n apr	
612	80.1	50.	4 33	3.4	64.0	145		NG CHENC			AUN CHIER	

BW-D0839 REV: 0

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# 1.E.G.A

**CERTIFICATO DI COLLAUDO** TEST CERTIFICATE

MATERIAL ACCORDING TO NACE MR0175/ 2003.

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV

CE FRANKLIN LTD.

1571574-OR-2100

1900 - 300 - 5th AVENUE S.W. CALGARY, ALBERTA, CANADA T2P 3C4 Certificate N. 537244 Footio Sheet Feuille

DATA / Date

09/01/07

79563

COMMESSA Job N. Confirmation de commande

		ICAT DE			ERTIFIED BY DHV =150 9001	Pu : Co	rchase orde mmande	gr										
PHDVA Test			RIALE	COLA	TA C %	Si %	Mn %	S %	P%	Cr %	Ni %	Mo	% Ti 9	<u>.                                     </u>	Cu %	V %	21%	CE*
LCRS	ASTI	Steel quai 4 A105/0	ty / Matière 2	047779	ou+ee			0.010	0.013	00.10		06 0.0		f	160	1	0.024	
					;	Nb%=	0.00	0								ļ	CEs=	0.370
NNRT	ASTI	M A105/0	5	05/778				0.006	0.008	00.06	00.0	0.0	10 0.0	00   C	130	0.000	0.023	
NLRS	ACT	4 410E/0	_	FF0+70	344 0.19	1			1	00 12	00.4	16 0 0	10 0 0	ne .	. 240	0.001	l	0.326
NERS	WOLL	4 A105/0	5	EF0*70	344 0.15			0 0.019 1 N %~	0.020	00.12	Ų0.1	0.0	10   0.0	05	.240	0.001	0.012	0.401
DRSU	ASTI	4 A105/0	2	16867	0.182			0 0.004	0.019	00.20	00.	13 0.0	40 0.0	00 C	340	0.004	0.016	0.403
Í						11,570	0.00	1				İ		-			CEs=	.3237
FDUR	ASTI	4 A105/0	2	4497/0		1 .		0 0.010	0.009	00.07	00.1	10 0.0	18   0.0	00   0	.180	0.001	0.023	
NCNR	ACT	4 A105/0	2	158659	0.160	1	1	2 0.002	0.007	00.00		11 0.0	15 0.0	م ا م	227	0.000		0.3333
MUME	ASII	1 A103/0	J	130033	0.100		1.23	2 0.002	0.007	00.09	00	11 0.0.	15 0.0	י טט	,227	0.000	0.041 CEs=	0.410
<u> </u>	<u> </u>	PROVETT	A		POTTURA	ALLUNGAME	1		7,11		.L		Ti	<u></u>	RE	SILIENZA		0.000
PRIDVA Test		t speciment / E		SNERVAMENTÖ N/mm,≥ Yield point	ROTTURA N/mm≥ Tensila stranght	% ≥ Elongatio	i	CONTRAZIONE % ≥ Reduction of are		REZZA HB dness	PIEGA Bend test	SCHIACC. Flatt. lest		1	1	est / Résilienc		
Eprenve	Sec	tion / Sect. Len	UNGHEZZA gth / Longeur	Limite d'élasticité	Rupture	Allongeme	ent	Striction	De	ıreté	Pliage	Apfattiss.	UNITÀ MIS. Unit system		T. °C Test im	in i	RE / Value /	Données
LCRS NNRT	1	30.6	35.0 25.0	320.0	492.0 525.0	24. 30.		66.2	145-	1		-	J	KV	1	0  82-92		
	! !	122.6	50.0	298.0 322.0	536.0	33.		68.8 58.0	143- 149-	1			J,	KV	1	0 48-50		
DRSU	1	30.6	25.0	309.0	528.0	30.	í	69.8	149-	- 1			3	ΚV	ĺ	5 40-32		
FDUR	1	30.6	25.0	312.0	531.0	28.	.2	67.2	149-	152			J	ΚV		0 46-46	5-44	
NCNR	1	30.6	25.0	335.0	542.0	27.	8	63.6	170-	179		ļ Ļ	J	ΚV	ļ	0 58-54	· 50	
PROVA Test	NOTE /	Remarks / Not	es	EN10204/	2 1							. FO	IRMA Iapa / Farme	:	: 1 = ø	2 =		
LCRS	ELEC	T.FURNA	CE - NORMA	LIZED AT 9		IN STIL	L AIR	. /CER	T.30.05	EVASI	24763	<u>.</u>	·					
NNRT	1			LIZED AT 9					T.83.06	EVASI	53518	35 MEG/	۸*					
i	1			LIZED AT 9					T.2411.	06 META	LFAR	k						
1	•			LIZED AT 9					T.193.0									
	2			LIZED AT 90 LIZED AT 92					T.46.04 T.30.06									
PROVA	POS.	QUANTITÀ	CODI	CE CLIENTE				, , , , ,			50111	., ,,,,,,	•			<u> </u>	VISUAL	. AND
Test Epreuve	Item Pos.	Quantity Quantité	Cust Co	omer code de client	BESCRIZIONE / Descri	ption / Descripti	ion										DIMENS	SIONAL
LCRS	007	141	109615		CROSS S. 2													0K
NNRT.	007 008	9 150	109615	- 1	CROSS S. 2													OK OK
i	009	130	109663		45 DEG. EL				05N 1/2									OK.
ļ	010	152	109087	0	TEE S. 300												-2110-000-000	OK
NCNR	010	448	109087	0	TEE S. 300	O NPT A/	SA105	N 1/4		g-m-p-n(s-re-	er en ensetten			aeuroni Tali i			1	рκ
										,	1		ا دالا اسالا	i" l i	ه "سبه" ا	ا است اوالی	74	e ii
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			Ì								.,	マつて	7149	7	18	<u>847</u>	36	
											<u> </u>		21					
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										i	sampirari	saattiin s	BY Q	C. I	Jap (	ECTO!	) Linearen	F11250 6741717 6 6
										j	77 12 1 1 1 1 1 1					production in the		
		\_ <del></del>	1						F)	ITE UFFICIALE	Of COLLA	JBC	<del></del>	<u> </u>		APO COLLAU	90	
				NOTE / Remarks / N	otes					Inspection Service Inspe	Authority				Chi	iel Inspection sable assuran	OPT	



Commanding a Higher Standardsm

Phoenix \* Capitol \* Camco

**Cap Products** 

**Certified Mill Test Report** 

3/6/2007

Customer

CE FRANKLIN LTD

BOX 6776 STN "D"

CALGARY, AB T2P2E8

Part Number 15111016 P.O.

1750350-OR-2100

Heat No P624634

Heat Code R4D -

1119536

Phoenix Order # 459293

Material

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

Description

1 X 8" XHSML BLK NIPL +

**Chemical Properties** 

Γ	C	Mn	P	S	Si	Cu	Cr	Ni		C Eq. Lo	1
Γ	0.220	0.580	0.013	0.017	0.240	0.030	0.020	0.020		0.328	
Ī	Mo	V	Со	Al	Cb	N	Pb	Sn	Та	Ti	]
Γ	0.010	0.010									Į

Additional Chemical Properties

1 COURTON	CHOMILE	. I topertie	 
	T-:		
1			
1	1	! .	
<del></del>			
1			
1			1

Cr + Cu + Ni	
0.070	

**Mechanical Properties** 

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
69,500	47,000	35.0%			N/A	N/A	N/A	N/A

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.

CapProducts, Ltd. PC COMPRESSION 25 Winnipeg St DATE RECEIVED APR 1 3 2007 Vanastra, ON NOM 1L0 SIGNATURE: APPROVED BY O.C. INSPECTOR

MAY 1 7 2006





# **Certificate of Test**

Part Number:

Y31066 Description: 1x8 B XS SML NIP 106B

Heat Code:

AH75 レ

Reference No.:

Specification:

ASTM A106 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL PIPE

Chemical Analysis %

	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										
Heat No.	С	Mn	P	S	Şi	Çu	Ni	Cr	Mo	V	Cb/Nb
P524617	0.21	0.58	0.016	0.030	0.23	0.03	0.02	0.02	0.01	< 0.01	
										1	
	CE (LO	ONG F	ORMUL	A) = 0.3	2						

**Mechanical Properties** 

Yield S	trength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	49,200	psi	71,500	34.00	0.00	N/R
MPa	000	MPa	000		•	·
Heat Trea	tment:					
			MEETS N	IACE MR0175		
I			HARDNE	SS LESS THAN OR	R EQUAL 22HRC	
Hydrotest	/NDE: NE	E		I	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 COMPR RECEIVED	ESSION I APR 137	17
10.# 50D148	1891736	
SIGNATURE:	HC	
APPROVED BY Q.C. IN	VSPECTOR	





### Phoenix \* Capitol \* Camco **Cap Products**

1123491

Commanding a Higher Standardsm

### **Certified Mill Test Report**

3/14/2007

Customer

CE FRANKLIN LTD

BOX 6776 STN "D" CALGARY, AB T2P2E8

Part Number 15111014 P.O.

1750350-OR-2100

Heat No P624634 Heat Code R4D

Phoenix Order # 459293 ASTM A106-1999e B / ASME SA106-2001 Edition, No Adden

Description

Material

1 X 7" XHSML BLK NIPL A

**Chemical Properties** 

С	Mn	P	s	Si	Cu	Cr	Ni		C Eq. Long
0.220	0.580	0.013	0.017	0.240	0.030	0.020	0.020		0.328
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti
0.010	0.010								

Additional Chemical Properties											

Cr + Cu + Ni
0.070

Mechanical Properties

Charpy Minimum Impact -

Tensile	(PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
69,5	00	47,000	35.0%			N/A	N/A	N/A	N/A

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.

> PO COMPRESSION SIGNATURE: APPROVED BY Q.C. INSPECTOR

CapProducts, Ltd. 25 Winnipeg St

Vanastra, ON N0M 1L0

UC1 2 6 2000

1123/00





# **Certificate of Test**

Part Number:

Y3106

Description: 1x6 B XS SML NIP 106B

Heat Code:

AI92 🗸

Reference No.:

Specification:

ASTM A106-04 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

Chemical Analysis %

Heat No. 621146	C 0.21	Mn 0.51	P 0.016	S 0.023	<u>Si</u> 0.24	<u>Cu</u> 0.03	<u>Ni</u> 0.02	<u>Cr</u> 0.02	Mo 0.01	< 0.01	Cb/Nb
-			0 D J CT II		_						

CE (LONG FORMULA) = 0.31

Mechanical Properties

Yield Strength		Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	48,700	psi	71,500	32.00	0.00	N/R
MPa	000	MPa	000			
Heat Trea	tment:					
	-		SEAMLES	SS		
			MAX.HAI NACE MI		T EXCEED 22HRC.	IN ACC. WITH
Hydrotest	NDE: NI	DΕ		F	Rend: 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.

DATE RECEIVED MAR 0 7 2007

P.O. # 508 023 Inv

SIGNATURE HC

APPROVED BY Q.C. INSPECTOR

1123109



Tel. (519) 426-4551 Fax (519) 426-5509

# **Certificate of Test**

Part Number:

Y3106 Description: 1x6 B XS SML NIP 106B

Heat Code:

AH75

Reference No.:

Specification:

ASTM A106 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL PIPE

Chemical Analysis %

Heat No.	С	Mn	P	S	Şi	Cu	Ni	Cr	Mo	Ų	Cb/Nb	
P524617	0.21	0.58	0.016	0.030	0.23	0.03	0.02	0.02	0.01	< 0.01		
•												

CE (LONG FORMULA) = 0.32

**Mechanical Properties** 

Yield Strength PSI:49,200

Tensile Strength PSI:71,500

MPa:000

MPa:000

Elongation % 2": 34.00

Reduction in Area %: 0.00

Hardness BHN: N/R

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 it's agent.



			THE RESIDENCE OF THE PARTY OF T	CONTRACTOR DESCRIPTION OF REAL PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF T
ΑĪ	ivision of Mheller Carla	ua, LT	ЮΝ	
	DATE RECEIVED	APR	13	<u>2007                                   </u>
	P.O.# 508148	18	317	36
		11.6		•
	SIGNATURE:	<del>- 17 -</del>		
	APPROVED BY Q.C. I	NSPEC	CTOR	

Luss

APR 0 2 2007



# Phoenix \* Capitol \* Camco Cap Products

Ni Monday Marchanical Properties Tensile(PSI) 71000 Charpy Minimum In	540 0.6  10 V 010 0.6  In T  1 Properties  ies  Yield(PSI) 46500	P 011 V 001 Ca Elo	S 0.023 Co Ti	Si 0.220 Al C Eq. Long 0.306	Cu 0.020 Cb	0.010 N
Ni Monday Market Mechanical Properties Tensile(PSI) 71000 Charpy Minimum In Test 1 Test	10 0.00 0.00 n T T T T T T T T T T T T T T T T T T	V 001 Sa	Ti	Al C Eq. Long 0.306	СЬ	N
0.010 0.0  Pb Sr  Additional Chemical  Mechanical Propertie  Tensile(PSI)  71000  Charpy Minimum In  Test 1 Test	010 0.0 In T I Properties ies Yield(PSI) 46500	001 a	Ti	C Eq. Long 0.306		,
Additional Chemical Mechanical Propertic Tensile(PSI) 71000 Charpy Minimum In Test 1 Test	I Properties  ies  Yield(PSI)  46500	a .	ng. % in 2	0.306	ion	,
Mechanical Propertie Tensile(PSI) 71000 Charpy Minimum In Test 1 Test	ies Yield(PSI) 46500	Elo			ion	DVIV
71000 Charpy Minimum In Test 1 Test	46500	Elo		in. Reducti	ion	FAFTET
Charpy Minimum In Test 1 Test			34%	ı		BHN
Test 1 Test	mmact - II/Inc					
		t 3	Avg.	Test Temp.	7	
end Test Passed			****	*****		
his material meets the recen inspected and tested sults of such inspection pecification commenteers HARDNESS REA106 GRADE B REQUEST Code Remarks:	requirements of an accordance on and tests constitute.  EQUIREMENT UIREMENTS.	with the form with	e methods presch applicable re	cribed in the gove equirements.	erning specifica	tion and the

http://www.phoenixforge.com/mtr/MTRReport.aspx?strHeatNesSED&strIteoNesSESOOB8 4/2/2007





# **Certificate of Test**

Part Number:

Y3105

Description: 1x5 B XS SML NIP 106B

Heat Code:

AH75,

Reference No.:

Specification:

ASTM A106 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL PIPE

Chemical Analysis %

Heat No.	С	Mn	P	S	Si	Cu	Ni	Cr	Мо	V	Cb/Nb
P524617	0.21	0.58	0.016	0.030	0.23	0.03	0.02	0.02	0.01	< 0.01	
CE (LONG FORMULA) = 0.32											

**Mechanical Properties** 

Yield Strength Tensil		Tensile	Stength	Elongation % 2	Reduction Area	ea Hardness BHN		
psi MPa	49,200 000	psi MPa	71,500 000	34.00	0.00	N/R		
Heat Trea		1111 4	000					
ricat frea	mioni.			IACE MR0175 SS LESS THAN OF	R EQUAL 22HRC			
Hydrotest	/NDE: NI	ЭE		· · · · · · · · · · · · · · · · · · ·	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.

E ATE	PO COM	RESPICING	2007
EQ.#	SO8148	18917	36
SIGN	ATURE:	He	
APPE	OVED BY O.C	. INSPECTOR	





# **Certificate of Test**

Part Number:

Y3105

Description: 1x5 B XS SML NIP 106B

Heat Code:

س AI12

Reference No.:

Specification:

ASTM A106-02 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL

Chemical Analysis %

Heat No.  $\mathbf{C}$ P Mn Ş Si Cu Ni Cr V Mo Cb/Nb 416122 0.12 0.50 0.010 0.027 0.21 0.02 0.02 0.02 0.01 < 0.01

CE(LONGFORMULA) = 0.22

**Mechanical Properties** 

Yield Strength		Tensile Stength		Elongation % 2	Reduction Area	Hardness BHN		
psi MPa	47,600 000	psi MPa	63,500 000	33.00	0.00	N/R		

Heat Treatment:

MEETS NACE MR0175-2002

HARDNESS LESS THAN OR EQUAL 22 HRC

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. We make no representation beyond those of the manufacturer or its agent.

PC COMPE	RESSION
RECEIVED	APR 1 3 2007
90 # SD8148	1891736
SICNATURE:	HC
APPROVED BY Q.C.II	NSPECTOR



MAR 0 7 2007

# Phoenix \* Capitol \* Camco 119036 Cap Products

Commanding a Higher Standardsm

**Certified Mill Test Report** 

2/27/2007

Customer

CE FRANKLIN LTD

**P.O.** 1741135-OR-2100

Heat No P624634

Heat Code R4D

Phoenix Order # 456868

BOX 6776 STN "D"

CALGARY, AB T2P2E8

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

Part Number

15111009

Description

1 X 4-1/2" XHSML BLK NIPL -

**Chemical Properties** 

	C	Mn	P	S	Si	Cu	Cr	Ni		C Eq. Lor	ıg
	0.220	0.580	0.013	0.017	0.240	0.030	0.020	0.020		0.328	
ĺ	Mo	V	Со	Al	Cb	N	Pb	Sn	Ta	Ti	].
- [	0.010	0.010									]

Additional	Chamical	Properties
Additional	Chemicai	rrobernes

1		į	
- 1	1		
			l
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Cr	+ Cu	+ Ni
	0.070	)+

**Mechanical Properties** 

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	RofA	BHN	Test 1	Test 2	Test 3	Average
69,500	47,000	35.0%			N/A	N/A	N/A	N/A

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.

RECEIVED ANY 13 400

1891736

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

CapProducts, Ltd.

25 Winnipeg St

Vanastra, ON N0M 1L0

HEAT NUMBER : Y607-1216

TRANS AM PIPING PRODUCTS - REV'D BY: P.O. # /Seq #: L-07 - 18000 3

WILL DINCYLLAN PRECISION COLD-DRAWN STEEL PIPE CO.,LTD.

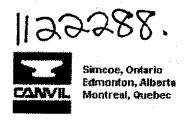
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3" STD A/SA			Y606			26		94		374			35,7			Ì	
6" STD A/SA			2603			2		51		171	-1		27,3				
10" STD A/S			0631			4		48		008	+		18,5 45,2			· ·	
1" XH A/SA			Y607~	_		24		184		864	-		45,2			4	
1 1/2" XH A/			Y605-			2	I	22		562						-	
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6" XH A/SA			2603			14	<u> </u>	98		058	i_		20,0	194		-	
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ļ	=>=+10					MICAL P	ANALY		Cr	Ni		Mo	Ti	W	V	1	
	EAT NO.		0.18	Si 0.18	Mn 0.57	0.018	0.007	<u>Си</u> 0.07	0.03	0.01	-17	0.016	<del>'</del>	1	0.002	<u> </u>	
<u></u>	606-368 2603669		0.18	0.16	0.50	0.016	0.007	0.07	0.03	0.01		0.014	-;-	1	0.003		
1	2603009		0.20	0.27	0.56	0.010	0.010	0.1	0.04	0.03		0.016	1	1	0.001	=	
	607-1216		0.20	0.19	0.57	0.014	0.005	0.07	0.02	0.01		0.018	7	1	0.002		
	605-1284		0.19	0.19	0.57	0.017	0.007	0.05	0.03	0.01		0.015	1	1	0.002	2]	
	607-1023		0.20	0.18	0.57	0.014	0.009	0.07	0.03	0.01		0.022		T	0.005		
Y	0605523		0.20	0.19	0.55	0.017	0.007	0.08	0.03	0.02		0.015	1	/	0.002	<b>-</b> i	
_ Y	′604 <i>-</i> 407		0.19	0.18	0.56	0.016	0.007	0.07	0.03	0.01		0.013	1		0.003	7	
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WUXI DINGYUAN PRECISION COLD-DRAWN STEEL PIPE CHALLETO



APR 2 0 2006





# **Certificate of Test**

Part Number:

Y3104

Description: 1x4 B XS SML NIP 106B

Heat Code:

AI12

Reference No.:

Specification:

ASTM A106-02 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL

Chemical Analysis %

Heat No.	C	Mn	P	<u>S</u>	Si	Cu	<u>Ni</u>	Cr	Mo	V.	Cb/Nb
416122	0.12	0.50	0.010	0.027	0.21	0.02	0.02	0.02	0.01	< 0.01	
	CE (LC	ONG F	ORMUL.	A) = 0.2	2					p.	٠.

**Mechanical Properties** 

Yield S	trength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	47,600	psi	63,500	33.00	0.00	N/R
MPa	000	MPa	000			
Heat Trea	tment:					
			MEETS N	ACE MR0175-2002		
: 			HARDNE	SS LESS THAN OR	REQUAL 22 HRC	

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. We make no representation beyond those of the manufacturer or its agent.

DATE RECEIVED FEB 2 3 2007

SIGNATURE: H

APPROVED BY O.C. INSPECTOR

TRANS AM PIPING PRODUCTS - REV'D BY: P.O. # /Seq #: L-06 - 17532 1

1 X 4 XH SMLS STEEL NIPPLES A1



SA106 GRADE B REQUIREMENTS.

Heat Code Remarks:

# Phoenix \* Capitol \* Camco

				(	Cap Pr	oducts	COM	PRESSION	**************************************
			Certi			est Repo		ED MAR 2	2007
Heat Code: 9	POV					P.O. # 50	S030	5+67-19	B/-
Heat Number	r: 32911								T' '
Item: 1511100							1/	~	
Material: AS	TM A106-	1999	e B / ASM	E SA	106-2001 Editio	on, Absaudetible	IE: I		
								47	
Chemistry Pr	onartics					APPROVE	D BY Q.	C. INSPECTOR	
C	Mn		P		S	C:	6		
0.120	1.060	n	0.00	0	0.002	Si	Cu	Cr	
Ni	Mo	_		7		0.250	0.030		1
0.020	0.020	2	V		Co	Al	Cb	N	
		) 	0.00	l					
Pb	Sn		Ta		Ti	C Eq. Long			
Additional Co						0.312			
Additional Cl	iemical P	rope	rties					•	
									•
Mechanical P				···					
Tensile(PS			(PSI)	Elo	ng. % in 2 i	n. Reduct	on	BHN	
69300		5	1100		50.8%			143	YEVA:
Charpy Mini			ft/lbs						r
Test 1	Test 2		Test 3		Avg.	Test Temp.	7		
								:.	ĺ
Bend Test Pas Hydro Test Pa		000	psi						
results of such in	spections a	ind te	oruance wi	in the	methods presc	tions. We certify ribed in the gover quirements.	that the abo	ove material has fication and the	
Specification of			ZNADNITO A	NE XI	1.00 1.00 01.55				





# **Certificate of Test**

Part Number:

Y3104 / Description: 1x4 B XS SML NIP 106B

Heat Code:

A192V

Reference No.:

Specification:

ASTM A106-04 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

Chemical Analysis %

Heat No.	С	Mn	P	S	Si	Сu	Ni	Cr	Мо	V	Cb/Nb
621146	0.21	0.51	0.016	0.023	0.24	0.03	0.02	0.02	0.01	< 0.01	
	CE (LC	ONG F	ORMUL	A) = 0.3	1						

**Mechanical Properties** 

Yield Strength		Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN	
psi	48,700	psi	71,500	32.00	0.00	N/R	
MPa	000	MPa	000				
Heat Treatn	nent:		SEAMLE MAX.HA NACE MI	RDNESS DOES NO	T EXCEED 22HRC	IN ACC. WITH	
Hydrotest/N	IDF NI	)F		Ţ	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.

TOTAL PARTY	PC COMPRESSION
STERRITOR IN.	DATE RECEIVED MAR 2 6 2007
Tampingsett eder	P.O. # 502146 1882760
Treesdram remon present the man decorded	APPROVED AM O CONSPECTOR





### Phoenix \* Capitol \* Camco **Cap Products**

1122288

Commanding a Higher Standardsm

**Certified Mill Test Report** 

3/6/2007

Customer

CE FRANKLIN LTD

Heat No P616072

Heat Code QX8 1-

Phoenix Order # 459293

BOX 6776 STN "D"

CALGARY, AB T2P2E8

Part Number 15111008 Material

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

Description

1 X 4" XHSML BLK NIPL

1750350-OR-2100

**Chemical Properties** 

С	Mn	P	s	Si	Cu	Cr	Ni		C Eq. Long
0.200	0.500	0.014	0.021	0.230	0.030	0.010	0.020		0.291
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti
0.010	100.0								1

Additional Chemical Properties										

Cr + Cu + Ni
0.060

Mechanical Properties

Charpy Minimum Impact -

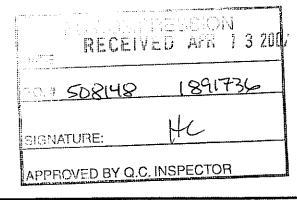
Mechanical Froperices								
Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
69,500	47,400	34.0%			N/A	N/A	N/A	N/A

### \* 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 requirements.

Comments:

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



CapProducts. Ltd. 25 Winnipeg St Vanastra, ON N0M 1L0

1115715





# **Certificate of Test**

Part Number:

Y31035

Description: 1x3-1/2 B XS SML NIP 106B

Heat Code:

FB5650

Reference No.:

Specification:

ASTM A106-97 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: BECK MFG

Chemical Analysis %

 $\underline{\underline{\mathbf{P}}}$  $\underline{S}$ <u>Ni</u> Mo V Heat No. С <u>Si</u> <u>Cu</u> <u>Cr</u> Mn Cb/Nb 0.008 0.007 0.05 0.04 0.01 0.01 0.18 0.49 0.28 0.06 < 0.01 CE (LONG FORMULA) = 0.28

**Mechanical Properties** 

Yield Strength		Tensile Stength		Elongation % 2	Reduction Area	Hardness BHN		
psi	49,700	psi	71,500	31.00	0.00	N/R		
MPa	000	MPa	000					
Heat Trea	tment:							
Hydrotest	/NDE: NI	)F			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.

T	PC COMPRESSION								
	DATE RECEIVED APR 2 6 2007								
PO # 508/50-00 PS: 189/777									
	HC.								
	SIGNATURE: HC.								
	SPECIED BY Q C INSPECTOR								



### Phoenix \* Capitol \* Camco **Cap Products**

Commanding a Higher Standardsm

**Certified Mill Test Report** 

3/23/2007

Customer

CE FRANKLIN LTD

1760409-OR-2100

Heat No 39839

Heat Code 92V

115715

Phoenix Order# 461944

BOX 6776 STN "D"

CALGARY, AB T2P2E8

Material

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

Part Number

15111007

Description

1 X 3-1/2" XHSML BLK NIPL

### **Chemical Properties**

С	Mn	P	S	Si	Cu	Cr	Ni		C Eq. Long	
0.190	0.440	0.011	0.009	0.260	0.090	0.050	0.050	] [	0.285	
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti	
0.010	0.001									

Additional Chemical Properties									

	Teattona Stement Topottos										
	ł	1	1 1								
1	ł i										
	i !										

Cr + Cu + Ni
0.190

**Mechanical Properties** 

Charpy Minimum Impact -

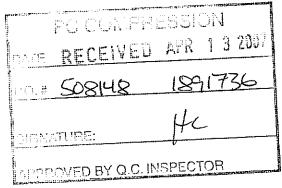
T	ensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
L	69,500	51,000	34.0%			N/A	N/A	N/A	N/A

- \* Eddy Current test passed.
- \* 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 MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.



CapProducts. Ltd.

25 Winnipeg St

Vanastra, ON N0M 1L0



# Phoenix \* Capitol \* Camco 11 23803 **Cap Products**

Commanding a Higher Standards

Certified Mill Test Report

3/6/2007

Customer

CE FRANKLIN LTD

BOX 6776 STN "D" CALGARY, AB T2P2E8

Part Number 15111006 P.O.

1750350-OR-2100

P624634 Heat Code R4D

Phoenix Order # 459293

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

Description

1 X 3" XHSML BLK NIPL a

**Chemical Properties** 

C	Mn	P	S	Si	Cu	Cr	Ni		
0.220	0.580	0.013	0.017	0.240	0.030	0.020	0.020	_]	
Mo	V	Со	Al	Cb	N	Pb	Sn	Т	

C Eq. Long						
0.328						

	4.7.5					L			
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti
0.010	0.010								

Additional Chemical Properties

 	P	
		Į.
		ı
		i

Cr + Cu + Ni	
0.070	

Mechanical Properties

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
69,500	47,000	35.0%			N/A	N/A	N/A	N/A

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.

APPROVED BY Q.C. INSPECTOR

CapProducts, Ltd.

25 Winnipeg St

Vanastra, ON N0M 1L0



MAR 0 7 2007

# Phoenix \* Capitol \* Camco

## **Cap Products**

Commanding a Higher Standards

**Certified Mill Test Report** 

2/27/2007

Customer

CE FRANKLIN LTD

1741135-OR-2100

Heat No P925859

1121411

Heat Code 88T

Phoenix Order # 456868

BOX 6776 STN "D"

CALGARY, AB T2P2E8

Part Number 15111005

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

Description

1 X 2-1/2" XHSML BLK NIPL -

**Chemical Properties** 

C Mn		P	S	Si	Cu	Cr	Ni	,	C Eq. Lon
0.200	0.520	0.023	0.025	0.240 0.030 0.020 0.020			0.296		
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti
0.010	0.001								

Additional Chemical Properties									

Cr + Cu + Ni 0.070

Mechanical Properties

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
71,000	44,400	33.0%			N/A	N/A	N/A	N/A

- \* Eddy Current test passed.
- \* 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 MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

> CapProducts. Ltd. 25 Winnipeg St PC COMPRESSION √anastra, ON N0M 1L0 RECEIVED APR 1 3 2007 SIGNATURE:

APPROVED BY O.C. INSPECTOR

1121111



## **Certificate of Test**

Part Number:

Y3102

Description: 1x2 B XS SML NIP 106B.

Heat Code:

AH75

Reference No.:

Specification:

ASTM A106 GRADE B/ ASME SA106 GRADE B

Fitting Trademark:

NIKOPOL STEEL PIPE

**Chemical Analysis %** 

<u>Heat No.</u>	<u>C</u>	<u>Mn</u>	P	<u>S</u>	Si	<u>Cu</u>	<u>Ņi</u>	Cr	Mo	V	Cb/Nb
P524617	0.21	0.58	0.016	0.030	0.23	0.03	0.02	0.02	0.01	<0.01	
	CE (LO	NG FOF	RMULA) =	= 0.32							

**Mechanical Properties** 

Yield Strength PSI:49,200

MPa:000

Tensile Strength PSI:71,500

MPa:000

Elongation % 2": 34.00

Reduction in Area %: 0.00

Hardness BHN: N/R

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 it's agent.

CANVIL	Simcoe, Onterio Edmonton, Alberta Montreal, Quebec
--------	--

A Division of	Mueller Canada CMB RESSION
	DATE RECEIVED MAR 1 4 2007
	P.O. # 508075/NU
	SIGNATURE: #
	APPROVED BY Q.C. INSPECTOR





#### Phoenix \* Capitol \* Camco **Cap Products**

112117

Commanding a Higher Standardsm

#### **Certified Mill Test Report**

3/23/2007

Customer

CE FRANKLIN LTD

P.O. 1760409-OR-2100

P616296 ~ Heat No

Heat Code S3T

Phoenix Order # 461944

BOX 6776 STN "D"

CALGARY, AB T2P2E8

Part Number 15111004

Description .. 1 X 2" XHSMLS BLK NIP >

**Chemical Properties** 

С	Mn	P	S	Si	Cu	Cr	Ni		C Eq. Long 0.306		
0.210	0.540	0.011	0.023	0.220	0.020	0.010	0.010				
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti		
0.010	0.001										

**Additional Chemical Properties** 

1												
1												
1												
1												
١												
1												
1												
1												
1												

Cr + Cu + Ni
0.040

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
71,000	46,500	34.0%			N/A	N/A	N/A	N/A

- \* Eddy Current test passed.
- \* 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 MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

> CapProducts, Ltd. 25 Winnipeg St Vanastra, ON N0M 1L0

PO COMPELSE ON RECEIVED APR 1 3 2007

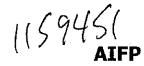
SIGNATURE:

PPROVED BY Q.C. INSPECTOR



Approved By: Quality Manager

9530 - 60 Ave. Edmonton, AB T6E 0C1 Canada Ph. (780) 434-8566 Fax (780) 436-4329



## **MILL TEST REPORT**

		/	
AOT HE	AT CODE	AIFP 🗸	

Raw	<b>eral</b> ] Material			agara La	salle Co	rp		Da	te:	12/09/	2006			
Manu	facturer:							Heat No		6916	691679			
	cription:			8" A234 V										
Spec	ification:	ASTMA23	4-97/A108	3-03E1/A29	-05,ASME	SA234-92	A,Gr.WPB	j	Manual and American Commission of the Commission					
Che	mical	Pro	perti	ies										
С	Mn	P	S	Si	Cu	Ni	Cr	Мо	٧	Cb/Nb	Al			
0.18	0.76	.019	.022	0.180	.130	0.06	0.11	.040	.004	.0020	.026	. ,	<b>9</b> ,	
Mec	hanid	cal P	rope	rties									,	
	Tensile:			69 psi			Elongati	on (%):		25.20				
	Yield: 61874 psi				Redu	iction of Ar	ea (%):		63.00					
 	**************************************	countries the reserve					Ha	ardness:		HBN 163				
Heat T	reatment:	Cold	l Drawn Hig	gh Stress R	elieve	-					FÜ	COM	PRESSIO	V.
Ot	Other Tests: Mag Test 100%							DATI	= 12	FCFIVI	=11_APR_1	3 2		
						I					50	2148	1891	736
										:*		<u>0u</u>		
	41111111	LISEI	n.eod.z	34537A	6.1.5		<u>/</u>					NII:	HC	
		1" x	3/4" XF	I Smls Sv	age Nip	ple 🗸							gran grang gang pang kang gang kang gang	
Notes	: !	Meet		S ASTM S NACE				1-01 GR	WPBS5	8		<u>0 97 Q Q</u>	, Principlinais, Administration	1
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									···					
WE	CERTIFY	THAT	THIS DO	CUMENT	IS DIRE	CTLY T	RACEABL	E TO TI	HE MAN	UFACTUR	ERS'			
ORIGIN	AL MILL	TEST R	EPORT A	AND THA	T SAID	TEST RE	PORT CA	AN BE S	JPPLIE	UPON R	EQUES	т.		
ΔΡΦΩΩΊ	VED BY	۰	Tua	)										
71 1 NO	ved DI	*	100	<i>)</i>										
Maintaine	d By: Qual	ity Depart	tment		Rev: C			D	oc Name:	MTR.mdb				

Page 1 of 1

Date: 14 Apr 2000



9530 - 60 Ave. Edmonton, AB T6E 0C1 Canada Ph. (780) 434-8566 Fax (780) 436-4329 ITEM 1153691

AIDK

## **MILL TEST REPORT**

	i.
AOT HEAT CODE	AIDK 🗸

Raw Material	Niagara Lasalle Corp	Date:	09/08/2006
Manufacturer:		Heat No	691677
Description:	1-3/8" A234 WPB Hex Bar	<u> </u>	
Specification: ASTMA	234-97/A108-03E1/A29-05,ASMESA234-92A,Gr	.WPB	

**Chemical Properties** 

C	Mn	Р	S	Si	Cu	Ni	Cr	Mo	٧	Cb/Nb	Al
0.20	0.81	.017	.024	0.210	.230	0.07	0.10	.040	.003	.0020	.028

**Mechanical Properties** 27.10 Elongation (%): 75670 psi Tensile: 64.80 Reduction of Area (%): 57680 psi HBN 159 PC COMPRESSION Hardness: Heat Treatment: Cold Drawn High Stress Relieve RECEIVED Mag Test 100% Other Tests: 891736 27**)**, # SHOUNDERSET 1" x 1/2" XH Smls Swage Nipple >

1" x 1/2" XH Smis Swage Nipple

Meets: MEETS ASTM A234-02/ASME SA234-01 GR.WPBS58

MEETS NACE MR0175/ISO 15156

MEETS NACE MR0175/ISO 15156

WE CERTIFY THAT THIS DOCUMENT IS DIRECTLY TRACEABLE TO THE MANUFACTURERS' ORIGINAL MILL TEST REPORT AND THAT SAID TEST REPORT CAN BE SUPPLIED UPON REQUEST.

APPROVED BY:

Maintained By: Quality Department

Rev: C

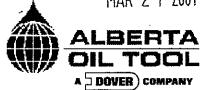
Doc Name: MTR.mdb

Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1

MAR 2 7 2007



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AIEE

MTII	<b>TEST</b>	RFPC	RT
▋▘▋▟▖▙▄▐▃	ILJI	<b>NLF</b>	

PC COMPRESSION RECEIVED APR

<b>AOT</b>	<b>HFAT</b>	CODE	AIFE

<b>General</b>	Info	rma	tion
----------------	------	-----	------

Raw Material

Niagara Lasalle Corp

Date:

18/08/2006

Manufacturer:

Heat No

Description:

1-3/8" A234 WPB Hex Bar

Specification: ASTMA234-97/A108-03E1/A29-05,ASMESA234-92A,Gr.WPB

**Chemical Properties** 

С	Mn	Р	S	\$i	Cu	Ni	Cr	Mo		Cb/Nb /	Αl
0.19	0.179	.013	.027	0.220	150	0.08	0.10	.030	.004	0010 0	)27

## **Mechanical Properties**

Tensile:	77400 psi	Elongation (%):	26.50	
Yield:	59180 psi	Reduction of Area (%):	63.70	
		Hardness:	HBN 156	
Heat Treatment:	Cold Drawn High Stress Relieve			
		Antonial design of the second		

N	latac	

USED FOR 331537A612

1" x 1/4" XH Smls Swage Nipple

Meets: MEETS ASTM A234-02/ASME SA234-01 GR.WPBS58

MEETS NACE MR01.75/ISO 15156

135083A413

WE CERTIFY THAT THIS DOCUMENT IS DIRECTLY TRACEABLE TO THE MANUFACTURERS' ORIGINAL MILL TEST REPORT AND THAT SAID TEST REPORT CAN BE SUPPLIED UPON REQUEST.

APPROVED BY:

Maintained By: Quality Department

Rev: C

Doc Name: MTR.mdb

Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1

DOVER CORPORATION (CANADA) LIMITED
ALBERTA OIL TOOL DIVISION

1159339

**ABAG** 

MAY 0 9 2001

#### MILL TEST REPORT

AOT HEAT CODE:

ABAG

#### General Information:

Manufacturer:	Bliss & Laughlin Steel Company	Date:	02/03/94
Description:	1 3/8 HEX	P.O. No.;	
Specification:	ASTM A 106 Grade B	Heat No.:	99202

#### **Chemical Properties:**

C	Mn	P	S	Si	Cú	Ni	Cr	Mo	v	Cb/Nb	Other
.16	.69	.012	.020	.19		.060	.060	.010			

**Mechanical Properties:** 

Tensile:	77,500	Elongation (%):	22.6%
Yield:	64,500	Reduction of Area:	59.2%
Charpy Impact:		Hardness:	\$
Heat Treatment:		Hydrostatic Test:	. •

Notes: USCO for 331537A617

Signed:

3

PC COMPRESSION

\_\_\_\_

1291774

Title:

**Production Coordinator** 

10) (1 [ )

Date:

11/07/95

SIGNATURE:

*\\\_\_\_\_* 

Maintained by:
Approved by:

Myles Rempel
Daryl Harrington

Rev. A

Date: 05/08/95

DOCNAME! FABAGSAMPECTOR Page: 1 of 1



9530 - 60 Ave. Edmonton, AB T6E 0C1 Canada Ph. (780) 434-8566 Fax (780) 436-4329

**AIFP** 

1159339

Raw Material	Niag	ara La	salle Co	rp		Dal	te:	12/09	9/2006		
Manufacturer:  Description:	1-3/8"	A234 V	VPB Hex	Ваг		Heat N	lo	69:	1679		
Specification: ASTM/					A,Gr.WPB						
					<del></del>	. i					
Chemical Pr	opertie	Si Si	Cu	Ni	Cr	Mo	V	Cb/Nb	) Al	7	
C Mn P 0.18 0.76 .019		0.180	.130	0.06	0.11	.040	.004	.0020		÷ ,	
<b>4echanical</b>	Droneri	tipe									
Tensile:	78969				Elongat	ion (%):		25.2	0		
Yield:	61874			Redu	uction of A			63.0	0		
, graph a supplied of the state					Н	ardness:		HBN 1	.63		
Heat Treatment: C	iold Drawn High	Stress f	Relieve			***************************************	2		0.00	JERE	ESSION
Other Tests:	Mag Test	100%					İna	TE	RECEI	IVED	APR 13
								), #	5791C	//ン	18517
									74519	<u> </u>	
<u></u>	SED-FOR-33-	15374	1642		<b></b>			''''''''''''''''''''	VRE:	1	<i>YC</i>
i M	x 1/4" XH Seets: MEETS	<b>ASTM</b>	A234-	02/ASM		4-01 GF	R.WPBS	58			POTOTO D
Notes:	eets: MEETS MEETS	<b>ASTM</b>	A234-	02/ASM		4-01 GI	R.WPBS	58	TD BY	J.O. 155	PECTOR

Maintained By: Quality Department

Rev: C

Doc Name: MTR.mdb

Approved By: Quality Manager

APPROVED BY:

Date: 14 Apr 2000

Page 1 of 1



9530 - 60 Ave. Edmonton, AB T6E 0C1 Canada Ph. (760) 434-8566 Fax (780) 436-4329



## **MILL TEST REPORT**

AOT	HEAT	CODE	AFQZ	ممرنا

General In	formation		•
Raw Material	Niagara Lasalle Corp	Date:	10/17/2003
Manufacturer:		Heat No	0311558
Description:	1-3/8" A234 WPB Hex Bar	1122110	0321000
Specification:	ASTM A234-97/ASME SA234-92a Gr.WPB		

**Chemical Properties** 

С	Mn	P	S	Si	Cu	Ni	Cr	Ma	٧	Cb/Nb	A
.17	.71	.009	.021	.210	.180	.08	.11	.040	.025	.002	.005

#### **Mechanical Properties**

т	ensile:	75,300	Bongation (%):	27.3	
	Yield:	61,320	Reduction of Area (%):	58.6	ipro lavender sport distance
			Hardness:	HBW163/OMPT	ESSION
Heat Trea	tment:	Cold Drawn High SR		DATE RECEIVE	D APR 1 3 200
				10. # SOSIUR	1871736
				SICMATURE: /	4c
	UsedFor:	331537A612 15 x 1/4	"XH Smls Swage Nipple ?		GPECTOR
Notes:	************	>>411.642.646.17.872.414.2763.12844.17.128.466	51818418488888889749893184889984888888	***************************************	
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-					
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WE CERTIFY THAT THIS DOCUMENT IS DIRECTLY TRACEABLE TO THE MANUFACTURERS' ORIGINAL MILL TEST REPORT AND THAT SAID TEST REPORT CAN BE SUPPLIED UPON REQUEST.

APPROVED BY:

Maintained By: Quality Department

Rev: C

Doc Name: MTR.mdb

Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1

1308

30.09,2005

30.09.2005

The state of the s

INSPECTION CERTIFICATE EN 10204,2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2000

CERTIFIED BY RINA

NEW BAR

NDUSTRIA MECCANICA LIGURE SPA

W I.M:L. JAN 14 2006

IML (UK) LTD. Certifloate Nr 15762 Dated
Suite 2, 1st Floor, Castle House. Station Road Del. Note Nr 1646 Dated
MEW BARNET, HERTFORDSHIRE ENS 1 PESB

16030 CASARZA LIGURE - Genova - Haly - P.zza Marco Cappelli, 4 - Tol.0185.467861 - Fax 0185.466510 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204

DIM. ACC. TO VISUAL & DIMENS. Our Ref. QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL MANUFACTURER'S SYMBOL N/mm2 >=1,0% AI% C.E.% OTHER ELEMENTS YIELD POINT 041204 SATISFACTORY STEEL MILL ±0 22 STUDBOLTS ELECTRIC FURNACE: RIVA ACCIAI 0,373 SEE NOTE 0,005 FURNACE Z 5 0000 % Z p. FITTINGS 0,001 TYPE 10x10mm %qN 1000 FITTING HEX.H.PLUG THRD NPT 1" A105N PACKAGE No.158 --- No.20 cartons for 50 post-⋛ 0,002 % 0,170 BEND TEST FLATTENING TEST Çn% **BORIS FIZZOTTI** 00 EAT TREATMENT 0,010 ¥I. Normalized at 880\*-920°C / Air Cool 00 0,050 . 0,010 Mo% DATE RECEIVED FAME & 2011 图用% ELONGATION REDUCTION OF AREA HARDNESS HD 160 - 168 % Z DESCRIPTION INSPECTION AUTORITY APPROVID BY O.C. INSPECTOR 0.070 Š. 56,0 7 6000 š 0,023 MATERIAL IN ACCORDANCE TO % Ž 0,910 Mn% THE LEWIS CO. YIELD POINT TENSILE STRENGHT Nmm2 >= 552,0 NOTES AGME B16.11/01 - BS.3799 - ANSI B31.1/1831.3 - IMI. STD - ANSI B1.1-B18.2.2 - NACE MR0175 ISO 15156/1 • SUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS Ω, 0,180 %<u>i</u>% 2005-2E201-0001013-012 0,190 YOUR P.O. OUR REFERENCE ຮ້ SECT. mm2 LENGHT mm Namm2 >=0,2% 361.0 ASME SA ASTM A105-03 TEST SPECIMEN MATERIAL ţ ASTM A105 122,65 3109 TEM TEM TEM 012 912 012 012 HEAT неут соре неат HEAT HEAT 77912 77912 77912 77912 HEAT CODE HEAT CODE HEAT CODE **8**28 82 26

10

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2000-CERTIFIED BY RINA

16030 CASARZA LIGURE - Genova - Haby - P.22a Marco Cappell, 4 - Tel.0195.487661 - Fax 0185,48561 - Hay TERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 1 - 5

IRACO LIMITED. CASTLE HOUSE

Dated Dated Dated Certificate Nr 16723 Invoice Nr 819 Del. Note Nr 1260

STATION ROAD - NEW BARNET HERTFORDSHIRE ENS 1PE - UNITED KINGERIM

17.07.2006 13.07.2006 13.07.2006

1

The control of the	The control of the	:出	HEAT CODE	HEAT	ITEM	YOUR P.O.		OUR REFERENCE	0.17	÷			DESCRIPTION	NO				•	-		DIM. ACC. TO		VISUAL & DIMENS.
17.1072   17.1	17.10016   200.000000000000000000000000000000000	2		76253	:	17007/C	2006-2E2	31-0000450-001		6.0	1G 90 ELB	THRD N	PT-2M-3/		/				:		SEE NO		ISFACTOR
17007C   2000-2000-000-000-000-000-000-000-000-0	17.1007C   200.2007-200-2000-200   225   17.1007C   200.2007-200-200   225   17.1007C   200.2007-200-200-200   225   17.1007C   200.2007-200-200-200   225   17.1007C   200.2007-200-200-200-200-200-200   225   17.1007C   200.2007-200-200-200-200-200-200-200-200-200	/4		78483		17007/C	2006-2E20	31-0000450-002		· 4 -	1G 90 FLB	THE N	T 2M 1"	A105N		- :	, a C V 25			-	SEE NO		ISFACTO
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170077   20000000000000000000000000000000	170076   2000-2209-100000-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	2		77182	1 67	17007/C	-2006-2E2	01-0000450-003			1G 90 ELB	THRD N	ot 2M 2"	A105N			1000				SEENO		ISFACTO
17.07   1.0   1.07   1.0	170707   2006-200-1000046-0-048   500 FTITING TEE HEID NFT 241" A 1619N   140° N			77182	, m	17007/C	2006-2E2	01-0000450-003			1G 90 ELB	THRD N	"7 2M 2"	A105N			156 6 100				SEE NO		ISFACTO
1971   1971   1972	1971   1971   1972	F		77612	4	17007/C	2006-2E2	01-0000450-004			IG TEE TI	HRD NPT 2	2M 3/4" +	4105N			(A) 79-	، في			SEE NO		ISFACTO
Heart   Title   Martineal   Crk State	Heart   Time   Marked   Mark	r		70313	ις	17007/C	2006-2E2	01-0000450-005			IG TEE TH	HRD NPT 2	2M 1" A1	NS0			145/1801			•	SEE NO		SFACTO
HEAT   TIES	HEAT   TITES   MATTERIAL C'S S'N MIN'S S'N PN, C'N N'N N'N N'N N'N N'N N'N N'N N'N N'N	Ŧ		70313	ະດ	17007/C	2006-2E2	01-0000450-005			IG TEE TH	HRD NPT 2	2M 1" A1	NSO.			ASTED!				SEE NO		ISFACTOR
ASTIMATOR   ASTI	Name	l 포	AT CODE	HEAT	HE	MAT	TERIAL	% 0	81%	Mn%	8%			:		: . 		· %			• •	i	RELEMEN
Third   Thir	Third   Thir	į		76963		ACTNE A 10	<u> </u>	001.0	0220	90	0100	···		. ‡.	ļ.,	ļ.,		1	<del></del>				
Third   Thir	Third   Title   Titl	74	•	78483		ASTM A10	5 <del>1</del> 2	0 190	0.190	060	020											. 26	
Third   Thir	Tries   ASTM A106		•	70160	4 C	ACTIVE A10	3 12	200	2 5	9	0,000								-				
77612 3 ASTMANIOS OLISO 0.7170 0.380 0.021 0.010 0.000 0.024 0.000 0.000 0.000 0.000 0.380 0.000	ASTIMATION   Color			77187	N (*)	ASTM A10	3 12	01.0	0,170	0660	0.021											. 46	
The color   The	The color of the			77182	) er	ASTM A10	. F	0.190	0.170	0880	0.021											94	
Table   Color   Colo	ASTINATION   Color	) ⊨=		77612		ASTM A10	ភ	0,185	0.200	006.0	0.021											. 47	
Heat   Ties   ASTMANIS   State   ASTMANIS   State   ASTMANIS   State   ASTMANIS   State   ASTMANIS   State   ASTMANIS   State   ASTMANIS   State   ASTMANIS   State   ASTMANIS   State   ASTMANIS   State   ASTMANIS   State   ASTMANIS   State   ASTMANIS   ASTMANIS   State   State	Heat   Ties   Heat   Ties	Ι.	-	70313	ιΩ	ASTM A10	55	0,180	0.220	0960	0,021											98	
HEAT   TIEM   TEST SPECIALES   TEST SPECIALISM	HEAT   TIEM   TEST STECKNICH   TEST ST	I	<del></del>	70313	ະຕ	ASTM A10	35	0,180		0,960	0,021											98	
122.65   50,00   306,0   522.0   30,0   56,0   165 - 166 - 168   0,0   0,0   KV   20   104 - 105   1	The stream of the stream of		AT CODE	MEAT	Mali	TEST SPE	COMEN	YIELD POINT TE	ISHLE STREN	1		DUCTION OF AR		-	BENO TEST	FLATTENIA	IG TEST	-	MPACT TEST	. JOULE'em		SHAPE	YIELD PO
122.65   50,00   306,0   522,0   30,0   56,0   160 - 166   0,0   0,0   KV   20   104   106   115     122.65   50,00   326,0   326,0   326,0   34,0   56,0   161 - 168   0,0   0,0   KV   20   104   105   108   115     122.65   50,00   328,0   546,0   34,0   580,0   144 - 168   0,0   0,0   KV   20   104   109   105   115     122.65   50,00   338,0   546,0   34,0   550,0   144 - 168   0,0   0,0   KV   20   106   100   102   115     122.65   50,00   338,0   546,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   100   102   115     122.65   50,00   338,0   546,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   17     122.65   50,00   338,0   546,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   17     122.65   50,00   339,0   515,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   17     122.65   50,00   319,0   515,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   17     122.65   50,00   319,0   515,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   17     122.65   50,00   319,0   515,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   17     122.65   50,00   319,0   515,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   17     122.65   50,00   319,0   515,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   17     122.65   50,00   319,0   515,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   17     122.65   50,00   319,0   515,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   107   11     122.65   50,00   319,0   515,0   33,5   56,5   154 - 162   0,0   0,0   KV   20   106   103   107   11     122.65   50,00   319,0   515,0   106   103   107	76253         1         72265         50,00         306,0         560,0         560,0         160-168         0,0         0,0         KV         20         104         100         108         1           74843         2         122,65         50,00         336,0         554,0         152-168         0,0         0,0         KV         20         104         100         109         1           77182         3         122,65         50,00         338,0         546,0         34,0         590         164-166         0,0         KV         20         106         100         109         1           77182         3         122,65         50,00         338,0         546,0         34,0         590         164-166         0,0         KV         20         106         100         102         1           77512         4         122,65         50,0         319,0         515,0         33,5         55,5         154-162         0,0         KV         20         106         107         1           70313         5         122,65         50,0         319,0         515,0         33,5         55,5         154-162         0,0         KV	=		<u> </u>			Ę	Numm2 >=0,2%	N/mm2 >=			# <b>&lt;</b> }					ì		မှ	-	7	1-0 2-	N/mm2 >≠
122.65   50.00   309.0   554.0   31.0   54.0   152 - 168   0.0   0.0   KV   20 104 105 108 1	77182 2 122.65 50.00 309.0 557,0 32.0 540, 152 -168 0.0 0.0 KV 20 104 105 108 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(0)	;	76253	<u> </u>	122.65	50,00	306,0	522,0	i  -  -	0.0	26,0	160	- 168	00	Ó		≩	8	5		-	Ö
122.65   50.00   329.0   537.0   32.0   550   165 - 165   105	77182 3 122.65 50.00 329,0 537,0 32,0 58,0 165 165 0,0 0,0 KV 20 165 100 109 1 17182 3 122.65 50.00 338.0 546.0 34,0 59,0 164 166 0,0 0,0 KV 20 166 100 102 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	⋖	46	78483		122,65	50,00	306,0	564,0		1,0	54,0	162	- 168	0,0	O	 O	≩	20	104			ō
77182 3 122.65 50.00 338,0 546,0 34,0 69,0 164 - 166 0,0 0,0 KV 20 106 100 102 1 77182 3 122.65 50.00 338,0 546,0 34,0 69,0 164 - 166 0,0 0,0 KV 20 106 100 102 1 77182 4 122.65 50.00 319,0 515,0 33,5 56,5 154 - 162 0,0 0,0 KV 20 106 103 107 1 770313 5 122.65 50,00 319,0 515,0 33,5 56,5 154 - 162 0,0 0,0 KV 20 106 103 107 1  HEAT THEM THEM IN ACCORDANCE TO Normalized at 880°-920°C / Air Cool ELECTRIC FURNACE RIVA ACCIAI COOL ELECTRIC FURNACE RIV	122.65   50.00   338,0   546,0   34,0   56,0   164 - 166   0,0   0,0   KV   20   106   102   1		Št	79169	7	122,65	50,00	329,0	537,0		2,0	58,0	163	- 165	0,0	0		≩	23	105		1	0
122.55   50,00   338,0   546,0   34,0   59,0   154-156   0,0   0,0   KV   20   106   102   1	77182 3 122.65 50.00 338.0 546.0 34.0 59.0 164-166 0.0 0.0 0.0 KV 20 106 100 102 1  77612 4 122.65 50.00 334.0 520.0 35.0 55.0 156.10 106 100 102 1  77613 5 122.65 50.00 319.0 515.0 33.5 56.5 164-162 0.0 0.0 KV 20 106 103 107 1  770313 5 122.65 50.00 319.0 515.0 33.5 56.5 164-162 0.0 0.0 KV 20 106 103 107 1  770313 5 122.65 50.00 319.0 515.0 33.5 56.5 164-162 0.0 0.0 KV 20 106 103 107 1  770313 5 122.65 50.00 109.0 109.0 109 107 1  770313 1 ASME SA ASTIM A105-05  77042 3 ASME SA ASTIM A105-05  77042 4 ASME SA ASTIM A105-05  77043 5 ASME SA ASTIM A105-05  77043 5 ASME SA ASTIM A105-05  77043 5 ASME SA ASTIM A105-05  77043 5 ASME SA ASTIM A105-05  77043 6 ASME SA ASTIM A105-05  77043 6 ASME SA ASTIM A105-05  77043 6 ASME SA ASTIM A105-05  77043 7 ASME SA ASTIM A105-05  77044 7 ASME SA ASTIM A105-05  77045 7 ASME SA ASTIM A105-05  77045 7 ASME SA ASTIM A105-05  77047 7 ASME SA ASTIM A105-05  77048 7 ASME SA ASTIM A105-05  77049 7 ASME SA ASTIM A105-05  77040 7 ASME SA ASTIM A105-05  77040 7 ASME SA ASTIM A105-05  77040 7 ASME SA ASTIM A105-05  77040 7 ASME SA ASTIM A105-05  77040 7 ASME SA ASTIM A105-05  77041 7 ASME SA ASTIM A105-0		Ne	77182	<u></u>	122,65	50,00	338,0	546,0		0,4	59.0	164	- 166	0,0	0	0	≩	50			-	Ó
122.65   50,00   334,0   520,0   335,0   55,0   156 - 156   0,0   0,0   KV   20   96   104   1   1   1   1   1   1   1   1   1	122.65   50,00   334,0   520,0   35,0   156 - 166   0.0   0.0   KV   20   66   104   1	Ü		77182	m	122,65	50,00	338,0	546,0		4,0	59,0	164	- 166	0'0	0	0	≩	20	106	٠.	1 2	Ó
Total	Total	-		77612	4	122,65	20,00	334,0	520,0		5,0	55,0	. 158	- 166	0'0	0	 O	≥	20		•	<u>4</u>	Ó
HEAT   TEM   MATERIAL IN ACCORDANCE TO   Normalized at 880*-920**C / Air Cool   ELECTRIC FURNACE   RIVA ACCIAI   Normalized at 880*-920**C / Air Cool   ELECTRIC FURNACE   RIVA ACCIAI   Coll   RIVA ACCIAI   Coll   RIVA ACCIAI   Coll   RIVA ACCIAI   Coll   RIVA ACCIAI   Coll   RIVA ACC	HEAT TIEM   MATERIAL IN ACCORDANCE TO   33.5 56.5 154-162 0.0 0.0 KV 20 106 103 107 1	Ŧ	11	70313	ς,	122,65	20,00	319,0	515,0		3.5	56,5	154	- 162	0,0	0	0	≩	20			1 1	oʻ
HEAT   TEM	HEAT   TIEM   MATERIAL IN ACCORDANCE TO   Normalized at 880°-920°C / Air Cool   ELECTRIC FURNACE   RIVA ACCIAI   CASAE SA ASTM A105-05   Normalized at 880°-920°C / Air Cool   ELECTRIC FURNACE   RIVA ACCIAI   CASAE SA ASTM A105-05   Normalized at 880°-920°C / Air Cool   ELECTRIC FURNACE   RIVA ACCIAI   CASAE SA ASTM A105-05   Normalized at 880°-920°C / Air Cool   ELECTRIC FURNACE   RIVA ACCIAI   CASAE SA ASTM A105-05   Normalized at 880°-920°C / Air Cool   ELECTRIC FURNACE   RIVA ACCIAI   CASAE SA ASTM A105-05   ASME SA A			70313	<b>40</b>	122,65	20'00	319,0	515,0		3,5	56,5	154	1-162	0'0	0	0	≩	20			1 1	<b>o</b>
ASME SA ASTM A105-05	ASME SA ASTM A105-05	1	AT CODE	HEAT	TEX	1	MAT	FRIAL IN ACC	RDANCE	2	İ		:	至	TREAT	MENT		:	3	RNACE		STEEL MI	
Normalized at 800°-920°C / Air Cool   ELECTRIC FURNACE     78483	Normalized at 800 - 920°C / Air Cool   ELECTRIC FURNACE     18483	. i ¢		70000	1	AC TAICA	ACTAI A C	06.06	;			Month	200 to 100	0.000	Air Cool	-			T CD	AGI IS CIC		A AVIO	-
ASME SA ASTM A105-05	Normalized at 80°-920°C / Air Cool   ASME SA ASTM A105-05     79169	» ر	ورو	76402	ç	AUMIE UA	ACTM A	05-03				Normalia	מבר של ממנ	יייטטיי יר					I L		**	ACCA AVIC	
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ASME SA ASTME SA ASTMA TIGS-95 C COLVIPRESION Normalized at 880°-920°C / Air Cool ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE ASME SA ASTMA TIGS-05 C COLVIPRESION AUTORITY COOL ASME SA ASTMA TIGS-05 C COLVIPRESION AUTORITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL ASME B16.1105 - ANSI B31.1831.31 IMDS TP - ANSI B1.1831.32 IMDS TP - ANSI B1.1831.32 IMDS TP - ANSI B1.1831.32 IMDS TP - ANSI B1.1831.32 IMDS TP - ANSI B1.1831.32 IMDS TP - ANSI B1.1831.32 IMDS TP - ANSI B1.1831.32 IMDS TP - ANSI B1.1831.33	ASME SA ASTMA STATE OF COLVIDATE STOCK AND STATE SA ASME SA ASTMA STATE OF COLVIDATE STOCK AND STATE SA ASME SA ASTMA STATE OF COLVIDATE STATE OF COLVIDATE STATE	ے د	7	77103	4 6	ACHIE OA	T WINDS	02-03	THE PERSON NAMED IN COLUMN	3343		Mornial		7,000 0					֓֞֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֓֓֓֓֓֓֜֜֜֜֜֜֜֜֜֜				
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ASME B16.11/05 - ANSI B31.1/B31.3 IMLOSTD - ANSI	ASME B16.11/05 - ANSI B31.1/B31.3 IMLS/TD - ANSI	ı ⊢		77612	) <del> </del>	ASME SA	ASTM A1	) 2-03			,	Normaliz	PA TEMPS	0.020	/ Air Cool				FLECT	AIC FUR		SIVA ACCIV	-
ASME B16.11/05 - ANSI B31.1/B31.3 IMLOSTD - ANSI	ASME B16.11/05 - ANSI B31.1/B31.3 IMLOSTD - ÁNSI B1.1-B18.2.2 - INSPECTION AUTORITY QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL NACE MROT 75 ISO 15156/1 - MSS SPR33 - SUPPLIED MATERIAL MEETS  SPECIFICATIONS AND P.O. REQUIREMENTS  SIGNATURE: HITINGS IML  BORIS FIZZOTTI FITTINGS IML	- <u>r</u>	••	70313	, ru	ASME SA	ASTMAT					L. Normaliz	ed at 880	0-920°C	/ Air Cool				ELECTI	RIC FUR		RIVA ACCIV	• •
ASME B16.11/05 - ANSI B31.1/B31.3 IMLSTID - ÁNSI B1.1-B18.2.2 - INSPECTION AUTORITY QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL NACE MROT 75 ISO 15156/1 - MSS SF 83 - SUPPLIED MATERIAL MEETS  SPECIFICATIONS AND P.O. REQUIREMENTS  SIGNATURE: HITINGS IML	ASME B16.11/05 - ANSI B31.1/B31.3 IMLSTID - ÁNSI B1.1-B18.2.2 - INSPECTION AUTORITY QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL NACE MROT75 ISO 15156/1 - MSS SF83-SUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS SIGNATURE:  BORIS FIZZOTTI FITTINGS IML			70313	LC?	ASME SA	ASTMAT	05-05			17	1-Normaliz	zed at 88(	0°-920°C	/ Air Cool				ELECT	RIC FUR	-	RIVA ACCI	
SPECIFICATIONS AND P.O. REQUIREMENTS  SPECIFICATIONS AND P.O. REQUIREM	SPECIFICATIONS AND P.O. REQUIREMENTS  SPECIFICATIONS AND P.O. REGUIREMENTS  SPECIFICATIONS AND P.O. REGUIREM	įž		AE BYR 1	TINE ANG	B24 1/B24	2 1MD.C.1		)     	Ţ.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ZECTION AL	TORUT		HALITY C	DNTROL	DEPARTM	ENT MAN	UFACTUR	ER'S SYM	} ·	ANUFACTUR	PER'S SYME
BORIS FIZZOTTI FITTINGS IML	BORIS FIZZOTTI FITTINGS IML	•		H MRDI	75 ISO 151!	56/1 - MSS 5	SH83 - SE	PPLIED MA	ERIAL N	EETS				! i ·								-	
ATURE: HC BORIS FIZZOTTI FITTINGS IML	ATURE: HC BORIS FIZZOTTI FITTINGS IML		SPE	CIFICAT	IONS AND	P.O. REQUI	REMENT	S		·			<del></del>										<sup>ਦ</sup> ਾਂ {
							(† (†	AATURE		子	\			•	80	RIS FIZA	ITTO:		ITTINGS	ĭ		STUDBOLT	$\stackrel{\text{\tiny 3}}{\otimes}$
										-													
APPENDING SECTION							-																



# Phoenix \* Capitol \* Camco Cap Products

Commanding a Higher Standards

#### **Certified Mill Test Report**

3/6/2007

Customer

P.O. 1750350-OR-2100

Heat No 54108

1.0.

Heat Code RB7 ✓ Phoenix Order # 459293

Material Material

iel

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

BOX 6776 STN "D" CALGARY, AB T2P2E8

CE FRANKLIN LTD

Part Number

Description

3/4 X 4" XHSML BK STL NIPL 🗸

15110708

**Chemical Properties** 

С	Mn	P	S	Si	Cu	Cr	Ni	] [	C Eq. Lon	g
0.190	0.800	0.007	0.007	0.260	0.250	0.070	0.070		0.365	
Мо	v	Co	Al	Cb	N	Pb	Sn	Ta	Ti	
0.030	0.003									

Additiona	I Chemica	l Propertie	S	

Cr + Cu + Ni
0.390

Mechanical Properties

Charpy Minimum Impact -

Micchallica I	1 oper ties								
Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average	
75,690	51,770	43.8%			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 MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

CapProducts, Ltd. 25 Winnipeg St Vanastra, ON NOM 1L0 JUL 0 5 2006





## Certificate of Test

Part Number:

Y3072

Description: 3/4x2 B XS SML NIP 106B

Heat Code:

AH76 🖊

Reference No.:

Specification:

ASTM A106 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL PIPE

Chemical Analysis %

	111411										
Heat No.	С	Mn	P	<u>S</u>	<u>Si</u>	Cu	Ŋi	<u>Cr</u>	Мо	Y	Cb/ <u>Nb</u>
P524271	0.20	0.51	0.018	0.032	0.24	0.03	0.02	0.02	0.01	< 0.01	
i										1	†
	CE (LC	ONG F	ORMUL	A) = 0.3	0						ļ

**Mechanical Properties** 

Yield S	trength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	46,300	psi	67,500	45.00	0.00	N/R
MPa	000	MPa	000			
Heat Trea	tment:					
			MEETS N	ACE 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. We make no representation beyond those of the manufacturer or its agent.

CATE	PC COMP RECEIVE	D APR 1	3 2007
HO.#	508748	18917	36
ing a mental fil	TURE:	HC	

IML (UK) LTD. INSPECTION CERTIFICATE DIN 50849/3,1B - EN 10204/3,1B

Dated Dated Dated Certificate Nr. 14985 Invoice Nr. 134 Del. Note Nr. 197

Probolity !

COMPANY WITH QUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

JAN 14 2006

Suite 2, 1st Floor Casife House, Station Road NEW BARNET, HERTFORDSHIRE ENS 1PESB

08.02.2005 07.02.2005 07.02.2005

NDUSTRIA MECCANICA LIGURE SPA

15030 CASARZA LIGURE - Genova - Italy - P. 222 Marco Cappell, 4 - Tel. 0185.487681 - Fax 0185.485510 / NATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 YOUR P.O. OUR REFERENCE FFF 2996 ITEM 49 HEAT CODE HEAT AL 1470

3000 FITTING HEX.H.PLUG THRD NPT 3/4" A105N No. 30 CARTONS FOR 100 PCS/L ₽.₩ 2004-2E201-0001404-037

DESCRIPTION

DIM. ACC. TO VISUAL & DIMENS.

SATISFACTORY SEE NOTE

C.E.% 0,415 0,004 AI% 0000 ž 000'0 NP% 0000 \* 0,150 %no 0,000 %= 090'0 Mo% 0.140 % Z 0,100 င် 0,016 В% 0,008 % 0,980 Mn% 0,190 %<u>is</u> 0,200 క్రి MATERIAL ASTM A105 TEM 6 HEAT CODE HEAT AL1470 N20

OTHER ELEMENTS

SECT, mm2 LENGHT mm N/mm2 >=0,2% 50,00 TEST SPECIMEN 122,65 ITEM 6 HEAT AL1470 HEAT CODE N20

ELGNGATION REDUCTION OF AREA 32,5 ý YELD POINT TENSILE STRENGHT N/mm2 \*\* 530,0

540 Ŷ

154 - 160

0,0

0'0

FLATTENING TEST

BEND TEST

HARDNESS HS

TYPE 10x10mm ⋛

901 20

103 IMPACT TEST - JOULEISM2

□=2 O ×;

Nmm2 >=1,0% YIELD POINT

0.0

ASME SA ASTM A105-02

43

AL1470

N20

HEAT CODE HEAT

MATERIAL IN ACCORDANCE TO ATT LIFE TO THE THEATTREATMENT 105-02 Normalized at 880\*-920\*C / Air Cool い# **COS** プロ

Our Ref.

STEEL MILL

FURNACE

021362

ELECTRIC FURNACE OR! MARTIN

SIGNATURE

APPROVED BY D.C. INSPECTOR

INSPECTION AUTORITY

NOTES ASME B16.11/01 - BS 3799 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 - NACE MR0175 ISO 15156/1

THE RESERVE OF THE PARTY OF THE

QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL MANUFACTURER'S SYMBOL

BORIS FIZZOTTI

and the second

FITTINGS IML

STUDBOLTS (

INSPECTION CERTIFICATE DIN 50049/3.1B - EN 10204/3.1B

IML (UK) LTD.

25.01.2005 Dated Dated Certificate Nr 14919 Invoice Nr 21 Del. Note Nr 27

NDUSTRIAMENTALISME CHARACTER STORES AND A STATE OF THE STORES OF THE STORES OF THE CONTINUENT This contificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Suite 2, 1st Floor, Cestle House, Stalion Road NEW BARNET, HERTFORDSHIRE ENS 1PEGB COMPANY WITH QUALITY SYSTEM ISO 8001-2000 CENTIFIED BY RINA

DIM. ACC. TO VISUAL & DIMENS. SATISFACTORY SEE NOTE 2000 FITTING UNION F/F THRD NPT 3M 1/2" A105N V DESCRIPTION FFF 2996 2004-2E201-0001404-023 ITEM YOUR P.O. OUR REFERENCE 27 HEAT CODE HEAT

OTHER ELEMENTS	
C.E.%	0.384
Al%	0.028
%N	0,000
%qN	0,001
%/	0,003
%nc	0,110
) %IL	0,003
Mo%	0,030
W %!!	0,100
ر دري	110
	011 0
₩.	0
8%	0,028
Mn%	0,850
85	0,270
%5	0,200
MATERIAL	ASTM A105
ITEM	27
	<b>K21847</b>
HEAT CODE HEAT	UE9

THI DO INT	Mmm2 >=1.0%	00
SHADE VIE	_	
AHG	C	
		8
ž	~	102
JOUL EV	+-	98
ACT TEST .	ů	8
	TYPE 10x10mm	≩
FLATTENING TEST	•	0'0 1
BEND TEST		0'0
HARDNESS HD		158 - 180
REDUCTION OF AREA	#c%	55,5
ELONGATION	#<%	30,5
TENSILE STRENGHT	Wmm2 >=	529,0
YIELD POINT	SECT. mm2 LENGHT mm Nimm2 >=0,2%	355,0
TEST SPECIMEN	LENGHT thm	20'00
TEST (	SECT, mm2	122,65
ITEM		27
HEAT		X21947
HEAT CODE HEAT	the state of the s	UE9 X2

	The state of the s				
HEAT CODE HEAT ITEM	WATERIAL IN ACCORDAN	HEAT TREATMENT	FURNACE	STEEL MILL	Our Ref
UE9 X21947 27	TECENED APR 13	Notinglized at 880°-920°C / Air Cool	ELECTRIC FURNACE	Ì	042061
	SELISO SKIPS	•••			
	{				
	- Dick				
NOTES ASME B16.11/01 - 8S.379	NOTES ASME B16.11/01 - BS.3789 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B16.2.2 - INSPECTION AUTORITY	QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL MANUFACTURER'S SYMBOL	MANUFACTURER'S SYMBOL	MANUFACTURER'S	SYMBOL
NACE MR0175 ISO 15156/1			FITTINGS IML	STUDBOLTS	

NADL

# E.G.A

CLIENTE Customer Client

CE FRANKLIN LTD.

CERTIFICATO II. Certificate II. Certificat N.

537244 FOOLED 1 Shael REV.1 Feeble

1900 - 300 - 5th AVENUE S.W. CALGARY, ALBERTA, CANADA T2P 3C4 DATA / Date

07/02/07 79563

COMMERCA Job N. Confirmation de commande

TE	ST	CERT	O DI COLL FICATE DE CONTF		WITH	HTIFIEC	ANY ITY SYSTEM I BY DNV	Po	namande Rayase or Joses	15715) dar	74-	OR-21	00						COMMEN Job N. Continna	ikin da cam	rrande	79563
PROVA Test Epreuve		Steel	MATERIALE quality / Mailère		COLAT Heat / Co	A Hêr	C%.	51%	Ma #	S %	T	P%	Cr %	HIT		Ma %	11%		Cu %	٧×	Alx	CE#
NBAL	AS	IM AID!	703		0578224		0.190	0.230	0.92	0.007	O	.013	00.09	00.0	05 (	010	0.00	0 0	3.170	0.020	0.022	0.381
NDCL	AS	TM A105	5/03		06/7863	2	0.195	NbX= 0.170	0.00	)1    0   0   010	0	.014	00.10	00.0	05 (	0.010	6.01	9 (	).160	0.017	0.023	0.382
		*****			l		>	Nb⊁≃	0.00	10	Ī			-			_				-	0.343
NDDF	<b>A</b> S	TM A105	i/03		05/7086	i4	0.195	D.200 Nb#=	0.88	0.009	0	.014	0.009	00.0	05 0	.010	0.01	9 (	170	0.018	0.021	
NLSR	AS	TM A105	/03		AA0479		0.195	0.250	1	0.004	0	.009	00.10	00.0	18 0	.020	0.00	0 0	.130	0.000	0.025	0.399
					[		>	Nbx=	0.00	Ю					-						CEs=	0.361
NADL	AS	TM A105	/03		0633874		0.180	0.240	1.08	0.003	0	.012	00.12	00.0	)1	.005	0.00	0 0	.000	0.003	0.023	0.386
NRBR	AS.	TM A105	/05		06/7148	8	0.185	0.180		0.009	0	.014	00.10	00.0	15 0	.010	0.00	0 0	.120	0.001	0.023	0.356
FREVA	-	PRO Test specime	versa nj / Epicapyelis	\$HER N	VANEHTO Vant≥≥	80	TTURA TOTAL	ALUHGANE		CONTRAZIONE	<u>.</u>		F27A	PIEUA	DEH		<u> </u>		RES Impact le	ILIEHZA SI / Résilens	:0	
Test Epreuva	$\cdot$	isezitake Section / Sect	LUNDHEZZA Lengin / Congest	Yk	eld point d'elasticilé	Tiensil	estranght upture	Elongalio Alkongania	in ini	Reduction of an Striction	23	Harr	kreca Kali	Send test Pftage	Plett Apta	Ilics. I	IHITÄ MIE. Init system	търо Туро	T. °C Test tas	WALE	ht / Value /	Docnées
NBAL	i	30.6	25.0	3	12.0	5	33.0	29.	2	56.8		155-1	60			J		ΚV	(	38-52	-48	
NDCL	L	30.6	25.0	3	03.0	5	10.0	31.:	3	68.6		146-1	5ti			J		ΚV	, c	64-62	-52	
NDOF	1	59.5	35.0	3	46.6	51	01.4	25.7	7	62.9		146-1	49		1	J		KV	΄ ε	48-68	-34	
NLSR	1	30.6	25.0	2	98.9	5	08.2	32.3	2	68.1		140-3	45		1	þ		KV	0	152-1	50-158	
NADL	1	60.1	35.0		08.0	5	28.0	28.0	0	66.0	ŀ	140-1	45			þ		KV	0	46-52	-54	
NRBR	L	122.5	50.0	2	97.0	5	15.0	31.1	1	69.9	_	140-1	45			נ		KV	0	18-52	-60	
Finava Test Epreuve	HO	E / Ramauks	/ Notes	EN.	10204/3	.1										FORW Shap	iA e / Farme	:	1 = Ø	2=		

ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. NDCL NDDF ELECT.FURNACE-NORMALIZED AT 900 C CODLED IN STILL AIR. NLSR ELECT.FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.

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

/CERT.8642.06 MEGA/ISMA\*531508 MEGA\* /CERT.117.06 CARLOTTO\*532589 MEGA\* /CERT.56.06 EVASI\*532799 MEGA\* /CERT.87.36.06 MEGA/ISMA\*532601 MEGA\*

/CERT.8596.06 MEGA/ISMA\*530980 MEGA\*

/CERT.1471.06 CARLOTTO\*534986 MEGA\*

NRBR \$LECT.FURNACE-NORMALIZED COOLED IN STILL AIR.

	PREYA Tast Egizuwe	POS. Item Pos.	OUARTYA Cuantity Oszatité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
1	NBAL	901	450	1096411	90 DEG. ELBOW S. 2000 NPT A/SA105N 1/2	CK
	NDCL (	902	250	1096526	90 DEG. ELBOW S. 2000 NPT A/SA105N 1	OK
	NODF (	903	880	1092381	90 DEG. ELBOW 5. 2000 NPT A/SAID5N 2	OK
	NLSR (	04	800	1095574	TEE S. 2000 NPT A/SA105N 1/2	GK
	NADL (	05	250	1094571	TEE S. 2000 NPT A/SAIO5N 1	OK
	NRBR (	06	1992	1095304	TEE S. 2000 NPT A/SA105N 2	ОК
					PO GOMPRESSION RECEIVED APR 1 3	2007

FOYED BY O G. MESTOTOR MOTE / Remarks / Notes

MATERIAL ACCORDING TO NACE MR0175/ 2003.

ENTE INFECIALE DI COLLABOS Inspection Anthority Servica inspection Otificio

CAPO COLLAVOO Chiel Inspection DPT ponsable assurance qualité

uda Marcati

M.E.G.A. S.p.A. - VIA DALLA CHIESA, 3 - SCANZOROSCIATE (BG) ITALY - TEL. +39 035 661280 - TELEFAX +39 035 665535

# $\mathbf{E}_{1}\mathbf{G}_{1}\mathbf{A}_{1}$

CERTIFICATO DI COLLAUDO **TEST CERTIFICATE** 

COMPANY WITH QUALITY SYSTEM

CLIBITE Customer Client

DADDHE

CE FRANKLIN LTD.

1900 - 300 - 5th AVENUE S.W. CALGARY, ALBERTA, CANADA T2P 3C4 CONTINUATE N. 537244 FOCUS 1
Conflicate N. REV.1 Feeling

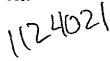
07/02/07 DATA / Date

79563

1571574-0R-2100

1		ERTIFIC ICAT DE		CE		14 24215H 140 144 1001====	Pu	NOBLE Archasa on Arvinanda	157157 Ser	4-0R-2	100					Contim	sticu de com	Mande	• .
PROVA Test Epreuva	T	MATE Steel qual	RIALE ty/Mailere	COLAT Heat / Co	iy Sqf66	C%	51%	Mn %	S%	P%	Cr%	សាទ	Ma	% п	*	Cu %	V%	ATX	CE
NBAL	AST	A10570	3	0578224	4	0.190	0.230	1	0 0.007	0.013	00.09	00.0	35 <b>0.</b> 0	10 0.	000	0.170	0.020	0.022	0.381
NDCL	ASTM	1 A105/0	3	06/786	12	0.195	NbX* 0.170	1	11   10   0.010	0.014	00.10	00.1	0.0	10 0.0	370	0.160	0.017	0.023	0 385
	<del>                                     </del>					>	Nb#=			0.014	00.10	-	35 5.0.	10   0.1	113	, 100	0.017	1	0.343
NDDF	ASTM	A105/0	3	06/7086	54	0.195	0.200		0.009	0.014	0.009	00.0	0.0	10 0.0	)19 (	170	0.018	0.021	0.363
NLSR	ASTM	A105/03	3	AA0479		0.195	Nb#= 0.250	1	0.004	0.009	00.10	00.0	18 0.02	20 0.0	000 0	3.130	0.000	0.025	0.399
NADL	ACTH	A105/03	,	0633874	,	>	Nb*=	1	- I	<b>5</b> 510	nn 10					. خ المحمد		1	0.361
NAUL	1316	WI0210	•	0033674	•	0.180	0.240 Nb*=	1	0  0.003 2	0.012	00.12	1.00.1	11 0.00	05   0.0	ו טעז	1.000	0.003	0.023	0.386
NRBR	ASTM	A105/09	5	06/7148	18	0.185	0.180 Nb*=	0.83		0.014	00.10	00.0	15 0.03	10 0.0	)OO: 0	1.120	0.001	0.023	0.356
<u> </u>	+-	PROVETU		BIJERVANGHTO	8.5	TTUBA	ALUNGANE	<del>!</del>	CONTRAZIONE	l ne	REZZA			1	<u> </u>	FRE	SKLIENZA	<u> </u>	!
FIREVA Test Epreuva		t spackment / Eq Lezioste L	LINONEZZA	Wintme≥ Yield point	No.	≤drani tdonunta s	%≥ Elengalio	an .	%.≥ Raduction of are	a Ha	H9   dress	PIEUS Send (est Pilage	SCHIAGE. Flatt, 1851 Aphathss.	инта ми	. TIPO	1	est / Résiliens		
NBAL	Sec.	101/Sect. Len 30.6	gih/Leaguer 25.0	S12.0		33.0	Allongeme		Striction 56.8	155-	160			Unit syste		Test tri	# { VALU 0 38-52	BE/Value/	E DICTRE ES
NDCL	1	30.6	25.0	303.0		10.0	31.		68,6	146-				j	KV	1	0 64-62		
NDDF	<u> </u>   !	59.5	35.0	346.6		D1.4	25.	7	62.9	146-	149			j	KV	1 1	o  48-68	1-34	
NLSR	t I	1	25.0	298.9		08.2	32.	1	68.1	140-				J	KV:	1.		.50-158	3
NADL NRBR	1	50.1 22.6	35.0 50.0	308.0 297.0	1	28.0 15.0	28.1 31.1	- 1	66.0 69.9	140-				))  -	KV		0 #6-52 0 #8-52		
FIIDYA Test	╁┷	Ramarko / Not					<u> </u>	<u>-                                    </u>	03.3	1140-	143			IRKA_		1 = 0	2 =		
Epreuve				EN10204/3 LIZED AT 90		not to	TU CTIL	1 170	/ccpa	* 0500	0¢ 1874			hape / Forma				<del></del>	
	1			LIZED AT 90							06 MEG/ 06 MEG/								
	1			LIZED AT 90							6 CARLO				1				
i	1			LIZED AT 92						.56.06	EVASI*	53279	9 MEGA	*				:	
NADL NRBR	1			LIZED AT 904 LIZED COOLEI				L AIR			.06 ME@ 06 CARL				-				
PARVA Tost	POS.	CHASTITÀ Cuentity	C00:	SECLIZITE		**********	llon / Descripti		/ GCIN	.14/1.	UU CARL	.0110	774200	- NEGA"				VISUAL	AND
Epituve	Pos.	Quantité	Co	sde chent														DIMENS	IONAL
1	001 002	450 250	109641	- I'					PT A/SA10 PT A/SA10										OK
1	003	880	109238	- 1					T A/SA10										OK OK
NLSR	004	800	1095574				NPT A/S												OK
1	05 06	250	109457				NPT A/S			61: 1077: 1:	222 (4 <del>27 ) 7 ( 127</del> ) 1	pr	دونونیون بایداد. معار راستان	na <del>ge to com</del>	eacan		<del>- Land</del> Pul		ok
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										- T	i en fil		n Py	10.0	1125	THC		Ç A4 - <u>1288 - 18</u> - A8-	
HATE / Remarks / Notes											HTE UTTICHAL Impaction	Applically		T		ដូង	APO COLLAU Si (REPECIOR	DPT	
MATERIAL ACCORDING TO NACE MR0175/ 2003.									<del></del>	Bervice Insp	ection Offic	id			Respon	ratio assuran	ce qualité		
PATERIAL ACCURDING TO NACE MRU1/5/ 2003.														DOC	. <i>M</i>		G.A.		

M.E.G.A. S.p.A. - VIA DALLA CHIESA, 3 - SCANZOROSCIATE (BG) ITALY - TEL. +39 035 661280 - TELEFAX +39 035 665535







#### **Certificate of Test**

Part Number:

Y30566

Description: 1/2x8 B XS SML NIP 106B

Heat Code:

AI90 🗸

Reference No.:

Specification:

ASTM A106-04 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

Chemical Analysis %

_			, , ,									
	Heat No.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
	612068	0.20	0.54	0.015	0.022	0.23	0.02	0.02	0.03	0.01	< 0.01	
											i	
		CE (LO	ONG F	ORMUL	A) = 0.3	1						

**Mechanical Properties** 

Yield Strength		Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN				
psi	48,600	psi	71,000	42.00	0.00	N/R				
MPa	000	MPa	000			1				
Heat Trea	tment:					$\varphi_{j}(t)$				
			SEAMLE	SS		•				
			HARDNE	SS LESS THAN EQ	UAL 22HRC.IN AC	C.WITH MR0175				
Hydrotest	/NDE: NI	ÞΕ		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.

nate	PC COMP RECEIVE	RESSION D APR 1 3 2007
70.#	508148	1891736
olek.	ATUPE:	HC





#### Phoenix \* Capitol \* Camco **Cap Products**

#### **Certified Mill Test Report**

Commanding a Higher Standardsm

3/23/2007

Customer

CE FRANKLIN LTD

BOX 6776 STN "D" CALGARY, AB T2P2E8

Part Number 15110512 P.O.

1760409-OR-2100

Heat No Heat Code NDL

Phoenix Order# 461944

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

Description

Material

1/2 X 6" XHSML BK STL NIPI

**Chemical Properties** 

С	Mn	P	S	Si	Cu	Cr	Ni		C Eq. Lon
0.180	0.670	0.006	0.016	0.270	0.250	0.080	0.070		0.334
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti
0.020	0.005								

Additiona	l Chemica	l Propertie	S	

Cr + Cu + Ni	•
0.400	

**Mechanical Properties** 

Charpy Minimum Impact -

I	Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
	78,740	62,350	39.4%			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.

12127711 <del>24</del> 1-1-1-1	Tu diam'r			• • ‡ • !			
11475	RECEIVE	D	APR	1	3	200	7
P.O.#	508/48	1	8917	13	6		
SIGNA	NTURE:	1	H				***************************************
APPR	 OVED BY Q.C. (1)	VSP	ECTOF	3			-

CapProducts. Ltd. 25 Winnipeg St

Vanastra, ON NOM 1L0

المراجيد أأأط

Anvil International Inc. - Certificate of Test

JAN 2 6 2006

Page 1 of 1





## Certificate of Test

Part Number:

Y30545

Description: 1/2x4-1/2 B XS SML NIP 106B

Heat Code:

AG88

Reference No.:

Specification:

ASTM A106 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL

Chemical Analysis %

		. , <del>.</del>									
Heat No.	С	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
446297	0.10	0.54	0.011	0.027	0.22	0.03	0.03	0.03	0.03	< 0.01	
	CE (L	ONG F	ORMUL	A) = 0.2	1						

**Mechanical Properties** 

Yield S	trength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	65,080	psi	67,000	38.00	0.00	N/R
MPa	000	MPa	000			

Heat Treatment:

MEETS NACE MR 01-75-2001. HARDNESS LESS THAN OR EQUAL 22HRC

Hydrotest/NDE: GOOD 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.

	The state of the s
	PC COMPRESSION
Mary and and	DATE RECEIVED APR 1 0 2007
	P.O.# 502274
	11/
	SIGNATURE:
	APPROVED BY Q.C. INSPECTOR
	TAPPENDIG. INDICO.

NOV 3 0 2006

1121710





## **Certificate of Test**

Part Number:

Y3054

Description: 1/2x4 B XS SML NIP 106B /

Heat Code:

AI90

Reference No.:

Specification:

ASTM A106-04 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

Chemical Analysis %

	<u>v</u>										
Heat No.	С	Mn	P	S	Şi	Cu	Ni	Cr	Mo	V	Cb/Nb
612068	0.20	0.54	0.015	0.022	0.23	0.02	0.02	0.03	0.01	< 0.01	
										1	
	CE (L(	ONG F	ORMUL.	A) = 0.3	1						

**Mechanical Properties** 

Yield S	trength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	48,600	psi	71,000	42.00	0.00	N/R
MPa	000	MPa	000			
Heat Trea	tment:					
			SEAMLE:	SS		
			HARDNE	SS LESS THAN EQ	UAL 22HRC.IN AC	C.WITH MR0175
Hydrotest	NDE: NI	Œ		F	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.

FO COMPR	COSION
DATE RECEIVED	APR 1 3 2007
ž	1891736
SIGNATURE:	HC
APPBOVED BY Q.C. IN	ISPECTOR





## Certificate of Test

Part Number:

Y30535

Description: 1/2x3-1/2 B XS SML NIP 106B

Heat Code:

AI90

Reference No.:

Specification:

ASTM A106-04 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL

Chemical Analysis %

Heat No.	С	Mn	P	S	Si	Cu	Ni	Cr	Мо	V	Cb/Nb
612068 <sup>-</sup>	0.20	0.54	0.015	0.022	0.23	0.02	0.02	0.03	0.01	< 0.01	
										,	
	CE (LC	ONG F	ORMUL.	A) = 0.3	1						

**Mechanical Properties** 

Yield S	• • • • • • • • • • • • • • • • • • • •		Stength	Elongation % 2	Reduction Area	Hardness BHN	
psi	48,600	psi	71,000	42.00	0.00	N/R	
MPa	000	MPa	000				
Heat Trea	tment:			•			
			SEAMLES	SS			
			HARDNE	SS LESS THAN EQ	UAL 22HRC.IN AC	C.WITH MR0175	
Hydrotest	NDE: NI	ÞΕ		E	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.

1:4:M	RECEIVED	APR	1	3	2007
20.4	502148	1881	7	3(	0
SIGNA	TURE:	HC	,		

1134 **e**1 - Keald bk:

EAT NUMBER : SSI75 TRANS AM PIPING PRODUCTS Shipment/Seq #: S 6

MANUFACTURER'S SYMBOL

INSPECTION AUTORITY QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL

Ξ

FITTINGS

BORIS FIZZOTTI

LEU APR 1 U 2007

Detail

BELLEVIOR

NOTES ASME B16.11/01 - BS.3799 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 - NACE MR0175 ISO 15156/1 - SUPPLIED MATERIAL-MEETS - SPECIFICATIONS AND P.O. REQUIREMENTS

# INDUSTRIA MECCANICA LIGURE SPA

.

COMPANY WITH GUALITY SYSTEM ISO 9001-2000 CERTIFIED BY RINA

INSPECTION CERTIFICATE EN 10204:2004/3.1

01.03.2008 27.02.2006 27.02.2008 Dated Dated Certificate Nr 16241 Invoice Nr 205 Def. Note Nr 338 5 TRANS AM PIPHNG PRODUCTS LTD. 7025 - 44th Street S.E. Calgary, Alberta T2C 4E8

HEA	r code	HEAT	ITEM	YOUR P.O.		OUR REFERENCE		Q.TY			DESCRIPTION	PTON			:				DHM. ACC. TO	-	VISUAL & DIMENS.	82
1		74379	014	CI-06-116		2006-2E201-0000044-014	214	4	FITTING CROSS THRD NPT 2M 1" A105N	OSS THRO	NPT 2M	1" A105N		-			:		CCC NOTE	+	1	
6ZZ		76177	914	CI-06-116		01-60000444	014	u	FITTING CROSS THRD NPT 2M 1" A105N	OSS THRD	NPT 2M	1. A105N							SEE NOTE:	-	SATISTACIORY	2
L320		X21947	620	CI-06-116		2006-2E201-0000044-079	079	LI.	FITTING UNION F/F SW 3M 1" A105N	ON FIF SV	V 3M 1"	1105N							SEE NOTE		SALISFACIORY	ž
		93887	19	CI-05-428		2005-2E201-0000691-078	18/0	۵	P.NIPPLE TBE NPT S-80 1" (64mm/2/%") A105B/API 51 B	E NPT S.	30 1" 1 64	nm(?!/;")	4106B/AP	4					STE NOTE		SALISFACTORY	ξ.
		95727	19	CI-05-428		2005-2E201-0000891-07	920	<u> </u>	P.NIPPLE TBE NPT S-80 1" L64mm(21/1") A 1066/API 51 B	E NPT S.E	30 1" 164	nm(21/5")	4106B/AP	8 6					SEE N		SALISTACIORY	¥ ;
	<del></del> -	97901	19	CI-05-428	3 2005-2E20	2005-2E201-0000691-078	97B	۵.	P.NIPPLE TBE NPT S-80 1" L64mm(21/4") A 106B/API 51 B	3E NPT S-E	10 1" 164	, (*%2) mm	4106B/AP	51B					SEE NOTE		SALISFACIORY	<u>`</u>
	7	55175	013	CI-05 - 64	CI-05 - 647 2005-2E201-0000954-013	01-0000954-0	513	a.	P.NIPPLE TBE NPT S-80 1/2" (75mm/3") A105B/API 51 BV	SE NPT S-8	30 1/2" 17	5mm(3")	4106R/AP	- E	1:					_	SATISFACTORY	K
:		55175	015	CI-05 - 64	CI-05 - 647 2005-2E201-0000954-01	01-0000954-0	315	۵	P.NIPPLE TBE NPT S-80 1/2" L140mm(51/4") A106B/API 5LB	E NPT S-	30 1/2" [1	40mm(5%	") A106B/	APISIB					SEE NOTE		SATISFACIORY SATISFACTORY	<u>~</u> }
Ŧ	HEAT CODE	HEAT	ITEM	¥	WATERIAL	స	. *** 	Mn%	%5 %	%.d	250	×	Mo%	71.7	Cu%	*	NB%	N.X	Al% C.	_[6	OTHER ELEWENTS	ď
17		74379	34	ASTM A105	95	0,190	0,220	20 0,920	20 0019	0.013	0.120	090'0	0.010	0.140	0 230	000	_		١.,	-		,
729		76177	014	ASTM A105	55	0.190	0 0,210				090'0	0.050		_			_			600,0		
1.320		X21947	620	ASTM A105	25	0,200	0 0,270	70 0,850	50 0,028		0.110	0.100								0,396		
	-	93887	19	ASTM A10	ASTM A106/B API 5LB						0.070	0,120								0,204		
		95727	6	ASTM A10	ASTM A106/B API 5LB			90 0.680	80 0,006		0,040	090'0			_					200		
		97901	19	ASTM A10	ASTM A106/B API 5LB	B 0,140	3 0,210	0,640	40 0,007		090'0	0,060						_		2000		
	447	55175	93	ASTM A10	ASTM A106/B AP! 5LB	-		30 0,640	40 0,007	0,003	0,040	0,050								000		
		55175	015	ASTM A10	ASTM A106/B API 5LB	-B 0,130	0,230	30 0,640	40 0,007	0,003	0,040	0,050								0000		
HEA	HEAT CODE	HEAT	TEM			YIELD POINT TEI		ISHE STRENCHE	ЕСОМИЛАТІОМ	REDUCTION OF AREA		HARDMESS HO	BENO TEST	FLATTENING TEST	VG TEST	-	MPACT TEST	Ž.	1	SHAPE		
-	!			SECT. ment	LENGHT mm R	Wrum2 >=0,2%	Mmm2 >=	3 72	à	23					- F	TYPE 18210mm			_	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
17			014	122,65	20,00	314,0	516,0	0.0	31,0	58,0		52 - 158	0'0	-0	0.0	≩	20	8	103	102		
57	_		97	122,65	20,00	332,0	532,0	0,5	32,0	98'0	-	150 - 158	0,0	0	00	≩	2	103		103	2 6	
L320		~	620	122,65	20,00	361,0	525,0	0.	30'0	22'0		152 - 156	0.0	0	0.0	≥	20	138		105	- C	
	<b>o</b>		6	6 8	86	370,0	519,0	0.0	41,5	0.0	_	150 - 159	0,0	C	0'0			0				3 0
	<b>on</b> (		<u>o</u>		0 0 0	382,0	515,0	0,0	52,0	0,0	-	152 - 158	0'0	0	0.0			0	0		9 6	
	တာပ		6	900	8	370,0	489,0	<u>۔</u>	54,0	0.0		146 - 152	0'0	0	0,0			0	0		· ·	
		_	013	8	80	372,0	516,0	0,	44,0	0,0		156 - 160	0,0	<u> </u>	0,0			0	0	0	· -	
	n ;		613	00'0	000	372,0	516,0	0,0	44,0	0,0		156 - 160	0'0	0	0,0			0	0	_	00	. ~
HEA!	HEAT CODE	HEAT	TEM	1	MATE	MATERIAL IN ACCO	ORDAN	RDAMCE TO		-	:  -  -	뮢	HEAT TREATMENT	MENT			E	FURNACE		STEEL MAIL	-	100
E E				ASME SA	ASME SA ASTM A105-05	5-05				Norma	lized at 8	80°-920°C	Normalized at 880*-920*C / Air Cool				FLECTE	ELECTRIC FLIRMACE	+	DWA ACCIA	19	1
523				ASME SA.	ASME SA ASTM A105-05	5-05				Norma	lized at 8	80°-920°C	Normalized at 880*-920°C / Air Cool	_			FLECTS	ELECTRIC FURNACE		RIVA ACCIN		
- F350		~		ASME SA	ASME SA ASTM A105-05	5-05				Norma	fized at 8.	80°-920°C	Normalized at 880*-920°C / Air Cool	_			ELECTE	ELECTRIC FURNACE		GSB		t 4
	σi ≀		<u></u>	ASME SA	ASME SA ASTM A106/A160M-04b	6/A160M-0-		~		Norma	lized at 8.	80°C 920°	Normalized at 880°C-920°C / Air Cool	5			ELECTA	ELECTRIC FURNACE		PIETRA	04050	
	ກ ເ			ASME SA	ASME SA ASTM A106/A160M-04b	6/A160M-0-	ස් දිරි දැස	~		Norma	fized at 8.	80°C-920'	Normalized at 880°C-920°C / Air Cool	75			ELECTA	ELECTRIC FURNACE		PIETRA	053012	- ~
	n ŭ	97301		ACTION OF	ASMESA ASTRA ATOS/A150M-04b	6/A15UM-U				Norma	fized at 8.	80°C-920	Normalized at 880°C-920°C / Air Cool	ত			ELECTA	ELECTRIC FURNACE		PIETRA	053013	
	<u>ئى</u> د			ACMIT OF	ASME SA ASTIM A106/A150M-04b	6/A150M-U				Norma	lized at 8.	80°C-920	Normalized at 880°C-920°C / Air Cool	ਰ			ELECTA	ELECTRIC FURNACE				
	<u>5</u>	_	_	ASME OF	ASME SA ASTM A106/A160M-04b	6/A160M-U	€ G. B	_		Norma	lized at 8.	30°C-920	Normalized at 880°C-920°C / Air Cool	70			ELECTR	ELECTRIC FURNACE	ACE		_	
MOTES	ACM	C D46 44104	400		4 4 700 4 4 4			4		214 Thurston	1	-			-				-		_	-

3 XH SMLS STEEL NIPPLES A106 X 2/I



MAR 0 7 2007

Phoenix \* Capitol \* Camco
Cap Products

1116689

Commanding a Higher Standardsm

#### **Certified Mill Test Report**

2/27/2007

Customer

CE FRANKLIN LTD

P.O. 1741135-OR-2100

Heat No 622115

Heat Code PZR

Phoenix Order# 456868

Ma

Material

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

BOX 6776 STN "D" CALGARY, AB T2P2E8

Part Number

15110506

Description

1/2 X 3" XHSML BK STL NIPL

**Chemical Properties** 

С	Mn	Р	S	Si	Cu	Cr	Ni		C Eq. Long
0.200	0.540	0.014	0.022	0.240	0.020	0.020	0.010		0.300
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti
0.010	0.010			0.000					

	Additiona	I Chemical	l Propertie	s	
Ì					

Cr + Cu + Ni
0.050

**Mechanical Properties** 

Charpy Minimum Impact -

	·operio						· · · · · · · · · · · · · · · · · · ·	
Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
73,000	49,300	29.0%			N/A	N/A	N/A	N/A

#### \* Eddy Current 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 MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

PO COMPLIESSION
RECEIVED APR 1 3 2007
PO.# SOSIU8 1891736
SIGNATURE: HC
APPROVED BY Q.C. INSPECTOR

CapProducts, Ltd.

25 Winnipeg St

Vanastra, ON N0M 1L0

JAN Z to LUUO





## Certificate of Test

Part Number:

Y30525

Description: 1/2x2-1/2 B XS SML NIP 106B

Heat Code:

AH16 ....

Reference No.:

Specification:

ASTM A106-99 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL PIPE

Chemical Analysis %

Chemical A	marysis	<b>5</b> /U									
Heat No.	С	Mn	P	S	Şi	Cu	Ni	Cr	Mo	V	Cb/Nb
5230	0.20	0.41	0.012	0.026	0.19	0.01	0.02	0.01	0.01	< 0.01	,
										ı	
	CE (LO	ONG F	ORMUL.	A) = 0.2	8						

**Mechanical Properties** 

Yield S	trength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	43,100	psi	68,000	28.00	0.00	N/R
MPa	000	MPa	000			
Heat Trea	tment:					
			MEETS N	IACE MR-01-75-200	<b>)</b> 1	
			HARDNE	SS LESS THAN OF	R EQUAL 22 HRC	
Hydrotest	/NDE: GO	OOD			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.

PO GOMPE RECEIVED	
	1891736
SIGNATURE:	HC
APPROVED BY Q.C.	INSPECTOR



MAR 0 7 2007

# Phoenix \* Capitol \* Camco Cap Products

Commanding a Higher Standardsm

#### **Certified Mill Test Report**

2/27/2007

Customer

CE FRANKLIN LTD

P.O. 1741135-OR-2100

Heat No 53310

Heat Code NDL

Phoenix Order # 456868

Material

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

BOX 6776 STN "D"
CALGARY, AB T2P2E8

Part Number 15110504 Description

1/2 X 2" XHSML BK STL NIPL ~

**Chemical Properties** 

C	Mn	P	S	Si	Cu	Cr	Ni	] [	C Eq. Lo	ng
0.180	0.670	0.006	0.016	0.270	0.250	0.080	0.070		0.334	
Mo	V	Со	Al	Cb	N	Pb	Sn	Ta	Ti	
0.020	0.005									

Additional	Chemical	<b>Properties</b>

		ī — — — — — — — — — — — — — — — — — — —		f
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- 1	1 "		1	
1	1		i	

1	
Cr + Cu + Ni	
0.400	

**Mechanical Properties** 

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	RofA	BHN	Test 1	Test 2	Test 3	Average
78,740	62,350	39.4%			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 MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

CapProducts. Ltd.

25 Winnipeg St Vanastra, ON N0M 1L0

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nemature:	He



#### Phoenix \* Capitol \* Camco **Cap Products**

1121234

Commanding a Higher Standardsm

#### **Certified Mill Test Report**

3/23/2007

Customer

CE FRANKLIN LTD

BOX 6776 STN "D" CALGARY, AB T2P2E8

Part Number 15110503 P.O.

1760409-OR-2100

Heat No 210619

Heat Code S3R

Phoenix Order # 461944

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

Description

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

**Chemical Properties** 

С	Mn	P	S	Si	Cu	Cr	Ni		C Eq. Lon
0.190	0.740	0.021	0.004	0.213	0.028	0.075	0.062		0.336
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti
0.008	0.002								0.003

Additiona	l Chemica	l Propertie	:S	

Cr	+ Cu +	Ni
	0.165	

Mechanical Properties

Charpy Minimum Impact -

"ACCIMINICAL I	Operates							
Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
75,127	59,608	43.7%			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.

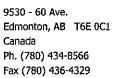
Comments:

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

> PU COMPRESSION SIGNATURE: APPROVED BY Q.C. INSPECTOR

CapProducts, Ltd. 25 Winnipeg St

Vanastra, ON N0M 1L0





A DOVER COMPANY

	MILL TES	T	PC COM	PAESSION	
	PILL ILS		<u> </u>	RECEIVE	ED AFR (3
AOT HEAT CO	DDE AHQE			508148	18917
General Info	ormation			TO THE REPARE	He
Raw Material Manufacturer:	Niagara Lasalle Co	·	Date:	23/01/2006	
Description:	7/8" A234 WPB Hex	Bar He	at No	598636	in a comment of the c
Specification:	ASTM A234-97/ASME SA234-9	2A Gr. WPB	ngangan saman sa da mas		
Chemical Pr C Mn P 0.20 0.83 .01	s Si Cu	NI Cr M 0.06 0.12 .02	. <del></del>	Cb/Nb Al .0010 .028	,
Mechanical	Properties				
Tensile:	83345 psi	Elongation (%	o):	25.30	
Yield:	66862 psi	Reduction of Area (%	a):	65.10	
	•	Hardnes	SS:	HBN 170	
Heat Treatment: C	Cold Drawn High Stress Relieve				
1/	SED.FOR.331537A606 2" x 3/8" XH Smls Swage eets: MEETS ASTM A234- MEETS NACE MR017	Nipple / 02/ASME SA234-01	GR.WPBS	558	

WE CERTIFY THAT THIS DOCUMENT IS DIRECTLY TRACEABLE TO THE MANUFACTURERS' ORIGINAL MILL TEST REPORT AND THAT SAID TEST REPORT CAN BE SUPPLIED UPON REQUEST.

APPROVED BY:	fic	
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Maintained By: Quality Department

Rev: C

Doc Name: MTR.mdb

Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1

**CERTIFICATO DI COLLAUDO** TE CE

CE FRANKLIN LTD.

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

DATA / Date

537649 rocus 4 Sheet Feuille

23/01/07

COMMESSA Job N.

79564

	ST CERTIFICATE RTIFICAT DE CONTROLE	WITH QUALI CERTIFIED ====150 9	<b>GREINE</b> Purchase order Commande	157181	5-0R-21	.00		Confirma	ition de comm	ande
-7	ASATERIAL E	****	 	T		,	 	 	· · · · · · · · · · · · · · · · · · ·	

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulée	c %	Sł %	Ma %	5%	P %	Cr %	Ni %	Мо	% Ti %	Cu %	V %	ATX	CE*
	ASTM A105/03	71551	0.195	0.220	0.790	0.014	0.015	00.10	00.0	6 0.0	0.01	7 0.200	0.021	0.000	0.370
			>	Nb <b>%</b> =	0.000	1					- 1			CEs=0	.3267
LLAC	ASTM A105/03	71551	0.195	0.220	0.790	0.014	0.015	00.10	00.0	6 0.0	0.01	7 0.200	0.021	0.022	0.370
			>	Nb%=	0.000	B <b>≵</b> =	0.0002		İ					CEs=0	.3267
LLAL	ASTM A105/03	71551	0.195	0.220	0.790	0.014	0.015	00.10	00.0	6 0.0	0.01	7 0.200	0.021	0.022	0.370
			>	Nb#=	0.000		ŀ	}						CEs=0	.3267
NDAU	ASTM A105/05	1T 23944	0.200	0.190	0.780	0.014	0.010	00.06	00.0	8 0.02	0.00	0 0.160	0.000	0.000	0.362
			>	Nb%≃	0.003	ŀ					İ	i		CEs=	0.330
NDAX	ASTM A105/05	1T 23944	0.200	0.190	0.780	0.014	0.010	00.06	00.0	8 0.02	0.00	0 0.160	0.000	0.000	0.362
			>							i				CEs=	0.330
LBTT	ASTM A105N/01	AL2227	0.190	0.260	0.920	0.028	0.016	00.20	00.1	0.04	0 0.00	0 0.150	0.001	0.020	0.408
		!	>			Nb%=	0.002	İ						CEs=0	.3433
PROVA Test	PROVETTA Tes1 speciment / Eprecuvette	SNERVAMENTO N/mms≥	ROTTURA N/mm₁≥	ALLUNGAME %≥	нто от	ONTRAZIONE %≥		NEZZA HB	PIEGA	SCHIACC.	<del></del>		SILIENZA est / Résilienc	te	
Epreuve	SEZIONE LUNGHEZZA	Yield point T	fensile stranght	Elongatio		duction of are		dness	Bend test Pliage	Fiatt test Aplattiss.	UNITÀ MIS.	TIPG T. "C		/ 4	

	-				<del></del>	,,	<del> </del>								
PROVA Test			VETTA It / Eprecuvette	SNERVAMENTO N/mm5≥	ROTTURA N/mm₁≥	ALLUNGAMENTO %≥	CONTRAZIONE %≥	DUREZZA HB	PIEGA Bend test	SCHIACC. Fiatt test			MESIL Impact test		
Epreuve	suve SEZIONE LUNGHEZZA Section / Sect. Length / Longer		LUNGHEZZA Lengih / Longeur	Yield point Tensile strenght Limite d'élasticité Rupture		Elongation Reduction of area Allongement Striction		Hardness Dureté	Pliage	Aptatriss.	UMITÄ MIS. Unit system	TIPG Type	T. "C Test trap	VALORE / Value / De	onnées
LLAB	1	30.6	25.0	314.0	534.0	29.6	67.6	156-163		1	J	KV	0	42-38-40	***************************************
LLAC	1	30.6	25.0	313.0	530.0	30.3	67.1	156-163			J	ΚV	0	42-34-40	
LLAL	1	30.6	50.0	364.0	502.0	28.8	53.9	156-170			J	ΚV	0	42-36-42	
NDAU	1	30.6	50.0	307.0	520.0	32.1	69.9	143-146	1		J	ΚV	, 0	50-60-58	
NDAX	1	30.6	50.0	323.0	529.0	29.2	66.3	156-160			J	ΚV	0	58-54-52	
LBTT	1	122.6	50.0	392.0	564.0	23.1	64.4	175-182	1		J	ΚV	0	52-54-48	
PROVA Test	NOTE / Remarks / Notes							<u> </u>			RMA ana / Forma	; -	1 = Ø	2 = □	

EN10204/3.1 ELECT.FURNACE-NORMALIZED AT 910 C COOLED IN STILL AIR. /CERT.40302.05 FEAT\*247669 MEGA\* LLAC ELECT.FURNACE-NORMALIZED AT 910 C COOLED IN STILL AIR. /CERT.40304.05 FEAT\*247669 MEGA\* LLAL ELECT.FURNACE-NORMALIZED AT 910 C COOLED IN STILL AIR. /CERT.40291.05 FEAT\*247656 MEGA\* NDAU ELECT.FURNACE-NORMALIZED AT 910 C COOLED IN STILL AIR.

/CERT.40216.06 FEAT\*534024 MEGA\* NDAX ELECT.FURNACE-NORMALIZED AT 910 C COOLED IN STILL AIR. /CERT.40218.06 FEAT\*534024 MEGA\*

ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. LBTT /CERT.12666.01 RODACCIAI\*532938 MEGA

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCARZIONE / Description / Dascription	VISUAL DIMENSI	AND ONAL
LLAB	016	100	1095890	UNION S. 3000 NPT A/SA105N 1.1/2	female	OK
LLAC	016	100	1095890	UNION S. 3000 NPT A/SA105N 1.1/2	nut	OK
LLAL	017	504	1090546	UNION S. 3000 NPT A/SA105N 2	nut	ок
NDAU	017	504	1090546	UNION S. 3000 NPT A/SA105N 2	male	ок
ŊĐAX	017	504	1090546	UNION S. 3000 NPT A/SA105N 2	female	OΚ
LBTT	018	3000	1094512	HEX. HEAD PLUG NPT A/SA105N 1/2		ОК
				PC COMPRESSIO		

RECEIVED TOHOVED BY O.C. INSPECTOR

		****** * * * * * * * * * * * * * * * *	THE PROPERTY OF THE PROPERTY O
MOTE / Remarks / No	tes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Officiel	CAPO COLLAURO Chief Inspection DPT Responsable assurance qualité
MATERIAL ACCORDING TO NACE MR0175/ 20	003.		DOC. CORY M.E.G.A.

M.E.G.A. S.p.A. - VIA DALLA CHIESA, 3 - SCANZOROSCIATE (BG) ITALY - TEL. +39 035 661280 - TELEFAX +39 035 665536

# E.G.A

CLEENTE Custome Client

CE FRANKLIN LTD.

1900 - 300 - 5th AVENUE S.W. CALGARY, ALBERTA, CANADA T2P 3C4 CERTIFICATO N. 530911 FOOLID 3 Sheet Feuille

DATA / Date

23/03/06

78312

CAPO COLLANDO Chief Inspection DPT Responsable assurance qualité

Luce Hartati

E.G.A.

TE	ST	CERTIFIC	<b>DI COLL</b> CATE E CONTR	WITE	ERTIFIED	ANY TY SYSTEM BY DNV	Pu	ABINE Urchase Ommand		-OR-2	100				COMME Job N. Confirm	SSA nation de con	nmande	78312
PROVA Test	T		ERIALE lity / Matiéra	COLAT Heat / Co		C %	Si %	Min	1% 5%	Р%.	Cr%	Ni %	Mo	% Tj %	6 Cu%	V %	Alx	CE*
CCBA	ASTR	A105/0		179884		0.180	0.240	0.9		0.009	00.06	00.0	9 <b>ф</b> .01	0:00	3 0.200	0.001		0.365
LABR	AST!	A105/02	2	T 1636	i3	0.190	0.280	0.9		0.001 0.010	00.09	00.0	 9 <b>0</b> .01	.4 0.01	2 0.210	0.001	i.	0.3317 0.384
						>	Nb%=	0.0	1 1								1	3433
DTNA	ASTM	A105/0	2	0436103		0.185	0.260	1.1	1	0.021	00.11	00.0	1 <b>0</b> .01	0.00	0 0.025	0.002	0.038	1
FUCB	ASTM	A105/03	3	03/7229	3	0.180	Nb%= 0.220	0.9	7	0.012	00.09	00.0	5 0.01	0 0.00	0 0.180	0.017	0.025	0.3733
1						>	Nb‡=	0.0	02					i				.3367
DXDS	AST№	A105/01	1	AQ3941		0.220	0.250	0.9	i 1	0.010	00.07	00.1	1 0.02	0.00	0 0.170	0.000	1	-
DCXX	ASTM	A105/01	ı	79160		0.180	Nb%= 0.210	0.0	1 1	0.011	00.09	nn n	j 6 <b>0</b> .01	0.00	0 0.150	0.000	CEs=	0.380
DOM		A10570.	•	75100		>	0.210	0.0		0.000	00.03	00.0		0.00	0.130	0.000		D.325
PROVA	Te	PROVETI st speciment / E		SNERVAMENTO		TTURA	ALLUNGAME	NTO	CONTRAZIONE		UREZZA	PIEGA	SCHIACC.			ESILIENZA test / Résilier		.1
Test Epreuve	丁	SEZIONE	LUNGHEZZA	N/mm;≥ Yield point Limite d'elasticité	Tensil	mm-≥ e strenght ipture	% ≥ Elongatio Allongeme		% ≥ Reduction of area Striction		HB ardness Ouzeté	Bend test Pliage	Flatt. test Aplattiss.	UMITÀ MIS.	TIPO T. C	1981	DRE / Value /	/ Donniec
ССВА		ction/Sect. Let	25.0	312.0	<u> </u>	8.0	30.0	- 1	61.7	156-				Unit system	Type Test to	որ   5 32-26		
LABR	1	30.6	25.0	297.0	51	3.0	31.6	- 1	68.0	143				b	12.00	0 46-36		
DTNA	1	30.6	25.0	312.0	53	1.0	29.3	3	67.4	149-	156			þ	<b>ΚV</b> , (	94-44	1-36	
FUCB	7	60.0	35.0	308.6	49	1.1	33.7	7	63.8	143-	149			)	KV	0 40-42	2-40	
DXDS	1	30.6	25.0	358.0		3.0	27.6	- 1	60.3	170-				]	1	0 62-62		
DCXX	11	30.6	25.0	321.0	54	3.0	29.6		67.6	149 -	163			Ľ:	KV	0 \$6-42	2-44	
PROVA Tost Eprauve	HOTE	/ Remarks / No	tes	EN10204/3	. 1									IRMA nape / Forme	: 1 = Ø	2 ==		
CCBA	ELEC	T.FURNAC	E - NORMA	LIZED AT 90	0 0 0	00LED	IN STILL	_ AII	R. /CERT	.02.04	ISMA*	41954	MEGA					
LABR	1			LIZED AT 90							ISMA*							
DTNA FUCB	1			LIZED AT 90							4 ISMA							
	1 .			LIZED AT 900 LIZED AT 900					<del></del>		)5 MEGA,   EVASI			MEGA*				
DCXX	ı			LIZED AT 90							EVASI							
PROVA Test	POS.	QUANTITÀ Quantity	! Cust		DESCRIZIO	NE / Descrip	tion / Descripti	ion									VISUAL	
CCBA	Pos.	Ovanité 100	109266	de client	45 DE	G. ELBO	OW S. 20	000 1	NPT A/SA10	5N 1/2	)			<u>-</u>			DINENS	OK
LABR	<b>ф10</b>	140	109630	7	45 DE	G. ELB	OW S. 20	000	NPT A/SA10	5N 1								OK
DTNA	φ11	20	1090503	3 4	45 DE	G. ELB	OW S. 20	000	NPT A/SA10	5N 1.1	/4							0K
FUCB	<b>ф12</b>	30	109255	)	45 DE	G. ELB	OW S. 20	000	NPT A/SA10	5N 1.1	/2							θK
	014	450	1095603				NPT A/S											OK
BCXX	015	400	109487	1	TEE S	2000	NPT A/S	A10:	5N 3/8 V		The state of the s	THE CONTRACTOR		in serie		~ 3 1		⊒ OK
												ب ۳		MAHL	RESSI	ON		
											DATE	RE	CE	VED	APR	13	2007	and bring
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			,										۲	100	<u> </u>	1 (	<u> </u>	ביין ומכני
											n van.	οπ <b>-</b> []ΕΒ	FI:		HC			C Company of the
															(			4

NOTE / Remarks / Notes

MATERIAL ACCORDING TO NACE MR0175/ 2003.

ENTE UFFICIALE DI COLLAUGO Inspection Authority Service Inspection Official

Canvil: Certificate of Test

MAY 1 7 2006



P.O. Box 40, Simcoe, Ontario N3Y 4K9 Tel. (519) 426-4551 Fax (519) 426-5509

Page 1 of 1

#### **Certificate of Test**

Part Number:

Description: 3/8x4 B XS SML NIP 106B > Y3034

A117 ~

Heat Code: Reference No.:

Specification:

ASTM A106-99 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: SILCOTUB SA

Chemical Analysis %

Heat No. P S V Mn Si Cu Ni Cr Mo Cb/Nb 23793 0.18 0.93 0.008 0.010 0.27 0.04 0.03 0.04 0.01 < 0.01

CE (LONG FORMULA) = 0.36

Mechanical Properties

Yield Strength PSI:42,000

Tensile Strength PSI:72,454

MPa:000

MPa:000

Elongation % 2": 37.90

Reduction in Area %: 0.00

Hardness BHN: N/R

Heat Treatment:

MEETS NACE MR0175-1994

HARDNESS LESS THAN OR EQUAL 22 HRC

Hydrotest/NDE: 3000 PSI

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 it's agent.



PC COMPI A Division of Muel DATE RELEIVEL	RESSION Jer Canada, L3TD107
1:0 # 500148	1891736
ISIGNATURE:	HC
APPROVED BY Q.C. I	NSPECTOR







## **Certificate of Test**

Part Number:

Y30315

Description: 3/8x1-1/2 B XS SML NIP 106B

Heat Code:

AJ13

Reference No.:

Specification:

ASTM A106-04 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: NIKOPOL STEEL

Chemical Analysis %

Heat No. Mn P S Si Cu Ni V Cr Mo Cb/Nb P5147. 0.19 0.52 0.029 0.014 0.26 0.04 0.02 0.02 0.01 < 0.01  $^{\circ}$ E (LONG FORMULA) = 0.29

**Mechanical Properties** 

Yield Strength		Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN	
	psi	45,500	psi	71,500	38.00	0.00	N/R
	MPa	000	MPa	000			

Heat Treatment:

MEETS NACE MR0175, HARDNESS LESS THAN OR EQUAL

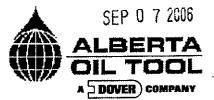
22HRC

Hydrotest/NDE: GOOD

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.

DO
PC COMPRESSION
DATE RECEIVED APR 1 3 200
F.O.# 508148 1891736
SIGNATURE: HC
APPROVED BY Q.C. INSPECTOR



9530 - 60 Ave. Edmonton, AB T6E 0C1 Canada Ph. (780) 434-8566 Fax (780) 436-4329

## ITEM 1159021

**AICX** 

## L TEST REPORT

PC COMPRESSION RECEIVED AZR 132007

**AOT HEAT CODE** AICX '

Genera	ı	Inf	orm	ation
uenera	1	1111	UHILI	alivii

Raw Material

Niagara Lasalle Corp

Date:

GMATUFII) 25/07/2006

Manufacturer:

Heat No

Description:

3/4" A234 WPB Hex Bar

Specification: ASTMA234-97/A108-03E1/A29-05,ASMESA234-92A,Gr.WPB

691281

**Chemical Properties** 

			-					····			
С	Mn	P	S	Si	Cu	Ni	Cr	Mo	٧	Cb/Nb	Al
0.19	0.80	.009	.025	0.190	.170	0.06	0.06	.030	.004	.0010	.028

#### **Mechanical Properties**

Tensile:	85300 psi	Elongation (%):	23.30
Yield:	64710 psi	Reduction of Area (%):	64.70
	444	Hardness:	HBN 174
Heat Treatment:	Cold Drawn High Stress Relieve		
Other Tests:	Mag Test	And the second s	

Notes:	3/8" x 1/4" XH Smis Swage Nipple  Meets: MEETS ASTM A234-02/ASME SA234-01 GR.WPBS58  MEETS NACE MR0175/ISO 15156	

WE CERTIFY THAT THIS DOCUMENT IS DIRECTLY TRACEABLE TO THE MANUFACTURERS' ORIGINAL MILL TEST REPORT AND THAT SAID TEST REPORT CAN BE SUPPLIED UPON REQUEST.

APPROVED BY:

Rev: C

Doc Name: MTR.mdb

Maintained By: Quality Department Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1

#### APR 1 2 2007 CERTIFIED MILL TEST **REPORT**

1090626



CUSTOMER:

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

CCTF CORPORATION

LOG NO. ....

BONNEY FORGE P.O. BOX 330 • U.S. RTE 522 SOUTH • MOUNT UNION, PA 17066-0330 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906

www.bonneyforge.com

Date

01/17/06

Bonney Order No.026251

SHIPPED TO: CCTF CORPORATION

CUSTOMER'S Order No.: 4875635-00

**940320** 

5407 - 53 AVENUE

EDMONTON ALBERTA, T6B 3G2 CANA

ITEM	QUANT	TITY LOT	NO.	GRADE OR SPECIFICATION IC CHEMILAL ANALYSIS PHYSITAL FROM PITES PLOTALAS
				SA/A105-QT
026	1000	3007	7522525	3/8 3M/6M A105 Q&T HXPL T C
		3361	7522525	9/8 3M/6M A105 Q&T HXPL TV C 160 MN 800 P .008 S .006 SI .230 NI .010 CU .050 CR .040 MB .010 V .000 CB .020 CE(LONG FORMULA) = 0.31 BRINELL HARDNESS1: 141 HARDNESS2: 150

PG COMPR	ESSIÓN
DATE RECEIVED	APR 1 3 2007
10.4 S08148	1891736
	HC
	3 <u>P_0107</u>

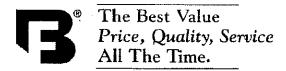
\*\*\*\*\* CONTINUED ON NEXT PAGE \*\*\*\*

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 as obtained by additional laboratory checks.

Cris Childers

**QUALITY PROCESS MANAGER** CMTR: REV 1

#### CERTIFIED MILL TEST REPORT



LOG NO. \_ 225731 <u> PAGE 13</u> BONNEY FORGE P.O. BOX 330 • U.S. RTE 522 SOUTH • MOUNT UNION, PA 17066-033 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906 www.banneyforge.com

CUSTOMER: CCTF CORPORATION

Date 01/17/06

CUSTOMER'S Order No.: 4875635-00

Bonney Order No.026251

SHIPPED TO: CCTF CORPORATION

340320

3407 - 53 AVENUE

EDMONTON ALBERTA, T6B 3G2 CANA

LTEM

QUANTITY LOT NO

GHADE OF SPECIFICATE INTO HEARCAL ANALYSIS OF HER ST. A.

1. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.

- 2. THE MATERIAL SUPPLIED IDENTIFIED AS A105QT WAS QUENCHED AND TEMPERED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- 3. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- 4. CERTIFYING ASTM A105-03 / ASME SA105-04 EDITION.
- 5. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204 3, 1, B.
- 6. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MRD103-2003 AND NACE MR0175-2003.
- 7. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.

PC COMPRESSION DATERECEIVED APR 13 2007

0.# 50814R

\*\*\*\*\* 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 laboratory checks

Cris Childers

CMTR: REV 1

QUALITY PROCESS MANAGER

**CERTIFICATO DI COLLAUDO** TEST CERTIFICATE CERTIFICAT DE CONTROLE

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV ---- ISO 9001----

CLIENTE Customer Client

CE FRANKLIN LTD.

1572029-0R-2100

CERTIFICATO N. Certificate N. Certificat N.

535735/flocus 1 Sheet Feuilfe

DATA / Date

 $1 = \emptyset$ 

2 = 🗆

11/12/06

COMMESSA

79566

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

Job N. Confirmation de commande

PROVA Test Epreuvo	MATERIALE Steel quality / Matière	COLATA Heal / Coulée	C %	Si %	Mn %	5 %	Р%	Cr %	N) %	Mo %	Ti %	Cu %	٧%	Al%	CEX
FRBS	ASTM A105/02	AR1677	0.195	0.250	1.010	0.004	0.009	00.08	00.07	0.020	0.000	0.110	0.000	0.030	0.395
			>								ļ			CEs=0	.3633
NBAL	ASTM A105/03	0578224	0.190	0.230	0.920	0.007	0.013	00.09	00.05	0.010	0.000	0.170	0.020	0:022	0.38
			>	Nb%=	0.001	İ	į				1				
FUSU	ASTM A105/02	6688	0.199	0.190	1.010	0.005	0.008	00.13	00.20	0.050	0.000	0.190	0.000	0.026	0.429
		Ì	>	Nb <b>%</b> ≖	0.0002			1	i					CEs=0	3673
LLXF	ASTM A105/03	0341848	0.165	0.235	1.130	0.001	0.010	00.12	00.01	0.003	0.000	0.013	0.002	0.027	0.381
			>	Nb⊁∞	0.003			İ	İ					CEs=C	.3533
FRXX	ASTM A105/03	0547099	0.190	0.210	1.060	0.002	0.012	00.12	00.02	0.009	0.000	0.049	0.000	0.034	0.397
			>	Nb%≖	0.001		ļ							CEs=0	.3667
LCXC	ASTM A105/03	1T16363	0.190	0.280	0.920	0.010	0.010	00.09	00.09	0.014	0.012	0.210	0.001	0.028	0.384
			>	Nb%=	0.002	Sก≵≔	0.027		1		:			CEs=	0.343

PROVETTA Test speciment / Egreauvelte		SHERVAMENTO N/mmó	ROTTURA N/mm;≥	ALLUNGAMENTO % ≥	CONTRAZIONE % ≥	DUREZZA HB		SCHIACC.	RESILIENZA Impact test / Résilience				
٠	SEZIONE Section / Sect.	LUNGHEZZA Length / Longeur	Yield point Limite d'élasticité	Tensile strenght Rupture	Elangation Allongement	Reduction of area Striction	Hardness Dureté	Pliage	Aplattiss.	UNITÀ MIS. Lind system	TIPO Type	t, °C Test tmp	VALGRE / Value / Données
I	30.6	25.0	309.0	531.0	30.2	65.3	149-156			J	K۷	0	48-38-40
i	30.6	25.0	312.0	533.0	29.2	66.8	155-160	İ		J	K٧	0	38-52-48
i.	60.1	35.0	313.0	538.0	29.4	67.5	156-163			J	KV	-10	48-38-50
1	58.0	35.0	300.0	502.0	27.7	75.0	150-155	1		J	KV	0	280-276-258
1	57.8	35.0	346.0	506.4	31.0	74.5	144-149			J	K۷	0	154-150-118
1	60.1	35.0	292.0	501.0	33.2	71.4	137-140			J	K۷	0	48-46-56
1111111		Test specimen SEZIOME Section/Sect. 30.6	Test speciment / Eprecuvelte  SEZIOME LUMGREZZA Section / Sect Length / Longeur  30.6 25.0 30.6 25.0 60.1 35.0 1 58.0 35.0 1 57.8 35.0	Test speciment / Eprequivalte   SAE(WAMERI D. Normal Section / S	Section/Sect	Section/Sect   LunghezzA   Section/Sect   Length / Longeur   Limite dessible   Section/Sect   Section/Sect   Length / Longeur   Limite dessible   Section/Section/Section/S	Section/Sect   Lunghezza   Lunghezza   Lunghezza   Section/Sect   Length / Longeur   Lunite d'elasticité   Section/Sect   Section/Sect   Section/Sect   Section/Sect   Length / Longeur   Lunite d'elasticité   Section/Section/Sectio	Section/Sect   Lunghezza   Lunghezza   Section/Sect   Length / Longeur   Lumite d'elasticité   Section/Sect   Section/Sect   Length / Longeur   Lumite d'elasticité   Section/Sect   Section/Sect   Length / Longeur   Lumite d'elasticité   Section/Sect   Section/Sect   Length / Longeur   Lumite d'elasticité   Section/Sect   Section/Sect   Length / Longeur   Lumite d'elasticité   Rupture   Riupture   Reduction of area   Striction   Stri	Test speciment / Eprequivable   Normal   Norma	Test speciment / Epreguvette   Normal	Test speciment / Epreguvette   Number	Test speciment / Epreauvalle   Numm	Test speciment/ Egrequivelle   Normal

PROVA Test Epreuve NOTE / Remarks / Notes

FRBS

LLXF

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

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

/CERT.85.04 EVASI\*247498 MEGA\*

/CERT.8596.06 MEGA/ISMA\*530980 MEGA\*

/CERT.426.04 ISMA\*247541 MEGA\*

ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.8521.06 MEGA/ISMA\*530166 MEGA\* FRXX ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.

/CERT.377.05 ISMA\*528881 MEGA\*

LCXC ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT. 8620.06 MEGA/ISMA\*531116MEGA\*

PROVA Test Epreuve	POS. Item Pos.	OUANTITÀ Quantity Quantité	CODICE CLIENTE Customor code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
FRBS	001	200	1096251	90 DEG. ELBOW S. 2000 NPT A/SA105N 1/4	OK
NBAL	002	375	1096411	90 DEG. ELBOW S. 2000 NPT A/SA105N 1/2	OK
FUSU	003	464	1095507	90 DEG. ELBOW S. 2000 NPT A/SA105N 1.1/2	OK
LLXF	003	40	1095507	90 DEG. ELBOW S. 2000 NPT A/SA105N 1.1/2	OK
FRXX	004	150	1095591	45 DEG. ELBOW S. 2000 NPT A/SA105N 3/4	OK
LCXC	005	75	1096307	45 DEG. ELBOW S. 2000 NPT A/SA105N 1	OK

PC COMPRESSION SIGNATURE:

PPROVED BY O.C. INSPECTOR

NOTE / Remarks / Notes

ENTE UFFICIALE DI COLLADO Inspection Authority Service Inspection Officiel

Chief Inspection DPT Responsable assurance qualité

ERT. M.E.G.A. DOC Luca Marcati

**CERTIFICATO DI COLLAUDO** TEST CERTIFICATE CERTIFICAT DE CONTROLE

WITH QUALITY SYSTEM CERTIFIED BY DNV

CLIENTE Customer Client

CE FRANKLIN LTD.

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

537262 FOSLIG 1 Sheet Feuille

BATA / Dale

09/01/07

COMMESSA Job N. Confirmation de commande

78919

TE	ST CERTIFICATE RTIFICAT DE CONTROLE	WITH QUALI	TY SYSTEM BY DNV	Pur	DINE Ichase order Immande	152299	5-0R-21	.00				Job N. Confirma	lian de coma	nande		
PROVA Test Egreuve	MATERIALE Steef quality / Malière	COLATA Heat / Coulée	C %	Si %	Mn %	5%	Р%	Cr%	Ni %	Mo %	Ti %	Cu %	٧%	A1%		
	ASTM A105/03	05/7/747	0.185	0.220 Nb%=			0.010	00.11	00.07	0.020	0.000	0.160	0.000	0.021	0.377	
NLBR	ASTM A105/03	0640217	0.185	0.230 Nb*≃	1.080 0.0032	0.010	0.020	00.10	00.04	0.008	0.000	0.056	0.002		0.393 0.365	
NXCS	ASTM A105/05	163864	0.176	0.230	1.046	0.002 N *=	0.009	00.12	00.18	0.030	0.000	0.274	0.000		0.412 0.350	ĺ
NBXR	ASTM A105/05	0640216	0.180	0.225		0.007	0.007	00.10	00.01	0.007	0.000	0.030	0.002		0.384	
CLUN	A350/04a LF2 Cl.1	66894	0.138	0.230	1.260	0.003	0.007	00.09	00.09		0.003	0.180	0.031			
CLUR	A350/02b LF2 Cl.1	10586	0.130	N X= 0.220	1.140	0.004	0.007	Sn%≃ 00.13	0.009 00.12	As%≕ 0.050	0.007 0.001	Sb%≃ 0.190	0.001 0.020		0.003	
		ĺ	>	Nb∦≓	0.012	N %=	0.008								i	i

				1	I	1 1	1 1							
PROVA			VETTA nt / Epreouvette	SNERVAMENTO ROTTURA ALLUNGAMENTO CONTRAZIGNE DUREZZA NATUREZ % 2 HB		PJEGA Bend test	SCHIACC. Flatt, test	RESILIENZA Impact test / Résilience						
Test Epreuve	•	SEZIONE Section / Sect.	LUNGHEZZA Length / Longeur	Yield point Limite d'elasticité	Tensile strenght Rupture	Elongation Allongement	Reduction of area Striction	Hardness Dureté	Pliage	Aplattiss.	UNITÀ MIS. Unit system	TIPO Type	T. °C Test tmp	VALORE / Value / Données
NCNL	1	30.6	25.0	312.0	538.0	30.0	66.0	143-156			j	K۷	0	48-56-54
NLBR	1	122.6	50.0	304.0	526.0	31.3	68.4	143-150	Ì		J	K۷	0	44-46-50
NXCS	1	30.6	25.0	302.0	518.0	32.1	68.4	149-154			J	ΚV	0	48-52-58
NBXR	1	31.0	25.0	348.0	492.5	27.5	64.0	149-156			J	K۷	′ 0	118-106-102
CLUN	1	121.3	50.0	323.6	490.0	33.5	76.5	150-155	i		J	K۷	-50	296-296-296
CLUR	1	122.6	50.0	305.0	496.0	29.8	75.5	156-160			J	K٧	-50	84-38-40
PROVA Test	NC	ITE / Remarks	/ Notes	FN10204/	3.1		<del>'</del>				RMA ape / Forme	:	1 = Ø	2 = 🗆

Test Epreuve NOTE / Remarks / Notes

NCNL

NLBR

EN10204/3.1

ELECT.FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.

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

ELECT.FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR. NXCS ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. NBXR

CLUN | ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. CLUR FLECT FURNACE-NORMALIZED AT 910 C COOLED IN STILL AIR

/CERT.26.06 EVASI\*530822 MEGA\* /CERT.8735.06 MEGA/ISMA\*532598 MEGA\*

/CERT.92.06 EVASI\*535558 MEGA\*

/CERT.8704.06 MEGA/ISMA\*532595 MEGA\*

/CERT.68535,02 ABS\*209795 MEGA /CERT. 78918.02 ABS\*209833 MEGA

	CLUK	ELL	I.FUKNAL	E-NURMALIZED AI	SID C COULED IN STILL AIR. /CERT./0910,02 ABS-209035 MEGA	
	PROVA Test Spreuve	PDS. Item Pos.	QUANTITÀ Quantity Quantité	GODICE CLIENTE Customer code Code client	DESCRIZIBLE / Description / Description DIMENS	L AND
V	NCNL	013	450	1095603	TEE S. 2000 NPT A/SA105N 1/4	OK
	NLBR	043	24	1619227	TEE S. 3000 NPT A105N HDG 2	OK
	NXCS	122	50	1553011	MEGALET Sch. XS A/SA105N 1x3 -5	0K
	NBXR	134	10	1125593	MEGALET S. 3000 NPT A/SA105N 3 X8-10	ок
	CLUN	208	6	1127581	MEGALET S. 6000 NPT LF2 CL1 2 X5-8	OK
	CLUR	208	6	1127581	MEGALET S. 6000 NPT LF2 CL1 2 X5-8 PC COMPRESSION	OK
					#508148 1891736	

MATERIAL ACCORDING TO NACE MR0175/ 2003.

MOTE / Remarks / Notes

ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official

CAPO COLLAUDO
Chief Inspection DPT
Responsable assurance qualit

DOG. CER

M.E.G.A. S.p.A. - VIA DALLA CHIESA, 3 - SCANZOROSCIATE (BG) ITALY - TEL. +39 035 661280 - TELEFAX +39 035 665535

7. °

**CERTIFICATO DI COLLAUDO** TEST CERTIFICATE

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV

CE FRANKLIN LTD. CLIENTE Customer Client

1522995-OR-2100

1900 - 300 - 5th AVENUE S.W. CALGARY, ALBERTA, CANADA T2P 3C4 - 537262 FOOLID 2 Sheet Fouilla

DATA / Date

09/01/07

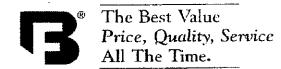
78919

COMMESSA Job N. Confirmation de commande

		ERTIFIC	ATE CONTR	C	H QUALITY SYSTEM ERTIFIED BY DNV =ISO 9001	P	ROINE urchase order ommande	152299	95-OR-21	. 00				Co	infirmation d	le commande	
PROVA Test Eprauve			RIALE ity / Matiére	CÖLA Heat / C	rA C %	Si %	Mn %	5%	P%	Cr %	Ni %	Ma %	л%	Cu	%	/%	Alž
									P.O SIG	E Ā	08 08	EIVI EIVI		\₽°P	01N 13 (73)	2617	in the control of the
PROVA Test Epreuve	s		preouvette Lunghezza	SNERVAMENTO N/mm-2 Yield point Limite u'elasticilé	ROTTURA N/mm₂≥ Tensile strenght Rupture	ALLUNGAM % ≥ Elongabi Allongem	an Re	CONTRAZIONE % ≥ duction of are Striction	ra Har	REZZA/ HB with a state of the state of th	PIEGA Bend test Pliage	SCHIACC Flatt. tost Aplattiss.	INICO E MATHKU	TIPO	T. °C	IZA Jésitience VALORE / V	alue / Bonr
	Sect	on/Sect. Ler	gth / Longeur										Unit system	Type T	Fest tmp		
PROVA Test preuve	NOTE/	Remarks / Not	tes		THIS CERTI	ICATE	INCLUDE	S N.	2 SHEE	TS.		FOR Sha	MA pe / Forme	: 1:	= Ø	2 = 🗆	
PROVA Test preuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	Cusi	IICE CLIENTE Ilomer code ode client	DESCRIZIONE / Descrip	tion / Descrip	tion			<u></u>	· · · ·	<del></del>				· · · · · · · · · · · · · · · · · · ·	
					Dimensional square-hexa (Threads as Oulets: ASM Unions: BS Material as The chemical ficate issue Material: A fication can Manufacture to issue can DIRECTIVE"	agonal according IE B.31 3799 of coording II and II and II AMEDIA II AMEDIA II and II AMEDIA II and II AMEDIA II and II AMEDIA II and II AMEDIA II and II AMEDIA II and II AMEDIA II and II AMEDIA II and II AMEDIA II and II AMEDIA II and II AMEDIA II and II AMEDI	and rou g to AN .1 & B. r MSS-S g to : mechani the ste O4L acc out by oved wi ate of	nd plug SI/ASME 31.3 S P-83 S ASTM la cal pro el mill ord to vacuum th cert specifi	s-hexaç B1.20. eamless eamless st Edit perties . or by A182 F3 emissio ificate c produ	onal a  swage pipe: ion (2 are a the 1 04 / A n anal n.75/ct con	nd flu nippl nipple 005 Bo true aborat 182 F3 yzer o 2003/M	es: BS: es: B3: es: B3: eoks) A! and cor ory wh: 16L aco n base	hings a 3799-74 6.10-95 SME II   rrect c ich has cord to materi TUV (cel	or MS or 36 Ed. 20 opy of deter A182 al. rtific	ing to SS SP95 5.19-85 104 7 mill ranined F316.	ASME B.  i-86  test ce it.  Alloy N	.16.11 erti- /eri-
		· · · · · · · · · · · · · · · · · · ·	<u> </u>	NOTE / Remarks / N	otes					ITE UFFICIALI Inspection Service Inspe	Authority			Re	Chief Ins.	COLLAUDO pection DPT assurance qua	
ATERI.	AL A	CCORDIN	i TO NAC	CE MR0175/ 2	2003.	,						······································		DOC.	4	M. E.	/ А.

# 1092007

#### CERTIFIED MILL TEST REPORT



210727 PAGE LOG NO. .\_\_ DONNEY FORGE PO BOX 330 • U.S. RTE 522 SOUTH • MOUNT UNION, PA 17066-0330 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906

CUSTOMER:

CCTF CORPORATION

Date

02/06/05

CUSTOMER'S Order No.: 4872324-00

Bonney Order No.006569

SHIPPED TO: CCTF CORPORATION

290026

5407 - 53 AVENUE

EDMONTON ALBERTA, T&B 3G2 CANA

TEM	QUANTITY LOT NO	TIMAR (CRECKING CONTROL TURN) U BEMICAL AMAGNOOD PIN INCOMER CONTROL OF SECTION
		SA/A105N-02
007	200 55994 7524471	1/4 2000 A105N CROS T C 170 MN 1.020 P .013 S .022 SI .240 NI .030 CU .140 CR .050 MD .010 V .024 AL .001 NB .001
	66275 7524471	CE(LONG FORMULA) = 0.39 T/S 76000 Y/S 48900 EL 35.00 RA 63.00 BRINELL HARDNESS1: 153 HARDNESS2: 153 1/4 2000 A105N CROS T
	V same	C 180 MN 980 P 009 S 030 SI 240 NI 040 CU 200 CB 003 CR 050 MB 011 V 025 AL 001 NB 000 CE(LONG FORMULA) = 0.38 T/S 77250 Y/S 56250 EL 30.50 RA 64.45 BRINELL HARDNESS1: 147 HARDNESS2: 147
00B	150 56223 7522568	8 1/8 3000 A105N 90EL T C
009	80 56197 7520166	2X2X3/4 3M A105N TEE THRD  C .190 MN 1.030 P .012 S .027 SI .250  NI .040 CU .170 CO .004 CR .060 MD .017  V .023 AL .001 NB .000  CE(LONG FORMULA) = 0.40  T/S 80125 Y/S 57250 EL 29.10 RA 62.55  BRINELL HARDNESS1: 147 HARDNESS2: 147

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

We certify that the data on this sheet is a frue rom our records of material furnished us by the production mill, or as obtained by additional laboratory checks.

Cris Childers

CMTR: REV 1

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

**QUALITY PROCESS MANAGER** 

APR 2 1 2006





# **Certificate of Test**

Part Number:

Y3022

Description: 1/4x2 B XS SML NIP 106B

Heat Code:

AH68

Reference No.:

Specification:

ASTM A106-99 GRADE B/ ASME SA106 GRADE B

Fitting Trademark: SILCOTUB SA

Chemical Analysis %

Heat No. P Mn S Si Cu Ni CrMo V Cb/Nb 23792 0.18 0.93 0.010 0.010 0.32 0.05 0.04 0.06 < 0.01 < 0.01

CE (LONG FORMULA) = 0.36

**Mechanical Properties** 

Yield S	strength	Tensile	Stength	Elongation % 2	Reduction Area	Hardness BHN
psi	48,087	psi	70,534	39.40	0.00	N/R
MPa	000	MPa	000			

Heat Treatment:

MEETS NACE MR0175-1994

HARDNESS LESS THAN OR EQUAL 22HRC

Hydrotest/NDE: 3000 PSI

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.

DATE	PC COMP	PRESSIC D APR	)N 1 3 2007
P.O.#	508148	1891	736
SIGNA	TURE:	K	····
APPR(	OVED BY Q.C.	INSPECTO	)R





# Phoenix \* Capitol \* Camco **Cap Products**

Commanding a Higher Standardsm

# **Certified Mill Test Report**

3/6/2007

Customer

CE FRANKLIN LTD

BOX 6776 STN "D" CALGARY, AB T2P2E8

Part Number 15110303 P.O.

1750350-OR-2100

Heat No 612507 Heat Code Q5F >

Phoenix Order # 459293

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

Description

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

**Chemical Properties** 

		-							, , , , , , , , , , , , , , , , , , , ,		
	C	Mn	P	S	Si	Cu	Cr	Ni		C Eq. Lon	g
i	0.190	0.500	0.013	0.021	0.220	0.050	0.030	0.020		0.286	
	Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti	
	0.010	0.001									j

Additiona	Additional Chemical Properties										

Cr + Cu + Ni	
0.100	

**Mechanical Properties** 

Charpy Minimum Impact -

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Test 1	Test 2	Test 3	Average
69,000	43,600	38.0%			N/A	N/A	N/A	N/A

- \* Eddy Current test passed.
- \* 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 MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

	PC COMPRESSION										
DATE	RECEIVE	J AFK	i	ن	7 لال 1						
P.O. #	508148	1891	7	36	>						
	** - <b>**</b>	He	_								
SIGNA	TURE:	170									
APPR	OVED BY O.C.	INSPECT		<u></u>							

CapProducts, Ltd.

25 Winnipeg St Vanastra, ON N0M 1L0

0. 3810/2002 DAVE 8/16/2002 BALET # (5) 302 30/07/2002 BALET	DELIVERY FACIOSISES (NOTES		WE ADR 32001	CLISTOMER HISPECTOR	(3
CERTIFICATE NO. 33 COM. 1582/2002	3,15	P.G. SPECI, FREB.	118 008 201 119 008 201 119 008 201 119 008 200 119 008 200 119 008 201 119 008 201 119 008 201 110 009 201	HIRD PARTS CALE	(?
SINKERI (B)  SAL EKOL  CUSTOILER  R.F.F. ICKNADA! LTE  SOSS	TEST CERTIFICATE ACCORDING TO EN 10204	DESCRIPTION	90 DES ELBOW 6PT 1.1/2 5/3909 4105 90 DES ELBOW 8PT 2-6/3900 4105 90 DES ELBOW 8PT 1-1/2 5/3900 6105 90 DES ELBOW 8PT 1-1/2 5/3900 6105 111 90 DES ELBOW 8PT 1-1/2 5/3900 6105 111 HEX HEAD PLUS NPT 3/6000 6105 1/2 HEX HEAD PLUS NPT 3/6000 6105 1/2 HEX HEAD PLUS NPT 5/6000 6105 1/2 HEX HEAD PLUS NPT 5/6000 6105 1/2 HEX HEAD PLUS NPT 5/6000 6105 1/2 HEX HEAD PLUS NPT 5/6000 6105 1/2 HEX HEAD PLUS NPT 5/6000 6105 1/2 HEX HEAD PLUS NPT 5/6000 6105 2 HEX HEAD PLUS NPT 5/6000 6105 2 HEX HEAD PLUS NPT 5/6000 6105 2 HEX HEAD PLUS NPT 5/6000 6105 2 HEX HEAD PLUS NPT 5/6000 6105 2 HEX HEAD PLUS NPT 5/6000 6105 2 HEX HEAD PLUS NPT 1/2 2000 LF2 HEX HEAD PLUS NPT 1/2 2000 LF2 HEX HEY 5/2000 LF2 1/2 12E NPT 5/2000 LF2 1/2 12E NPT 5/2000 LF2 1/2 14E NPT 5/2000 LF2	201ES	ENEMTS ARE ACCORDING TO APPE BEEN CARRIED DUT RITH
EHERO PIPING SAA FACORDERIA FORGINA / FORGED STEEL PITINGS To controlly and and an account of the control of th	31.	PDS. TEST NO. HEAT CODE 0.TY	815   19424   2001   E-2H 456   150   190   1902   1903		THIS IS TO CERTIFY THAT MATERIAL REDUIRERENTS ARE ACCORDING TO ORDER SPECIFICATIONS HATERIAL ACC. TO HACE HE OL.75 ED.78 VISCALL, DIRENSIDAL, ACC MARKING CHECK HAVE BEEN CARRIED OUT RITH

Ottus Sasna - Spape

8/10/2002 BHEFT 7.	W Zn Ph Sn BE 0,5711 (7) (0,5711 (7) (0,5711 (7) (9,57	THE THE SPECIAL STATE SPECIAL	NYS NYS STEL WORKS STURA STURA STURA RECIATERLE FERNTERL DE CANDIND RIVA RIVA RIVA RIVA RIVA RIVA	
CERTURIORIE NO. 3310/2862 DATE 100/4 CA17842015 P.O. CA17842015	0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000	Hydrostatio S 19 BENDING TEST   Less   Din Angle Angle   Angle	SE MAT CERT, REE 548/20 M9/01 CUSTOMER INSPECTOR	
	LADLE AMALYSIS (%)  LADLE AMALYSIS (%)  O.010 0.044 0.150 0.014  O.010 0.044 0.150 0.014  O.011 0.050 0.004  O.001 0.050 0.104  O.001 0.050 0.104  O.001 0.050 0.144  O.001 0.050 0.144  O.001 0.050 0.144  O.001 0.050 0.144  O.001 0.050 0.144  O.001 0.050 0.144  O.001 0.050 0.144  O.001 0.050 0.144	1914 e	2578 3898 3898 3898 3898 3898 3898 3898 38	University (September Contraction)
CUSTONER U.F.F. ICRUADA! LFD	An Si	JAFACT FEST Absorbed Energy Type	EIVERNITITS	
BASI SINGRI BERTIFER HERBERTEN	HEAT NUMBER 6, 193 72814 0, 193 72153 0, 195 29028 0, 195 177064 0, 195 70926 0, 195 39599 0, 186 39599 0, 186 66381 0, 186	SHETEST Hos The SHEET THE THORY SHEET THE THORY SE, 90 55,00 55,00 35,00 35,00 35,00 35,00 35,00 35,30	S S S S S S S S S S S S S S S S S S S	
CHERO-PIPÍNG- SPA RACCORDERIA FORGIATA / FORGED STEEL FITINUS LOCAHA PRAGAÑO - SENTENDO PACENTINO - PC TA DECASSOS - EX RESINGENDO - PC	MATERIAL SPECIFICATION AND GRADE 481R 4105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105 ASIN R105	Test Canp. Fanalis-Streegly Test State Test  204 40 50 50 50 50 50 50 50 50 50 50 50 50 50	31 31 32 32 32 32 32 32 32 32 32 32 32 32 32	*

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Add: 10 Dalixincun, Hengyang City, Hunan, China Tel and Fex: +86 734 8873739 8872942 Cable: 6993 P.C. 421001	CERTIFICATE NO: 0504056	FEET QUANTITY ACTUAL OS (MT) WEIGHT(MT)	9.131 N/A	N/A	17.836 N/A	8, 936 N/A	8.936 N/A	21, 163 N/A	5.171 N/A	5.171 N/A	80 6.668 N/A	*	Mo V AI CE MAC	0.01 0.001 0.000 0.35 4.6	0.02   0.001   0.000   0.36   4.3	0.02 0.002 0.000 0.34 4.8	0.03 0.01 0.005 0.000 0.35 4.4	0.02 0.002 0.000 0.35 4.5	0. 02 0. 002 0. 000 0.36 4.7	0.01 0.002 0.000 0.36 4.7	2 0.002 0.000 0.36 4.7	HYDROSTATIC FLATTEN BEND TEST TEST	N/A OK	N/A OK	N/A	OK N/A	OK N/A	OK N/A	0K N/A	N/A		S Lumber	QUALITY MANAGER		ががはおります。	(以()) () () () () () () () () () () () ()	
	SL1-2004, NACE MR-0175-1995	BUNDLES PIECES	5 275	11 668	7 259	4 96			2 38		`	CHEMICAL COMPOSITION	Ca Ni	0.007 0.08 0.04	0.005 0.07 0.03	0.005 0.00	0.013 0.005 0.08 0.03 0.	0.006 0.08 0.04	0,005 0.07 0.03	9, 005 0, 08	0.07 0.0	DNESS		6.5	8 2	-	7	6.0	6.0	HPC 6.0   300	see with the required standards.		9			agth portion is 3/4".	
HENGYANG VALIN STERL TUBE CO., LTD  MILL TEST REPORT  Date: NOV. 20, 2006(Revised date: Fei: 16, 2007)  CAS USE  Page: VI	asme saesrisa 1065-2004, api brb/x42, psl1-2004, nace mr-0175-1999	SIZE	2"*0.154"*20FT 1.34152	2**0.218**20FT \\296905	3"*0.216"*20FT 113,9:10	3-*0.300**20FT 112 Y 37-6	.1		1	. 1	4**0.337"*20FT \\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \		$\neg$	0.19 0.51 0.88	0.20 0.46 0.86	0, 18 0, 47 0, 87	0.19 0.48 0.84	0, 19 0, 46 0, 86	0.19 0.49 0.89	0, 18 0, 49 0, 87	0.19 0.49 0.88	5 (%) Ak (J) ELONGATION IMPACT			30.0 NA	38.0 N/A				32.5 N/A	hared, sampled, massed and impected in accordance	A/UNI EN 10204 3.1B.	VACE MR-0175-99.	nal, Gauge Length=2")	c nsed;	l" longitudinal strip spevimen were used, the width of the gauge length portion is 3/4"	n China.
Contract No. 106HGC09545  LIC NO. 6FAHDS-00637  Name of Customer: CE FRANKLIN  P.O.NO.:PO.1590105-OS-4969-A  DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE  TOTAL: 1735PIECES, 47BUNDLES, 113,499MT, 34700FT	368-2002s,	HEAT STEEL NO. GRADE	0614318 B/X42	5932 V B/X42	4	4	4	4	4	_	Ⅎ	NONDESTRUCTIVE TEST	EDDY CURRENT TEST ULTRASONIC TEST	OK K/A			OK NA					os (PSI) STH YELD STRENGTH	50750	47125	52200	48575	Pr.	U.f   50750	50750	50750	y certify that the material has been manufact	ties compliance to DIN 50049 3.1.B/UNI BN 10204 3.1B	LL /Rockwell hardness certified to NACE MR-0175-99	4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2")		B. For pipos > 1" longitudinal strip specime	Made'in China,
Contract No. 106HGC09545  LC NO. 6FAHDS-00637  Name of Customer: CE FRANKLIN P.O.NO.:PO.1590105-OS-4969-A  DESCRIPTION: SEAMLESS CARBON ST TOTAL: 1735PIECES, 42BUNDLES,	SPEC: ASTM A535-2002/A1	NO. BATCH HEA'	1 967401318 061	-1	4	+	967101108	967101004	-		96Y301204 0626017	NO DELIVERY	CONDITION	-	+	S BOLYOLLAN	4 ROT-ROLLED	5 HOT-ROLLED	6 HOT-ROLLED	HOT-ROLLED	HOT-ROLLED	NO. TENSILE STRENGTH	1 76850	22	79750		٠ بد		78300	7 78300	/ VREMARKS: 1. We hardry cardify	2. Properties con	3. BRINELL /Ro	// * SPECI	A.For	B. For	S. Origin: Madein China
			,				· ·					com 1			· · · · · · · · · · · · · · · · · · ·							~~===		The state of the s	で ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	i	DATE MECENE		9	でも、非、このなっという。	1			SIGNATION .			APPROVED THE

HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST REPORT

Name of Customer: CE FRANKLIN P.O.NO.: PO.1587907-OR-2100-A

Contract No.: 06HGC09541 L/C NO. 6FAHD5-00636

DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE

Date: DEC. 05, 2006

6993 Cable:

Add: 10 Dalixincun, Hengyang City, Hunan, China

Tel and Fax: +86 734 8873739 8872942

421001 P.C.

SCH 80 SMLS PIPE HEAT#: 631/646-1 HEATCODE: 1-KV ACTUAL WEIGHT(MT) CERTIFICATE NO: 0504056 BEND TEST N/A N/A N/A N/A × æ 쏭 Ř 쏤 용 엉 0.3120.291 0.291 0.312 QUANTITY (MT) FLATTEN 7.536 7, 536 7.536 7.536 7,536 2.487TEST N/A N/A N/A N/A N/A 0.000 0.000 0.000 0.000 0.001 0.001 Μo 0.01 HYDROSTATIC FEET 7620 2520 7620 7620 7620 7620 2800 PSI 2800 PSI 2800 PSI 2800 PSI COMPOSITION 0.03 Ö 0.02 0.02 0.01 SPEC: ASTM A53B-2002/A106B-2002a, ASME SA53B/SA106B-2004, API 5LB, PSL1-2004, NACE MR-0175-1999 PIECES 126 381 381 381 381 381 HARDNESS CHEMICAL 0.04 HRC HRC HRC 0.023 0.0230.020 0.0230.023HRC HRC BUNDLES HRC 0.011 0.016 0.011 0.011 Ak (J) IMPACT 0.49 N/A N/A N/A N/A M 0, 43 0.43 0.49 0.43 11.2 2 July 1132560 0.23 0.23 3. 22 7 83 . 23 1"\*0.179"\*20FT 1"\*0.179"\*20FT 1"\*0.179"\*20FT 1"\*0.179"\*20FT 1"\*0.179"\*20FT I"\*0.179"\*20FT ELONGATION SIZE 0.21 0.22 0.21 0.21 0.22 0.21 %) 9 40.0 42.0 46.0 40.0 38.0 40.5 **ULTRASONIC TEST** NONDESTRUCTIVE TEST N/A Š ¥¥ N/A N/A FOTAL: 2031PIECES, 16BUNDLES, 40,167MT, 40620FT YIELD STRENGTH 47125 43500 47125 44950 47850 EDDY CURRENT TEST STEEL GRADE മ Ω  $\alpha$ В Ω 동동 윉용 OK K 56Y301154 06311646-1 06210369-1 06311646-1 06210369-1 06210369-1 06210369 - 1TENSILE STRENGTH HEAT NO. COLD-DRAWN(780°C) COLD-DRAWN(780°C) COLD-DRAWN(780°C) COLD-DRAWN(780°C) COLD-DRAWN(780°C) COLD-DRAWN(780°C) ob (PSI) DELIVERY 70325 71775 70325 68150 00969 71050 56Y301132 56Y201147 56Y101109 56Y101105 BATCH NO.

REMARKS: 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 3.1.B/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≤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 CONF IRM TO ANSI B36.10, A530/A530M

PC COMPANDER MANAGER DATE RECEIVED MAR 0 8 2007 P.O.

SIGNATURE

APPROVED BY Q.C. INSPECTOR

Contract No.: 06HGC08487-2

HENGYANG VALIN STEEL TUBE CO., LTD

Fee   Fee	Fel and Fax: +86 734 Cable: 6993 P.C. 421001 FEET 7620 10800 112700 7620 7620 7620 Cr Mo 0.02 0.00 0.00 0.02 0.00 0.00 0.02 0.00 0.00	Pet and Fax: +86 734 Cable: 6993 P.C. 421001 PEET 7620 10800 10800 10800 10800 10800 00.02 00.00 00.00 00.02 00.00	P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 020 P.C. 000	Pet and Fax: +86 734 Cable: 6993 P.C. 421001 PEET 7620 10800 10800 10800 10800 10800 00.02 00.00 00.00	Page: 23   Pic. 421001   Page: 23   Pic. 421001   Page: 23   Pic. 421001   Page: 23   Pic. 421001   Page: 23   Pic. 421001   Page: 23   Pic. 421001   Page: 23   Pic. 421001   Pic. 42	L/C NO. 6FAHD5-00631	11				Ī	ENGYA	VG VALI	IN STEE	IL TUBE	HENGYANG VALIN STEEL TUBE CO., LTD		Ā	dd: 10 E	)alixincu	n, Hengya	ıng City, I	Add: 10 Dalixincun, Hengyang City, Hunan, China	
Cable: 6993 P.C. 421001 FEET FEET 7620 10800 112700 12700 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.03 0.00 0.03 0.00 0.03 0.00 0.02 0.00 0.03 0.00 0.0	Cable: 6993 P.C. 421001 FEET FEET 7620 10800 112700 12700 12700 0.02 0.00 0.02 0.02 0.00 0.02 0.02	Cable: 6993 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 620 P.C. 600 P.C	Eable: 6993 E.C. 421001 EEET 7620 10800 12700 7620 12700 7620 0.02 0.02 0.02 0.02 0.00 0.02 0.02 0	Cable: 6993 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 421001 P.C. 620 P.C. 600 P.C	Cable: 6993 P.C. 421001 PEET 7620 10800 112700 12700 12700 0.02 0.02 0.00 0.00 0.	Name of Customer: CE FRANKLIN	E FRANKLIN	KLIN				Σ	111	EST R	EPOR	<b>;</b>		Ţ	ol and Fa	, 98+ :x	734 8873	739 88	1	72942
FEET  FEET  7620  7620  10800  10700  12700  7620  7620  7620  0.02  0.00  0.02  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  0.00  0.02  2800 PSI  2800 PSI  2800 PSI	PEET  T620  T620  T620  T620  10800  12700  T620  T620  O. 02  O. 03  O. 02  O. 03  O. 02  O. 03  O. 02  O. 03  O. 02  O. 03  O. 02  O. 03  O. 03  O. 04  O. 05  O.	FEET  FEET  7620  7620  7620  10800  12700  12700  7620  0.02  0.02  0.02  0.02  0.02  0.02  0.02  0.02  0.02  0.00  0.02  0.02  0.00  0.02  0.02  0.00  0.00  0.0	PEET  7620  7620  7620  10800  12700  7620  7620  7620  0.02  0.02  0.02  0.02  0.00  0.00  0.02  0.00	PEET FEET 7620 7620 10800 112700 12700 12700 12700 0.02 0.02 0.02 0.02 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.02 0.00 0.03 0.02 0.00 0.02 0.02	FEET  7620  7620  7620  10800  10800  10800  10800  10800  1002  0.02  0.02  0.02  0.02  0.02  0.02  0.02  0.02  0.02  0.02  0.02  0.02  0.02  0.03  0.02  0.02  0.03  0.02  0.00  0.00  0.02  0.00  0	P.O.NO.: PO.1587967-OR-2100-A	OR-2100-A	Ą										Ű	able:	6993				
FEET 7620 7620 10800 12700 7620 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0	FEET  7620  7620  10800  12700  7620  7620  7620  Cr Mo  0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 2800 PSI  2800 PSI 2800 PSI 2800 PSI 2800 PSI 2800 PSI	FEET 7620 7620 10800 12700 7620 7620 7620 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0	PEET 7620 7620 10800 10800 12700 7620 Cr Mo 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.03 0.00 0. 0.04 0.05 0.00 0. 0.05 0.0	FEET 7620 7620 10800 10800 12700 7620 7620 Cr Mo 0.02 0.00 0. 0.03 0.00 0. 0.03 0.00 0. 0.04 0.00 0. 0.05 0.00 0. 0.05 0.00 0. 0.00 0.00	PEET  T620  T620  10800  12700  T620  T620  T620  Cr Mo  0.02 0.00 0.0  0.02 0.00 0.0  0.02 0.00 0.0  0.02 0.00 0.0  VDROSTATIC  TEST  Z800 PSI	DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE	ESS CARBON STEEL PIPE FOR OII	ON STEEL PIPE FOR OIL	OR O	L AND G	AS USE		Date: D	EC. 20, 2	900;			ā.	ت	421001				
PEET 7620 7620 10800 12700 12700 12700 0.02 0.02 0.02 0.02 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.02 0.00 0.03 0.02 0.00 0.03 0.02 0.00 0.03 0.02 0.00 0.03 0.02 0.00 0.03 0.02 0.00 0.03 0.03	PEET 7620 10800 118700 12700 12700 12700 12700 0.02 0.00 0.03 0.00 0.00	FEET  7620  7620  10800  12700  12700  7620  10800  0.02  0.02  0.02  0.02  0.02  0.02  0.00  0.03  0.00  0.	PEET 7620 10800 10800 12700 7620 12700 7620 Cr Mo 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.02 0.00 0. 0.03 0.00 0. 0.04 0.00 0. 0.05 0.00 0.00	FEET  7620  7620  10800  12700  12700  12700  12700  0.02  0.02  0.02  0.02  0.02  0.02  0.00  0.00  0	PEET  7620  10800  10800  12700  7620  7620  7620  7620  7620  0.02  0.02  0.02  0.02  0.00  0.02  0.00  0.02  0.00  0.02  2800 PSI  2800 PSI	TOTAL: 2318PIECES, 19BUNDLES, 45.850MT, 46360FT	, 19BUNDLES, 45.850MT, 46360	OLES, <u>45.850</u> MT, 46360	, 46360	FT				Page: 2	(3									
SIZE	SCES FEET (MT)  811 7620 7.536  821 7620 7.536  822 12700 10.682  835 12700 12.56  835 12700 0.000 0.281  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  1 FST  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A	SCES   FEET   QUANTITY	SCES FEET (MT)  881	SCES FEET (MT)  811 7620 7.536  821 7620 7.536  821 7620 7.536  820 10.02 10.02 12.56  821 7620 12.56  821 7620 12.56  821 7620 12.56  822 12700 0.00 0.279  823 1.2700 0.00 0.0279  823 1.270 0.00 0.000 0.279  823 1.270 1.00 0.000 0.279  823 1.270 1.00 0.000 0.279  823 1.270 1.00 0.000 0.279  823 1.270 1.00 0.000 0.279  823 1.270 1.00 0.000 0.279  823 1.270 1.00 0.000 0.279  823 1.270 1.00 0.000 0.279  824 1.270 1.270  825 1.270 1.270  825 1.270  8	SCES FEET (MT)  81  7620 7.536  81  7620 7.536  82  81  7620 7.536  940 10800 10.682  935 12700 12.56  831 7620 7.536  935 12700 0.00 0.000 0.281 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.000 0.279 0.01 0.02 0.000 0.	EC: ASTM A538-2002/A106B-2002a, ASME SA5	2002/A106B-2002a, ASME SA5	06B-2002a, ASME SA5	ME SA5	3B/(	SA106B	2004,	API 5L	B, PSL	1-2004,	NACE	IR-0175	-1999			CERTI	FICATE	NO: 0504056	
1"*0, 179"*20FT   1.32 Std.   3   381   7620   7.536   7.536   7.80, 179"*20FT   1.32 Std.   5   540   10800   10.682   7.536   7.80, 179"*20FT   1.32 Std.   5   635   12700   12.56   7.536   7.536   7.80, 179"*20FT   1.32 Std.   5   635   12700   12.56   7.536   7.536   7.80, 179"*20FT   1.32 Std.   3   381   7620   7.536   7.536   7.80, 179"*20FT   1.32 Std.   3   381   7620   7.536   7.536   7.800   7.536   7.800	10	10	81 7620 7.536 81 7620 7.536 82 12700 10.682 835 12700 12.56 831 7620 7.536 831 7620 7.536 832 12700 12.56 833 12700 0.000 0.281 834 0.01 0.02 0.00 0.000 0.281 835 0.01 0.02 0.00 0.000 0.279 836 0.01 0.02 0.00 0.000 0.279 837 1587 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A 83800 PSI N/A	81 7620 7.536 81 7620 7.536 82 12700 10.682 835 12700 12.56 831 7620 7.536 831 7620 7.536 831 7620 7.536 831 7620 0.02 0.000 0.279 832 0.01 0.02 0.00 0.000 0.279 833 0.01 0.02 0.00 0.000 0.279 844 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.00 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279 850 0.01 0.02 0.000 0.000 0.279	81 7620 7.536 81 7620 7.536 81 7620 7.536 940 10800 10.682 935 12700 12.56 81 7620 7.536 81 7620 7.536 81 7620 7.536 81 7620 0.02 0.02 0.000 0.279 9.01 0.02 0.00 0.000 0.279 9.01 0.02 0.00 0.000 0.279 9.01 0.02 0.00 0.000 0.279 HYDROSTATIC FLATTEN TEST 2800 PSI N/A	BATCH HEAT STEEL NO. GRADE		STEEL GRADE			SI	ZE			BUN	IDLES	PIE	CES	H H	ET	QUAN	TITY (T)	ACTUAL WEIGHT(MT)	70 SA
1 **0, 179" *20FT   1,3,3,5,6,4   5   540   10800   10.682   1   **0. 179" *20FT   1,3,3,5,6,4   5   635   12700   12.56   1   **0. 179" *20FT   1,3,3,5,6,4   5   635   12700   12.56   1   **0. 179" *20FT   1,3,3,5,6,4   5   635   12700   1.2,56   1   **0. 179" *20FT   1,3,3,5,6,4   3   381   7620   7.536   1   **0. 179" *20FT   1,3,3,5,6,4   3   2   4   6   6   6   6   6   6   6   6   6	81	10800   10.682   1.536   1.536   1.536   1.535   1.5	1000   10.682   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.00   12.56   12.56   12.00   12.56   12.56   12.56   12.56   12.00   12.56   12.5	10	10800	56Z100374 06211149-1 B		В			1"*0.1	79″*20F		3566		3	د،:	181	1	320	7. 8	336	N/A	7
1**0, 179**20FT   11.3 \( \) 5.46   5.40   10800   10.682   1.40, 179**20FT   11.3 \( \) 5.44   5.40   3.81   7620   7.536   1.56   1.40, 179**20FT   11.3 \( \) 5.44   3.91   3.81   7620   7.536   1.56   1.5 \( \) 7.5 \( \)	345 10800 10.682 135 12700 12.56 181 7620 7.536 12.00MPOSITION % CE Mo V CE 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.000 0.000 0.279 0.000 0.000 0.279 0.000 0.000 0.000 0.279 0.000 0.000 0.000 0.279 0.000 0.000 0.000 0.279 0.000 0.000 0.000 0.279 0.000 0.	10800   10.682   12700   10.682   12700   12.56   12700   12.56   12700   12.56   12	10800   10.682   12700   10.682   12700   12.56   12700   7.536   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.500	10800   10.682   12700   10.682   12700   12.56   12700   12.56   12.56   12.50   12.56   12.50   12.56   12.50   12.56   12.50   12	10800   10.682   12700   10.682   12700   12.56   12700   12.56   12	56Z100653 06211729-1 B		В		ļ	1"*0.1	79″*20F	,	A 56.		3	رئ	181	7.	320	7. 8	536	N/A	_
1**0.   179**20FT   1.32 Std.   3   381   7620   7.536   1.2700   1.2.56   1.4.0.   1.7.535   1.4.0.   1.7.535   1.4.0.   1.32 Std.   3   381   7620   7.536   1.4.0.   1.52 Std.   3   381   7620   7.536   1.4.0.   1.52 Std.   3   381   7620   7.536   1.5.0   1.5.0 Std.   3   3   381   7620   7.536   1.5.0 Std.   3   3   3   3   3   3   3   3   3	355 12700 12.56  81 7620 7.536  COMPOSITION %  Ni Cr Mo V CE  0.01 0.02 0.00 0.000 0.281  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  1.01 0.02 0.00 0.000 0.279  1.01 0.02 0.00 0.000 0.279  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A	12700   12.56   12.00	12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.01   12.50   12.01   12.02   12.00   12.01   12.02   12.00   12.02   12.01   12.02   12.00   12.02   12.00   12.29   12.01   12.02   12.00   12.02   12.01   12.02   12.01   12.02   12.01   12.02   12.0	355 12700 12.56  81 7620 7.536  COMPOSITION %  Ni Cr Mo V CE  0.01 0.02 0.00 0.000 0.281  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  HYDROSTATIC FLATTEN  TEST TEST  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A	12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.56   12700   12.536   12700   12.00   12.00   12.23   12.00   12.00   12.23   12.00   12.23   12.	_		В			1, *0. I	79″*20F		عاد ه		5	5	40	2	800	10.	682	N/A	
1**0   179**20FT   1.35.544   3   381   7620   7.536	881 7620 7.536 COMPOSITION %  Ni Cr Mo V CE CO.01 0.02 0.000 0.281 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.279 0.01 0.02 0.000 0.000 0.000 0.279 0.000 0.000 0.000 0.279 0.000 0.0	10   7620   7.536   COMPOSITION   %   CE   Mo   V   CE   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.000   0.279   0.01   0.02   0.000   0.279   0.01   0.02   0.000   0.279   0.01   0.02   0.000   0.279   0.000   0.000   0.279   0.000   0.000   0.279   0.000   0.000   0.279   0.000   0.000   0.000   0.000   0.279   0.000   0	81 7620 7.536  COMPOSITION %  Ni Cr Mo V CE  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  HYDROSTATIC FLATTEN  TEST TEST  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A	81 7620 7.536  COMPOSITION %  Ni Cr Mo V CE  0.01 0.02 0.00 0.000 0.281  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  1.500 0.01 0.02 0.00 0.000  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A	81 7620 7.536  COMPOSITION %  Ni Cr Mo V CE  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  HYDROSTATIC FLATTEN  TEST TEST  2800 PSI N/A	一		В			1,*0.1	79″*20F	- 1	25.66		5	9	35	12	700	12.	56	N/A	
IC TEST   C   Si   Mn   P   S   Cu   Ni   Cr   Mo   V   CE     A   0.19   0.24   0.51   0.010   0.008   0.02   0.01   0.02   0.00   0.000   0.281     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.279     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.279     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.279     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.279     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.279     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.279     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.279     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.279     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.279     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.279     A   0.20   0.24   0.44   0.015   0.015   0.02   0.01   0.02   0.00   0.000   0.000     A   1   1   1   1   1   1   1   1   1	COMPOSITION %  Ni Cr Mo V CE  0.01 0.02 0.00 0.000 0.281  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  HYDROSTATIC FLATTEN  TEST TEST  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A	COMPOSITION %  Ni Cr Mo V CE  0.01 0.02 0.00 0.000 0.281  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  HYDROSTATIC FLATTEN  TEST TEST  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A	COMPOSITION %  Ni Cr Mo V CE  0.01 0.02 0.00 0.000 0.281  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  HYDROSTATIC FLATTEN  TEST TEST  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A	COMPOSITION %  Ni Cr Mo V CE  0.01 0.02 0.00 0.000 0.281  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  HYDROSTATIC FLATTEN  TEST TEST  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A	COMPOSITION %  Ni Cr Mo V CE  0.01 0.02 0.00 0.000 0.281  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  0.01 0.02 0.00 0.000 0.279  HYDROSTATIC FLATTEN  TEST TEST  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A  2800 PSI N/A	562200647   06211729-1 B		В		1	1,*0.1	79″*20F		30.5bc		3	(T)	181	7	320	7.8	536	N/A	
C   Si   Mn   P   S   Cu   Mo   Cr   Mo   V   CE     0. 19   0. 24   0. 51   0. 010   0. 008   0. 02   0. 01   0. 02   0. 00   0. 000   0. 281     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24     0. 20   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24     0. 20   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24     0. 20   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24     0. 20   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24   0. 24     0. 20   0. 24	0. 01   Cr   Mo   V   CE   0. 01   0. 02   0. 00   0. 000   0. 281   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   1 HYDROSTATIC   FLATTEN   TEST   TEST   TEST   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A	0. 01   Cr   Mo   V   CE   0. 01   0. 02   0. 00   0. 000   0. 281   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 02   0. 02   0. 00   0. 000   0. 279   0. 03   0. 02   0. 00   0. 000   0. 279   0. 04   0. 02   0. 00   0. 000   0. 279   0. 05   0. 02   0. 00   0. 000   0. 279   0. 05   0. 02   0. 00   0. 000   0. 279   0. 07   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 02   0. 02   0. 00   0. 000   0. 279   0. 03   0. 02   0. 00   0. 000   0. 279   0. 04   0. 02   0. 00   0. 000   0. 279   0. 05   0. 02   0. 00   0. 000   0. 279   0. 07   0. 02   0. 00   0. 000   0. 279   0. 08   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 02   0. 02   0. 00   0. 000   0. 279   0. 03   0. 02   0. 00   0. 000   0. 279   0. 04   0. 02   0. 00   0. 000   0. 279   0. 05   0. 00   0. 000   0. 0. 000   0. 05   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 02   0. 00   0. 000   0. 000   0. 05   0. 00   0. 000   0. 0. 000   0. 05   0. 00   0. 0. 000   0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	0.01 0.02 0.00 0.000 0.281 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 HYDROSTATIC FLATTEN TEST TEST TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	0.01 0.02 0.00 0.000 0.281 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 HYDROSTATIC FLATTEN TEST TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A  2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	0.01 0.02 0.00 0.000 0.281 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 HYDROSTATIC FLATTEN TEST TEST 2800 PSI N/A	DELIVERY NONDESTRUCTIVE TEST	NONDESTRUCTIVE TES	NONDESTRUCTIVE TES	TIVE TES	H						CHE	MICAL	COMP	OSITION					_
0. 19         0. 24         0. 51         0. 010         0. 088         0. 02         0. 01         0. 00         0. 00         0. 281           0. 20         0. 24         0. 44         0. 015         0. 015         0. 01         0. 02         0. 00         0. 00         0. 00         0. 00         0. 00         0. 279           0. 20         0. 24         0. 44         0. 015         0. 015         0. 01         0. 01         0. 00         0. 00         0. 279           0. 20         0. 24         0. 44         0. 015         0. 015         0. 01         0. 00         0. 00         0. 279           0. 20         0. 24         0. 44         0. 015         0. 015         0. 01         0. 00         0. 00         0. 279           LONGATION         Ak (1)         HARDNESS         HYDROSTATIC         FLATTEN           42. 0         N/A         HRC 2. 5         2800 PSI         N/A         N/A           42. 0         N/A         HRC 3. 5         2800 PSI         N/A         N/A           43. 0         N/A         HRC 3. 5         2800 PSI         N/A         N/A	0. 01   0. 02   0. 00   0. 000   0. 281   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   0. 01   0. 02   0. 00   0. 000   0. 279   1	0.01   0.02   0.00   0.081   0.01   0.02   0.00   0.000   0.281   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   HYDROSTATIC FLATTEN TEST TEST TEST TEST TEST TEST TEST	0.01   0.02   0.00   0.000   0.281   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.02   0.00   0.000   0.279   0.03   0.04   0.000   0.04   0.05   0.000   0.05   0.000	0.01   0.02   0.00   0.081   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.02   0.00   0.000   0.279   0.03   0.00   0.000   0.279   0.04   0.05   0.00   0.000   0.05   0.00   0.000   0.00   0.00   0.0	0.01   0.02   0.00   0.081   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   1	CONDITION EDDY CURRENT TEST ULTRASO	$\neg$	$\neg$	ULTRASO	휜	C TEST	ပ	Si	Mn	Ь	S	õ	ž	Ü	₽	>	CE		
0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 01   0. 02     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 000     0. 20   0. 24   0. 44   0. 015   0. 015   0. 015   0. 010   0. 000     0. 20   0. 279   0. 279   0. 279     1. 20   0. 279   0. 279   0. 279     42. 0   0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 HYDROSTATIC FLATTEN TEST TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	0.01   0.02   0.00   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.000   0.279   0.01   0.02   0.000   0.279   0.01   0.02   0.000   0.279   0.01   0.000   0.279   0.000   0.279   0.000   0.000   0.279   0.000   0.000   0.279   0.000   0.00	0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 HYDROSTATIC FLATTEN TEST TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   1	0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 0.01 0.02 0.00 0.000 0.279 HYDROSTATIC FLATTEN TEST TEST 2800 PSI N/A	ОĶ	ОĶ		N	~				- 1	0.010	0.008	0.02	0.01	0.02	0.00	0.000	0. 281		
0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 00   0. 000     0. 20   0. 24   0. 44   0. 015   0. 015   0. 01   0. 02   0. 000     0. 20   0. 27   0. 279   0. 279     1. 20   0. 24   0. 27   0. 279   0. 279     1. 20   0. 24   0. 27   0. 279   0. 279     1. 20   0. 24   0. 27   0. 279   0. 279     1. 20   0. 24   0. 27   0. 279   0. 279     1. 20   0. 24   0. 27   0. 279   0. 279     1. 20   0. 24   0. 27   0. 279   0. 279     1. 20   0. 24   0. 27   0. 279     2. 20   0. 24   0. 27   0. 279     2. 20   0. 24   0. 27   0. 279     2. 20   0. 24   0. 27   0. 279     2. 20   0. 24   0. 27   0. 279     2. 20   0. 24   0. 27   0. 279     2. 20   0. 24   0. 27   0. 279     2. 20   0. 24   0. 27   0. 279     2. 20   0. 24   0. 27   0. 279     2. 20   0. 24   0. 27   0. 279     2. 20   0. 24   0. 27   0. 279     2. 20   0. 27   0. 279     2. 20   0. 24   0. 24     2. 20   0. 24   0. 24     2. 20   0. 24   0. 24     2. 20   0. 24   0. 24     2. 20   0. 24   0. 24     2. 20   0. 24	0.01   0.02   0.00   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   HYDROSTATIC   FLATTEN   TEST   TEST   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A	0.01   0.02   0.00   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   HYDROSTATIC   FLATTEN   TEST   TEST   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A	0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   HYDROSTATIC FLATTEN TEST 2800 PSI N/A	0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   HYDROSTATIC   FLATTEN   TEST   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A	0.01   0.02   0.00   0.279   0.01   0.02   0.00   0.000   0.279   0.01   0.02   0.00   0.000   0.279   HYDROSTATIC   FLATTEN   TEST   TEST   TEST   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A	OK	OK		Ž	-1			T	- 1	0.015	0.015	0.02	0.01	0.02	0.00	0.000	0.279		,
0. 20   0. 24   0. 44   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 01   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 00   0. 000   0. 279     0. 20   0. 24   0. 44   0. 015   0. 015   0. 02   0. 000   0. 000     0. 20   0. 000   0. 000   0. 000     0. 20   0. 000   0. 000   0. 000     0. 20   0. 000   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20   0. 000   0. 000     0. 20	0.01   0.02   0.00   0.279   0.01   0.02   0.000   0.279   0.01   0.02   0.000   0.279   0.000   0.279   0.000   0.279   0.000   0.000   0.279   0.000   0.000   0.279   0.000	0.01   0.02   0.00   0.279   0.01   0.02   0.00   0.000   0.279   HYDROSTATIC   FLATTEN   TEST   TEST   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A	0.01   0.02   0.00   0.000   0.279   HYDROSTATIC FLATTEN TEST 2800 PSI N/A 2800 PSI	0.01   0.02   0.00   0.279   0.01   0.02   0.00   0.279   0.01   0.02   0.00   0.279   0.01   0.0279   0.00   0.000   0.279   0.00   0.000   0.279   0.00   0.000   0.279   0.000   0.	0.01   0.02   0.00   0.279   0.01   0.02   0.00   0.279   0.01   0.02   0.000   0.279   0.01   0.0279   0.000   0.279   0.000   0.000   0.279   0.000   0.000   0.279   0.000	QĶ	QĶ		N/A	_ 1	1	П		- 1	0.015	0.015	0.02	0.01	0.02	0.00	0.000	0.279		
0. 20   0. 24   0. 44   0. 015   0. 02   0. 01   0. 02   0. 00   0. 079     5 (%)	0.01   0.02   0.00   0.279   HYDROSTATIC FLATTEN TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	0.01   0.02   0.00   0.279 HYDROSTATIC FLATTEN TEST TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	0.01   0.02   0.00   0.279   1.280 PSI   N/A   1.2800 PSI   N/A   1.	0.01   0.02   0.00   0.279   HYDROSTATIC   FLATTEN   TEST   TEST   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A   2800 PSI   N/A	0.01   0.02   0.00   0.279   1.000   0.279   1.000   1.279   1.000   1.279   1.000	OK	OK		N/A	. 1		П			0.015		0.02	0.01	0.02	0.00	0.000	0.279		_
Ak (J)         HARDNESS         HYDROSTATIC TEATTEN         FLATTEN           N/A         HRC 2.5         2800 PSI         N/A           N/A         HRC 3.5         2800 PSI         N/A           N/A         HRC 3.5         2800 PSI         N/A           N/A         HRC 3.5         2800 PSI         N/A           N/A         HRC 3.5         2800 PSI         N/A	HYDROSTATIC FLATTEN TEST TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	HYDROSTATIC FLATTEN TEST TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	HYDROSTATIC FLATTEN TEST TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A MAR 2800 PSI N/A	HYDROSTATIC FLATTEN TEST TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A MAR 2 8 2007	HYDROSTATIC FLATTEN TEST 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	OK	OK			. 1	Ĭ	8	24		0.015		0.02	0.01	0.05	0.00	0.000	0.279		
N/A         HRC         2.5         2800 PSI         N/A           N/A         HRC         3.5         2800 PSI         N/A           N/A         HRC         3.5         2800 PSI         N/A           N/A         HRC         4         2800 PSI         N/A           N/A         HRC         3         2800 PSI         N/A	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A [ESSIQUALITY MANAGER:	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A  ESSIQUALITY MANAGER:	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A MAR 2 8 2007	σ b (PSI) ο s (PSI) TENSILE STRENGTH YIELD STRENGTH		o s (PSI) YIELD STRENGTH	I) NGTH	171	β (%) TONGA	NOL		Ak (J IMPAC	~ L	HARI	ONESS	НУ	DROST, TEST	4TIC	FLA1	TEN	BEND TEST	729-
N/A         HRC         3.5         2800 PSI         N/A           N/A         HRC         3.5         2800 PSI         N/A           N/A         HRC         4         2800 PSI         N/A	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A [ESSIQUALITY MANAGER:	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A ESSIQUALITY MANAGER:	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A 2800 PSI N/A ESSIQUALITY MANAGER:		46400	46400			42.0			N/A		HRC	2.5		2800 PS		Ŋ	Α/	Ж	
N/A         HRC         3.5         2800 PSI         N/A           N/A         HRC         4         2800 PSI         N/A           N/A         HRC         3         2800 PSI         N/A	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A  ESSI QUALITY MANAGER:	2800 PSI N/A 2800 PSI N/A 2800 PSI N/A  ESSIQUALITY MANAGER:	ESSIQUALITY MANAGER:	69600 44950	44950	44950			42.5			N/A		HRC			2800 PS	1.	N N	/A	OK	
N/A         HRC         4         2800 PSI         N/A           N/A         HRC         3         2800 PSI         N/A	2800 PSI N/A 2800 PSI N/A	2800 PSI N/A 2800 PSI N/A F.S.S.I.O.A.	ESSIQUALITY MANAGER	ESSIQUALITY MANAGER:	ESSIQUALITY MANAGER		45675	45675		- 1	42.0			N/A		HRC	3.5		2800 PS		Ž	/A	OK	
N/A HRC 3 2800 PSI N/A	2800 PSI N/A	2800 PSI N/A	ESSIQUALITY MANAGER:	ESSIQUALITY MANAGER:	ESSIGNALITY MANAGER.	70325 45675	45675	45675		ı	43.0	_		N/A		HRC	4		2800 PS	1	Ŋ	Α/	OK	
	ired, sampled, texted and inspected in secondance, with the required standards	red, sampled, tested and inspected Tirraccondance-with the required standards.  VONI EN 10204 3.1B. PC COMPRESSIT.	ured, sampled, tested and inspected Tirrecondance-with the required standards.  S/UNI EN 10204 3.1B. PC COMPRESSIONALITY MANAGER:  NACE MR-0175-99.  DATE RECEIVED MAR 2 8 2007	ured, sampled, tosted and inspected Tiff accordance with the required standards.  S/UNI EN 10204 3.1B. PC COMPRESSIGNALITY MANAGER:  NACE MR-0175-99.  DATE RECEIVED MAR 2 8 2007  E used;	ured, sampled, tested and inspected Titrecondance-with the required standards.  S/UNI EN 10204 3.1B. PC COMPRESSIQUALITY MANAGER:  NACE MR-0175-99.  DATE RECEIVED MAR 2 8 2007  E used;  Subset; the width of the gauge Length portion is 3/4".	68875 44950	44950	44950		- 1	43.0			N/A		HRC			2800 PS	Į.	N.	/A	OK	
JUNIEN 10204 3.1B. PC COMPRESSION ANAGER AND JACEMR-0175-99.	रेतम्ब का			1	l	4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2")	CIMEN SIZE: (Pipe end, Longitudir	IZE: (Pipe end, Longitudir	Longitudir	2	l, Gauge	Length=	*****	DATE	- 1		FD		CC C	7000	· · · · · · · · · · · · · · · · · · ·	1	Total Marie	•

6.MATERIALS CONFIRM TO ANSI B36.10.A-530/A-530M

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

Contract No.: 06HGC09541 L/C NO. 6FAHD5-00636

Name of Customer: CE FRANKLIN

P.O.NO.: PO.1587907-OR-2100-A

MILL TEST REPORT

HENGYANG VALIN STEEL TUBE CO., LTD

Add: 10 Dalixincun, Hengyang City, Hunan, China Tel and Fax: +86 734 8873739 8872942 6993 Cable:

291 291 291 291 N N N N N N N N N N N N N N N N N N N	1"3	CH 26 0504056	ACTUAL WEIGHT(MT)	Т	5 /	T			YEA VX		# <i>?</i>	6	3,	1/6	64,	6-	/	BEND	TEST	Γ	¥5				×		_/	Ŕ
Page: 26   Page: 26		CERTIFICATE NO	-	$\dagger$	7 536	7 536	2. 487	7.536	7.536		-	+	+	+	Τ_	+		FLATTEN	TEST	N/A	N/A	N/A	N/A	N/A	N/A		-	-
EC: ASTR  EC: ASTR  BATCI  NO.  56Y1011  56Y1011  56Y3011  56Y3011  56Y3011  COLD-DR- COLD-DR	:		TEET	7690	7620	7620	2520	7620	7620	ĺ	L	0.01	0.01	0.01	0.01	0.01	0.01	YDROSTATIC	TEST	2800 PSI	2800 PSI	2800 PSI	2800 PSI	2800 PSI	2800 PSI		SSION	
SCRIPTION	d	R-0175-1999	PIECES	381	188	381	126	381	381		١	Ö				0.04	0.05			3.	4	73	4	2.	3,5	uharis	COMPRE	
SCRIPTION	2006 2/6	2004, NACE M	BUNDLES	8	, e	3				CHE			Γ							HRC	HRC	HRC	HRC	HRC	HRC	e with the required star	PC (	
SCRIPTION	Date: DEC. 05,	API 5LB, PSL1.										23				0.43	0.49	Ak C	IMPAC	N/A	N/A	N/A	N/A	N/A	N/A	Ispected in accordance	mi.	
SCRIPTION	s use	A106B-2004, /	SIZE	1"*0.179"*20F	1"*0.179"*20F	1"*0.179"*20F	1**0.179**20F	1"*0.179"*20F	1"*0.179"*20F				0.21	0. 22	0.21	0.21	0. 22	8 (%)	LONGATION	40.0	42.0	46.0	40.0	38.0	40.5	sampled, tested and in	JI EN 10204 3.11	
SCRIPTION	FOR OIL AND GA: T, <u>40620</u> FT	SME SA53B/S								CTIVE TEST	ULTRASONIC	N/A	N/A	N/A	N/A	N/A	N/A									been manufactured, s	50049 3.1.B/UN	
SCRIPTION	30N STEEL PIPE IDLES, 40.167M	106B-2002a, A	STEEL GRADE	В	В	æ	В	В	Z B	NONDESTRU	Y CURRENT TEST	OK	OK	OK	OK	OK	OK	os (Pe	YIELD STR	47125	47125	43500	47125	44950	47850	that the material has	mpliance to DIN	
SCRIPTION	SEAMLESS CARI	153B-2002/A	HEAT NO.			06311646-1			-1	RY	-	N(780°C)	N(780°C)	V(780°C)	4(780°C)	4(780°C)	V(780°C)	(PSI)	STRENGTH	775	1325	150	325	009	050	We hereby certify	. Properties co.	
	ESCRIPTION: 9	PEC: ASTM		56Y101105	56Y101109	56Y101138	56Y201147	56Y301132	56Y301154			COLD-DRAW	COLD-DRAW	COLD-DRAW	COLD-DRAW	COLD-DRAW	COLD-DRAW!		_	71	2/2	39	2	59	71	TEMARKS: 1.	2	1

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 gaugetlength portion is 3/4".

5. Origin: Made in China.

6. MATERIALS CONF IRM TO ANSI B36.10, A530/A530M

50 8255 - CO IN DATE RECEIVED APR 0 4 2002 APPROVED BY Q.C. INSPECTOR SIGNATURE

HENGYANG VALIN STEEL TUBE CO., LTD Name of Customer: CE FRANKLIN

MILL TEST REPORT

Date: DEC. 05, 2006 DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE

TOTAL: 2031PIECES, 16BUNDLES, 40.167MT, 40620FT

P.O.NO.: PO.1587907-OR-2100-A

Contract No.: 06HGC09541 L/C NO. 6FAHD5-00636 Page: 2/6

Add: 10 Dalixincun, Hengyang City, Hunan, China Tel and Fax: +86 734 8873739 8872942

6993 Cable:

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ź	CH8	0 5n	rL.	5	P	إم	ŧ	H	A.	<u> </u>	#	,	68	7/	O.	36	57	7_	·/	þ.	E.f.	To	a	PE.	.*
	NO: 0504056	ACTUAL WEIGHT(MT)	N/A	W/W	N/N	W/W	W/W	N/A	N/A									Civad	TEST	ä	3	ž	),	ž	
	CERTIFICATE NO: 0504056	QUANTITY (MT)	7 536	7 536	7 536	9 487	7 502	7 500	0.50	-		0.000 0.291	0.000 0.291	+	1				TEST	N/A	N/A	N/A	N/A	N/A	N/A
		FEET	7620	7690	7620	2590	0707	0401	070	-	Cr Mo	0.02 0.01	0.02 0.01	0.03 0.01	0.01	0.01	5	TATIC	TEST	2800 PSI	2800 PSI	2800 PSI	2800 PSI	2800 PSI	2800 PSI
	5-1999	PIECES	381	381	381	136	i i	100	1	3	n N	0.01	0.01	0.01		1	0.01	-			4		4		5
	CE MR-017							-	CUENTION	CITEMICAL	S S	0.023 0.04	0.023 0.04	0.020 0.02	0.023 0.04	0.023 0.04	0.020 0.02		HARDNESS	HRC 3.5	HRC	HRC 2.5		HRC 2.5	F N/Amount HRC 3, 5
	-2004, NA	BUNDLES	60	673	3		67			-	2	0.011 0	0.011 0	0.016	0.011	0.011 0	0.016		T.						And also projects and the second
	51.B, PSL1		11 2 3/4 6	112.5 42.6	1132 446	The Com-	8	1	T. A.	-	MIN	0.23 0.43	0.23 0.43	0.22 0.49	0.23 0.43	0.23 0.43	0.22 0.49	Ak (J)	IMPACT	N/A	N/A	N/A	N/A	N/A	N/A
	E SA53B/SA106B-2004, API 51.B, PSL1-2004, NACE MR-0175-1999	SIZE	1"*0.179"*20FT	1"*0.179"*20FT	1"*0.179"*20FT	1"*0.179"*20FT	1"*0, 179"*20FT	1"*0.179"*20FT		C		0.21 0.	0.21 0.	0. 22 0.	0.21 0.	0.21 0.	0.22 0.	5 (%)	ELONGATION	40.0	42.0	46.0	40.0	38.0	40.5
	53B/SA106		1″*0	1"*0	1,*0	1,*0	1″*0	1,*0	TEST	TOTT OTTO	122	N/A	N/A	N/A	N/A	N/A	N/A	ς Q	ELONG	40	45	46	40	38	40
	ASME SA								E	-	1				_			(PSI)	YIELD STRENGTH	47125	25	00.	47125	20	20
	06B-2002a,	STEEL GRADE	В	8	В	B	В	В	NONDESTRUCTIV	PDDV (11PBENT TEST	CONCINI	ğ	ě	OK	Ř	OK	OK	(ISA) so	YIELD ST	471	47125	43500	471	44950	47850
	3-2002/A1	HEAT NO.	06210369-1	06210369-1	06311646-1	06210369-1	06210369-1	06311646-1		YCCT	+	(a)	<u>(</u> )	().	(2)	(၁	ر)	<u> </u>	ENGTH						
	SPEC: ASTM A538-2002/A1068-2002a, ASM	BATCH NO.	56Y101105 06	56Y101109 06	56Y101138 06	56Y201147 06	56Y301132 06	56Y301154 06	DELIVERY	CONDITION		COLD-DRAWN(780°C)	COLD-DRAWN(780°C)	COLD-DRAWN(780°C)	COLD-DRAWN(780°C)	COLD-DRAWN(780°C)	COLD-DRAWN(780°C)	σb (PSI)	TENSILE STRENGTH	71775	70325	68150	70325	00969	71050
	S III	NO.	~						5		ţ	_	1					Ž		7					

REMARKS: 1. We hereby certify that the material has been manufactured, sampled, tested and inspected in afcordance 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.

DATECEIVED APR 1 QUADITY MANAGER.

4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2") A. For pipes≤1" full length specimen were used;

P.O.

- B. For pipes > 1" longitudinal strip specimen were used; the width of the gauge length portion is 3/4".
  - 5. Origin: Made in China.

美多. MATERIALS CONF IRM TO ANSI B36.10, A530/A530M

SIGNATIC

APPROVED BY OLG. INSPECTOR

0

Add: 10 Dalixincun, Hengyang City, Hunan, China Tel and Fax: +86 734 8873739 8872942

HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST REPORT

Name of Customer: CE FRANKLIN P.O. NO.: PO.1521057-OR-2100-A

Contract No.: 06HGC06324 L/C NO. 6FAHD5-00415

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6993

421001 Cable: P.C.

1/2"		480	ک.	(M	12:	<b>\$</b> ,	P1	Æ	-	H	) E4	7	#	6	10	) ŧ	55	3	5	-/	,	1
	CERTIFICATE NO: 0504056	ACTUAL WEIGHT(MT)	N/A	N/A	N/A	N/A	N/A		Œ	0.301	0.299	0.291	0. 299	0.295	BEND	TEST	MO	ğ	Ж	ЭK	ΝÓ	
	CERTIFICATE	QUANTITY (MT)	0.848	5. 438	1.179	5, 45	2, 484		V AL	0.000 0.000 0.301	0.000 0.000 0.299	0.000 0.000 0.291	0.000 0.000 0.299	0.000 0.000 0.295	FLATTEN	TEST	N/A	N/A	N/A	N/A	N/A	
421001		FEET	2200	11000	2280	8120	3260	% NOLLIS	Cr Mo		0.03 0.00	0.03 0.01	0.03 0.00	0.03 0.00	HYDROSTATIC	TEST	1000 PSI	1000 PSI	450 PSI	1450 PSI	450 PSI	
P.C.	5-1999	PIECES	110	550	114	406	163	CHEMICAL COMPOSITION	Cu	0.01	0.01	0.05	0.01	0.01		<u>-</u>		5				
	53B/SA106B-2004, API 5LB, PSL1-2004, NACE MR-0175-1999	)LES						CHEMICAI	S	0.018 0.03	0.021 0.03	0.022 0.05	0.021 0.03	0.022 0.03	פחואכות אוו	HAKUNESS	HRC 3.5	က	HRC 4.0	HRC 4.0	HRC 4.5	1
3, 2006 1/6	1-2004, NA	BUNDLES	1	3		3	-	:	A.	0.019	0.017	0.018	0.017	0.016	(f)	CT		-	-	_	_	4, 14, 4
Date: AUG 23, 2006 Page: 1/6	15LB, PSI		T 1.32: 5	T	l.		ااعمطم		Si	0.24 0.47	0.26 0.48	0.26 0.47	0.26 0.48	0.21 0.46	Ak (J)	IMPACT	N/A	N/A	N/A	N/A	N/A	
	B-2004, AF	SIZE	1/2"*0. 109"*20FT	1/2"*0.147"*20FT	3/4"*0.113"*20FT	3/4"*0.154"*20F7	1"*0.133"*20FT		o -	0.21 0	0.21 0	0.20	0.21 0	0.21	(%)	ELONGATION	35.0	43.0	41.0	44.0	43.0	
IL AND GAS USE T	53B/SA106		1/2"*	1/2"*	3/4"*	3/4″*	1,*0	TEST	ASONIC TEST	N/A	N/A	N/A	N/A	N/A	8	ELONC	36	4	4	44	45	Crafting Comm
IPE FOR OIL IT, <u>26860</u> FT	ASME SA		3	Ş	3	Ŝ	3		ULTR						os (PSI)	YIELD STRENGTH	43500	44225	44950	44950	44950	har hear man
BON STEEL P ES, <u>15.399</u> M	06B-2002a,	STEEL GRADE	B	В	<u>a</u>	В	В	NONDESTRUCTIVE	EDDY CURRENT TEST	OK	OK	OK	OK	OK	0 S	YIELD S	43	44	44	44	44	hat the metarial
MLESS CARI S, <u>9</u> BUNDL	3-2002/A1	HEAT NO.	06106557-1	106555-1	106558-1	106555-1	107605-1		EDDY	(3.	(2)	(၁.	(c)	(C)		ENGTH						harahu aanifer
SCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OII TAL: <u>1343</u> PIECES, <u>9</u> BUNDLES. <u>15.399</u> MT, <u>26860</u> F	EC: ASTM A53B-2002/A106B-2002a, ASME SA	BATCH NO.	567200485 06	568100368 \06106555-1	568100308 06106558-1	568100375   06106555-	568100664   06107605-	DELIVERY	CONDITION	COLD-DRAWN(780°C)	COLD-DRAWN(780°C)	COLD-DRAWN(780'C)	COLD-DRAWN(780°C)	COLD-DRAWN(780°C)	ob (PSI)	TENSILE STRENGTH	96700	68150	00969	00969	68875	FMADVS 1 When well the the state of the stat
SS.	Щ.	<u></u>	Н	Щ	Н	ш	ш				_	_	_				Ш					ű

Properties compliance to DIN 50049 3.1.B/UNI EN 10204 3.1B. We hereby certify that the material REMARKS:

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

4. 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≤1" full length specimen were used;

5. Origin: Made in China.

HEAT CODE: .5-M

QUALITY MANAGER:

6.MATERIALS CONFIRM TO ANSI B36.10

RECEIVED MAR 082007 PC COMPRESSION SIGNATUPE 넊는 DATE P.O.

APPROVED BY Q.C. INSPECTOR



# 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

6-2

REGARDS,) M. A. ŞTEWART & SONS LTD. RANDYK, LØNG EDMONTON BRANCH MANAGER

PC COMPHESSION

DATERECEIVED MAR 2 2 2007

P.O. # 508/25-00 IN

HC

SIGNATURE:

APPROVED BY Q.C. INSPECTOR



Date:

November 29, 2004

SALES ORDER #: 55121

CUSTOMER:

**CE FRANKLIN** 

DFC FIGURE #:

820-023100-280

**PURCHASE ORDER #:** 

1191115-OR-2100

SKU#:

1402917

# 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. WHEATLEY

**VALVE DESCRIPTION** 

2" (DI) THREADED END 1000# PSI WORKING PRESSURE

SWING CHECK.

**PRESSURE TESTS** 

**Hydrostatic Shell Test** 

**Hydrostatic Seat Test** 

1500 PSI 900 PSI

**MINUTES** 0.5 **MINUTES** 

# MATERIAL TEST REPORTS

All materials used conform to NACE MR-0175, latest edition.

# PART DESCRIPTION

Body Cover

Clapper/Arm

**MATERIAL SPECIFICATION** 

**ASTM A395 DUCTILE IRON ASTM A395 DUCTILE IRON** 

ASTM A351 CF8M Stainless Steel

Regards,

Quality Control Representative

Dresser Flow Control

DATE APPROVED BY Q.C. INSPECTOR



# 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

0-2

REGARDS,) M. A. STEWART & SONS LTD.

1" HC: 1206, 0906

WNDYK. LONG

EDMONTON BRANCH MANAGER

	PC	COMPE	(ESS			
DATE	RE	CEIVED	MAR	2	2	2007

P.O. # 50

508125-00

en and the second of the second

SIGNATURE:

HC

APPROVED BY O.C. INSPECTOR



# 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

G-2

REGARDS) M. A. STEWART & SONS LTD. 1" He: 1006, 0906.

RANDYK LONG

EDMONTON BRANCH MANAGER

PC COMPRESSION RECEIVED MAR 2 0 2007
DATE
PO. # 508091/NV
SIGNATURE:
APPROVED BY O.C. INSPECTOR



Date:

November 29, 2004

SALES ORDER #:

55121

**CUSTOMER:** 

**CE FRANKLIN** 

**DFC FIGURE #:** 

820-013100-231

**PURCHASE ORDER #:** 

1191115-OR-2100

SKU#:

1406070

# **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** 

(DI) THREADED END 2000# PSI WORKING PRESSURE

PRESSURE TESTS

**Hydrostatic Shell Test Hydrostatic Seat Test** 

3000 PSI 1800 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,

Control Represer

**Dresser Flow Control** 

PC COMPRES DATE

SIGNATURE

APPROVED BY Q.C



egidhiya i

# 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 G-2 BALL VALVES.

REGARDS, M. A. STEWART & SONS LTD.

EDMONTON BRANCH MANAGER

1" HEAT CODES: 0606, 0906, 0506, 0206.
12" HEAT CODES: 0506, 0206, 1205, 0606.

PC COMPRESSION RECEIVED FEB 0 9 2007 DATE SIGNATURE: APPROVED BY O.C. INSPECTOR

all the self-growth of



Date:

November 27, 2003

SALES ORDER #: 49153

CUSTOMER:

CE Franklin Ltd.

DFC FIGURE #:

820-503027-131

**PURCHASE ORDER #:** 

984933-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. WHEATLEY

**VALVE DESCRIPTION** 

1/2" (WCC) THREADED END 2160# WORKING PRESSURE

SWING CHECK VALVE

**PRESSURE TESTS** 

**Hydrostatic Shell Test Hydrostatic Seat Test** 

3250 PSI 2400 PSI 0.5

**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 Repre

**Dresser Flow Control** 

HATINE:

D BY Q.C. INSPE

FO COMPUESSION



LuSalie Steel Co. 1412 150th Street Hammond IN 46327-1799

# **CERTIFICATION**

CERTIFICATE Rev H091478 2 DATE 05/02/06

s	A M CASTLE & CO.	PURCHASE ORDER	21-737741		
۱,	7071 B G.E. 118	ORDER	507812-1		
,	HOUSTON TX 77092 USA	CUSTOMER. ITEM		TTEM	4112501323T4B
7		GRADE	12L14	SHAPE	Hexagon
l۰		<b>非</b> 区版	1.2500	SIZE MM	31.7500 MM
		LENGTH	11'0" / 12'6"	LENGTH MM	3352.8 / 3810

LALED COLD DRAWN UNS# G12144 REPORT MECHANICAL PROPERTIES Spec/Rev: A108-03E1 Spec/Rev: A29-05

HEAT	GRAIN		\$OURCE:	MELTED		CAST	REDUCT	TON RATIO	Di
37192	COARSI	E A	cinder Steel	(ARGENT	NA)	STRAND	1	i.O:1	
c /	HAN P	1 5 1	<b>.</b> 81	H	CR	MO	CU	AL	V
0.07	1.08 .055	.300	0.010	0.04	0.05	.010	.150	.004	.002
H	TE	A.E	PZ		\$E	81		8	NE
.007	N/A	N/A	.240	*	N/A	N/A		UA .	N/A
JOB	TEXALE	.2% YTELD	L/ ELC	SHC	ROFA	HARDNESS	.02%	YELD	COMMENT
HR52724	70,250 PSI	67,010 PS	17	.00	51.40	HBN = 137	U		
65									
LOT	108	WEIGHT (LBS)	PRECES		LOT	J08		WEIGHT (LB\$)	PIECES
2429852	HR52724	4,010	73	1					

HEAT 37192 MELTED ARGENTINA MFG. USA NAFTA = YES

MEAT# 37/92/4/6 = C700 MEAT# 37/92/4/6 = C700 MSP J. Martine 7-13-06

	PC COMPRESSION
DATE	RECEIVED MAR 1 5 2007
P.O. #	5080761NU
SID	man He
i LAPPRO	OVED BY Q.C. INSPECTOR

WE, hereby certify that these goods were produced in compliance with all applicable requirements of sections 6, 7, and 12 of the Fair Labor Standards Act, as ameneded, and all regulations and orders of the United States Department of Labor issued under section 14 thereof. Material was not exposed to mercury or any metal alloy that is liquid at ambient temerature during processing or while in our possession. No weld repairs performed on the above material.

CERTIFICATE OF TEST

By: Last Phill

Walter P. Kretzler - Director of Q.A./Chief Metallurgist



# 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

6-2

REGARDS,)
M. A. STEWART & SONS LTD.

38" HC: 0906, 1006

RANDYK. LONG EDMONTON BRANCH MANAGER

and admire to Mrs 1974 and	PC	CON	1PF	RESS	IC	) N		BH#HHHH
DATE	RE	CEIV	ED	MAR	2	2	2007	
P.O. #	ی	081	25-	-00 =	tr	N		1
				HC				
SIGN	ATUR			and the second s				
APPF	ROVE	O BY (	D.C.	INSPE	CT	O	7	<del>gg (1636)</del> 8 <del>349</del> 1



# 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 2006

P.O. # 506677-00 JW

SIGNATURE: HC.

APPROVED BY Q.C. INSPECTOR

John Buisman Operations Manager Tyco Flow Control



# Material Test Report Data - Certificate of Test

06/22/2008

AGS GROUP INC 4144 78 AVENUE

EDMONTON, AB T6B 3M6

CANADA

DAN-	LOC ON	er Num	ber: 4047	701			Cu	i serreda	O Numb	er: 0110	765					
Hem	Qty	2	AN-LOC	Heat C	od <del>e</del>	1	7ರಾಭಭರ್ಷ			Size	•	DATH H	eat Cade		Stande	ırd
1	200		EJS06	E		8	7M ATS		1/2	"X21/4"	FF	<b>S</b> 9	W861		ASTM A1	93 <b>9</b> 8
2	500		E/IROS	ε		2	7M ATS		1	/2" X 3" F	F	58	18604		ASTM A19	9 <b>3 96</b>
3	50		CBD05	G		8	7M ATS			X 2-3/4			18510		ASTM AT	
5	975		€J£06	G		· E	7MATS			"X5 1/4"			9519		astm at	
8	75		DIX05	M		8	7M ATS			" X 4-1/4"			2002		astm a19	
P	1000		ESX06	C		8	7M ATS		7/8	* X 5 1/4"	FF	58	17380		ASTM A11	13 9B
item	С	MN	P	5	Si	CR	Ni	MO	cu	Ti	٧	8	CB	AL	Other	Matero Etch
1	0,41	0.83	.010	.019	0,19	0,95	0.22	.22	.12	מ	o.	Q	0	.028		ρK
2	0.41	0.93	.010	.010	0.18	0.95	0.22	.22	.12	0	Đ	G	0	.028	-	OK
3	B.40	0.90	.017	.010	0.26	0.95	0.06	0.18	0.08	Q.	Û	Q	. 0	.026	•	OK
5	0.42	0.92	.011	.024	0.17	0.97	0.21	.21	,†#	Đ	٥	6	0	.027	-	OK
B	0.35	U.94	017	.014	0.20	0,26	0.22	.22	.65	0	Ð	Ç	Û	.026	-	OK
9	0.41	0.94	011	.016	.020	0.96	0.23	.22	.11	Ð	8	ø	0	027	-	OK

Charpy Test = impact V-Notch

kem	Yield 0.2% Offset	Tenaile	% Bong	% RA	Hard- ness Type	Actus ( Hand Fines	Temp (F)	Spem #1	Spcm #2	\$pcm #3	Temp (F)	Hard- ness	Proof Load (ibf)	ľ
1	83225	102455	22.0	64.0	HRS	96	-		•	-	-			
2	88655	104325	24.0	66.0	HRE	90	-	-	•	-	•	•	•	
3	<b>514</b> 55	101830	24.0	88.6	HRB	97	-	•	•	-	-	-	-	
Š	104700	119855	22.5	54.5	HRB	95	-	<b>-</b> .	•		-	_	-	
à	91000	102245	25.6	56,5	HRS	96	-	-		•	-	•		
ê	8600	107105	27.7	53.2	HRB	97	-100	55	75	74	•	•	-	

Additional Date

<b>HOUR</b>	Quench	Tempere	
	Temp (F)	d (F)	•
1	-	1500	MODIFIED 100 % TESTED MEETS NACE MR0175
2	-	1300	MODIFIED 100 % TESTED MEETS NACE MR0175
3	-	1300	MODIFIED 100 % TESTED MEETS NACE MR8175
5		1300	MODIFIED 100 % TESTED MEETS NACE MR0178
28	-	1300	MODIFIED 100 % TESTED MEETS NACE MR0176
9	•	1300	MODIFIED 100 % TESTED MEETS NACE MRD175
			Additional Cartificate Date: PER EN10204 1991 3. 8

The products referenced in this report were manufactured, sampled, tester and inspected in accordance with the specifications listed and any supplementary requirements or other requirements designated in one 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 forms tested as identified a love. The metantal noted within this document complies with the mechanical testing requirements within ASTM 193/194, as applicable. This certificate shall not be reproduced except in full, without the written approval of Dan-Loc Bolt & Gasket.

R. Stephens

Authorized Signatory (Typeset signatory indicates the use of Digital Passw and Authorization.)

PC COMPHESSION

DATE RECEIVED JUL 0 5 2006

P.O. # 5 000 400 000

SIGNATURE:

APPROVED BY Q.C. INSPECTORAL P. 81

DAN-LOC Housion MTRD83 06/22/2006 05:52:01 PM Page 1 of 1

# Material Test Report Data - Certificate of Test

02/15/2007

AGS GROUP INC 4144 78 AVENUE

EDMONTON, AB T6B 3M8

CANADA

DAN-1	OC Orde	er Numl	ber: 40579	6			Cus	tomer PC	Number:	011719	99					
Item 1	Qty 1000		AN-LOC I GAH06	leat Code	/		Product B7M ATS			Size ( 2-1/2" FF	= V - 51VE	Mill Heat 20002 <b>&gt;</b> .		Д	Standa STM A19	
ltem	С	MN	Р	S	SI	CR	NI	МО	CU	TI	٧	В	CB	AL	Other	Macro Etch
1	0.41	0.89	.009	.007	0.27	0.94	0.04	0.17	0.09	0	0	0	0	.033	-	OK
Char	py Test	= lm	pact V-N	lotch												
			-										24	Но	ur T	est
ltem	Yield 0 Offse		Tensil	e % Elc		% RA	Hard- ness Type	Actual Hard- ness	Temp (F)	Spcm #1	Spcm #2	Spcm #3	Temp (F)	Ha ne		Proof Load (lbf)
1	11178	35	11788	5 21	.0	61.5	HRB	96	•	-	-	-	-	-		-
ltem	Quench Temp (F)	) d (l	F)						Additio	nal Data						
1	-	1300	MOD	IFIED 100	% TES	TED MEE	ETS NACE	MR0175								
			Addi	tional Certi	ficate	Data: PE	R FN 1020	4 1991 3 1	R							

Additional Certificate Data: PER EN 10204 1991 3.1B

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 shall not be reproduced except in full, without the written approval of Dan-Loc Bolt & Gasket.

Isaac Armijo

Authorized Signatory (Typeset signatory indicates the use of Digital Password Authorization.)

Podewali a M RECEIVED MAR 2 9 2007 PROVED BY QUARTER FOR U.S.

# INSPECTION CERTIFICATE

: J420061204027 Certificate No. : J4200612 P/O No. : 0114756

L/C No. : DL-PONGHAN

Date Issued: 2006/12/04 Date Shipped: 2006/12/04

Date Tested: 2006/11/08 Date Manufactured: 2006/11/06

Specifications : ASTM A194/A194M - 04a

Customer : AGS

Description : ASTM A194 GR. 2HM HEAVY HEX NUTS WITH 100% HARDNESS TEST, PLAIN Size: 1/2-13UNC / Warking: 2HM UNDEALINE,KPF LOGO Grade: GR. 2HW

Lot No.: F2H2450200 Surface Condition : PLAIN

9,900 PCS 0 ty Shipped:

CHUNGO:EONGBUK-DO, KORFA 380-250 TEL : (043) 849 - 1114 FAX : (043) 849 - 1234 FACTORY : 601 YONGTAN-DONG, CHUNGJU-CITY, FIELD OF TESTING LAB. 10. CERT. NO.

: MECHANICAL, CHEMICAL : 111983 : 0882-01, 0882-02

STANDARD

OF CERTIFIED: 1SO 9001, 1SO 14001, 0S9000

: AC-01899, EAC-03556, IAC-01899 PAGE 1/2 CERT. NO.

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Heat No.

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Spec.

1. Chemical Composition (%)

Division Surface Condition Random Condition Center Segregation Spec. of Test Method		ASIM ESEI -	
Random Condilion   Center	22	R2   C2	K.R. LEE
Surface Condition	25	22	Х
Division	Spec.	Results S2	Tested By

Properties
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noision	Surface	e Core	Strength	Strength	Elongation	Reduction of Area	Load	Elongation	iensile Load	540 T /24hr	Individual Average	180	Hardness	Fit Test
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	Min.	£					l q			E E				
Onit	Max.	HEH				-								
	Min.	84					21,280			84				
Spec.	Max.	66												
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	10				7	1667								
	Avg.			7										
Tested By	-	)		5-1-t		les.	G.Y. HWANG	MANG		G.Y. HINANG				
Spac Test \$	Spec.of ASTM A370 -	+					AST# A370 -	70 -		ASTI A370 -				

APPROVED BY C.C. INCP. C.T.

Chief of Quality Management Dept.

IN-SUB CHOE

Si   Str.   Period Decembration   Const Decembrate   Technology   Te				Decarburization Test By Microscope	By Microscope	Torque Tension Test	sion Test			Prevailing Torque Test	the Test			
1. Temp STO C Guendring Temporature Quendring Temp STO C On ann.  1. Temp STO C GUENGRING Temp STO DATE EVEN MAR 2 9 2007	Jivision	Thickness	Sait Spray Test	Partial Decarts. (Base Metal Height)	Gross Decarb. Depth.	Clamp Load	Tightening Torque	tst Install Prevalling Torque	Ciamp Load	tst Rem Hight Prevailing Torque	1st Rem.Low1 Prevailing Torque	5th Rem.Hight Prevalling Torque	5th Rem.Low1 Prevalling Torque	Rema <i>t</i> k
Temporature   Duenching   Temporature   Duenching   Temporature   DATRECEIVED   MAR 2 9 2007   DATRECEIVED   DATRECEIVED   MAR 2 9 2007   DATRECEIVED	⊢													
Temp.   Temporature   Tempor	Н													
Temporature   Composition   Temporature   Content in the content	_													
1. Temp. 1.	_													
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Temporature   Temporature								_						
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Temporature 6. Temporature 9 Temporature 9 Temporature 10 Time 30 min. 10 Time 90 min. 10 Time 90 min.	Spec.of													
Temporature   Temporature   Temporature   Quenching   Temporature   S20 C   S200   S20 C   S200 C														
1. Temp. 1. Temporature Quenching S70 C														
Min. Temp.     Temporature       Working Temp.     870 C       Holding Time     30 min.       Min. Temp.     620 C       Working Temp.     675 C       Holding Time     90 min.       DATER CEIVED WAR 2 9 2007	leat Treati	rent												
Working Time 30 min.  Holding Time 90 min.  Holding Time 90 min.		Min. Temp.		Canada Canada T										
Working Temp.         870 C         Remorting           Holding Time         30 min.         Temper ing           Working Temp.         675 C         Working Temp.           Holding Time         90 min.	<u> </u>	Max. Temp.		emperature 										
Holding Time 30 min.  Min. Temp. 620 C  Working Temp. 675 C  Holding Time 90 min.	_	urking Temp	A70 %		Į	Quen	iching '							
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							DATE		i	4		B#		

KAPROVED SYGE IN STEELS





MANUFACTURE NO./ 本圣世立:P067110179 COMMODITY/ 春명:SASC PC/0 ROD 発형 17mm ORDER NO./ 今子世立:F122006070384-01 CUSTOMER/今.8.7):(今)利이피에프

# INSPECTION CERTIFICATION Ŧ

CERTIFICATE NO./夸병시번호:P20060705-00106 DATA OF ISSUE/皆替皇本:2006-07-05 PACKINGS/至多:BMB COATINGS/耳中:

# SEAH SEAH SPECIAL STEEL CO, Ltd

SECUL CIFFICE 26-2, KURO-DONCK KURO-GU, SECUL 152-050, KOREA TEL : (02) 3483-0114 FAX:(02) 594-1342

HEADQUARTIERS & PORIANG WORKS 747 CHANGIUNG-DONG, NAM-EU, POGANO, KYONGEUK, KOREA TEI, : (154) 285-8833 FAX: (154) 285-8832

LIBS-1, YONGTAN-DONG, CHUNGUU, CHINGHER, KIREA

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FAX: (043	-	CARBURI	-ZATION	7/1													ā	001X			7			1	Ź	Y	7	TURES	Har.	CHIEF OF Q.A SECTION	Jon fac. Your
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1135-1, 1070-1071, CHUNGLU, CHUNENK, KOREA TEL : (043) 855-2170 FAX:(043) 855-2174		DECARBURIZATION	2	3		1			-	_						į		ΧIX				Petiting to the services to	4000		C.	ر در ا					
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(MILL 本 (CUSTOMER) MARMON / KEYSTONE CANADA

(SANKYO & CO., LTD.)

(SUPPLIER) 品名:

注 文 者:三京物産株式会社殿

三京不銹鋼管(沈陽)有限公司 SANKYO STAINLESS TUBE (SHEN YANG) CO, LTD. 中国·瀋陽市蘇家屯区以瑰街115号

(CERTIFICATE NO.) 需要家管理番号: P.O.#ES511 : 07-074 宀 証 明 뽦 番

: 2007,02,03

(DATE OF ISSUE)

表

5文 統 CERTIFICATE)

(CUSTOMER ORDER NO.)

CASE NO.: 06,09 (COMMODITY) SEAMLESS STAINLESS STEEL TUBE (NO.115 MEIGUI STREET, SUJIATUN DISTRICT, SHENYANG, P.R. CHINA) 寸法: 3/8"OD × 0.035"WT × 20FT ASTM/ASTM A269/A213/ SA213(A.W.) TP316/TP3161. 号: S7202 梅 数 2 3 3

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APPROVED BY Q.C. INSPECTOR

SPARS

SIGNATURE:

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

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#### 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:

0

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.

Form No. 2001-125 Page 4 of 5 Revision 1 Issued 12/17/01

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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

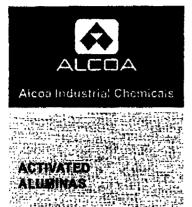
Copeland Corporation 1675 W. Campbell Rd. P.O. Box 669

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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F-200



PRODUCT DATA

USA.0020-R00/0407

Page 1 of 2

# Smooth spheres of uniform size and high crush strength for drying gases and liquids

# Product Information

F-200 is a smooth sphere of activated alumina produced by Alcoa's unique manufacturing process, and is available in a variety of sizes. F-200 is an excellent desiccant for drying a wide variety of liquids and gases. Although 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 dehydration 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 desiccant 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 taller towers that make more efficient use of the desiccent. F-200 activated alumina is highly 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 dusting 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

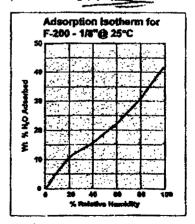
1. Drying. Nearly all gases and liquids can be dried with F-200. Water removal is often necessary for efficient processing, storage. and transportation of fluids.

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 vapor phase service but does not have as high an H<sub>2</sub>O adsorption capacity as do smaller diameter sizes of F-200.

The 1/8" and 7 x 14 Tyler mesh size are recommended for use in liquid 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.



- Acid removal. Transformer oils, lubricating oils, and refrigerants form degradation acids upon use.
   F-200 will remove these acids 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 aluminas 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
	(2.0 mm)	(3.2 mm)	(4.8 mm)	(6.4 mm)
Surface area, m²/g	360	355	340	325
Total pore volume, cc/g	0.5	0.5	0.5	0.5
Packed Bulk Density, lbs/ft3 (kg/m3)	48 (769)	48 (769)	48 (769)	48 (769)
Crush Strength lbs, (kgs)	11 (5)	30 (14)	55 (25)	70 (32)
Abrasion loss, wt%	0.1	0.1	0.1	0.1
Water Adsorption Data				
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>2</sub> O <sub>3</sub>	0.02			
Na <sub>2</sub> O	0.30			
LOI (250 - 1100°C)	6,5			

Nothing herein shall be construed as an invitation to use processes covered by patents without proper errangements with individuals or companies owning those patents.

information presented herein is believed to be accurate and reliable but is not intended to meet any specification and does not imply any guarantee or warranty by Alcos.

MSDS Number-149

Alcoa Industrial Chemicals

PRODUCT

USA 5020-R09/0497 Plage 2 of 2

United States of America & Latin America Alcoe Industrial Chemicate Adsorbente & Catalysts Division 18010 Barteurs Point Lane, Suita 250, Houston, TX 77079, USA Phone: 800-221-7382 or 281-870-9698 • Fax: 281-870-9844 South America São Paulo, Brazz • Europe Frankfurt, Germany • Asia Tokyo, Japon



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.
BRENNTAG 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
Calgary, AB
T2P 3R5
Phone: 403-263-8660

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 S400; Alumina F200; Alumina F200; Alumina S400; Alumina S400; Alumina S431; Alumina S501; Alumina S2001; Alumina S-100 SR; Alumina Selexb CD0-200; Alumina Selexorb CD; Alumina Selexsorb CDX; Alumina Selexsorb CL-750; Alumina Selexsorb COS; Alumina Selexsorb SPCL; Alumina Spent A2 Dupont; Alumina Support Balls; Alumina T-162 Tabular; Alumina Tab. T-1061; Selexsorb CL-750; Selexsorb 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

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.
- . Eye 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: Effects (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)

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Hazardous Ingredients: None according to Controlled Products Regulations.

Non-Hazardous Ingredients	CAS No.	ACGIH TLV	윻
Aluminium Oxide Calcium Oxide	001344-28-1	10 mg/M3 as Al *A4	85 - 95
(Lime)	001305-78-8	2 mg/M3	5 - 10
Sodium Oxide	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

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.

### 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)	
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

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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, IARC, 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.

#### 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 Fire, 0 Reactivity. (3) NFPA: 1 Health, 0 Fire, 0 Reactivity. (3)

# 16. OTHER INFORMATION

# ADDITIONAL INFORMATION AND SOURCES USED

- 1. RTECS-Registry of Toxic Effects of Chemical Substances, Canadian Centre for Occupational Health and Safety RTECS database.
- Clayton, G.D. and Clayton, F.E., 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).
- 4. "CHEMINFO", through "CCINFOdisc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada.

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5. Guide to Occupational Exposure Values, 1999, American Conference of Governmental Industrial Hygienists, Cincinnati, 1999.

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Brenntag Canada Inc. will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years.

To obtain revised copies of this or other Material Safety Data Sheets, contact your nearest Brenntag Canada Regional office.

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