



QUALITY CONTROL MANUAL

HUSKY ENERGY

PO#: 4500184872

WO#: 4026205

UNIT # SAA-07165

JOB # I-702

NISKU HEAD OFFICE / MANUFACTURING / SERVICE

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M.S.D.S.



HUSKY ENERGY
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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:

V-210

MAKE: COPELAND SCROLL
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 SEPARATOR:

V-220
MAKE: COPELAND SCROLL
PART NO: 548-1897-02
RATED PRESSURE: 250 PSIG



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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 ½" 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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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:

PI-1101 PRESSURE INDICATOR

MAKE: WIKA SS LF
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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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: 1/2" 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

MISC:

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

½" FP SS BALL VALVE
MAKE: MA STEWART
MODEL: G-2
2000-PSI WOG
CRN: OC0374.123456789
HEAT CODE: 0206

½" 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: ½" 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	SA-106B	IB5799
2" X 5 1/2" XS NIPPLE	SA-106B	AH73
2" X 5" XS NIPPLE	SA-106B	IB5800
2" X 4" XS NIPPLE	SA-106B	IB5763
2" X 3" XS NIPPLE	SA-106B	AH73
2" X 2 1/2" XS NIPPLE	SA-106B	AI77
2" X 1 1/2" XS SWAGE TBE	SA234-WPB	AILL
2" X 1" XS SWAGE TBE	SA234-WPB	AIFZ
2" X 1/4" XS SWAGE TBE	SA234-WPB	K1196
2" FS THRD PLUG	SA-105N	ECX
1 1/2" FS THRD 90° ELL 2000	SA-105N	FUSU, 997
1 1/2" X 1/2" FS THRD RED TEE 3000	SA-105N	56980
1 1/2" X 4" XS NIPPLE	SA-106B	AI91
1 1/2" X 3" XS NIPPLE	SA-106B	AH81
1 1/2" 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, A46, DSL
1" FS THRD TEE 2000	SA-105N	2453
1" X 1/2" FS THRD RED TEE 3000	SA-105N	2455
1" FS THRD CROSS 2000	SA-105N	NNRT



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FITTINGS CONTINUED:

DESCRIPTION:	GRADE:	HEAT NO:
1" X 8" XS NIPPLE	SA-106B	R4D, AH75
1" X 7" XS NIPPLE	SA-106B	R4D
1" X 6" XS NIPPLE	SA-106B	AI92, AH75
1" X 5 1/2" XS NIPPLE	SA-106B	S3T
1" X 5" XS NIPPLE	SA-106B	AH75, AI12
1" X 4 1/2" XS NIPPLE	SA-106B	R4D
1" X 4" XS NIPPLE	SA-106B	Y607-1216, AI12, 9PO, AI92, QX8
1" X 3 1/2" XS NIPPLE	SA-106B	FB5650, 92V
1" X 3" XS NIPPLE	SA-106B	R4D
1" X 2 1/2" XS NIPPLE	SA-106B	88T
1" X 2" XS NIPPLE	SA-106B	AH75, S3T
1" X 3/4" XS SWAGE TBE	SA234-WPB	AIFP
1" X 1/2" XS SWAGE TBE	SA234-WPB	AIDK
1" X 1/4" XS SWAGE TBE	SA234-WPB	AIEE, ABAG, AIFP, AFQZ
1" FS THRD PLUG	SA-105N	N59
3/4" FS THRD 90° ELL 2000	SA-105N	G30
3/4" X 4" XS NIPPLE	SA-106B	RB7
3/4" X 2" XS NIPPLE	SA-106B	AH76
3/4" FS THRD PLUG	SA-105N	N20
1/2" FS THRD UNION 3000	SA-105N	UE9
1/2" FS THRD 90° ELL 2000	SA-105N	NBAL
1/2" FS THRD TEE 2000	SA-105N	NLSR
1/2" X 8" XS NIPPLE	SA-106B	AI90
1/2" X 6" XS NIPPLE	SA-106B	NDL
1/2" X 4 1/2" XS NIPPLE	SA-106B	AG88
1/2" X 4" XS NIPPLE	SA-106B	AI90
1/2" X 3 1/2" XS NIPPLE	SA-106B	AI90
1/2" X 3" XS NIPPLE	SA-106B	55175, PZR
1/2" X 2 1/2" XS NIPPLE	SA-106B	AH16
1/2" X 2" XS NIPPLE	SA-106B	NDL
1/2" X 1 1/2" XS NIPPLE	SA-106B	S3R
1/2" X 3/8" XS SWAGE	SA234-WPB	AHQE
1/2" FS THRD PLUG	SA-105N	LBTT



HUSKY ENERGY
PO#: 4500184872 WO#: 4026205
QPS CERTIFIED: QC-36066
JOB # I-702
UNIT # SAA-07165

FITTINGS CONTINUED:

DESCRIPTION:	GRADE:	HEAT NO:
3/8" FS THRD TEE 2000	SA-105N	DCXX
3/8" X 4" XS NIPPLE	SA-106B	AI17
3/8" X 1 1/2" XS NIPPLE	SA-106B	AJ13
3/8" X 1/4" XS SWAGE TBE	SA234-WPB	AICX
3/8" FS THRD PLUG	SA-105N	3361
1/4" FS THRD 90° ELL 2000	SA-105N	FRBS
1/4" FS THRD TEE 3000	SA-105N	NCNL
1/4" FS THRD CROSS 3000	SA-105N	56275, 55994
1/4" X 2" XS NIPPLE	SA-106B	AH68
1/4" X 1 1/2" XS NIPPLE	SA-106B	Q5F
1/4" FS THRD PLUG	SA-105N	B
PIPE:		
2" SCH 80 SMLS PIPE	SA-106B	2-CB
1" SCH 80 SMLS PIPE	SA-106B	1-KV, 1-KX, 1-KY, 1-KZ
1/2" SCH 80 SMLS PIPE	SA-106B	.5-M



HUSKY ENERGY

PO#: 4500184872 WO#: 4026205

QPS CERTIFIED: 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:\PC Compression\Drafting\Work-Internal\1-702 SAA-07165 SAA-222-LP Husky AB\A-PID-SAA07165 AB.dwg, Model: 5/28/2007 7:38:37 AM, scottcp, This drawing is the Property of PC Compression Inc. It may not be duplicated

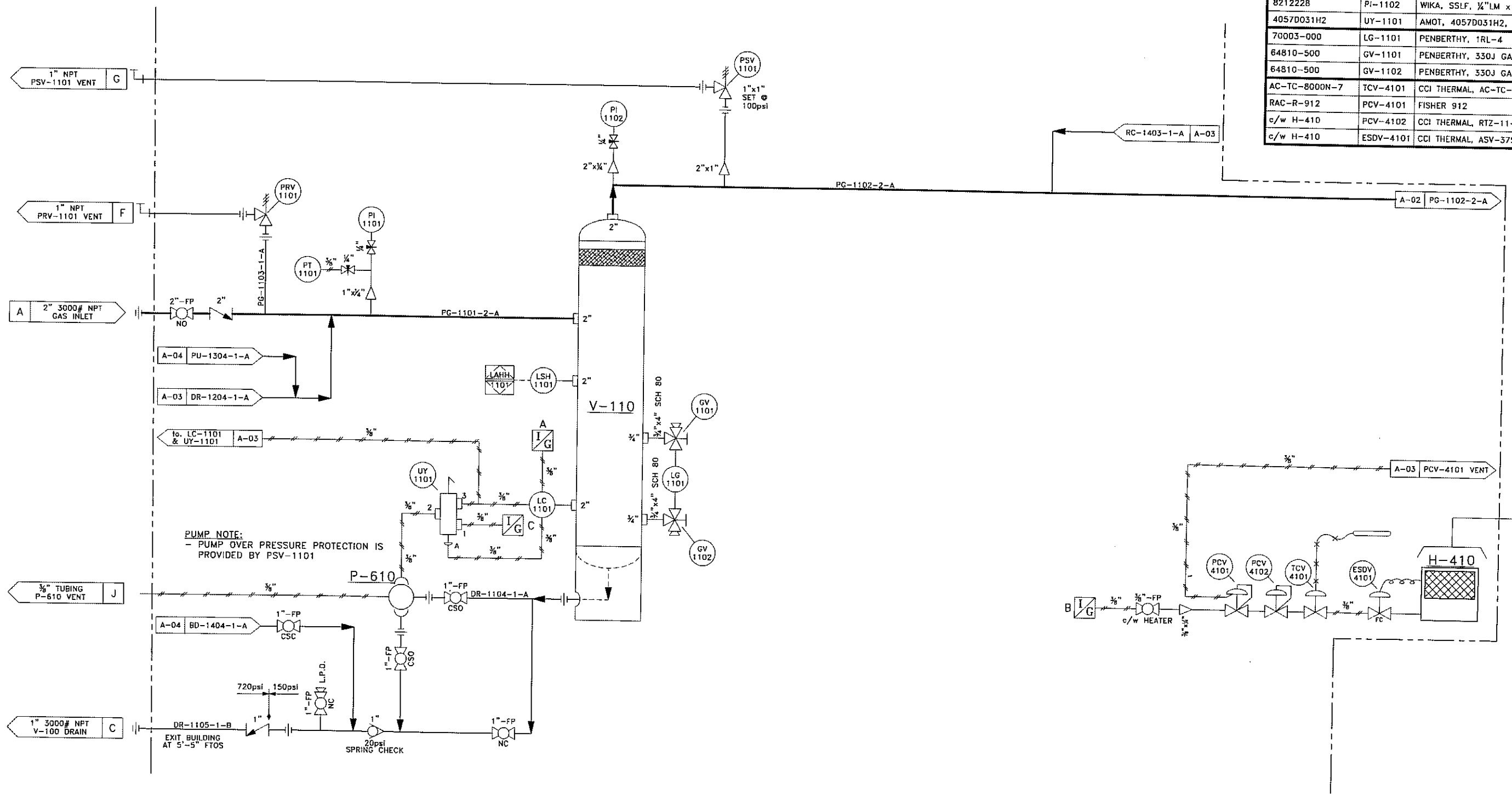
V-110
INLET SEPARATOR
Manufacturer: LO TECH MANUFACTURING
Size: 8.625" x 4'-0" S/S
MAWP: 600psi @ 650°F
MDMT: -20°F @ 600psi
CRN: OH5415.21345
.0625" C.A.
I/C: SCRUBBER848
S/N: 8600.350

H-410
HEATER
Manufacturer: CATA-DYNE
Model: MKII 2424
120V START
I/C: MK2424-21111
S/N: 343810

P-610
LIQUID PUMP
Manufacturer: SANBPIPER
Model: PCC1, GABTXNSX
MAWP: 100psi
Capacity: 45gpm @ 40sefm
I/C: G1FB1ABTXNSX00
S/N: 1517875

BILL of MATERIAL

ITEM CODE	ITEM TAG	DESCRIPTION
9117D51V06E1-100	PSV-1101	MERCER, 91-17D51V06E1, 1"x1" NPT, SET @ 100psi
4348317	PT-1101	WIKA, N-10, S.R 0-15psi
289H-42	PRV-1101	FISHER, 1" NPT, 289H-42, S.R. 4-15psig
L1200NDVO	LC-1101	MURPHY, L1200 NDVO, MAWP: 1500psi
L1200	LSH-1101	MURPHY, L1200, MAWP: 2000psi
8212228	PI-1101	WIKA, SSIF, 1/4"LM x 2 1/2"FACE, 0-30psi
8212228	PI-1102	WIKA, SSIF, 1/4"LM x 2 1/2"FACE, 0-30psi
4057D031H2	UY-1101	AMOT, 4057D031H2, 3 WAY SWITCHING VALVE
70003-000	LG-1101	PENBERTHY, 1RL-4
64810-500	GV-1101	PENBERTHY, 330J GAUGE VALVE
64810-500	GV-1102	PENBERTHY, 330J GAUGE VALVE
AC-TC-8000N-7	TCV-4101	CCI THERMAL, AC-TC-8000N-7
RAC-R-912	PCV-4101	FISHER 912
c/w H-410	PCV-4102	CCI THERMAL, RTZ-11-15B
c/w H-410	ESDV-4101	CCI THERMAL, ASV-375, 1/2 PSI



- GENERAL NOTES:
1. PIPING CONSTRUCTED TO ASME B31.3 NORMAL SERVICE
 2. MATERIALS: 2" & SMALLER:
PIPE: SA-106B, SCH 80
FITTINGS: SA-105, 2000# NPT
UNIONS: SA-105 3000# NPT
BALL VALVES: 2000# NPT FP
TUBING:
1/4", 3/8" & 1/2" 316SS, .035" WALL
TUBING FITTINGS:
1/4", 3/8" & 1/2" 316SS
 3. DESIGN:
a) SPEC 'A' PIPING: MAWP = 150psig @ 350°F
MDMT: -20°F @ 150psig
AIR TEST: 165psig @ AMBIENT TEMPERATURE
b) SPEC 'B' PIPING: MAWP = 720psig @ 350°F
MDMT: -20°F @ 720psig
HYDRO TEST: 1080psig
 4. THIS PRESSURE PIPING HAS A CAPACITY OF LESS THAN 0.5 CUBIC METERS
 5. AREA CLASSIFICATION IS CLASS 1 DIV 2
 6. SKID INSULATION: 2" POLAR FOAM PF2444

1

AS BUILT

SDC

05-28-07

0

ISSUED FOR CONSTRUCTION

SDC

04-03-07

REV.

DESCRIPTION

BY

DATE

CHKD

APPD

2308-8th Street
Nisku Alberta
T9E 7Z2

Office: 780.955.4292
Fax: 780.955.4294
Toll Free: 866.955.4292

Drawn by:
S.D.C.

Date:
12-12-06

Checked by:

Approved by:

Scale:
N.T.S.

222 LP SAA-SCROLL SERIES
SZ022C3A w/ DESICCANT TOWERS
SKID MOUNTED, SWEET SERVICE

HUSKY ENERGY

Quote/Ref. NO.:
-

JOB NO.:
1-702

Unit NO.:
SAA-07165

Drawing NO.:
PID-SAA07165-A-01

Rev.:
1

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CA-210/220
COMPRESSOR ASSEMBLY
Manufacturer: COPELAND SCROLL
Model: SZ022C3A-EDE-234
Inlet Pressure: 2" W.C. / MAX 10psi
Discharge Pressure Setting: 215psi
275VAC/3Phase/60Hz
Peak Operating Amps: 16
H.P.: 10
I/C: SZ022C3A-EDS-234
S/N CA-210: 07DA3042
S/N CA-220: 07DA3045
QPS CERTIFIED:
CA-210: QCC-21385
CA-220: QCC-21391

C-210/220
COMPRESSOR
Manufacturer: COPELAND SCROLL
Model: ZNH22C3A-TXX-265
Inlet Pressure: 15psi / MAX 65psi
Discharge Pressure: 450psi
275VAC/3Phase/60Hz
Peak Operating Amps: 16.3
R.P.M.: 3500
S/N C-210: 07CA9093D
S/N C-220: 07CA9076D

F-210/220
LUBE OIL FILTER
Manufacturer: COPELAND SCROLL
Part No: 513-0019-01

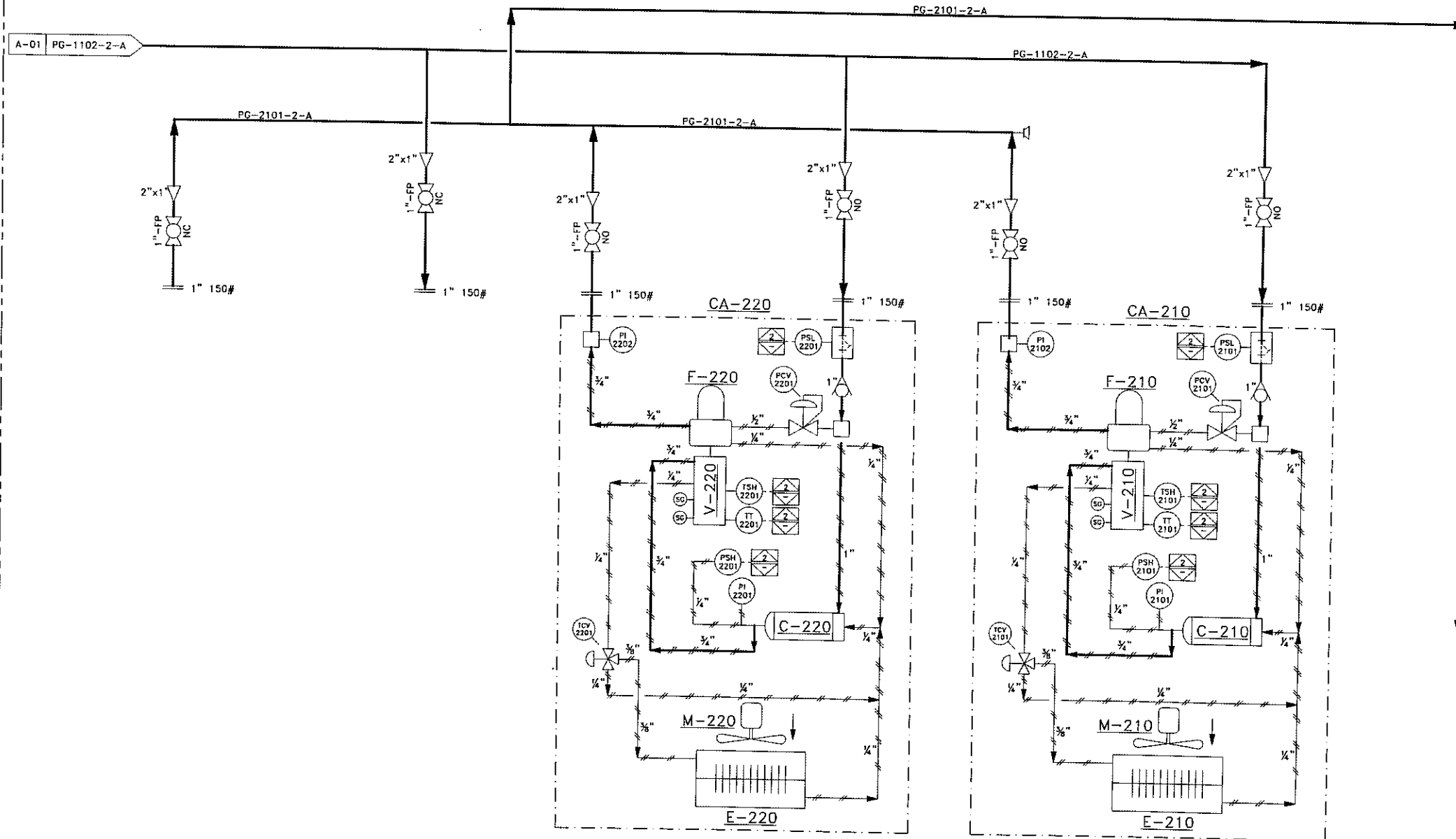
V-210/220
LUBE OIL SEPARATOR
Manufacturer: COPELAND SCROLL
Part No: 548-1897-02
Rated Pressure: 250psig

E-210/220
COMPRESSOR COOLER
Manufacturer: SUPER RADIATOR COILS
CRN: OH6358.2
CRN: OH0741.3
MAWP: 250psi @ 300°F
MDMT: -20°F @ 250psi

M-210/220
COOLER FAN MOTOR
Manufacturer: EBM
Model: W1G250-HH37-52
Class 1, Div. 2
24 VDC, 1/2Hp

BILL of MATERIAL

ITEM CODE	ITEM TAG	DESCRIPTION
9117D51V07E1-150	PSV-2101	MERCER, 91-17D51V07E1, 1"x1" NPT, SET @ 150psi
AAA	BPCV-2101	KIMRAY, 2" NPT, 212 SGT-BP, MAWP: 175psi
c/w BPCV-2101	PI-2103	KIMRAY, 1/4"LM x 2"FACE, 0-160psi
98H	PCV-2101	FISHER, 98H-4, S.R. 35-100psi
c/w CA-210	ROSTRA	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 @ 240°F INCR.
c/w CA-210	TT-2101	TEMPERATURE THERMISTERS
c/w CA-210	PI-2101	SWAGELOK, 1/4"LM x 2 1/2"FACE, 0-200psi
c/w CA-210	PI-2102	SWAGELOK, 1/4"LM x 2 1/2"FACE, 0-200psi
98H	PCV-2201	FISHER, 98H-4, S.R. 35-100psi
c/w CA-220	TCV-2201	ROSTRA VERNATHERM, 0250-08-00/200
675GE8001	PSL-2201	LO SUCTION PRESSURE, CCS 675GE8001, SET @ 2"WC DECR.
6900GE18	PSH-2201	HI DISCHARGE PRESSURE, CCS 6900GE18, SET @ 145psi INCR.
6900TE16	TSH-2201	HI DISCHARGE TEMPERATURE, CCS 6900TE16, SET @ 240°F INCR.
c/w CA-220	TT-2201	TEMPERATURE THERMISTERS
c/w CA-220	PI-2201	SWAGELOK, 1/4"LM x 2 1/2"FACE, 0-200psi
c/w CA-220	PI-2202	SWAGELOK, 1/4"LM x 2 1/2"FACE, 0-200psi



GENERAL NOTES:

1. PIPING CONSTRUCTED TO ASME B31.3 NORMAL SERVICE
2. MATERIALS: 2" & SMALLER:
PIPE: SA-106B, SCH 80
FITTINGS: SA-105, 2000# NPT
UNIONS: SA-105 3000# NPT
BALL VALVES: 2000# NPT FF
TUBING:
1/4", 3/8" & 1/2" 316SS, .035" WALL
TUBING FITTINGS:
1/4", 3/8" & 1/2" 316SS

3. DESIGN:
a) SPEC 'A' PIPING: MAWP = 150psig @ 350°F
MDMT: -20°F @ 150psig
AIR TEST: 165psig @ AMBIENT TEMPERATURE
a) SPEC 'B' PIPING: MAWP = 720psig @ 350°F
MDMT: -20°F @ 720psig
HYDRO TEST: 1080psig
4. THIS PRESSURE PIPING HAS A CAPACITY OF LESS THAN 0.5 CUBIC METERS
5. AREA CLASSIFICATION IS CLASS 1 DIV 2
6. SKID INSULATION: 2" POLAR FOAM PF2444

REV.	DESCRIPTION	BY	DATE	CHKD	APPD
1	AS BUILT		05-28-07		
0	ISSUED FOR CONSTRUCTION		04-05-07		



2305-8th Street
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Drawn by:
S.D.C.
Date:
12-12-06
Checked by:
[Signature]
Approved by:
[Signature]
Scale:
N.T.S.

222 LP SAA-SCROLL SERIES
SZ022C3A w/ DESICCANT TOWERS
SKID MOUNTED, SWEET SERVICE

Company: **HUSKY ENERGY**
Quote/Ref. NO.:
JOB NO.:
Unit NO.:
Drawing NO.:
Rev.:
1

V-120
DISCHARGE SCRUBBER
Manufacturer: LO TECH MANUFACTURING
Size: 8.625" x 4'-0" S/S
MAWP: 600psi @ 650°F
MDMT: -20°F @ 600psi
CRN: OH5415.21345
.0625" C.A.
I/C: SCRUBBER848
S/N: 8600.211

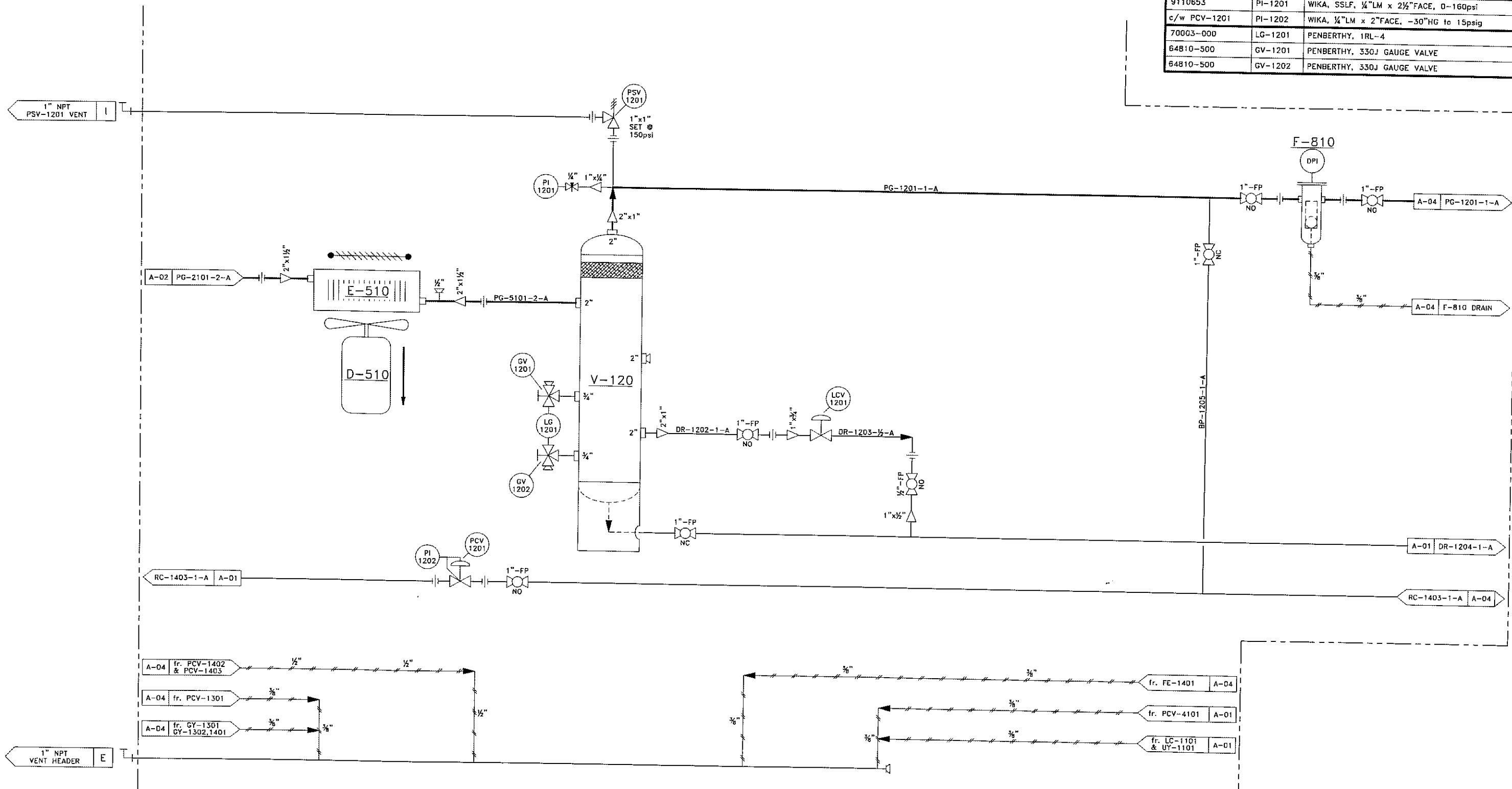
E-510
AIR COOLED EXCHANGER
Manufacturer: GLOBAL HEAT TRANSFER
Model: GHT 450 SC
Part: 698-0362
MAWP: 402psi @ 250°F
CRN: OH7426.213
I/C: GHT450
S/N: 0512033039

D-510
COOLER FAN MOTOR
Manufacturer: EBM
Model: W1G250-HH37-52
Class 1, Div. 2
24 VDC, 1/2Hp
I/C: 550058100
QPS Certified: QCC-40364

F-810
FILTER
Manufacturer: PEACOCK FLAIR
Model: HF-90
MAWP: 232psi @ 149°F
Element: HFD-90
CRN: OH5142.51263
c/w DPI
I/C: HF90

BILL of MATERIAL

ITEM CODE	ITEM TAG	DESCRIPTION
9117D51V07E1-150	PSV-1201	MERCER, 91-17D51V07E1, 1"x1" NPT, SET @ 150psi
AOP-25	PCV-1201	KIMRAY, 1" NPT, 1.2 SGT OPR, MAWP: 175psi, S.R. 2.5psi
WLD1811	LCV-1201	WATSON McDANIEL, PMD-1810-400, MAWP: 600psig @ 500°F
9110653	PI-1201	WIKA, SS LF, 1/4" LM x 2 1/2" FACE, 0-160psi
c/w PCV-1201	PI-1202	WIKA, SS LF, 1/4" LM x 2" FACE, -30" HG to 15psig
70003-000	LG-1201	PENBERTHY, 1RL-4
64810-500	GV-1201	PENBERTHY, 330J GAUGE VALVE
64810-500	GV-1202	PENBERTHY, 330J GAUGE VALVE



GENERAL NOTES:

1. PIPING CONSTRUCTED TO ASME B31.3 NORMAL SERVICE
2. MATERIALS: 2" & SMALLER:
PIPE: SA-106B, SCH 80
FITTINGS: SA-105, 2000# NPT
UNIONS: SA-105 3000# NPT
BALL VALVES: 2000# NPT FP
TUBING:
1/4", 3/8" & 1/2" 316SS, .035" WALL
TUBING FITTINGS:
1/4", 3/8" & 1/2" 316SS

3. DESIGN: a) SPEC 'A' PIPING: MAWP = 150psig @ 350°F
MDMT: -20°F @ 150psig
AIR TEST: 165psig @ AMBIENT TEMPERATURE
b) SPEC 'B' PIPING: MAWP = 720psig @ 350°F
MDMT: -20°F @ 720psig
HYDRO TEST: 1080psig
4. THIS PRESSURE PIPING HAS A CAPACITY OF LESS THAN 0.5 CUBIC METERS
5. AREA CLASSIFICATION IS CLASS 1 DIV 2
6. SKID INSULATION: 2" POLAR FOAM PF2444

REV.	DESCRIPTION	BY	DATE	CHKD	APPD
1	AS BUILT		05-28-07		
0	ISSUED FOR CONSTRUCTION	SDC	04-03-07	SDC	BH



2308-8th Street
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Toll Free: 866.955.4292

Drawn by:
S.D.C.
Date:
12-12-06
Checked by:
SDC
Approved by:
BH
Scale:
N.T.S.

222 LP SAA-SCROLL SERIES
SZ022C3A w/ DESICCANT TOWERS
SKID MOUNTED, SWEET SERVICE

Company:
HUSKY ENERGY
Quote/Ref. No.:
JOB NO.:
Unit NO.:
SAA-07165
Drawing NO.:
PID-SAA07165-A-03
Rev.:
1

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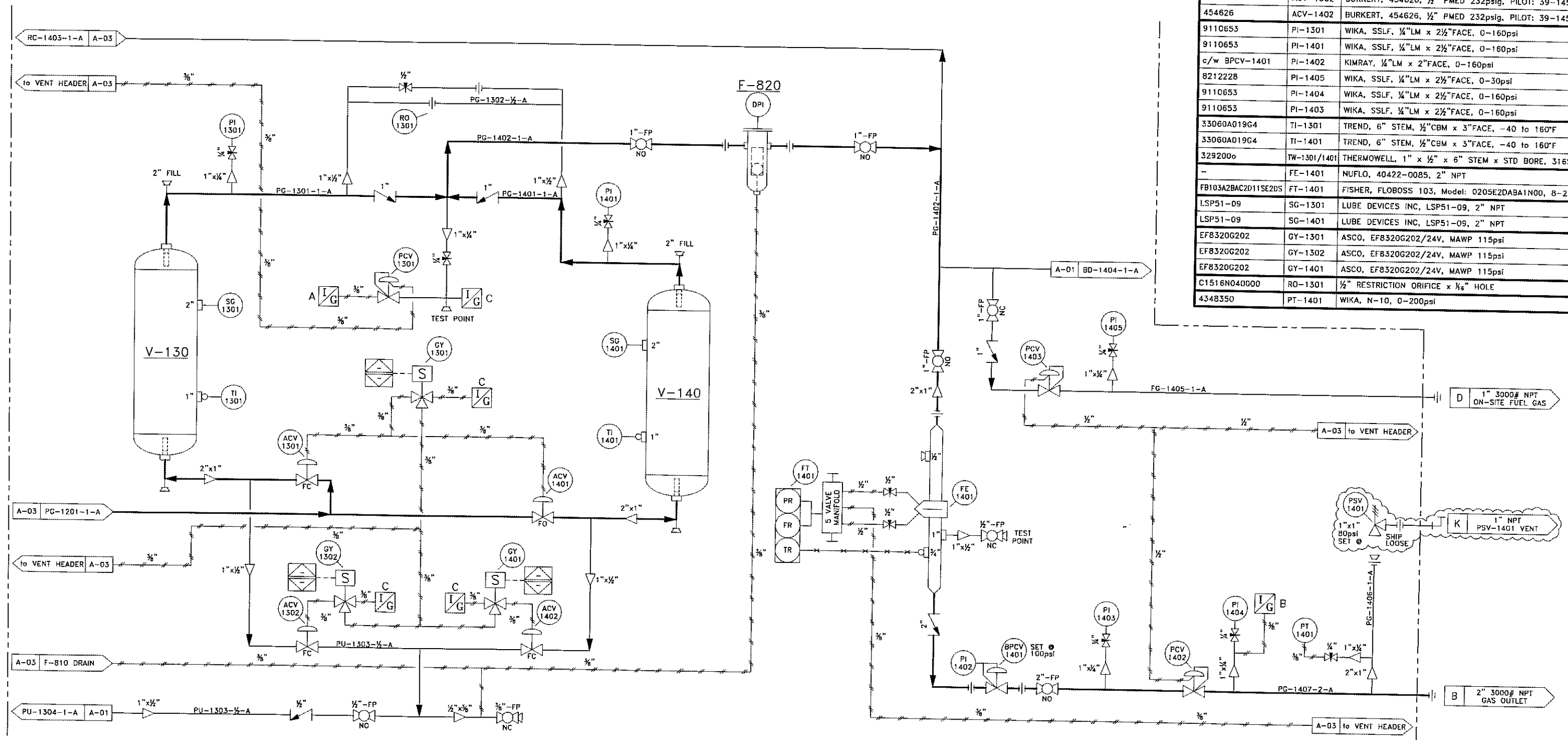
V-130
DRYING TOWER
Manufacturer: LO TECH MANUFACTURING
Size: 8.625" x 4'-0" S/S
MAWP: 600psi @ 650°F
MDMT: -20°F @ 600psi
CRN: OH5415.21345
.0625" C.A.
I/C: BULLETA848
S/N: 8600.341

V-140
DRYING TOWER
Manufacturer: LO TECH MANUFACTURING
Size: 8.625" x 4'-0" S/S
MAWP: 600psi @ 650°F
MDMT: -20°F @ 600psi
CRN: OH5415.21345
.0625" C.A.
I/C: BULLETA848
S/N: 8600.336

F-820
FILTER
Manufacturer: PEACOCK FLAIR
Model: HF-90
MAWP: 232psi @ 149°F
Element: HFD-90
CRN: OH5142.51263
c/w DPI
I/C: HF90

BILL of MATERIAL

ITEM CODE	ITEM TAG	DESCRIPTION
9117051V06E1-80	PSV-1401	MERCER, 91-17051V06E1, 1"x1" NPT, SET @ 80psi
67CFR362SPEC	PCV-1301	FISHER, 67CFR-362SC, 1/2" NPT, S.R. 0-35psi
AAA	BPCV-1401	KIMRAY, 2" NPT, 212 SGT-BP, MAWP: 175psi
627-579	PCV-1402	FISHER, 2" NPT, 627-579, S.R. 70-150psig, 1/2" ORIFICE
627-496	PCV-1403	FISHER, 1" NPT, 627-496, S.R. 5-20psig, 1/2" ORIFICE
454628	ACV-1301	BURKERT, 454628, 1" PMED 232psi, PILOT: 27-145psi
454614	ACV-1401	BURKERT, 454614, 1" PMED 232psi, PILOT: 29-145psi
454626	ACV-1302	BURKERT, 454626, 1/2" PMED 232psig, PILOT: 39-145psi
454626	ACV-1402	BURKERT, 454626, 1/2" PMED 232psig, PILOT: 39-145psi
9110653	PI-1301	WIKA, SS LF, 1/4" LM x 2 1/2" FACE, 0-160psi
9110653	PI-1401	WIKA, SS LF, 1/4" LM x 2 1/2" FACE, 0-160psi
c/w BPCV-1401	PI-1402	KIMRAY, 1/4" LM x 2" FACE, 0-160psi
8212228	PI-1405	WIKA, SS LF, 1/4" LM x 2 1/2" FACE, 0-30psi
9110653	PI-1404	WIKA, SS LF, 1/4" LM x 2 1/2" FACE, 0-160psi
9110653	PI-1403	WIKA, SS LF, 1/4" LM x 2 1/2" FACE, 0-160psi
33060A019G4	TI-1301	TREND, 6" STEM, 1/2" CBM x 3" FACE, -40 to 160°F
33060A019G4	TI-1401	TREND, 6" STEM, 1/2" CBM x 3" FACE, -40 to 160°F
3292000	TI-1301/1401	THERMOWELL, 1" x 1/2" x 6" STEM x STD BORE, 316SS
-	FE-1401	NUFLO, 40422-0085, 2" NPT
FB103A2BAC2D11SE2DS	FT-1401	FISHER, FLOBOSS 103, Model: 0205E2DABA1N00, 8-28VDC
LSP51-09	SG-1301	LUBE DEVICES INC, LSP51-09, 2" NPT
LSP51-09	SG-1401	LUBE DEVICES INC, LSP51-09, 2" NPT
EF8320G202	GY-1301	ASCO, EF8320G202/24V, MAWP 115psi
EF8320G202	GY-1302	ASCO, EF8320G202/24V, MAWP 115psi
EF8320G202	GY-1401	ASCO, EF8320G202/24V, MAWP 115psi
C1516N040000	RO-1301	1/2" RESTRICTION ORIFICE x 3/8" HOLE
4348350	PT-1401	WIKA, N-10, 0-200psi



- GENERAL NOTES:
1. PIPING CONSTRUCTED TO ASME B31.3 NORMAL SERVICE
 2. MATERIALS: 2" & SMALLER:
PIPE: SA-106B, SCH 80
FITTINGS: SA-105, 2000# NPT
UNIONS: SA-105 3000# NPT
BALL VALVES: 2000# NPT FP
TUBING:
1/4", 3/8" & 1/2" 316SS, .035" WALL
TUBING FITTINGS:
1/4", 3/8" & 1/2" 316SS
 3. DESIGN:
a) SPEC 'A' PIPING: MAWP = 150psig @ 350°F
MDMT: -20°F @ 150psig
AIR TEST: 165psig @ AMBIENT TEMPERATURE
a) SPEC 'B' PIPING: MAWP = 720psig @ 350°F
MDMT: -20°F @ 720psig
HYDRO TEST: 1080psig
 4. THIS PRESSURE PIPING HAS A CAPACITY OF LESS THAN 0.5 CUBIC METERS
 5. AREA CLASSIFICATION IS CLASS 1 DIV 2
 6. SKID INSULATION: 2" POLAR FOAM PF2444

AS BUILT

ISSUED FOR CONSTRUCTION

DESCRIPTION

SDC

SDC

BY

05-28-07

04-03-07

DATE

SDC

CHKD

SDC

APPR

2308-8th Street

Nisku Alberta

T5E 7Z2

Office: 780.955.4292

Fax: 780.955.4294

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Drawn by:

S.D.C.

Date:

12-12-06

Checked by:

SDC

Approved by:

BH

Scale:

N.T.S.

Company:

HUSKY ENERGY

Quote/Ref. NO.:

1-702

Unit NO.:

SAA-07165

Drawing NO.:

PID-SAA07165-A-04

Rev.:

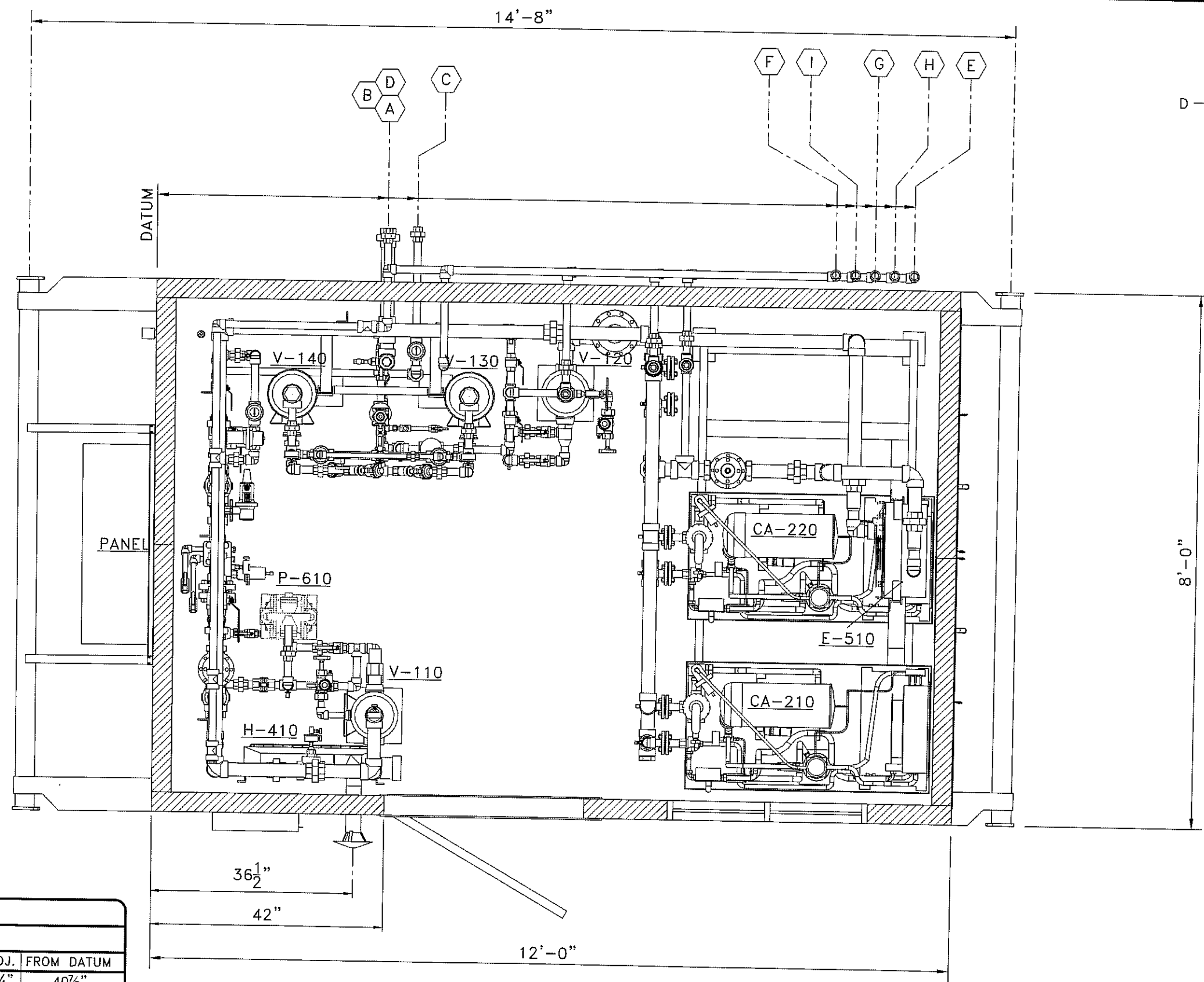
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222 LP SAA-SCROLL SERIES

SZ022C3A w/ DESICCANT TOWERS

SKID MOUNTED, SWEET SERVICE

P:\PC Compression\Drafting\Work-Internal\1-702 SAA-07165 SAA-222-LP Husky AB\B-C-A-SAA07165 AB.dwg, Plan View, 5/28/2007 7:55:32 AM, scotttpe. This drawing is the Property of PC Compression Inc. It may not be duplicated without written permission.



PACKAGE WEIGHT: 9,200 lbs / 4,175 Kg

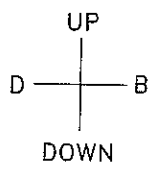
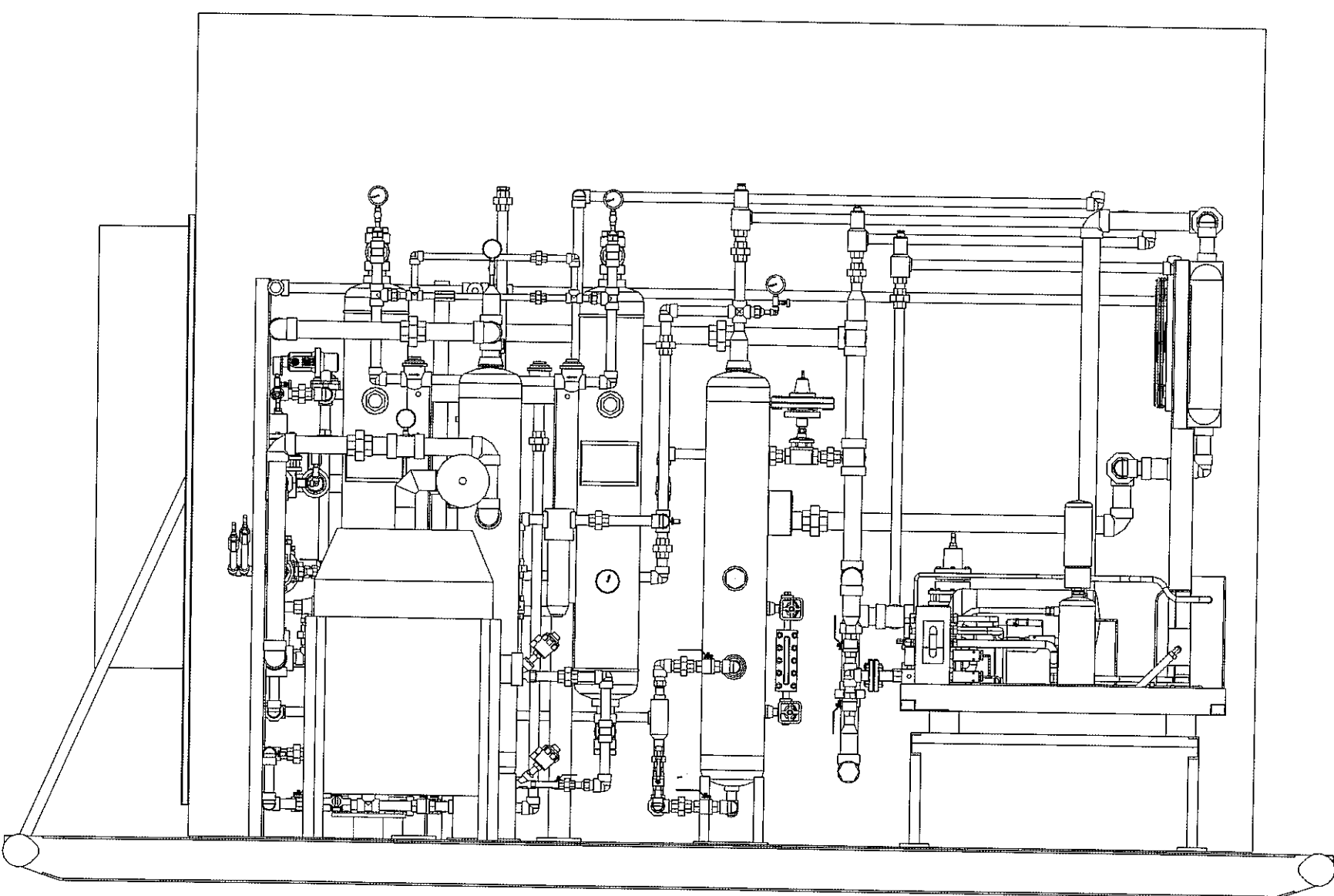
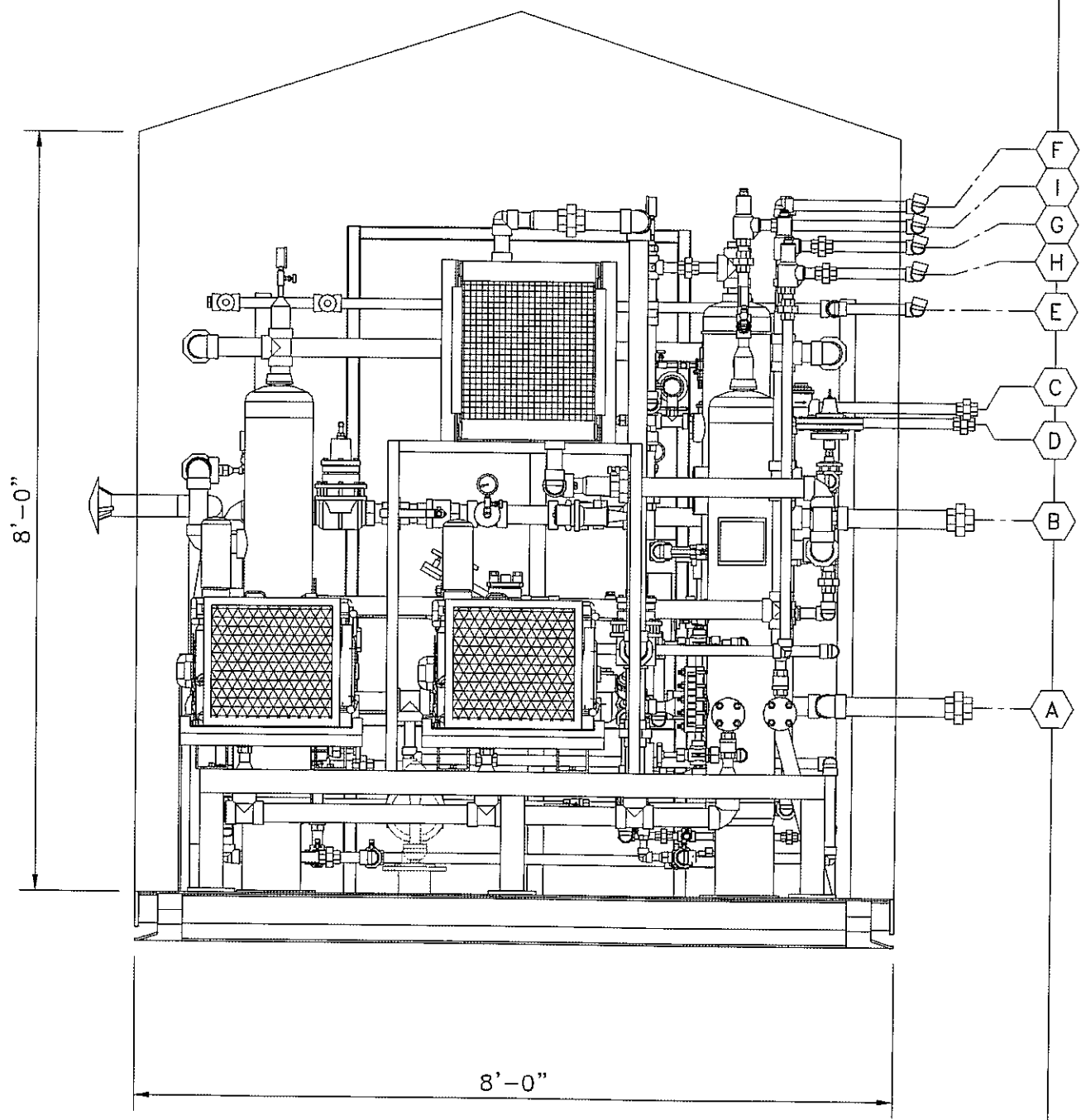
CUSTOMER CONNECTIONS

ITEM	DESCRIPTION	SIZE	ELEVATION	PROJ.	FROM DATUM
A	GAS INLET	2" 3000# NPT	30 1/2" FBOS	10 1/4"	40 7/8"
B	GAS OUTLET	2" 3000# NPT	54 5/8" FBOS	9 3/4"	40 7/8"
C	VESSEL DRAIN LINE	1" 3000# NPT	70 1/4" FBOS	8 1/4"	45 1/4"
D	ON-SITE FUEL GAS	1" 3000# NPT	66 3/4" FBOS	8 1/2"	40 1/2"
E	INSTR. VENT HEADER	1" 2000# NPT	82" FBOS	2 1/2"	128 7/8"
F	PRV-1101 VENT	1" 2000# NPT	95" FBOS	2 1/2"	119 3/4"
G	PSV-1101 VENT	1" 2000# NPT	88 5/8" FBOS	2 1/2"	124 1/2"
H	PSV-2101 VENT	1" 2000# NPT	83 7/8" FBOS	2 1/2"	126 1/2"
I	PSV-1201 VENT	1" 3000# NPT	91 1/2" FBOS	2 1/2"	122 1/4"

PLAN VIEW
SCALE 1:20

<div>PC COMPRESSION</div>				2308-8th Street Nisku Alberta T9E 7Z2		Office: 780.955.4292 Fax: 780.955.4294 Toll Free: 866.955.4292		Drawn by: S.D.C. Date: 12-12-06 Checked by: SDC Approved by: BH		222 LP SAA-SCROLL SERIES SZ022C3A w/ 8" DRYING TOWERS SKID MOUNTED, SWEET SERVICE	
AS BUILT				SDC 05-28-07				Company:		HUSKY ENERGY	
ISSUED FOR CONSTRUCTION				SDC 04-03-07		SDC BH		Scale:		1:20	
DESCRIPTION				BY		DATE		CHKD		APPD	
REV.								Quote/Ref. NO.:		JOB NO.:	
								Unit NO.:		Drawing NO.:	
								SAA-07165		GA-SAA07165-B-01	
								Rev.:		1	

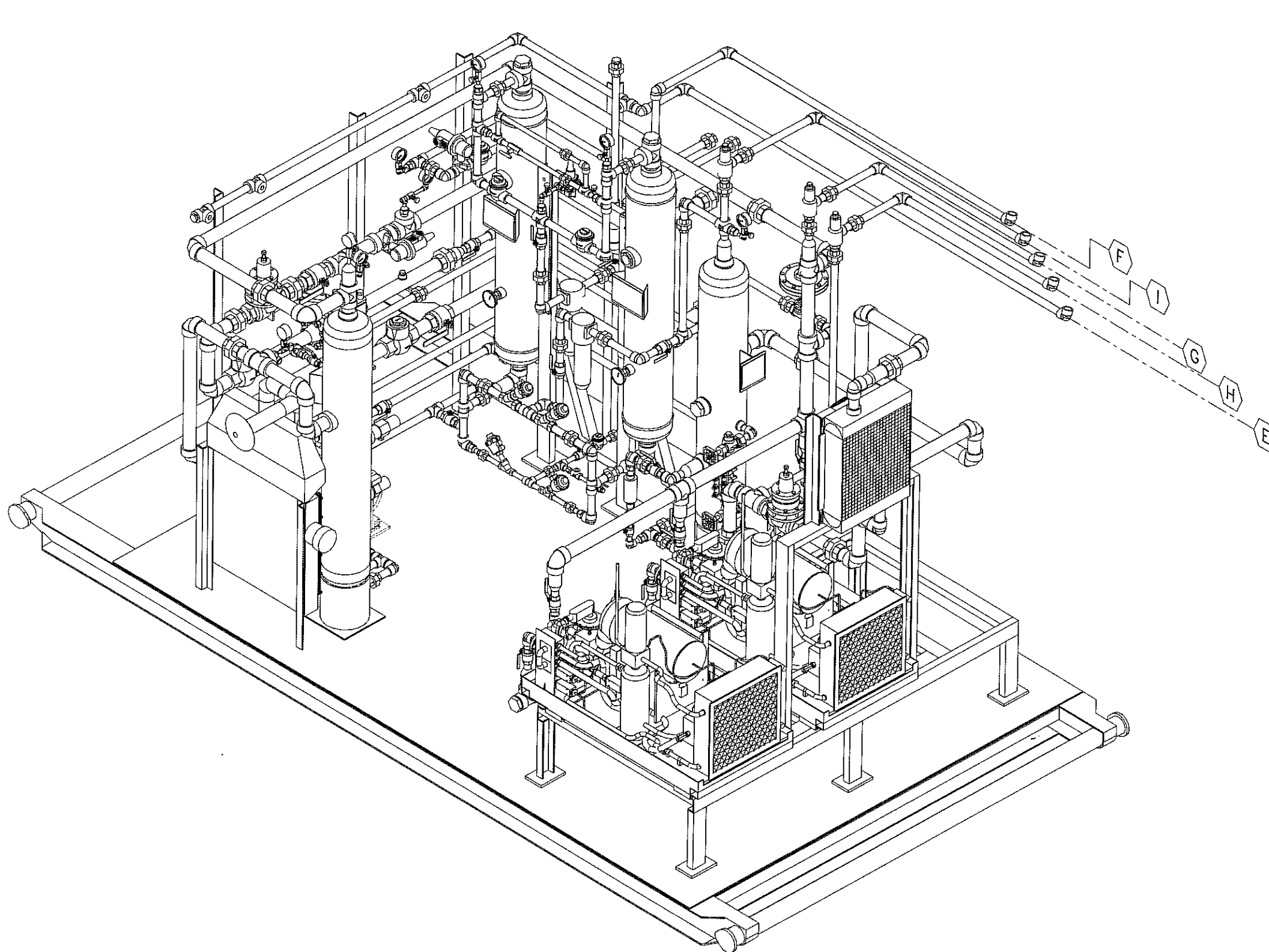
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'C' ELEVATION VIEW
SCALE 1:20

<div><div>2308-8th Street Nisku Alberta T9E 7Z2</div><div>Office: 780.955.4292 Fax: 780.955.4294 Toll Free: 866.955.4292</div></div>				<div>Drawn by: S.D.C. Date: 12-12-06 Checked by: <i>SDC</i> Approved by: <i>SDC</i> Scale: 1:20</div>		<div>222 LP SAA-SCROLL SERIES SZ022C3A w/ 8" DRYING TOWERS SKID MOUNTED, SWEET SERVICE</div>			
<div>AS BUILT ISSUED FOR CONSTRUCTION DESCRIPTION</div>				<div>SDC 05-25-07 SDC 04-03-07 BY DATE CHKD APPD</div>		<div>Company: HUSKY ENERGY</div>		<div>Quote/Ref. NO.: JOB NO.: Unit NO.: Drawing NO.: Rev.: 1</div>	

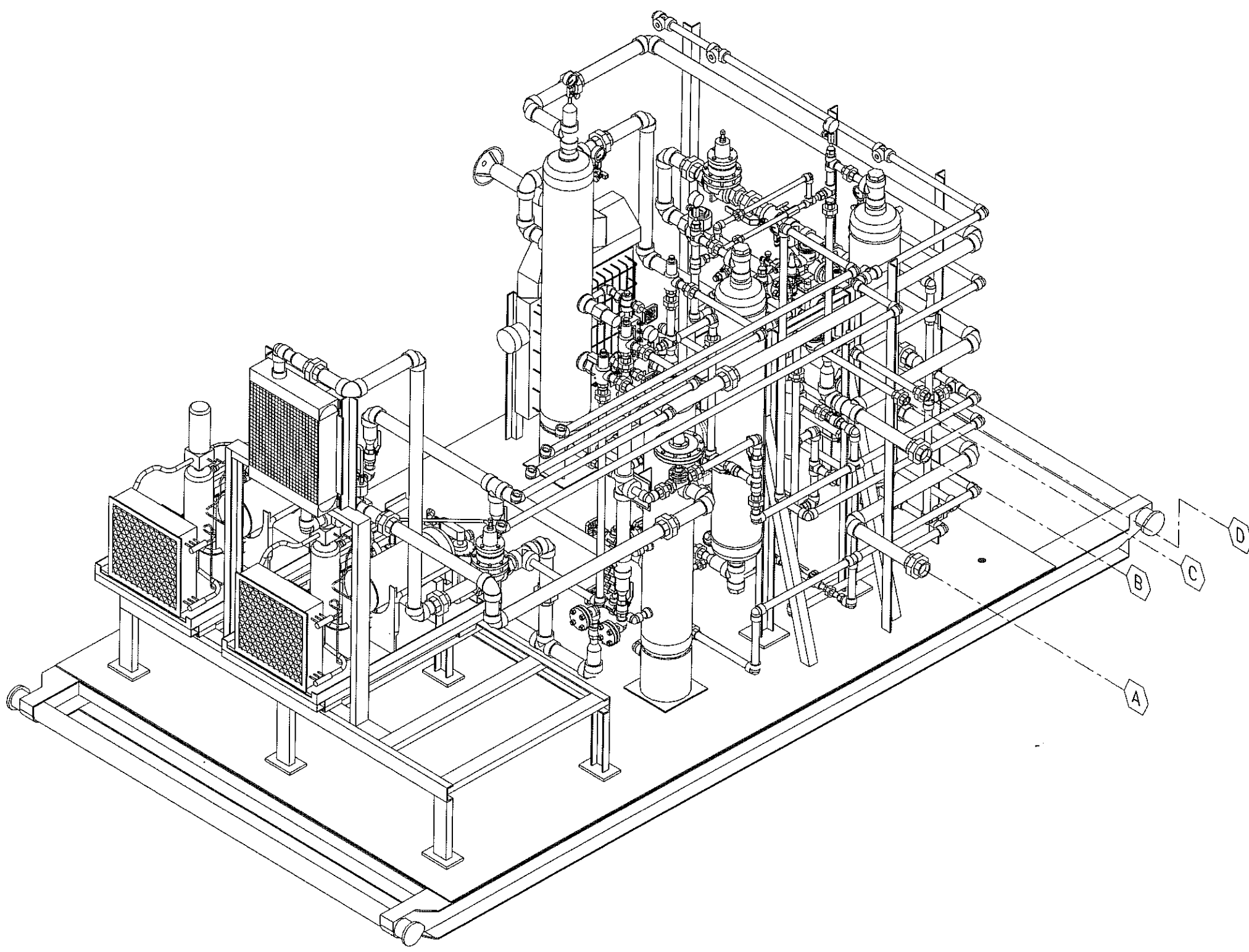
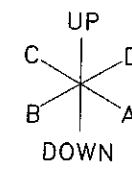
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'SE' ISOMETRIC VIEW
SCALE 1:20

<div><div>2308-8th Street Nisku, Alberta T9E 7Z2</div></div>				<div>Drawn by: S.D.C. Date: 12-12-04 Checked by: SDC Approved by: OH</div>		<div>222 LP SAA-SCROLL SERIES SZ022C3A w/ 8" DRYING TOWERS SKID MOUNTED, SWEET SERVICE</div>			
<div>AS BUILT ISSUED FOR CONSTRUCTION DESCRIPTION</div>				<div>SDC 05-28-07 SDC 04-03-07 BY DATE CHKD/APPD</div>		<div>Office: 780.955.4292 Fax: 780.955.4294 Toll Free: 866.955.4292</div>		<div>Company: HUSKY ENERGY</div>	
REV.		1		2		3		4	
1		2		3		4		5	
1-702		SAA-07165		GA-SAA07165-B-03		0		0	

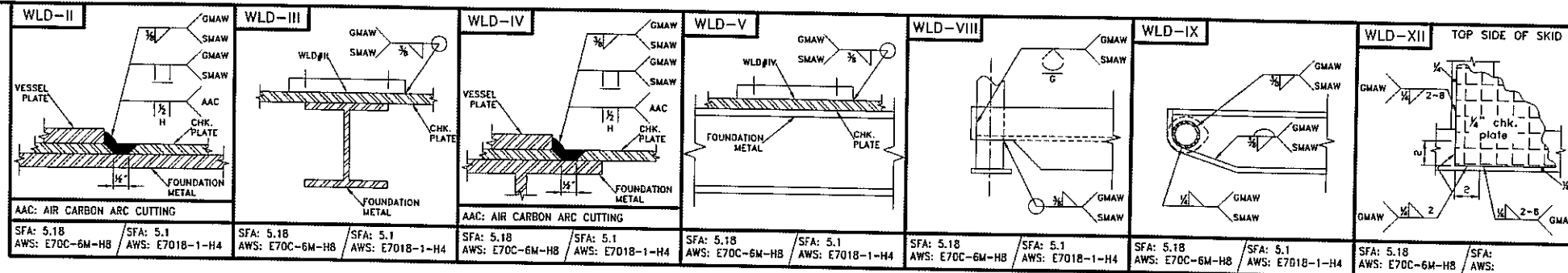
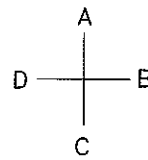
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'NE' ISOMETRIC VIEW
SCALE 1:20

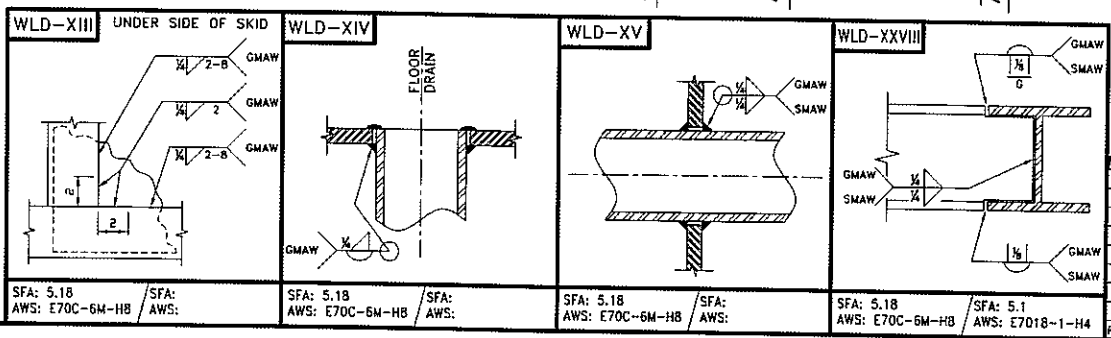
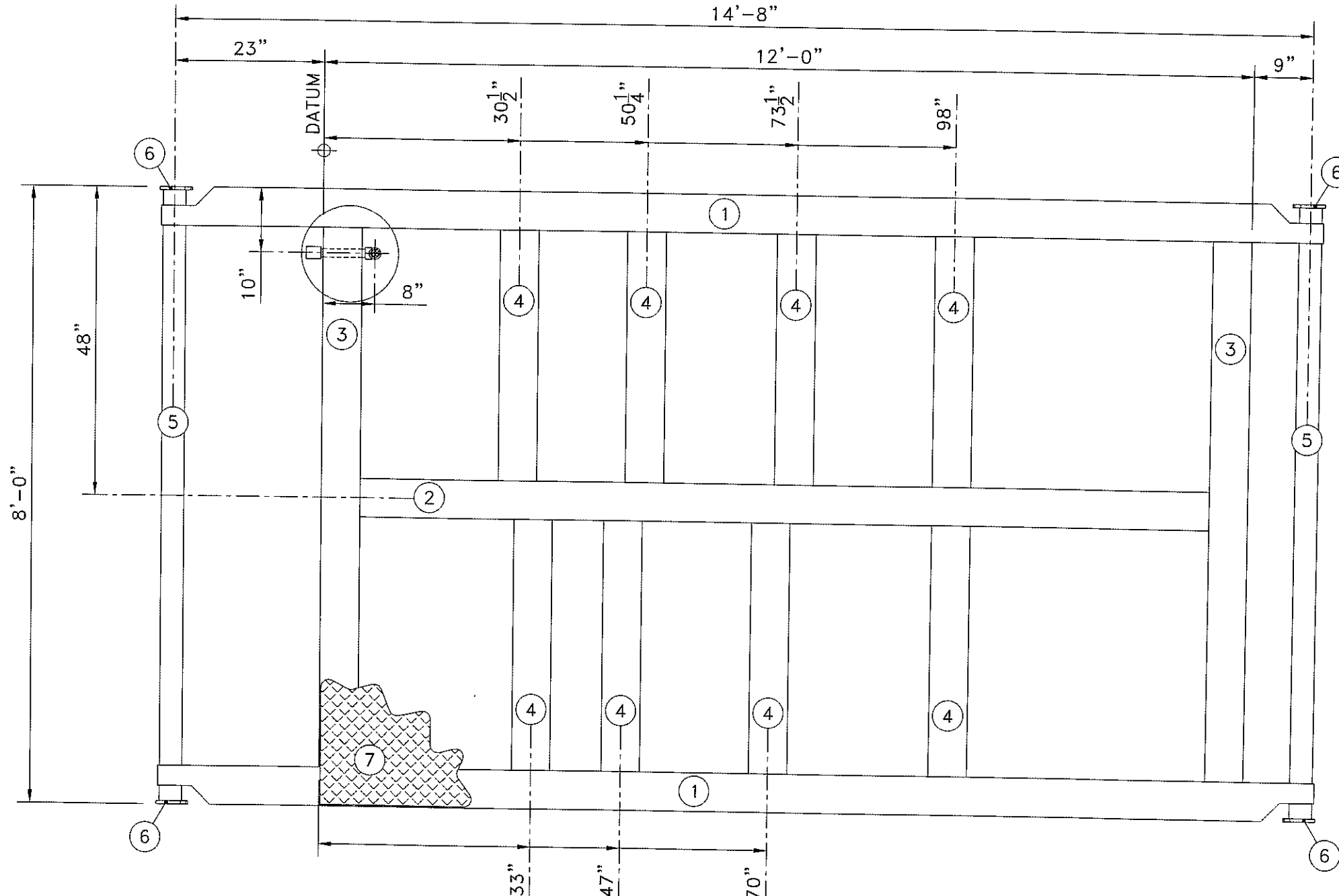
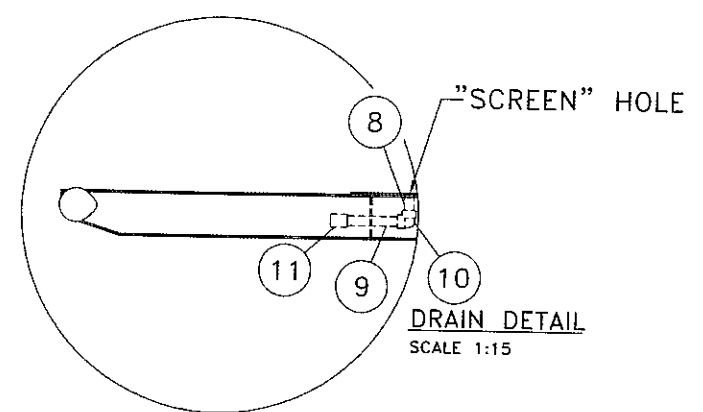
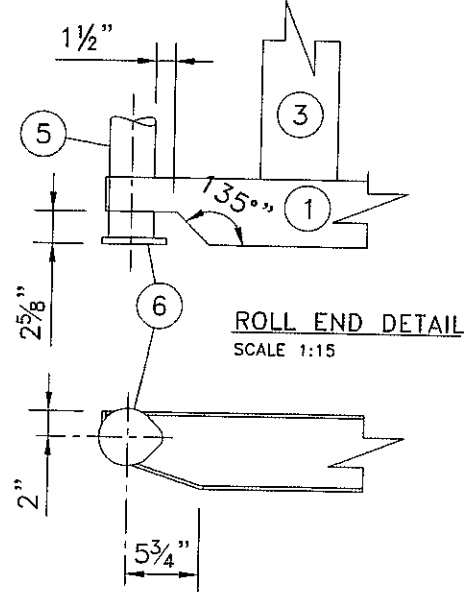
<div><p>2308-8th Street Nisku Alberta T9E 7Z2</p></div>				<div>Office: 780.955.4292 Fax: 780.955.4294 Toll Free: 866.955.4292</div>				<div>Drawn by: S.D.C. Date: 12-12-04 Checked by: <i>[Signature]</i> Approved by: <i>[Signature]</i> Scale: 1:20</div>				<div>222 LP SAA-SCROLL SERIES SZ022C3A w/ 8" DRYING TOWERS SKID MOUNTED, SWEET SERVICE</div>			
<div>AS BUILT ISSUED FOR CONSTRUCTION</div>				<div>SDC 05-28-07 SDC 04-03-07 SDC BH</div>				<div>Company: HUSKY ENERGY</div>							
<div>REV. DESCRIPTION</div>				<div>BY DATE CHKD APPD</div>				<div>Quote/Ref. NO.: JOB NO.: Unit NO.: Drawing NO.: Rev.: 1-702 SAA-07165 GA-SAA07165-B-04 1</div>							

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BILL of MATERIAL					
ITEM CODE	MARK	Q'TY	DESCRIPTION	MATERIAL	WEIGHT
463081018	1	2	W6x15# x 15'-7"lg (SEE ROLL END DETAILS)	A36/44W	465 lbs
463081018	2	1	W6x15# x 11'-5 1/2"lg	A36/44W	172 lbs
463081018	3	2	W6x15# x 7'-5 1/2"lg	A36/44W	225 lbs
463081018	4	8	W6x15# x 3'-8 1/2"lg	A36/44W	444 lbs
462001043	5	2	3" SCH 80 SMLS PIPE x 7'-11"lg	SA-106B	162 lbs
463850144	6	4	1/2" thk. ROLL END CAPS	SA-36	10 lbs
463001110	7	96sq'	1/4" CHECKPLATE (7'-11 1/2" x 11'-11 1/2")	SA-36	1,080 lbs
462101191	8	1	1" SCH 80 NIPPLE x 3"lg (TBE)	SA-106B	0.5 lbs
462101204	9	1	1" SCH 80 NIPPLE x 8"lg (TBE)	SA-106B	1.4 lbs
462501006	10	1	1" 2000# NPT ELBOW	SA-105	1.1 lbs
462501262	11	1	1" 2000# NPT FULL COLLAR	SA-105	0.4 lbs
TOTAL					2,561 lbs

WELDERS NOTE:
- 1/8" HAS BEEN TAKEN OFF OF CUT LENGTHS
FOR WELD GAP PURPOSES



230B-8th Street Nisku Alberta T9E 7Z2		Office: 780.955.4292 Fax: 780.955.4294 Toll Free: 866.955.4292				Drawn by: M.E.W. Date: 04-06-04 Checked by: SDC Date: [Signature] Scale: 1:20		222 LP SAA-SCROLL SERIES SZ022C3A w/ DESICCANT TOWERS SKID MOUNTED, SWEET SERVICE		Company: HUSKY ENERGY-	
AS BUILT ISSUED FOR CONSTRUCTION DESCRIPTION		SDC 05-28-07 FL 10-23-06 BY DATE CHKD/APPD		230B-8th Street Nisku Alberta T9E 7Z2		Quote/Ref. NO.: 1-702		JOB NO.: SAA-07165		Unit NO.: SKD-SAA07165-D-01	

SHUTDOWN KEY

INPUT DEVICES

VALVE
NORMAL

OUTPUT DEVICES


TAG

[illegible]

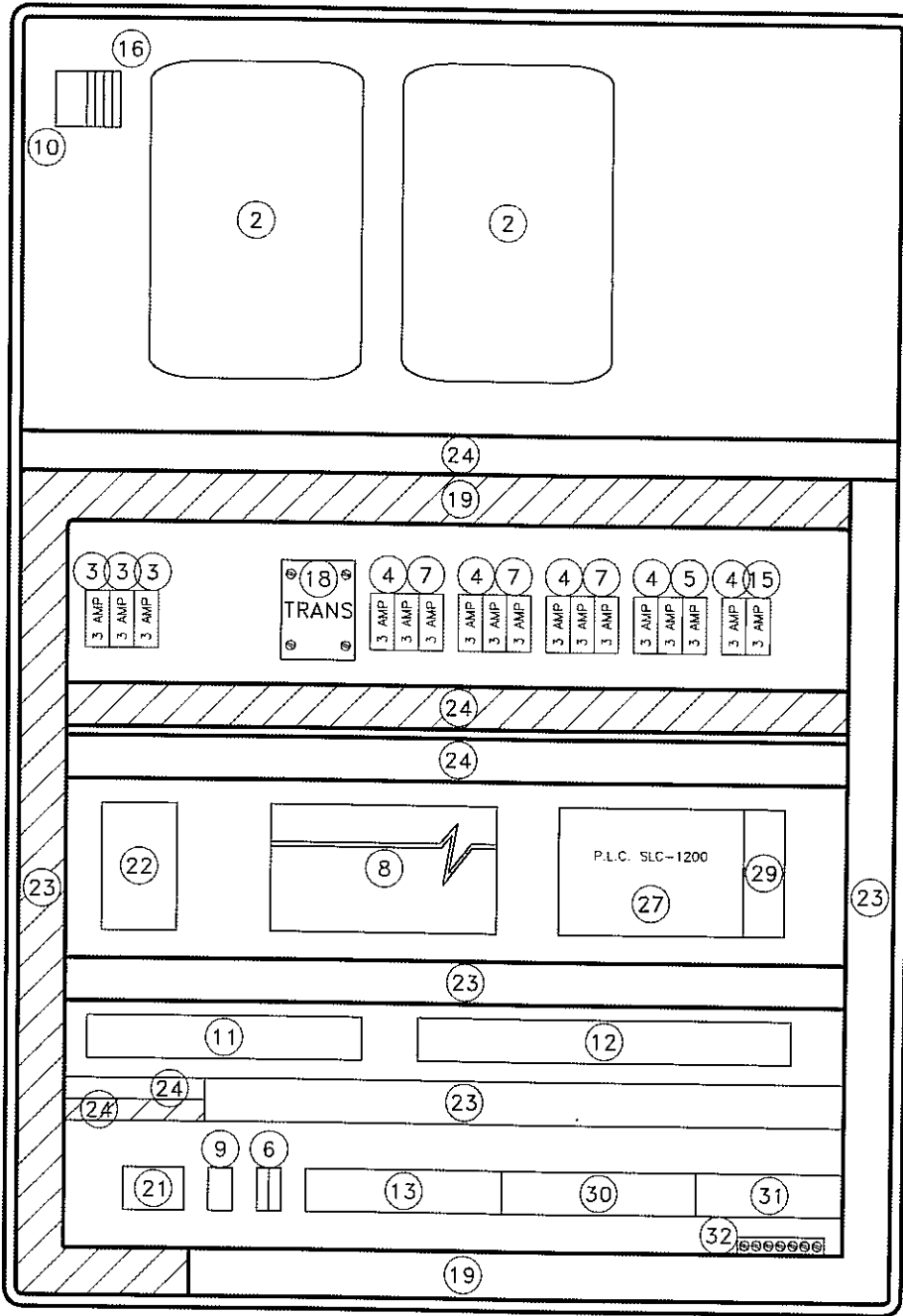
LEGEND

S	SHUTDOWN
R	RUN
TD	TIME DELAY (120 SEC.)
A	ALARM
SB	STANDBY
CS	CONTROL SPEED

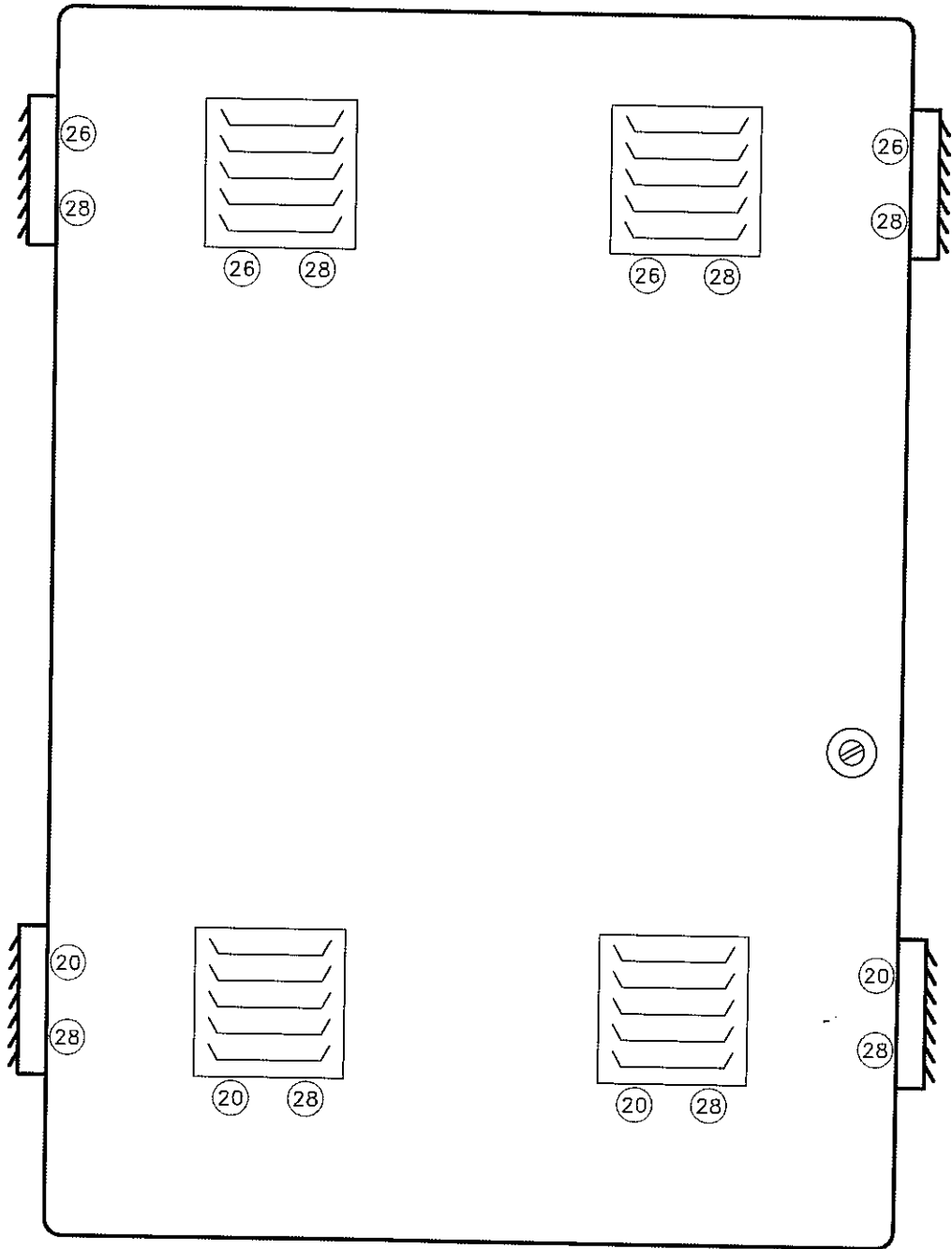
COMMENT
CALLOUT ALARM

						Drawn by: M.E.W. Date: 05-21-04 Checked by: <i>MEW</i> Approved by: <i>MEW</i>		222 LP SAA-SCROLL SERIES SZ022C3A w/ DESICCANT TOWERS SKID MOUNTED, SWEET SERVICE			
				2308-9th Street Nisku Alberta T9E 7Z2		Office: 780.955.4292 Fax: 780.955.4234 Toll Free: 866.955.4292		Company: HUSKY ENERGY			
1	AS BUILT	SDC	05-28-07			Scale:	JOB NO.:	Unit NO.:	Drawing NO.:	Rev.:	
REV.	DESCRIPTION	BY	DATE	CHKD	APPD	N.T.S.	Quale/Ref. NO.:	!-702	SAK-07165	SAK-SAA07165-F-01	

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VIEW INSIDE PANEL



BILL of MATERIAL

MARK	Q'TY	DESCRIPTION
1	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
5	9	Fuse ATQR 2
6	1	120 VAC Power Term.
7	9	Fuse ATQR 20
8	1	Power Supply Phoenix Quint 30A
9	1	A-TEMNC Heating T-Stat
10	1	A-TEMNO Cooling T-Stat
11	1	24 VDC Power Term.
12	1	Discreet I/P Term.
13	1	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
27	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	1	Flow Boss / PT-1401 Terminals
32	1	Ground Strip



2308-8th Street
Nisku Alberta
T9E 7Z2
Office: 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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DATE	1	05-28-07	AS BUILT	PCCT	DATE	July 27/2005	Job #	PC072705-00-0001	01
REV.									
DATE									
DESCRIPTION									
BY									
APP'D									

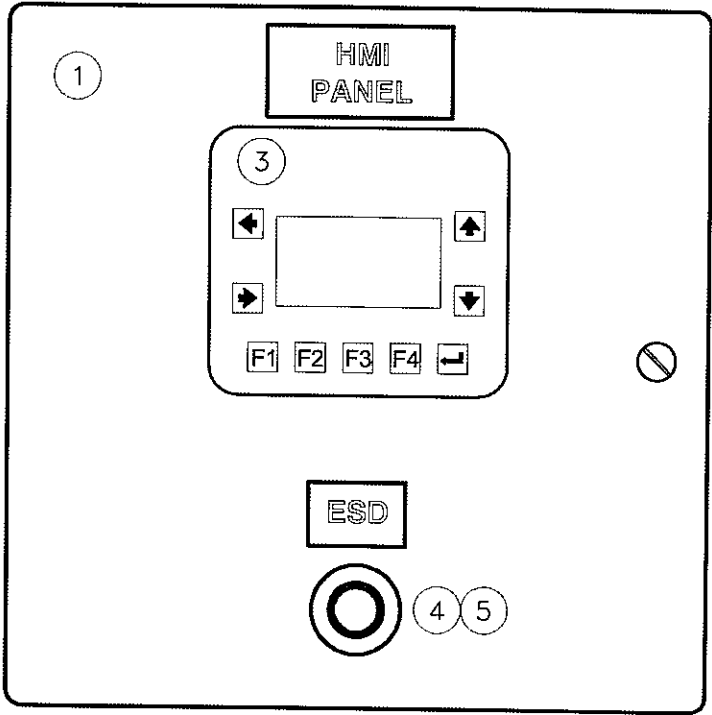
V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE

PANEL LAYOUT COMMANDER SE

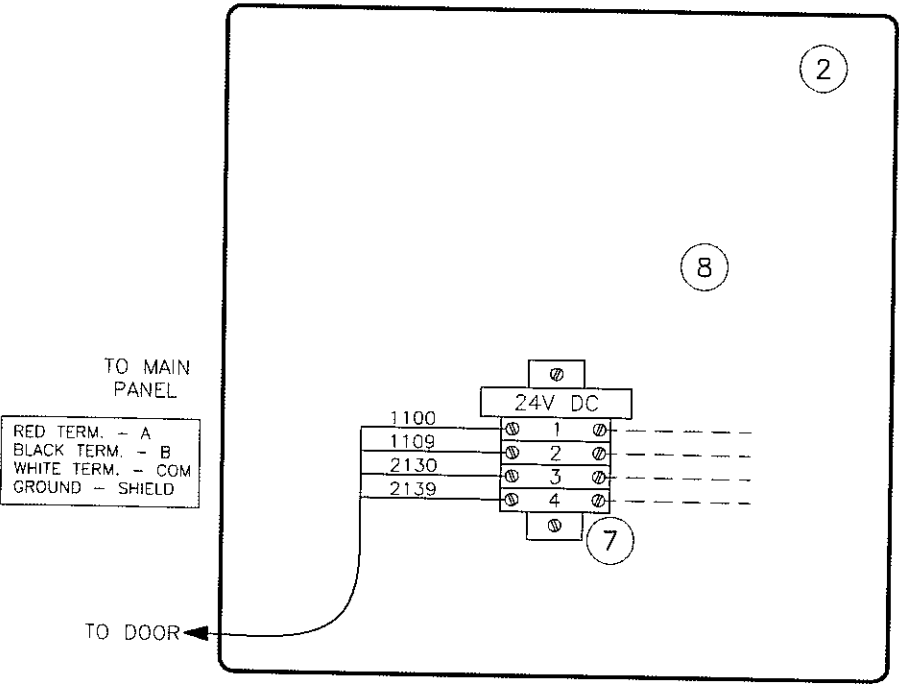
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BILL of MATERIAL

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



FRONT OF DOOR



INSIDE PANEL

TO MAIN
PANEL

RED TERM. - A
BLACK TERM. - B
WHITE TERM. - COM
GROUND - SHIELD

TO DOOR

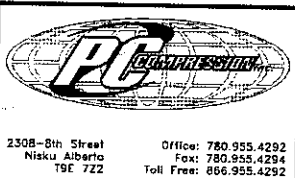
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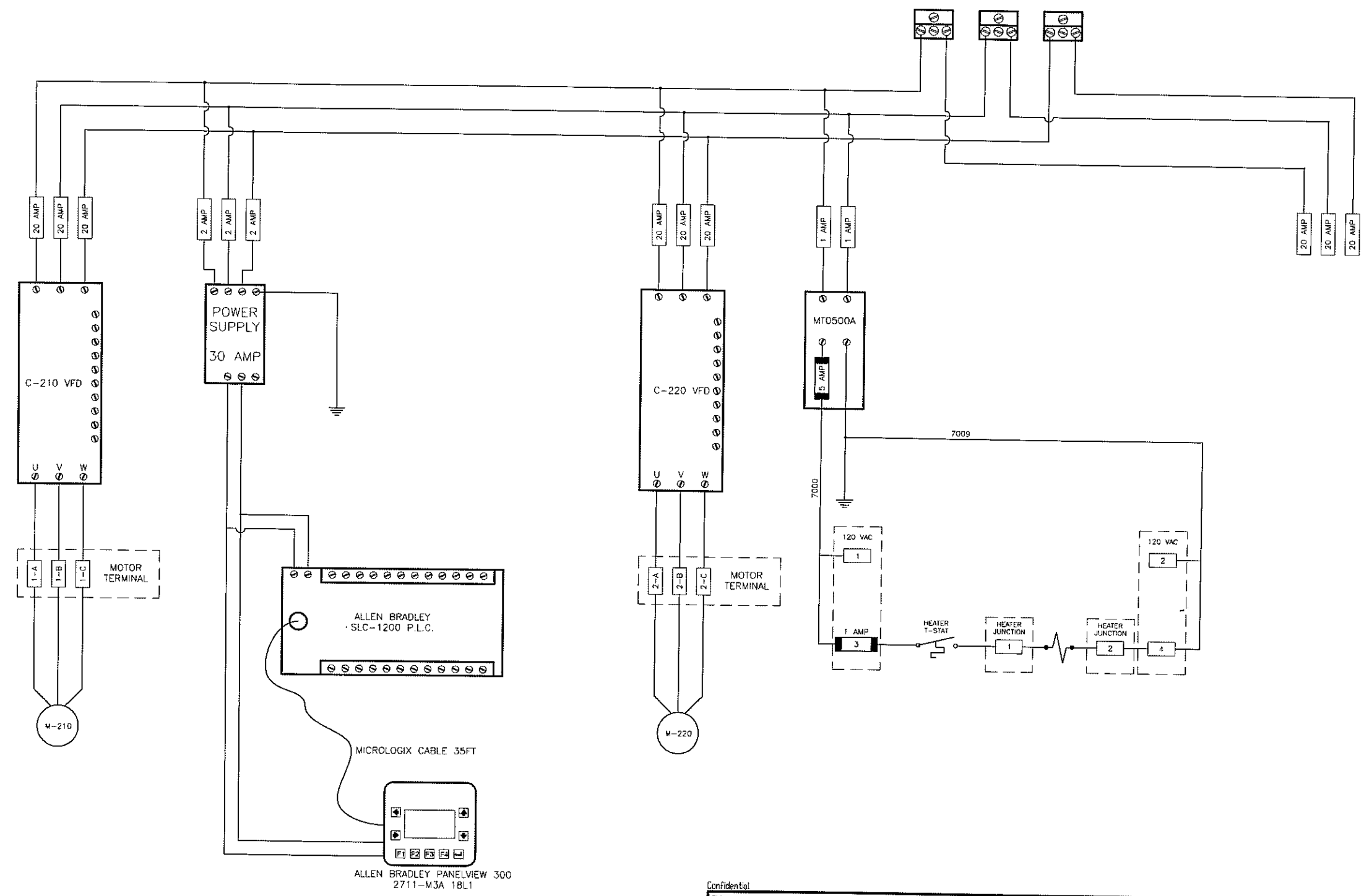
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1	05-25-07	AS BUILT	PCCT		05-25-07	01	

V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE
PANEL LAYOUT COMMANDER SE

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



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										V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE											
										PANEL LAYOUT											
										COMMANDER SE											
DWG NO.		1		65-28-07		AS BUILT		PCC1		DATE		REV.		DATE		DESCRIPTION		BY		APPD	
REFERENCE DRAWING				REV.		DATE				JUL 27/2005		Job # -		PC072705-00-0003						01	

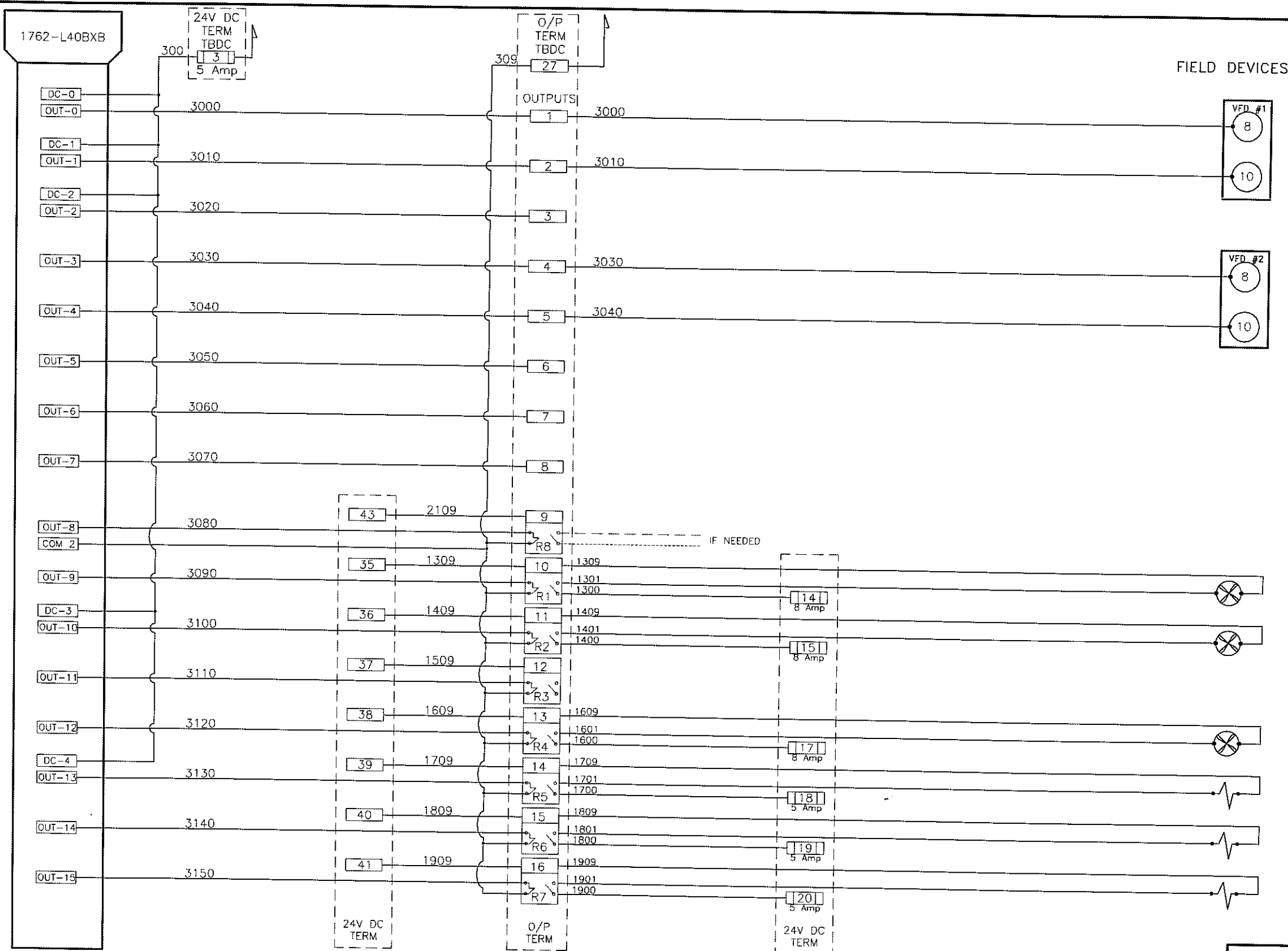
Figure 1 is a schematic diagram of the test system. It shows a power distribution system with a 24VDC input terminal on the left. The system is divided into eight parallel channels, each with a fuse (R1-R7) and a load (COMP#1, COMP#2, or FAN JUNCTION). The output of each channel is connected to a 24VDC output terminal on the right. The channels are labeled with their respective current ratings and terminal numbers.

Channel	Input Terminal	Fuse Rating	Fuse Label	Load	Output Terminal
1	14	10 Amp	R1	COMP#1	35
2	15	10 Amp	R2	COMP#2	36
3	16	10 Amp	R3	COMP#2	37
4	17	8 Amp	R4	COMP#1	38
5	18	5 Amp	R5	COMP#1	39
6	19	5 Amp	R6	COMP#1	40
7	20	5 Amp	R7	COMP#1	41
8	21	1 Amp	FAN JUNCTION	FAN JUNCTION	42

M-210 COOLING FAN #1
M-220 COOLING FAN #2
M-230 COOLING FAN #3
D-510 GAS COOLING FAN
SOV-1 AIR DRYER
SOV-2 AIR DRYER
SOV-3 AIR DRYER
PANEL HEATER FAN



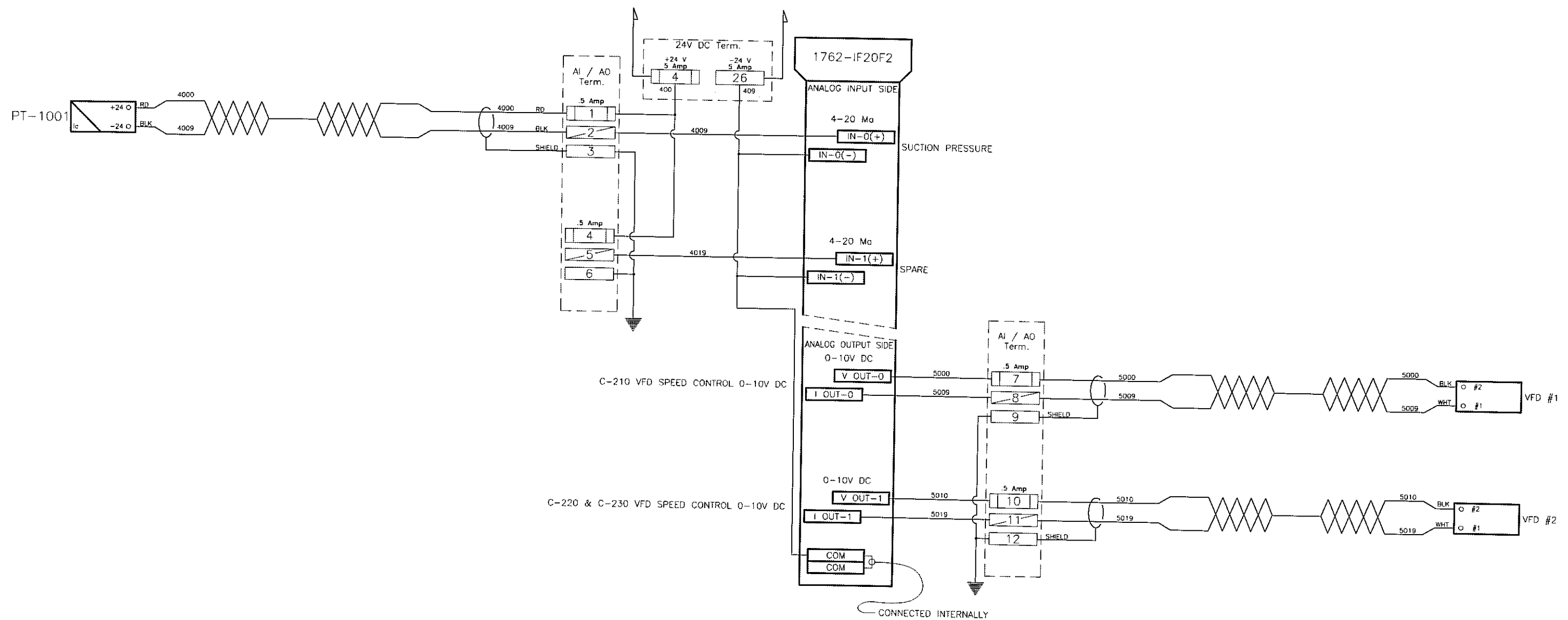
Pyramid Corporation



					V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE
					PANEL LAYOUT COMMANDER SE
DWG NO.	REV.	DATE	DESCRIPTION	PCCT	<div style="float:right;">SCALE DRAWING NO. PC072705-00-0006</div>
REFERENCE DRAWINGS	1	05-28-07	AS BUILT		

PC072705-00-000

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- FUSED TERMINAL
- DISCONNECT TERMINAL
- TERMINAL

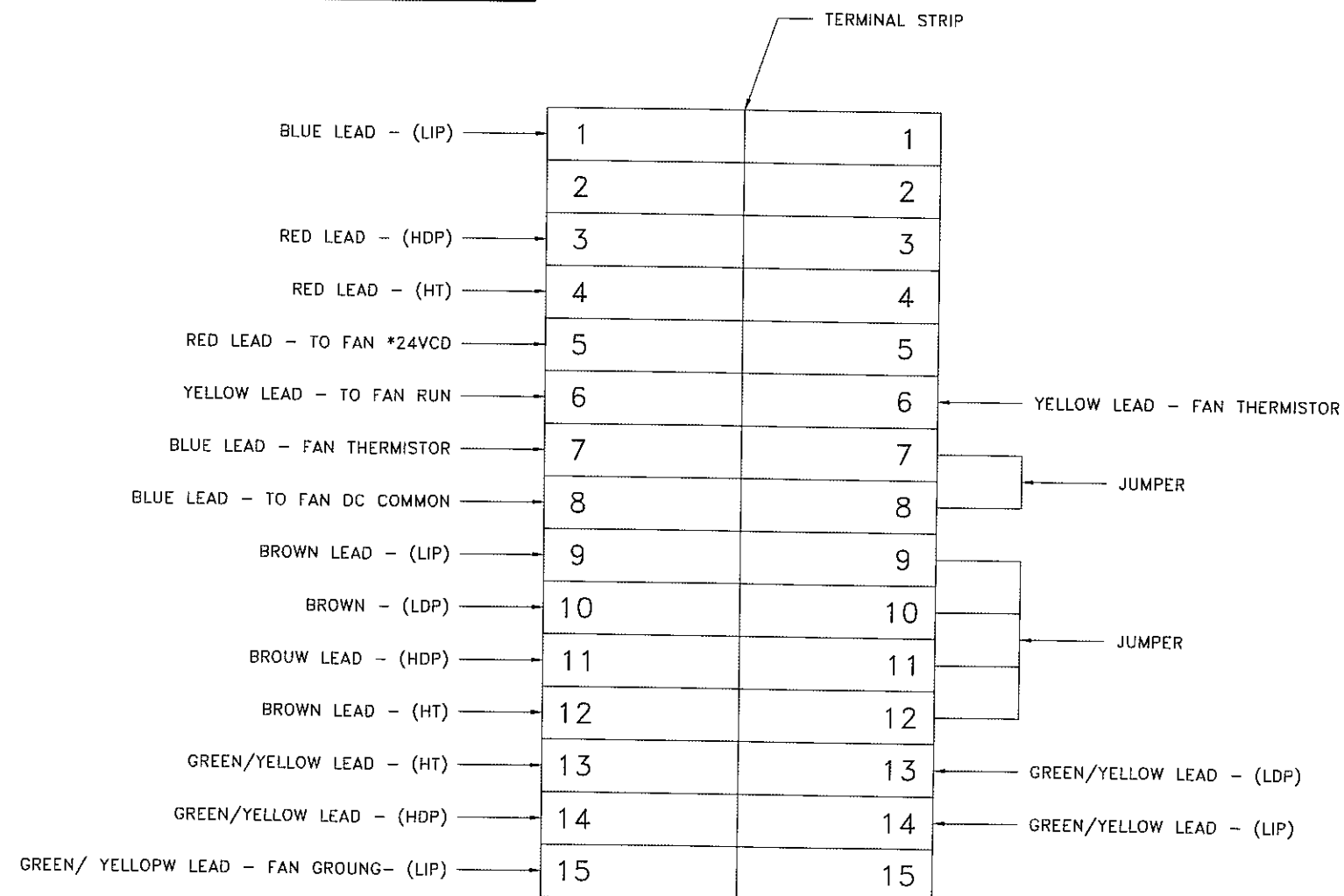
Confidential									
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DATE	1	05-28-07	AS BUILT	PCCI	DATE	July 27/2005	Job #	PC072705-00-0007	01
V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE									
PANEL LAYOUT COMMANDER SE									
REV.	DATE	DESCRIPTION	BY	APPD.	DATE	Job #	PC072705-00-0007	01	

2308-8th Street
Nisku, Alberta
T9E 7Z2

Office: 780.955.4292
Fax: 780.955.4294
Toll Free: 866.955.4292

PC JOB NO.:
1-702

PC Unit NO.:
SAA-07165



052-1365-00



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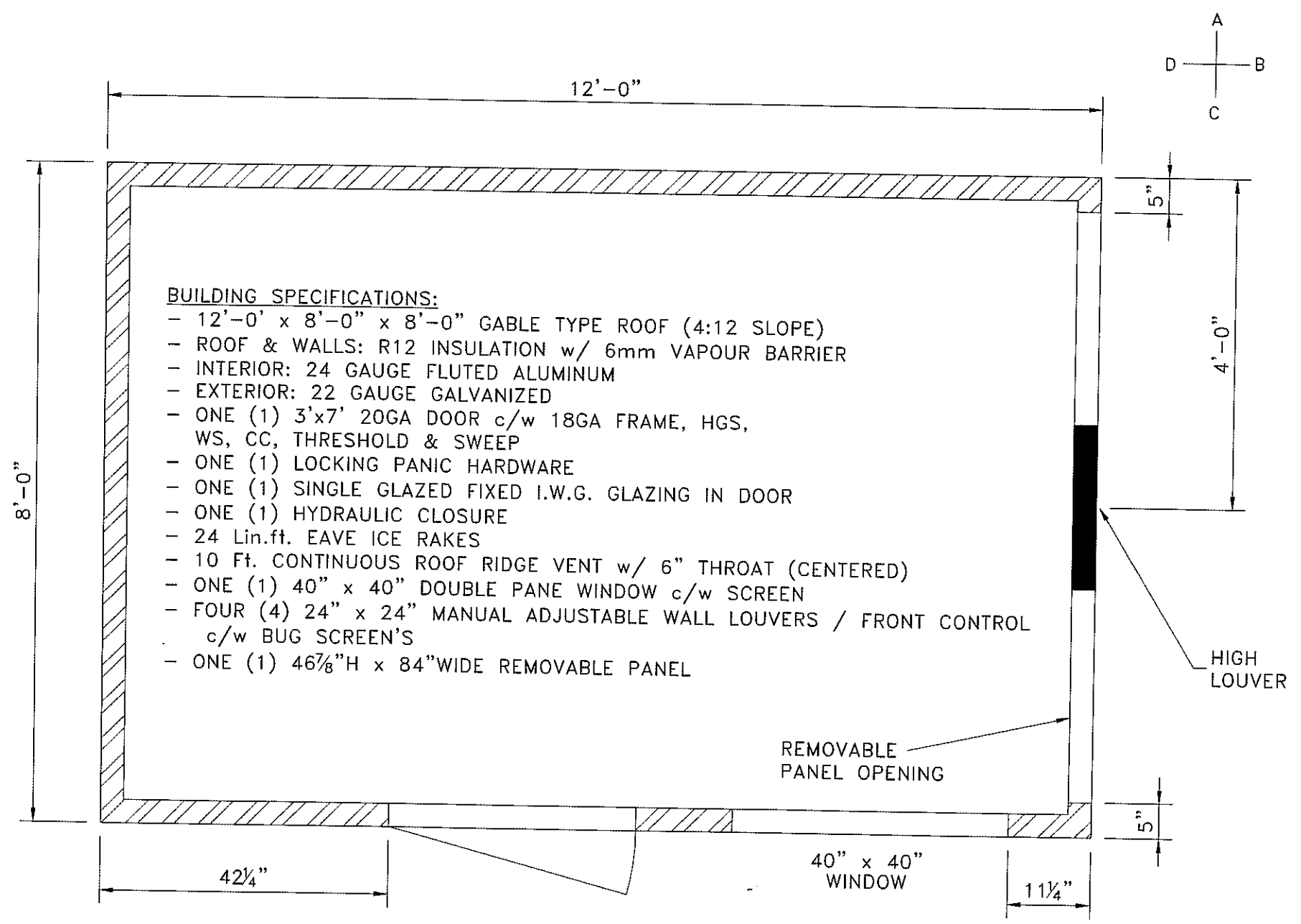
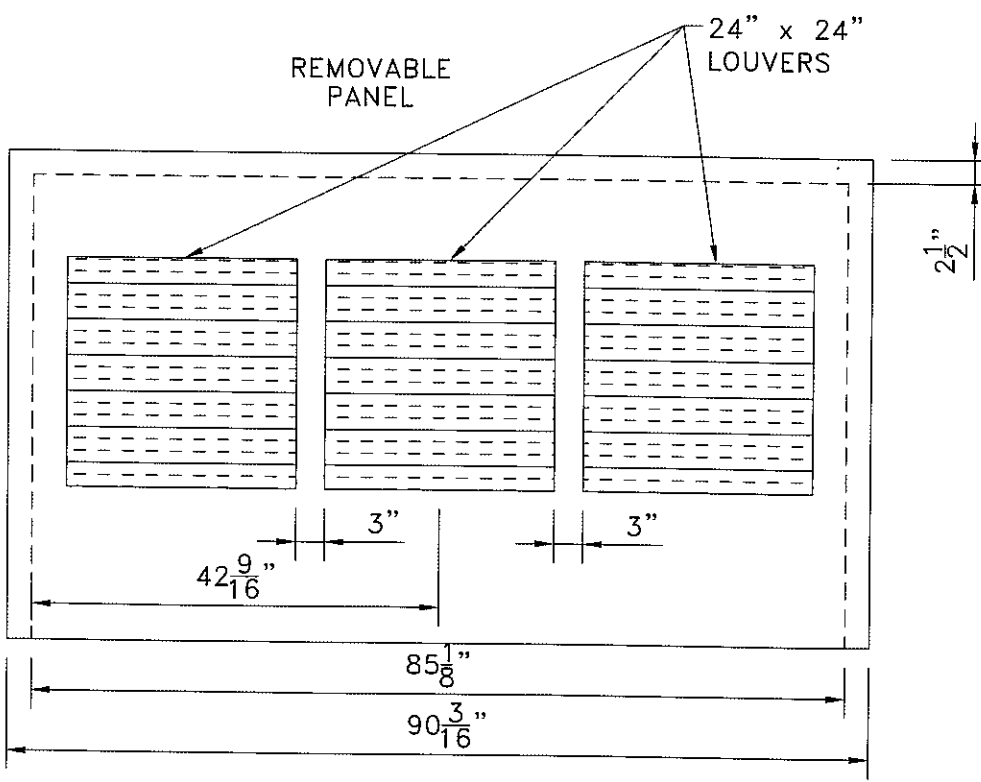
COPELAND
CORPORATION

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					V.F.D. PC COMPRESSOR TWO OR THREE SCROLL DRIVE
					PANEL LAYOUT COMMANDER SE
DWG NO.	I	05-28-07	AS BUILT	PCCT	REV. JGF. CHECKED DATE 10-14-04 BY APPD. log # - 052-1365-00
SOURCE DRAWING	REV.	DATE	DESCRIPTION	BY	APPD.

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BUILDING SPECIFICATIONS:

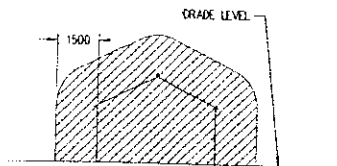
- 12'-0" x 8'-0" x 8'-0" GABLE TYPE ROOF (4:12 SLOPE)
- ROOF & WALLS: R12 INSULATION w/ 6mm VAPOUR BARRIER
- INTERIOR: 24 GAUGE FLUTED ALUMINUM
- EXTERIOR: 22 GAUGE GALVANIZED
- ONE (1) 3'x7' 20GA DOOR c/w 18GA FRAME, HGS, WS, CC, THRESHOLD & SWEEP
- ONE (1) LOCKING PANIC HARDWARE
- ONE (1) SINGLE GLAZED FIXED I.W.G. GLAZING IN DOOR
- ONE (1) HYDRAULIC CLOSURE
- 24 Lin.ft. EAVE ICE RAKES
- 10 Ft. CONTINUOUS ROOF RIDGE VENT w/ 6" THROAT (CENTERED)
- ONE (1) 40" x 40" DOUBLE PANE WINDOW c/w SCREEN
- FOUR (4) 24" x 24" MANUAL ADJUSTABLE WALL LOUVERS / FRONT CONTROL c/w BUG SCREEN'S
- ONE (1) 46 7/8"H x 84"WIDE REMOVABLE PANEL

PLAN VIEW
SCALE 1:20

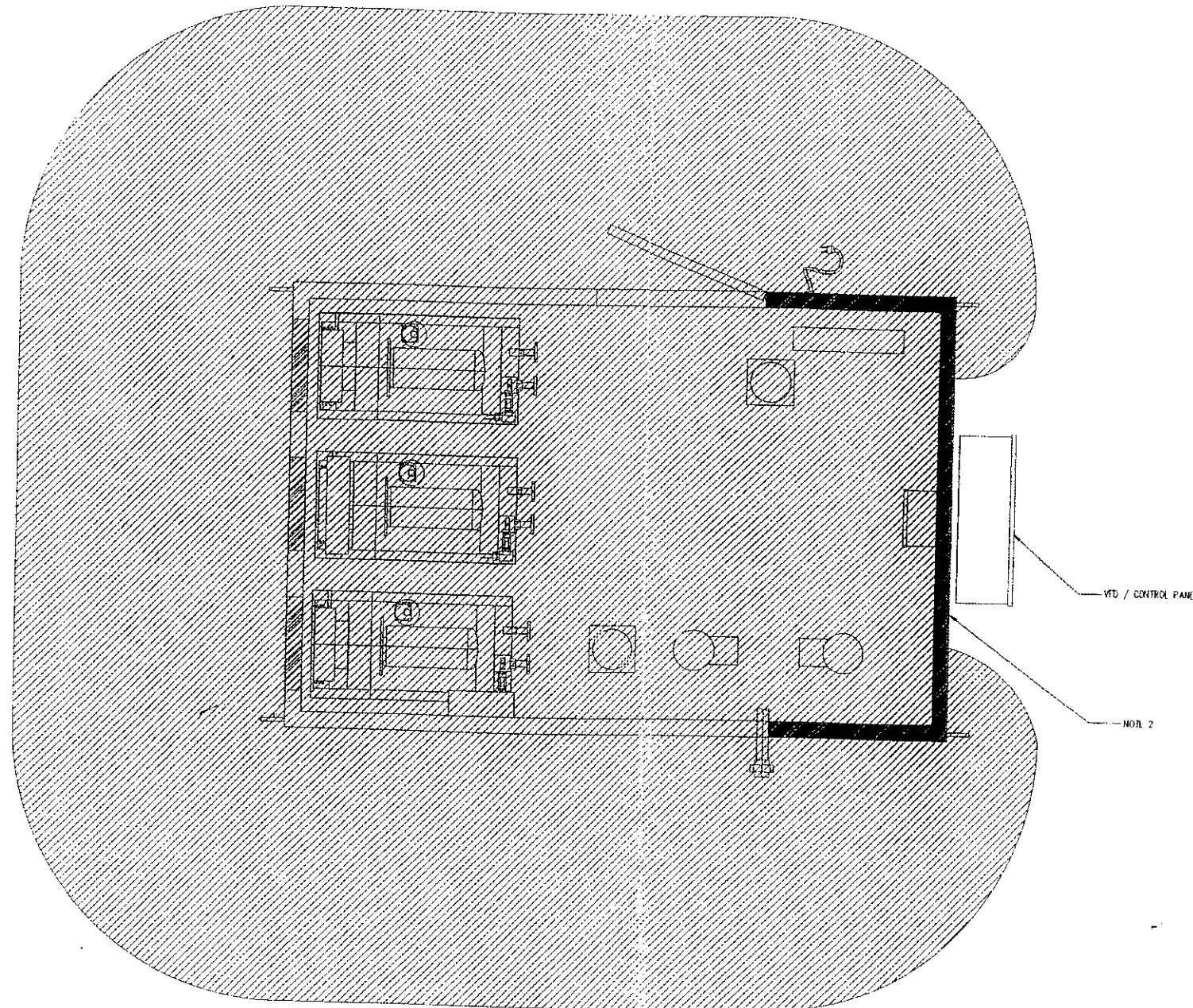
REV.				AS BUILT				SDC 05-28-07				2308-8th Street Nisku Alberta T9E 7Z2				Office: 780.955.4292 Fax: 780.955.4294 Toll Free: 866.955.4292				Drawn by: DTL Date: 08-18-04 Checked by: SDC Approved by: BT				222 LP SAA-SCROLL SERIES SZ022C3A w/ DESICCANT TOWERS SKID MOUNTED, SWEET SERVICE				HUSKY ENERGY				Quote/Ref. NO.: JOB NO.: 1-702 Unit NO.: SAA-07165 Drawing NO.: BLD-SAA07165-H-01 Rev.: 1			
				DESCRIPTION				BY				DATE				CHKD				APPD				Scale: 1:20											

	CLASS I, ZONE 0
	CLASS I, ZONE 1
	CLASS I, ZONE 2
	CLASS I, ZONE 2 UP TO 450mm ABOVE GRADE FOR HEAVIER THAN AIR GASES
	NON HAZARDOUS

CLASSIFICATION LEGEND

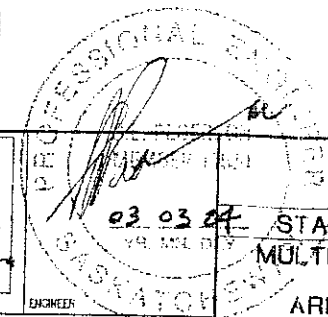
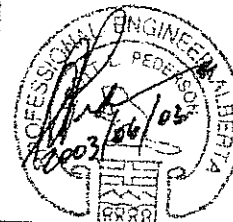


STANDARD MULTIPACK SCROLL BOOSTER COMPRESSOR BUILDING



- NOTES:
- THE INTERIOR OF THE COMPRESSOR BUILDING HAS BEEN CLASSIFIED AS CLASS I, ZONE 2 OR DIVISION 2 BASED ON A FUGITIVE EMISSIONS STUDY DATED 02/12/23, RAMCO PROJECT # 22347. ADEQUATE VENTILATION IS PROVIDED BY NATURAL MEANS. BECAUSE THE GAS PRESENT IN THIS BUILDING IS ESSENTIALLY RAW NATURAL GAS, EQUIPMENT SUITABLE FOR GAS GROUP IIA OR IIB IS ACCEPTABLE. INSTALLED EQUIPMENT MUST HAVE A MAXIMUM SURFACE TEMPERATURE LESS THAN 482°C OR HAVE A T1 (OR LOWER) TEMPERATURE CODE.
 - SUMMARY OF CONDITIONS:
THE CLASS I, DIVISION 2, OR ZONE 2, AREA CLASSIFICATION ASSIGNED TO THE INTERIOR OF THE COMPRESSOR BUILDING ON THIS SITE IS SUBJECT TO THE FOLLOWING CONDITIONS. IF THESE CONDITIONS ARE NOT MET, THE AREA CLASSIFICATION SHOWN ON THIS DRAWING WILL REVERT TO CLASS I, DIVISION 1 OR ZONE 1.
 - THE VENTILATION DEVICES MAY BE SHUT BUT MAY NOT BE CLOSED OFF OR REMOVED. IF CHANGES, WHICH WILL REDUCE THE VENTILATION RATE IN THE BUILDING ARE REQUIRED, THE EFFECT ON THE CONCENTRATION OF FUGITIVE EMISSIONS IN THE BUILDING MUST BE EVALUATED BY CALCULATIONS OR MONITORING.
 - PROCEDURE OR CONTROLS MUST BE IN PLACE TO ENSURE ABNORMAL SITUATIONS RESULTING IN COMBUSTIBLE CONCENTRATIONS OF GAS DO NOT PERSIST FOR MORE THAN 10 HOURS PER YEAR.
 - THE FACILITIES ARE MAINTAINED IN A MANNER THAT WILL ENSURE SIGNIFICANT LEVELS OF COMBUSTIBLE GAS (ABOVE 1-5% OF THE LEL) DO NOT EXIST UNDER NORMAL OPERATING CONDITIONS.
 - IT IS RECOMMENDED THAT COMBUSTIBLE GAS DETECTION SYSTEMS BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR IN ACCORDANCE WITH ANSI/ISA RECOMMENDED PRACTICE 12.13, PART II, INSTALLATION, OPERATION AND MAINTENANCE OF COMBUSTIBLE GAS DETECTION INSTRUMENTS.
 - SECTION OF BUILDING WALL MUST BE VAPOR BARRIERS AND SEALED. ELECTRICAL CONDUITS THAT PENETRATE THIS PORTION OF WALL MUST BE SEALED BOTH INSIDE THE CONDUIT AND AROUND THE WALL PENETRATION. NO CONDUIT SHALL PENETRATE THE BUILDING WALL STRAIGHT FROM THE BACK OF THE CONTROL PANEL.

PERMIT TO PRACTICE
RAMCO ELECTRICAL CONSULTING LTD.
Signature *[Signature]*
Date 2003/06/03
PERMIT # 6426
The Association of Professional Engineers
Geologists and Geophysicists of Alberta



COMMENTS:		PROJECT NO: 22347	
		DWG DATE: 03/03/24	
		DRAWN BY: J. YOUNG	
		APPROVED BY: S. PETERSON	
		DWG SCALE: 1:15	
		PLOTING RATIO: 1:15	
		COMPUTER FILE NO: 2347E100	
		OLD DWG NO: NONE	
		DWG NO: REV	
		A1-22347-E100 0	

RAMCO'S RAMCO TEMPLATE (SIZE: 64mm x 50mm - PLOTTING RATIO 1:15)

3

PSV'S



UNIFIED
VALVE LTD.

MERCER VALVE INSPECTION AND TEST REPORT

BRANCH: Edmonton

Serial #: 219206 ✓

Work Order: 409196 ✓

Customer PO#: 508127 ✓

Date: 3/28/2007

Customer: PC COMPRESSION

Facility: NISKU

LSD:

PSV Location:

A#:

Cust Id:

Cust. Ref.:

Valve PO: 508127

VALVE DATA

Man.: Mercer

Model: 9117D51V06E1

Serial: 219206

Conn: Threaded

Inlet: 1 inch MNPT

Orifice: .122

Outlet: 1 inch FNPT

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 #:

Spring #: 05-006

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly:

Inspection: Richard Anderson

Reassembly:

FINAL TEST:

Test Medium:

Simmer:

Set Pressure:

Reseat:

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#: 9588

Comments:



UNIFIED
VALVE LTD.

MERCER VALVE INSPECTION AND TEST REPORT

BRANCH: Edmonton

Serial #: C000127 ✓

Work Order: 409196 ✓

Customer PO#: 508127 ✓

Date: 3/28/2007

Customer: PC COMPRESSION

Facility: NISKU

LSD:

PSV Location:

A#:

Cust Id:

Cust. Ref.:

Valve PO: 508127

VALVE DATA

Man.: Mercer

Model: 9117D51V07E1

Serial: C000127

Conn: Threaded

Inlet: 1 inch MNPT

Orifice: .122

Outlet: 1 inch FNPT

Set Pres: 150 PSI ✓

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 329 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 #:

Spring #: 05-007

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly:

Inspection: Richard Anderson

Reassembly:

FINAL TEST:

Test Medium:

Simmer:

Set Pressure:

Reseat:

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#: 9615

Comments:



UNIFIED
VALVE LTD.

MERCER VALVE INSPECTION AND TEST REPORT

BRANCH: Edmonton

Serial #: C000146 ✓

Work Order: 409196 ✓

Customer PO#: 508127 ✓

Date: 3/28/2007

Customer: PC COMPRESSION

Facility: NISKU

LSD:

PSV Location:

A#:

Cust Id:

Cust. Ref.:

Valve PO: 508127

VALVE DATA

Man.: Mercer

Model: 9117D51V06E1

Serial: C000146

Conn: Threaded

Inlet: 1 inch MNPT

Orifice: .122

Outlet: 1 inch FNPT

Set Pres: 80 PSI ✓

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 188 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 #:

Spring #: 05-006

New Inlet Size:

Trim: Standard

Valve Medium: Gas / Air

Temperature: 70 F

Disassembly:

Inspection: Richard Anderson

Reassembly:

FINAL TEST:

Test Medium:

Simmer:

Set Pressure:

Reseat:

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#: 9648

Comments:



UNIFIED
VALVE LTD.

MERCER VALVE INSPECTION AND TEST REPORT

BRANCH: Edmonton

Serial #: 313673

Work Order: 409457

Customer PO#: 507662-00

Date: 3/8/2007

Facility: NISKU

A#:

Cust. Ref.:

LSD:

Customer: PC COMPRESSION

PSV Location:

Cust Id:

Valve PO: 507662-00

VALVE DATA

Man.: Mercer

Model: 9117D51V07E1

Serial: 313673

Corin: Threaded

Inlet: 1 inch MNPT

Orifice: .122

Outlet: 1 inch FNPT

Set Pres: 150 PSI

Back Press: 0 PSI

Temp: 70 F

Cold/Diff Set Press: PSI

Cap: 329 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 #:

Trim: Standard

Disassembly:

Spring #: 05-007

Valve Medium: Gas / Air

Inspection: Richard Anderson

PC COMPRESSION	
DATE RECEIVED	MAR 13 2007
P.O. #	507662-00 JW
SIGNATURE	He
New Inlet Size:	
Temperature:	70 F
Reassembly:	APPROVED BY Q.C. INSPECTOR

FINAL TEST:

Test Medium:

Simmer:

Set Pressure:

Reseat:

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

Comments:

RECEIVED APR 05 2007

Certificate Of Compliance

SCRUBBER

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	0H5415.21345		
S/N	8600.350		
Diameter	8.625	Inches	Overall Length 56 Inches
Year Built	2007		
MAWP	600	PSIG	@ 650 °F
MDMT	-20 °F		
C.A.	0.0625	Inches	
Radiography	N/A		
PWHT : Time	N/A	min.	Temp. N/A °F
Hydro Tested @	780	PSIG	


Quality Control Manager
BJ SYLYSKI

April 4, 2007

RECEIVED

JAN 30 2007

PURCHASER: SEYBOLD INTERNATIONAL CORP.

ASIM A234 WPB-03

STANDARD: ASME SA234 WPB-03

MATERIALS: ASIM A106 Gr.B

INSP.SPEC.: ASME B16.9-01

INSPECTION CERTIFICATE

SHANGHAI GATEWAY FITTINGS CO., LTD

1033, Shuang-zhu Road Hua-feng town, Jia-ding District,
Shanghai, China

TEL: 86-21-54145661 FAX: 86-21-54145662

DATE: 2006-02-1

ORDER NO: 5298

P.I.NO: 5K02

CERTIF.NO: 06B01-2

ITEM NO.	PRODUCT & SIZE	QUANTITY PCS	MFG NO.	VISUAL/ADME INTERNAL INSPECTION	HARDNESS MAX.197 HB	HEAT TREATMENT T (NOTE)	MAGNETIC PARTICLE EXAMINATION
11	RE-4"X2" STD	25	5L147	GOOD	91-75	N	
12	RE-4"X3" STD	50	5L149	GOOD	87-72	N	
13	CAP-3/4" STD	50	5L157	GOOD	85-68	N	
14	CAP-1-1/4" STD	100	5L159	GOOD	86-79	N	
15	CAP-2" STD	200	5L161	GOOD	85-73	N	
16	CAP-2-1/2" STD	100	5L162	GOOD	88-70	N	
17	CAP-4" STD	400	5H14	GOOD	91-76	N	
18	CAP-6" STD	100	5F02	GOOD	83-69	N	
19	CAP-6" STD	1000	6B02	GOOD	87-68	N	
20	CAP-8" STD	1600	6A10	GOOD	85-72	N	

CHEMICAL COMPOSITION %

ITEM NO.	MATERIAL CHARGE NO.	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	PHYSICAL TEST		
													YS	TS	E
STANDARD	MIN.	MAX.	*100	*100	*1000	*1000	*100	*100	*100	*100	*100	*1000	KSI	KSI	%
11	1-2255	21	28	49	19	12	7	9	5	0	0	0	44.98	71.10	30.5
12	1-2255	21	28	49	19	12	7	9	5	0	0	0	44.98	71.10	30.5
13	DL0533161	13	17	33	11	15	0	0	0	0	0	0	42.08	62.77	33.0
14	DL0533192	12	15	33	10	14	0	0	0	0	0	0	40.63	68.20	33.0
15	DL0533192	12	15	33	10	14	0	0	0	0	0	0	40.63	68.20	33.0
16	DL05333031	14	16	34	12	16	0	0	0	0	0	0	43.18	65.37	34.0
17	DL0421359	11	13	39	12	21	0	0	0	0	0	0	47.16	62.32	36.0
18	DL0327562	18	10	36	12	21	0	0	0	0	0	0	50.06	70.37	25.0
19	DL0426267	16	19	31	12	18	0	0	0	0	0	0	50.79	63.82	29.0
20	DL0426267	16	19	31	12	18	0	0	0	0	0	0	50.79	63.82	29.0

(NOTE): HOT FORMED WITH FINAL TEMPERATURE BETWEEN 1250°C - 280°C, AIR COOLING.

N: NORMALIZING AT TEMPERATURE 880 UO.1 HR, AIR COOLING.

NACE MR-01-75: SATISFACTORY

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT.

MANAGER OF Q. A. DEPT



INSPECTION CERTIFICATE

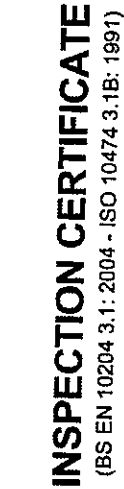
(BS EN 10204 3.1: 2004 - ISO 10474 3.1B: 1991)

SIDERCA S.A.I.C.
Dr Jorge A. Simini 250
(B2804MHA) Campana
Buenos Aires, Argentina
(54) 3489 433100 tel.
(54) 3489 433405 fax

ENSAYOS DE TRACCION / TENSILE TEST

ENSAYOS DE TRACCION / TENSILE TEST

ENSAYOS DE TRACCIÓN / TENSILE TEST																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Nº de Colada Ensayo		Condición de la probeta				Temp de Ensa	Dimensiones		Sección	Fluencia / Yield Strength				Rotura/U.T.S			Relación F/R		Alargamiento Elongation			Red. de area		Dureza / Hardness Tipo / type: BHN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Heat Test Nº	Specimen condition				Test Temp °C	Size Inches	Area Inche2	Offset Method		EUL Method		Req. Min 0.2%	Ksi	V. obt.	Req. Min	V. obt.	Req. Max	YS/UTS Ratio	Lo 2"	Req. Min	V. obt	Req. Min	Area Red.	Req. Min	V. Obt.	Req. Max																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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SIDERCA S.A.I.C.
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(54) 3489 433 100 tel.
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ENSAYOS QUIMICOS / CHEMICAL ANALYSES

[illegible]

NOTAS / NOTES: M = Análisis de coleda / Hard Analysis

$$CEQ_1 = C + (NAV_6) + (CR + MD + VV_5 + (N + CUV_15$$
$$\text{Sum 1} = \text{GR} + \text{CU} + \text{MO} + \text{NI} + \text{V}$$

RE 1 H...

[illegible]
$$\text{CEQ 2} = \text{C} + \text{F}((\text{MN}/6) + (\text{SI}/24)) + (\text{CU}/15) + (\text{NI}/20) + (\text{CR} + \text{MO} + \text{V} + \text{NB})/5 + (5 \cdot \text{BI})$$

SUM 2

R2-

Current Ratio

PCM

10

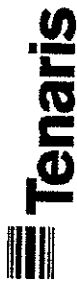
COMING

= 0-9 / A-Z

... ppm / Part per million

[illegible][illegible]

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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. Simón 250
(B2804MHA) Campana
Buenos Aires, Argentina
(54) 3489 433100 tel.
(54) 3489 433405 fax

Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 514589.02		Número / Number 318942	Fecha / Date 08/05/2006	Pág. / Page 3 / 5
Producto / Product SMLS LINE PIPE		Orden de Compra / Purchase Order 45000442		Item 00002	Referencia del Cliente / Customer Reference 45000442	
Norma / Standard API 5L ASTM A53/A53M AISA 53/106 + CSA Z245.1 ED 2002 + P4.17-01/02		Grado / Grade BX42+290SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 219.10 x 8.20 mm 8 5/8 x 0.322 inches		Schedule 40		Superficie Externa / External Surface VARNISHED		
Peso Nominal / Nominal Weight 42.55 KG/M 28.58 LB/FT		Longitud / Length S.R. (SP)		Cantidad / Quantities 251 Pz 1647.07 m 251 Pcs 5403.77 Ft 155084 Lb		
& = Monograma / Monogram SIDERCA MM.YY = Mes / Año Month / Year		NNNN = Número de tubo / Nbr of pipe YYT = Año / Trimestre Year / Quarter		PPP = Peso / Weight HXXXXX = Colada / Heat		
Presión / Pressure Valor / Value 2400		Tiempo / Time Segundos / Seconds 5.00		Resultado / Results Satisfactorio / Satisfactory		
Unidad / Unit PSI		Prueba Hidráulica / Hydrostatic Test		Marcas / Marking LLL = Longitud / length HXXXXX = Colada / Heat		
Estarcido (Tubo) / Stencilling (Pipe)		PPPPPP TENARIS SD 5L0098 @ MM.YY ASTM A53/A53M AISA 53/106 API 5L CSA Z245.1 BX42PSL 1/280 CATI SS S 219.1 8.2 28.58 3 SCH40 STD 2400PSI PO45000442 5/4589.02 MADE IN ARGENTINA		@ = Monograma / Monogram API		
FABRICADO POR SIDERCA		*MANUFACTURED BY SIDERCA*				
PROCESO DE ACERACIÓN		*ACIERAGE PROCESS*				
FABRICACIÓN DE ACERO: FUNDICIÓN POR ARCO ELÉCTRICO Y COLADO CONTINUO - ACERO CALMADO AL ALUMINIO.		STEEL MAKING PROCESS: E.A.F./L.F. AND CONTINUOUS CASTING - FULL ALUMINUM KILLED AND FINE GRAIN PRACTICE.				
-LA PRACTICA DE AFINO EN EL HORNO -CUCHARA INCLUYE UNA INYECCIÓN FINAL DE UNA VARILLA DE SILECIO DE CALCO PARA OBTENER UNA FORMA GLOBULAR DE EVENTUALES MICROINCLUSIONES.		-THE L.F. PRACTICE INCLUDES A FINAL INJECTION OF CALCIUM SILICIDE WIRE FOR MICROINCLUSION SHAPE CONTROL				
-MATERIAL LIBRE DE CONTAMINACIÓN DE MERCURIO.		-MATERIAL FREE FROM MERCURY CONTAMINATION				
PROCESO DE LAMINACIÓN		*ROLLING PROCESS*				
-FABRICACIÓN DE TUBO: LAMINADO EN CALIENTE Y SIN COSTURA.		-MANUFACTURING PROCESS: SEAMLESS HOT ROLLED.				
CONTROLES		*CONTROLS*				
-CONTROL VISUAL Y DIMENSIONAL SATISFACTORIO.		-VISUAL AND DIMENSIONAL INSPECTION: SATISFACTORY.				
CONDICIONES DEL MATERIAL		*MATERIAL CONDITIONS*				
-NO REPARADO POR SOLDADURA.		-NOT REPAIRED BY WELDING				
PROPIEDADES DEL MATERIAL		*MATERIAL PROPERTIES*				
-LA DUREZA CUMPLE CON LA NORMA NACE MR 01-75 ULTIMA EDICION.		-HARDNESS ACCORDING TO NACE MR 01-75 LATEST EDITION				



Tenaris

INSPECTION CERTIFICATE

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

SIDERCA S.A.I.C.
Dr. Jorge A. Simini 250
(B2804MHA) Campana
Buenos Aires, Argentina
(54) 3489 433100 tel.
(54) 3489 433405 fax

Cliente / Customer VAN LEEUWEN CANADA		Expediente/ Manufacturing Order 514589.02		Número / Number 318942	Fecha / Date 08/05/2006	Pág. / Page 4 / 5
Producto / Product SMLS LINE PIPE		Orden de Compra/ Purchase Order 45000442		Item 00002	Referencia del Cliente / Customer Reference 45000442	
Norma / Standard API 5L/ASTM/ASME A/SA 53/106 +CSA Z245.1/ED 2002 + P4.17-01/02		Grado / Grade B/X42+290SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 219.10 x 8.20 mm	Schedule 40	Peso Nominal / Nominal Weight 42.55 KG/MT	Longitud / Length S.R. (SP)	Superficie Externa / External Surface VARNISHED		
8 5/8 x 0.322 Inches		28.58 LB/FT		Cantidades / Quantities 251 Pz 1647.07 m 70345 Kg 251 Pcs 5403.77 Ft 155084 Lb		
- EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS CSA Z245.1 GR 241/290 CAT I		- MATERIAL COMPLIES WITH CSA Z245.1 GR 241/290 CAT I				
- EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS DE MICRODUREZA HV500 MAXIMO 248 VICKERS SEGUN CSA Z245.1.02.		- MATERIAL COMPLIES WITH HARDNESS HV500 MAXIMUM 248 VICKERS ACCORDING TO CSA Z245.1.02 REQUIREMENTS.				
NORMAS		*STANDARDS*				
-EDICION DE LA NORMA : ASME SA 106/01.		-EDITION OF REGULATION: ASME SA 106/01.				
-EDICION DE LA NORMA : ASME SA 53/01.		-EDITION OF REGULATION: ASME SA 53/01.				
-EDICION DE LA NORMA : NACE MR-01-75 ULTIMA EDICION		-EDITION OF REGULATION: NACE MR-01-75 LATEST EDITION				
-EDICION DE LA NORMA: CSA Z245.1/02.		-EDITION OF REGULATION: CSA Z245.1/02.				
-EDICION DE LA NORMA: API 5L, 43° Edition 2004.		-EDITION OF REGULATION: API 5L, 43° Edition 2004.				
-EDICION DE LA NORMA: ASTM A53/04a.		-EDITION OF REGULATION: ASTM A53/04a.				
-EDICION DE LA NORMA : ASTM A 106/04b.		-EDITION OF REGULATION: ASTM A 106/04b.				
Observaciones / Remarks		Observaciones / Remarks				
NON DESTRUCTIVE TEST: SATISFACTORY.		NON DESTRUCTIVE TEST: SATISFACTORY.				
INSPECTION METHODS: E.M.I. LONG (EXT.) NOTCH 5%		INSPECTION METHODS: E.M.I. LONG (EXT.) NOTCH 5%				
→ E.M.I. LONG (INT.) NOTCH 10%		→ E.M.I. LONG (INT.) NOTCH 10%				
→ E.M.I. TRANSV. (EXT./INT.) NOTCH 10%		→ E.M.I. TRANSV. (EXT./INT.) NOTCH 10%				
→ M.P.I. LONG. (EXT./INT.) AT ENDS.		→ M.P.I. LONG. (EXT./INT.) AT ENDS.				
ONE YELLOW LONGITUDINAL BAND		ONE YELLOW LONGITUDINAL BAND				
END MARKING: ONE ORANGE BAND		END MARKING: ONE ORANGE BAND				
Protectores / End Protectors:		Protectores / End Protectors:				
NON LIFTABLE CLOSED PLASTIC PROTECTOR FOR FLAT / BEVELED PIPE. SUPPLIER METALCENTRO.		NON LIFTABLE CLOSED PLASTIC PROTECTOR FOR FLAT / BEVELED PIPE. SUPPLIER METALCENTRO.				



Tenaris


INSPECTION CERTIFICATE

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

SIDERCA S.A.I.C.
Dr Jorge A. Simini 250
(02804) (HA) Campana
Buenos Aires, Argentina
(54) 3489 433100 tel.
(54) 3489 433403 fax

Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 5/4589.02		Número / Number 318942	Fecha / Date 08/05/2006	Pág. / Page 5 / 5
Producto / Product SMLS LINE PIPE		Orden de Compra / Purchase Order 45000442		Item 00002	Referencia del Cliente / Customer Reference 45000442	
Norma / Standard API 5L J55TMA/SME AISA 53/106 + CSA Z245.1ED 2002 + P4.17-01/02		Grado / Grade B/X42+290SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 219.10 x 8.20 mm		Peso Nominal / Nominal Weight 42.55 KG/MT		Cantidades / Quantities 251 Pcs 1647.07 m 70345 Kg		
8 5/8 x 0.322 Inches		28.58 LB/FT		251 Pcs 5403.77 Ft 155084 Lb		
		Longitud / Length S.R. (SP)		Superficie Externa / External Surface VARNISHED		

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



QUALITY CERTIFICATION DEPT.
D.T.O. CERTIFICACION DE CALIDAD
EDUARDO A. AYERBE

CAU17894

CERTIFIED MILL TEST REPORT



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LOG NO. 304580 PAGE 9

BONNEY FORGE
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 www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

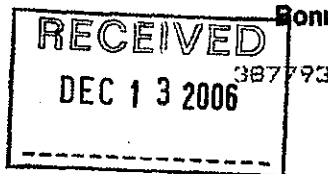
Date 11/07/06

CUSTOMER'S Order No.: 9109934-00

Bonney Order No. 44493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
 5105 75TH STREET

EDMONTON ALBERTA
 EDMONTON ALBERTA, T6E5S5 CANAD



ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO.	CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS.
			SA/A105N	
023	120	3582	7523661	11/2 3M A105N COUP T C .170 MN 1.040 P .010 S .021 SI .22C NI .030 CU .040 CO .002 CR .040 MO .01C V .000 AL .022 NB .014 CE(LONG FORMULA) = 0.38 T/S 72250 Y/S 50250 EL 31.60 RA 63.95 BRINELL HARDNESS1: 132 HARDNESS2: 130
024	1450	3611	7523726	1/2 3000 A105N HCP T C .200 MN 1.000 P .009 S .020 SI .18C NI .040 CU .150 CO .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
025	800	3594	7523882	2 3000 A105N HCP T C .200 MN 1.010 P .012 S .024 SI .19C NI .030 CU .120 CO .003 CR .040 MO .01C 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-0M	7524129	11/2 3M A105N UNAR T C .180 MN .810 P .011 S .027 SI .29C NI .080 CU .150 CR .110 MO .017 V .001 AL .022 NB .002 CE(LONG FORMULA) = 0.36 T/S 77250 Y/S 54125 EL 32.40 RA 70.35 BRINELL HARDNESS1: 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 checks.

by

Kylee Fleck

CMTR: REV 1

QUALITY PROCESS MANAGER

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LOG NO. 304580 PAGE 15

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www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 11/07/06

CUSTOMER'S Order No.: 9109934-00

Bonney Order No. 44493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

387793

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 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 3.1.2. (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 A350-LF2.
10. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.

RECEIVED

DEC 13 2006

***** 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.

by

Kylee Fleck

CMTR: REV 1

QUALITY PROCESS MANAGER

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LOG NO. 306749 PAGE 3

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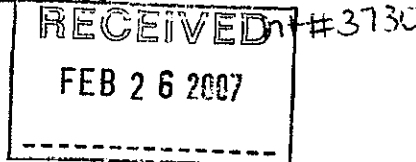
CUSTOMER

Date 01/29/07

CUSTOMER'S Order No.: 4022116-00

Bonney Order No. 0000002293

SHIPPED TO: C
1



10035

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
SA/A105N			
007	50	3730	<p>3/4 3M A105N COUP T 7523572</p> <p>C .200 MN 1.030 P .011 S .020 SI .210 NI .030 CU .090 CO .003 CR .040 MO .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 HARDNESS1: 130 HARDNESS2: 130</p>
008	15	2774	<p>2 1/2 3M A105N HCP T 7529015</p> <p>C .200 MN 1.010 P .010 S .024 SI .180 NI .090 CU .160 CR .130 MO .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</p>
		8350	<p>2 1/2 3M A105N HCP T 7529015</p> <p>C .220 MN 1.030 P .014 S .022 SI .180 NI .040 CU .180 CR .120 MO .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</p>
009	50	3322	<p>1/4 3M A105N CAP T 7522720</p> <p>C .200 MN 1.050 P .007 S .021 SI .220 NI .020 CU .070 CO .004 CR .030 MO .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: 139 HARDNESS2: 137</p>

***** 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.

by

Cris Boozel

CMTR: REV 1

QUALITY PROCESS MANAGER

CERTIFIED MILL TEST REPORT



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LOG NO. 306749 PAGE 16

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(814) 542-2645 • (800) 345-7546 • FAX (814) 542-4906
www.bonneyforge.com

CUSTOMER:

Date 01/29/07

CUSTOMER'S Order No.: 4022114-00

Bonney Order No. 000002293

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 mill, or as obtained by additional laboratory checks.

by 

Cris Boozel

CMTR: REV 1

QUALITY PROCESS MANAGER

DELCOPTÉ S.A.
RACCORDS ACIER-STEEL FITTINGS



17, Avenue du Corbeau - BP 597
59605 MAUBLUGE CEDEX FRANCE
Tél : 27.69.14.14 Fax : 27.64.25.69

CERTIFICAT DE RECEPTION - ACCEPTANCE CERTIFICATE (DIN 50049 3.1.b - EN 10204 3.1.b)

Contrat :

Order :

Certificate n° : 108615 / 1

01/10/2001

Despatch note 108615

30/09/2003

Material specification

ASME/ASTM A/SA.105/01 - CONFORMITY NACE MR 0175/02
NORMALIZED T° C 843-927

Heat treatment

DESCRIPTION

Item	Qty	Description	Heat N°	Identification	Spec dimension	Qualification
52		9 BUSHING API 3/60003"X1"	176142	ETO	ASME B16.11/91	01/03 15825
53		125 BUSHING API 3/60003"X2"	27039	JKC	ASME B16.11/91	01/03 15927
55		55 BUSHING API 3/60004"X2"	70013	FCG	ASME B16.11/91	02/03 15829
56		35 BUSHING API 3/60004"X3"	70013	FCG	ASME B16.11/91	02/03 15829
57		40 CROSS API 2000 2"	77959	77959	ASME B16.11/91	07/01 14446
58		15 CROSS API 3000 2"	76802	MLC	ASME B16.11/91	16/01 14660
59		400 SQU. HD PLUG API 6M 1/4"	597	597	ASME B16.11/91	02/03 15829
60		200 SQU. HD PLUG API 6M 1"	AL1470	FGI	ASME B16.11/91	03/02 14954
61		50 RED CPLG API 3000 1"X3/4"	01/71257	JLB	ASME B16.11/91	05/03 15935
62		10 RED CPLG API 3000 2"X1 1/2	32247	JFX	ASME B16.11/91	05/03 15935
63		125 90 ELBOW SW 3000 3/4"	31350	AMS	ASME B16.11/91	04/03 15927
64		125 90 ELBOW SW 3000 1 1/2	76557	ZA2	ASME B16.11/91	03/02 15363
65		150 COUPLING SW 3000 1"	34471	CSP	ASME B16.11/91	00/94 6811
66		75 COUPLING SW 3000 1 1/2	13028	JCM	ASME B16.11/91	03/02 15364
67		12 HALF CPLG SW 3000 1"	10677	JBZ	ASME B16.11/91	06/02 15244

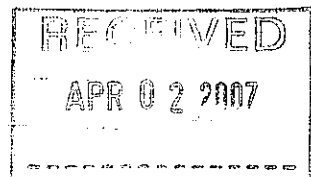
JBZ

CHEMICAL ANALYSIS

Item	Identif.	C %	Si %	Mn %	P %	S %	Cr %	Mo %	V %	Ni %	Cu %	Cb %
mini		0.250	0.100	0.600	0.035	0.040						
maxi		0.200	0.300	0.870	0.008	0.006	0.070	0.010	0.001	0.090	0.250	0.001
52 ETO		0.200	0.300	0.870	0.015	0.009	0.014	0.004	0.002	0.020	0.009	0.002
53 JKC		0.200	0.300	0.770	0.015	0.022	0.080	0.000	0.003	0.050	0.190	0.000
55 FCG		0.200	0.200	0.990	0.012	0.022	0.080	0.000	0.003	0.050	0.190	0.000
56 FCG		0.200	0.200	0.990	0.012	0.022	0.080	0.010	0.002	0.050	0.170	0.001
57 77959		0.195	0.180	0.980	0.013	0.020	0.080	0.010	0.002	0.050	0.170	0.001
58 MLC		0.185	0.210	0.940	0.073	0.013	0.080	0.020	0.002	0.080	0.250	0.001
59 597		0.220	0.240	0.700	0.010	0.022	0.070	0.005	< 0.010	0.040	0.071	< 0.010
60 FGI		0.200	0.190	0.980	0.016	0.018	0.100	0.010	= 0.000	0.140	0.150	= 0.000
61 JLB		0.195	0.170	0.900	0.013	0.023	0.090	0.010	0.003	0.060	0.220	0.002
62 JFX		0.180	0.270	0.960	0.007	0.023	0.070	0.010	0.003	0.040	0.110	0.001
63 AMS		0.190	0.280	0.960	0.010	0.021	0.130	0.020	0.003	0.090	0.210	0.001
64 ZA2		0.190	0.170	0.970	0.017	0.017	0.070	0.001	0.004	0.050	0.140	0.001
65 CSP		0.180	0.230	1.140	0.017	0.017	0.140	0.010	0.026	0.080	0.200	0.009
66 JCM		0.180	0.210	1.140	0.019	0.026	0.130	0.020	= 0.000	0.070	0.120	= 0.000
67 JBZ		0.180	0.190	1.160	0.015	0.027	0.130	0.030	= 0.000	0.090	0.160	= 0.000

MECHANICAL TESTS

Item	Identif.	Re 0.2 % N/mm²	Rm N/mm²	A %	Z %	HB
mini		250.0	485.0	22.0	30.0	187
maxi						
52 ETO		350.0	514.0	30.0	55.0	155
53 JKC		257.0	540.0	36.0	46.0	168
55 FCG		327.0	529.0	31.7	55.9	157
56 FCG		327.0	529.0	31.7	55.9	157
57 77959		309.0	523.0	36.0	70.0	159 - 163
58 MLC		370.0	512.0	33.0	58.0	153 - 157
59 597		358.0	527.0	31.5	57.0	156
60 FGI		388.0	538.0	27.0	42.0	165
61 JLB		322.0	525.0	32.2	56.0	155
62 JFX		319.0	487.0	32.5	59.0	154
63 AMS		319.0	530.0	27.0	59.0	163 - 165
64 ZA2		333.0	574.0	41.0	70.0	162 - 164
65 CSP		391.3	545.2	25.4	53.8	160
66 JCM		336.0	528.0	38.0	69.0	153
67 JBZ		362.0	551.0	33.0	59.0	156



O/N 7061
ITEM 67
QTY 12 NO

Document n° 116247 / 2

10/06/2004

Document n° 116247

09/06/2004

Norme de certification

ASME/ASTM A/SA.105/02 - CONFORMITY NACE MR 0175/03

Heat treatment

NORMALIZED T° C 843-927

DESCRIPTION

Item	Qty	Description	Heat #	Identification	Spec. denomination	Lot
79	150	BUSHING API 3/60002"X3/4"	03/71513	FHM	ASME B16.11/91	10-03-167-1
80	20	BUSHING API 3/60002"1/2X1"	76084	FC4	ASME B16.11/91	01-04-167-1
81	15	BUSHING API 3/60003"X1/2"	06550	JPN	ASME B16.11/91	12-03-167-1
84	1350	HEX HD PLUG API 6M1"	36107	HRG	ASME B16.11/91	07-01-167-1
85	1500	HEX HD PLUG API 6M2"	11089	JVF	ASME B16.11/91	02-04-167-1
86	30	HEX HD PLUG API 6M3"	03/75399	FC3	ASME B16.11/91	11-03-167-1
87	50	HEX HD PLUG API 6M4"	71617	FCG	ASME B16.11/91	10-03-167-1
89	300/90	ELBOW SW 3000 3/4"	1713128	G50	ASME B16.11/91	04-04-167-1
90	300/90	ELBOW SW 3000 1"	30694	BFS	ASME B16.11/91	04-04-167-1
91	200/90	ELBOW SW 3000 1 1/2"	03-76213	FID	ASME B16.11/91	02-04-167-1
92	250/90	ELBOW SW 3000 2"	77909	BHP	ASME B16.11/91	05-04-167-1
93	25	COUPLING SW 3000 2 1/2"	14508	JLL	ASME B16.11/91	06-04-167-1
94	25	HALF CPLG SW 3000 1"	10672	JBZ	ASME B16.11/91	06-04-167-1
95	20	MF INSERT 3000 1 1/4X1"	48822	JWB	ASME B16.11/91	06-04-167-1

BFS
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FEB 25 2004

CHEMICAL ANALYSIS

Item	Identif.	C%	Si%	Mn%	P%	S%	Cr%	Mo%	V%	N%	Cu%	Co%
mini		0.100	0.500									
maxi		0.250	0.350	1.350	0.025	0.040						
79	FHM	0.185	0.250	0.920	0.015	0.022	0.110	0.010	0.003	0.060	0.210	0.000
80	FC4	0.210	0.200	0.940	0.012	0.006	0.050	0.010	0.024	0.050	0.170	0.000
81	JPN	0.170	0.210	0.740	0.010	0.010	0.013	0.002	0.003	0.020	0.010	0.010
84	HRG	0.160	0.210	0.860	0.024	0.009	0.019	0.002	0.002	0.020	0.012	0.001
85	JVF	0.140	0.220	0.730	0.021	0.016	0.022	0.002	0.002	0.023	0.026	0.001
86	FC3	0.195	0.170	0.900	0.015	0.023	0.100	0.010	0.005	0.070	0.250	0.001
87	FCG	0.190	0.200	0.930	0.013	0.022	0.080	0.010	0.003	0.050	0.190	0.000
89	G50	0.180	0.260	0.860	0.009	0.010	0.060	0.030	0.001	0.130	0.180	0.001
90	BFS	0.180	0.250	0.960	0.014	0.024	0.130	0.020	0.002	0.080	0.210	0.001
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	0.170	1.050	0.013	0.022	0.090	0.010	0.003	0.050	0.140	0.001
93	JLL	0.185	0.158	1.080	0.010	0.013	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	0.000	0.090	0.160	0.000
95	JWB	0.220	0.280	0.700	0.007	0.009	0.060	0.010	0.002	0.090	0.240	0.001

MECHANICAL TESTS

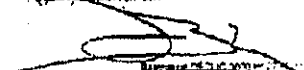
Item	Identif.	Re 0.2%	Rm	A%	Z%	HB
mini		250.0	485.0	22.0	30.0	
maxi					187	
79	FHM	315.0	508.0	32.9	57.5	157
80	FC4	327.0	529.0	31.7	55.9	167
81	JPN	256.0	492.0	34.0	45.0	167
84	HRG	279.0	490.0	34.0	45.0	165
85	JVF	275.0	495.0	35.0	51.0	158
86	FC3	321.0	518.0	32.3	56.5	170
87	FCG	319.0	512.0	32.5	56.9	159
89	G50	339.0	523.0	30.0	58.0	158 - 159
90	BFS	319.0	515.0	31.0	63.0	156 - 159
91	FID	311.0	500.0	33.3	58.3	149 - 150
92	BHP	304.0	501.0	36.0	70.0	152 - 156
93	JLL	324.0	501.0	39.5	63.0	168
94	JBZ	362.0	551.0	33.0	59.0	156
95	JWB	354.0	525.0	31.0	63.0	159

O/N 8042
ITEM 90
QTY 30000

Notre Société garantit que les produits objets du présent certificat respectent en leur totalité les spécifications suivantes (pour les aciers carbone)
C <= 0.25 % P <= 0.05 % S <= 0.05 % Rm <= 700 N/mm² A >= 15 % Rm (4-20) <= 0.500 Re <= 0.5 Rm (LG SUR 5.65 v So)

Nous certifions que les produits énumérés ci-dessous sont conformes aux prescriptions de la commande et des spécifications et ont subi, sans objection, les contrôles d'aspect et de dimensions.
We hereby certify that above mentioned products are in accordance with the requirements of the order and specifications and have been checked without objection for surface and dimensional control.

Qualité département





V&M
VALLOUREC & MANNESMANN TUBES

V & M DEUTSCHLAND GmbH · Postfach 33 02 30 · 40435 Düsseldorf

F01/

/00000000/00/03/02/1

VERTEILER: SIEHE UNTEN

(A02)

(A03)

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

Nr./No
40451

Blatt/Page
1/4

Zur Lieferanzzeigen-Nr.
To delivery note no
A l'avis d'expédition

(A09)

47/ 56/0001

Lieferdatum
Delivery Date
Date d'expédition

5.05.06

(A06)

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

CDN-T6PIR1 EDMONTON/ALBERTA



(A01)

ZEITHAIN

Lieferwerk
Supply plant
Usine expédition

(B01 - B04)

V&M-Auftrags-Nr.
V&M-order no

(A08)

856/4017 8

Bestimmungsort
Destination
Pays de destination

CANADA

Kunden-Bestell-Nr.
Customer-order no

(A07)

VM1645

Bestell-Datum
Date of order

Verwender
User
Utilisateur

27.02.06

Verwender-Bestell-Nr.
User-order no

45000484

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 #
ENDS PLAIN, SQUARED TO TUBE AXIS # INSIDE
WITHOUT RUST PROTECTION # OUTSIDE DRY VARNISH

(B09)

(B11 - B13)

HT 231914

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(B10)

(B14)

Item	Deliv.	Dimension / Item text	Quantity/pce	kg/lbs	Total length m/ft
2	Part	NPS SCHEDULE 1 X 80,000 IN V & M FRANCE NO/ITEM LA1183/02 IN BUNDLES OF MAX. 4000 KG, WITH 6 STEEL BANDS AND 2 SLINGS (NYLON) FOR CONTAINER	1.600	31.786 70.077	9.680,00 31.758,53



VALLOUREC & MANNESMANN TUBES

VAM-Nr./No	856/4017 8	Nr./No	40451	Blatt/Page	2 / 4
Kunden-Nr./Purchaser no./client No	VM1645				

Results of ladle analysis (S) / check analysis (K) %

(B08) (C70) (C71 - C92)

HEAT NO	STEELMAK. PROCESS	C	SI	MN	P	S	CU	CR	NI	MO	V
MINIMUM		0,260	0,100	0,29	0,030	0,0350	0,400	0,400	0,400	0,150	0,080
MAXIMUM		0,190	0,500	1,06	0,011	0,0020	0,020	0,050	0,040	0,010	<0,004
231914	OXYGEN	0,209	0,190	0,74	0,011	0,0030	0,022	0,051	0,045	0,001	0,002
K		0,215	0,186	0,77	0,011	0,0037	0,022	0,049	0,046	0,001	0,002
K				0,76	0,011	0,0037	0,022	0,049	0,046	0,001	0,002

HEAT NO	STEELMAK. PROCESS	TI	NB/CB	CO	B	CAE1	CAE2	EF1	EF2
MINIMUM		0,040	0,110	0,0010	0,40	0,33	0,50	1,00	0,15
MAXIMUM		0,002	0,001	0,0030	0,0002	0,33	0,33	0,12	0,01
231914	OXYGEN	0,002	0,002	0,0030	0,0002				
K		0,002	0,002	0,0030	0,0002				
K				0,0030	0,0002				

CAE1 = C + F X MN SI CU NI CR+MO+V+CO MN CR+MO+V NI+CU
6 24 15 20 5 CAE2 = C + 6 5 15
EF1 = CR + MO + NI + CU + V EF2 = V + TI + NB

EF=NB+V= MAX. 0,03%
EF=0,005% (HEAT 231914)
CHECK ANALYSIS ON 2 TUBES PER HEAT

Tensile test results

Sample no	Heat no	(B08)	(C10)	Test piece dimension mm	Test piece type	(C02)	Test piece direction	(C01)	Test piece loc. orient.	(C03)	Test piece temperature	(C11)	Yield/proof strength ReH	(C12)	Tensile strength Rm	(C13)	Elongation AL 2" 22,0	Y/T Ratio	Z
MINIMUM																			
MAXIMUM																			
87327	231914		33,40	4,10	03	longit						49891	42000	60000	73677	43,4	0,68		
87328	231914		33,40	4,55	03	longit						48441		73241	73241	44,7	0,66		
87329	231914		33,40	4,55	03	longit						49166		72951	72951	47,1	0,67		
87330	231914		33,40	4,10	03	longit						48731		72516	72516	45,8	0,67		

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VALLBOUREC & MANNESMANN TUBES

V&M-Nr./No	856/4017 8	Nr./No	Blatt/Page
Kunden-Nr./Purchaser no./client No	VM1645	40451	3 / 4

(C00) Sample no	(B08) Heat no	(C10) Test piece dimension mm	(C02) Test piece type	(C03) Test piece direction	(C01) Test piece loc. orient.	(C11) Yield/proof strength ReH	(C12) Tensile strength Rm	(C13) Elongation (%) AL 2"	Y/T Ratio	Z
87331	231914	33,40	03	longit	RT	49311	73096	48,4	0,67	
87332	231914	33,40	03	longit	RT	50471	73241	46,3	0,69	
87333	231914	33,40	03	longit	RT	49746	72661	45,3	0,68	
87334	231914	33,40	03	longit	RT	48296	72516	46,4	0,67	
87335	231914	33,40	03	longit	RT	47861	72081	45,5	0,66	
87336	231914	33,40	03	longit	RT	49601	73677	49,8	0,67	
87337	231914	33,40	03	longit	RT	50616	73241	46,2	0,69	

Code references to the tensile test

03 FULL SECTION TEST SPECIMEN

TYPE OF TEST PIECE :

HARDNESS HRC MAX. 22

(WITHOUT TESTING, ONLY CERTIFICATE)

Hardness test results

(C00) Sample no	(B08) Heat no	(C31) Value 1	(C31) Value 2	(C31) Value 3	(C31) Value 4
MAXIMUM					
87327	231914	248,0	248,0	248,0	248,0
87328	231914	155,0			
87329	231914	154,0			
87330	231914	153,0			
87331	231914	153,0			
87332	231914	154,0			
87333	231914	153,0			
87334	231914	152,0			
87335	231914	150,0			
87336	231914	155,0			
87337	231914	154,0			

Other test results (D01 - D99)

-HEAT TREATMENT: HOT FINISHED IN THE RANGE OF NORMALIZING

TEMPERATURE

-HYDROSTATIC TEST: 3000 PSI,

HOLDING TIME 5 SEC.: SATISFACTORY

-FLATTENING TEST: SATISFACTORY (C50)

-BENDING TEST: SATISFACTORY (C50)

Identification of the products (B06 - B07)

PAINT STENCILED ON ONE SIDE

V&M 47

VALLBOUREC & MANNESMANN

API-MONOGRAM

5L0150.5

YEAR (YYYY) / MONTH

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FEB 26 1977



VALLBOUREC & MANNESMANN TUBES

V&M-Nr./No	856/4017 8	Nr./No	40451	Blatt/Page	4 / 4
Kunden-Nr./Purchaser no./client No	VM1645				

- VISUAL AND DIMENSIONAL INSPECTION SATISFACTORY (D01)
- VERIFICATION TEST SATISFACTORY
- HARDNESS TEST: HRC MAX. 22
- PIPE PRODUCTION METHOD: SEAMLESS, HOT-ROLLED
- EDDY CURRENT TEST ACC. TO CSA Z 245.1:2002: SATISFACTORY
- KILLED STEEL

NW 1 X SCHED. 80
TERMS OF DELIVERY PSLL/A106/SA106/Z245.1
B / 290 CAT I
PROCESS OF MANUFACTURE SMLS
SS
HEAT-NO.
S
TEST PRESSURE PSI 3000
NDE
WA
GERMANY
CUSTOMER ORDER-NO. VM1645
ORDER-NO. USER 45000484
DATE: 2006/04

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FEB 23 2007

INDICATIONS IN PARENTHESES CORRESPOND TO THE IDENTIFICATION ACC. TO EN 168-86.
SYMBOL OF THE MANUFACTURER'S WORK (A04) RECEIVING AGENT'S STAMP (Z02)

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

(A05) V & M DEUTSCHLAND GMBH, WERK ZEITHAIN, ABNAHME
01619 ZEITHAIN, GLAUBITZERSTRASSE 1
(Z01) SIGNED RACZ, INSPECTION REPRESENTATIVE
ZEITHAIN, 5.05.2006, TELEPHONE: (03525) 792318
TELEFAX: (03525) 791146
E-MAIL: ULRIKE.RACZ@VMTUBES.DE

This testimonial and certification respectively is recorded by
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.

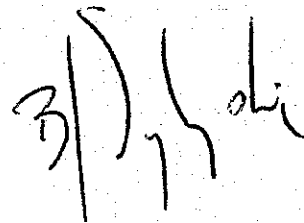
Zeugnisverteller
3 X VALLOUREC TUBES CANADA
1141 KING ROAD
CDN-L7R3X5 BURLINGTON/ONTARIO

Certificate Of Compliance

RECEIVED AUG 10 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.

CRN	0H5415.213		
S/N	8600.211 ✓		
Diameter	8.625	Inches	Overall Length 56 Inches
Year Built	2006		
MAWP	600	PSIG	@ 650 °F
MDMT	-20 °F		
C.A.	0.0625	Inches	
Radiography	N/A		
PWHT :	Time	N/A min.	Temp. N/A °F
Hydro Tested	@	900 PSIG	



Quality Control Manager
BJ SYLYSKI

August 9, 2006

RECEIVED

NOV 10 2005

5F01

INSPECTION CERTIFICATE

PURCHASER: SEYOLD INTERNATIONAL CORP.

ASTM A234 WPB-00

STANDARD: ASME SA234 WPB-00

MATERIALS: ASTM A106 Gr.B

INSP SPEC: ASME B16.9-93

DATE

ORDER NO:

P.I.NO:

CERTIF. NO:

1033, Shuang-shui Road Hua-bing town, Jia-ching District,
Shanghai, China
Tel.: 86-21-54145661 FAX: 86-21-54145662

ITEM NO.	PRODUCT & SIZE	QUANTITY PCS	MFG NO.	VISUAL & MECHANICAL INSPECTION	HARDNESS MAX. 197 HB	HEAT TREATMENT T (°C/°F)	MAGNETIC PARTICLE EXAMINATION
21	CAP-1" STD	50	SC104	GOOD	87-70	N	
22	CAP-1-1/2" STD	75	SC106	GOOD	85-69	N	
23	CAP-2" STD	200	SC107	GOOD	93-87	N	
24	CAP-6" STD	350	SP02	GOOD	83-69	N	
25	CAP-8" STD	425	SP01	GOOD	86-75	N	
26	CAP-12" STD	175	SC113	GOOD	96-84	N	
27	RC-2" 1" STD	20	SC71	GOOD	85-62	N	
28	RC-2" 1-1/4" STD	20	SC70	GOOD	87-73	N	
29	RC-2" 1-1/2" STD	80	4K36	GOOD	83-68	N	
30	RC-3" 2" STD	120	SC14	GOOD	91-74	N	

CHEMICAL COMPOSITION %

ITEM NO.	MATERIAL CHARGE NO.	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	PHYSICAL T	
												YS KSI	TS KSI
21	5400161	17	24	47	12	22	1	1	3	0	0	43.53	68.92
22	5400161	17	24	47	12	22	1	1	3	0	0	43.53	68.92
23	5400161	17	24	47	12	22	1	1	3	0	0	43.53	68.92
24	DL0327562	18	10	36	12	21	0	0	0	0	0	50.06	70.37
25	DL0426267	16	9	31	12	18	0	0	0	0	0	50.79	63.84
26	12143	15	20	42	10	33	0	0	0	0	0	41.35	60.94
27	4E04968	21	23	56	18	13	1	1	2	0	0	41.98	74.00
28	4E04968	21	23	56	18	13	1	1	2	0	0	41.98	74.00
29	4F04868	21	23	56	18	13	10	1	2	0	0	44.98	74
30	204-5659	18	22	55	14	4	11	5	8	0	0	42.80	70.37

N: NORMALIZING AT TEMPERATURE 880° ± 0.5 HR. AIR COOLING.

NAPT NR-01-73 : SATISFACTORY

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT.

MANAGER OF QA DEPT

Certified Test Report
01/20/2006

V&M STAR
Seamless Tubular Products

HT# U10168

CUSTOMER: VALLOUREC TUBES CANADA
 ORDER: U10168 GRADE: AP15L X42B PSL 2 Rev. October 4, 2004
 QTY: 8.625 WALL: 0.372 LBS/FT: 28.58
 DEBC: SEAMLESS HOT ROLLED
 CUSTOMER ORDER NUMBER: VM1564
 MILL ORDER NO: 75246
 W/O NO: LP
 LOT NO:
 COMMENTS: Melted and Manufactured in the U.S.A.
 This pipe is also manufactured to: ASTM A106B/C Rev.04b ASME SA533B Rev.04 ASME SA533B Rev.04 V&M Star's QA program meets the requirements of DIN EN 10204-Rev.2004 Type 3.1. Satisfies NACE MR0103-2005.
 CUST PO# 4500654 ITEM CODE# 800

MECHANICAL PROPERTIES:				LONGITUDINAL				SUPPLEMENTAL REQUIREMENT			
SPECIMEN CROSS SECTION				TENSILE				HARDNESS: HIRBW AVG			
WIDTH	THICKNESS	AREA (SQ IN)	AREA (SQ CM)	YIELD	TENSILE	ELONGATION	% ELONG	FLATTENING-PASSED	NACE TEST: SATISFIES NACE MR-01-75	GRAIN SIZE:	OTHER:
1) 1.510	0.333	0.5057	0.5057	54.3	76.4	2	34.9				
2) 0.000	0.000	0.0000	0.0000	0.0	0.0	0	0.0				
3) 0.000	0.000	0.0000	0.0000	0.0	0.0	0	0.0				
4) 0.000	0.000	0.0000	0.0000	0.0	0.0	0	0.0				
5) 0.000	0.000	0.0000	0.0000	0.0	0.0	0	0.0				

INSPECTION:		QTY:		AF: 0		TF: 0										
HYDROSTATIC TEST (psi): 2350 for a 5 second minimum		DRIFT PLUG SIZE: INCHES		Required CE Max of 0.43												
CHEMICAL ANALYSIS:		61 Electromagnetic Inspection		Reference Standard was a test joint with 10% ID and OD Longitudinal and Transverse notches.												
C	Ma	P	S	Si	Cu	Cr	Ni	Mo	Fe	Al	Ca	B	Ti	N	CE	
HEAT	0.21	0.76	0.004	0.23	0.14	0.08	0.06	0.02	0.010	0.001	0.001	0.0028	0.0001	0.001	0.0059	0.37
PRODUCT 1)	0.21	0.78	0.003	0.004	0.24	0.14	0.08	0.02	0.010	0.001	0.001	0.0025	0.0001	0.002	0.0089	0.37
PRODUCT 2)	0.21	0.78	0.003	0.004	0.23	0.14	0.08	0.02	0.007	0.001	0.001	0.0027	0.0001	0.002	0.0093	0.37
PRODUCT 3)	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.00
PRODUCT 4)	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.00

HARDY IMPACT TESTING Note: V		TEMP (deg F)		FTLBS 1		FTLBS 2		FTLBS 3		AVG		SHEAR 1		SHEAR 2		SHEAR 3		AVG	
DIRECTION	SIZE	TRANS	2/3	32	37	0	0	36	0	0	37	40	0	40	0	40	0	40	0
EST #1																			
EST #2																			
EST #3																			

Our material has been produced and tested in accordance with the requirements of applicable specifications unless otherwise listed below. We hereby certify that the above test results are representative of those obtained in the records of the company. Any modification to this certification as provided by V&M STAR without the expressed written consent of V&M STAR negates the validity of the test report. V&M STAR is responsible for the integrity of the material to meet specific applications.

RECEIVED
JUN 06 2006

Q1206
 WFO: JOE DOLAK
 DATE APPROVED: 01/20/2006
 TMO: PRODUCT METALLURGIST

CERTIFIED MILL TEST REPORT



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

LOG NO. 227196 PAGE 5

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

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 03/02/06

CUSTOMER'S Order No.: 9106933-00

Bonney Order No. 029648

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

350374

EDMONTON ALBERTA
EDMONTON ALBERTA, T6E5S5 CANAD

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

SA/A105N

021	730	3359	7523882	2 3000 A105N HCP T		
				C .200 MN 1.030 P .008 S .019 SI .220		
				NI .030 CU .120 CO .004 CR .040 MO .010		
				V .000 AL .015 NB .015		
				CE(LONG FORMULA) = 0.39		
				T/S 78500 Y/S 56375 EL 32.10 RA 65.15		
				BRINELL HARDNESS1: 137 HARDNESS2: 137		

→ 3418 7523882 2 3000 A105N HCP T

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				C .190 MN .990 P .007 S .024 SI .200		
				NI .040 CU .090 CO .003 CR .040 MO .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		

025	550	3136	7524773	3/4X 1/2 3M/6M A105N HXBU T		
				C .190 MN .990 P .008 S .025 SI .250		
				NI .040 CU .190 CO .003 CR .070 MO .011		
				V .023 AL .001 NB .001		
				CE(LONG FORMULA) = 0.39		
				T/S 79000 Y/S 54875 EL 33.00 RA 67.90		
				BRINELL HARDNESS1: 156 HARDNESS2: 147		

	3180		7524773	3/4X 1/2 3M/6M A105N HXBU T		
				C .200 MN .960 P .009 S .020 SI .250		
				NI .040 CU .200 CO .003 CR .050 MO .009		
				V .024 AL .001 NB .001		
				CE(LONG FORMULA) = 0.39		
				T/S 78875 Y/S 52375 EL 30.75 RA 63.75		
				BRINELL HARDNESS1: 137 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.

by

Cris Childers

CMTR: REV 1

QUALITY PROCESS MANAGER



The Best Value
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All The Time.

LOG NO. 225415 PAGE 1
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(814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906
www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

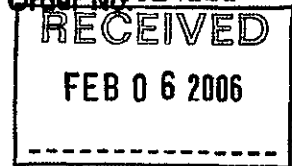
Date 01/09/06

CUSTOMER'S Order No.: 9105834-00

Bonney Order No. 1024886

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

337893



EDMONTON ALBERTA
EDMONTON ALBERTA, T6E5S5 CANAD

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO							CHEMICAL ANALYSIS	PHYSICAL PROPERTIES	REMARKS	
			SA/A105N										
002	25	56498	7520034	3/4 3M A105N STEEL T									
				C	.190	MN	1.040	P	.013	S	.018	SI	.190
				NI	.040	CU	.140	CO	.003	CR	.060	MO	.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									
005	100	3322	7520220	1/4 3000 A105N HCP T									
				C	.200	MN	1.050	P	.007	S	.021	SI	.220
				NI	.020	CU	.070	CO	.004	CR	.030	MO	.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: 139 HARDNESS2: 137									
017	575	56613	7522657	1/2 3000 A105N 90EL T									
				C	.190	MN	1.000	P	.008	S	.018	SI	.230
				NI	.040	CU	.160	CO	.004	CR	.050	MO	.020
				V	.000	AL	.020	NB	.013				
				CE(LONG FORMULA) = 0.38									
				T/S 75625 Y/S 53500 EL 32.00 RA 67.25									
				BRINELL HARDNESS1: 132 HARDNESS2: 132									
023	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 HARDNESS1: 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.

by

Cris Childers

CMTR: REV 1

QUALITY PROCESS MANAGER



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JAN 06 2006

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INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Cliente / Customer VAN LEEUWEN CANADA	Expediente / Manufacturing Order 50271.01	Número / Number 216063	Fecha / Date 03/08/2004	Pág. / Page 1 / 7
Producto / Product Seamless steel line pipe	Orden de Compra / Purchase Order PO 60011724 <i>15029444</i>	Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard API 5L/ASTM A106/ASME SA106/ASTM A53 + CSA Z245 1-98	Grado / Grade B743+230SS	Extremos / Ends PLAIN END DEBURRED		
Dimensiones / Dimensions 33.40 x 4.55 mm 1.315 x 0.179 inches	Paso Nominal / Nominal Weight 3.24 KG/MT 2.17 LB/FT	Longitud / Length S.R. (SP)	Superficie Externa / External Surface VARNISHED	Cantidades / Quantities 4548 Pz 30223.35 m 99050 Kg 4548 Pcs 99157.97 Ft 218388 Lb

ENSAYOS DE TRACCION / TENSILE TEST

Colado	N° de Ensayo	Condición de la probeta	Temp de Ensa	Dimensiones	Sección	Fluencia / Yield Strength										Rotura U.T.S				Relación F/R				Alargamiento Elongation				Dureza / Hardness Tipo / type: BHN				
						Offset Method					EJL Method																					
						Zona	Estado	Ext.	N° P/T	Tipo	Test Temp	Size	Area	Req. Min	V. obt.	ELU	Req. Min	V. obt.	Kcal	%	Kcal	%	Req. Min	V. obt.	YS/UTS Ratio	Lo 2"	Req. Min	V. obt.	Area Red.	Req. Min	V. Obt.	Req. Max
Heat	Test N°																															

32911	437597	C/B	PRO			TU	L TART	1.315 X 0.181	0.945			0.5	42	51.1	60	69.3							80.8	28.5	50.6				143			200
32911	437598	C/B	PRO			TU	L TART	1.319 X 0.181	0.946			0.5	42	53.5	60	69.9							50.8	28.5	50.4				144			200
32911	437600	C/B	PRO			TU	L TART	1.319 X 0.180	0.945			0.5	42	52.4	60	71.1							50.8	28.5	50.6				147			200
32911	438822	C/B	PRO			TU	L TART	1.315 X 0.178	0.936			0.5	42	52.2	60	70.9							50.8	28.5	51.2				145			200
32912	439606	C/B	PRO			TU	L TART	1.307 X 0.180	0.936			0.5	42	55.0	60	71.4							50.8	28.5	47.3				146			200
32912	439807	C/B	PRO			TU	L TART	1.311 X 0.178	0.932			0.5	42	54.7	60	71.5							50.8	28.5	47.3				145			200
32912	439808	C/B	PRO			TU	L TART	1.311 X 0.179	0.937			0.5	42	53.8	60	70.0							50.8	28.5	48.1				147			200
32912	439809	C/B	PRO			TU	L TART	1.311 X 0.180	0.941			0.5	42	54.1	60	71.8							50.8	28.5	48.3				146			200
33270	442104	C/B	PRO			TU	L TART	1.315 X 0.179	0.939			0.5	42	54.9	60	71.4							50.8	28.5	57.5				144			200
33270	442106	C/B	PRO			TU	L TART	1.315 X 0.179	0.939			0.5	42	55.3	60	71.0							50.8	28.5	61.4				141			200
33383	442180	C/B	PRO			TU	L TART	1.315 X 0.179	0.939			0.5	42	55.1	60	71.4							50.8	28.5	60.8				138			200
33383	442181	C/B	PRO			TU	L TART	1.315 X 0.179	0.939			0.5	42	54.5	60	71.0							50.8	28.5	61.8				142			200

TEST TECNOLOGICO / TECHNOLOGICAL TEST

Apastamiento Flattening Test		Curvado Bend test	Abocartado Flaring Test	Presartado Flange Test	Ens. De anillo expandido Ring expanding Test	Ens. De Tracción de anillo Ring tensile Test
Satisfact.	Satisfact.	NA	NA	NA	NA	NA

Pro = Process
N = Normalizado / Normalized
Dist = Distorsionada / Stress Relief
Q & T = Templado y Revenido / Quenched & Tempered
TART = Temp. Ambiente / Room Temperature

RE = Rectangular CI = Cilindrical / Cylindrical ST = Segmento Tubular / Tubular segment TU = Transversal	CJB = Cuerpo / Body RU = Racalque / Unset P/A = Promedio / Average Min = Mínimo / minimum Max = Máximo / Maximum	L = Longitudinal T = Transversal PT = Tubo / Pipe EXT = Extremo / End M = Medio / Middle	V.Ost. = Valor Obtenido / Obtained value E = Comienzo de marcación / Stenciling starting O = Extremo opuesto al E / Opposite exteime to E
--	--	--	---

CU1478W



Tenaris

INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

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JAN 06 2006

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Buenos Aires, Argentina
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(54) 3489 433405 fax

Client / Customer VAN LEEUWEN CANADA		Expedientel Manufacturing Order 50271.01		Número / Number 216063	Fecha / Date 03/08/2004	Pág./Page 2 / 7
Product / Product Seamless steel line pipe		Orden de Compra / Purchase Order PO 60011724		Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard API 5L/ASTM A106/ASME SA106/ASTM A53 + CSA Z245 1-98		Grado / Grade B/X42-290SS		Extremos / Ends PLAN END DEBURRED		
Dimensiones / Dimensions 33.40 x 4.55 mm		Peso Nominal / Nominal Weight 3.24 KG/MT		Superficie Externa / External Surface VARNISHED		
Schedule 80		Longitud / Length 2.17 LB/FT		S.R. (SP)		
Dimensions / Dimensions 1.315 x 0.179 inches		Weight 2.17 LB/FT		Quantities 4545 Pcs 30223.35 m 99050 Kg		
Schedule 80		Weight 2.17 LB/FT		Quantities 4545 Pcs 99157.97 Ft 218368 Lb		

ENSAYOS DE TRACCION / TENSILE TEST

Colada	N° de Ensayo	Condición de la probeta						Temp de Ensa	Dimensiones		Sección	Fluencia / Yield Strength										Rotura/L.T.S		Relación FIR		Alargamiento Elongation				Rad. de area		Dureza / Hardness Tipo / type: BHN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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TEST TECNOLÓGICO / TECHNOLOGICAL TEST

Aplastamiento Flattening Test	Curvado Bend Test	Satisfact.	Alabeado Flaring Test	Presado Flange Test	Ens. De Tracción de anillo Ring tensile Test		Ens. De anillo expandido Ring expanding Test		RE = Rectangular CI = Cilindrical ST = Segmento Tubular / Tubular segmen		CIB = Cuerpo / Body RU = Rosca / Upset P/A = Promedio / Average Min = Minimum / Minimum Max = Máximo / Maximum		L = Longitudinal T = Transversal P/T = Tubo / Pipe EXT = Extremo / End M = Medio / Middle		V.Obl. = Valor Obtenido / Obtained value E = Confronto de marcación / Stenciling starting Q = Extremo opuesto al E / Opposite extreme to E	
					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

CAU 17894



(EN 10204 3.1B - (SO 10474 3.1B))

RECEIVED
JAN 06 2006

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Cliente / Customer VAN LEEUWEN CANADA		Expediente/ Manufacturing Order 30271.01		Numero / Number 216063	Fecha / Date 03/08/2004	Pág./Page 3 / 7
Producto / Product Seamless steel line pipe		Orden de Compra/ Purchase Order PO 60011724		Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard API 5L/ASTM A106/ASME SA106/ASTM A53 + CSA Z245.1-98		Grado / Grade B7X42+20MSS		Extremos / Ends PLAIN END DEBURRED		
Dimensiones / Dimensions 33.40 x 4.55 mm 1.315 x 0.179 Inches		Schedule 80	Peso Nominal / Nominal Weight 3.24 KG/MT 2.17 LB/FT	Longitud / Length S.R. (SP)	Superficie Externa / External Surface VARNISHED	Cantidades / Quantities 4543 Pz 30223.33 m 4543 Pcs 99157.97 Ft 99030 Kg 218368 Lb

ENSAYOS QUIMICOS / CHEMICAL ANALYSES

[illegible]

* ppm / Part per million

R = Ratio

 $\text{mole/Equivalent Carbon}$

C3 = Carbono E

Producto / Product Analysis

Analysis. P = Analysis

H = Análisis de cotada

NOTAS / NOTI

Table 1

NAME

$$118.5) + 5A + 8B + 7C + 0D$$
$$A(0.618) + (5.1413) + (6.215)$$

CFO 28 C+P/NA

$$+ (CB + MC) + 5(MA + CB + EC) +$$

CEO 1 = C+0

UNITED STATES DEPARTMENT OF JUSTICE

11/20/2017 10:04

1-800-4-A-RENTAL

— 2011

POLYMER

8-11-1988

NAME

1111

第 2 冊

AIN+OH

SUMMARY

[illegible]

93.

1000

22

$$R_1 = 1111$$

CALL 172334



INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

RECEIVED
JAN 06 2006

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Cliente / Customer VAN LEEUWEN CANADA	Expedient / Manufacturing Order 50271.01	Número / Number 216063	Fecha / Date 03/08/2004	Pág./Page 4 / 7
Producto / Product Seamless steel line pipe	Orden de Compra / Purchase Order PO 60011724	Item 00001	Referencia del Cliente / Customer References	
Norma / Standard API 5L/ASTM A106/ASME SA106/ASTM A53 + CSA Z245 1-98	Grado / Grade BX43-290SS	Extremos / Ends PLAN END DEBURRED		
Dimensiones / Dimensions 33.40 x 4.55 mm 1.315 x 0.179 inches	Longitud / Length S.R. (SP)	Superficie Externa / External Surface VARNISHED		
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ENSAYOS QUIMICOS / CHEMICAL ANALYSES

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Tenaris

Siderca S.A.I.C.
Dr Jorge A. Simini 250
B2604(MHA) Campana
Buenos Aires, Argentina
(54) 3489 433100 Tel
(54) 3489 433405 fax

INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 50271.01		Número / Number 216053	Fecha / Date 03/09/2004	Pág./Page 5 / 7
Producto / Product Seamless steel line pipe		Orden de Compra / Purchase Order PO 60011724		Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard API 5L/ASTM A106/ASME SA106/ASTM A53 + CSA Z245 1-98		Grado / Grade B/X42-290SS		Extremo / Ends PLAIN END DEBURRED		
Dimensiones / Dimensions 33.40 x 4.55 mm 1.315 x 0.179 inches		Peso Nominal / Nominal Weight 3.24 KG/M 2.17 LB/FT		Superficie Externa / External Surface VARNISHED		Cantidades / Quantities 4545 Pz 30223.35 m 99050 Kg 4545 Pcs 99157.97 Ft 218368 Lb
Longitud / Length S.R. (SP)		Marcas / Marking LLL = Longitud / length HNXXXXX = Colada / Heat		PPP = Peso / Weight @ = Monograma / Monogram API		
Nº = Monograma / Monogram SIDERCA MM.YY = Mes / Año Month / Year YIT = Año / Trimestre Year / Quarter		NNNNN = Número de tubo / Nbr of pipe YYIT = Año / Trimestre Year / Quarter		Estarcido (Tubo) / Stencilling (Pipe) NNNN LLLL PPPPP TENARIS SD 51.0098 @ MM.YY A/SA106 ASTM A53 API5L CSA Z245.1-98 B/X42PSL 1/290 C1 SS S 1.315 X 0.179 1 SCH 80 XS 2.17 3000PSI PO 60011724 50271.01 MADE IN ARGENTINA HNXXXXX		
Targeta / Card: SIDERCA MADE IN ARGENTINA P.O.: PO 60011724 OF: 50271-01 PIECES: LENGTH: LIFT: WEIGHT(KG): SIZE: 33.40 X 4.55 GDO:B/X42-290SS SPEC: API-ASTM HEAT: CL/V.L. CANADA						
FABRICADO POR SIDERCA						
PROCESO DE ACERACIÓN -FABRICACIÓN DE ACERO: FUNDICIÓN POR ARCO ELÉCTRICO Y COLADO CONTINUO - ACERO CALMADO AL ALUMINIO. -LA PRÁCTICA DE AFINO EN EL HORNO - CUCHARA INCLUYE UNA INYECCIÓN FINAL DE UNA VARILLA DE SILICIO DE CALCIO PARA OBTENER UNA FORMA GLOBULAR DE EVENTUALES MICROINCLUSIONES. -MATERIAL LIBRE DE CONTAMINACIÓN DE MERCURIO.						
MANUFACTURED BY SIDERCA *ACIERAGE PROCESS* -STEEL MAKING PROCESS: E.A.F.A.F. AND CONTINUOUS CASTING - FULL ALUMINIUM KILLED AND FINE GRAIN PRACTICE. -THE LF PRACTICE INCLUDES A FINAL INJECTION OF CALCIUM SILICIDE WIRE FOR MICROINCLUSION SHAPE CONTROL -MATERIAL FREE FROM MERCURY CONTAMINATION.						
PROCESO DE LAMINACIÓN -FABRICACIÓN DE TUBO: LAMINADO EN CALIENTE Y SIN COSTURA.						
ROLLING PROCESS -MANUFACTURING PROCESS: SEAMLESS HOT ROLLED.						
CONTROLES -CONTROL VISUAL Y DIMENSIONAL: SATISFACTORIO. -CONTROL NO DESTRUCTIVO TUBO (C.N.D.): SATISFACTORIO.						
CONTROLS -VISUAL AND DIMENSIONAL INSPECTION: SATISFACTORY. -PIPE NON DESTRUCTIVE TEST (N.D.T.): SATISFACTORY.						

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

INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Cliente / Customer VAN LEEUWEN CANADA		Expedientel Manufacturing Order 50271.01		Número / Number 218083	Fecha / Date 03/08/2004	Pág./Page 6 / 7
Producto / Product Seamless steel line pipe		Orden de Compra Purchase Order PO 60011724		Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard API 5L/ASTM A106/ASME SA106/ASTM A53 + CSA Z245 1-98		Grado / Grade B7X42+290SS		Extremo / Ends PLAN END DEBURRED		
Dimensiones / Dimensions 33.40 x 4.55 mm 1.315 x 0.179 inches		Peso Nominal / Nominal Weight 3.24 KG/M 2.17 LB/FT		Superficie Externa / External Surface VARNISHED		
Schedule 80		Longitud / Length S.R. (SP)		Cantidades / Quantities 4545 Pz 30223.35 m 99050 Kg 4545 Pcs 99157.97 Ft 218388 Lb		
CONDICIONES DEL MATERIAL		*MATERIAL CONDITIONS*				
-NO REPARADO POR SOLDADURA.		-NO REPAIR BY WELDING.				
PROPIEDADES DEL MATERIAL		*MATERIAL PROPERTIES*				
-LA DUREZA CUMPLE CON LA NORMA NACE MR-01-75 ULTIMA EDICION.		-HARDNESS ACCORDING TO NACE MR-01-75 LATEST EDITION.				
-EL MATERIAL CUMPLE CON LOS REQUISITOS DE ASTM A530/AS30M EDICION 98.		-MATERIAL ACCORDING TO REQUIREMENTS OF ASTM A530/AS30M EDITION 98.				
-EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS CSA Z245.1-98 GR 241/290 Cal I.		-MATERIAL COMPLIES WITH CSA Z245.1-98 GR 241/290 Cal. I REQUIREMENTS.				
NORMAS		*STANDARDS*				
-CERTIFICADO DE ACUERDO CON: EN 10204 3.1.B/95 - ISO 10474 3.1.B/92.		-CERTIFICATE ACCORDING TO: EN 10204 3.1.B/95 - ISO 10474 3.1.B/92.				
-EDICION DE LA NORMA: ASME SA 106/01.		-EDITION OF REGULATION: ASME SA 106/01.				
-EDICION DE LA NORMA: ASME SA 53/01.		-EDITION OF REGULATION: ASME SA 53/01.				
-EDICION DE LA NORMA: NACE MR-01-75 ULTIMA EDICION		-EDITION OF REGULATION: NACE MR-01-75 LATEST EDITION				
-EDICION DE LA NORMA: API 5L, 42° Edition 2000.		-EDITION OF REGULATION: API 5L, 42° Edition 2000.				
-EDICION DE LA NORMA: CSA Z245.1/98.		-EDITION OF REGULATION: CSA Z245.1/98.				
-EDICION DE LA NORMA: ASTM A53/02.		-EDITION OF REGULATION: ASTM A53/02.				
-EDICION DE LA NORMA: ASTM A106/02a.		-EDITION OF REGULATION: ASTM A106/02a.				
Observaciones / Remarks						
HYDROSTATIC TEST PRESSURE 207 KPA*100 = 3000 PSI (5 sec.).						
HEAT TREATMENT: AS ROLLED.						
NON DESTRUCTIVE TEST: SATISFACTORY.						
INSPECTION METHODS: E.M.I. LONG.(EXT./INT.) NOTCH 10%.						
HARDNESS ACCORDING TO NACE MR-01-75 LATEST EDITION.						

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JAN 06 2006



Siderca S.A.I.C.
Dr Jorge A. Simini 250
(B2804MHA) Campana
Buenos Aires, Argentina
(54) 3489 433100 tel
(54) 3489 433405 fax


INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 50271.01		Número / Number 218063	Fecha / Date 03/08/2004	Pág./Page 7 / 7
Producto / Product Seamless steel line pipe		Orden de Compra / Purchase Order PO 60011724		Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard API 5L/ASTM A106/ASME SA106/ASTM A53 + CSA Z245 1-98		Grado / Grade B/X42+20MSS		Extremo / Ends PLAIN END DEBURRED		
Dimensiones / Dimensions 33.40 x 4.55 mm		Superficie Externa / External Surface VARNISHED		Cantidades / Quantities 4545 Pz 30223.35 m 99050 Kg		
Schedule 80		Longitud / Length S.R. (SP)		4545 Pcs 99157.97 Ft 218368 Lb		
Peso Nominal / Nominal Weight 3.24 KG/MT		S.R. (SP)				
1.315 x 0.179 inches		2.17 LB/FT				
ONE BLUE & ONE ORANGE BANDS ON BOTH ENDS.						

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JAN 0 6 2006

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



INDUSTRIA MECCANICA LIGURE SPA

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

COMPANY WITH QUALITY SYSTEM ISO 9002
CERTIFIED BY RINA

SEYBOLD INTERNATIONAL CORP.
3080 YONGE ST. SUITE 2044
TORONTO M4N 3N1 CANADA CA

Certificate Nr 12945
Invoice Nr 1888
Del. Note Nr 2270

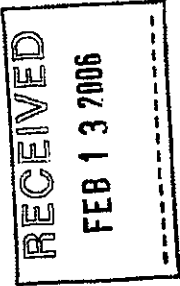
Dated 31.10.2003
Dated 29.10.2003
Dated 29.10.2003

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelletti, 4 - Tel. 0185.467661 - Fax 0185.467661 - This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 1 - 2

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.
78703		0005	45027586	2003-2E201-0001148-003	45	FITTING CAP THRD NPT 3M 1/2" A105N CODE: 7292	SEE NOTE	SATISFACTORY
G85		0008	45027586	2003-2E201-0001148-006	800	FITTING 90 ELB. SW 3M 1" A105N CODE: 7432	SEE NOTE	SATISFACTORY
T95		0009	45027586	2003-2E201-0001148-007	315	FITTING TEE SW 3M 1" A106N CODE: 7479	SEE NOTE	SATISFACTORY
73219		0011	45027586	2003-2E201-0001148-008	30	FITTING COUPLING SW 3M 2" A105N CODE: 7532	SEE NOTE	SATISFACTORY
86U		0013	45027586	2003-2E201-0001148-010	90	FITTING UNION F/F SW 3M 1 1/2" A105N CODE: 7594	SEE NOTE	SATISFACTORY
G94		0014	45027586	2003-2E201-0001148-011	120	FITTING 90 ELB. THRD NPT 3M 2" A350LF2 CODE: 22287	SEE NOTE	SATISFACTORY
941043		0017	45027586	2003-2E201-0001148-013	15	FITTING COUPLING THRD NPT 3M 1 1/2" A350LF2 CODE: 22298	SEE NOTE	SATISFACTORY
MEZ		0020	45027586	2003-2E201-0001148-015	5	FITTING CROSS THRD NPT 2M 1 1/2" A105N CODE: 24761	SEE NOTE	SATISFACTORY
G91		0021	45027586	2003-2E201-0001148-016	50	FITTING 90 ELB. THRD NPT 2 3/8M 1/8" A105N CODE: 24765	SEE NOTE	SATISFACTORY
70432		0032	45027586	2003-2E201-0001148-021	1850	FITTING HEX.HIPLUG THRD NPT 1/4" A105N CODE: 24955	SEE NOTE	SATISFACTORY
18324		0031	45027586	2003-2E201-0001148-021			SEE NOTE	SATISFACTORY

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HEAT CODE	HEAT	ITEM	MATERIAL	C%	S%	MIN%	MAX%	ELONGATION	REDUCTION OF AREA	HARDNESS	SEAL TEST	FLATTENING TEST	TYPE 15k/15mm	IMPACT TEST	YIELD POINT	SHAPE	YIELD POINT
78703	0005	ASTM A105	0.195	0.200	1.100	0.012	0.010	0.050	0.050	0.020	0.020	0.020	0.180	0.000	0.000	0.025	0.417
G85	0008	ASTM A105	0.200	0.240	1.110	0.015	0.010	0.080	0.010	0.016	0.016	0.020	0.190	0.000	0.000	0.027	0.433
T95	0009	ASTM A105	0.195	0.220	1.140	0.015	0.010	0.050	0.010	0.010	0.010	0.023	0.160	0.010	0.000	0.026	0.428
73219	0011	ASTM A105	0.190	0.240	1.120	0.011	0.018	0.070	0.010	0.023	0.020	0.024	0.200	0.002	0.000	0.025	0.423
86U	0013	ASTM A105	0.180	0.200	1.050	0.013	0.011	0.090	0.050	0.019	0.019	0.025	0.180	0.000	0.000	0.025	0.405
G94	0014	ASTM A350 LF2 cl.1	0.185	0.180	0.960	0.019	0.012	0.100	0.080	0.010	0.021	0.020	0.004	0.000	0.000	0.006	0.366
941043	0017	ASTM A350 LF2 cl.1	0.200	0.200	0.920	0.026	0.009	0.130	0.120	0.024	0.019	0.020	0.001	0.000	0.000	0.019	0.407
MEZ	0020	ASTM A105	0.185	0.190	0.950	0.026	0.011	0.050	0.050	0.010	0.000	0.000	0.190	0.001	0.000	0.000	0.378
G91	0021	ASTM A105	0.195	0.170	0.940	0.026	0.019	0.130	0.070	0.010	0.014	0.010	0.180	0.000	0.000	0.005	0.398
MZ	0032	ASTM A105	0.180	0.156	0.650	0.014	0.010	0.100	0.030	0.010	0.000	0.000	0.001	0.002	0.000	0.000	0.314

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	WEIGHT mm	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS	SEAL TEST	FLATTENING TEST	TYPE 15k/15mm	IMPACT TEST	YIELD POINT	SHAPE	YIELD POINT
78703	0005	ASME SA ASTM A105-01	122.65	50.00	339.0	588.0	37.0	62.0	155 - 158	0.0	0.0	0.0	0.0	101	101	0.0
G85	0008	ASME SA ASTM A105-01	122.65	50.00	364.0	588.0	32.0	58.0	160 - 168	0.0	0.0	0.0	0.0	98	98	0.0
T95	0009	ASME SA ASTM A105-01	122.65	50.00	361.0	588.0	34.0	60.0	162 - 168	0.0	0.0	0.0	0.0	100	100	0.0
73219	0011	ASME SA ASTM A105-01	122.65	50.00	341.0	556.0	34.0	54.0	165 - 167	0.0	0.0	0.0	0.0	99	99	0.0
86U	0013	ASME SA ASTM A105-01	122.65	50.00	366.0	587.0	31.0	64.0	160 - 162	0.0	0.0	0.0	0.0	92	92	0.0
G94	0014	ASME SA ASTM A350-00c Gr. LF2 cl.1	122.65	50.00	366.0	548.0	31.0	54.0	160 - 168	0.0	0.0	0.0	0.0	94	94	0.0
941043	0017	ASME SA ASTM A350-00c Gr. LF2 cl.1	122.65	50.00	320.0	528.0	32.0	57.0	158 - 164	0.0	0.0	0.0	0.0	56	56	0.0
MEZ	0020	ASME SA ASTM A105-01	122.65	50.00	318.0	514.0	33.0	58.0	158 - 162	0.0	0.0	0.0	0.0	58	58	0.0
G91	0021	ASME SA ASTM A105-01	122.65	50.00	361.0	596.0	32.0	54.0	160 - 164	0.0	0.0	0.0	0.0	102	102	0.0
MZ	0032	ASME SA ASTM A105-01	122.65	50.00	325.0	520.0	32.0	61.0	158 - 164	0.0	0.0	0.0	0.0	106	106	0.0

NOTES ASME B16.11.96 - BS 3789 - ANSI B31.1/B31.3 - IML STD - NACE MR0175-99 -
ANSI B1.1-818.2.2 - NACE MR0175-02

INSPECTION AUTHORITY QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL MANUFACTURER'S SYMBOL



STUDBOLTS

FITTINGS I.M.L.

BORIS FIZZOTTI

1 403 466 5970;#14/40



39421

23/12/91
DATE

MATERIAL IN ACCORDANCE WITH EACE 880175 13.1994.

PC: 10/1/81

M.E.G.A. S.p.A. - VIA DALLA CHIESA, 3 - SCANZOROSCIATE (BG) ITALY - TEL. 035/661280 - TELEX 301356 MEGA I - TELEFAX 035/665526

ALBERTA MUNICIPAL AFFAIRS

ABSA - the pressure equipment authority

200, 4208 - 97 Street

Edmonton AB T6E 5Z9

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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 Act governing the construction and installation of pressure vessels.

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

Manufactured by Construit par	Name and address of Manufacturer/ Nom et adresse du constructeur
Manufactured for Construit pour	Name and address of Purchaser or Consignee/ Nom et adresse du client ou de son représentant Global Heat Transfer Ltd. 7716 67th Street, Edmonton, Alberta
Ultimate owner Utilisateur	Name and address/ Nom et adresse UNKNOWN
Location of installation Lieu d'installation	Name and address/ Nom et adresse UNKNOWN

Pressure vessel/ Appareil

Type/ Genre Category H Pressure Fitting	Overall Length/Longueur totale 622.3mm	Serial No./ N° de série (Series 450JAN08B) 512033039, 512033040, 512033041, 512033042, 512033043, 512033044, 512033045, 512033046, 512033047, 512033048	Year built/Année de fabrication 2005
Provincial Registration No. - C.R.N./N° d'enregistrement provincial - N.E.C. OH 7426.21			Drawing No./ N° de dessin 450-71001 rev.2

The chemical and physical properties of all parts meet the requirements of material specifications of the A.S.M.E. Code.

Les propriétés chimiques et physiques de toutes les composantes respectent les exigences des spécifications de matériaux de code ASME.

The design, construction and workmanship conform to CSA B51. La conception, la construction et la façon sont conformes à ACNOR B51.	ASME Section VIII	Division 1	Addenda/Supplément 2004	Code case No. N° de cas 2148
Manufacturer's partial data reports properly identified and signed by authorized inspectors have been furnished for the following items of the report, and attached to this report. Les rapports partiels du constructeur adéquatement identifiés et signés par les inspecteurs autorisés ont été produits pour les items suivants du rapport, et attachés à ce rapport.				
Names of parts/ Nom de la composante	Item No./ NO d'item	Manufacturer's Name/ Nom du constructeur	Identifying Stamp/ Estampe d'identification	

Shell/ Virole

Description	Material Matériau	Thickness Épaisseur	Corr. Allow. Surépais. de corr.	Diameter Diamètre	Longitudinal Joints Joints longitudinaux			P.W.H.T. Traitement thermique		Girth Joints Joints de circonférence		Number of courses Nombre de arçons
					Type	R.T. Radiog.	Efficiency Efficacité	Temp.	Time Durée	Type	R.T. Radiog.	

Heads/ Têtes

Description	Material Matériau	Min. Thickn. Épais. minim.	Corr. Allow. Surépais. de corr.	Crown. Radius Rayon couron.	Knuckle Radius Petit rayon	Ellips Ratio Rapp. ellipse	Conical Apex Angle Angle conique	Hemisph. Radius Ray. Hémisph.	Flat Diameter Diam. plat	Stress to pressure Côté sous pression
88.9mm (3.5") hemi channel	SB221 6061 T6	4.8mm (.188")	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
end cap	SB209 6061 T6	9.5mm (.374")	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Removable bolts used (describe other fastenings) Boulons amovibles utilisés (décrire tout autre attache)					Mat'l Spec/ Spéc. du mat.			Grade		Size/ Dimension

Pressure - Temperature/ Pression - température

Pressure Vessel Part de l'appareil	Constructed for max. allowable working pressure Construit pour une pression maximale de marche permise	At max. temp. À une temp. max.	Minimum design metal temp. Temp. min.	Test pressure (hydro-pneumatic or combination) Pression d'épreuve (hydro-pneumatique ou combinaison)
	402 PSI	250 F	-20 F	521 PSI

Tube Section/ Faisceau tubulaire

Tubesheet/ Plaque tubulaire	Material/ Matériau	Diameter/ Diamètre	Nominal Thickness/ Épaisseur nominale	Corr. Allow. Surépais. corrosion	Attachment/ Mode d'attachement
Tube material/ Matériau des tubes SB221/SB209 3003	Diameter/ Diamètre n/a	Nominal Thickness (gauge)/ Épaisseur nominale (calibre) n/a	Number/ Nbre n/a	Type (Straight or U) Type (Droit ou U) n/a	Heating Surface/ Surface de chauffe n/a

Jack/ Chemise

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

Safety Valve Outlets/ Soupapes de sûreté

Number/ Nombre	Dimension	Location/ Endroit

Nozzles and Openings/ Tubulures et ouvertures

Purpose/ But	Number/ Nombre	Dimension	Type	Material/ Matériau	Nominal Thickness/ Épaisseur nominale	Reinforcement material/ Matériau de renfort	How attached/ Genre d'attaches	Location/ Endroit
inlet/outlet	2	1.5" NPT	half coupling	SB221 / 061 T6	.3"	n/a	welded	tank face
drain	1	.25" NPT	half coupling	SB221 / 061 T6	.3"	n/a	welded	tank side

Supports/ Supports

Skirt/ Jups Yes/ Oui No/ Non <input type="checkbox"/> <input type="checkbox"/>	Lugs/ Orelles No./ Nbre	Legs/ Pieds No./ Nbre	Other/ Autres (Description)	Attached/ Attaches (Where and How/ Méthode et endroit)

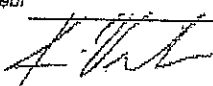
Remarks/ Observations (Cubical capacity/ Volume)**Certificate of Compliance/ Certificat de conformité**

We certify that the statements made in this data report are correct and that the said vessel has been constructed in accordance with the Provincial Registered design below and the requirements of standard CSA B51.

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

Provincial Registered Design
Enregistrement provincial QH 7425.2 i3

Manufacturer
Constructeur

Signature 
(Representative)

Date 13 FEB 06

Signature
(Certified Individual)

Date

450 JMW 2014

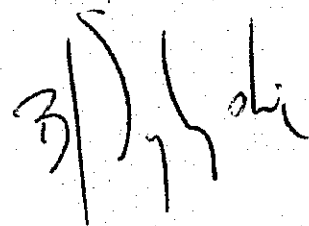
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Certificate Of Compliance

BULEY

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	0H5415.21345				
S/N	8600.336				
Diameter	8.625	Inches	Overall Length	56	Inches
Year Built	2007				
MAWP	600	PSIG	@	650	°F
MDMT	-20 °F				
C.A.	0.0625	Inches			
Radiography	N/A				
PWHT :	Time	N/A	min.	Temp.	N/A °F
Hydro Tested	@	780	PSIG		



Quality Control Manager
BJ SYLYSKI

April 3, 2007

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JAN 30 2007

PURCHASER: SEYBOLD INTERNATIONAL CORP.

ASTM A234 WPB-03

STANDARD: ASME SA234 WPB-03

MATERIALS: ASTM A106 Gr.B

INSP.SPEC.: ASME B16.9-01

INSPECTION CERTIFICATE

SHANGHAI GATEWAY FITTINGS CO.,LTD

1033, Shuang-zhu Road Hua-tung town, Jia-ding District,

Shanghai, China

TEL: 86-21-54145661

FAX: 86-21-54145662

DATE: 2006-02-1

ORDER NO: 5298

P.I.NO: 5K02

CERTIF.NO: 06B01-2

ITEM NO.	PRODUCT & SIZE	QUANTITY PCS	MFG NO.	VISUAL & DIMENSIONAL INSPECTION	HARDNESS MAX.197 HB	HEAT TREATMENT T (NOTE)	MAGNETIC PARTICLE EXAMINATION
11	RE-4"X2" STD	25	5L147	GOOD	91-75	N	
12	RE-4"X3" STD	50	5L149	GOOD	87-72	N	
13	CAP-3/4" STD	50	5L157	GOOD	85-68	N	
14	CAP-1-1/4" STD	100	5L159	GOOD	86-79	N	
15	CAP-2" STD	200	5L161	GOOD	85-73	N	
16	CAP-2-1/2" STD	300	5L162	GOOD	88-70	N	
17	CAP-4" STD	400	5H14	GOOD	91-76	N	
18	CAP-6" STD	100	5F02	GOOD	83-69	N	
19	CAP-8" STD	1000	6B02	GOOD	87-68	N	
20	CAP-8" STD	1600	6A10	GOOD	85-72	N	

CHEMICAL COMPOSITION %

ITEM NO.	MATERIAL CHARGE NO.	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	PHYSICAL TEST			
													YS KSI	TS KSI	E	%
11	1-2255	21	28	49	19	12	7	9	5	0	0	0	44.98	71.10	30.5	37.
12	1-2255	21	28	49	19	12	7	9	5	0	0	0	44.98	71.10	30.5	37.
13	DL0533161	13	17	33	11	15	0	0	0	0	0	0	42.08	62.77	33.0	18.1
14	DL0533192	12	15	33	10	14	0	0	0	0	0	0	40.63	68.20	33.0	17.1
15	DL0533192	12	15	33	10	14	0	0	0	0	0	0	40.63	68.20	33.0	17.1
16	DL05333031	14	16	34	12	16	0	0	0	0	0	0	43.18	65.37	34.0	19.1
17	DL0421359	11	13	39	12	21	0	0	0	0	0	0	47.16	62.32	36.0	17.1
18	DL0527562	18	10	36	12	21	0	0	0	0	0	0	50.06	70.37	25.0	24.1
19	DL0426267	16	19	31	12	18	0	0	0	0	0	0	50.79	63.82	29.0	21.1
20	DL0426267	16	19	31	12	18	0	0	0	0	0	0	50.79	63.82	29.0	21.1

(NOTE): ALL HEAT TREATED WITH FINAL TEMPERATURE BETWEEN 620°C - 980°C, AIR COOLING.

N: NORMALIZING AT TEMPERATURE 880°C ± 0.5 HR, AIR COOLING.

NACE MR-01-75 : BATERFACTORY

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT.

MANAGER OF Q. A. DEPT



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

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

ENSAYOS DE TRACCION / TENSILE TEST

ENSAYOS DE TRACCION / TENSILE TEST

CALL 1-877-333-3333



(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		Expediente/ Manufacturing Order		Número / Number	Fecha / Date	Pág./Page
VAN LEEUWEN CANADA		514589.02		318942	08/05/2006	2 / 5
Producto / Product		Orden de Compra/ Purchase Order		Item	Referencia del Cliente / Customer Reference	
SMLS LINE PIPE		45000442		00002	45000442	
Norma / Standard						
API 5L/ASTM/ASME A/SA 53/106 +CSA Z245.1ED 2002 + P4.17-01/02						
Dimensiones / Dimensions		Peso Nominal / Nominal Weight		Longitud / Length		
219.10 x 8.20 mm		42.55 KG/MT		S.R. (SP)		
8 5/8 x 0.322 inches		28.58 LB/FT		Superficie Externa / External Surface		
				VARNISHED		
				Extremos / Ends		
				BEVELLED AT 30 DEG. ASTM		
				Cantidades / Quantities		
				251 Pz 1647.07 m 70345Kg		
				251 Pcs 5403.77 Ft 155084 Lb		

ENSAYOS QUIMICOS / CHEMICAL ANALYSES

[illegible]

H = Analysis of Reactants / Heat Analysis	P = Analysis de produtos / Product Analysis	C.e.m Carbono Equivalente/Equivalent Carbon
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$CEQ1 = \frac{(C+MO+V)/5 + (N+H)/5}{(C+MO+V)/5 + (N+H)/5}$	$CEQ2 = \frac{O + (M+N)/5 + (S+H)/5}{(C+MO+V)/5 + (N+H)/5}$
--	---

Sum 1 = CR+CU+MOEN+V	SUM 2 =
----------------------	---------

21 R MNC R2

THE



INSPECTION CERTIFICATE

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

SIDERCA S.A.I.C.
Dr. Jorge A. Simini 250
(92804MHA) Campana
Buenos Aires, Argentina
(54) 3489 433100 tel.
(54) 3489 433405 fax

Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 514589.02		Número / Number 318942	Fecha / Date 08/05/2006	Pág. / Page 3 / 5
Producto / Product SMLS LINE PIPE		Orden de Compra / Purchase Order 45000442		Item 00002	Referencia del Cliente / Customer Reference 45000442	
Norma / Standard API 5L/ASTM/ASME A53/106 +CSA Z245.1ED 2002 + P4.17-0102		Grado / Grade BX42+290SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 219.10 x 8.20 mm 8 5/8 x 0.322 inches		Peso Nominal / Nominal Weight 42.55 KG/MT 28.58 LB/FT		Superficie Externa / External Surface VARNISHED		
Schedule 40		Longitud / Length S.R. (SP)		Cantidad / Quantities 251 Pz 1647.07 m 251 Pcs 5403.77 Ft 155084 Lb		
S & = Monograma / Monogram SIDERCA NNNN = Mes / Año Month / Year MM.YY = Año / Trimestre Year / Quarter YYT =		Marcas / Marking LLL = Longitud / length HNXXXX = Colada / Heat		PPP = Peso / Weight @ = Monograma / Monogram API		
Presión / Pressure Valor / Value 2400		Tiempo / Time Segundos / Seconds 5.00		Resultado / Results Satisfactorio / Satisfactory		
Unidad / Unit PSI		Prueba Hidráulica / Hydrostatic Test				
Estandar (Tubo) / Stencilling (Pipe) NNNN LLLL PPPPP TENARIS SD 5L0098 @ MM.YY ASTM/ASME A53/106 API5L CSA Z245.1 BX42PSL 1/290 CATI SS S 219,1 8,2 28,58 5 SCH40 STD 2400PSI PO45000442 5/4589.02 MADE IN ARGENTINA HNXXXX						
FABRICADO POR SIDERCA		*MANUFACTURED BY SIDERCA*				
PROCESO DE ACERACIÓN		*ACIERAGE PROCESS*				
FABRICACIÓN DE ACERO: FUNDICIÓN POR ARCO ELÉCTRICO Y COLADO CONTINUO - ACERO CALMADO AL ALUMINIO.		STEEL MAKING PROCESS: E.A.F.L.F. AND CONTINUOUS CASTING - FULL ALUMINIUM KILLED AND FINE GRAIN PRACTICE.				
- LA PRÁCTICA DE AFINO EN EL HORNO - CUCHARA INCLUYE UNA INYECCIÓN FINAL DE UNA VARILLA DE SIGUIRO DE CALCIO PARA OBTENER UNA FORMA GLOBULAR DE EVENTUALES MICROINCLUSIONES.		- THE LF PRACTICE INCLUDES A FINAL INJECTION OF CALCIUM SILICIDE WIRE FOR MICROINCLUSION SHAPE CONTROL				
- MATERIAL LIBRE DE CONTAMINACIÓN DE MERCURIO.		- MATERIAL FREE FROM MERCURY CONTAMINATION				
PROCESO DE LAMINACIÓN		*ROLLING PROCESS*				
- FABRICACIÓN DE TUBO: LAMINADO EN CALIENTE Y SIN COSTURA.		- MANUFACTURING PROCESS: SEAMLESS HOT ROLLED.				
CONTROLES		*CONTROLS*				
- CONTROL VISUAL Y DIMENSIONAL SATISFACTORIO.		- VISUAL AND DIMENSIONAL INSPECTION: SATISFACTORY.				
CONDICIONES DEL MATERIAL		*MATERIAL CONDITIONS*				
- NO REPARADO POR SOLDADURA.		- NOT REPAIRED BY WELDING.				
PROPIEDADES DEL MATERIAL		*MATERIAL PROPERTIES*				
- LA DUREZA CUMPLE CON LA NORMA NACE MR 01-75 ÚLTIMA EDICIÓN.		- HARDNESS ACCORDING TO NACE MR-01-75 LATEST EDITION				



SIDERCA S.A.I.C.
Dr. Jorge A. Simini 250
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(54) 3489 433405 fax

INSPECTION CERTIFICATE

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

Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 514589.02		Número / Number 318942	Fecha / Date 08/05/2006	Pag./Page 4 / 5
Producto / Product SMLS LINE PIPE		Orden de Compra / Purchase Order 45000442		Item 00002	Referencia del Cliente / Customer Reference 45000442	
Norma / Standard API 5L/ASTM/ASME AISA 53/106 +CSA Z245.1ED 2002 + P4.17-01/02		Grado / Grade BIX42+290SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 219.10 x 8.20 mm 8 5/8 x 0.322 inches		Peso Nominal / Nominal Weight 40 42.55 KG/MT 28.58 LB/FT		Superficie Externa / External Surface VARNISHED		
Longitud / Length S.R. (SP)		Cantidades / Quantities 251 Pz 1647.07 m 70345 Kg 251 Pcs 5403.77 Ft 155084 Lb				
- EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS CSA Z245.1 GR 241/290 CAT I		- MATERIAL COMPLIES WITH CSA Z245.1 GR 241/290 CAT I				
- EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS DE MICRODUREZA HV500 MAXIMO 248 VICKERS SEGUN CSA Z245.1.02.		- MATERIAL COMPLIES WITH HARDNESS HV500 MAXIMUM 248 VICKERS ACCORDING TO CSA Z245.1.02 REQUIREMENTS.				
NORMAS		*STANDARDS*				
-EDICION DE LA NORMA : ASME SA 106/01.		-EDITION OF REGULATION: ASME SA 106/01.				
-EDICION DE LA NORMA : ASME SA 53/01.		-EDITION OF REGULATION: ASME SA 53/01.				
-EDICION DE LA NORMA : NACE MR-01-75 ULTIMA EDICION		-EDITION OF REGULATION: NACE MR-01-75 LATEST EDITION				
-EDICION DE LA NORMA: CSA Z245.1/02.		-EDITION OF REGULATION: CSA Z245.1/02.				
-EDICION DE LA NORMA: API 5L, 43° Edition 2004.		-EDITION OF REGULATION: API 5L, 43° Edition 2004.				
-EDICION DE LA NORMA: ASTM A53/04a.		-EDITION OF REGULATION: ASTM A53/04a.				
-EDICION DE LA NORMA : ASTM A106/04b.		-EDITION OF REGULATION: ASTM A106/04b.				
Observaciones / Remarks NON DESTRUCTIVE TEST: SATISFACTORY. INSPECTION METHODS: E.M.I. LONG.(EXT.) NOTCH 5% * E.M.I. LONG.(INT.) NOTCH 10% * E.M.I. TRANSV.(EXT./INT.) NOTCH 10% * M.P.I. LONG. (EXT./INT.) AT ENDS ONE YELLOW LONGITUDINAL BAND END MARKING- ONE DRANGE BAND. Protectores / End Protectors: NON LIFTABLE CLOSED PLASTIC PROTECTOR FOR FLAT / BEVELED PIPE. SUPPLIER METAL CENTRO.						



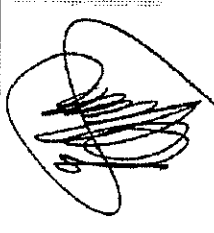
SIDERCA S.A.I.C.
Dr. Jorge A. Simini 250
(82804014A) Campana
Buenos Aires, Argentina
(54) 3489 433100 tel.
(54) 3489 433403 fax

INSPECTION CERTIFICATE

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

Cliente / Customer VAN LEELUWEN CANADA		Expediente / Manufacturing Order 54589.02		Número / Number 318942	Fecha / Date 08/05/2006	Pág. / Page 5 / 5
Producto / Product SMLS LINE PIPE		Orden de Compra / Purchase Order 45000442		Item 00002	Referencia del Cliente / Customer Reference 45000442	
Norma / Standard API 5L X 80 S50 X 40		Grado / Grade BX42+290SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 219.10 x 8.20 mm		Superficie Externa / External Surface VARNISHED		Cantidades / Quantities 251 Pz 1647.07 m 70345 Kg		
Schedule 40		Longitud / Length S.R. (SP)		251 Pcs 5403.77 Ft 155084 Lb		
Peso Nominal / Nominal Weight 42.55 KG/MT						
Inches 8 5/8 x 0.322						

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



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



THE

INDUSTRIA MECCANICA LIGURE SPA

1539 CADAZA VOLUME : GROSS : 17 1/2 INCHES CIRCUMF. x 7-1/2 INCHES HGT. - 1539

1517006270001 NE 21ST AVENUE POLICE STATION

[illegible]

STANDARD ON RAIL
TWO AS CRUISE SHIPS

WILSON LTD

Case 3, 1st Floor, Double doors, 1000 sq. ft.

THE UNIVERSITY OF CHICAGO PRESS

Page 11 of 24

FACTS The fact of the presence of a person in a place is not a sufficient basis for a search of the person's person or property.

● 重要提示

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Page 11 of 24

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CERTIFIED MILL TEST REPORT



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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.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 11/07/06

CUSTOMER'S Order No.: 9109934-00

Bonney Order No. 44493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

EDMONTON ALBERTA
EDMONTON ALBERTA, T6E5S5 CANAD

RECEIVED

DEC 13 2006

387793

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 .190 MN 1.040 P .010 S .021 SI .22C NI .030 CU .060 CO .002 CR .040 MO .01C V .000 AL .022 NB .014 CE(LONG FORMULA) = 0.38 T/S 72250 Y/S 50250 EL 31.60 RA 63.95 BRINELL HARDNESS1: 132 HARDNESS2: 130
024	1450	3611	7523726	1/2 3000 A105N HCP T C .200 MN 1.000 P .009 S .020 SI .18C NI .040 CU .150 CO .003 CR .060 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
025	800	3594	7523882	2 3000 A105N HCP T C .200 MN 1.010 P .012 S .024 SI .19C NI .030 CU .120 CO .003 CR .040 MO .01C 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	7524129	11/2 3M A105N UNAR T NUT-GM C .180 MN .810 P .011 S .027 SI .29C NI .080 CU .150 CR .110 MO .017 V .001 AL .022 NB .002 CE(LONG FORMULA) = 0.36 T/S 77250 Y/S 54125 EL 32.40 RA 70.35 BRINELL HARDNESS1: 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 checks.

by

Kylee Fleck

CMTR: REV 1

QUALITY PROCESS MANAGER

CERTIFIED MILL TEST REPORT



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LOG NO. 304580 PAGE 15

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(814) 542-2545 • (800) 345-7548 • FAX (814) 542-4906
www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 11/07/06

CUSTOMER'S Order No.: 9109934-00

Bonney Order Np044493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

387793

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 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 B (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 A350-LF2.
10. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.

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***** 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.

by

Kylee Fleck

CMTR: REV 1

QUALITY PROCESS MANAGER

CERTIFIED MILL TEST REPORT



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 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4908
 www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 08/23/06

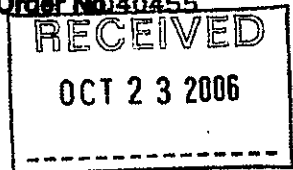
CUSTOMER'S Order No.: 9109088-00

Bonney Order No. 40455

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
 5105 75TH STREET

378307

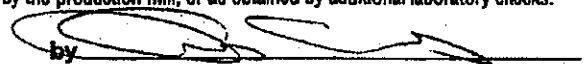
EDMONTON ALBERTA
 EDMONTON ALBERTA, T6E5S5 CANAD



ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO					
			CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS					
SA/A105N								
037	610	3479	7523696	2 3M A105N COUP T				
				C .190 MN 1.060 P .015 S .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	7523823	11/4 3000 A105N HCP T				
				C .200 MN 1.010 P .013 S .019 SI .210				
				NI .040 CU .210 CO .003 CR .040 MO .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	7523882	2 3000 A105N HCP T				
				C .200 MN 1.040 P .010 S .018 SI .210				
				NI .040 CU .190 CO .004 CR .040 MO .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 CU .030 CO .002 CR .070 MO .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.

by 

Cris Childers

CMTR: REV 1

QUALITY PROCESS MANAGER

CERTIFIED MILL TEST REPORT



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www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 08/23/06

CUSTOMER'S Order No.: 9109088-00

Bonney Order No 40455

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

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OCT 23 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 SA350-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.

by 

Cris Childers

CMTR: REV 1

QUALITY PROCESS MANAGER

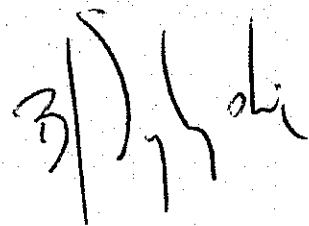
Certificate Of Compliance

RECEIVED APR 05 2007

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.

CRN	0H5415.21345				
S/N	8600.341				
Diameter	8.625	Inches	Overall Length	56	Inches
Year Built	2007				
MAWP	600	PSIG	@	650	°F
MDMT	-20 °F				
C.A.	0.0625	Inches			
Radiography	N/A				
PWHT : Time	N/A	min.	Temp.	N/A	°F
Hydro Tested @	780	PSIG			



Quality Control Manager
BJ SYLYSKI

April 3, 2007

RECEIVED

JAN 30 2007

PURCHASER: SEYBOLD INTERNATIONAL CORP. **INSPECTION CERTIFICATE** DATE: 2006-02-1
 STANDARD: ASTM A234 WPB-03 SHANGHAI GATEWAY FITTINGS CO., LTD
 MATERIALS: ASTM A106 Gr. B 1033, Shuang-zhu Road Hua-ding town, Jia-ding District,
 INSP. SPEC.: ASME B16.9-01 Shanghai, China
 TEL: 86-21-54145661 FAX: 86-21-54145662
 ORDER NO: 5298
 P.I. NO: 5802
 CERTIF. NO: 06B01-2

ITEM NO.	PRODUCT & SIZE	QUANTITY PCS	MFG NO.	VISUAL INSPECTION	HARDNESS MAX 197 HB	HEAT TREATMENT (NOTE)	MAGNETIC PARTICLE EXAMINATION
11	RE-4" STD	25	5L147	GOOD	91-75	N	
12	RE-4" STD	50	5L149	GOOD	87-72	N	
13	CAP-3/4" STD	50	5L157	GOOD	85-68	N	
14	CAP-1-1/4" STD	100	5L159	GOOD	86-79	N	
15	CAP-2" STD	200	5L161	GOOD	85-73	N	
16	CAP-2-1/2" STD	100	5L162	GOOD	88-70	N	
17	CAP-3" STD	400	5H14	GOOD	91-76	N	
18	CAP-6" STD	100	5F02	GOOD	83-69	N	
19	CAP-6" STD	1000	6B02	GOOD	87-68	N	
20	CAP-8" STD	1600	6A10	GOOD	85-72	N	

ITEM NO.	MATERIAL CHARGE NO.	CHEMICAL COMPOSITION %										PHYSICAL TEST			
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	YS KSI	TS KSI	E	C
		*100	*100	*100	*1000	*1000	*100	*100	*100	*100	*100			%	%
11	1-2255	21	28	49	19	12	7	9	5	0	0	44.98	71.10	30.5	37.
12	1-2255	21	28	49	19	12	7	9	5	0	0	44.98	71.10	30.5	37.
13	DL0533161	13	17	33	11	15	0	0	0	0	0	42.08	62.77	33.0	18.1
14	DL0533192	12	15	33	10	14	0	0	0	0	0	40.63	68.20	33.0	17.1
15	DL0533192	12	15	33	10	14	0	0	0	0	0	40.63	68.20	33.0	17.1
16	DL05333031	14	16	34	12	16	0	0	0	0	0	43.18	65.37	34.0	18.1
17	DL0421389	11	13	39	12	21	0	0	0	0	0	47.16	62.32	36.0	17.1
18	DL0527562	18	10	36	12	21	0	0	0	0	0	50.06	70.37	25.0	24.1
19	DL0426267	16	19	31	12	18	0	0	0	0	0	50.79	63.82	29.0	21.1
20	DL0426267	16	19	31	12	18	0	0	0	0	0	50.79	63.82	29.0	21.1

(NOTE): A: HOT FORMED WITH FINAL TEMPERATURE BETWEEN 2200° - 2800° F, AIR COOLING.
 N: NORMALIZING AT TEMPERATURE 2200° F ± 50° F, AIR COOLING.

NACE MR-01-75 : WATER FACTORY
 WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT.

MANAGER OF Q. A. DEPT



INSPECTION CERTIFICATE

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

SIDERCA S.A.I.C.
Dr. Jorge A. Simini 250
(02804444) Campana
Buenos Aires, Argentina
(54) 3489 433100 Tel.
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Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 514589.02		Número / Number 318942	Fecha / Date 08/05/2006	Pág./Page 1 / 5
Producto / Product SMLS LINE PIPE		Orden de Compra / Purchase Order 45000442		Item 00002	Referencia del Cliente / Customer Reference 45000442	
Norma / Standard API 5L/ASTM A53/106 +CSA Z245.1ED 2002 + P4.17-0102		Grado / Grade B/X42+290SS		Extremos / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 219.10 x 8.20 mm 8 5/8 x 0.322 inches		Schedule 40		Superficie Externa / External Surface VARNISHED		
Peso Nominal / Nominal Weight 42.55 KG/MT 28.58 LB/FT		Longitud / Length S.R. (SP)		Cantidades / Quantities 251 Pz 1647.07 m 70345 Kg 251 Pcs 5493.77 Ft 155084 Lb		

ENSAYOS DE TRACCION / TENSILE TEST

Colada	Nº de Ensayo	Condición de la probeta				Temp de Ens	Dimensiones		Sección	Fluencia / Yield Strength						Rotura U.T.S				Relación F/R		Alargamiento Elongation				Red. de área		Dureza / Hardness Tipo / type: BHN																				
										Offset Method		EUL Method				Req. Min		V. obt.		Req. Min		V. obt.		Req. Min		V. obt.		Req. Min		V. obt.		Req. Min		V. Obt.		Req. Max												
												EUL	Req. Min	V. obt.	Req. Max																							EUL	Req. Min	V. obt.	Req. Max	YS/UTS Ratio	Lo 2"	Req. Min	V. obt.	Area Red.	Req. Min	%
Heat	Test Nº	Zona	Estado	Ext.	Nº	P/T	Type	Ord	Temp	Size	Area	Inchs2	Req. Min	0.2%	Ksi	%	Ksi	%	Req. Min	V. obt.	Req. Min	V. obt.	Area Red.	Req. Min	%	V. Obt.	Req. Min	%	Req. Max																			
77219	544348	C/B	PRO				ST	L	T AIRT	1,500 X 0,325	0,490		0.5	42	45.9	60	73.0			25.0	34.8				181				200																			
78938	544350	C/B	PRO				ST	L	T AIRT	1,498 X 0,315	0,473		0.5	42	44.0	60	71.0			25.0	35.8				184				200																			
78939	544347	C/B	PRO				ST	L	T AIRT	1,489 X 0,322	0,483		0.5	42	44.1	60	71.0			25.0	36.7				183				200																			

TEST TECHNOLOGICO / TECHNOLOGICAL TEST

Aplanamiento / Flattening Test	Curvado / Bump Test	Abocardado / Flaring Test	Resistido / Flange Test	Ens. De Tracción de anillo / Ring tensile Test	RE = Rectangular CI = Cylindrical ST = Segmento Tubular / Tubular specimen		C/B = Cuerpo / Body RU = Rodado / Upset P/A = Protegido / Average Min = Minimum / minimum Max = Maximum / Maximum		L = Longitudinal T = Transversal P/T = Tubo / Pipe EXT = Extremo / End M = Medio / Middle		V.Obt = Valor Obtenido / Obtained value E = Comienzo de marcado / Stenciling starting O = Extremo opuesto al E / Opposite extreme to E	
Satisfact	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pro =	Proceso / Process	PMWT = Post Weld Heat Treatment										
N =	Normalizado / Normalized											
DIST =	Diferenciación / Stress Relief											
Q & T =	Templeo y revenido / Quenched & Tempered											
TAIRT =	Temp. Ambiental / Room Temperature											



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

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ENSAYOS QUÍMICOS / CHEMICAL ANALYSES

NOTAS / NOTES: H = Análisis de colecta / Heat Analysis. P = Análisis de producto / Product Analysis. C = Carbono Equivalente/Equivalent Carbon

NOTAS / NOTES	P = Análisis de producto / Product Analysis	C.e.m. Carbono Equivalente/Equivalent Carbon
P = Análisis de producto / Product Analysis		
C.e.m. Carbono Equivalente/Equivalent Carbon		

$$\text{REQ 1} = \text{C} + (\text{MN}/5) + (\text{CR} + \text{MO} + \text{V})/5 + (\text{NI} + \text{CU})/5$$

Sum 1 = CR+CU+MO+NI+V

R1#	MNC
R2#	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters.

2. The second part outlines the specific steps and procedures for conducting a thorough audit. This includes identifying the scope of the audit, gathering relevant data, and performing detailed reviews of financial statements and operational processes.

3. The third part addresses the challenges and common pitfalls associated with auditing. It provides practical advice on how to overcome these obstacles, such as ensuring clear communication with stakeholders and maintaining objectivity throughout the process.

4. The final part concludes by highlighting the benefits of a well-executed audit. It notes that regular audits can help identify areas for improvement, prevent fraud, and ensure compliance with regulatory requirements.



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INSPECTION CERTIFICATE

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

Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 514589.02		Número / Number 318942	Fecha / Date 08/05/2006	Pág. / Page 3 / 5
Producto / Product SMLS LINE PIPE		Orden de Compra / Purchase Order 45900442		Item 00002	Referencia del Cliente / Customer Reference 45000442	
Norma / Standard API 5L/ASTM A53 53/106 + CSA Z245.1 ED 2002 + P4.17-01/02		Grado / Grade B/X42+290SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 219.10 x 8.20 mm 8 5/8 x 0.322 Inches		Peso Nominal / Nominal Weight 42.55 KG/M 28.58 LB/FT		Cantidades / Quantities 251 Pz 1647.07 m 70345 Kg 251 Pcs 5403.77 Ft 155084 Lb		
Schedule 40		Longitud / Length S.R. (SP)		Superficie Externa / External Surface VARNISHED		
Marcas / Marking LLL = Longitud / length HNXXXXX = Colada / Heat		PPP = Peso / Weight		@ = Monograma / Monogram API		
Y/T = Año / Trimestre Year / Quarter		NNNNN = Número de tubo / Nbr of pipe				
MM.YY = Mes / Año Month / Year		Y/T = Año / Trimestre Year / Quarter				
Prueba Hidráulica / Hydrostatic Test		Tiempo / Time		Resultado / Results		
Segundos / Seconds		5.00		Satisfactorio / Satisfactory		
Presión / Pressure		Valor / Value		2400		
Unidad / Unit		Psi				
Estando (Tubo) / Stencilling (Pipe)		NNNN LLLL PPPPP TENARIS SD 5L0098 @ MM.YY ASTM A53 53/106 API 5L CSA Z245.1 B/X42PSL 1/290 CATI SS S 219.1 8.2 28.58 6 SCH 40 STD 2400PSI PO45000442 514589.02 MADE IN ARGENTINA		HNXXXXX		
FABRICADO POR SIDERCA		*MANUFACTURED BY SIDERCA*				
PROCESO DE ACERACIÓN		*ACIERAGE PROCESS*				
FABRICACIÓN DE ACERO: FUNDICIÓN POR ARCO ELÉCTRICO Y COLADO CONTINUO - ACERO CALUADO AL ALUMINIO.		STEEL MAKING PROCESS: E.A.F./L.F. AND CONTINUOUS CASTING - FULL ALUMINIUM KILLED AND FINE GRAIN PRACTICE.				
LA PRACTICA DE AFINO EN EL HORNO - CUCHARA INCLUYE UNA INYECCIÓN FINAL DE UNA VARILLA DE SÍLICIO DE CALCIO PARA OBTENER UNA FORMA GLOBULAR DE EVENTUALES MICROINCLUSIONES.		THE LF PRACTICE INCLUDES A FINAL INJECTION OF CALCIUM SILICIDE WIRE FOR MICROINCLUSION SHAPE CONTROL.				
-MATERIAL LIBRE DE CONTAMINACIÓN DE MERCURIO.		-MATERIAL FREE FROM MERCURY CONTAMINATION.				
PROCESO DE LAMINACIÓN		*ROLLING PROCESS*				
FABRICACIÓN DE TUBO: LAMINADO EN CALIENTE Y SIN COSTURA.		MANUFACTURING PROCESS: SEAMLESS HOT ROLLED.				
CONTROLES		*CONTROLS*				
CONTROL VISUAL Y DIMENSIONAL SATISFACTORIO.		VISUAL AND DIMENSIONAL INSPECTION: SATISFACTORY.				
CONDICIONES DEL MATERIAL		*MATERIAL CONDITIONS*				
-NO REPARADO POR SOLDADURA.		-NOT REPAIRED BY WELDING.				
PROPIEDADES DEL MATERIAL		*MATERIAL PROPERTIES*				
-LA DUREZA CUMPLE CON LA NORMA NACE MR 01-75 ÚLTIMA EDICIÓN.		-HARDNESS ACCORDING TO NACE MR 01-75 LATEST EDITION.				

CAL17504



Tenaris

INSPECTION CERTIFICATE

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

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Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 54589.02		Número / Number 318942	Fecha / Date 08/05/2008	Pág. / Page 4 / 5
Producto / Product SMLS LINE PIPE		Orden de Compra / Purchase Order 45000442		Item 00002	Referencia del Cliente / Customer Reference 45000442	
Norma / Standard API 5L/ASTM A53/106 + CSA Z245.1 ED 2002 + P4.17-01/02		Grado / Grade B1X42+290SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 219.10 x 8.20 mm 8 5/8 x 0.322 inches		Peso Nominal / Nominal Weight 42.55 KG/MT 28.58 LB/FT		Superficie Externa / External Surface VARNISHED		
Schedule 40		Longitud / Length S.R. (SP)		Cantidades / Quantities 251 Pz 1647.07 m 70345 Kg 251 Pcs 5403.77 Ft 155084 Lb		
- EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS CSA Z245.1 GR 241/290 CAT I		- MATERIAL COMPLIES WITH CSA Z245.1 GR 241/290 CAT I				
- EL MATERIAL CUMPLE CON LOS REQUERIMIENTOS DE MICRODUREZA HV500 MAXIMO 248 VICKERS SEGUN CSA Z245.1.02.		- MATERIAL COMPLIES WITH HARDNESS HV500 MAXIMUM 248 VICKERS ACCORDING TO CSA Z245.1.02 REQUIREMENTS.				
NORMAS		*STANDARDS*				
- EDICION DE LA NORMA : ASME SA 106/01.		- EDITION OF REGULATION: ASME SA 106/01.				
- EDICION DE LA NORMA : ASME SA 53/01.		- EDITION OF REGULATION: ASME SA 53/01.				
- EDICION DE LA NORMA : NACE MR-01-75 ULTIMA EDICION		- EDITION OF REGULATION: NACE MR-01-75 LATEST EDITION				
- EDICION DE LA NORMA : CSA Z245.1/02.		- EDITION OF REGULATION: CSA Z245.1/02.				
- EDICION DE LA NORMA : API 5L, 43° Edition 2004.		- EDITION OF REGULATION: API 5L, 43° Edition 2004.				
- EDICION DE LA NORMA : ASTM A53/04a.		- EDITION OF REGULATION: ASTM A53/04a.				
- EDICION DE LA NORMA : ASTM A106/04b.		- EDITION OF REGULATION: ASTM A106/04b.				
Observaciones / Remarks NON DESTRUCTIVE TEST: SATISFACTORY INSPECTION METHODS: E.M.I. LONG (EXT.) NOTCH 5% + E.M.I. LONG (INT.) NOTCH 10% + E.M.I. TRANSV. (EXT./INT.) NOTCH 10% + M.P.I. LONG. (EXT./INT.) AT ENDS.						
ONE YELLOW LONGITUDINAL BAND. END MARKING: ONE ORANGE BAND.						
Protectores / End Protectors: NON REMOVABLE CLOSED PLASTIC PROTECTOR FOR FLAT / BEVELED PIPE SUPPLIER METALCENTRO.						



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INSPECTION CERTIFICATE

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

Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 54589.02		Número / Number 318942	Fecha / Date 08/05/2006	Pág. / Page 5 / 5
Producto / Product SMLS LINE PIPE		Orden de Compra / Purchase Order 45000442		Item 00002	Referencia del Cliente / Customer Reference 45000442	
Norma / Standard API 5LJASTM/ASME NSA 53/106 +CSA Z245.1ED 2002 + P4.17-01/02		Grado / Grade BX42+290SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 219.10 x 8.20 mm 8 5/8 x 0.322 inches		Peso Nominal / Nominal Weight 42.55 KG/MT 28.58 LB/FT		Superficie Externa / External Surface VARNISHED		
Longitud / Length S.R. (SP)		Cantidad / Quantities 251 Pz 1647.07 m 70345 Kg 251 Pcs 5403.77 Ft 155084 Lb				

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

QUALITY CERTIFICATION DEPT.
D.T.O. CERTIFICACION DE CALIDAD
EDUARDO A. AYERBE

CERTIFIED MILL TEST REPORT



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LOG NO. 304580 PAGE 9

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CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

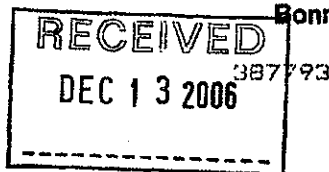
Date 11/07/06

CUSTOMER'S Order No.: 9109934-00

Bonney Order No. 44493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
 5105 75TH STREET

EDMONTON ALBERTA
 EDMONTON ALBERTA, T6E5S5 CANAD



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

SA/A105N

023 120 3582 7523661 11/2 3M A105N COUP T
 C .190 MN 1.040 P .010 S .021 SI .220
 NI .030 CU .060 CO .002 CR .040 MO .010
 V .000 AL .022 NB .014
 CE(LONG FORMULA) = 0.38
 T/S 72250 Y/S 50250 EL 31.60 RA 63.95
 BRINELL HARDNESS1: 132 HARDNESS2: 130

024 1450 3611 7523726 1/2 3000 A105N HCP T
 C .200 MN 1.000 P .009 S .020 SI .180
 NI .040 CU .150 CO .003 CR .060 MO .010
 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



025 800 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 MO .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 7524129 11/2 3M A105N UNAR T
 NUT-GM
 C .180 MN .810 P .011 S .027 SI .290
 NI .080 CU .150 CR .110 MO .017 V .001
 AL .022 NB .002
 CE(LONG FORMULA) = 0.36
 T/S 77250 Y/S 54125 EL 32.40 RA 70.35
 BRINELL HARDNESS1: 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 checks.

by

Kylee Fleck

CMTR: REV 1

QUALITY PROCESS MANAGER

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LOG NO. 304580 PAGE 15

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CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 11/07/06

CUSTOMER'S Order No.: 9109934-00

Bonney Order No. 44493

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

387793

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 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 B (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 A350-LF2.
10. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.

RECEIVED
DEC 13 2006

***** 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.

by

Kylee Fleck

CMTR: REV 1

QUALITY PROCESS MANAGER

CERTIFIED MILL TEST REPORT



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CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 08/23/06

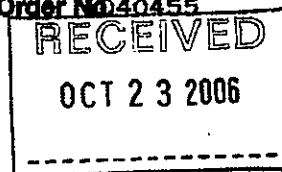
CUSTOMER'S Order No.: 91090BB-00

Bonney Order No. 40455

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
 5105 75TH STREET

378307


EDMONTON ALBERTA
 EDMONTON ALBERTA, T6E5S5 CANAD



ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO.		CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS	
			SA/A105N			
037	610	3479	7523696	2 3M A105N COUP T		
				C .190 MN 1.060 P .015 S .023 SI .180		
				NI .040 CU .180 CD .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	7523823	11/4 3000 A105N HCP T		
				C .200 MN 1.010 P .013 S .019 SI .210		
				NI .040 CU .210 CD .003 CR .040 MO .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	7523882	2 3000 A105N HCP T		
				C .200 MN 1.040 P .010 S .018 SI .210		
				NI .040 CU .190 CD .004 CR .040 MO .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 CU .030 CD .002 CR .070 MO .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.

by 

Cris Childers

CMTR: REV 1

QUALITY PROCESS MANAGER

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CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 08/23/06

CUSTOMER'S Order No.: 9109088-00

Bonney Order No. 40455

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
5105 75TH STREET

378307

EDMONTON ALBERTA
EDMONTON ALBERTA, T6E5S5 CANAD

RECEIVED
OCT 23 2006

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 SA350-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.

by

Cris Childers

CMTR: REV 1

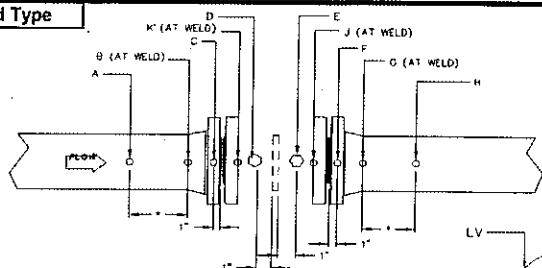
QUALITY PROCESS MANAGER

Meter Tube Calibration Record

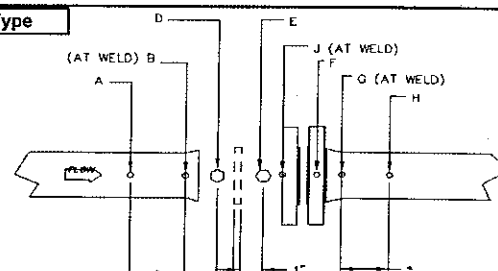
General Specifications

Customer:	PC COMPRESSION INC.	Date:	FEBRUARY 13/2007
Location:	STOCK	P.O. Number:	507855-00
Serial No.	X701397-1-10 ✓	Work Order No.	X701397-001
Assembly Part No.	[40422]-0085	Part No.	40422-34221
Orifice Fitting:	2" 600# SCH.80 SINGLE CHAMBER	Meter Tube Type No.	2
Straightening Vane:	Yes	X	No

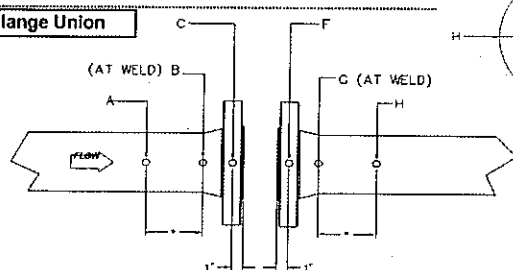
Type 1 Flanged Type



Type 2 Flangeweld Type



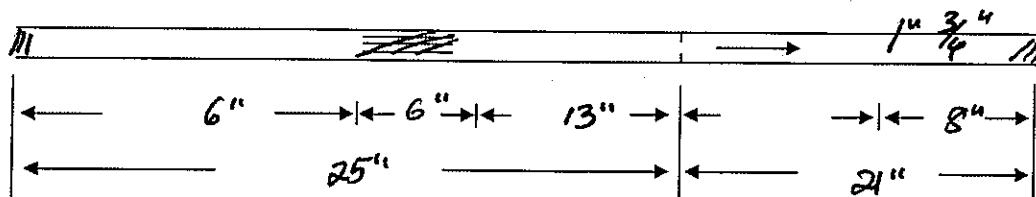
Type 3 Orifice Flange Union



Type 4 weldneck Type Valve or Door
Check Location Point A-B-D on Upstream Tube,
Point E-G-H on Downstream Tube

*Cross section 'A' and 'H' shall be one pipe diameter
except if such Cross Section falls within the lifting or weld
it shall be made 1" inside the pipe

Location	Upstream Meter Tube					Downstream Meter Tube				
	A	B	C	D	K	E	F	G	H	J
V	1.938	1.929		1.939		1.939	1.937	1.942	1.942	1.929
LV	1.937	1.929		1.939		1.939	1.936	1.949	1.951	1.929
RV	1.938	1.939		1.939		1.939	1.937	1.937	1.934	1.939
H	1.937	1.932		1.939		1.939	1.936	1.940	1.939	1.934
Average	1.937	1.932		1.939		1.939	1.936	1.942	1.941	1.933
Upstream Mean Average to Stamp on I.D. Plate				1.939		Downstream Mean Average to Stamp on I.D. Plate				1.939



AGA/API Figure	3c	BETA	0.70	Meter Tap Location	Upstream	1"	Downstream	1"
Remarks:	68°F				Inspector:	J. Reedy		

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.



Dated at Edmonton, this 3rd day of March, 2005

Chief Inspector and Administrator

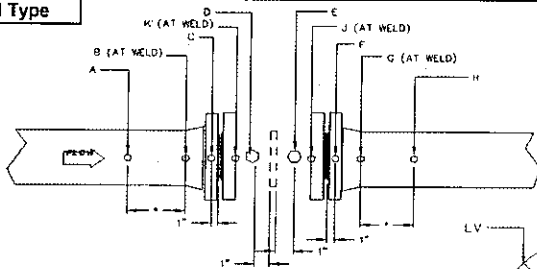
Certificate No.: 4486

Meter Tube Calibration Record

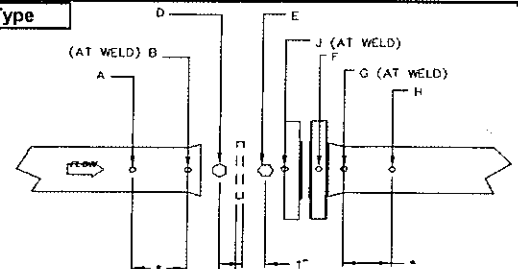
General Specifications

Customer:	PC COMPRESSION INC.	Date:	FEBRUARY 13/2007
Location:	STOCK	P.O. Number:	507855-00
Serial No.	X701397-1-10	Work Order No.	X701397-001
Assembly Part No.	[40422]-0085	Part No.	40422-34221
Orifice Fitting:	2" 600# SCH.80 SINGLE CHAMBER	Meter Tube Type No.	2
Straightening Vane:		Yes	X No

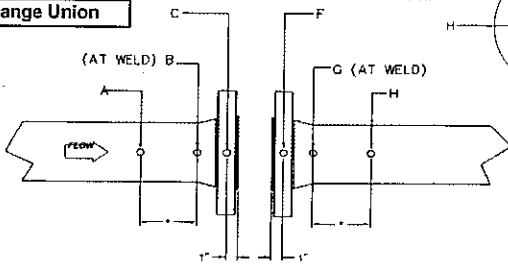
Type 1 Flanged Type



Type 2 Flangeweld Type



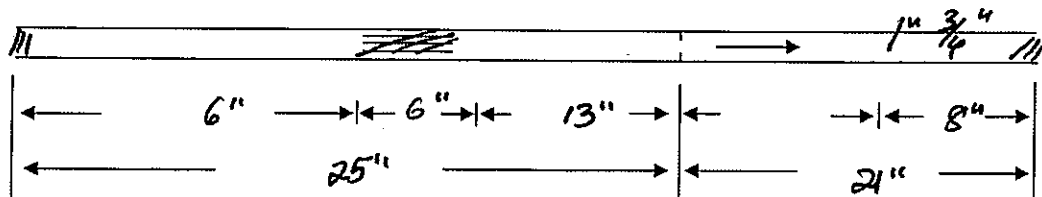
Type 3 Orifice Flange Union



Type 4 weldneck Type Valve or Door
Check Location Point A-B-D on Upstream Tube,
Point E-G-H on Downstream Tube

*Cross section 'A' and 'H' shall be one pipe diameter
except if such Cross Section falls within the lifting or weld
it shall be made 1" inside the pipe

Location	Upstream Meter Tube					Downstream Meter Tube				
	A	B	C	D	K	E	F	G	H	J
V	1.938	1.929		1.939		1.939	1.937	1.942	1.942	1.929
LV	1.937	1.929		1.939		1.939	1.936	1.949	1.951	1.929
RV	1.938	1.939		1.939		1.939	1.937	1.937	1.934	1.939
H	1.937	1.932		1.939		1.939	1.936	1.940	1.939	1.934
Average	1.937	1.932		1.939		1.939	1.936	1.942	1.941	1.933
Upstream Mean Average to Stamp on I.D. Plate			1.939			Downstream Mean Average to Stamp on I.D. Plate			1.939	



AGA/API Figure	BETA	Meter Tap Location
3c	0.70	Upstream 1" Downstream 1"
Remarks:	Inspector:	
68°F	UPREPLY.	

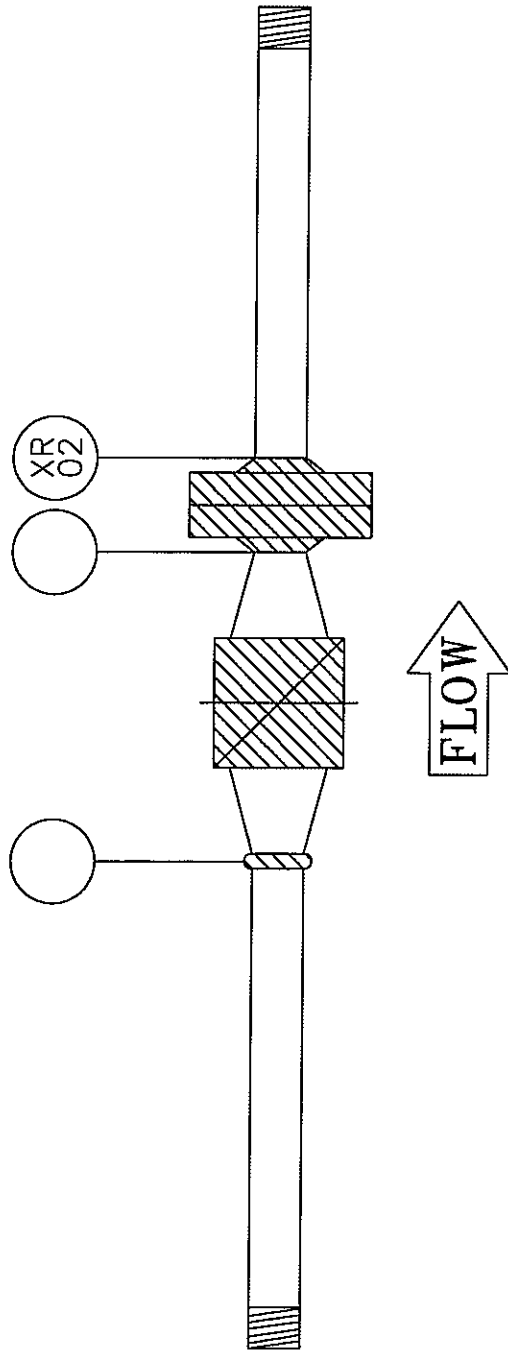
CAMERON *Measurement Systems*
PRODUCT OF CANADA

SINGLE CHAMBER **40422 -34221**
 SIZE **2.0** SER. NO. **X701397-1-10**
 BORE **1.939** W.P. **1480** FLG. **600**
 TRIM **SWEET** C.R.N. NO. **0F1120.213**

CAMERON *Measurement Systems*
EDMONTON, ALBERTA, CANADA

METER RUN ASSY. NO.	(40422) - 0085		MAX. BORE	
SER. NO.	X701397-1-10	U.S. (D)	1.939	D.S. (D)
PIPE SIZE	2.0	SCH.	80	RATING
AGA / API	3 C	d / D	0.70	CALIBRATION CERTIFIED BY
W.O. NO.	X701397-001	DATE	02 / 07	Cameron

WELD AND RADIOGRAPHY IDENTIFICATION MAP



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

SERIAL No.: X701397-1-10

CUSTOMER: PC COMPRESSION INC.

P/O No.: 507855-00 TAG No.: _____

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

RADIOGRAPHY UNIT: RIVEST TECHNOLOGIES INC.

WELDER: KEN MARTIN FILE No.: W-2398

DATE: FEBRUARY 16/2007 MARJA MAHONEY

SYMBOL: C QUALITY ASSURANCE INSPECTOR

 Cameron
Measurement Systems

5151-67th AVENUE
EDMONTON, ALBERTA
T6B 2R8

RADIOGRAPHIC INSPECTION REPORT

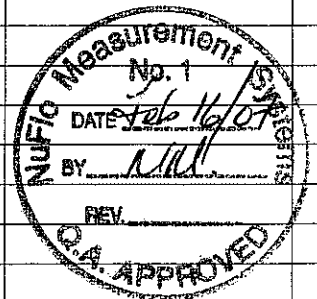
2450-80 Ave, Edmonton, Alberta T6P1N2
Phone: (780) 469-8333 Fax: (780) 469-8884

RT#5271

Date: February 12, 2007 JOB #: 5271 Page 1 of 1
Client: Cameron Measurement P.O. #: XP70249
Location: Rivest Technologies Inc. Description: PC Compression 2"XS Job# X701397-001

DEFECT LEGEND	✓ = Accept	X = Reject	SEVERITY	PROCEDURES	CODE LEGEND
IF - INCOMPLETE FUSION	P - POROSITY	HB - HOLLOW BEAD	1 - SLIGHT	1 - SINGLE WALL EXPOSURE	1 - ASME B31.3 NORMAL
IP - INCOMPLETE PENETRATION	BT - BURN THROUGH	C - CRACK	2 - MEDIUM	2 - DOUBLE WALL EXPOSURE	2 - ASME B31.3 SEVERE
UC - UNDERCUTTING	IC - INTERNAL CONCAVITY	AB - ARC BURNS	3 - SEVERE	3 - SINGLE WALL VIEWING	3 - ASME VIII DIV 1 UW51
S - SLAG	LC - LOW COVER	SH - SHRINKAGE		4 - DOUBLE WALL VIEWING	4 - ASME VIII DIV 1 UW52
					5 - ASME B16.34
					6 - CSA Z 662
					7 - MSS SP54
					8 -

FILM NO	LOCATION	DIA	THK	SOD	SYM	IF	IP	IC	UC	S	P	PROC #	CODE #	✓	REMARKS	X
1																
2	X#															
3	1	2"	.218"	2.1"								2/3	1	✓		
4	2	2"	.218"	2.1"								2/3	1	✓		
5																
6																
7																
8																
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No. Of Exp.	Film Brand & Design	Screen Type & Thickness	No. of Film per Cassette	Type of Energy	Physical Size	Material	OFD	IQI	
								Type	Size
6	AGFA	0.010" Pb	1	IRI92	<0.12"	P1	.218"	DIN	10-16

This Certificate or Report is valid only for that work which was specifically requested. The company is not responsible for any views or opinions expressed by employees performing this work which fall outside the contract terms or reference. All Certificates and/or Reports are the result of work performed in conformance with applicable specifications and standards to the best of our ability and intent. However, the Company will not be responsible for deviation within the normal limits of accuracy in accordance with the standard practices. Final Code Acceptance shall require Client and Manufacturer Representative's signatures.

A.M.		P.M.		TOTAL HOURS	KMS	SUBSISTENCE		FILM
TIME IN	TIME OUT	TIME IN	TIME OUT	S.T. hrs		MAN DAY	OT/MEALS	6-70x145mm
				O.T. hrs				

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 #6248 Assistant Jeff Kinsella

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: _____



A.O.Q.P No 7106 (c)

LUDWIG & ASSOCIATES LTD.

Materials and Welding Engineering

WELDER PERFORMANCE QUALIFICATION CARDName: KEN MARTIN ABSA File No. W-02398

This card is issued pursuant to the Alberta Safety Codes Act and the Pressure Welders Regulation. The performance qualification is in accordance with Section IX of the ASME Code and subject to the limitations on the reverse side.

Date of Test April 27, 2005Signature of Welder or Machine Operator
Ken MartinWelding Examiner (Print/Type) R. GOTTSCHULICHCard No. E 7415**PERFORMANCE QUALIFICATION****E 7415**Process(es) SMAW SMAW Materials (PNo) P1Filler Metal Group (FNo) F3 F4 Min Outside Diameter 10.0 in opMax. Deposited Weld Metal 0.188 in 0.60 in Position(s) Qualified FlatBacking WITH OR WITHOUT Backing Gas NAProgression NA NADate of Test April 27, 2007

PQ Expiry Date

Welding Examiner Signature

Examiner File No. E00037**PERFORMANCE QUALIFICATION****E 7976**Process(es) GMAW FCAW Materials (PNo) P1Filler Metal Group (FNo) F6 F6 Min Outside Diameter 10.0 in opMax. Deposited Weld Metal 0.110 in 0.672 in Position(s) Qualified FCAW FLATBacking WITH OR WITHOUT Backing Gas WITH OR WITHOUTProgression Vertical Down N/ADate of Test October 19, 2008Welding Examiner Signature Jared HitchingsExaminer File No. E-00272

A.O.Q.P No 7106 (c)

LUDWIG & ASSOCIATES LTD.

Materials and Welding Engineering

WELDER PERFORMANCE QUALIFICATION CARDName Ken Martin ABSA File No. W-2398

This card is issued pursuant to the Alberta Safety Codes Act and the Pressure Welders Regulation. The performance qualification is in accordance with Section IX of the ASME Code and subject to the limitations on the reverse side.

Date of Test October 19, 2006

PQ Expiry Date

Signature of Welder or Machine Operator Ken MartinWelding Examiner (Print/Type) Jared HitchingsCard No. E 7976**Alberta****LABOUR**
Boiler and Pressure Vessel Safety**Grade "B" Pressure Welder's
Certificate of Competency**This is to certify that: KEN MARTIN

having complied with provisions of the Boiler and Pressure Vessels Act is hereby granted a Grade "B" Pressure Welder's Certificate of Competency and is authorized to engage in pressure welding in accordance with the prescribed Regulations.

W-02398
ABSA File No.Dated at Edmonton, this Second
day of June 19 93

Crest Inspector

Form No. CB-P3 (92/92)

No 8789

MATERIAL TEST REPORT

Date: 13-Jan-05
 Customer: NuFlo Measurement Systems
 Purchase Order: XP00076

Pattern: 40726-015 (B510273)
 Description: 2" Single Chamber Body
 Material: ASTM A216 WCB
 Heat Treatment: Normalized & Tempered



Heat No.	Chemistry											
		C	Mn	Si	P	S	Cr	Ni	Mo	V	Cu	CE
	Max --> Qty in Batch	0.300	1.000	0.600	0.040	0.045	0.500	0.500	0.200	0.030	0.300	
12-04-21	18	0.235	0.728	0.423	0.017	0.019	0.017	0.017	0.025	0.010	0.042	3706
04-22	18	0.211	0.699	0.400	0.019	0.032	0.116	0.116	0.018	0.015	0.056	3687
04-23	19	0.200	0.856	0.513	0.032	0.021	0.042	0.077	0.015	0.012	0.045	3646
04-24	19	0.228	0.816	0.528	0.021	0.025	0.029	0.065	0.032	0.013	0.055	3868
04-25	19	0.219	0.900	0.456	0.025	0.015	0.035	0.042	0.029	0.012	0.047	3901
04-31	19	0.222	0.705	0.417	0.021	0.023	0.049	0.069	0.013	0.014	0.047	3624
04-32	19	0.246	0.681	0.380	0.019	0.017	0.087	0.071	0.025	0.010	0.055	3923
04-33	16	0.237	0.745	0.459	0.022	0.018	0.064	0.025	0.020	0.015	0.051	3860
04-34	17	0.215	0.827	0.465	0.019	0.021	0.040	0.065	0.014	0.013	0.045	3735
04-35	20	0.234	0.889	0.500	0.022	0.019	0.074	0.071	0.029	0.010	0.043	4123

MECHANICAL PROPERTY REPORT

Date: 13-Jan-05
Customer: Nuflo Measurement Systems
Purchase Order: XP00076

Pattern: 40726-015 (B510273)
Description: 2" Single Chamber Body
Material: ASTM A216 WCB

Equipment: King Portable Hardness Tester
Type of Ball: Regular
Load: 3000 kg

Holding Time: 10 secs
Hardness Required: 237 Max (Brinell)
Heat Treatment: Normalized & Tempered

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



MST1201
4/21/06

Highland Foundry Ltd
CHEMICAL AND PHYSICAL ANALYSIS

Page 1
10 41 23

Product# . . 40726-002
Customer Part# 40726-002
Customer NUFLO MEASUREMENT SYSTEMS
ACCOUNTS PAYABLE
7944 10TH STREET N.E.
CALGARY AB T2E 8W1
CANADA

Order/Item# 27741 / 1
Customer P.O # XP60054

2" SINGLE LID

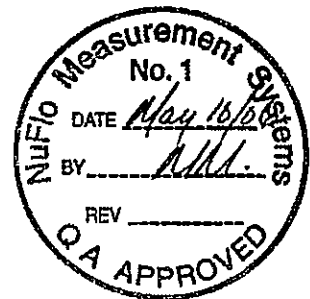
Approved by *North by*
Shyan Smith
Quality Assurance Technician

Melt#	Quantity	Date	Heat Treat	BATCH #	Specification
2-6283	5	3/21/06		V02 - -	ASTM A216 GRADE WCB

C H E M I C A L S					
C .2100		MN .7300	SI .4500	P .0150	
S .0130		NI .0700	CR .1100	MO .0200	
CU .1300		V .0100			

P H Y S I C A L S			
YIELD KSI	50.0	TENSILE KSI	75 6
ELONGATION %	30	RED OF AR	% 52

CE: 3730



MATERIAL TEST REPORT

9670-187th Street Surrey, BC Canada V4N 3N6
Phone 604 888-8444 Fax 604-888-3634

ISO 9001:2000

CLIENTE / CUSTOMER / CLIENTE

CERTIFICADO DE INSPECCION

Works Certificate - Certificat d'Usine

DIN EN 10204 / 3.1
ISO 10474 / 3.1

FECHA: 27/03/2006
Nº: 1065392

HQJL: Page: 1

Nº: SGI 1922164

ULMA FORJAS S.COOP.

PRODUCTO
Árboles - Párrafos

FLANGES

SUPEDIDO Nº
Year Order No. 487607-00
Vale Cde. Nº

DE
of. de 0202/2006

Garantía acc. PED 9720AC
by TÜV Rheinland
Nº 01 202 EQ 02 7443

BY ZULMA S. J. April 14
22050 Oñati (Gipuzkoa) SPAIN
Tel: 34 - 943 786532
Fax: 34 - 943 781608
Email: info@forjasmulma.es

NORMAS APLICABLES
Requisitos - Normas Aplicables

ASME B16.5-85

MATERIAL CORRESPONDIENTE
Material Correspondent - Qualita
MODO DE FUSION (J)
Shed Making - Elaboration de l'acier
E = Elec. Y = Origine suédois

NACE MR-01-7503

MARCA DEL FABRICANTE
Mark of factory
Marque du fabricant



60801

DEPARTAMENTO QUALITY ASSURANCE
Section

RECEIVED

PARTIDA
Item
Posn

CANTIDAD
Quantity
Quantité

DESCRIPCION
Description
Description

CASERNA COLADA Nº
Remarks
Observations
(*)

RESERVA
Reserve
Reserve

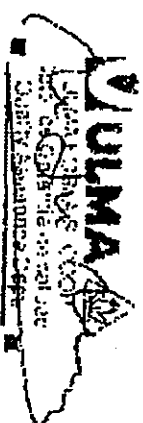
32	7530234	800	WN 2 600LB S80 RF A105N	NE	3045	510	321	33.80	65.70	146
32	7530234	800	WN 2 600LB S80 RF A105N	NE	43645	516	318	32.00	64.76	150
48	7530130	15	SW 3/4 600LB S160 RF A105N	NE	31944	510	308	31.00	64.76	151
62	7530308	10	WN 1 1500LB S160 RF A105N	NE	44594	515	317	32.00	65.70	150
66	7530041	25	WN 3/4 1500LB S160 RF A105N	NE	23244	501	300	30.20	62.70	146
59	7531621	10	WN 3 600LB S20XS RF A105N	NE	3046	514	322	33.00	67.20	148
61	7531698	50	BLIND 1 1500LB RF A105N	NE	41245	503	302	33.50	66.30	147
67	7531702	25	BLIND 1 1/2 1500LB RF A105N	NE	27345	519	315	32.70	66.00	151
64	7530478	10	THR 3 500LB RF A105N	NE	45284	512	337	34.00	68.00	150

COMPOSICION QUIMICA - STEEL MARKERS LADLE ANALYSIS - ANALYSE CHIMIQUE


COLOCA Nº Heat No N.°Coulée	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	CEO %
23244	0.195	0.210	0.826	0.012	0.008	0.080	0.105	0.020	0.003	0.001	0.280	0.368
27345	0.205	0.250	0.865	0.011	0.007	0.119	0.130	0.040	0.007	0.001	0.280	0.388
3046	0.185	0.230	0.840	0.010	0.002	0.090	0.090	0.030	0.007	0.001	0.220	0.358
31944	0.185	0.160	1.040	0.007	0.018	0.030	0.080	0.010	0.000	0.001	0.170	0.388
3046	0.190	0.230	0.860	0.007	0.002	0.080	0.080	0.020	0.007	0.001	0.210	0.388
41245	0.200	0.200	0.840	0.012	0.005	0.010	0.010	0.002	0.002	0.004	0.220	0.381
48845	0.160	0.240	0.860	0.011	0.005	0.130	0.110	0.030	0.007	0.001	0.270	0.378
44844	0.220	0.230	0.810	0.018	0.009	0.020	0.010	0.003	0.001	0.003	0.180	0.374
45284	0.180	0.250	1.180	0.012	0.006	0.190	0.150	0.070	0.007	0.002	0.270	0.421

- Las DIMENSIONES y la condición superficial se indican satisfactorias
- Dimension and surface condition were found acceptable
- Les dimensions et état de surface sont satisfaisants
- Los materiales citados cumplen las normas aplicables
- Manufacturing requirements were satisfied
- Les normes applicables sont respectées

EL INSPECTOR
Works Inspector - L'inspecteur



7) OBSERVACIONES
Remarks
Observations
N NORMALIZED AT 903 C AND ALLOWED TO COOL IN STILL AIR

HEAT NUMBER : 56638
TRANS AM PIPING PRODUCTS - REV'D BY: 
Shipment/Seq #: S 6 - 1206 9

1/2X3/4-36 CL 3000 FS THREADED PIPET
A105N



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**

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

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

MTR #: 108083

PO #: CI-06-306

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

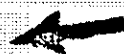
CERTIFIED MATERIAL TEST REPORT

HEAT CODE: 56638 


MATERIAL: A/SA105N 01

ITEM	Quantity
9	

Description

36 - 3/4 X 1/2 3000 THP 
A/SA105N

CHEMICAL COMPOSITION:

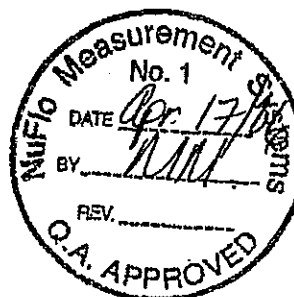
LADLE	C	MN	P	S	SI	CU	NI	CR
	0.190	1.030	0.011	0.018	0.190	0.150	0.040	0.050 
	MO	V	NB					
	0.020	0.000	0.014					

CARBON EQUIVALENCY: LADLE 0.390
MECHANICAL PROPERTIES:

	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



HEAT NUMBER : 56871
TRANS AM PIPING PRODUCTS - REV'D BY: B 3/4X1 1/2-36 CL 3000 FS THREADED PIPET
Shipment/Seq #: S 6 - 1519 6 A105N



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

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

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

MTR #: 116506

PO #: CI-06-625

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

CERTIFIED MATERIAL TEST REPORT

MATERIAL: A/SA105N 01

HEAT CODE: 56871

ITEM	Quantity
12	

Description

36 - 1 1/2 X 3/4 3000 THP
A/SA105N

CHEMICAL COMPOSITION:

LADLE	C	MN	P	S	SI	CU	NI	CR
	0.190	1.070	0.010	0.019	0.210	0.130	0.040	0.040
	0.010	0.000	0.013					

CARBON EQUIVALENCY: LADLE 0.390

MECHANICAL PROPERTIES:

	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 56895
TRANS AM PIPING PRODUCTS - REV'D BY
Shipment/Seq # S 6 - 1652 4



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

1X3-36 CL 3000 FS THREADED PIPET
A105N

Page:

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

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

MIR #. 119819

PO #: CI-06-744

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

CERTIFIED MATERIAL TEST REPORT

MATERIAL A/SA105N 01

HEAT CODE: 56895

ITEM	Quantity	Description
29		36 - 3 X 1 3000 IHP A/SA105N

CHEMICAL COMPOSITION:

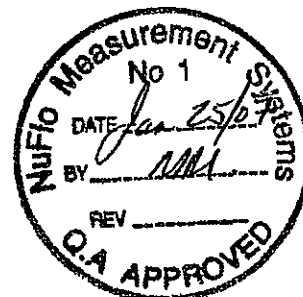
LADLE	C	MN	P	S	SI	CU	NI	CR
	0.190	1.050	0.011	0.020	0.260	0.130	0.040	0.050
	0.010	0.000	0.012					

CARBON EQUIVALENCY: LADLE 0.388
MECHANICAL PROPERTIES:

	TENSILE PSI	YIELD PSI	ELONG %	RA %	HARDNESS
PRODUCT	74,750	51,375	31.40%	63.00%	130 BHN 135 BHN

Normalized

Marie Dehmer
Quality Assurance Representative



C ext obj - External order No 060762

List č - Sheet No 1 / 2

Číslo poročka - Item number

C od, obj - Consignee order no
51-1249 / 113 - 011938

Číslo zakázky výrobcu - Manufacturer's works order number
Br 68673/1/2 762A016

Zákazník/Príjemca - Customer/Consignee

CPW AMERICA CO
14800 ST MARY'S LANE, SUITE 140
77079 HOUSTON TEXAS
U S A

Číslo ložného listu - Loading Bill No 796965, 796966, 796967

Číslo avíza - Dispatch note 764127, 764136, 764137

Výrobok - Product

Rúry oceľové bezošvé, ťahané za studena - rúry pre potrubia pre horľavé média
Seamless cold-drawn steel tubes - pipelines for combustible fluids

Vonkajší priemer - Outside diameter 60 300 mm
Vnútorný priemer - Inside diameter 49 250 mm -0.12 +0.05 mm
Dĺžka - Length min 7620 mm max 9144 mm
Inch rozmer - Inch OD 2 375" X ID 1 939" X 80 SCH
Počet kusov - Number of pieces 212
Celková dĺžka - Total length 1887 00 m ,6190 90 ft
Celková hmotnosť - Total mass 14080 kg ,31041 10 lb

Material - 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

Technické 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

Číslo tavby Cast number	Počet kusov Number of pieces	Dĺžka Length [m]	Hmotnosť Mass [kg]	Druh tavenia Steelmaking process
61616	212	1887	14080	E

Druh ocele - Steel grade uplne ukludnená oceľ - fully killed steel

Chemické zloženie - Chemical composition

Číslo tavby Cast number	C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cu [%]	Cr [%]	Ni [%]	Mo [%]	V [%]
Predpis - Requirements										
	min	0.29	0.10	0.030	0.030	0.40	0.40	0.40	0.15	0.080
	max	0.28	1.06	0.008	0.006	0.28	0.06	0.08	0.01	0.009
61616	0.15	0.65	0.24	0.008	0.006	0.28	0.06	0.08	0.01	0.009

Výrobková analýza - Product analysis

Číslo tavby Cast number	C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cu [%]	Cr [%]	Ni [%]	Mo [%]	V [%]
61616	1	0.16	0.64	0.23	0.008	0.005	0.28	0.06	0.08	0.008
61616	2	0.16	0.65	0.24	0.008	0.005	0.29	0.06	0.08	0.008

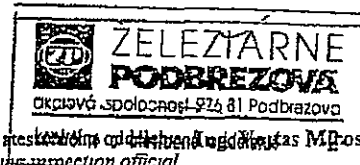


Miesto
Location

v Podbrezovej
sím

Datum 16 05 2006
Date

Vedúci kontrolného a preskúvacieho oddelenia Ing. Jozef M. Poslav
Engineering inspection official



Skuška ťanom - Tensile test 20 °C

List č - Sheet No 2 / 2

C Nr	Číslo tavby Cast number	Vzorok č Test No	Rozmery Dimensions /mm/	Smr. odberu vzorku Direction of the test piece	Mezra sily Yield point - Proof stress	Pevnosť ťant. Tensile strength	Ťažnosť Elongation
					ReH/ MPa/	Rm/ MPa/	Lo= 2"/ %/
			Predpis - Requirements	min max	290 —	415 —	*
1	61616	B012405/06	12 40x5 52	L	319	456	36.6

* Ťažnosť - Elongation min (1944*So**0.2)/(Rm**0.9)

Skuška ohybom vyhovela
Bend test without objections

Skuška vrtivými prúdmi vyhovela
Eddy current test without objections ASTM E-309 100 %

Drsnosť vnútorný povrch Ra max 6.3 µm
Roughness inner surface Ra max 6.3 µm

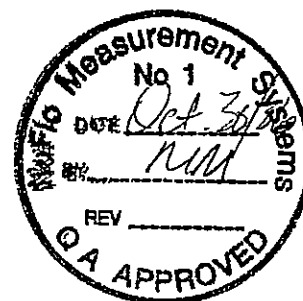
Všetky výrobky vyhovujú vyššie uvedeným normám a požiadavkám v objednávke
All products meet requirements of above mentioned standards and requirements specified in order

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

Miesto
Location

v Podbrezovej
sim

Dátum 16.05.2006
Date

Vedúci kontrolného a atestačného oddelenia Ing. Vojtas Miroslav
Engineering inspection official


PCCOMPRESSION INC.
QUALITY SYSTEM MANUAL

REVISION: 0

DATE: 11/08/01

SECTION 15 PAGE 9 OF 9

EXHIBIT 15.3 PNEUMATIC TESTING REPORT

PNEUMATIC TESTING REPORT

JOB NO I-702 TEST MEDIUM AIR DRAWING NUMBER _____

P10-SAA07165-A-01

A-02

A-03

A-04

96 MIN TIMER

Spec "A" piping

	LINE 1	LINE 2	LINE 3	LINE 4
TEST PRESSURE (25 psi) START TIME: <u>2:57</u> END TIME: <u>3:07</u>				
TEST PRESSURE (50 psi) START TIME: <u>3:10</u> END TIME: <u>3:20</u>				
TEST PRESSURE (100 psi) START TIME: <u>3:23</u> END TIME: <u>3:33</u>				
TEST PRESSURE (150 psi) START TIME: <u>3:36</u> END TIME: <u>3:46</u>				
REQUIRED TEST PRESSURE (<u>165</u> psi) START TIME: <u>3:50</u> END TIME: <u>4:00</u>				
DESIGN PRESSURE (<u>150</u> psi) START TIME: <u>4:02</u> END TIME: <u>4:12</u>				

NOTE:

1. Test pressure shall be 110 percent of design pressure.
2. A testing pressure relief valve with a set pressure not higher than 110% shall be used.
3. Each test increment will be held for 10 minutes and documented.
4. The system will slowly and carefully be depressurized.
5. All necessary safety precautions shall be adhered to.
6. All aspects of pneumatic test adheres to Section 15 of PCCOMPRESSION INC. Quality System Manual and ASME B31.3.

TESTING CONSULTANT: Brian Gesseler

DATE: Apr 25/07

Q.C. INSPECTOR: Scott Shell

DATE: 25/04/07

OWNER'S REPRESENTATIVE: _____

DATE: _____

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

PRESSURE PIPING TEST PREPARATION AND COMPLETION		
JOB NO: <i>8-702 SAA-07165</i>		DATE: <i>25 April 2007</i>
TEST 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.	N/A	N/A
8. Stops in place hangers.	N/A	N/A
TEST COMPLETION	X SDC	X BG
1. All temporary blinds removed.	✓	✓
2. Temporary gaskets changed for correct gaskets.	N/A	N/A
3. Temporary supports removed.	N/A	N/A
4. Shipping bars removed from bellows.	N/A	N/A
5. Spring hangers stops removed-cold setting checked.	N/A	N/A
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.	N/A	N/A
8. Screens for pumps and compressors installed (initial start-up and permanent screens).	N/A	N/A

X SDC X BG

Complete All Fields In Report or Mark N/A

METER CALIBRATION REPORT

(REV. 04/03)
55-010-1070

Main Office - Nisku, AB.

(780) 955-2988



CLIENT: PC Compression

FACILITY:

☐ NEW INSTALLATION ☐ INSTALLATION CHANGE ☒ ROUTINE CALIBRATION & INSPECTION ☐ SWEET GAS ☐ SOUR GAS

LOCATION: Nisku Strip DATE: Jan 5/07 TIME START: TIME FINISH:

METER CODE: GAS TO: GAS FROM:

DIFFERENTIAL RANGE: ☒ METER ☐ TRANSDUCER ☐ COMPUTER

MAKE: ☒ BARTON ☐ CANADIAN ☐ PMC ☐ FOXBORO ☐ COE ☐ OTHER:

TYPE: Process Head SERIAL # 200-BV-PR-013 CHART# BADGE #

DIFFERENTIAL RANGE: ☐ 50"WC ☐ 100"WC ☐ 200"WC ☐ 400"WC ☐ OTHER:

PRESSURE RANGE: ☐ 50-PSI ☐ 100-PSI ☐ 250-PSI ☒ 500-PSI ☐ 1000-PSI ☐ 1500-PSI ☐ 2500-PSI

CHECK ONE: ☐ Temperature Element (3 pt. check) OR ☐ Temperature Gauge (2 pt. check)

ORIFICE FITTING: ☐ SENIOR FITTING ☐ FLANGES ☐ JUNIOR FITTING

MAKE BORE SIZE TUBE SIZE TUBE NO.

METER RUN UPSTREAM INSIDE DIAMETER DOWNSTREAM INSIDE DIAMETER

ORIFICE PLATE ☐ BEVELLED ☐ STRAIGHT EDGE SIZE (INSIDE DIAMETER) EDGES SHARP ☐ YES ☐ NO PLATE CLEANED ☐ YES ☐ NO DAMAGED ☐ 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 ☐ YES ☒ NO PSIG MA

PEN ARC AND SPACING ☐ O.K. ☒ CORRECTED (EXPLAIN)

CHART ☐ FAST ☒ SLOW MIN. TIME ZONE IN USE ☐ MST ☐ PST ☐ CST

LEAK TEST ☐ O.K. ☐ REPAIRED METER LEVEL: ☐ YES ☐ ADJUSTED

ROTATION: ☐ 24 HOUR ☒ 7 DAY ☐ 8 DAY ☐ 31 DAY OTHER:

☒ LINEAR CHART ☐ SQUARE ROOT CHART ☐ COMBINATION CHART

FLUID TRAPS IN TUBING LINES ☐ YES ☐ NO DRIP POTS ☐ YES ☒ NO

STATIC PRESSURE TAP LOCATED ☐ UPSTREAM ☐ DOWNSTREAM

DEWPOINT AREA ☐ BEFORE DEHYD ☐ AFTER DEHYD TEST LOCATION

TIME OF TEST FLOWING GAS DEWPOINT ° F LBS. WATER PER MMCF MANUAL DEW POINT TESTER MODEL AND BADGE NO.

° F PSIG HYDRO CARBON WATER VAPOUR TESTER RECORDER

REMARKS: - Linkage were on wrong
- Teflon Pluged to Tubing
- SPAN + Accuracy Adjusted.

PYRAMID WORKSHEET # PYRAMID AREA OFFICE

TEST EQUIPMENT DIFFERENTIAL PRESSURE STATIC PRESSURE TEMPERATURE

PYRAMID TOOL I.D. SERIAL NUMBER MAKE / MODEL CAL. DUE DATE

AMBIENT ROOM TEMP. ° F

TEMPERATURE RANGE: ° F OR MA

TEST THERM INITIAL (AS FOUND) FINAL (AS LEFT)

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

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0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

0 100 250 500 500 700 250 0

CALIBRATED & INSPECTED BY: K. Evans
PRINT FULL NAME LEGIBLY

Kurt Evans
SIGNATURE

IF APPLICABLE WITNESSED BY: Kurt Evans
PRINT FULL NAME LEGIBLY SIGNATURE

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

RECORD THIS NUMBER ON ALL DAILY WORK SHEETS → MCR 41825



Client PC Compression
Manufacturer 3D
Serial No PEC-111380001
Pressure range: 300 P.S.I.

Date 18-Apr-06

RECEIVED APR 19 2006

INCREASING PRESSURE

APPLIED PRESSURE	INDICATED PRESSURE	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: BRAD MELNYK



UNIFIED
VALVE LTD.

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:

A#:

Cust Id:

Cust. Ref.:

Valve PO:

RECEIVED JUN 13 2007

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

Pretest Required? ☒ Reset Required? ☐

Replaces UVL ID#:

Replaces Serial #:

Replaces Cust ID#:

RESET INFORMATION: New Pressure:

New Cold/Diff Set:

New Capacity:

CONDITION AS RECEIVED

Visual Condition: Fair Data Plate Condition: OK Date of last service: 05/07
Seal Condition: Top: Intact Bottom: N/A Insignia: UVL
INDICATE FOULING Inlet: Clean Outlet: Clean Initial Insp. Signoff: Richard Anderson

PRETEST

Simmer: 178 PSI Set Press: 179 PSI Reseat: 160 PSI Leakage: 0 BPM Test gauge: MVE-05
Tested by: Dave Hatch Pretest comments:

COMPONENTS INSPECTION

ITEM	CLEAN OILY RUSTY CARBON OTHER COMMENTS					OK / REPLACE		REPLACED? REPAIRS PERFORMED	
DISC: MIN= N/A									
ACT=									
NOZZLE: MIN= VITON									
ACT=									
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

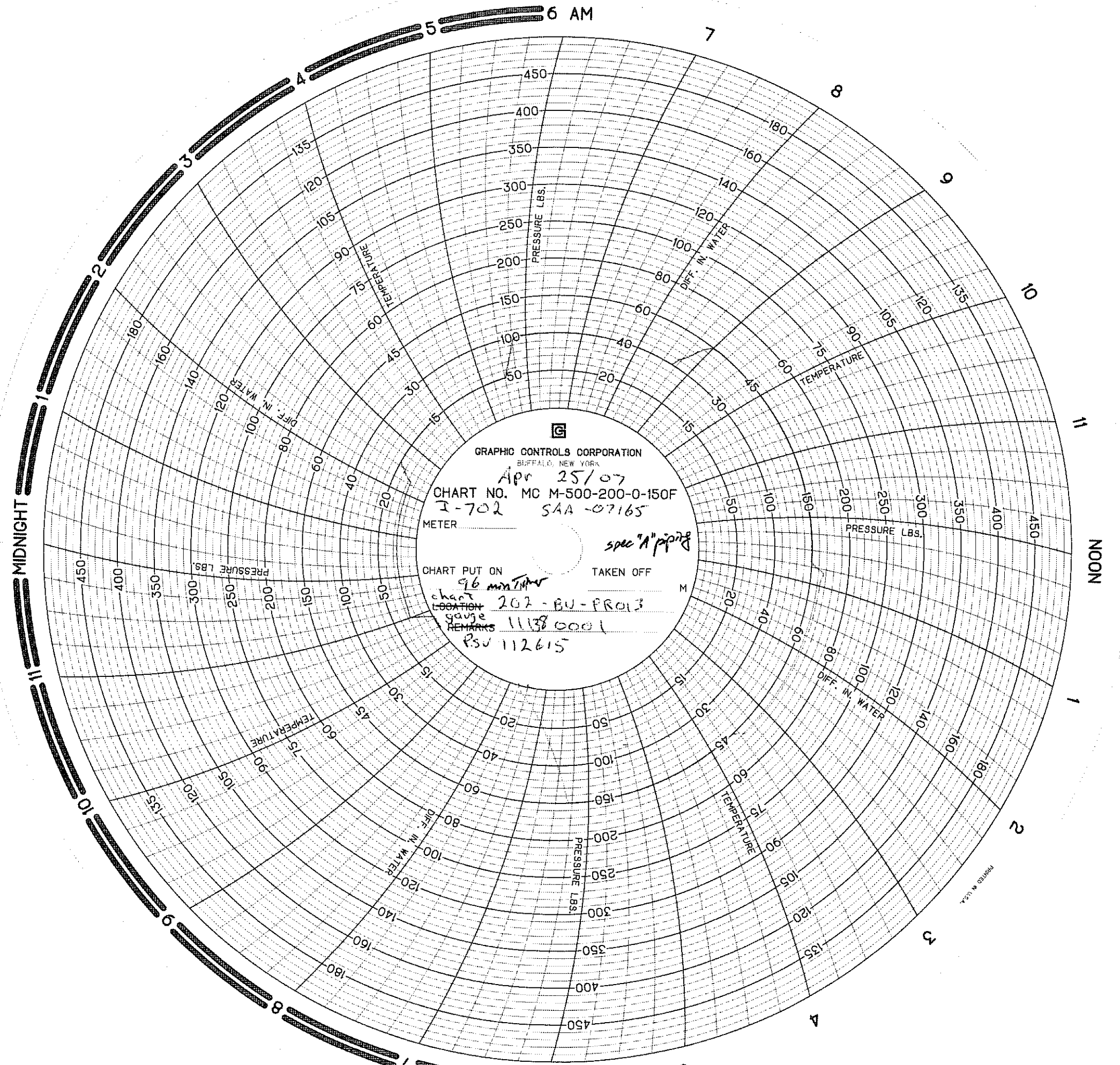
Reassembly:

FINAL TEST:

Test Medium: Air Simmer: 180 PSI Set Pressure: 182 PSI
Reseat: 163 PSI Leakage: 0BPM 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 #: I-698 UNIT #: SAA DRAIN SPOOLS TEST PRESSURE: 1080 psi hydro.
1-10/10. spec "B" piping.

P/F

Date of Test: 19 MARCH 2007.

VISUALLY INSPECT.

~~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 ☒

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:

Q.C. Inspector

Date

PC0010

PC COMPRESSION INC.
QUALITY SYSTEM MANUAL

REVISION: 0

DATE: 11/08/01

SECTION 15 PAGE 5 OF 9

EXHIBIT 15.2 HYDROSTATIC PRESSURE TEST REPORT

HYDROSTATIC PRESSURE TEST REPORT

DATE: 19 MARCH 2007

JOB NO. E-698

DRAWING NO: DR-1105-1-B. REV. 1

*spec "B" piping
60 min timer.*

PROCEEDURE:

1-10/10.

Test Medium WATER

Medium Temperature AMBIENT

- Pressure to be raised from 0 psi to 1080 psi at a maximum rate of psi/min.
- Pressure to be held at 1080 psi for 15 min.
- Pressure to be lowered from 1080 psi to 0 psi at a maximum rate of psi/min.

NOTE:

1. System to be inspected by QC inspector prior to testing.
2. Provide at least one vent at highest point during filling.
3. Test medium must be at specific temperature.
4. One calibrated pressure gauge must be at the high point of the system.
5. The QC inspector to witness test.
6. The pressure is not to be released until the test is accepted by the QC inspector or unless due to leakage and safety considerations.
7. All necessary safety precautions shall be adhered to.

ACTUAL TEST RESULTS: Good

GAUGE NO: 111270011

RECORDER NO: PC 18.1250046

MEDIUM USED: WATER

ACTUAL TEST PRESSURE: 1080 PSI

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

DATE

OWNER'S REPRESENTATIVE

DATE

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

PRESSURE PIPING TEST PREPARATION AND COMPLETION		
JOB NO: <i>E-698 SAA DRAN Spools</i>	DATE: <i>19 MARCH 2007</i>	
TEST PREPARATION	Q.C. INSP.	ASSIGNED CONSTRUCTION PERSONNEL
1. All non-conformity items corrected.	✓	✓
2. Test blinds correct thickness. <i>PLUGS.</i>	✓	✓
3. All items which could be damaged by test isolated or removed (control valves, safety valves, instrument expansion joints, etc.)	N/A	N/A
4. Equipment with internals (re: filters) that could be damaged, isolated as required.	N/A	N/A
5. Vents and drains	✓	✓
6. Open and close position of all valves verified.	✓	✓
7. Shipping bars in place – bellows.	N/A	N/A
8. Stops in place hangers.	N/A	N/A
TEST COMPLETION	* <i>SDC</i>	* <i>MG</i>
1. All temporary blinds removed. <i>PLUGS.</i>	✓	✓
2. Temporary gaskets changed for correct gaskets.	N/A	N/A
3. Temporary supports removed.	✓	✓
4. Shipping bars removed from bellows.	N/A	N/A
5. Spring hangers stops removed-cold setting checked.	N/A	N/A
6. Safety valves – "UV" or "V" symbol and correct pressure capacity.	N/A	N/A
7. Safety valves vents correct size – adequately supported drain holes and/or weather hoods installed.	N/A	N/A
8. Screens for pumps and compressors installed (initial start-up and permanent screens).	N/A	N/A
	* <i>SDC</i>	* <i>MG</i>

Complete All Fields In Report or Mark N/A

METER CALIBRATION REPORT

(REV. 04/03)
55-010-1070

Main Office - Nisku, AB.
(780) 955-2988



CLIENT: PC Compression

FACILITY:

☐ NEW INSTALLATION ☐ INSTALLATION CHANGE ☒ ROUTINE CALIBRATION & INSPECTION ☐ SWEET GAS ☐ SOUR GAS

LOCATION: Shop Nisku DATE: Sept 7/06 TIME START: _____ TIME FINISH: _____
METER CODE: PC 181250046 GAS TO: _____ GAS FROM: _____

DIFFERENTIAL RANGE: INCHES OR MA WC TESTER INITIAL (AS FOUND) FINAL (AS LEFT) ZERO OVER RANGE ZERO			<input checked="" type="checkbox"/> METER <input type="checkbox"/> TRANSDUCER <input type="checkbox"/> COMPUTER MAKE: <input checked="" type="checkbox"/> BARTON <input type="checkbox"/> CANADIAN <input type="checkbox"/> PMC <input type="checkbox"/> FOXBORO <input type="checkbox"/> COE <input type="checkbox"/> OTHER: TYPE: <u>Pressure</u> SERIAL # <u>242A261103</u> CHART# _____ BADGE # _____ DIFFERENTIAL RANGE: <input type="checkbox"/> 50"WC <input type="checkbox"/> 100"WC <input type="checkbox"/> 200"WC <input type="checkbox"/> 400"WC <input type="checkbox"/> OTHER: PRESSURE RANGE: <input type="checkbox"/> 50-PSI <input type="checkbox"/> 100-PSI <input type="checkbox"/> 250-PSI <input type="checkbox"/> 500-PSI <input type="checkbox"/> 1000-PSI <input type="checkbox"/> 1500-PSI <input checked="" type="checkbox"/> 2500-PSI <input type="checkbox"/> OTHER: CHECK ONE: <input checked="" type="checkbox"/> Temperature Element (3 pt. check) OR <input type="checkbox"/> Temperature Gauge (2 pt. check) ORIFICE FITTING: <input type="checkbox"/> SENIOR FITTING <input type="checkbox"/> FLANGES <input type="checkbox"/> JUNIOR FITTING MAKE _____ BORE SIZE _____ TUBE SIZE _____ TUBE NO. _____ METER RUN: <input type="checkbox"/> UPSTREAM <input type="checkbox"/> INSIDE DIAMETER <input type="checkbox"/> DOWNSTREAM <input type="checkbox"/> INSIDE DIAMETER ORIFICE PLATE: <input type="checkbox"/> BEVELLED <input type="checkbox"/> STRAIGHT EDGE <input type="checkbox"/> EDGES SHARP <input type="checkbox"/> PLATE CLEANED <input type="checkbox"/> DAMAGED <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO ORIFICE PLATE PULLED <input type="checkbox"/> YES <input type="checkbox"/> NO (If No, explain below) BEVEL INSTALLED CORRECTLY <input type="checkbox"/> YES <input type="checkbox"/> NO METER CALIBRATION DATA (ATTACH CALIBRATION CHART AS REQUIRED) ATMOSPHERIC PRESSURE SET IN METER <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO PSIG _____ MA _____ PEN ARC AND SPACING <input type="checkbox"/> O.K. <input checked="" type="checkbox"/> CORRECTED (EXPLAIN) _____ CHART <input type="checkbox"/> FAST <input type="checkbox"/> SLOW _____ MIN. TIME ZONE IN USE <input checked="" type="checkbox"/> MST <input type="checkbox"/> PST <input type="checkbox"/> CST LEAK TEST <input checked="" type="checkbox"/> O.K. <input type="checkbox"/> REPAIRED METER LEVEL: <input checked="" type="checkbox"/> YES <input type="checkbox"/> ADJUSTED ROTATION: <input checked="" type="checkbox"/> 24 HOUR <input type="checkbox"/> 7 DAY <input type="checkbox"/> 8 DAY <input type="checkbox"/> 31 DAY OTHER: _____ <input checked="" type="checkbox"/> LINEAR CHART <input type="checkbox"/> SQUARE ROOT CHART <input type="checkbox"/> COMBINATION CHART FLUID TRAPS IN TUBING LINES <input type="checkbox"/> YES <input type="checkbox"/> NO DRIP POTS <input type="checkbox"/> YES <input type="checkbox"/> NO STATIC PRESSURE TAP LOCATED <input type="checkbox"/> UPSTREAM <input type="checkbox"/> DOWNSTREAM DEWPOINT AREA <input type="checkbox"/> BEFORE DEHYD <input type="checkbox"/> AFTER DEHYD TEST LOCATION _____ <table border="1"> <tr> <th rowspan="2">TIME OF TEST</th> <th colspan="2">FLOWING GAS</th> <th colspan="2">DEWPOINT ° F</th> <th rowspan="2">LBS. WATER PER MMCF</th> <th rowspan="2">MANUAL DEW POINT TESTER MODEL AND BADGE NO.</th> </tr> <tr> <th>° F</th> <th>PSIG</th> <th>HYDRO CARBON</th> <th>WATER VAPOUR</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>TESTER</td> <td>RECORDER</td> <td></td> </tr> </table> REMARKS: <u>Replaced Clock + Hub.</u> <u>Start static from scratch it was way out.</u> <u>Temp calibrated fine</u> TEMPERATURE RANGE: <u>0-150</u> ° F OR MA <table border="1"> <tr> <th>TEST THERM</th> <th>INITIAL (AS FOUND)</th> <th>FINAL (AS LEFT)</th> </tr> <tr> <td><u>137</u></td> <td><u>137</u></td> <td><u>137</u></td> </tr> <tr> <td><u>73</u></td> <td><u>73</u></td> <td><u>73</u></td> </tr> <tr> <td><u>57</u></td> <td><u>57</u></td> <td><u>57</u></td> </tr> </table> AMBIENT ROOM TEMP. _____ ° F PYRAMID WORKSHEET # _____ PYRAMID AREA OFFICE <table border="1"> <tr> <th>TEST EQUIPMENT</th> <th>DIFFERENTIAL PRESSURE</th> <th>STATIC PRESSURE</th> <th>TEMPERATURE</th> </tr> <tr> <td>PYRAMID TOOL I.D. →</td> <td></td> <td><u>181050146</u></td> <td></td> </tr> <tr> <td>SERIAL NUMBER →</td> <td></td> <td></td> <td></td> </tr> <tr> <td>MAKE / MODEL →</td> <td></td> <td><u>Crystal 33</u></td> <td><u>UET</u></td> </tr> <tr> <td>CAL. DUE DATE →</td> <td></td> <td><u>Feb 07/07</u></td> <td></td> </tr> </table>			TIME OF TEST	FLOWING GAS		DEWPOINT ° F		LBS. WATER PER MMCF	MANUAL DEW POINT TESTER MODEL AND BADGE NO.	° F	PSIG	HYDRO CARBON	WATER VAPOUR					TESTER	RECORDER		TEST THERM	INITIAL (AS FOUND)	FINAL (AS LEFT)	<u>137</u>	<u>137</u>	<u>137</u>	<u>73</u>	<u>73</u>	<u>73</u>	<u>57</u>	<u>57</u>	<u>57</u>	TEST EQUIPMENT	DIFFERENTIAL PRESSURE	STATIC PRESSURE	TEMPERATURE	PYRAMID TOOL I.D. →		<u>181050146</u>		SERIAL NUMBER →				MAKE / MODEL →		<u>Crystal 33</u>	<u>UET</u>	CAL. DUE DATE →		<u>Feb 07/07</u>	
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CALIBRATED & INSPECTED BY: Hert Econs
PRINT FULL NAME LEGIBLY

SIGNATURE: Hert Econs IF APPLICABLE WITNESSED BY: _____
PRINT FULL NAME LEGIBLY

SIGNATURE

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

RECORD THIS NUMBER ON ALL DAILY WORK SHEETS → MCR 27019



Client PC Compression
Manufacturer 3D
Serial No PEC-111270011
Pressure range: 1500 P.S.I.

Date 18-Apr-06

RECEIVED APR 19 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

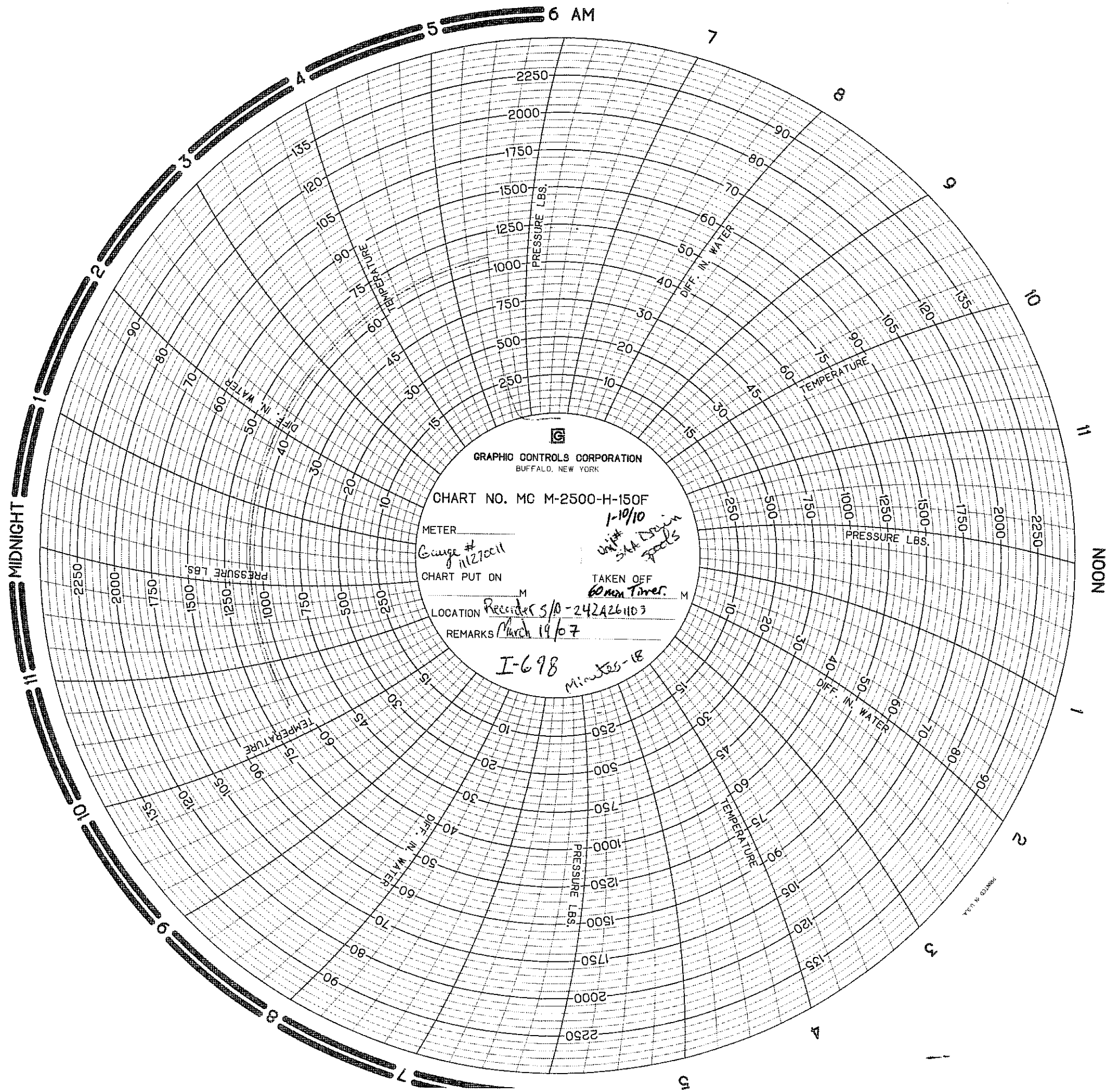
THIS IS TO CERTIFY THAT THE GAUGE HAS BEEN INSPECTED AND TESTED AGAINST
PRESSURE STANDARD:

RPM# S/N: 677. Calibration due date: 30-Jun-06

Next Calibration date: 18-Apr-07

Calibrated by: BRAD MELNYK

A handwritten signature in black ink, appearing to read 'Brad Melnyk', written over the printed name.



PC COMPRESSION 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

PRESSURE PIPING EXAMINATION AND INSPECTION SHEET				
JOB NUMBER: <i>Z-702 SAA-07165</i>				
NO.	FUNCTION	MANUAL REFER	SIGNATURE OR INITIAL AND DATE	
			Q.C. INSP.	OWNER'S INSP.
1	Drawings: ABSA registration over 0.5m ³ . Approved by owner. Approved by Construction (signed & dated)	7.3 7.2	<i>SDC</i> <i>03/04/07</i>	
2	ABSA Safety Codes Officer (when required) and Owner's Inspector notified.	8.4 9.3	<i>SDC</i> <i>03/04/07</i>	
3	Registered Welding Procedures, Q.C. Manual and Forms available at site, Job File started.	9.2(a) 9.3(a)	<i>N/A</i>	
4	Welder's qualified for Weld Procedures and have valid Performance Qualification cards. Welders Log Completed. WPS reviewed with welders.	10.3	<i>N/A</i>	
5	Material checked against P.O., drawings, and Specifications. Identification confirmed. Color coding applied.	8.3 8.6	<i>SDC</i> <i>13/04/07</i>	
6	Sample of each welder's work examined, including root spacing, alignment, cleaning, joint preparation, preheat and electrode control.	10.3(f)	<i>N/A</i>	
7	Nondestructive Examination completed. Reports and radiographs reviewed, signed by Level II or III, Radiograph I.D. detailed on drawings.	12.2	<i>N/A</i>	
8	Visual Examination of all completed welds. Welder's I.D. stamped and or recorded on drawings.	10.3(g)	<i>N/A</i>	
9	Heat Treatment verified and recorded on Drawings.	13.3	<i>N/A</i>	
10	Each system checked against specifications and drawings before pressure test.	9.3(d) 9.3(f)	<i>SDC</i> <i>25/04/07</i>	
11	All deficiencies recorded and signed off by Q.C.I. and Owner's Inspector before pressure test.		<i>SDC</i> <i>25/04/07</i>	
12	Pressure Test checked. Gauge calibration verified, gauge # recorded.	15.4, 14.3	<i>SDC</i> <i>25/04/07</i>	
13	System checked after test. Deficiencies recorded and corrected. Exhibit 15.2	15.4	<i>SDC</i> <i>15/05/07</i>	
14	Construction data reports prepared and signed by Q.C.I. and Owner's Inspector. (AB-83)	9.3(g)	<i>SDC</i> <i>15/05/07</i>	
15	Declaration from submitted to ABSA. (AB-81)	9.3(g)	<i>N/A</i>	
16	As built drawings accepted by Owner.	9.3(h)	<i>SDC</i> <i>23/05/07</i>	

HOLDS POINTS INDICATED BY AN ASTERISK *

PC COMPRESSION 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 GUIDE		
JOB NO: <i>E-702 SAA-07/65</i>		
SIGNATURE OR INITIAL AND DATE		
	Q.C. INSP.	OWNER'S INSP.
1. Pipe material specification correct.	<i>SDC</i> <i>12/04/07</i>	
2. Flanges, ratings, schedule material specification correct.	<i>SDC</i> <i>29/03/07</i>	
3. Fittings, Tees, Return bends-Reducers couplings, Weldolets, etc. correct material specifications.	<i>SDC</i> <i>13/04/07</i>	
4. Valves identification - Manufacturers name tag, etc., correct.	<i>SDC</i> <i>22/03/07</i>	
5. Valves installed correct, flow direction, accesses, rising stems free from obstructions. Clearance for removal adequate.	<i>SDC</i> <i>25/04/07</i>	
6. Lubrication fittings, drains, etc., installed as required.	<i>SDC</i> <i>25/04/07</i>	
7. Bolts and studs length and material correct, studs at least flush with heads (max. thread exposure beyond nut should be about 2 threads)	<i>SDC</i> <i>25/04/07</i>	
8. Gaskets are correct type, material,	<i>SDC</i> <i>25/04/07</i>	
9. All welding satisfactory and traceable to welders symbol.	<i>N/A</i>	
10. Seal welding complete - threads covered.	<i>N/A</i>	
11. All attachment welds satisfactory.	<i>SDC</i> <i>25/04/07</i>	
12. All N.D.E., heat treatment complete, records filed.	<i>N/A</i>	
13. Guide anchors and shoes required installed correctly (high temp lines).	<i>N/A</i>	
14. Line Supports adequate - supports to be checked against drawings.	<i>SDC</i> <i>25/04/07</i>	
15. Spring hangers - correct	<i>N/A</i>	
16. Lines have adequate allowance for expansion.	<i>N/A</i>	
17. Bellows type expansion joint correct type and installed correctly.	<i>N/A</i>	
18. Required cold spring applied.	<i>N/A</i>	
19. Orifice runs have specified straight length of Pipe - located correctly etc.	<i>SDC</i> <i>25/04/07</i>	
20. All deficiencies recorded on non-conformance record.	<i>SDC</i> <i>28/05/07</i>	



CONSTRUCTION DATA REPORT FOR PIPING SYSTEMS

In accordance with the provisions of the Safety Codes Act

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

Complete both sides of this Form

1. Constructed By: PC COMPRESSION INC. Owner's Job No: I-702 / SAA-07165
(Name of ABSA authorized primary contractor or subcontractor)
2308 - 8th Street, Nisku, Alberta T9E 7Z2
(Address)

Alberta Quality Program No. AQP-2997

Expiry Date: DECEMBER 14, 2007

2. Constructed For: _____
(Name of primary contractor if different from above)

(Address)

Alberta Quality Program No. AQP-

Expiry 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.)

3. Owner: HUSKY ENERGY, 5516-59TH AVE. LLOYDMINSTER AB T9V 1A9

(Name and address)

Portable

(Location of installation)

Alberta Quality Program No. AQP-

Expiry Date: _____

(Required when the owner undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

4. Piping Design Alberta Registration No.: PP-

(Required if aggregate piping volume is over 0.5m³)

5. WP No.: WP-; Company: _____; Owner's WP No. (If used): WP-
(Alberta Registration No.) (Alberta Registration No.)

WPS No(s). used: _____; Owner's WPS No(s). (If used): _____

6. Code: ASME B31.1 Non Boiler External Piping ☐; ASME B31.1 Boiler External Piping ☐;
ASME B31.3 ☒ - Service category: Normal ☒, D ☐, M ☐, High Pressure ☐; B31.5 ☐; B31.9 ☐.

Drawing No. Rev. No. Line No.	Fluid (Air/Stm. Etc.)	Des. Press. kPa	Des. Temp. °C	Test Press. kPa	Test Medium	Pipe Mat'l Spec. & Grade	C.A. mm	Pipe NPS & Schedule	Flange Material & Rating	PWHT/ Preheat Temp. °C	R.T. %	Other NDE
PG-1101-2-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
PG-1102-2-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
PG-1103-1-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
DR-1104-1-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
DR-1105-1-B	LIQUID	720 PSI	350°F	1080 PSI	WATER	SA-106-B	N/A	1" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
PG-2101-2-A	GAS	150 PSI	350°F	165 PSI	AIR/SOAP	SA-106-B	N/A	2" SCH 80	SA-105N CL 2000	N/A	N/A	VISUAL
PG-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
PG-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
PG-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
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
DR-1203-5-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
DR-1204-1-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
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
PG-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

Page 2 of 2.

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

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

Endorse certificate 'A' or 'B'

A. CERTIFICATE OF COMPLIANCE

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

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

Date: _____

Subcontractor

Print Authorized Representative's Name

Signature

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

B. CERTIFICATE OF COMPLIANCE

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

We certify that the statements in this Data Report are correct and that piping job no. I-702

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

Date: 15 MAY 2007 PC COMPRESSION

Primary Contractor

SCOTT CAMPBELL

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: _____

Print Owner's Inspector's Name Owner's Inspector's Signature

Name: _____ Sign.: _____

ABSA Safety Codes Officer
(BOILER EXTERNAL PIPING ONLY)

M.E.G.A.

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

CLIENTE
Customer
Client

CE FRANKLIN LTD.

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

CERTIFICATO N. 537244
Certificate N. 537244
Certificat N. 537244

DATA / Date 09/01/07

COMMESSA 79563
Job N. 79563
Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulee	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
LULC	ASTM A105/05	16836	0.202	0.260	0.980	0.002	0.007	00.13	00.13	0.020	0.002	0.140	0.003	0.027	0.413
LLAA	ASTM A105/03	71551	0.195	0.220	0.790	0.014	0.015	00.10	00.06	0.010	0.000	0.200	0.021	0.022	0.370
LLAB	ASTM A105/03	71551	0.195	0.220	0.790	0.014	0.015	00.10	00.06	0.010	0.017	0.200	0.021	0.000	0.370
LLAC	ASTM A105/03	71551	0.195	0.220	0.790	0.014	0.015	00.10	00.06	0.010	0.017	0.200	0.021	0.022	0.370
LLAL	ASTM A105/03	71551	0.195	0.220	0.790	0.014	0.015	00.10	00.06	0.010	0.017	0.200	0.021	0.022	0.370
NDAU	ASTM A105/05	1T 23944	0.200	0.190	0.780	0.014	0.010	00.06	00.08	0.020	0.000	0.160	0.000	0.000	0.362
			---	Nb % = 0.001	B % = 0.000									CEs = 0.3653	
			---	Nb % = 0.000										CEs = 0.3267	
			---	Nb % = 0.000										CEs = 0.3267	
			---	Nb % = 0.000	B % = 0.0002									CEs = 0.3267	
			---	Nb % = 0.000										CEs = 0.3267	
			---	Nb % = 0.003										CEs = 0.330	

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SMERVAMENTO N/mm ² Yield point Limite d'élasticité	ROTTURA N/mm ² Tensile strength Rupture	ALLUNGAMENTO % ≥ Elongation Allongement	CONTRAZIONE % ≥ Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHIACC. Flatt. test Aplatiss.	RESILLENZA Impact test / Résilience			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITÀ MIS. Unit system	TIPO Type	T. °C Test temp	VALORE / Value / Données
LULC	1	122.6	50.0	364.0	504.0	30.3	68.3	149-156		J	KV	0	48-52-46
LLAA	1	30.6	25.0	313.0	531.0	29.4	67.6	156-163		J	KV	0	48-38-40
LLAB	1	30.6	25.0	314.0	534.0	29.6	67.6	156-163		J	KV	0	42-38-40
LLAC	1	30.6	25.0	313.0	530.0	30.3	67.1	156-163		J	KV	0	42-34-40
LLAL	1	30.6	50.0	364.0	502.0	28.8	53.9	156-170		J	KV	0	42-36-42
NDAU	1	30.6	50.0	307.0	520.0	32.1	69.9	143-146		J	KV	0	50-60-58

PROVA Test Epreuve	NOTE / Remarks / Notes	FORMA Shape / Forme
	EN10204/3.1	1 = <input type="checkbox"/> 2 = <input type="checkbox"/>
LULC	ELECT. FURNACE-NORMALIZED AT 900 °C COOLED IN STILL AIR. /CERT.10016.06 x BF + 10025.06 x BM*530314 MEGA*	
LLAA	ELECT. FURNACE-NORMALIZED AT 910 °C COOLED IN STILL AIR. /CERT.40301.05 FEAT*247669 MEGA*	
LLAB	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*	

PROVA Test Epreuve	POS. Item Pos.	QUANTITA' Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
LULC	015	600	1092648	UNION S. 3000 NPT A/SA105N 1	male+female OK
LLAA	016	100	1095890	UNION S. 3000 NPT A/SA105N 1.1/2	male OK
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 OK
NDAU	017	504	1090546	UNION S. 3000 NPT A/SA105N 2	male OK

PC COMPRESSION

DATE RECEIVED APR 13 2007

PO.# 508148 1891736

SIGNATURE: *HC*

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official	CAPO COLLAUDO Chief Inspection DPT Responsable assurance qualité
MATERIAL ACCORDING TO NACE MR0175/ 2003.		DOC. M.E.G.A. Luca Martini

FEB 07 2007

MEGA

CLIENTE
Customer
Client

CE FRANKLIN LTD.

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Certificate N. REV.1
Foglio 1
Sheet
Feuille

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

DATA / Date 07/02/07

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DIN
ISO 9001

GRUPPE
Purchase order
Commande

1571574-OR-2100

COMMESSA
Job N.
Confirmation de commande 79563

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Cauté	C %	SI %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
NBAL	ASTM A105/03	0578224	0.190 --->	0.230 NbX=	0.920 0.001	0.007	0.013	00.09	00.05	0.010	0.000	0.170	0.020	0.022	0.381
NDCL	ASTM A105/03	06/78612	0.195 --->	0.170 NbX=	0.890 0.000	0.010	0.014	00.10	00.05	0.010	0.019	0.160	0.017	0.023	0.382
NDDF	ASTM A105/03	06/70864	0.195 --->	0.200 NbX=	0.880 0.000	0.009	0.014	0.009	00.05	0.010	0.019	0.170	0.018	0.021	0.363
NLSR	ASTM A105/03	AA0479	0.195 --->	0.250 NbX=	1.000 0.000	0.004	0.009	00.10	00.08	0.020	0.000	0.130	0.000	0.025	0.399
NADL	ASTM A105/03	0633874	0.180 --->	0.240 NbX=	1.080 0.002	0.003	0.012	00.12	00.01	0.005	0.000	0.000	0.003	0.023	0.386
NRBR	ASTM A105/05	06/71488	0.185 --->	0.180 NbX=	0.830 0.001	0.009	0.014	00.10	00.05	0.010	0.000	0.120	0.001	0.023	0.356

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SCHIACCIAMENTO Yield point Limite d'élasticité	ROTTURA Rupture Tensile strength	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Réduction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHIACCIAMENTO Flat test Aplatissement	RESISTENZA Impact test / Résistance			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITÀ MIS. Unit system	TIPO Type	T. °C Test temp	VALORE / Value / Données
NBAL	30.6	25.0	312.0	533.0	29.2	66.8	155-160			J	KV	0	38-52-48
NDCL	30.6	25.0	303.0	510.0	31.3	68.6	146-156			J	KV	0	54-62-52
NDDF	59.5	35.0	346.6	501.4	25.7	62.9	146-149			J	KV	0	48-68-34
NLSR	30.6	25.0	298.9	508.2	32.2	68.1	140-145			J	KV	0	152-150-158
NADL	60.1	35.0	308.0	528.0	28.0	66.0	140-145			J	KV	0	46-52-54
NRBR	122.6	50.0	297.0	515.0	31.1	69.9	140-145			J	KV	0	48-52-60

PROVA Test Epreuve	NOTE / Remarks / Notes	FORMA Shape / Forme
	EN10204/3.1	1 = Ø 2 = □

NBAL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8596.06 MEGA/ISMA*530980 MEGA*
NDCL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8642.06 MEGA/ISMA*531508 MEGA*
NDDF	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.117.06 CARLOTTO*532589 MEGA*
NLSR	ELECT.FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.56.06 EVASI*532799 MEGA*
NADL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.87.36.06 MEGA/ISMA*532601 MEGA*
NRBR	ELECT.FURNACE-NORMALIZED COOLED IN STILL AIR.	/CERT.1471.06 CARLOTTO*534986 MEGA*

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	COOKE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
NBAL	001	450	1096411	90 DEG. ELBOW S. 2000 NPT A/SA105N 1/2	OK
NDCL	002	250	1096526	90 DEG. ELBOW S. 2000 NPT A/SA105N 1	OK
NDDF	003	880	1092381	90 DEG. ELBOW S. 2000 NPT A/SA105N 2	OK
NLSR	004	800	1095574	TEE S. 2000 NPT A/SA105N 1/2	OK
NADL	005	250	1094571	TEE S. 2000 NPT A/SA105N 1	OK
NRBR	006	1992	1095304	TEE S. 2000 NPT A/SA105N 2	OK

PC COMPRESSION

DATE RECEIVED APR 13 2007

CO. S08148 1891736

SIGNATURE: *He*

APPROVED BY Q.C. INSPECTOR

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official	CAPO COLLAUDO Chief inspection DPT Responsable assurance qualité
MATERIAL ACCORDING TO NACE MR0175/ 2003.		DOC. MEGA <i>Marcati</i>

FEB 07 2007

MEGA

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DIN
ISO 9001

CLIENTE
Customer
Client

CE FRANKLIN LTD.

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

ORDINE
Purchase order
Commande

1571574-OR-2100

CERTIFICATE N.
Certificat N.

537244
REV.1

page 1
Sheet
Foglio

DATA / Date

07/02/07

CANIERA
Job N.

79563

Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLORA Heat / Couleur	C %	SI %	Mn %	S %	P %	Cr %	Mo %	W %	Cu %	V %	Al %	CE %	
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	0.381
NDCL	ASTM A105/03	06/78612	0.195	0.170	0.890	0.018	0.014	00.10	00.05	0.010	0.019	0.160	0.017	0.023	0.382
NDDF	ASTM A105/03	06/70864	0.195	0.200	0.880	0.009	0.014	0.009	00.05	0.010	0.019	0.170	0.018	0.021	0.363
NLSR	ASTM A105/03	AA0479	0.195	0.250	1.000	0.004	0.009	00.10	00.08	0.020	0.000	0.130	0.000	0.025	0.399
NADL	ASTM A105/03	0633874	0.180	0.240	1.080	0.003	0.012	00.12	00.01	0.005	0.000	0.000	0.003	0.023	0.386
NRBR	ASTM A105/05	06/71488	0.185	0.180	0.830	0.009	0.014	00.10	00.05	0.010	0.000	0.120	0.001	0.023	0.356

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve	SHERMANTO N/mm ² Yield point Limite d'élasticité	ROTTURA N/mm ² Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PEDRA Bend test Pliage	SCHACCO Flat test Aplatisse.	UNITÀ MIS. Unit system	TPO Type	T. °C Test temp	VALORE / Value / Données
NBAL	30.6	25.0	312.0	533.0	29.2	66.8	155-160		J	KV	0	38-52-48
NDCL	30.6	25.0	303.0	510.0	31.3	68.6	146-156		J	KV	0	54-62-52
NDDF	59.5	35.0	346.6	501.4	25.7	62.9	146-149		J	KV	0	48-68-34
NLSR	30.6	25.0	298.9	508.2	32.2	68.1	140-145		J	KV	0	152-150-158
NADL	60.1	35.0	308.0	528.0	28.0	66.0	140-145		J	KV	0	46-52-54
NRBR	122.6	50.0	297.0	515.0	31.1	69.9	140-145		J	KV	0	48-52-60

PROVA Test Epreuve	NOTE / Remarks / Notes	FORMA Shape / Forme
	EN10204/3.1	1 = <input type="checkbox"/> 2 = <input type="checkbox"/>

NBAL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8596.06 MEGA/ISMA*530980 MEGA*
NDCL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8642.06 MEGA/ISMA*531508 MEGA*
NDDF	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.117.06 CARLOTTO*532589 MEGA*
NLSR	ELECT.FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.56.06 EVASI*532799 MEGA*
NADL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.87.36.06 MEGA/ISMA*532601 MEGA*
NRBR	ELECT.FURNACE-NORMALIZED COOLED IN STILL AIR.	/CERT.1471.06 CARLOTTO*534986 MEGA*

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
NBAL	001	450	1096411	90 DEG. ELBOW S. 2000 NPT A/SA105N 1/2	OK
NDCL	002	250	1096526	90 DEG. ELBOW S. 2000 NPT A/SA105N 1	OK
NDDF	003	880	1092381	90 DEG. ELBOW S. 2000 NPT A/SA105N 2	OK
NLSR	004	800	1095574	TEE S. 2000 NPT A/SA105N 1/2	OK
NADL	005	250	1094571	TEE S. 2000 NPT A/SA105N 1	OK
NRBR	006	1992	1095304	TEE S. 2000 NPT A/SA105N 2	OK

PC COMPRESSION

DATE RECEIVED APR 13 2007

NO. 50848 1841730

SIGNATURE: *HC*

WITNESSED BY Q.C. INSPECTOR

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Officiel	CAPO COLLAUDO Chief inspection DPT Responsable assurance qualité
MATERIAL ACCORDING TO NACE MR0175/ 2003.		DOC. <i>MEGA</i> S.p.A. <i>Luca Marcati</i>

1095259

JAN 18 2007

1095259

CERTIFIED MILL TEST REPORT



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Date 06/29/06

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Bonney Order No. 1037185

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ITEM	QUANTITY	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 MO .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	56788 7520190	2X2X1 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
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(LONG FORMULA) = 0.38 T/S 73250 Y/S 50500 EL 33.45 RA 67.70 BRINELL HARDNESS1: 132 HARDNESS2: 135

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

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

DATE

RECEIVED MAR 19 2007

by Chris Childers

CMTR: REV 1

P.O. #

508111 Inv

QUALITY PROCESS MANAGER

SIGNATURE:

Hec

APPROVED BY O.C. INSPECTOR



MAR 27 2007

INDUSTRIA MECCANICA LIGURE SPA

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli, 4 - Tel 0185.457561 - Fax 0185.457561 - This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 2 - 3

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

IRACO LIMITED - CASTLE HOUSE

Certificate Nr 17278

Dated 21.02.2007

COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY RINA

STATION ROAD - NEW BARNET

Invoice Nr 199

Dated 20.02.2007

HERTFORDSHIRE ENS IPE - UNITED KINGDOM

Del. Note Nr 314

Dated 20.02.2007

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.
FEH	74416	003	17043	2008-2E201-0001060-003	202	FITTING 90 ELB. THRD NPT 2M 3" A105N	SEE NOTE	SATISFACTORY
FEH	74416	003	17043	2008-2E201-0001060-003	130	FITTING 90 ELB. THRD NPT 2M 3" A105N	SEE NOTE	SATISFACTORY
EZC	36561	019	17043	2006-2E201-0001060-019	30	FITTING TEE THRD NPT 3M 3" A105N	SEE NOTE	SATISFACTORY
N59	77912	043	17043	2006-2E201-0001060-043	350	FITTING HEX.H.PLUG THRD NPT 1" A105N	SEE NOTE	SATISFACTORY
FGH	74413	021	17043	2006-2E201-0001060-021	3	FITTING RED TEE THRD NPT 3M 2"x1" A105N	SEE NOTE	SATISFACTORY
DIU	77180	021	17043	2006-2E201-0001060-021	4	FITTING RED TEE THRD NPT 3M 2"x1" A105N	SEE NOTE	SATISFACTORY
ERF	72291	021	17043	2006-2E201-0001060-021	11	FITTING RED TEE THRD NPT 3M 2"x1" A105N	SEE NOTE	SATISFACTORY
	72474	028	17043	2006-2E201-0001060-028	100	FITTING HALF COUPL THRD NPT 3M 3" A105N	SEE NOTE	SATISFACTORY

HEAT CODE	HEAT	ITEM	MATERIAL	C%	Si%	Mn%	S%	P%	C%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%	OTHER ELEMENTS
FEH	74416	003	ASTM A105	0.185	0.210	0.970	0.020	0.017	0.110	0.050	0.010	0.005	0.150	0.001	0.001	0.000	0.018	0.384	
FEH	74416	003	ASTM A105	0.185	0.210	0.970	0.020	0.017	0.110	0.050	0.010	0.005	0.150	0.001	0.001	0.000	0.018	0.384	
EZC	36561	019	ASTM A105	0.190	0.240	0.960	0.018	0.012	0.120	0.060	0.010	0.010	0.150	0.003	0.001	0.000	0.005	0.391	
N59	77912	043	ASTM A105	0.190	0.160	0.910	0.023	0.009	0.070	0.050	0.010	0.010	0.170	0.002	0.001	0.000	0.005	0.373	
FGH	74413	021	ASTM A105	0.185	0.180	0.970	0.019	0.018	0.130	0.050	0.010	0.005	0.190	0.001	0.001	0.000	0.023	0.391	
DIU	77180	021	ASTM A105	0.180	0.180	0.980	0.019	0.016	0.090	0.050	0.010	0.005	0.170	0.002	0.000	0.000	0.017	0.378	
ERF	72291	021	ASTM A105	0.180	0.240	0.990	0.017	0.013	0.080	0.050	0.010	0.006	0.150	0.001	0.000	0.000	0.023	0.377	
	72474	028	ASTM A105	0.210	0.220	0.870	0.023	0.015	0.100	0.050	0.010	0.005	0.250	0.016	0.000	0.000	0.012	0.403	

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS HB	BEND TEST	FLATTENING TEST	TYPE 15x10mm	IMPACT TEST - JOULE/cm ²	1	2	3	SHAPE	YIELD POINT
FEH	74416	003	122.65	50.00	304.0	31.0	54.0	160 - 166	0.0	0.0	KV	20	98	96	100	1	0.0
FEH	74416	003	122.65	50.00	304.0	31.0	54.0	160 - 166	0.0	0.0	KV	20	98	96	100	1	0.0
EZC	36561	019	122.65	50.00	306.0	32.0	56.0	160 - 164	0.0	0.0	KV	20	106	110	115	1	0.0
N59	77912	043	122.65	50.00	361.0	32.0	56.0	160 - 168	0.0	0.0	KV	20	105	100	109	1	0.0
FGH	74413	021	122.65	50.00	318.0	32.0	54.0	162 - 168	0.0	0.0	KV	20	95	94	90	1	0.0
DIU	77180	021	122.65	50.00	327.0	33.0	59.0	159 - 163	0.0	0.0	KV	20	106	100	102	1	0.0
ERF	72291	021	122.65	50.00	309.0	31.0	54.0	160 - 166	0.0	0.0	KV	20	108	100	105	1	0.0
	72474	028	122.65	50.00	316.0	32.0	55.0	162 - 166	0.0	0.0	KV	20	106	110	111	1	0.0

HEAT CODE	HEAT	ITEM	MATERIAL IN ACCORDANCE TO	HEAT TREATMENT	FURNACE	STEEL MILL	Our Ref.
FEH	74416	003	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	
FEH	74416	003	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	
EZC	36561	019	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	
N59	77912	043	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	041204
FGH	74413	021	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	052098
DIU	77180	021	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	
ERF	72291	021	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	061475
	72474	028	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	

NOTES ASME B16.11/05 - ANSI B31.1/B31.5 - IME-STD-ANSLB1.1-B18.2.2 - INSPECTION AUTHORITY

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

SPECIFICATIONS AND P.O. REQUIREMENTS

SIGNATURE

HC

RECEIVED APR 13 2007

508142

1891726

INSPECTION AUTHORITY

QUALITY CONTROL DEPARTMENT

MANUFACTURER'S SYMBOL

MANUFACTURER'S SYMBOL

IML

FITTINGS

BORIS FIZZOTTI

STUDBOLTS



APPROVED BY G.G. INSPECTOR



P.O. Box 40, Simcoe, Ontario N3Y 4K9
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 %

Heat No.	C	Mn	P	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 (LONG FORMULA) = 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.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

A Division of Mueller Canada, LTD.	
DATE	RECEIVED APR 13 2007
PO #	508148 1891736
SIGNATURE:	HL
APPROVED BY Q.C. INSPECTOR	

NOV 30 2006



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

Certificate of Test

Part Number: Y32066 Description: 2x8 B XS SML NIP 106B ✓
Heat Code: AI88 ✓
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
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											

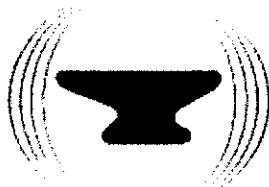
Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	48,300	psi	72,000	32.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment:						
MAX.HARDNESS DOES NOT EXCEED 22HRC IN ACC.WITH NACE MR0175 SEAMLESS.						
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 COMPRESSION RECEIVED APR 13 20	
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OCT 11 2006



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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.	C	Mn	P	S	Si	Cu	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 (LONG FORMULA) = 0.28											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	45,500	psi	67,000	33.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment:						
MEETS NACE MR0175-2002						
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.

PC COMPRESSION	
RECEIVED APR 13 2007	
DATE	
NO. #	508148 1891736
SIGNATURE:	HC
APPROVED BY Q.C. INSPECTOR	

APR 12 2007



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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 %

Heat No.	C	Mn	P	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 (LONG FORMULA) = 0.32											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	43,400	psi	66,500	34.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment:						
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.

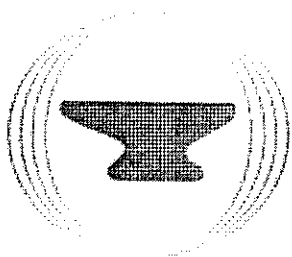
PC COMPRESSION

DATE RECEIVED APR 13 2007

PO.# SDB148 1891736

SIGNATURE: *HC*

APPROVED BY Q.C. INSPECTOR



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

Certificate of Test

Part Number: Y32055 Description: 2x5-1/2 B XS SML NIP 106BV✓
Heat Code: AH73✓
Reference No.:
Specification: ASTM A106 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
49762	0.19	0.44	0.009	0.015	0.27	0.07	0.06	0.07	0.01	<0.01	
CE (LONG FORMULA) = 0.29											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	46,300	psi	69,000	34.00	0.00	N/R
MPa	000	MPa	000			
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. We make no representation beyond those of the manufacturer or its agent.

PC COMPRESSION
DATE RECEIVED MAR 22 2007
P.O. # 508145 Inv
SIGNATURE: HC
APPROVED BY Q.C. INSPECTOR

APR 12 2007



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

Certificate of Test

Part Number: Y3205 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	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
	0.19	0.49	0.014	0.023	0.24	0.05	0.02	0.02	0.01	0.01	< 0.01
CE (LONG FORMULA) = 0.29											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	48,300	psi	72,000	32.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment:						
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 COMPRESSION	
DATE RECEIVED APR 13 2007	
RD.#	508148 1891736
SIGNATURE:	Hc
APPROVED BY Q.C. INSPECTOR	

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

1123547

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 %

Heat No.	C	Mn	P	S	Si	Cu	Ni	Cr	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 (LONG FORMULA) = 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.

Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

FC COMPRESSION	
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DATE A Division of Mueller Canada, LTD.	
QD # 508148	1891736
SIGNATURE: HC	
APPROVED BY Q.C. INSPECTOR	



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

Certificate of Test

Part Number: Y3203 Description: 2x3 B XS SML NIP 106B ✓
Heat Code: AH73 ✓
Reference No.:
Specification: ASTM A106 GRADE B/ ASME SA106 GRADE B
Fitting Trademark: NIKOPOL

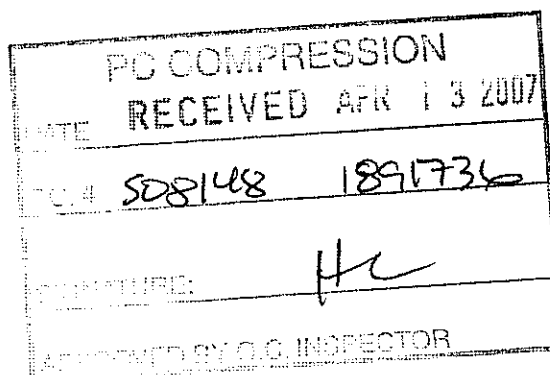
Chemical Analysis %

Heat No.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
49762	0.19	0.44	0.009	0.015	0.27	0.07	0.06	0.07	0.01	< 0.01	
CE (LONG FORMULA) = 0.29											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	46,300	psi	69,000	34.00	0.00	N/R
MPa	000	MPa	000			
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. We make no representation beyond those of the manufacturer or its agent.



MAR 20 2007

1118861

**ANVIL**
INTERNATIONAL, INC.Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

Certificate of Test

Part Number: Y32025 Description: 2x2-1/2 B XS SML NIP 106B✓
Heat Code: AI77✓
Reference No.:
Specification: ASTM A106-02 GRADE B/ ASME SA106 GRADE B
Fitting Trademark: NIKOPOL

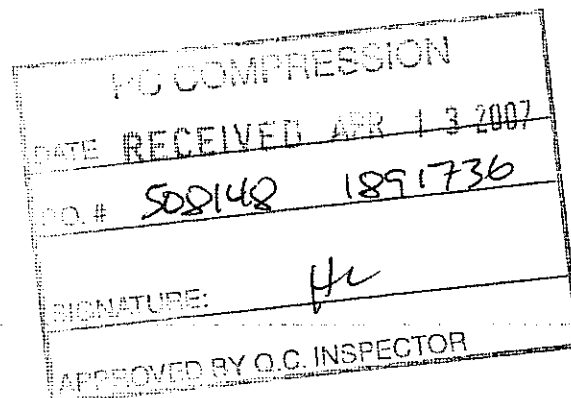
Chemical Analysis %

Heat No.	C	Mn	P	S	Si	Cu	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 (LONG FORMULA) = 0.28											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	45,500	psi	67,000	33.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment: MEETS NACE MR0175-2002 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.



June 68

1158985



**ALBERTA
OIL TOOL**
A **DOVER** COMPANY

MAR 27 2007

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

AILL

MATERIAL REPORT

AOT HEAT CODE **AILL** ✓

General Information

Source:	Hengyang Steel Tube	Date:	18/12/2006
Description:	2" XH Seamless Steel Pipe	Heat No	0624039

Specification: ASTM A106B-02a, ASME SA106B-04, NACE MR0175-99

Chemical Properties

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Al
0.19	0.83	0.011	0.005	0.41	0.13	0.04	0.02	0.06	0.002	0.000

Mechanical Properties


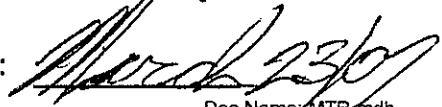
Tensile:	80475 psi	Elongation (%):	29.0
Yield:	52200 psi	Hardness:	HRC 6.0
Heat Treatment:	Hot Rolled	Hydrostatic Test:	3000 psi
Other Tests:	Bend & Eddy Current Tests OK		

PC COMPRESSION
RECEIVED APR 13 2007
508148 1891736
HL

Notes: USED FOR 331537A633
2" x 1-1/2" XH Smis Swage Nipple ✓
Meets: MEETS ASTM A234-02/ASME SA234-01 GR.WPBS58
MEETS NACE MR0175/ISO 15156

Commodity Code	135600A013
Commodity Code	135600A013
Checked By:	LF

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

APPROVED BY:  Date: 
Maintained By: Quality Department R&D Doc Name: MTR.mdb
Approved By: Director, Quality Date: 21-Feb-07 Page 1 of 1



**ALBERTA
OIL TOOL**

A **DOVER** COMPANY

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

1155012

AIFZ

MILL TEST REPORT

AOT HEAT CODE **AIFZ** ✓

General Information

Raw Material	Hengyang Steel Tube	Date:	18/09/2006
Manufacturer:		Heat No	0611812
Description:	2" XH Seamless Steel Pipe		
Specification:	ASTM A106B-02a, ASME SA106B-04, NACE MR0175-99		

Chemical Properties

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

Mechanical Properties

Tensile:	73950 psi	Elongation (%):	32.0
Yield:	47850 psi		
		Hardness:	HRC 7
Heat Treatment:	Hot Rolled	Hydrostatic Test:	3000 psi
Other Tests:	Eddy Current & Bend Tests OK		

PG COMPRESSION	
DATE RECEIVED APR 13 2007	
PO #	508184 1891736
SIGNATURE <i>HZ</i>	
TITLE: I.C. INSPECTOR	

Notes: **USED FOR 334537A631**
2" x 1" 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: *[Signature]*

Maintained By: Quality Department

Rev: C

Doc Name: MTR.mdb

Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1

Line 66

OCT 30 2006

KEDDCO MFG. LTD.
PO Box 999
645 Keddc 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

Report Number: 15155
Description: 2" SWAGES & BULL PLUGS ✓
Specification: A234-WPB/SA234-WPB
Date: 8-Jun-06
Heat Treatment: H.R.
Material: C1022 MOD
CRN: OA7470.5C
2" x 1/4" SCH80 SWAGE 9BE

Chemical Analysis

Heat Code: **K1196** ✓
Heat Number: 66525

C	0.180	Cu	0.150	Al	0.003
Mn	1.030	Ni	0.050		
P	0.009	Cr	0.050		
S	0.018	Mo	0.020	Ti	0.000
Si	0.250	V	0.013		
N	0.000	Nb	0.014		

Mechanical Tests

Yield PSI: 52200
Elongation @ 2" %: 28
Size: 2.375" RND
Tensile PSI: 80400
Reduction of Area %: 0
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.

PC COMPRESSION	
RECEIVED APR 13 2007	
DATE	
Q# 508184	1891736
SIGNATURE:	HC
APPROVED BY O.C. INSPECTOR	

[Signature]
Ian Shields
Quality Assurance Manager

KEDDCO MFG LTD

DEC 11 2006

M.E.G.A.

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DINV
ISO 9001

CLIENTE
Customer
Client

CE FRANKLIN LTD.

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

ORDINE
Purchase order
Commande

1572029-OR-2100

CERTIFICATO N. 535735/00010 1
Certificato N. Sheet
Foglio

DATA / Date 11/12/06

CONSEGNA 79566
Job N.
Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matériau	COLATA Heat / Coudée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
FRBS	ASTM A105/02	ARI677	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
			---											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	0.381
			---		Nb%=	0.001									
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
			---		Nb%=	0.0002								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								CEs=	0.3533
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								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	Sn%=	0.027						CEs=	0.343

PROVA Test Epreuve		PROVETTA Test specimen / Epienuevete		SIRENAMENTO Nimmo-2 Yield point Limite d'élasticité	ROTTURA Nimmo-2 Tensile strength Rupture	ALLUNGAMENTO % ≥ Elongation Allongement	CONTRAZIONE % ≥ Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHIACCIAMENTO Flatt. test Aplatiss.	RESILLENZA Impact test / Résilience			
		SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITA MIS. Unit system	TIP. Type	T. °C Test temp	VALORE / Value / Données
FRBS	1	30.6	25.0	309.0	531.0	30.2	65.3	149-156			J	KV	0	48-38-40
NBAL	1	30.6	25.0	312.0	533.0	29.2	66.8	155-160			J	KV	0	38-52-48
FUSU	1	60.1	35.0	313.0	538.0	29.4	67.5	156-163			J	KV	-10	48-38-50
LLXF	1	58.0	35.0	300.0	502.0	27.7	75.0	150-155			J	KV	0	280-276-258
FRXX	1	57.8	35.0	346.0	506.4	31.0	74.5	144-149			J	KV	0	154-150-118
LCXC	1	60.1	35.0	292.0	501.0	33.2	71.4	137-140			J	KV	0	48-46-56

PROVA Test Epreuve	NOTE / Remarks / Notes	FORMA Shape / Forme
	EN10204/3.1	1 = <input checked="" type="checkbox"/> 2 = <input type="checkbox"/>

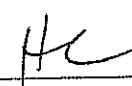
FRBS	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.85.04 EVASI*247498 MEGA*
NBAL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8596.06 MEGA/ISMA*530980 MEGA*
FUSU	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.426.04 ISMA*247541 MEGA*
LLXF	ELECT.FURNACE-NORMALIZED 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	QUANTITA' Quantity Quantité	CODICE CLIENTE Customer 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

DATE RECEIVED APR 13 2007

PO.# 502148 1091736

SIGNATURE: 

APPROVED BY O.C. INSPECTOR

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Office	CAPO COLLAUDO Chief Inspector DPT Responsable assurance qualité
		DOC. CERT. M.E.G.A. Luca Marcati

Line 40



柏緯鐵工股份有限公司

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

KAOSHIUNG 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

An ISO-9001 Registered Manufacturer



MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN10204/DIN50049/3.1.B

CUSTOMER: SEYBOLD INTERNATIONAL CORP.

INVOICE NO: BW039208032

DATE: 03/11/08

CERT NO: 31927

ORDER NO: 4135(937230-OR-2100)

L/C NO:

PAGE: 5

ITEM	RAW MATERIAL HEAT NO.	BOTH WELL HT. CD.	DESCRIPTION	QUANTITY	SPECIFICATION: ASTM / ASME A/SA 105N -01 DIMENSION: ASME B16.11 - 2001 SURFACE: BY VISUAL...GOOD
001	XH922	785	90D ELBOW 1/4" 2000# NPT 1096251	680 PC	
002	364782	969	90D ELBOW 1/2" 2000# NPT 1096411	800 PC	
003	364784	972	90D ELBOW 1" 2000# NPT	384 PC	
003	365445	2003	90D ELBOW 1" 2000# NPT 1096526	285 PC	
003	366126	2010	90D ELBOW 1" 2000# NPT	4031 PC	
004	365446	2004	90D ELBOW 1-1/4" 2000# NPT 1094580	20 PC	
005	365071	997	90D ELBOW 1-1/2" 2000# NPT 1095507	200 PC	

CHEMICAL COMPOSITION (%)

ITEM	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	CE
Mix	-	0.100	0.600	-	-	-	-	-	-	-	-	-
Max	0.350	0.350	1.050	0.035	0.040	0.400	0.300	0.400	0.120	0.050	0.020	0.450
001	0.210	0.210	0.880	0.013	0.014	0.110	0.080	0.070	0.010	0.000	0.001	0.390
002	0.210	0.210	0.840	0.023	0.011	0.370	0.080	0.080	0.010	0.000	0.001	0.400
003	0.200	0.200	0.860	0.023	0.010	0.270	0.100	0.070	0.010	0.010	0.001	0.390
003	0.200	0.210	0.830	0.021	0.012	0.170	0.120	0.060	0.010	0.010	0.002	0.380
003	0.200	0.190	0.810	0.017	0.010	0.200	0.100	0.050	0.010	0.000	0.004	0.370
004	0.200	0.220	0.850	0.021	0.012	0.200	0.120	0.070	0.020	0.010	0.002	0.380
005	0.200	0.200	0.820	0.025	0.015	0.190	0.120	0.060	0.020	0.020	0.003	0.380

MECHANICAL TEST

ITEM	Tensile Strength (KSI)	Yield Strength (KSI)	Elong- ation (%)	R of A (%)	Hardness (HB)
Mix	70.0	36.0	22.0	30.0	-
Max	-	-	-	-	187
001	73.0	45.8	31.4	64.5	150
002	77.9	54.1	30.8	66.4	141
003	77.9	52.4	29.6	63.6	139
003	79.6	62.3	35.0	65.5	149
003	79.9	55.0	33.2	66.4	149
004	78.6	53.7	34.8	65.5	141
005	78.3	60.4	35.6	65.5	143

Remark:
NORMALIZED : 850°C
CONFORMS TO NACE MR0175-97
STEEL MARKING PROCESS: ELECTRIC FURNACE

WE CERTIFY THE ABOVE MENTIONED FITTINGS HAVE BEEN
MANUFACTURED AND TESTED IN ACCORDANCE WITH THE
SPECIFICATIONS SHOWN

SC Lee *CC Huang*

Q.C. MANAGER: SHENG CHENG LEE
INSPECTOR: CHUN CHIH HUANG

BW-D0839 REV:0

DATE RECEIVED APR 13 2007
P.O.# 508148 1890736
SIGNATURE: *HC*
APPROVED BY Q.C. INSPECTOR

APR 12 2007



BONNEY FORGE
U.S. ROUTE 522 SOUTH
P.O. BOX 330
MOUNT UNION, PA 17066
(814) 542-2545 (800) 345-7546
FAX (814) 542-9977 TELEX 910-240-9091

CERTIFIED MILL TEST REPORT

CCTF - DIV. OF EMCO LTD.

01/22/07

7528396

LOT NO.	CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS
---------	---

✓ 56980 1 1/2" X 1/2" 3M A105N Tee Threaded ✓

C	0.190	MN	0.970	P	0.012	S	0.025	SI	0.250
NI	0.069	CR	0.086	MO	0.014	CU	0.200	V	0.028
AL	0.007	NR	0.010						
CE (LONG FORMULA) = 0.395									
T/S 81250 Y/S 56125 EL 29.400 RA 62.050									
BRINELL HARDNESS: 147									

1. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF NACE MRO175-2003 AND MRO103-2003
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.

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PC COMPRESSION	
DATE	RECEIVED APR 13 2007
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DEC 07 2006

1119791


ANVIL
INTERNATIONAL, INC.

 Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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.	C	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	
CE (LONG FORMULA) = 0.30											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	47,100	psi	68,000	35.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment:						
SEAMLESS						
MAX.HARDNESS DOES OT EXCEED 22HRC.IN ACC. WITH						
NACE MR0175						
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 COMPRESSION	
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APPROVED BY Q.C. INSPECTOR	

APR 20 2006


ANVIL
INTERNATIONAL, INC.

 Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

1124259.

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 %

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	
CE (LONG FORMULA) = 0.32											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	45,700	psi	64,500	33.00	0.00	N/R
MPa	000	MPa	000			
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. We make no representation beyond those of the manufacturer or its agent.

PC COMPRESSION	
DATE	RECEIVED APR 13 2007
P.O. #	508148 1891736
SIGNATURE:	HL
APPROVED BY Q.C. INSPECTOR	



Phoenix * Capitol * Camco
Cap Products

1126441

Certified Mill Test Report

Commanding a Higher Standard™

3/6/2007

Customer
CE FRANKLIN LTD

P.O. 1750350-OR-2100

Heat No 613633
Heat Code PZP
Phoenix Order # 459293

BOX 6776 STN "D"
CALGARY, AB T2P2E8

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

Part Number
15111504

Description
1-1/2 X 2" XHSM L 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
0.010	0.010			0.000					

Additional Chemical Properties

Cr + Cu + Ni
0.060

Mechanical Properties

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

Charpy Minimum Impact -

* 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.

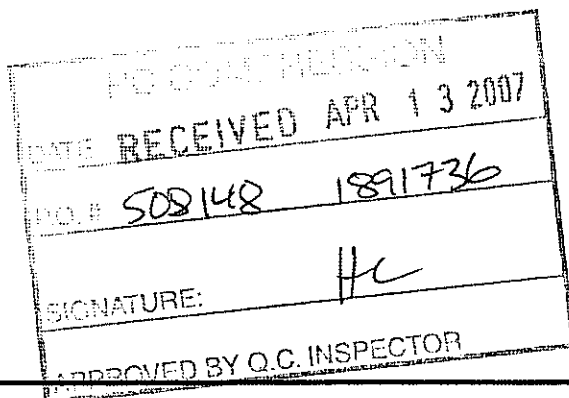
Comments:

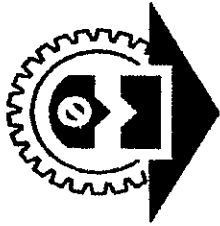
MEETS HARDNESS REQUIREMENTS OF NACE MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

CapProducts, Ltd.

25 Winnipeg St

Vancouver, BC V6M 1L0





SHREE GANESH FORGINGS LIMITED

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



RWTVU

QAD/F/04A-01

CERTIFICATE - EN 10204/3.1																
CLIENT : M/S. CE FRANKLIN		PRODUCT : MACHINED CARBON STEEL FORGED FLANGES		CERTIFICATE NO.: EXP/2008-07/ 1889												
ORDER NO. : 1651347 - OR - 2100		MATERIAL SPECIFICATION : ASTM/ASME AISA 105H AND CSA Z 245.12 Gr.241 CAT I		DATE : 18.01.2007												
DATE : 29.09.2006		DIMENSIONAL SPECIFICATION : ANSI B16.5		MANUFACTURER'S BRAND : SF												
INVOICE NO : EXP/2008-07/148 DT. 30.12.2006				INSPECTORS STAMP :												
CHEMICAL ANALYSIS																
S.NO.	ITEM DESCRIPTION	H.NO./H.CODE	QTY.	% C	% Mn	% Si	% S	% P	% Cr	% Ni	% Mo	% Cu	% V	% Nb	% C.E	ART.NO.
1	1" 150 LBS BLRF ✓	609651 / 9447	50	.19	.87	.15	.032	.025	.031	.017	.001	.008	.001	.002	.34	1034651
2	2 1/2" 150 LBS SORF	513591 / 9614	15	.20	.91	.17	.022	.025	.025	.012	.017	.007	.004	.003	.36	1034651
3	3/4" 150 LBS SWRF, SCH - 80	609651 / 9447	25	.19	.87	.15	.032	.025	.031	.017	.001	.008	.001	.002	.34	1034651
4	1" 150 LBS SWRF, SCH - 80	609651 / 9447	150	.19	.87	.15	.032	.025	.031	.017	.001	.008	.001	.002	.34	1034651
MECHANICAL PROPERTIES																
S.NO.	H.NO./H.CODE	TENSILE STRENGTH Rm N/mm ²	YIELD STRENGTH Rp N/mm ² 0.2%	% Elongation % A G.L= 50 mm	% Reduction Area % Z	Hardness BHN	MICRO STRUCTURE	HEAT TREATMENT								
1	609651 / 9447	488	305	37.60	59.17	149	O.K	NORMALIZED								
2	513591 / 9614	549	315	34.00	60.44	163	O.K	NORMALIZED								
3	609651 / 9447	488	305	37.60	59.17	149	O.K	NORMALIZED								
4	609651 / 9447	488	305	37.60	59.17	149	O.K	NORMALIZED								
REMARKS : 1) CHECKED FOR HARDNESS AND FOUND OK. 2) NO WELDING DONE ON ANY PART OF JOB. 3) Tensile test carried out at 50mm gauge length with 10mm Dia. 4) AS PER NACE MR-0175-2000																
We certify that the material have been manufactured, tested and examined requirement of the ordered standard and all test result are acceptable.																
DATE RECEIVED MAR 29 2007 in accordance with all the P.O. # 508207-01 Inv																
WORKS INSPECTOR D.P. CHAUDHARY																
SIGNATURE: HC																
APPROVED BY Q.C. INSPECTOR																

1.0
57.

JUN 15 2006

Certificate No. 6902050L-0515001
(성적서번호)

Customer (주명자) SEYBOLD

Material (재명) SA/A105-02

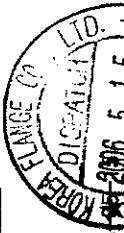
P.O. No. (발주번호) 5489(1502849-OR-2100)

INSPECTION CERTIFICATE

(시험성적서)

W/O No. (작업지시번호) : 6902050L
Issued date (발행일) : 2006. 5. 15

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



Item No. (품번)	Article (품명)	Quantity (수량)	Mechanical Properties (기계적성질) Requirements (요구)	Tension Test (인장시험)				Charpy Test (충격시험)	Hardness Test (경도시험)	CODE NO. (제품번호)
				Y.S. (항복강도) psi	T.S. (인장강도) psi	E.L. (연신율) %	R.A. (인면수축율) %			
			Lot No. (품번) (Control No.)	Min	Min	Min	Min	Unit (단위)	HB	
003	AN 150 SO RF 21/2	10	5C56	48300	78100	35.0	57.0	°C	MAX 187	1073519
004	AN 150 SO RF 8	150	5C74	47600	78000	34.0	62.0		148 145	1064564
005	AN 150 SW RF XS 1	100	7C15	46600	77100	31.0	56.0		152 149	1064564
001	AN 150 BL RF 1	100	7C15	46600	77100	31.0	56.0		152 149	1074651
002	AN 150 BL RF 2	400	7C15	46600	77100	31.0	56.0		152 149	1074651

Lot No. (품번) (Control No.)	Heat Treatment (열처리)									
	Normalizing (소둔)					Quenching (소입)				
5C56	23	30	95	17	19	1	10	10	10	40
5C74	20	27	93	15	8	1	10	10	10	37
7C15	21	25	91	8	3	2	10	10	10	37
7C15	21	25	91	8	3	2	10	10	10	37
7C15	21	25	91	8	3	2	10	10	10	37

Works Test Certificate to EN 10204/3.1B Flanges supplied to ASME B16.5. NACE MR-01-75 CSA Z245.12 GR 248 CAT I		Visual & Dimension Inspection (최수 및 외관검사) : GOOD	
Others (기타)		B. a copy.	
Surveyor To : (검사관)		QA Department Manager (품질보증부장)	

PC COMPRESSION
RECEIVED SEP 14 2006
DATE

We hereby certify that material described herein has been tested and satisfied as above in accordance with the specification.
본 성적서에 명시된 소재는 상기 사양에 의거하여 검사되었으며, 결과적으로 규격에 적합함을 증명합니다.

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

KOFS-CA0-035EN(3) 2001.10

14



SHREE GANESH FORGINGS LIMITED

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



RWTVV

QAD/F/04A-01

CLIENT : M/S. CE FRANKLIN		PRODUCT : MACHINED CARBON STEEL FORGED FLANGES		CERTIFICATE NO.: EXP/06-07/ 2182	
ORDER NO. : 1502253 - OR - 2100		MATERIAL		DATE : 05/03/2007	
DATE : 15.02.2006		SPECIFICATION : ASTM / ASME A5A105N AND CSA Z245.12 Gr. 241 CAT I		MANUFACTURER'S BRAND :	
INVOICE NO : EXP/2006-07/ 160 DT. 03.02.2007		DIMENSIONAL SPECIFICATION : ANSI B16.5		INSPECTORS STAMP :	

CHEMICAL ANALYSIS

S.NO.	ITEM DESCRIPTION	H.NO./H.CODE	QTY.	% C	% Mn	% Si	% S	% P	% Cr	% Ni	% Mo	% Cu	% V	% Nb	% C.E	ART.NO.
3	12" 150 LBS BLRF	31306 / 9677	11	0.19	0.66	0.28	0.013	0.007	0.084	0.12	0.013	0.19	0.004	0.002	0.34	1074124
4	4" 150 LBS SOFF	602865 / 9292	15	0.22	0.75	0.18	0.022	0.022	0.030	0.019	0.006	0.009	0.001	0.002	0.35	1074520
5	2 1/2" 150 LBS SOFF	612876 / 9625	10	0.22	0.86	0.16	0.021	0.021	0.025	0.006	0.023	0.009	0.004	0.003	0.37	1073519
6	1" 150 LBS THDRF	609651 / 9447	100	0.19	0.87	0.15	0.032	0.025	0.031	0.017	0.001	0.008	0.001	0.002	0.34	1068592

MECHANICAL PROPERTIES

S.NO.	H.NO./H.CODE	TENSILE STRENGTH Rm N/mm ²	YIELD STRENGTH Rp N/mm ² 0.2%	% Elongation A G.L.= 50 mm	% Reduction Area % Z	Hardness BHN	MICRO STRUCTURE	HEAT TREATMENT
3	31306 / 9677	507	258	38.00	65.39	153	O.K	NOR AT 900 °C, TMD AT 600 °C SOK TIME 2 1/2 HRS
4	602865 / 9292	567	298	29.80	56.64	163	O.K	NOR AT 900 °C, TMD AT 600 °C SOK TIME 2 HRS
5	612876 / 9625	523	319	27.20	55.77	156	O.K	NOR AT 900 °C, TMD AT 600 °C SOK TIME 2 HRS
6	609651 / 9447	488	305	37.60	59.17	149	O.K	NOR AT 900 °C, TMD AT 600 °C SOK TIME 2 HRS

REMARKS : 1) CHECKED FOR HARDNESS AND FOUND OK.
2) NO WELDING DONE ON ANY PART OF JOB.
3) Tensile test carried out at 50mm gauge length with 10mm Dia.
4) AS PER NACE MR-0175-2000

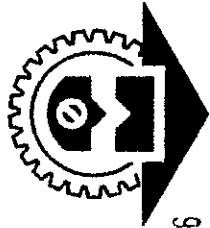
We certify that the material have been manufactured, tested and examined in accordance with all the requirement of the ordered standard and all test result are acceptable.

WORK INSPECTOR

D.P. CHAUDHARY

RECEIVED MAR 29 2007
DATE
S08207-01 Inv

SIGNATURE:
APPROVED BY P.C. INSPECTOR



SHREE GANESH FORGINGS LIMITED

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

OCT 3 1 2006



RWTVV

QADIF04A-01

INSPECTION CERTIFICATE - EN 10204/3.1			
CLIENT : M/S. CE FRANKLIN	PRODUCT : MACHINED CARBON STEEL FORGED FLANGES	CERTIFICATE NO.: EXP/2006-07/ 1194	
ORDER NO. : 1594389 - OR - 2100	MATERIAL SPECIFICATION : ASTM A516-55 AND CSA Z 245.12 Gr.241 CAT I	DATE : 09.10.2006	
DATE : 04.07.2006	DIMENSIONAL SPECIFICATION : ANSI B16.5 NACE MR 0175 - 2000	MANUFACTURER'S BRAND : SF	
INVOICE NO. : EXP/2006-07/ 091	DT. 26.09.2006	INSPECTOR'S STAMP :	

CHEMICAL ANALYSIS

S.NO.	ITEM DESCRIPTION	H.NO./H.CODE	QTY.	% C	% Mn	% Si	% S	% P	% Cr	% Ni	% Mo	% Cu	% V	% Nb	% C.E	ART.NO.
9	4" 150 LBS SORF	602865 / 9344	15	.22	.75	.18	.022	.022	.030	.019	.006	.009	.001	.002	.35	1073455
10	4" 150 LBS SORF	606386 / 9359	30	.23	.89	.17	.020	.020	.030	.016	.012	.009	.001	.001	.39	1073455
11	1" 150 LBS THDRF	520410 / 9336	125	.22	.93	.17	.021	.023	.031	.017	.005	.009	.001	.009	.38	1068592
12	2 1/2" 150 LBS THDRF	606322 / 9392	50	.22	.90	.15	.018	.029	.030	.016	.010	.009	.001	.003	.38	1074204

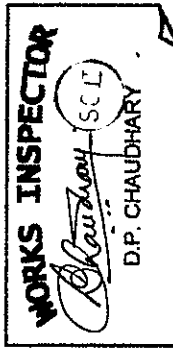
MECHANICAL PROPERTIES

S.NO.	H.NO./H.CODE	TENSILE STRENGTH Rm N/mm ²	YIELD STRENGTH Rp N/mm ² 0.2%	% Elongation % A G.L= 50 mm	% Reduction Area % Z	Hardness BHN	MICRO STRUCTURE	HEAT TREATMENT
9	602865 / 9344	567	298	29.80	56.64	163	O.K	NORMALIZING
10	606386 / 9359	490	296	35.60	59.67	153	O.K	NORMALIZING
11	520410 / 9336	518	326	32.00	60.06	156	O.K	NORMALIZING
12	606322 / 9392	493	301	29.60	53.41	147	O.K	NORMALIZING

REMARKS : 1) CHECKED FOR HARDNESS AND FOUND OK.
2) NO WELDING DONE ON ANY PART OF JOB.
3) Tensile test carried out at 50mm gauge length with 10mm Dia.

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.

RECEIVED MAR 02 2007



57



I.M.L.

FEB 06 2007

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

IRACO LIMITED- CASTLE HOUSE

Certificate Nr 17104

Dated 19.01.2007

COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY RINA

STATION ROAD - NEW BARNET
HERTFORDSHIRE EN5 1PE - UNITED KINGDOM

Invoice Nr 52
Del. Note Nr 102

Dated 17.01.2007
Dated 17.01.2007

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli 4 - Tel.0185.467661 - Fax 0185.467661 - This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 3 - 7

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.
154AAAA	C51236	003	17038	2006-2E201-0001043-003	300	FITTING UNION F/F THRD NPT 3M 1/2" A105N (MALE)	SEE NOTE	SATISFACTORY
U02	33952	004	17038	2006-2E201-0001043-004	285	FITTING UNION F/F THRD NPT 3M 1" A105N	SEE NOTE	SATISFACTORY
UP5	78457	005	17038	2006-2E201-0001043-005	56	FITTING UNION F/F THRD NPT 3M 1 1/2" A105N	SEE NOTE	SATISFACTORY
U02	33952	004	17038	2006-2E201-0001043-004	1515	FITTING UNION F/F THRD NPT 3M 1" A105N	SEE NOTE	SATISFACTORY
A87	22469	001	17043	2006-2E201-0001080-001	1100	FITTING 90 ELB. THRD NPT 2M 1/2" A105N	SEE NOTE	SATISFACTORY
A46	78483	002	17043	2006-2E201-0001080-002	1000	FITTING 90 ELB. THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
TP5	72966	007	17043	2006-2E201-0001060-007	585	FITTING TEE THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
TP5	72966	007	17043	2006-2E201-0001060-007	420	FITTING TEE THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY

ITEM	MATERIAL	C%	SI%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	A1%	C.E.%	OTHER ELEMENTS
003	ASTM A105	0.190	0.240	1.010	0.027	0.009	0.050	0.040	0.012	0.000	0.140	0.022	0.000	0.000	0.000	0.387	
004	ASTM A105	0.180	0.250	0.810	0.022	0.015	0.150	0.100	0.024	0.005	0.200	0.003	0.002	0.012	0.021	0.370	
005	ASTM A105	0.205	0.230	0.900	0.026	0.018	0.100	0.050	0.010	0.005	0.170	0.002	0.002	0.008	0.008	0.392	
004	ASTM A105	0.180	0.250	0.810	0.022	0.015	0.150	0.100	0.024	0.002	0.200	0.003	0.002	0.012	0.021	0.370	
001	ASTM A105	0.180	0.290	0.850	0.017	0.010	0.090	0.080	0.010	0.007	0.170	0.001	0.002	0.000	0.032	0.359	
002	ASTM A105	0.190	0.190	0.990	0.020	0.017	0.090	0.050	0.010	0.005	0.190	0.003	0.001	0.000	0.012	0.392	
007	ASTM A105	0.185	0.200	0.950	0.017	0.019	0.110	0.050	0.010	0.006	0.190	0.003	0.000	0.000	0.021	0.385	
007	ASTM A105	0.185	0.200	0.950	0.017	0.019	0.110	0.050	0.010	0.006	0.190	0.003	0.000	0.000	0.021	0.385	

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS HB	BEND TEST	FLATTENING TEST	TYPE 10x10mm	IMPACT TEST	SHAPE	YIELD POINT
154AAAA	C51236	003	122.65	50.00	315.0	30.0	67.0	155 - 160	0.0	0.0	KV	20	96	103
U02	33952	004	122.65	50.00	306.0	31.0	56.0	160 - 162	0.0	0.0	KV	20	105	100
UP5	78457	005	122.65	50.00	309.0	34.0	56.0	160 - 168	0.0	0.0	KV	20	105	110
U02	33952	004	122.65	50.00	306.0	31.0	56.0	160 - 168	0.0	0.0	KV	20	105	100
A87	22469	001	122.65	50.00	319.0	31.0	54.0	162 - 168	0.0	0.0	KV	20	98	102
A46	78483	002	122.65	50.00	306.0	31.0	54.0	162 - 168	0.0	0.0	KV	20	104	105
TP5	72966	007	122.65	50.00	308.0	32.0	57.0	158 - 166	0.0	0.0	KV	20	96	98
TP5	72966	007	122.65	50.00	308.0	32.0	57.0	158 - 166	0.0	0.0	KV	20	96	98

HEAT CODE	HEAT	ITEM	MATERIAL IN ACCORDANCE TO	HEAT TREATMENT	FURNACE	STEEL MILL	Our Ref.
154AAAA	C51236	003	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	SIDENOR	052066
U02	33952	004	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	061027
UP5	78457	005	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	SIDENOR	061270
U02	33952	004	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	LEALI SPA	061095
A87	22469	001	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	061482
A46	78483	002	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	061482
TP5	72966	007	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	061482
TP5	72966	007	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	061482

NOTES ASME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B1.8-22 -
NACE MR0175 ISO 15156/1 - MSS SP 88 - SUPPLIED MATERIAL MEETS
SPECIFICATIONS AND P.O. REQUIREMENTS



STUDBOLTS

IML

FITTINGS

BORIS FIZZOTTI

1891736

508448

PC

57



T.M.I.

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001-2000

INDUSTRIA MECCANICA LIGURE SPA

60330 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli, 4 - Tel. 0185.467561 - Fax 0185.465510 / MATERIAL TEST DEPARTMENT

TRANS AM PIPING PRODUCTS LTD.

7025 - 44th Street SE

Calgary, Alberta T2C 4E8

Certificate Nr 16641

Invoice Nr 679

Del. Note No 1038

Certificate Nr 16641

Invoice Nr 679

Del. Note Nr 1038

HEAT CODE		HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION										DIM. ACC. TO		VISUAL & DIMENS.					
UU		16836	005	CI-06 - 352	2006-2E201-0000498-005		FITTING UNION F/F THRD NPT 3M 1" A105N										SEE NOTE		SATISFACTORY					
UU		16836	005	CI-06 - 352	2006-2E201-0000498-005		FITTING UNION F/F THRD NPT 3M 1" A105N										SEE NOTE		SATISFACTORY					
UU		76556	044	CI-06-416	2006-2E201-0000497-044		FITTING COUPLING THRD NPT 3M 1" A105N										SEE NOTE		SATISFACTORY					
UU		76556	049	CI-06-416	2006-2E201-0000497-049		FITTING HALF COUPL THRD NPT 3M 1" A105N										SEE NOTE		SATISFACTORY					
UU		78457	054	CI-06-416	2006-2E201-0000497-054		FITTING CAP THRD NPT 3M 1" A105N										SEE NOTE		SATISFACTORY					
GZ6		77514	055	CI-06-416	2006-2E201-0000497-055		FITTING CAP THRD NPT 3M 1" A105N										SEE NOTE		SATISFACTORY					
H15		75945	088	CI-06-416	2006-2E201-0000497-088		FITTING 90 ELB. SW 3M 1" A105N										SEE NOTE		SATISFACTORY					
H15		79944	005	CI-06-416	2006-2E201-0000497-005		FITTING 90 ELB. THRD NPT 2M 1.1/4" A105N										SEE NOTE		SATISFACTORY					
HEAT CODE		HEAT	ITEM	MATERIAL		C%	SI%	Mn%	S%	P%	Cr%	NI%	Mo%	Ti%	Cu%	V%	Nb%	N%	A%	C.E.%	OTHER ELEMENTS			
UU		16836	005	ASTM A105		0.202	0.260	0.980	0.002	0.007	0.130	0.130	0.020	0.002	0.140	0.003	0.001	0.000	0.027	0.414				
UU		16836	005	ASTM A105		0.202	0.260	0.980	0.002	0.007	0.130	0.130	0.020	0.002	0.140	0.003	0.001	0.000	0.027	0.414				
UU		76556	044	ASTM A105		0.175	0.220	1.010	0.022	0.018	0.090	0.090	0.010	0.009	0.150	0.002	0.001	0.000	0.005	0.377				
UU		76556	049	ASTM A105		0.175	0.220	1.010	0.022	0.018	0.090	0.090	0.010	0.009	0.150	0.002	0.000	0.000	0.005	0.377				
UU		78457	054	ASTM A105		0.205	0.230	0.900	0.026	0.018	0.100	0.050	0.010	0.005	0.170	0.002	0.002	0.000	0.008	0.392				
GZ6		77514	055	ASTM A105		0.190	0.170	0.850	0.024	0.013	0.080	0.080	0.010	0.005	0.190	0.001	0.000	0.000	0.015	0.354				
H15		75945	088	ASTM A105		0.210	0.200	0.900	0.025	0.020	0.110	0.060	0.010	0.005	0.210	0.002	0.000	0.000	0.013	0.402				
H15		79944	005	ASTM A105		0.195	0.190	0.880	0.025	0.020	0.130	0.070	0.010	0.009	0.240	0.002	0.001	0.000	0.006	0.391				
HEAT CODE		HEAT	ITEM	SECT. mm	TEST SPECIMEN	YIELD POINT N/mm2 >= 2%	ELONGATION N/mm2 >= 2%	REDUCTION OF AREA %		HARDNESS HR		BEND TEST		FLATTENING TEST		TYPE SECTION		IMPACT TEST - JOULES		SHAPE 1-O 2-D		YIELD POINT N/mm2 >= 1%		
UU		16836	005	122.65	50.00	305.0	31.0	54.0		160 - 166		0.0		0.0		KV		20		1		109		
UU		16836	005	122.65	50.00	306.0	31.0	54.0		160 - 166		0.0		0.0		KV		20		1		109		
UU		76556	044	122.65	50.00	314.0	33.0	58.0		168 - 170		0.0		0.0		KV		20		1		96		
UU		76556	049	122.65	50.00	314.0	33.0	58.0		168 - 170		0.0		0.0		KV		20		1		96		
UU		78457	054	122.65	50.00	338.0	34.0	54.0		152 - 159		0.0		0.0		KV		20		1		100		
GZ6		77514	055	122.65	50.00	321.0	35.0	55.0		153 - 160		0.0		0.0		KV		20		1		102		
H15		75945	088	122.65	50.00	335.0	33.0	58.0		162 - 170		0.0		0.0		KV		20		1		96		
H15		79944	005	122.65	50.00	364.0	31.0	58.0		164 - 166		0.0		0.0		KV		20		1		105		
HEAT CODE		HEAT	ITEM	MATERIAL IN ACCORDANCE TO					HEAT TREATMENT										FURNACE		STEEL MILL		Our Ref.	
UU		16836	005	ASME SA ASTM A105-05					Normalized at 880°-920°C / Air Cool										ELECTRIC FURNACE		ABS		991341	
UU		16836	005	ASME SA ASTM A105-05					Normalized at 880°-920°C / Air Cool										ELECTRIC FURNACE		ABS		991341	
UU		76556	044	ASME SA ASTM A105-05					Normalized at 880°-920°C / Air Cool										ELECTRIC FURNACE		ACC.TANARO		061027	
UU		76556	049	ASME SA ASTM A105-05					Normalized at 880°-920°C / Air Cool										ELECTRIC FURNACE		ACC.TANARO		061027	
UU		78457	054	ASME SA ASTM A105-05					Normalized at 880°-920°C / Air Cool										ELECTRIC FURNACE		RIVA ACCIAI		051364	
GZ6		77514	055	ASME SA ASTM A105-05					Normalized at 880°-920°C / Air Cool										ELECTRIC FURNACE		RIVA ACCIAI		051249	
H15		75945	088	ASME SA ASTM A105-05					Normalized at 880°-920°C / Air Cool										ELECTRIC FURNACE		RIVA ACCIAI		041324	
H15		79944	005	ASME SA ASTM A105-05					Normalized at 880°-920°C / Air Cool										ELECTRIC FURNACE		RIVA ACCIAI		041324	
NOTES										ASME B16.11/05 - ANSI B31.1/05 - IMPL STD - ANSI B1.1-B16.2.2 -		INSPECTION AUTHORITY		QUALITY CONTROL DEPARTMENT		MANUFACTURER'S SYMBOL		FURNACE		STEEL MILL		Our Ref.		
SPECIFICATIONS AND P.O. REQUIREMENTS										NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS		DATE RECEIVED		BORIS FIZZOTTI		FITTINGS		IML		STUDBOLTS		Our Ref.		
P.O. # 509039										E7-19870														

RECEIVED MAR 22 2007

SIGNATURE _____

INSPECTOR _____

APPROVED BY O.C. INSPECTION



I.M.L.

JUL 07 2006

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY RINA

IRACO LIMITED- CASTLE HOUSE

STATION ROAD - NEW BARNET
HERTFORDSHIRE EN8 1PE - UNITED KINGDOM

Certificate Nr 16663

Invoice Nr 706

Del. Note Nr 1100

Dated 21.06.2006

Dated 19.06.2006

Dated 19.06.2006

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli, 4 - Tel.0185.467661 - 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 Page 1 - 9

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.
GU9	75349	2	17007/B	2005-2E201-0000449-002	2500	FITTING 90 ELB. THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
TM6	77612	4	17007/B	2005-2E201-0000449-004	500	FITTING TEE THRD NPT 2M 3/4" A105N	SEE NOTE	SATISFACTORY
ZH7	71624	17	17007/B	2005-2E201-0000449-017	200	FITTING TEE SW 3M 3/4" A105N	SEE NOTE	SATISFACTORY
DDN	75754	5	17007/B	2005-2E201-0000449-005	1875	FITTING TEE THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
DDN	75754	5	17007/B	2005-2E201-0000449-005	480	FITTING TEE THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
A32	76747	7	17007/B	2005-2E201-0000449-007	1725	FITTING 90 ELB. THRD NPT 3M 1/2" A105N	SEE NOTE	SATISFACTORY
G30	76253	1	17007/B	2005-2E201-0000449-001	1350	FITTING 90 ELB. THRD NPT 3M 3/4" A105N	SEE NOTE	SATISFACTORY
A32	76747	7	17007/B	2005-2E201-0000449-007	275	FITTING 90 ELB. THRD NPT 3M 1/2" A105N	SEE NOTE	SATISFACTORY

HEAT CODE	HEAT	ITEM	MATERIAL	C%	Si%	Mn%	S%	P%	Ct%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%	OTHER ELEMENTS
GU9	75349	2	ASTM A105	0.190	0.240	0.910	0.020	0.027	0.150	0.070	0.010	0.005	0.190	0.002	0.000	0.000	0.014	0.391	
TM6	77612	4	ASTM A105	0.185	0.200	0.900	0.021	0.013	0.100	0.060	0.010	0.005	0.190	0.002	0.000	0.000	0.014	0.374	
ZH7	71624	17	ASTM A105	0.180	0.200	1.110	0.011	0.012	0.090	0.060	0.010	0.019	0.190	0.022	0.000	0.000	0.025	0.406	
DDN	75754	5	ASTM A105	0.180	0.220	0.960	0.018	0.015	0.110	0.060	0.020	0.005	0.170	0.002	0.000	0.000	0.011	0.382	
DDN	75754	5	ASTM A105	0.180	0.220	0.960	0.018	0.015	0.110	0.060	0.020	0.005	0.170	0.002	0.000	0.000	0.011	0.382	
A32	76747	7	ASTM A105	0.185	0.230	0.960	0.018	0.018	0.080	0.040	0.010	0.005	0.170	0.002	0.000	0.000	0.013	0.377	
G30	76253	1	ASTM A105	0.190	0.220	1.000	0.019	0.012	0.080	0.050	0.010	0.005	0.210	0.001	0.000	0.000	0.013	0.392	
A32	76747	7	ASTM A105	0.185	0.230	0.960	0.018	0.018	0.080	0.040	0.010	0.005	0.170	0.002	0.000	0.000	0.013	0.377	

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS	BEND TEST	FLATTENING TEST	IMPACT TEST	SHAPE	YIELD POINT
GU9	75349	2	122.65	50.00	361.0	34.0	56.0	160 - 166	0.0	0.0	KV	1	0.0
TM6	77612	4	122.65	50.00	334.0	35.0	55.0	158 - 166	0.0	0.0	KV	1	0.0
ZH7	71624	17	122.65	50.00	385.0	32.5	54.5	164 - 169	0.0	0.0	KV	1	0.0
DDN	75754	5	122.65	50.00	319.0	32.0	59.0	156 - 159	0.0	0.0	KV	1	0.0
DDN	75754	5	122.65	50.00	319.0	32.0	59.0	156 - 159	0.0	0.0	KV	1	0.0
A32	76747	7	122.65	50.00	325.0	34.0	55.0	156 - 162	0.0	0.0	KV	1	0.0
G30	76253	1	122.65	50.00	306.0	30.0	56.0	160 - 168	0.0	0.0	KV	1	0.0
A32	76747	7	122.65	50.00	325.0	34.0	55.0	156 - 162	0.0	0.0	KV	1	0.0

HEAT CODE	HEAT	ITEM	MATERIAL IN ACCORDANCE TO	HEAT TREATMENT	FURNACE	STEEL MILL	Our Ref.
GU9	75349	2	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	051212
TM6	77612	4	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	051400
ZH7	71624	17	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	
DDN	75754	5	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE		052080
DDN	75754	5	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE		052080
A32	76747	7	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE		051313
G30	76253	1	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE		051362
A32	76747	7	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE		051313

NOTES	ASME B16.11/05 - ANSI B31.1/B31.3 - IM1 STD - ANSI B1.1-B18.2.2 - NACE MR0175 ISO 15156/1 - MSS SP-83 - SUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS	INSPECTION AUTHORITY	QUALITY CONTROL DEPARTMENT	MANUFACTURER'S SYMBOL	MANUFACTURER'S SYMBOL
		1891688	BORIS FIZZOTTI	IML	STUDBOLTS
		SIGNATURE: HC			
		APPROVED BY Q.C. INSPECTOR			

390

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INDUSTRIA MECCANICA LIGURE SPA

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Capelli, 4 - Tel. 0185.467561 - Fax 0185.466510 / MATERIAL TEST DEPARTMENT

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY INVA

TRANS AM PIPING PRODUCTS LTD.

7025 - 44th Street S.E.
Calgary, Alberta T2C 4E8

CA

Certificate Nr 16400
Invoice Nr 425
Del. Note Nr 659

Dated 19.04.2006
Dated 11.04.2006
Dated 11.04.2006

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

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.											
A34	92977	030	CI-05-866	2005-2E201-0001376-030		P. NIPPLE TBE NPT S-80 2" CLOSED L.51mm A106B/API 5LB	SEE NOTE	SATISFACTORY											
	92977	038	CI-05-866	2005-2E201-0001376-038		P. NIPPLE TBE NPT S-80 2" L150mm(6") A106B/API 5LB	SEE NOTE	SATISFACTORY											
	87581	048	CI-06 - 168	2006-2E201-0000143-048		P. NIPPLE TBE NPT S-80 1 1/2" CLOSED L.41mm A106B/API 5LB	SEE NOTE	SATISFACTORY											
	92977	072	CI-06 - 168	2006-2E201-0000143-072		P. NIPPLE TBE NPT S-80 2" L150mm(6") A106B/API 5LB	SEE NOTE	SATISFACTORY											
	77255	003	CI-06 - 314	2006-2E201-0000328-003		FITTING 90 ELB. THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY											
	77514	070	CI-06 - 314	2006-2E201-0000328-070		FITTING CAP THRD NPT 3M 2" A105N	SEE NOTE	SATISFACTORY											
DVL	37609	014	CI-06 - 183	2006-2E201-0000155-014		FITTING 90 ELB. THRD NPT 3M 2" A105N	SEE NOTE	SATISFACTORY											
DVL	37609	014	CI-06 - 183	2006-2E201-0000155-014		FITTING 90 ELB. THRD NPT 3M 2" A105N	SEE NOTE	SATISFACTORY											
HEAT CODE	HEAT	ITEM	MATERIAL	C%	SI%	MIN%	S%	P%	CR%	NI%	MO%	TI%	CU%	V%	Nb%	N%	AT%	C.E.%	OTHER ELEMENTS
A34	92977	030	ASTM A106/B API 5LB	0.150	0.200	0.660	0.009	0.010	0.050	0.060	0.010	0.000	0.200	0.000	0.000	0.000	0.030	0.000	
	92977	038	ASTM A106/B API 5LB	0.150	0.200	0.660	0.009	0.010	0.050	0.060	0.010	0.000	0.200	0.000	0.000	0.000	0.030	0.000	
	87581	048	ASTM A106/B API 5LB	0.150	0.220	0.680	0.008	0.007	0.070	0.120	0.020	0.000	0.190	0.000	0.000	0.000	0.021	0.000	
	92977	072	ASTM A106/B API 5LB	0.150	0.200	0.660	0.009	0.010	0.050	0.060	0.010	0.000	0.200	0.000	0.000	0.000	0.030	0.000	
	77255	003	ASTM A105	0.180	0.170	0.900	0.017	0.011	0.070	0.040	0.010	0.005	0.130	0.001	0.000	0.000	0.013	0.358	
	77514	070	ASTM A105	0.190	0.170	0.850	0.024	0.013	0.070	0.080	0.010	0.005	0.190	0.001	0.000	0.000	0.015	0.354	
DVL	37609	014	ASTM A105	0.185	0.200	1.050	0.024	0.018	0.130	0.080	0.020	0.010	0.190	0.001	0.000	0.000	0.007	0.408	
DVL	37609	014	ASTM A105	0.185	0.200	1.050	0.024	0.018	0.130	0.080	0.020	0.010	0.190	0.001	0.000	0.000	0.007	0.408	
HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS HB	BEND TEST	FLATTENING TEST	TYPE	IMPACT TEST - JOULES	SHAPE	YIELD POINT					
A34	92977	030	SECT. 0002 - LENGTH 000	360.0	516.0	35.0	0.0	147 - 155	0.0	0.0	0	0	1=O 2=D	0.0					
	92977	038	0.00	360.0	516.0	35.0	0.0	147 - 155	0.0	0.0	0	0	0	0.0					
	87581	048	0.00	360.0	503.0	46.0	0.0	156 - 160	0.0	0.0	0	0	0	0.0					
	92977	072	0.00	360.0	516.0	35.0	0.0	147 - 155	0.0	0.0	0	0	0	0.0					
	77255	003	122.65	50.00	563.0	34.0	56.0	160 - 168	0.0	0.0	KV	20	105	100	106	1	0.0		
	77514	070	122.65	50.00	510.0	35.0	56.0	153 - 160	0.0	0.0	KV	20	96	99	102	1	0.0		
DVL	37609	014	122.65	50.00	533.0	33.0	61.0	163 - 165	0.0	0.0	KV	20	106	100	107	1	0.0		
DVL	37609	014	122.65	50.00	533.0	33.0	61.0	163 - 165	0.0	0.0	KV	20	106	100	107	1	0.0		
HEAT CODE	HEAT	ITEM	MATERIAL IN ACCORDANCE TO				HEAT TREATMENT				FURNACE				STEEL MRL	Our Ref.			
A34	92977	030	ASME SA ASTM A106/A160M-04b Gr. B				Normalized at 880°C-920°C / Air Cool				ELECTRIC FURNACE				PIETRA	053112			
	92977	038	ASME SA ASTM A106/A160M-04b Gr. B				Normalized at 880°C-920°C / Air Cool				ELECTRIC FURNACE				PIETRA	053112			
	87581	048	ASME SA ASTM A106/A160M-04b Gr. B				Normalized at 880°C-920°C / Air Cool				ELECTRIC FURNACE				PIETRA	033091			
	92977	072	ASME SA ASTM A106/A160M-04b Gr. B				Normalized at 880°C-920°C / Air Cool				ELECTRIC FURNACE				PIETRA	053112			
	77255	003	ASME SA ASTM A105-05				Normalized at 880°C-920°C / Air Cool				ELECTRIC FURNACE				RIVA ACCIAI	051343			
	77514	070	ASME SA ASTM A105-05				Normalized at 880°C-920°C / Air Cool				ELECTRIC FURNACE				RIVA ACCIAI	051364			
DVL	37609	014	ASME SA ASTM A105-05				Normalized at 880°C-920°C / Air Cool				ELECTRIC FURNACE								
DVL	37609	014	ASME SA ASTM A105-05				Normalized at 880°C-920°C / Air Cool				ELECTRIC FURNACE								
NOTES ASME B16.11/01 - BS.3799 - ANSI B31.1/B31.3 - IM STD-ANSI																			
B1.1-B18.2.2 - NACE MR0175 ISO 15156/1 - SUPPLEMENTED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS																			
INSPECTION AUTHORITY																			
P.O. # 508036124																			
BORIS FIZOTTI																			
FITTINGS IML STUDBOLTS																			

HEAT NUMBER : A34
TRANS AM PIPING PRODUCTS - REV'D BY: 3
SHIPMENT/Seq # : 5 6 - 1229
1" CL 2000 PS SCRD 90 ELL. A105N

FEB 23 2007

39.0

M.E.G.A.CLIENTE
Customer
Client

CE FRANKLIN LTD.

CERTIFICATO N. 537649
Certificata N. REV.1
Foglio Sheet 1
Fasella1900 - 300 - 5th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 3C4

DATA / Date 23/02/07

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLECOMPANY
WITH QUALITY SYSTEM
CERTIFIED BY ENV
ISO 9001ORDINE
Purchase order
Commande

1571815-OR-2100

CONFERMA
Job N. 79564
Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Caste	C %	SI %	Mn %	S %	P %	Cr %	NI %	Mo %	TI %	Cu %	V %	Al %	CE %
NBAL	ASTM A105/03	0576224	0.190	0.230	0.920	0.007	0.013	00.09	00.05	0.010	0.000	0.170	0.020	0.022	0.381
			---	Nb %	0.001										
NDCL	ASTM A105/03	06/78612	0.195	0.170	0.890	0.010	0.014	00.10	00.05	0.010	0.019	0.160	0.017	0.023	0.382
			---	Nb %	0.000									CE %	0.343
NDDF	ASTM A105/03	06/70864	0.195	0.200	0.880	0.009	0.014	00.09	00.05	0.010	0.019	0.170	0.018	0.021	0.379
			---	Nb %	0.000										
NLSR	ASTM A105/03	AA0479	0.195	0.250	1.000	0.004	0.009	00.10	00.08	0.020	0.000	0.130	0.000	0.025	0.399
			---	Nb %	0.000									CE %	0.361
NADL	ASTM A105/03	0633874	0.180	0.240	1.080	0.003	0.012	00.12	00.01	0.005	0.000	0.025	0.003	0.023	0.388
			---	Nb %	0.002										
NRBR	ASTM A105/05	06/71488	0.185	0.180	0.830	0.009	0.014	00.10	00.05	0.010	0.000	0.120	0.001	0.023	0.356
			---	Nb %	0.001										

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve	INERVENIMENTO Intervent Yield point Limite d'élasticité	ROTTURA Rupture Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PROVA Bend test Pliage	SCHACC. Flat. test Aplatiss.	PROVA Impact test / Résistance			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur							UNITÀ Unit system	Tipo Type	T. C. Test temp	VALORE / Value / Données
NBAL	1	30.6	25.0	312.0	533.0	29.2	66.8	155-160		J	KV	0 38-52-48
NDCL	1	30.6	25.0	303.0	510.0	31.3	68.6	146-156		J	KV	0 54-62-52
NDDF	1	59.5	35.0	346.6	501.4	25.7	62.9	146-149		J	KV	0 48-68-34
NLSR	1	30.6	25.0	298.9	508.2	32.2	68.1	140-145		J	KV	0 152-150-158
NADL	1	60.1	35.0	308.0	528.0	28.0	66.0	140-145		J	KV	0 46-52-54
NRBR	1	122.6	50.0	297.0	515.0	31.1	69.9	140-145		J	KV	0 48-52-60

PROVA Test Epreuve	NOTE / Remarks / Notes	FORMA Shape / Forme
	EN10204/3.1	1 = <input checked="" type="checkbox"/> 2 = <input type="checkbox"/>

NBAL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8596.06 MEGA/ISMA*530980 MEGA*
NDCL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8642.06 MEGA/ISMA*531508 MEGA*
NDDF	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.117.06 CARLOTTA*532589 MEGA*
NLSR	ELECT.FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.56.06 EVASI*532799 MEGA*
NADL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.87.36.06 MEGA/ISMA*532601 MEGA*
NRBR	ELECT.FURNACE-NORMALIZED COOLED IN STILL AIR.	/CERT.1471.06 CARLOTTA*534986 MEGA*

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
NBAL	001	450	1096411	90 DEG. ELBOW S. 2000 NPT A/SA105N 1/2	OK
NDCL	002	250	1096526	90 DEG. ELBOW S. 2000 NPT A/SA105N 1	OK
NDDF	003	880	1092381	90 DEG. ELBOW S. 2000 NPT A/SA105N 2	OK
NLSR	004	800	1095574	TEE S. 2000 NPT A/SA105N 1/2	OK
NADL	005	250	1094571	TEE S. 2000 NPT A/SA105N 1	OK
NRBR	006	1892	1095304	TEE S. 2000 NPT A/SA105N 2	OK

PC COMPRESSION	
DATE RECEIVED APR 05 2007	
P.O. # 508147 1891728	
SIGNATURE: <i>HC</i>	
APPROVED BY Q.C. INSPECTOR	

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official	CAPO COLLAUDO Chief Inspection DPT Responsable assurance qualité
MATERIAL ACCORDING TO NACE MR0175/ 2003.		DOC. CERT. M.E.G.A. Sergio Appiani

D7



FEB 06 2007

INDUSTRIA MECCANICA LIGURE SPA

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

IRACO LIMITED - CASTLE HOUSE
STATION ROAD - NEW BARNET
HERTFORDSHIRE EN5 1PE - UNITED KINGDOM

Certificate Nr 17104
Invoice Nr 62
Del. Note Nr 102

Dated 19/01/2007
Dated 17/01/2007
Dated 17/01/2007

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli, 4 - Tel. 0185.467861 - 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 3 - 7

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.
154AAAA	C51236	003	17038	2006-2E201-0001043-003	300	FITTING UNION F/F THRD NPT 3M 1/2" A105N (MALE)	SEE NOTE	SATISFACTORY
UJ2	33952	004	17038	2006-2E201-0001043-004	285	FITTING UNION F/F THRD NPT 3M 1" A105N	SEE NOTE	SATISFACTORY
UP5	78457	005	17038	2006-2E201-0001043-005	56	FITTING UNION F/F THRD NPT 3M 1 1/2" A105N	SEE NOTE	SATISFACTORY
UJ2	33952	004	17038	2006-2E201-0001043-004	1515	FITTING UNION F/F THRD NPT 3M 1" A105N	SEE NOTE	SATISFACTORY
A87	22469	001	17043	2006-2E201-0001060-001	1100	FITTING 90 ELB. THRD NPT 2M 1/2" A105N	SEE NOTE	SATISFACTORY
A46	78483	002	17043	2006-2E201-0001060-002	1000	FITTING 90 ELB. THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
TP5	72966	007	17043	2006-2E201-0001060-007	585	FITTING TEE THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
TP5	72966	007	17043	2006-2E201-0001060-007	420	FITTING TEE THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY

HEAT CODE	HEAT	ITEM	MATERIAL	C%	SI%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%	OTHER ELEMENTS
154AAAA	C51236	003	ASTM A105	0.190	0.240	1.010	0.027	0.009	0.050	0.040	0.012	0.000	0.140	0.022	0.000	0.000	0.000	0.387	
UJ2	33952	004	ASTM A105	0.180	0.250	0.810	0.022	0.015	0.150	0.100	0.024	0.002	0.200	0.003	0.002	0.012	0.021	0.370	
UP5	78457	005	ASTM A105	0.205	0.230	0.900	0.026	0.018	0.100	0.050	0.010	0.005	0.170	0.002	0.002	0.000	0.008	0.392	
UJ2	33952	004	ASTM A105	0.180	0.250	0.810	0.022	0.015	0.150	0.100	0.024	0.002	0.200	0.003	0.002	0.012	0.021	0.370	
A87	22469	001	ASTM A105	0.180	0.250	0.850	0.017	0.010	0.090	0.080	0.010	0.007	0.170	0.001	0.002	0.000	0.032	0.359	
A46	78483	002	ASTM A105	0.190	0.190	0.990	0.020	0.017	0.090	0.050	0.010	0.005	0.190	0.003	0.001	0.000	0.012	0.392	
TP5	72966	007	ASTM A105	0.185	0.200	0.950	0.017	0.019	0.110	0.060	0.010	0.006	0.190	0.003	0.000	0.000	0.021	0.385	
TP5	72966	007	ASTM A105	0.185	0.200	0.950	0.017	0.019	0.110	0.060	0.010	0.006	0.190	0.003	0.000	0.000	0.021	0.385	

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	SECT. mm2	LENGTH mm	YIELD POINT N/mm2	TENSILE STRENGTH N/mm2	ELONGATION %	REDUCTION OF AREA %	HARDNESS HB	BEND TEST	FLATTENING TEST	TYPE	IMPACT TEST - JOULE/cm2	SHAPE	YIELD POINT N/mm2	Our Ref.
154AAAA	C51236	003	ASME SA ASTM A105-05	122.65	50.00	315.0	545.0	30.0	67.0	155 - 160	0.0	0.0	KV	20	96	103	052066
UJ2	33952	004	ASME SA ASTM A105-05	122.65	50.00	306.0	549.0	31.0	56.0	160 - 162	0.0	0.0	KV	20	105	100	061027
UP5	78457	005	ASME SA ASTM A105-05	122.65	50.00	309.0	564.0	34.0	56.0	160 - 168	0.0	0.0	KV	20	105	110	061270
UJ2	33952	004	ASME SA ASTM A105-05	122.65	50.00	306.0	549.0	31.0	56.0	160 - 162	0.0	0.0	KV	20	105	100	061095
A87	22469	001	ASME SA ASTM A105-05	122.65	50.00	319.0	578.0	31.0	54.0	162 - 168	0.0	0.0	KV	20	98	102	061482
A46	78483	002	ASME SA ASTM A105-05	122.65	50.00	306.0	564.0	31.0	54.0	162 - 168	0.0	0.0	KV	20	104	105	061482
TP5	72966	007	ASME SA ASTM A105-05	122.65	50.00	308.0	549.0	32.0	57.0	158 - 166	0.0	0.0	KV	20	96	98	061482
TP5	72966	007	ASME SA ASTM A105-05	122.65	50.00	308.0	549.0	32.0	57.0	158 - 166	0.0	0.0	KV	20	96	98	061482

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	SECT. mm2	LENGTH mm	YIELD POINT N/mm2	TENSILE STRENGTH N/mm2	ELONGATION %	REDUCTION OF AREA %	HARDNESS HB	BEND TEST	FLATTENING TEST	TYPE	IMPACT TEST - JOULE/cm2	SHAPE	YIELD POINT N/mm2	Our Ref.
154AAAA	C51236	003	ASME SA ASTM A105-05	122.65	50.00	315.0	545.0	30.0	67.0	155 - 160	0.0	0.0	KV	20	96	103	052066
UJ2	33952	004	ASME SA ASTM A105-05	122.65	50.00	306.0	549.0	31.0	56.0	160 - 162	0.0	0.0	KV	20	105	100	061027
UP5	78457	005	ASME SA ASTM A105-05	122.65	50.00	309.0	564.0	34.0	56.0	160 - 168	0.0	0.0	KV	20	105	110	061270
UJ2	33952	004	ASME SA ASTM A105-05	122.65	50.00	306.0	549.0	31.0	56.0	160 - 162	0.0	0.0	KV	20	105	100	061095
A87	22469	001	ASME SA ASTM A105-05	122.65	50.00	319.0	578.0	31.0	54.0	162 - 168	0.0	0.0	KV	20	98	102	061482
A46	78483	002	ASME SA ASTM A105-05	122.65	50.00	306.0	564.0	31.0	54.0	162 - 168	0.0	0.0	KV	20	104	105	061482
TP5	72966	007	ASME SA ASTM A105-05	122.65	50.00	308.0	549.0	32.0	57.0	158 - 166	0.0	0.0	KV	20	96	98	061482
TP5	72966	007	ASME SA ASTM A105-05	122.65	50.00	308.0	549.0	32.0	57.0	158 - 166	0.0	0.0	KV	20	96	98	061482

NOTES ASME B16.11/05 - ANSI B31.1/BS1.3 - IMI STD - ANSI B1.1-B18.2.2 -
NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS
SPECIFICATIONS AND P.O. REQUIREMENTS

INSPECTION AUTHORITY
INSPECTOR

BORIS FIZZOTTI
FITTINGS
IML
STUDBOLTS



RECEIVED APR 04 2007
508521
HC



I.M.L.

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

IRACO LIMITED - CASTLE HOUSE

Certificate Nr 17078
Invoice Nr 2
Del. Note Nr 4

Dated 10.01.2007
Dated 03.01.2007
Dated 03.01.2007

COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY RINA

STATION ROAD - NEW BARNET
HERTFORDSHIRE EN8 1PE - UNITED KINGDOM

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli, 4 - Tel. 0185.457561 - Fax 0185.465319 / 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

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.
DSL	79169	1	17011/C	2006-2E201-0000520-001	500	FITTING 90 ELB. THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
EFE	79564	3	17011/C	2006-2E201-0000520-003	102	FITTING 90 ELB. THRD NPT 2M 3" A105N	SEE NOTE	SATISFACTORY
HA7	78879	14	17011/C	2006-2E201-0000520-014	300	FITTING TEE THRD NPT 3M 1" A105N	SEE NOTE	SATISFACTORY
EFE	79564	3	17011/C	2006-2E201-0000520-003	24	FITTING 90 ELB. THRD NPT 2M 3" A105N	SEE NOTE	SATISFACTORY
A88	73412	8	17011/C	2006-2E201-0000520-008	200	FITTING 90 ELB. THRD NPT 3M 2" A105N	SEE NOTE	SATISFACTORY
N58	AK4583	27	17011/C	2006-2E201-0000520-025	900	FITTING HEX.H.PLUG THRD NPT 1/2" A105N	SEE NOTE	SATISFACTORY
H1	75347	47	17011/C	2006-2E201-0000520-031	13	FITTING HEX.BUSHING M/F THRD NPT 2"x1/2" A105N	SEE NOTE	SATISFACTORY
HB	78457	47	17011/C	2006-2E201-0000520-031	240	FITTING HEX.BUSHING M/F THRD NPT 2"x1/2" A105N	SEE NOTE	SATISFACTORY

HEAT CODE	HEAT	ITEM	MATERIAL	C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%	OTHER ELEMENTS
DSL	79169	1	ASTM A105	0.185	0.170	1.000	0.020	0.014	0.120	0.060	0.020	0.005	0.180	0.002	0.001	0.000	0.017	0.396	
EFE	79564	3	ASTM A105	0.190	0.240	1.060	0.010	0.010	0.090	0.060	0.001	0.019	0.160	0.021	0.000	0.000	0.025	0.404	
HA7	78879	14	ASTM A105	0.180	0.190	0.950	0.020	0.020	0.120	0.070	0.010	0.005	0.170	0.002	0.000	0.000	0.013	0.381	
EFE	79564	3	ASTM A105	0.190	0.240	1.060	0.010	0.010	0.090	0.060	0.001	0.019	0.160	0.021	0.000	0.000	0.025	0.404	
A88	73412	8	ASTM A105	0.195	0.190	1.010	0.022	0.014	0.070	0.040	0.010	0.005	0.110	0.001	0.000	0.000	0.023	0.390	
N58	AK4583	27	ASTM A105	0.195	0.240	0.990	0.006	0.010	0.090	0.110	0.030	0.000	0.190	0.000	0.000	0.000	0.005	0.403	
H1	75347	47	ASTM A105	0.185	0.180	1.000	0.018	0.016	0.110	0.050	0.010	0.005	0.210	0.002	0.001	0.000	0.013	0.394	
HB	78457	47	ASTM A105	0.205	0.230	0.900	0.026	0.018	0.100	0.050	0.010	0.005	0.170	0.002	0.002	0.000	0.008	0.392	

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS HB	BEND TEST	FLATTENING TEST	IMPACT TEST	SHAPE	YIELD POINT
DSL	79169	1	122,65	50,00	329,0	32,0	58,0	163 - 165	0,0	0,0	KV	1=O 2=D	N/mm2
EFE	79564	3	122,65	50,00	340,0	33,0	58,0	166 - 170	0,0	0,0	KV	1=O 2=D	N/mm2
HA7	78879	14	122,65	50,00	306,0	31,0	49,0	160 - 162	0,0	0,0	KV	1=O 2=D	N/mm2
EFE	79564	3	122,65	50,00	340,0	33,0	58,0	166 - 170	0,0	0,0	KV	1=O 2=D	N/mm2
A88	73412	8	122,65	50,00	331,0	32,0	54,0	162 - 166	0,0	0,0	KV	1=O 2=D	N/mm2
N58	AK4583	27	122,65	50,00	366,0	32,0	49,0	160 - 164	0,0	0,0	KV	1=O 2=D	N/mm2
H1	75347	47	122,65	50,00	364,0	31,0	54,0	160 - 164	0,0	0,0	KV	1=O 2=D	N/mm2
HB	78457	47	122,65	50,00	308,0	34,0	57,0	162 - 168	0,0	0,0	KV	1=O 2=D	N/mm2

HEAT CODE	HEAT	ITEM	MATERIAL IN ACCORDANCE TO	HEAT TREATMENT	FURNACE	STEEL MILL	Our Ref.
DSL	79169	1	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	062054
EFE	79564	3	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	062093
HA7	78879	14	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	061086
EFE	79564	3	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	062093
A88	73412	8	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	061506
N58	AK4583	27	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	ORI MARTIN	011208
H1	75347	47	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	051229
HB	78457	47	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	061027

NOTES	ASME B16.11/05 - ANSI B31.1/B31.3 - IML STD - ANSI B1.1-B18.2.2 - NACE MR0175 ISO 15156/1 - MSS SP 83 - SUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS	INSPECTION AUTHORITY	QUALITY CONTROL DEPARTMENT	MANUFACTURER'S SYMBOL	MANUFACTURER'S SYMBOL
			BORIS FIZZOTTI	FITTINGS	IML
					STUDBOLTS

APPROVED BY Q.C. INSPECTOR



27

JUL 07 2006



柏緯鋼鐵股份有限公司

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

KAHSIUNG 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

An ISO-9001 Registered Manufacturer



MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN10204/DIN50049/3.1.B

CUSTOMER: CE FRANKLI

CERT NO: 61211

ORDER NO: 5430(1476094-0R-2100

INVOICE NO: BW069501077

L/C NO:

ORIGIN: TAIWAN

DATE: 06/06/06

PAGE: 2

ITEM	RAW MATERIAL HEAT NO.	BOTH WELL HT. CD.	DESCRIPTION	QUANTITY	SPECIFICATION: ASTM / ASME A/SA 105N -03
001	384304	2440	90D ELBOW 1" 2000# NPT	257 PC	DIMENSION: ASME B16.11 - 2001
001	385113	2452	90D ELBOW 1" 2000# NPT	1092 PC	SURFACE: BY VISUAL...GOOD
001	385114	2454	90D ELBOW 1" 2000# NPT	1 PC	
002	9T066	2420	90D ELBOW 2" 2000# NPT	746 PC	
002	383760	2442	90D ELBOW 2" 2000# NPT	330 PC	
002	9T056	2446	90D ELBOW 2" 2000# NPT	220 PC	
003	385111	2453	TEE 1" 2000# NPT	700 PC	

ITEM	CHEMICAL COMPOSITION (%)											
	C	Si	Mn	P	S	Ca	Cr	Ni	Mo	V	Nb	CE
Min	-	0.100	0.600	-	-	-	-	-	-	-	-	-
Max	0.350	0.350	1.050	0.035	0.040	0.400	0.300	0.400	0.120	0.050	0.020	0.043
001	0.200	0.190	0.850	0.013	0.007	0.160	0.060	0.050	0.010	0.003	0.004	0.370
001	0.210	0.200	0.850	0.010	0.007	0.100	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	0.040	0.010	0.002	0.003	0.390
002	0.180	0.210	0.940	0.014	0.006	0.060	0.040	0.030	0.010	0.003	0.010	0.350
002	0.200	0.230	0.860	0.018	0.010	0.130	0.100	0.050	0.020	0.005	0.000	0.380
002	0.190	0.170	0.900	0.012	0.011	0.090	0.040	0.030	0.010	0.003	0.010	0.360
003	0.210	0.200	0.840	0.009	0.008	0.100	0.050	0.040	0.010	0.002	0.001	0.370

ITEM	MECHANICAL TEST					Remark: NORMALIZED : 850°C CONFORMS TO NACE MR0175-2003 STEEL MAKING PROCESS: ELECTRIC FURNACE
	Tensile Strength (KSI)	Yield Strength (KSI)	Elongation (%)	R of A (%)	Hardness (HB)	
Min Max	70.0 -	36.0 -	22.0 -	30.0 -	- 187	
001	78.7	59.5	31.6	65.5	156	WE CERTIFY THE ABOVE MENTIONED FITTINGS HAVE BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS SHOWN PC COMPRESSION RECORDED Q.C. MANAGER: SHENG CHENG LEE INSPECTOR: CHUN CHIH HUANG
001	77.4	58.3	29.6	65.8	141	
001	76.3	55.9	28.0	64.0	141	
002	77.2	54.4	34.4	67.5	143	
002	77.2	57.5	30.0	63.8	141	
002	74.0	51.4	31.8	65.2	141	
003	77.6	57.3	33.6	64.7	142	

BW-D0839 REV:0

AUG 28 2006



柏緯鐵工股份有限公司

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

An ISO-9001 Registered Manufacturer



MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN10204/DIN50049/3.1.B

ORIGIN: TAIWAN

CUSTOMER: CE FRANKLIN

INVOICE NO: BW069501078

DATE: 07/25/06

CERT NO: 61501

ORDER NO: 5431(1476133-0R-2100

L/C NO:

PAGE: 4

ITEM	RAW MATERIAL HEAT NO.	BOTH WELL RT. CD.	DESCRIPTION	QUANTITY	SPECIFICATION: ASTM / ASME A/SA 105N -03 DIMENSION: ASME B16.11 - 2001 SURFACE: BY VISUAL...GOOD
008	0602150338	AB037	TEE 1" 3000# NPT	510 PC	
009	0512290438	AB013	TEE 2" 3000# NPT	315 PC	
009	0602250623	AB031	TEE 2" 3000# NPT	85 PC	
010	385108	2455	RED.TEE 1" x 1/2" 3000# NPT	240 PC	
011	9T064	2393	RED.TEE 2" x 1" 3000# NPT	114 PC	
011	9T063	2354	RED.TEE 2" x 1" 3000# NPT	26 PC	
012	0605280666	AB051	FULL CPLG 1" 3000# NPT	595 PC	

CHEMICAL COMPOSITION (%)												
ITEM	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	CE
Min	-	0.100	0.600	-	-	-	-	-	-	-	-	-
Max	0.350	0.350	1.050	0.035	0.040	0.400	0.300	0.400	0.120	0.050	0.020	0.430
008	0.210	0.240	0.840	0.011	0.010	0.160	0.060	0.040	0.020	0.010	0.003	0.380
009	0.210	0.220	0.870	0.010	0.016	0.130	0.030	0.040	0.020	0.001	-	0.370
009	0.200	0.240	0.840	0.013	0.012	0.170	0.050	0.050	0.030	0.001	0.003	0.370
010	0.190	0.210	0.850	0.019	0.006	0.110	0.100	0.060	0.020	0.003	0.002	0.370
011	0.190	0.210	0.930	0.014	0.007	0.070	0.090	0.030	0.010	0.003	0.010	0.370
011	0.200	0.250	0.960	0.014	0.006	0.070	0.070	0.040	0.010	0.003	0.010	0.380
012	0.200	0.230	0.860	0.016	0.015	0.110	0.040	0.040	0.010	0.010	0.002	0.370

MECHANICAL TEST						Remark: NORMALIZED : 850°C CONFORMS TO NACE MR0175-2003 STEEL MAKING PROCESS : ELECTRIC FURNACE
ITEM	Tensile Strength (KSI)	Yield Strength (KSI)	Elongation (%)	R of A (%)	Hardness (HB)	
Min	70.0	38.0	22.0	30.0	-	
Max	-	-	-	-	187	
008	75.2	46.1	33.6	63.2	156	WE CERTIFY THE ABOVE MENTIONED FITTINGS HAVE BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS SHOWN. PG COMPRESSION DATE RECEIVED APR 3 2007 Q.C. MANAGER SHENG CHENG LEE INSPECTOR CHUN CHIEH HUANG
009	77.3	55.4	34.4	65.8	143	
009	80.4	51.9	30.8	63.6	143	
010	78.9	57.4	28.0	65.8	142	
011	79.6	62.3	32.4	67.3	156	
011	75.1	52.6	30.4	68.5	140	
012	80.1	50.4	33.4	64.0	145	

BW-D0839 REV:0

151

MEGA

CLIENTE
Customer
Client

CE FRANKLIN LTD.

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

CERTIFICATO N. 537244 FOGLIO 2
Certificate N. Sheet
Certificat N. Feuille

DATA / Date 09/01/07

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DHV
ISO 9001

ORDINE
Purchase order
Commande

1571574-OR-2100

COMMESSA
Job N.
Confirmation de commande

79563

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulee	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	21%	CE%
LCRS	ASTM A105/02	04777988	0.210	0.220	0.960	0.010	0.013	00.10	00.06	0.010	0.021	0.160	0.015	0.024	0.409
			--->	Nb%	0.000									CEs=	0.370
NNRT	ASTM A105/05	05/77878	0.185	0.190	0.850	0.006	0.008	00.06	00.05	0.010	0.000	0.130	0.000	0.023	0.352
			--->	Nb%	0.000	N %	0.000							CEs=	0.326
NLRS	ASTM A105/05	EF0*70344	0.195	0.170	0.960	0.019	0.020	00.12	00.06	0.010	0.005	0.240	0.001	0.012	0.401
			--->	Nb%	0.001	N %	0.000							CEs=	0.3237
DRSU	ASTM A105/02	16867	0.182	0.210	0.850	0.004	0.019	00.20	00.13	0.040	0.000	0.340	0.004	0.016	0.403
			--->	Nb%	0.001									CEs=	0.3333
FDUR	ASTM A105/02	4497/04.3	0.170	0.190	0.980	0.010	0.009	00.07	00.10	0.018	0.000	0.180	0.001	0.023	0.369
			--->	Nb%	0.001									CEs=	0.410
NCNR	ASTM A105/03	158659	0.160	0.217	1.232	0.002	0.007	00.09	00.11	0.015	0.000	0.227	0.000	0.041	0.365
			--->											CEs=	0.365

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve			SNERVAMENTO N/mm ² Yield point Limite d'élasticité	ROTTURA N/mm ² Tensile strength Rupture	ALLUNGAMENTO % ≥ Elongation Allongement	CONTRAZIONE % ≥ Reduction of area Striction	DUREZZA HB Hardness Dureté	PREGA Bend test Pliage	SCHIACC. Flatt. test Aplattiss.	RESILLENZA Impact test / Résilience			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur	UNITÀ MIS. Unit system								TPO Type	T. °C Test temp	VALORE / Value / Données	
LCRS	1	60.0	35.0	320.0	492.0	24.6	66.2	145-150			J	KV	0	82-92-86
NNRT	1	30.6	25.0	298.0	525.0	30.9	68.8	143-156			J	KV	0	48-52-58
NLRS	1	122.6	50.0	322.0	536.0	33.0	58.0	149-156			J ₂	KV	0	48-50-52
DRSU	1	30.6	25.0	309.0	528.0	30.3	69.8	149-152			J	KV	-5	40-32-38
FDUR	1	30.6	25.0	312.0	531.0	28.2	67.2	149-152			J	KV	0	46-46-44
NCNR	1	30.6	25.0	335.0	542.0	27.8	63.6	170-179			J	KV	0	58-54-50

PROVA Test Epreuve	NOTE / Remarks / Notes	FORMA Shape / Forme
	EN10204/3.1	1 = <input type="checkbox"/> 2 = <input type="checkbox"/>
LCRS	ELECT.FURNACE-NORMALIZED AT 920 °C COOLED IN STILL AIR. /CERT.30.05 EVASI*247639 MEGA*	
NNRT	ELECT.FURNACE-NORMALIZED AT 920 °C COOLED IN STILL AIR. /CERT.83.06 EVASI*535185 MEGA*	
NLRS	ELECT.FURNACE-NORMALIZED AT 920 °C COOLED IN STILL AIR. /CERT.2411.06 METALFAR*	
DRSU	ELECT.FURNACE-NORMALIZED AT 900 °C COOLED IN STILL AIR. /CERT.193.04 ISMA*242030 MEGA	
FDUR	ELECT.FURNACE-NORMALIZED AT 900 °C COOLED IN STILL AIR. /CERT.46.04 EVASI*242001 MEGA	
NCNR	ELECT.FURNACE-NORMALIZED AT 920 °C COOLED IN STILL AIR. /CERT.30.06 EVASI*531117 MEGA*	

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
LCRS	007	141	1096155	CROSS S. 2000 NPT A/SA105N 1	OK
NNRT	007	9	1096155	CROSS S. 2000 NPT A/SA105N 1	OK
NLRS	008	150	1090829	CROSS S. 2000 NPT A/SA105N 2	OK
DRSU	009	130	1096631	45 DEG. ELBOW S. 3000 NPT A/SA105N 1/2	OK
FDUR	010	152	1090870	TEE S. 3000 NPT A/SA105N 1/4	OK
NCNR	010	448	1090870	TEE S. 3000 NPT A/SA105N 1/4	OK

PC COMPRESSION

DATE RECEIVED APR 13 2007

508148 1891736

SIGNATURE: He

CERTIFIED BY Q.C. INSPECTOR

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official	CAPO COLLAUDO Chief Inspection DPT Responsable assurance qualité
MATERIAL ACCORDING TO NACE MR0175/ 2003.		DOC. CERT. M.E.G.A. M. E. G. A.



Phoenix * Capitol * Camco
Cap Products

1119536

Certified Mill Test Report

Commanding a Higher Standardsm

3/6/2007

Customer
CE FRANKLIN LTD

P.O. 1750350-OR-2100

Heat No P624634
Heat Code R4D ✓
Phoenix Order # 459293

BOX 6776 STN "D"
CALGARY, AB T2P2E8

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

Part Number
15111016

Description
1 X 8" XHSML BLK NIPL ✓

Chemical Properties

C	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
69,500	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.

PC COMPRESSION
DATE RECEIVED APR 13 2007
P.O. # 502148 1891736
SIGNATURE: HC
APPROVED BY Q.C. INSPECTOR

CapProducts, Ltd.

25 Winnipeg St
Wanastra, ON N0M 1L0

MAY 17 2006


ANVIL
INTERNATIONAL, INC.

 Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

Certificate of Test

Part Number: Y31066 Description: 1x8 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.	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	
CE (LONG FORMULA) = 0.32											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	49,200	psi	71,500	34.00	0.00	N/R
MPa	000	MPa	000			
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. We make no representation beyond those of the manufacturer or its agent.

PC COMPRESSION	
RECEIVED APR 13 2006	
DATE	
PO.#	505148 1891736
SIGNATURE:	HL
APPROVED BY Q.C. INSPECTOR	

1227



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

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

Description
1 X 7" XHSML BLK NIPL ✓

Chemical Properties

C	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
69,500	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:

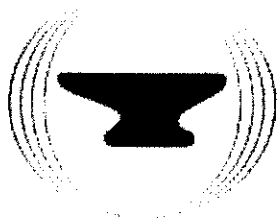
MEETS HARDNESS REQUIREMENTS OF NACE MRO175 LATEST EDITION. CONFORMS TO ASME SA106 GRADE B REQUIREMENTS.

CapProducts. Ltd.

25 Winnipeg St
Vanastra, ON N0M 1L0

PC COMPRESSION
DATE RECEIVED APR 13 2007
P.O. # 508148 1891736
SIGNATURE: *HL*
APPROVED BY Q.C. INSPECTOR

1123109
OCT 26 2006



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	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 (LONG FORMULA) = 0.31											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	48,700	psi	71,500	32.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment: SEAMLESS MAX.HARDNESS DOES NOT EXCEED 22HRC.IN ACC. WITH NACE MR0175						
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 COMPRESSION

DATE RECEIVED MAR 07 2007

P.O. # 508023 Inv

SIGNATURE HC

APPROVED BY Q.C. INSPECTOR

MAY 17 2006

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

1123109

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.	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	
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 its agent.



Simcoe, Ontario
 Edmonton, Alberta
 Montreal, Quebec

A Division of Mueller Canada, LTD.

DATE RECEIVED APR 13 2007

P.O. # 508148 1891736

SIGNATURE: HC

APPROVED BY Q.C. INSPECTOR

Line 25



Phoenix * Capitol * Camco

Cap Products

Certified Mill Test Report

Heat Code: S3T ✓
Heat Number: P616296
Item: C8N03138: 1x5/8 SCH80 SMLS BLK NIPL ✓
Material: ASTM A106-1999e B / ASME SA106-2001 Edition, No Addenda

Chemistry Properties

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

Additional Chemical Properties

Mechanical Properties

Tensile(PSI)	Yield(PSI)	Elong. % in 2 in.	Reduction	BHN
71000	46500	34%		

Charpy Minimum Impact - ft/lbs

Test 1	Test 2T	est 3	Avg.	Test Temp.

Bend Test Passed

Eddy Current Passed

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

Specification comments:

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

Heat Code Remarks:

RECEIVED APR 13 2007	
DATE	
PO.# 508148 1891736	
SIGNATURE: HC	



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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.	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	
CE (LONG FORMULA) = 0.32											

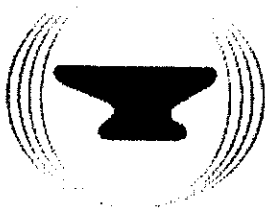
Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	49,200	psi	71,500	34.00	0.00	N/R
MPa	000	MPa	000			
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. We make no representation beyond those of the manufacturer or its agent.

PC COMPRESSION	
RECEIVED APR 13 2007	
DATE	
EO.#	508148 1891736
SIGNATURE:	HC
APPROVED BY Q.C. INSPECTOR	

MAY 02 2006



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

Certificate of Test

Part Number: Y3105 Description: 1x5 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	S	Si	Cu	Ni	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 (LONG FORMULA) = 0.22											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	47,600	psi	63,500	33.00	0.00	N/R
MPa	000	MPa	000			
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 COMPRESSION	
DATE	RECEIVED APR 13 2007
PO #	508148 1891736
SIGNATURE:	HL
APPROVED BY Q.C. INSPECTOR	

Line 23



MAR 07 2007

Phoenix * Capitol * Camco
Cap Products

1119636

Commanding a Higher Standard_{sm}

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

Material 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. 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
69,500	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 APR 13 2007

DATE

P.O. # 508148 1891736

SIGNATURE: HC

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

✓ 1 X 4 XH SMLS STEEL NIPPLES A106
 TBE

WUXI DINGYUAN PRECISION COLD-DRAWN STEEL PIPE CO.,LTD.

MILL TEST CERTIFICATE OF QUALITY

DATE	13-Sep-06	CERTIFICATE NO:	06091301	PAGE:	1 OF 1							
CUSTOMER	WEIFANG STEEL CANADA,LTD	PURCHASE ORDER NO:	2005042									
		P.O.DATE	1-Aug-06									
DIMENSION:	HEAT	BUNDLES	PCS.	TOTAL LENGTH(Ft)	TOTAL WEIGHT(kgs)							
3" STD A/SA 106B SRL*21'	Y606-368	26	494	10374	35,702							
6" STD A/SA 106B SRL*21'	2603669	22	151	3171	27,313							
10" STD A/SA 106B SRL*21'	0631563	24	48	1008	18,524							
1" XH A/SA 106B SRL*21'	Y607-1216	24	2184	45864	45,246							
1 1/2" XH A/SA 106B SRL*21'	Y605-1284	2	122	2562	4,227							
2" XH A/SA 106B SRL*21'	Y607-1023	47	1739	36519	83,262							
3" XH A/SA 106B SRL*21'	Y0605523	1	11	231	1,075							
4" XH A/SA 106B SRL*21'	Y604-407	24	240	5040	34,284							
6" XH A/SA 106B SRL*21'	2603669	14	98	2058	26,694							
SPECIFICATION	ASTM A106Y-04											
MATERIAL	GR.B											
DESCRIPTION	COLD-DRAWN SEAMLESS TUBES AS PER ASTM A106GR B											
PRODUCT ANALYSES												
CHEMICAL ANALYSES												
HEAT NO.	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Ti	W	V
Y606-368	0.18	0.18	0.57	0.018	0.007	0.07	0.03	0.01	0.016	/	/	0.002
2603669	0.20	0.27	0.50	0.016	0.011	0.01	0.01	0.01	0.014	/	/	0.003
0631563	0.19	0.27	0.56	0.010	0.010	0.1	0.04	0.03	0.016	/	/	0.001
Y607-1216	0.20	0.19	0.57	0.014	0.005	0.07	0.02	0.01	0.018	/	/	0.002
Y605-1284	0.19	0.19	0.57	0.017	0.007	0.05	0.03	0.01	0.015	/	/	0.002
Y607-1023	0.20	0.18	0.57	0.014	0.009	0.07	0.03	0.01	0.022	/	/	0.005
Y0605523	0.20	0.19	0.55	0.017	0.007	0.08	0.03	0.02	0.015	/	/	0.002
Y604-407	0.19	0.18	0.56	0.016	0.007	0.07	0.03	0.01	0.013	/	/	0.003
PHYSICAL PROPERTIES												
HEAT NO.	BATCH NO.	YIELD Result(Mpa)	TENSILE Result(Mpa)	ELONGATION Result(%)	HARDNESS HRB							
Y606-368	R060608291	345	475	29.5	/							
Y606-368	R060608292	330	460	30.0	/							
2603669	R060500605372	330	480	32.5	/							
2603669	7-41	310	510	29.0	/							
0631563	267152514	335	515	37.0	/							
Y607-1216	R060708024	325	455	50.0	/							
Y607-1216	R060708025	330	460	49.5	/							
Y607-1216	R060708026	325	465	47.0	/							
Y607-1216	R060708027	325	465	47.0	/							
Y607-1216	R060708028	320	460	47.5	/							
Y607-1216	R060708323	325	460	32.5	/							
Y605-1284	R060708107	340	460	49.5	/							
Y607-1023	R060708251	345	465	30.5	/							
Y607-1023	R060708252	360	480	29.5	/							
Y607-1023	R060708253	350	470	31.0	/							
Y607-1023	R060708254	355	475	31.0	/							
Y607-1023	R060708255	360	480	29.0	/							
Y0605523	R07468	345	465	34.5	/							
Y604-407	R060500606347	335	455	35.0	/							
BENDING TEST	SATISFACTORY		BATCH									
FLATTENING TEST	SATISFACTORY		NO. R060608291, R060608292, R060500605372, 741, 267152514, R060708024, R060708025, R060708026, R060708027, R060708028, R060708323, R060708107, R060708251, R060708252, R060708253, R060708254, R060708255, R07468, R060500606347									
FLARING TEST	NOT APPLICABLE											
HYDROSTATIC TEST	NOT APPLICABLE											
NDE: EDDY CURRENT	SATISFACTORY		ACC TO ASTM A106 / SA 106									
INSPECTOR:	XUEYANG QIAN		ASSESSOR: XIAOJUN CHENG									

PC COMPRESSION

RECEIVED JAN 22 2007

DATE

P.O. #

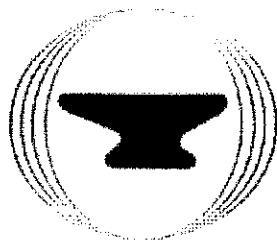
507622-00

APPROVED BY

INSPECTOR

WUXI DINGYUAN PRECISION COLD-DRAWN STEEL PIPE CO.,LTD

APR 20 2006

**ANVIL**
INTERNATIONAL, INC.

1122288.

Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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	S	Si	Cu	Ni	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 (LONG FORMULA) = 0.22											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	47,600	psi	63,500	33.00	0.00	N/R
MPa	000	MPa	000			
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 COMPRESSION	
DATE	RECEIVED FEB 23 2007
P.O. #	507955 Inv
SIGNATURE	HC
APPROVED BY O.C. INSPECTOR	

HEAT NUMBER : 9PO ✓
TRANS AM PIPING PRODUCTS - REV'D BY: *LB*
P.O. # /Seq #: L-06 - 17532 1

1 X 4 XH SMLS STEEL NIPPLES A106 ✓
TBE



Phoenix * Capitol * Camco

Cap Products

Certified Mill Test Report

PC COMPRESSION
RECEIVED MAR 21 2007

Heat Code: 9POV
Heat Number: 32911
Item: 15111008: 1X4 XH SMLS BK STL NIPL ✓
Material: ASTM A106-1999e B / ASME SA106-2001 Edition, No Addenda

P.O. # 50803787-19317

SIGNATURE: *HC*

APPROVED BY O.C. INSPECTOR

Chemistry Properties

C	Mn	P	S	Si	Cu	Cr
0.120	1.060	0.009	0.002	0.250	0.030	0.040
Ni	Mo	V	Co	Al	Cb	N
0.020	0.020	0.001				
Pb	Sn	Ta	Ti	C Eq. Long		
				0.312		

Additional Chemical Properties

Mechanical Properties

Tensile(PSI)	Yield(PSI)	Elong. % in 2 in.	Reduction	BHN
69300	51100	50.8%		143

Charpy Minimum Impact - ft/lbs

Test 1	Test 2	Test 3	Avg.	Test Temp.

Bend Test Passed

Hydro Test Passed at 3000 psi

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

Specification comments:

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

Heat Code Remarks:

DEC 20 2006


ANVIL
INTERNATIONAL, INC.

 Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

Certificate of Test

Part Number: Y3104 Description: 1x4 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.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	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 (LONG FORMULA) = 0.31											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	48,700	psi	71,500	32.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment:						
SEAMLESS						
MAX.HARDNESS DOES NOT EXCEED 22HRC.IN ACC. WITH						
NACE MR0175						
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 COMPRESSION	
DATE	RECEIVED MAR 26 2007
P.O. #	508146 1888760
SIGNATURE	He
APPROVED BY P.C. INSPECTOR	



Phoenix * Capitol * Camco
Cap Products

1122284

Commanding a Higher Standardsm

Certified Mill Test Report

3/6/2007

Customer
CE FRANKLIN LTD

P.O. 1750350-OR-2100

Heat No P616072
Heat Code QX8 ✓
Phoenix Order # 459293

BOX 6776 STN "D"
CALGARY, AB T2P2E8

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

Part Number
15111008

Description
1 X 4" XHSML BLK NIPL ✓

Chemical Properties

C	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	0.001								

Additional Chemical Properties

Cr + Cu + Ni
0.060

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	47,400	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.

RECEIVED APR 13 2007

508148 1891736

SIGNATURE: HC

APPROVED BY Q.C. INSPECTOR

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

115715



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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 %

Heat No.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
	0.18	0.49	0.008	0.007	0.28	0.06	0.05	0.04	0.01	0.01	< 0.01
CE (LONG FORMULA) = 0.28											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	49,700	psi	71,500	31.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment:						
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 COMPRESSION
DATE RECEIVED APR 26 2007
PO # 508150-00 PS:1891777
SIGNATURE: HC
APPROVED BY Q.C. INSPECTOR



Phoenix * Capitol * Camco
Cap Products

115715

Certified Mill Test Report

Commanding a Higher Standardsm

3/23/2007

Customer
CE FRANKLIN LTD

P.O. 1760409-OR-2100

Heat No 39839

Heat Code 92V

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" XHSM LBLK NIPL

Chemical Properties

C	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

Cr + Cu + Ni

0.190

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	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.

PC COMPRESSION
DATE RECEIVED APR 13 2007
NO. 508148 1891736
SIGNATURE: HC
APPROVED BY Q.C. INSPECTOR

CapProducts. Ltd.

25 Winnipeg St

Vaanastra, ON N0M 1L0

Line 20



Phoenix * Capitol * Camco
Cap Products

1123803

Commanding a Higher Standardsm

Certified Mill Test Report

3/6/2007

Customer
CE FRANKLIN LTD

P.O. 1750350-OR-2100

Heat No P624634
Heat Code R4D ✓
Phoenix Order # 459293

BOX 6776 STN "D"
CALGARY, AB T2P2E8

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

Part Number
15111006

Description
1 X 3" XHSML BLK NIPL ✓

Chemical Properties

C	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
69,500	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.

25 Winnipeg St
Vanastara, ON N0M 1L0

RECEIVED APR 13 2007

508148 1891736

SIGNATURE: HC

APPROVED BY Q.C. INSPECTOR

Line 18



MAR 07 2007

Phoenix * Capitol * Camco
Cap Products

1121411

Commanding a Higher Standard™

Certified Mill Test Report

2/27/2007

Customer
CE FRANKLIN LTD

P.O. 1741135-OR-2100

Heat No P925859
Heat Code 88T ✓
Phoenix Order # 456868

BOX 6776 STN "D"
CALGARY, AB T2P2E8

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

Part Number
15111005

Description
1 X 2-1/2" XHSM BLK NIPL ✓

Chemical Properties

C	Mn	P	S	Si	Cu	Cr	Ni	C Eq. Long	
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
Vancouver, ON N0M 1L0

PC COMPRESSION	
DATE	RECEIVED APR 13 2007
NO.	508148 1891736
SIGNATURE:	HL
APPROVED BY O.C. INSPECTOR	

6.0

Canvil: Certificate of Test

Page 1 of 1



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

112171

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 %

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	
CE (LONG FORMULA) = 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
Heat Treatment:	Hardness BHN : N/R
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.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

A Division of Mueller Canada, LTD.

PC COMPRESSION
RECEIVED MAR 14 2007
DATE
P.O. # 508075/nu
SIGNATURE: He
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

Heat No P616296

Heat Code S3T ✓

Phoenix Order # 461944

BOX 6776 STN "D"
CALGARY, AB T2P2E8

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

Part Number
15111004

Description
1 X 2" XHSMLS BLK NIP ✓

Chemical Properties

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

Additional Chemical Properties

Cr + Cu + Ni
0.040

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 COMPLETION
RECEIVED APR 13 2007
DATE
PO.# 508148 1891736
SIGNATURE:
APPROVED BY Q.C. INSPECTOR



**ALBERTA
OIL TOOL**

A **DOVER** COMPANY

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

1159451
AIFP

MILL TEST REPORT

AOT HEAT CODE **AIFP** ✓

General Information

Raw Material Manufacturer:	Niagara Lasalle Corp	Date:	12/09/2006
Description:	1-3/8" A234 WPB Hex Bar	Heat No	691679
Specification:	ASTMA234-97/A108-03E1/A29-05, ASME SA234-92A, Gr. WPB		

Chemical Properties

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb	Al
0.18	0.76	.019	.022	0.180	.130	0.06	0.11	.040	.004	.0020	.026

Mechanical Properties

Tensile:	78969 psi	Elongation (%):	25.20
Yield:	61874 psi	Reduction of Area (%):	63.00
		Hardness:	HBN 163
Heat Treatment:	Cold Drawn High Stress Relieve		
Other Tests:	Mag Test 100%		

FC COMPRESSION

DATE RECEIVED APR 13 2007

FO # 508148 1891736

SIGNATURE:

HC

APPROVED BY Q.C. INSPECTOR

Notes:

USED FOR 331537A615

1" x 3/4" XH Smls 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:

TW

Maintained By: Quality Department

Rev: C

Doc Name: MTR.mdb

Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1

6664



**ALBERTA
OIL TOOL**

A **DOVER** COMPANY

SEP 07 2006

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

ITEM
1153691

AIDK

MILL TEST REPORT

AOT HEAT CODE: AIDK ✓

General Information

Raw Material Manufacturer:	Niagara Lasalle Corp	Date:	09/08/2006
Description:	1-3/8" A234 WPB Hex Bar	Heat No	691677
Specification:	ASTMA234-97/A108-03E1/A29-05,ASMESA234-92A,Gr.WPB		

Chemical Properties

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

Mechanical Properties

Tensile:	75670 psi	Elongation (%):	27.10
Yield:	57680 psi	Reduction of Area (%):	64.80
Heat Treatment:	Cold Drawn High Stress Relieve	Hardness:	HBN 159
Other Tests:	Mag Test 100%	PC COMPRESSION	

DATE RECEIVED APR 13 2007
508148 1891736

INITIALS: HC

APPROVED BY O.C. INSPECTOR

Notes:

USED FOR 331537A614

1" x 1/2" XH Smis Swage Nipple ✓

Meets: MEETS ASTM A234-02/ASME SA234-01 GR.WPB558

MEETS NACE MRO175/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: W. Borden

Maintained By: Quality Department

Rev: C

Doc Name: MTR.mdb

Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1



**ALBERTA
OIL TOOL**

A **DOVER** COMPANY

MAR 27 2007

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

AIEE

11 59 339

MILL TEST REPORT

AOT HEAT CODE **AIEE** ✓

PC COMPRESSION
DATE RECEIVED APR 13 2007
LOT 508140 1891736

General Information

Raw Material: Niagara Lasalle Corp
Manufacturer:

Date: 18/08/2006

Description: 1-3/8" A234 WPB Hex Bar

Heat No: 691015

Specification: ASTM A234-97/A108-03E1/A29-05, ASME SA234-92A, Gr. WPB

Chemical Properties

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb	Al
0.19	0.179	.013	.027	0.220	.150	0.08	0.10	.030	.004	.0010	.027

Mechanical Properties

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

Notes:

USED FOR 331537A612
1" x 1/4" XH Smls Swage Nipple ✓
Meets: MEETS ASTM A234-02/ASME SA234-01 GR.WPBS58
MEETS NACE MR0175/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: CE

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 09 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	Cu	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:	
Other Tests:			

Notes:

used for 331537A612

1" x 1/4" XH Swage Nipple ✓

Signed:



Title: Production Coordinator

Date: 11/07/95

PC COMPRESSION

DATE RECEIVED APR 13 2007

P.O. # 50848 1891736

SIGNATURE: HLC

Maintained by: Myles Rempel
Approved by: Daryl Harrington

Rev. A
Date: 05/08/95

Doc Name: SABAG SAMPECTOR
Page: 1 of 1



**ALBERTA
OIL TOOL**

A **DOVER** COMPANY

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

AIFP

1159339

MILL TEST REPORT

AOT HEAT CODE **AIFP** ✓

General Information

Raw Material Manufacturer:	Niagara Lasalle Corp	Date:	12/09/2006
Description:	1-3/8" A234 WPB Hex Bar	Heat No	691679
Specification:	ASTMA234-97/A108-03E1/A29-05,ASMESA234-92A,Gr.WPB		

Chemical Properties

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb	Al
0.18	0.76	.019	.022	0.180	.130	0.06	0.11	.040	.004	.0020	.026

Mechanical Properties

Tensile:	78969 psi	Elongation (%):	25.20
Yield:	61874 psi	Reduction of Area (%):	63.00
Heat Treatment:	Cold Drawn High Stress Relieve		
Other Tests:	Mag Test 100%		
		Hardness:	HBN 163

Notes:

USED FOR 331537A612

1" x 1/4" XH Smls Swage Nipple ✓

Meets: MEETS ASTM A234-02/ASME SA234-01 GR.WPB558

MEETS NACE MR0175/ISO 15156

PC COMPRESSION

DATE RECEIVED APR 13 2007

NO. 508142 1851736

SIGNATURE:

APPROVED BY: Q.C. INSPECTOR

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: TW

Maintained By: Quality Department

Rev: C

Doc Name: MTR.mdb

Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1

Line 63

1159389



**ALBERTA
OIL TOOL**

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

AFQZ

MILL TEST REPORT

AOT HEAT CODE **AFQZ**

General Information

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

Chemical Properties

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb	Al
.17	.71	.009	.021	.210	.180	.03	.11	.040	.025	.002	.005

Mechanical Properties

Tensile:	75,300	Elongation (%):	27.3
Yield:	61,320	Reduction of Area (%):	58.6
		Hardness:	HBN 163
Heat Treatment:	Cold Drawn High SR		

HYDROCOMPRESSION
DATE RECEIVED APR 13 2007
PO. # 508148 1871736
SIGNATURE: HC
APPROVED BY: INSPECTOR

Notes:

Used For: 331537A612 1" x 1/4" XH Smls Swage Nipple

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: 8 Dec 2/4

Maintained By: Quality Department

Rev: C

Doc Name: MTR.mdb

Approved By: Quality Manager

Date: 14 Apr 2000

Page 1 of 1



I.M.L. JAN 14 2006

INDUSTRIA MECCANICA LIGURE SPA

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli, 4 - Tel. 0185.467861 - Fax 0185.466510 / MATERIAL TEST DEPARTMENT

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY RINA

IML (UK) LTD.

Suite 2, 1st Floor, Castle House, Station Road
NEW BARNET, HERTFORDSHIRE EN8 1PESB

Certificate Nr 15762

Invoice Nr

Del. Note Nr 1646

Dated 30.09.2005

Dated

Dated 30.09.2005

Page 10 - 17

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

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.
N59	77912	012	3109	2005-2E201-0001013-012	1000	FITTING HEX.H.PLUG THRD NPT 1" A105N PACKAGE No.158 --- No.20 cartons for 50 pcs	SEE NOTE	SATISFACTORY

HEAT CODE	HEAT	ITEM	MATERIAL	C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%	OTHER ELEMENTS
N59	77912	012	ASTM A105	0.190	0.160	0.910	0.023	0.009	0.070	0.050	0.010	0.010	0.170	0.002	0.001	0.000	0.005	0.373	

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS HB	BEND TEST	FLATTENING TEST	IMPACT TEST	SHAPE	YIELD POINT
N59	77912	012	SECT. mm3 LENGTH mm	N/mm2 >=0.2%	N/mm2 >=	% >=	% >=				°C	1" O 2" O	N/mm2 >=0.2%
			122.65 50.00	361.0	552.0	32.0	56.0	160 - 168	0.0	0.0	KV	109 100 109	0.0

PO COMPRESSION
DATE RECEIVED APR 13 2007
P.O. # 508448 1891736
SIGNATURE: HC
APPROVED BY Q.C. INSPECTOR

HEAT CODE	HEAT	ITEM	MATERIAL	IN ACCORDANCE TO	HEAT TREATMENT	FURNACE	STEEL MILL	Our Ref.
N59	77912	012	ASME SA ASTM A105-03	Normalized at 880°-920° C / Air Cool		ELECTRIC FURNACE	RINA ACCAI	041204

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	INSPECTION AUTHORITY	QUALITY CONTROL DEPARTMENT	MANUFACTURER'S SYMBOL	MANUFACTURER'S SYMBOL
			BORIS FIZZOTTI	IML	STUDBOLTS



07

Line 38



AUG 17 2006

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

IRACO LIMITED - CASTLE HOUSE

Certificate Nr 16723

Dated 17.07.2006

COMPANY WITH QUALITY SYSTEM ISO 9001:2000 -

STATION ROAD - NEW BARNET

Invoice Nr 819

Dated 13.07.2006

CERTIFIED BY RINA

HERTFORDSHIRE ENS 1PE - UNITED KINGDOM

Del. Note Nr 1260-

Dated 13.07.2006

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli, 4 - Tel. 0185.457661 - 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 Page 1 - 5

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.
G30	76253	1	17007/C	2006-2E201-0000450-001	1350	FITTING 90 ELB. THRD NPT 2M 3/4" A105N	SEE NOTE	SATISFACTORY
A46	78483	2	17007/C	2006-2E201-0000450-002	1175	FITTING 90 ELB. THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
DSL	79169	2	17007/C	2006-2E201-0000450-002	1325	FITTING 90 ELB. THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
DMU	77182	3	17007/C	2006-2E201-0000450-003	432	FITTING 90 ELB. THRD NPT 2M 2" A105N	SEE NOTE	SATISFACTORY
DMU	77182	3	17007/C	2006-2E201-0000450-003	246	FITTING 90 ELB. THRD NPT 2M 2" A105N	SEE NOTE	SATISFACTORY
TM6	77612	4	17007/C	2006-2E201-0000450-004	500	FITTING TEE THRD NPT 2M 3/4" A105N	SEE NOTE	SATISFACTORY
H11	70313	5	17007/C	2006-2E201-0000450-005	600	FITTING TEE THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY
H11	70313	5	17007/C	2006-2E201-0000450-005	375	FITTING TEE THRD NPT 2M 1" A105N	SEE NOTE	SATISFACTORY

HEAT CODE	HEAT	ITEM	MATERIAL	C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%	OTHER ELEMENTS
G30	76253	1	ASTM A105	0.190	0.220	1.000	0.019	0.012	0.080	0.050	0.010	0.005	0.210	0.001	0.000	0.000	0.013	0.392	
A46	78483	2	ASTM A105	0.190	0.190	0.990	0.020	0.017	0.090	0.050	0.010	0.005	0.190	0.003	0.001	0.000	0.012	0.392	
DSL	79169	2	ASTM A105	0.185	0.170	1.000	0.020	0.014	0.120	0.060	0.020	0.005	0.180	0.002	0.001	0.000	0.017	0.396	
DMU	77182	3	ASTM A105	0.190	0.170	0.990	0.021	0.021	0.100	0.050	0.010	0.005	0.200	0.002	0.000	0.000	0.016	0.394	
DMU	77182	3	ASTM A105	0.190	0.170	0.990	0.021	0.021	0.100	0.050	0.010	0.005	0.200	0.002	0.000	0.000	0.016	0.394	
TM6	77612	4	ASTM A105	0.185	0.200	0.900	0.021	0.013	0.100	0.060	0.010	0.005	0.190	0.002	0.001	0.000	0.014	0.374	
H11	70313	5	ASTM A105	0.180	0.220	0.950	0.021	0.016	0.120	0.060	0.010	0.005	0.240	0.002	0.001	0.000	0.000	0.386	
H11	70313	5	ASTM A105	0.180	0.220	0.950	0.021	0.016	0.120	0.060	0.010	0.005	0.240	0.002	0.001	0.000	0.000	0.386	

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS HB	BEND TEST	FLATTENING TEST	IMPACT TEST - JOULE/cm ²	SHAPE	YIELD POINT
G30	76253	1	SECT. mm	122.65	50.00	522.0	30.0	56.0	160 - 168	0.0	KV	1x10mm	20
A46	78483	2	SECT. mm	122.65	50.00	564.0	31.0	54.0	162 - 168	0.0	KV	1x10mm	20
DSL	79169	2	SECT. mm	122.65	50.00	537.0	32.0	58.0	163 - 165	0.0	KV	1x10mm	20
DMU	77182	3	SECT. mm	122.65	50.00	546.0	34.0	59.0	164 - 166	0.0	KV	1x10mm	20
DMU	77182	3	SECT. mm	122.65	50.00	546.0	34.0	59.0	164 - 166	0.0	KV	1x10mm	20
TM6	77612	4	SECT. mm	122.65	50.00	520.0	35.0	55.0	158 - 166	0.0	KV	1x10mm	20
H11	70313	5	SECT. mm	122.65	50.00	515.0	33.5	56.5	154 - 162	0.0	KV	1x10mm	20
H11	70313	5	SECT. mm	122.65	50.00	515.0	33.5	56.5	154 - 162	0.0	KV	1x10mm	20

HEAT CODE	HEAT	ITEM	MATERIAL	IN ACCORDANCE TO	HEAT TREATMENT	FURNACE	STEEL MILL	Our Ref.
G30	76253	1	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	ELECTRIC FURNACE	RIVA ACCIAI	051362
A46	78483	2	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	ELECTRIC FURNACE	RIVA ACCIAI	051095
DSL	79169	2	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	ELECTRIC FURNACE	RIVA ACCIAI	062011
DMU	77182	3	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	ELECTRIC FURNACE	RIVA ACCIAI	062011
DMU	77182	3	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	ELECTRIC FURNACE	RIVA ACCIAI	051400
TM6	77612	4	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	ELECTRIC FURNACE	RIVA ACCIAI	041369
H11	70313	5	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	ELECTRIC FURNACE	RIVA ACCIAI	041369
H11	70313	5	ASME SA ASTM A105-05	Normalized at 880°-920°C / Air Cool	ELECTRIC FURNACE	ELECTRIC FURNACE	RIVA ACCIAI	041369

NOTES	ASME B16.11/05 - ANSI B31.1/05/13 - IMDS ED - ANSI B1.1-B18.2.2.	INSPECTION AUTHORITY	QUALITY CONTROL DEPARTMENT	MANUFACTURER'S SYMBOL	MANUFACTURER'S SYMBOL
NACE MR0175 ISO 15156/1 - MSS SP-83 - SUPPLIED MATERIAL MEETS SPECIFICATIONS AND P.O. REQUIREMENTS					
SIGNATURE:		BORIS FIZZOTTI	FITTINGS	IML	STUDBOLTS
APPROVED BY Q.C. INSPECTOR					

27



Phoenix * Capitol * Camco
Cap Products

1119484

Commanding a Higher Standard_{sm}

Certified Mill Test Report

3/6/2007

Customer
CE FRANKLIN LTD

BOX 6776 STN "D"
CALGARY, AB T2P2E8

Part Number
15110708

P.O. 1750350-OR-2100

Heat No 54108
Heat Code RB7 ✓
Phoenix Order # 459293

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

Description
3/4 X 4" XHSML BK STL NIPL ✓

Chemical Properties

C	Mn	P	S	Si	Cu	Cr	Ni	C Eq. Long	
0.190	0.800	0.007	0.007	0.260	0.250	0.070	0.070	0.365	
Mo	V	Co	Al	Cb	N	Pb	Sn	Ta	Ti
0.030	0.003								

Additional Chemical Properties

Cr + Cu + Ni
0.390

Mechanical Properties

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Charpy Minimum Impact -			
Test 1	Test 2	Test 3	Average	75,690	51,770	43.8%		
N/A	N/A	N/A	N/A					

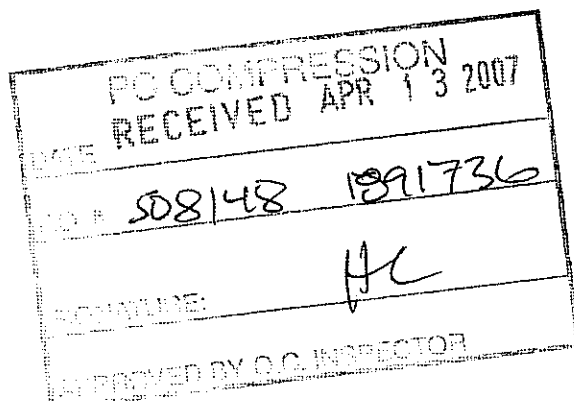
* Hydro test passed. at 2500 psi.

* Bend test passed.

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



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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 %

Heat No.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
P524271	0.20	0.51	0.018	0.032	0.24	0.03	0.02	0.02	0.01	< 0.01	
CE (LONG FORMULA) = 0.30											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	46,300	psi	67,500	45.00	0.00	N/R
MPa	000	MPa	000			
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. We make no representation beyond those of the manufacturer or its agent.

PC COMPRESSION	
RECEIVED APR 13 2007	
DATE	
NO. #	508148 1891736
SIGNATURE:	HC
APPROVED BY O.C. INSPECTOR	



I.M.L.

JAN 14 2006

INDUSTRIA MECCANICA LIGURE SPA

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli, 4 - Tel. 010.65.467.661 - Fax 010.65.467.661

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

COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY RINA

IML (UK) LTD.

Sulla 2, 1st Floor Castle House, Station Road
NEW BARNET, HERTFORDSHIRE EN5 1PESB

Certificate Nr 14985
Invoices Nr 134
Del. Note Nr 187

Dated 06.02.2005
Dated 07.02.2005
Dated 07.02.2005

Page 5 - 9
This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204

HEAT CODE HEAT ITEM YOUR P.O. OUR REFERENCE Q.TY DESCRIPTION DIM. ACC. TO VISUAL & DIMENS. SEE NOTE SATISFACTORY

N20 AL1470 49 FFF 2996 2004-2E201-0001404-037 3000 FITTING HEX.H.PLUG THRD NPT 3/4" A105N No. 30 CARTONS FOR 100 PCS

HEAT CODE	HEAT	ITEM	MATERIAL	C%	SI%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%	OTHER ELEMENTS
N20	AL1470	49	ASTM A105	0.200	0.190	0.980	0.008	0.016	0.100	0.140	0.060	0.000	0.150	0.000	0.000	0.000	0.004	0.415	

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS	BEND TEST	FLATTENING TEST	IMPACT TEST	SHAPE	YIELD POINT
N20	AL1470	49	SECT. mm2 LENGTH mm	N/mm2 >=0.2%	N/mm2 >=0.2%	% >=0.2%	% >=0.2%	HRC	180°	10x10mm	°C	1x0.2x0.2	N/mm2 >=0.2%
N20	AL1470	49	122.65 50.00	375.0	530.0	32.5	54.0	154 - 160	0.0	0.0	20	103	0.0

100% COMPRESSION

MATERIAL IN ACCORDANCE TO ASME SA ASTM A105-02

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

NO. # 508148 1891736

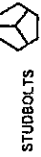
SIGNATURE: *HC*

APPROVED BY Q.C. INSPECTOR

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS	BEND TEST	FLATTENING TEST	IMPACT TEST	SHAPE	YIELD POINT
N20	AL1470	49	SECT. mm2 LENGTH mm	N/mm2 >=0.2%	N/mm2 >=0.2%	% >=0.2%	% >=0.2%	HRC	180°	10x10mm	°C	1x0.2x0.2	N/mm2 >=0.2%
N20	AL1470	49	122.65 50.00	375.0	530.0	32.5	54.0	154 - 160	0.0	0.0	20	103	0.0

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

INSPECTION AUTHORITY QUALITY CONTROL DEPARTMENT MANUFACTURER'S SYMBOL MANUFACTURER'S SYMBOL



IML

FITTINGS

BORIS FIZZOTTI

STUDBOLTS

79

Line 52



SEP 13 2006

INDUSTRIA MECCANICA LICURE SPA

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

COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY RINA

I.M.L. (UK) LTD.

Suite 2, 1st Floor, Castle House, Station Road
NEW BARNET, HERTFORDSHIRE EN5 1PEB

Certificate Nr 14919

Invoice Nr 21

Del. Note Nr 27

Dated 25.01.2005

Dated 13.01.2005

Dated 13.01.2005

Page 29 - 32

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

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.
UE9	X21947	27	FF 2996	2004-2E201-0001404-023	2000	FITTING UNION F/F THRD NPT 3M 1/2" A105N	SEE NOTE	SATISFACTORY

HEAT CODE	HEAT	ITEM	MATERIAL	C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%	OTHER ELEMENTS
UE9	X21947	27	ASTMA105	0.200	0.270	0.850	0.028	0.011	0.110	0.100	0.030	0.003	0.110	0.003	0.001	0.000	0.028	0.384	

HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS HB	BEND TEST	FLATTENING TEST	IMPACT TEST - JOULE/cm2	SHAPE	YIELD POINT
UE9	X21947	27	SECT mm2	mm2	mm2	%	%	mm2	mm2	mm2	mm2	mm2	mm2
UE9	X21947	27	122,65	50,00	529,0	30,5	55,5	158 - 180	0,0	0,0	20	1-O 2-D	0,0

HEAT CODE	HEAT	ITEM	MATERIAL	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS HB	BEND TEST	FLATTENING TEST	IMPACT TEST - JOULE/cm2	SHAPE	YIELD POINT
UE9	X21947	27	ASME SA ASTM A105-02	mm2	mm2	%	%	mm2	mm2	mm2	mm2	mm2	mm2
UE9	X21947	27	ASME SA ASTM A105-02	365,0	529,0	30,5	55,5	158 - 180	0,0	0,0	20	1-O 2-D	0,0

MATERIAL IN ACCORDANCE TO PRESSION

RECEIVED APR 13 2007

DATE

508148 187736

He

NOTES	ASME B16.11/01 - BS.3799 - ANSI B31.1/B31.3 - I.M.L. STD - ANSI B1.1-B16.2.2 - NACE MR0175 ISO 15156/1	INSPECTION AUTHORITY	QUALITY CONTROL DEPARTMENT	MANUFACTURER'S SYMBOL	MANUFACTURER'S SYMBOL
			BORIS FIZZOTTI	IML	STUDBOLTS

07.

FEB 07 2007

M.E.G.A.

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

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DIN
ISO 9001

CLIENTE
Customer
Client

CE FRANKLIN LTD.

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

ORDINE
Purchase order
Commande

1571574-OR-2100

CERTIFICATO N.
Certificate N.
Certificat N.

537244
REV.1

DATA / Date

07/02/07

COMMESSA
Job N.

79563

Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matériau	COLATA Heat / Coudée	C %	SI %	Mn %	S %	P %	Cr %	Mo %	Ti %	Cu %	V %	Al %	CE %
NBAL	ASTM A105/03	0578224	0.190 --->	0.230 Nb% = 0.001	0.920 0.001	0.007	0.013	00.09	00.05	0.010	0.000	0.170	0.020	0.022 0.381
NDCL	ASTM A105/03	06/78612	0.195 --->	0.170 Nb% = 0.000	0.890 0.000	0.010	0.014	00.10	00.05	0.010	0.019	0.160	0.017	0.023 0.382
NDDF	ASTM A105/03	05/70864	0.195 --->	0.200 Nb% = 0.000	0.880 0.000	0.009	0.014	0.009	00.05	0.010	0.019	0.170	0.018	0.021 0.363
NLSR	ASTM A105/03	AA0479	0.195 --->	0.250 Nb% = 0.000	1.000 0.000	0.004	0.009	00.10	00.08	0.020	0.000	0.130	0.000	0.025 0.399
NADL	ASTM A105/03	0633874	0.180 --->	0.240 Nb% = 0.002	1.080 0.002	0.003	0.012	00.12	00.01	0.005	0.000	0.000	0.003	0.023 0.386
NRBR	ASTM A105/05	06/71488	0.185 --->	0.180 Nb% = 0.001	0.830 0.001	0.009	0.014	00.10	00.05	0.010	0.000	0.120	0.001	0.023 0.356

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SHEARVANTO N/mm ² Yield point Limite d'élasticité	ROTTURA N/mm ² Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PROVA Bend test Pliage	SCHIACCIAMENTO Flat test Aplatissement	RESILLENZA Impact test / Résilience				
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITÀ MISC. Unit system	TIPO Type	T. °C Test temp	VALORE / Value / Données	
NBAL	1	30.6	25.0	312.0	533.0	29.2	66.8	155-160			J	KV	0	38-52-48
NDCL	1	30.6	25.0	303.0	510.0	31.3	68.6	146-156			J	KV	0	54-62-52
NDDF	1	59.5	35.0	346.6	501.4	25.7	62.9	146-149			J	KV	0	48-68-34
NLSR	1	30.6	25.0	298.9	508.2	32.2	68.1	140-145			J	KV	0	152-150-158
NADL	1	60.1	35.0	308.0	528.0	28.0	66.0	140-145			J	KV	0	46-52-54
NRBR	1	122.6	50.0	297.0	515.0	31.1	69.9	140-145			J	KV	0	48-52-60

PROVA Test Epreuve	NOTE / Remarks / Notes	FORMA Shape / Forme
	EN10204/3.1	1 = <input type="checkbox"/> 2 = <input type="checkbox"/>

NBAL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8596.06 MEGA/ISMA*530980 MEGA*
NDCL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8642.06 MEGA/ISMA*531508 MEGA*
NDDF	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.117.06 CARLOTT0*532589 MEGA*
NLSR	ELECT.FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.56.06 EVASI*532799 MEGA*
NADL	ELECT.FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.87.36.06 MEGA/ISMA*532601 MEGA*
NRBR	ELECT.FURNACE-NORMALIZED COOLED IN STILL AIR.	/CERT.1471.06 CARLOTT0*534986 MEGA*

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
NBAL	001	450	1096411	90 DEG. ELBOW S. 2000 NPT A/SA105N 1/2	OK
NDCL	002	250	1096526	90 DEG. ELBOW S. 2000 NPT A/SA105N 1	OK
NDDF	003	880	1092361	90 DEG. ELBOW S. 2000 NPT A/SA105N 2	OK
NLSR	004	800	1095574	TEE S. 2000 NPT A/SA105N 1/2	OK
NADL	005	250	1094571	TEE S. 2000 NPT A/SA105N 1	OK
NRBR	006	1992	1095304	TEE S. 2000 NPT A/SA105N 2	OK

PC COMPRESSION
RECEIVED APR 13 2007

DATE

NO. 508148 1891736

SIGNATURE: *HC*

APPROVED BY O.G. INSPECTOR

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official	CAPO COLLAUDO Chief Inspection OPI Responsable assurance qualité
MATERIAL ACCORDING TO NACE MR0175/ 2003.		DOC. <i>HC</i> M.E.G.A. Lidia Marcati

FEB 07 2007

M.E.G.A.

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

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

CLIENTE
Customer
Client

CE FRANKLIN LTD.

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

ORDINE
Purchase order
Commande

1571574-OR-2100

CERTIFICATE N. 537244
Certificate N. REV. 1
Certificat N. 07/02/07

DATA / Date 07/02/07

CONFERMA
Job N. 79563
Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulee	C %	SI %	Mn %	S %	P %	Cr %	Ni %	Mo %	TR %	Cu %	V %	Al %	CE %
NBAL	ASTM A105/03	0578224	0.190 --->	0.230 Nb% 0.001	0.920 0.000	0.007	0.013	00.09	00.05	0.010	0.000	0.170	0.020	0.022	0.381
NDCL	ASTM A105/03	06/78612	0.195 --->	0.170 Nb% 0.000	0.890 0.000	0.010	0.014	00.10	00.05	0.010	0.019	0.160	0.017	0.023	0.382
NDDF	ASTM A105/03	06/70864	0.195 --->	0.200 Nb% 0.000	0.880 0.000	0.009	0.014	0.009	00.05	0.010	0.019	0.170	0.018	0.021	0.363
NLSR	ASTM A105/03	AA0479	0.195 --->	0.250 Nb% 0.000	1.000 0.000	0.004	0.009	00.10	00.08	0.020	0.000	0.130	0.000	0.025	0.399
NADL	ASTM A105/03	0633874	0.180 --->	0.240 Nb% 0.002	1.080 0.000	0.003	0.012	00.12	00.01	0.005	0.000	0.000	0.003	0.023	0.386
NRBR	ASTM A105/05	06/71488	0.185 --->	0.180 Nb% 0.001	0.830 0.001	0.009	0.014	00.10	00.05	0.010	0.000	0.120	0.001	0.023	0.356

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SMEINAMENTO Yield point Limite d'élasticité	ROTTURA Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Plage	SCALDAG. Flare test Applique	FIERILLENZA Impact test / Résilience			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITÀ MIS. Unit system	TIPO Type	T. °C Test temp	VALORE / Value / Données
NBAL	30.6	25.0	312.0	533.0	29.2	66.8	155-160			J	KV	0	88-52-48
NDCL	30.6	25.0	303.0	510.0	31.3	68.6	146-156			J	KV	0	54-62-52
NDDF	59.5	35.0	346.6	501.4	25.7	62.9	146-149			J	KV	0	48-68-34
NLSR	30.6	25.0	298.9	508.2	32.2	68.1	140-145			J	KV	0	152-150-158
NADL	60.1	35.0	308.0	528.0	28.0	66.0	140-145			J	KV	0	46-52-54
NRBR	122.6	50.0	297.0	515.0	31.1	69.9	140-145			J	KV	0	48-52-60

PROVA Test Epreuve	NOTE / Remarks / Notes	FORMA Shape / Forme
	EN10204/3.1	1 = □ 2 = □

NBAL	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8596.06 MEGA/ISMA*530980 MEGA*
NDCL	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.8642.06 MEGA/ISMA*531508 MEGA*
NDDF	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.117.06 CARLOTTO*532589 MEGA*
NLSR	ELECT. FURNACE-NORMALIZED AT 920 C COOLED IN STILL AIR.	/CERT.56.06 EVASI*532799 MEGA*
NADL	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.87.36.06 MEGA/ISMA*532601 MEGA*
NRBR	ELECT. FURNACE-NORMALIZED COOLED IN STILL AIR.	/CERT.1471.06 CARLOTTO*534986 MEGA*

PROVA Test Epreuve	POS. Item Pos.	QUANTITA' Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
NBAL	001	450	1096411	90 DEG. ELBOW S. 2000 NPT A/SA105N 1/2	OK
NDCL	002	250	1096526	90 DEG. ELBOW S. 2000 NPT A/SA105N 1	OK
NDDF	003	880	1092381	90 DEG. ELBOW S. 2000 NPT A/SA105N 2	OK
NLSR	004	800	1095574	TEE S. 2000 NPT A/SA105N 1/2	OK
NADL	005	250	1094571	TEE S. 2000 NPT A/SA105N 1	OK
NRBR	006	1992	1095304	TEE S. 2000 NPT A/SA105N 2	OK

PC COMPRESSION

DATE RECEIVED APR 13 2007

104508148 1891736

SIGNATURE: *He*

APPROVED BY C.G. INSPECTOR

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Office	CAPO COLLAUDO Chief Inspector DPT Responsable assurance qualité
MATERIAL ACCORDING TO NACE MR0175/ 2003.		DOC. <i>M.E.G.A.</i> <i>Luca Marcati</i>

DEC 14 2006


ANVIL
INTERNATIONAL, INC.

 Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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	
CE (LONG FORMULA) = 0.31											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	48,600	psi	71,000	42.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment:						
SEAMLESS						
HARDNESS LESS THAN EQUAL 22HRC.IN ACC.WITH MR0175						
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.

FC COMPRESSION	
RECEIVED APR 13 2007	
DATE	
Q.O.#	508148 1891736
SIGNATURE:	HC
APPROVED BY Q.C. INSPECTOR	



Phoenix * Capitol * Camco
Cap Products

1122177

Certified Mill Test Report

Commanding a Higher Standard™

3/23/2007

Customer
CE FRANKLIN LTD

P.O. 1760409-OR-2100

Heat No 53310
Heat Code ND ✓
Phoenix Order # 461944

BOX 6776 STN "D"
CALGARY, AB T2P2E8

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

Part Number
15110512

Description
1/2 X 6" XHSML BK STL NIPL ✓

Chemical Properties

C	Mn	P	S	Si	Cu	Cr	Ni	C Eq. Long	
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								

Additional Chemical Properties

Cr + Cu + Ni
0.400

Mechanical Properties

Tensile (PSI)	Yield (PSI)	Elong. % in 2 in.	R of A	BHN	Charpy Minimum Impact -			
Test 1	Test 2	Test 3	Average	78,740	62,350	39.4%		
N/A	N/A	N/A	N/A					

* Hydro test passed. at 2500 psi.

* Bend test passed.

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

Comments:

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

RECEIVED APR 13 2007

PO # 508148 1891736

SIGNATURE:

APPROVED BY Q.C. INSPECTOR

CapProducts. Ltd.

25 Winnipeg St
Vancouver, ON N0M 1L0

JAN 26 2006


ANVIL
INTERNATIONAL, INC.

 Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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 %

Heat No.	C	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 (LONG FORMULA) = 0.21											

Mechanical Properties

Yield Strength		Tensile Strength		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.

PC COMPRESSION	
DATE	RECEIVED APR 10 2007
P.O. #	508274
SIGNATURE:	HL
APPROVED BY Q.C. INSPECTOR	

NOV 30 2006

1121710


ANVIL
INTERNATIONAL, INC.

 Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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 %

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	
CE (LONG FORMULA) = 0.31											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	48,600	psi	71,000	42.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment:						
SEAMLESS						
HARDNESS LESS THAN EQUAL 22HRC.IN ACC.WITH MR0175						
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 COMPRESSION	
DATE	RECEIVED APR 13 2007
PO.#	508148 1891736
SIGNATURE:	HLC
APPROVED BY Q.C. INSPECTOR	



ANVIL
INTERNATIONAL, INC.



1121226
Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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.	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	
CE (LONG FORMULA) = 0.31											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	48,600	psi	71,000	42.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment: SEAMLESS HARDNESS LESS THAN EQUAL 22HRC.IN ACC.WITH MR0175						
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 COMPRESSION
RECEIVED APR 13 2007
Q.C. 508148 1891736
SIGNATURE: <i>HL</i>
APPROVED BY Q.C. INSPECTOR

HEAT NUMBER : 55175

TRANS AM PIPING PRODUCTS - REV'D BY: TBE

Shipment/Seq # : 6 1127 61



INDUSTRIA MECCANICA LIGURE SPA

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Capello, 4 - Tel. 010.55.447461 - Fax 010.55.447461

INSPECTION CERTIFICATE EN 10204:2004 / 3.1

COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY RINA

TRANS AM PIPING PRODUCTS LTD.

7025 - 44th Street S.E.
Calgary, Alberta T2C 4E8
CA

Certificate Nr 16241
Invoice Nr 205
Del. Note Nr 338
Dated 01.03.2006
Dated 27.02.2006
Dated 27.02.2006

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

HEAT CODE		HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION										DIM. ACC. TO	VISUAL & DIMENS.							
TL1 ZZ9 L320	74379	014	CI-06-116	2006-2E201-0000044-014			FITTING CROSS THRD NPT 2M 1" A105N										SEE NOTE	SATISFACTORY							
	76177	014	CI-06-116	2006-2E201-0000044-014			FITTING CROSS THRD NPT 2M 1" A105N										SEE NOTE	SATISFACTORY							
	X21947	079	CI-06-116	2006-2E201-0000044-079			FITTING UNION F/F SW 3M 1" A105N										SEE NOTE	SATISFACTORY							
	93887	19	CI-05-428	2005-2E201-0000691-078			P.NIPPLE TBE NPT S-80 1" L64mm(2 1/2") A106B/API 5LB										SEE NOTE	SATISFACTORY							
	95727	19	CI-05-428	2005-2E201-0000691-078			P.NIPPLE TBE NPT S-80 1" L64mm(2 1/2") A106B/API 5LB										SEE NOTE	SATISFACTORY							
97901 55175	97901	19	CI-05-428	2005-2E201-0000691-078			P.NIPPLE TBE NPT S-80 1" L64mm(2 1/2") A106B/API 5LB										SEE NOTE	SATISFACTORY							
	55175	013	CI-05 - 647	2005-2E201-0000954-013			P.NIPPLE TBE NPT S-80 1/2" L75mm(3") A106B/API 5LB										SEE NOTE	SATISFACTORY							
	55175	015	CI-05 - 647	2005-2E201-0000954-015			P.NIPPLE TBE NPT S-80 1/2" L140mm(5 1/2") A106B/API 5LB										SEE NOTE	SATISFACTORY							
HEAT CODE		HEAT	ITEM	MATERIAL		C%	SI%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%	OTHER ELEMENTS				
TL1 ZZ9 L320	74379	014	ASTM A105	ASTM A105		0.190	0.220	0.920	0.019	0.013	0.120	0.060	0.010	0.140	0.230	0.000	0.000	0.000	0.005	0.389					
	76177	014	ASTM A105	ASTM A105		0.190	0.210	1.040	0.015	0.008	0.060	0.050	0.030	0.019	0.170	0.021	0.000	0.000	0.026	0.396					
	X21947	079	ASTM A105	ASTM A105		0.200	0.270	0.850	0.028	0.011	0.110	0.100	0.030	0.003	0.110	0.003	0.001	0.000	0.028	0.384					
	93887	19	ASTM A106/B API 5LB	ASTM A106/B API 5LB		0.130	0.180	0.640	0.008	0.014	0.070	0.120	0.020	0.000	0.220	0.000	0.000	0.000	0.028	0.000					
	95727	19	ASTM A106/B API 5LB	ASTM A106/B API 5LB		0.140	0.190	0.680	0.006	0.011	0.040	0.060	0.010	0.000	0.120	0.000	0.000	0.000	0.025	0.000					
97901 55175	97901	19	ASTM A106/B API 5LB	ASTM A106/B API 5LB		0.140	0.210	0.640	0.007	0.010	0.060	0.060	0.010	0.000	0.170	0.000	0.000	0.000	0.024	0.000					
	55175	013	ASTM A106/B API 5LB	ASTM A106/B API 5LB		0.130	0.230	0.640	0.007	0.003	0.040	0.050	0.010	0.000	0.140	0.005	0.000	0.000	0.002	0.000					
	55175	015	ASTM A106/B API 5LB	ASTM A106/B API 5LB		0.130	0.230	0.640	0.007	0.003	0.040	0.050	0.010	0.000	0.140	0.005	0.000	0.000	0.002	0.000					
HEAT CODE		HEAT	ITEM	TEST SPECIMEN	LENGTH mm	YIELD POINT Min2 x 1/2"	TENSILE STRENGTH Min2 x 1/2"	ELONGATION % 2"	REDUCTION OF AREA % 2"	HARDNESS HB	BEND TEST	FLATTENING TEST	TYPE 18x10mm	IMPACT TEST - JOULES	SHAPE 10x 2-2D	YIELD POINT Min2 x 1/2"									
TL1 ZZ9 L320	74379	014	122.65	50.00	314.0	516.0	31.0	58.0	152 - 158	0.0	0.0	0.0	KV	20	103	102									
	76177	014	122.65	50.00	332.0	532.0	32.0	56.0	150 - 158	0.0	0.0	0.0	KV	20	103	105									
	X21947	079	122.65	50.00	361.0	525.0	30.0	57.0	152 - 156	0.0	0.0	0.0	KV	20	106	105									
	93887	19	0.00	0.00	370.0	519.0	41.5	0.0	150 - 159	0.0	0.0	0.0		0	0	0									
	95727	19	0.00	0.00	382.0	515.0	52.0	0.0	152 - 158	0.0	0.0	0.0		0	0	0									
97901 55175	97901	19	0.00	0.00	370.0	489.0	54.0	0.0	146 - 152	0.0	0.0	0.0		0	0	0									
	55175	013	0.00	0.00	372.0	516.0	44.0	0.0	155 - 160	0.0	0.0	0.0		0	0	0									
	55175	015	0.00	0.00	372.0	516.0	44.0	0.0	155 - 160	0.0	0.0	0.0		0	0	0									
HEAT CODE		HEAT	ITEM	MATERIAL IN ACCORDANCE TO										HEAT TREATMENT					STEEL MILL		Our Ref.				
TL1 ZZ9 L320	74379	014	ASME SA ASTM A105-05										Normalized at 880°-920°C / Air Cool					ELECTRIC FURNACE		RIVA ACCIAI	051107				
	76177	014	ASME SA ASTM A105-05										Normalized at 880°-920°C / Air Cool					ELECTRIC FURNACE		RIVA ACCIAI	041034				
	X21947	079	ASME SA ASTM A105-05										Normalized at 880°-920°C / Air Cool					ELECTRIC FURNACE		GSB	052045				
	93887	19	ASME SA ASTM A106/A160M-04b Gr. B										Normalized at 880°-920°C / Air Cool					ELECTRIC FURNACE		PIETRA	043060				
	95727	19	ASME SA ASTM A106/A160M-04b Gr. B										Normalized at 880°-920°C / Air Cool					ELECTRIC FURNACE		PIETRA	053012				
97901 55175	97901	19	ASME SA ASTM A106/A160M-04b Gr. B										Normalized at 880°-920°C / Air Cool					ELECTRIC FURNACE		PIETRA	053013				
	55175	013	ASME SA ASTM A106/A160M-04b Gr. B										Normalized at 880°-920°C / Air Cool					ELECTRIC FURNACE		PIETRA					
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																									
INSPECTION AUTHORITY										QUALITY CONTROL DEPARTMENT										MANUFACTURER'S SYMBOL			MANUFACTURER'S SYMBOL		
BORIS FIZZOTTI										IML										FITTINGS			STUDBOLTS		
DATE RECEIVED APR 10 2007																									

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 MATERIALS MEETS SPECIFICATIONS AND P.O. REQUIREMENTS

DATE RECEIVED APR 10 2007

SOROTAP E7-20970

SIGNATURE: JK

APPROVED BY: C. BIANCHI



MAR 07 2007

Phoenix * Capitol * Camco
Cap Products

1116687

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

BOX 6776 STN "D"
CALGARY, AB T2P2E8

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

Part Number
15110506

Description
1/2 X 3" XHSML BK STL NIPL ✓

Chemical Properties

C	Mn	P	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					

Additional Chemical Properties

Cr + Cu + Ni
0.050

Mechanical Properties

Charpy Minimum Impact -

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.

CapProducts, Ltd.

25 Winnipeg St
Vancouver, ON N0M 1L0

PG COMPRESSION	
RECEIVED APR 13 2007	
PO.#	508148 1891736
SIGNATURE:	Hc
APPROVED BY Q.C. INSPECTOR	

JAN 26 2000



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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 %

Heat No.	C	Mn	P	S	Si	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	
CE (LONG FORMULA) = 0.28											

Mechanical Properties

Yield Strength		Tensile Strength		Elongation % 2	Reduction Area	Hardness BHN
psi	43,100	psi	68,000	28.00	0.00	N/R
MPa	000	MPa	000			
Heat Treatment:						
MEETS NACE MR-01-75-2001						
HARDNESS LESS THAN OR EQUAL 22 HRC						
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.

PC COMPRESSION	
DATE RECEIVED APR 13 2007	
PO. #	508148 1891736
SIGNATURE:	HC
APPROVED BY Q.C. INSPECTOR	



MAR 07 2007

Phoenix * Capitol * Camco
Cap Products

111662

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 #** 456868BOX 6776 STN "D"
CALGARY, AB T2P2E8**Material** ASTM A106-1999e B / ASME SA106-2001 Edition, No Adden**Part Number**
15110504**Description**
1/2 X 2" XHSM BK STL NIPL**Chemical Properties**

C	Mn	P	S	Si	Cu	Cr	Ni	C Eq. Long	
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								

Additional Chemical Properties

Cr + Cu + Ni
0.400

Mechanical Properties**Charpy Minimum Impact -**

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

* 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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APR 13 2007	
508148	1891736
SIGNATURE:	
APPROVED BY Q.C. INSPECTOR	

Line 8



Phoenix * Capitol * Camco
Cap Products

1121234

Commanding a Higher Standardsm

Certified Mill Test Report

3/23/2007

Customer
CE FRANKLIN LTD

P.O. 1760409-OR-2100

Heat No 210619
Heat Code S3R ✓
Phoenix Order # 461944

BOX 6776 STN "D"
CALGARY, AB T2P2E8

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

Part Number
15110503

Description
1/2 X 1-1/2" XHSM L BK STL NIPL ✓

Chemical Properties

C	Mn	P	S	Si	Cu	Cr	Ni	C Eq. Long	
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

Additional Chemical Properties

Cr + Cu + Ni
0.165

Mechanical Properties

Charpy Minimum Impact -

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

* 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.

PC COMPRESSION	
DATE	RECEIVED APR 13 2007
P.O. #	508148 1851736
SIGNATURE:	HC
APPROVED BY Q.C. INSPECTOR	

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



**ALBERTA
OIL TOOL**

A **DOVER** COMPANY

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

AHQE

1159/61

MILL TEST REPORT

AOT HEAT CODE **AHQE** ✓

PG COMPRESSION

DATE RECEIVED APR 13 2007

508148 1891736

General Information

Raw Material: Niagara Lasalle Corp
Manufacturer:

Date: 23/01/2006

Description: 7/8" A234 WPB Hex Bar

Heat No

APPROVED BY Q.C. INSPECTOR

Specification: ASTM A234-97/ASME SA234-92A Gr. WPB

Chemical Properties

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb	Al
0.20	0.83	.014	.026	0.230	.140	0.06	0.12	.020	.004	.0010	.028

Mechanical Properties

Tensile: 83345 psi

Elongation (%): 25.30

Yield: 66862 psi

Reduction of Area (%): 65.10

Hardness: HBN 170

Heat Treatment: Cold Drawn High Stress Relieve

Notes:

USED FOR 331537A606

1/2" x 3/8" XH Smls Swage Nipple ✓

Meets: MEETS ASTM A234-02/ASME SA234-01 GR. WPB558

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

FEB 23 2007

M.E.G.A.

CLIENTE
Customer
Client

CE FRANKLIN LTD.

CERTIFICATO N. 537649 FOGLIO 4
Certificale N. Sheet
Certificat N. Feuille

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

DATA / Date 23/01/07

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

ORDINE
Purchase order
Commande

1571815-OR-2100

COMMESSA 79564
Job N.
Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
LLAB	ASTM A105/03	71551	0.195 --->	0.220 Nb% = 0.000	0.790	0.014	0.015	00.10	00.06	0.010	0.017	0.200	0.021	0.000	0.370
LLAC	ASTM A105/03	71551	0.195 --->	0.220 Nb% = 0.000	0.790	0.014	0.015	00.10	00.06	0.010	0.017	0.200	0.021	0.022	0.370
LLAL	ASTM A105/03	71551	0.195 --->	0.220 Nb% = 0.000	0.790	0.014	0.015	00.10	00.06	0.010	0.017	0.200	0.021	0.022	0.370
NDAU	ASTM A105/05	1T 23944	0.200 --->	0.190 Nb% = 0.003	0.780	0.014	0.010	00.06	00.08	0.020	0.000	0.160	0.000	0.000	0.362
NDAX	ASTM A105/05	1T 23944	0.200 --->	0.190 Nb% = 0.003	0.780	0.014	0.010	00.06	00.08	0.020	0.000	0.160	0.000	0.000	0.362
LBTT	ASTM A105N/01	AL2227	0.190 --->	0.260 Nb% = 0.002	0.920	0.028	0.016	00.20	00.10	0.040	0.000	0.150	0.001	0.020	0.408

PROVA Test Epreuve		PROVETTA Test specimen / Epreuve		SNERVAMENTO N/mm² Yield point Limite d'élasticité	ROTTURA N/mm² Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHIACC. Flatt test Aplattiss.	RESILLENZA Impact test / Résilience			
		SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur								UNITÀ MIS. Unit system	TIPO Type	T. °C Test temp	VALORE / Value / Données
LLAB	1	30.6	25.0	314.0	534.0	29.6	67.6	156-163			J	KV	0	42-38-40
LLAC	1	30.6	25.0	313.0	530.0	30.3	67.1	156-163			J	KV	0	42-34-40
LLAL	1	30.6	50.0	364.0	502.0	28.8	53.9	156-170			J	KV	0	42-36-42
NDAU	1	30.6	50.0	307.0	520.0	32.1	69.9	143-146			J	KV	0	50-60-58
NDAX	1	30.6	50.0	323.0	529.0	29.2	66.3	156-160			J	KV	0	58-54-52
LBTT	1	122.6	50.0	392.0	564.0	23.1	64.4	175-182			J	KV	0	52-54-48

PROVA Test Epreuve	NOTE / Remarks / Notes	EN10204/3.1	FORMA Shape / Forma : 1 = <input checked="" type="checkbox"/> 2 = <input type="checkbox"/>
--------------------------	------------------------	-------------	---

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

PROVA Test Epreuve	POS. Item Pos.	QUANTITA' Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
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 OK
NDAU	017	504	1090546	UNION S. 3000 NPT A/SA105N 2	male OK
NDAX	017	504	1090546	UNION S. 3000 NPT A/SA105N 2	female OK
LBTT	018	3000	1094512	HEX. HEAD PLUG NPT A/SA105N 1/2	OK

PC COMPRESSION

DATE RECEIVED APR 13 2007

PO # 508148 1891736

SIGNATURE: HC

APPROVED BY Q.C. INSPECTOR

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official	CAPQ COLLAUDO Chief Inspection DPT Responsable assurance qualité
MATERIAL ACCORDING TO NACE MR0175/ 2003.		DOC. CERT. M.E.G.A. Sottoscrizione

Line 43

APR 26 2006

M.E.G.A.

CLIENTE
Customer
Client

CE FRANKLIN LTD.

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

CERTIFICATE N. 530911
Foglio 3
Sheet 3
Feuille 3
DATA / Date 23/03/06

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

ORDINE
Purchase order
Commande

1464874-OR-2100

COMMESSA 78312
Job N.
Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Cauté	C %	SI %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
CCBA	ASTM A105/02	T9884	0.180 --->	0.240	0.910	0.010 Nb% = 0.001	0.009 0.001	00.06	00.09	0.010	0.003	0.200	0.001	0.033 CEs = 0.3317	0.365
LABR	ASTM A105/02	1T 16363	0.190 --->	0.280	0.920	0.010 Nb% = 0.002	0.010	00.09	00.09	0.014	0.012	0.210	0.001	0.028 CEs = 0.3433	0.384
DTNA	ASTM A105/02	0436103	0.185 --->	0.260	1.130	0.001 B % = 0.0005	0.021	00.11	00.01	0.010	0.000	0.025	0.002	0.038 CEs = 0.3733	0.400
FUCB	ASTM A105/03	03/72293	0.180 --->	0.220	0.940	0.009 Nb% = 0.002	0.012	00.09	00.05	0.010	0.000	0.180	0.017	0.025 CEs = 0.3367	0.375
DXDS	ASTM A105/01	AQ3941	0.220 --->	0.250	0.960	0.004 Nb% = 0.000	0.010	00.07	00.11	0.020	0.000	0.170	0.000	0.025 CEs = 0.380	0.416
DCXX	ASTM A105/01	79160	0.180 --->	0.210	0.870	0.007 Nb% = 0.000	0.011	00.09	00.06	0.010	0.000	0.150	0.000	0.025 CEs = 0.325	0.359

PROVA Test Epreuve	PROVETTA Test specimen / Epreuve			SNERVAMENTO N/mm² ≥ Yield point Limite d'élasticité	ROTTURA N/mm² ≥ Tensile strength Rupture	ALLUNGAMENTO % ≥ Elongation Allongement	CONTRAZIONE % ≥ Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHIACC. Flat. test Aplattiss.	RESILLENZA Impact test / Résilience			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur	UNITÀ MIS. Unit system								TIPO Type	T. °C Test Imp.	VALORE / Value / Données	
CCBA	30.1	25.0	312.0	508.0	30.0	61.7	156-163			J	KV	-5	32-28-26	
LABR	30.6	25.0	297.0	513.0	31.6	68.0	143-156			J	KV	0	46-36-40	
DTNA	30.6	25.0	312.0	531.0	29.3	67.4	149-156			J	KV	0	34-44-36	
FUCB	60.0	35.0	308.6	491.1	33.7	63.8	143-149			J	KV	0	40-42-40	
DXDS	30.6	25.0	358.0	563.0	27.6	60.3	170-180			J	KV	0	62-62-52	
DCXX	30.6	25.0	321.0	543.0	29.6	67.6	149-163			J	KV	0	56-42-44	

PROVA Test Epreuve	NOTE / Remarks / Notes	FORMA Shape / Forme
	EN10204/3.1	1 = <input type="checkbox"/> 2 = <input type="checkbox"/>
CCBA	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.02.04 ISMA*241954 MEGA	
LABR	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.80.05 ISMA*247596 MEGA*	
DTNA	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.390.04 ISMA*247531 MEGA*	
FUCB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.401.05 MEGA/ISMA*529218 MEGA*	
DXDS	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.09.04 EVASI*241963 MEGA	
DCXX	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.37.03 EVASI*209982 MEGA	

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
CCBA	009	100	1092664	45 DEG. ELBOW S. 2000 NPT A/SA105N 1/2	OK
LABR	010	140	1096307	45 DEG. ELBOW S. 2000 NPT A/SA105N 1	OK
DTNA	011	20	1090503	45 DEG. ELBOW S. 2000 NPT A/SA105N 1.1/4	OK
FUCB	012	30	1092550	45 DEG. ELBOW S. 2000 NPT A/SA105N 1.1/2	OK
DXDS	014	450	1095603	TEE S. 2000 NPT A/SA105N 1/4	OK
DCXX	015	400	1094871	TEE S. 2000 NPT A/SA105N 3/8 ✓	OK

PC COMPRESSION

DATE RECEIVED APR 13 2007

NO. 508148 1891736

SIGNATURE: *Hc*

APPROVED BY Q.C. INSPECTOR

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official	CAPO COLLAUDO Chief Inspection DPT Responsible assurance quality
MATERIAL ACCORDING TO NACE MR0175/ 2003.		DOC. INT. M.E.G.A. Luca Martati

57

Canvil: Certificate of Test
MAY 17 2006

Page 1 of 1

CANVIL

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

1122229

Certificate of Test

Part Number: Y3034 Description: 3/8x4 B XS SML NIP 106B ✓
Heat Code: AI17 ✓
Reference No.:
Specification: ASTM A106-99 GRADE B/ ASME SA106 GRADE B
Fitting Trademark: SILCOTUB SA

Chemical Analysis %

Heat No.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	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.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

PC COMPRESSION	
A Division of Mueller Canada, LTD.	
DATE	RECEIVED APR 13 2007
PO #	502148 1891736
SIGNATURE:	HL
APPROVED BY Q.C. INSPECTOR	



ANVIL
INTERNATIONAL, INC.



Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb
P5147	0.19	0.52	0.029	0.014	0.26	0.04	0.02	0.02	0.01	< 0.01	
CE (LONG FORMULA) = 0.29											

Mechanical Properties

Yield Strength		Tensile Strength		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.

PC COMPRESSION	
DATE	RECEIVED APR 13 2007
P.O. #	508148 1891736
SIGNATURE:	HC
APPROVED BY Q.C. INSPECTOR	



**ALBERTA
OIL TOOL**

A **DOVER** COMPANY

SEP 07 2006

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

ITEM 1159021

AICX

MILL TEST REPORT

AOT HEAT CODE **AICX** ✓

PC COMPRESSION	
DATE RECEIVED APR 13 2007	
PO #	508148 1891736
SIGNATURE: HC	
DATE: 25/07/2006	
HEAT NO: 691281	

General Information

Raw Material Manufacturer:	Niagara Lasalle Corp
Description:	3/4" A234 WPB Hex Bar
Specification:	ASTMA234-97/A108-03E1/A29-05,ASMESA234-92A,Gr.WPB

Date: 25/07/2006
Heat No: 691281

Chemical Properties

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	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
Heat Treatment:	Cold Drawn High Stress Relieve	Hardness:	HBN 174
Other Tests:	Mag Test		

Notes:

USED FOR 331537A603 ✓
3/8" x 1/4" XH Smls Swage Nipple
Meets: MEETS ASTM A234-02/ASME SA234-01 GR.WPB558
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

1090626

APR 12 2007

CERTIFIED MILL TEST REPORT

1090626



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All The Time.

LOG NO. 225731 PAGE 2
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

CUSTOMER: CCTF CORPORATION

Date 01/17/06

CUSTOMER'S Order No.: 4875635-00

Bonney Order No. 026251

SHIPPED TO: CCTF CORPORATION

340320

5407 - 53 AVENUE

EDMONTON ALBERTA, T6B 3G2 CANA

ITEM QUANTITY LOT NO.

GRADE OR SPECIFICATION
CHEMICAL ANALYSIS PHYSICAL PROPERTIES MECHANICAL

SA/A105-QT

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION	CHEMICAL ANALYSIS	PHYSICAL PROPERTIES	MECHANICAL
026	1000	3007	7522525	3/8 3M/6M A105 Q&T HXPL T		
				C .160 MN .780 P .007 S .006 SI .230		
				NI .100 CU .060 CR .200 MO .004 V .000		
				CB .020		
				CE (LONG FORMULA) = 0.34		
				BRINELL HARDNESS1: 141 HARDNESS2: 162		
3361V			7522525	3/8 3M/6M A105 Q&T HXPL T		
				C .160 MN .800 P .008 S .006 SI .230		
				NI .010 CU .050 CR .040 MO .010 V .000		
				CB .020		
				CE (LONG FORMULA) = 0.31		
				BRINELL HARDNESS1: 141 HARDNESS2: 150		

PC COMPRESSION

DATE RECEIVED APR 13 2007

Q# 508148 1891736

SIGNATURE: H/L

APPROVED BY G.C. INSPECTION

***** 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.

by

Cris Childers

CMTR: REV 1

QUALITY PROCESS MANAGER

CERTIFIED MILL TEST REPORT



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LOG NO. 225731 PAGE 13

BONNEY FORGE
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(814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906
www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

Date 01/17/06

CUSTOMER'S Order No.: 4875635-00

Bonney Order No. 026251

SHIPPED TO: CCTF CORPORATION

340320

5407 - 53 AVENUE

EDMONTON ALBERTA, T6B 3G2 CANA

ITEM	QUANTITY	LOT NO
------	----------	--------

GRADE OR SPECIFICATION	MATERIAL ANALYSIS
------------------------	-------------------

1. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
2. THE MATERIAL SUPPLIED IDENTIFIED AS A105GT 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 MR0103-2003 AND NACE MR0175-2003.
7. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.

FC COMPRESSION

RECEIVED APR 13 2007

CO. # 508148 189176

SIGNATURE: HC

***** 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.

by

Cris Childers

CMTR: REV 1

QUALITY PROCESS MANAGER

DEC 19 2006

M.E.G.A.

CLIENTE
Customer
Client

CE FRANKLIN LTD.

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

CERTIFICATO N. 535735/106110 1
Certificate N. Sheet
Foglio

DATA / Date 11/12/06

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

ORDINE
Purchase order
Commande

1572029-OR-2100

COMMESSA 79566
Job N.
Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %
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
			----											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	0.381
			----	Nb % = 0.001											
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
			----	Nb % = 0.0002										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										CEs=0.3533	
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										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	Sn % = 0.027									CEs=0.343	

PROVA Test Epreuve	PROVETTA Test specimen / Epreuvevette			SNERVAMENTO N/mm ² ≥ Yield point Limite d'élasticité	ROTTURA N/mm ² ≥ Tensile strength Rupture	ALLUNGAMENTO % ≥ Elongation Allongement	CONTRAZIONE % ≥ Reduction of area Striction	DUREZZA HB Hardness Dureté	PIEGA Bend test Pliage	SCHVACC. Flatt test Aplattiss.	RESILIENZA Impact test / Résilience			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur	UNITÀ MIS. Unit system								TIPO Type	T. °C Test temp	VALGRE / Value / Données	
FRBS	1	30.6	25.0	309.0	531.0	30.2	65.3	149-156			J	KV	0	48-38-40
NBAL	1	30.6	25.0	312.0	533.0	29.2	66.8	155-160			J	KV	0	38-52-48
FUSU	1	60.1	35.0	313.0	538.0	29.4	67.5	156-163			J	KV	-10	48-38-50
LLXF	1	58.0	35.0	300.0	502.0	27.7	75.0	150-155			J	KV	0	280-276-258
FRXX	1	57.8	35.0	346.0	506.4	31.0	74.5	144-149			J	KV	0	154-150-118
LCXC	1	60.1	35.0	292.0	501.0	33.2	71.4	137-140			J	KV	0	48-46-56

PROVA Test Epreuve	NOTE / Remarks / Notes	FORMA Shape / Forme
	EN10204/3.1	1 = Ø 2 = □

FRBS	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.85.04 EVASI*247498 MEGA*
NBAL	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.8596.06 MEGA/ISMA*530980 MEGA*
FUSU	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.426.04 ISMA*247541 MEGA*
LLXF	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.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer 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

DATE RECEIVED APR 13 2007

PO.# 508148 1891736

SIGNATURE: HC

APPROVED BY O.C. INSPECTOR

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Official	CAP. COLLAUDO Chief Inspection DPT Responsable assurance qualité
		DOC. CERT. M.E.G.A. Luca Marcati

M.E.G.A.

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

CLIENTE
Customer
Client

CE FRANKLIN LTD.

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

ORDINE
Purchase order
Commande

1522995-OR-2100

CERTIFICATO N. 537262 FOGLIO 2
Certificate N. Sheet
Certificat N. Feuille

DATA / Date 09/01/07

COMMESSA 78919
Job N.
Confirmation de commande

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Al %	CE %																
<div>PC COMPRESSION</div> <div>DATE RECEIVED APR 13 2007</div> <div>P.O. # S08148 1891736</div> <div>SIGNATURE:</div>																															
PROVA Test Epreuve	PROVETTA Test specimen / Epreuve		SNERVAMENTO N/mm ² Yield point Limite d'élasticité	ROTTURA N/mm ² Tensile strength Rupture	ALLUNGAMENTO % Elongation Allongement	CONTRAZIONE % Reduction of area Striction	DUREZZA HB Hardness Dureté		PIENA Bend test Pliage	SCHIACC. Flat. test Aplattiss.	UNITA MIS. Unit system	TIPO Type	T. °C Test temp	VALORE / Value / Données																	
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longueur																													
PROVA Test Epreuve	NOTE / Remarks / Notes																														
THIS CERTIFICATE INCLUDES N. 2 SHEETS.																															
FORMA Shape / Forme : 1 = <input type="checkbox"/> 2 = <input type="checkbox"/>																															
PROVA Test Epreuve	POS. Item Pos.	QUANTITA' Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description																											
				<p>Dimensional check for 45 and 90 deg elbows-tees-crosses-full and half couplings-caps-square-hexagonal and round plugs-hexagonal and flush bushings according to ASME B.16.11 (Threads according to ANSI/ASME B1.20.1)</p> <p>Outlets: ASME B.31.1 & B.31.3 Seamless swage nipples: BS3799-74 or MSS SP95-86</p> <p>Unions: BS 3799 or MSS-SP-83 Seamless pipe nipples : B36.10-95 or 36.19-85</p> <p>Material according to : ASTM last Edition (2005 Books) ASME II Ed. 2004</p> <p>The chemical and mechanical properties are a true and correct copy of mill test certificate issued by the steel mill, or by the laboratory which has determined it.</p> <p>Material: A182 F304L accord to A182 F304 / A182 F316L accord to A182 F316. Alloy verification carried out by vacuum emission analyzer on base material.</p> <p>Manufacturer approved with certificate n.75/2003/MUC by TUV (certification BODY N.0036) to issue certificate of specific product control in accordance with "PRESSURE EQUIPMENT DIRECTIVE" 97/23/EC (PED) annex 1, paragraph 4.3.</p>																											
NOTE / Remarks / Notes				ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Offices				CAPO COLLAUDO Chief Inspection DPT Responsable assurance qualité																							
MATERIAL ACCORDING TO NACE MR0175/ 2003.								DOC. C. M.E.G.A. Luca Marcati																							

we50

1092007

CERTIFIED MILL TEST REPORT



The Best Value
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LOG NO. 213727 PAGE 4

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

CUSTOMER: CCTF CORPORATION

Date 02/08/05

CUSTOMER'S Order No.: 4872324-00

Bonney Order No. 006569

SHIPPED TO: CCTF CORPORATION

290026

5407 - 53 AVENUE

EDMONTON ALBERTA, T6B 3G2 CANA

ITEM	QUANTITY	LOT NO	THAT OF BONNEY FORGE
			METALLICAL ANALYSIS FOR CHEMICAL ANALYSIS

SA/A105N-02

007	200	55994	7524471	1/4 2000 A105N CROS T					
				C	.190 MN	1.020 P	.013 S	.022 SI	.240
				NI	.030 CU	.140 CR	.050 MD	.010 V	.024
				AL	.001 NB	.001			
				CE(LONG FORMULA) = 0.39					
				T/S 76000 Y/S 48900 EL 35.00 RA 63.00					
				BRINELL HARDNESS1: 153 HARDNESS2: 153					
		56275	7524471	1/4 2000 A105N CROS T					
				C	.180 MN	.980 P	.009 S	.030 SI	.240
				NI	.040 CU	.200 CO	.003 CR	.050 MD	.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					
008	150	56223	7522568	1/8 3000 A105N 90EL T					
				C	.180 MN	.970 P	.012 S	.019 SI	.230
				NI	.097 CU	.280 CR	.140 MD	.019 V	.034
				CB	.008 AL	.008			
				CE(LONG FORMULA) = 0.41					
				T/S 85500 Y/S 59500 EL 32.00 RA 65.00					
				BRINELL HARDNESS1: 159 HARDNESS2: 162					
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 true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks.

MO. # 508148 1891736

Cris Childers

CMTR: REV 1

SIGNATURE: *HC*

QUALITY PROCESS MANAGER

APPROVED BY Q.C. INSPECTOR

APR 21 2006


ANVIL
INTERNATIONAL, INC.

 Simcoe, Ontario
Edmonton, Alberta
Montreal, Quebec

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.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	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 Strength		Tensile Strength		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.

PC COMPRESSION	
DATE	RECEIVED APR 13 2007
PO. #	508148 1891736
SIGNATURE:	<i>HL</i>
APPROVED BY Q.C. INSPECTOR	



Phoenix * Capitol * Camco
Cap Products

119708

Certified Mill Test Report

Commanding a Higher Standardsm

3/6/2007

Customer
CE FRANKLIN LTD

P.O. 1750350-OR-2100

Heat No 612507
Heat Code Q5F ✓
Phoenix Order # 459293

BOX 6776 STN "D"
CALGARY, AB T2P2E8

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

Part Number
15110303

Description
1/4 X 1-1/2" XHSM L BK STL NIPL ✓

Chemical Properties

C	Mn	P	S	Si	Cu	Cr	Ni	C Eq. Long	
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								

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.

CapProducts. Ltd.

25 Winnipeg St

Vancouver, BC V6M 1L0

PC COMPRESSION
DATE RECEIVED APR 13 2007
P.O. # 508148 1891736
SIGNATURE: HE
APPROVED BY O.C. INSPECTOR

NOV 25 2002

109289

CERTIFICATE NO. 3310/2002 DATE 8/10/2002 SHEET 1 #3

COM 1532/2002 30/07/2002

RD. CA170620CT

CUSTOMER R.F.F. (CINARA) LTD

SINVERT



SpA
FACORDERIA FORGIATA / FORGED STEEL FITTINGS
Località Piacentino - 20133 CARPI (MO) Piacentino - PC
Tel. 0522/85987 - Fax 0522/85983

CHERO PIPING

TEST CERTIFICATE ACCORDING TO EN 10204 3.1b - EXTENT OF MATERIAL DELIVERY

POS.	TEST NO.	HEAT CODE	QTY	DESCRIPTION	P.Q. SPEC. / REQ.	ENCLOSURES / NOTES
990	19485/ 2001	FC-H	150	90 DEG ELBOW NPT 1.1/2" S/3000 A105	11M 007 201	1/4" HEX PLUG HEAT CODE: B
990	19482/ 2002	E-2H	450	90 DEG ELBOW NPT 2" S/3000 A105	11M 008 201	
990	20021/ 2002	FC-H	60	90 DEG ELBOW SV 1.1/2" S/3000 A105	11M 007 202	
990	20158/ 2002	E-2H	75	90 DEG ELBOW SV 2" S/3000 A105	11M 008 202	
990	18114/ 2001	E-2H	1500	HEX HEAD PLUG NPT S/5000 A105 1/4"	11M 001 200	
990	19178/ 2001	FC-H	500	HEX HEAD PLUG NPT S/5000 A105 3/8"	11M 002 200	
990	18114/ 2001	FC-H	12000	HEX HEAD PLUG NPT S/5000 A105 1/2"	11M 003 200	
1000	19429/ 2001	FC-H	4000	HEX HEAD PLUG NPT S/5000 A105 1"	11M 005 200	
1010	19674/ 2002	E-2H	150	HEX HEAD PLUG NPT S/5000 A105 1 1/2"	11M 007 200	
1030	14471/ 1997	FC-T	125	HEX HEAD PLUG NPT S/5000 A105 3"	11M 019 200	
1040	19485/ 2001	FC-H	20	HEX HEAD PLUG NPT S/5000 A105 4"	11M 011 200	1/4" HEX PLUG HEAT CODE: B
1050	17559/ 2000	FC-H	100	CAP NPT S/3000 A105 2"	11M 008 201	
1050	17042/ 2001	FC-H	12	CAP NPT S/3000 A105 3"	11M 010 201	
1100	18944/ 2001	FC-H	25	HEX BUSH NPT S/5000 A105 2"X1 1/4"	11M 035 200	
1100	18944/ 2001	FC-H	25	HEX BUSH NPT S/5000 A105 2"X3/4"	11M 041 200	
1130	18514/ 2002	FC-H	35	HEX BUSH NPT S/5000 A105 2"X3/4"	11M 041 200	
1130	18514/ 2002	FC-H	25	HEX BUSH NPT S/5000 A105 3"X1"	11M 057 200	
1170	14471/ 1997	FC-T	5	HEX BUSH NPT S/5000 A105 4"X1"	11M 056 200	
1200	19429/ 2001	FC-H	15	HEX BUSH NPT S/5000 A105 4"X3"	11M 071 200	
1220	19429/ 2001	FC-H	10	FULL COUPLING NPT 2" S/3000 LFE	12M 008 201	
1230	20124/ 2002	FC-H	130	UNION F/F NPT 1" S/3000 LFE	12M 007 201	1/4" HEX PLUG HEAT CODE: B
1230	18154/ 2000	FC-H	12	UNION F/F NPT 1.1/2" S/3000 LFE	12M 007 201	
1240	14412/ 1997	FC-H	40	UNION F/F NPT 1.1/2" S/3000 LFE	12M 008 201	
1250	19333/ 2001	FC-H	100	TEE NPT S/3000 LFE 1"	12M 005 201	
1250	19374/ 2001	FC-H	10	TEE NPT S/3000 LFE 1 1/2"	12M 007 201	
1250	19411/ 2001	FC-H	30	TEE NPT S/3000 LFE 2"	12M 008 201	
1250	18082/ 2000	FC-H	10	TEE SV S/3000 LFE 1 1/2"	12M 007 202	
1250	18357/ 2000	FC-H	100	90 DEG ELBOW NPT 1/2" S/3000 LFE	12M 005 201	
1250	19559/ 2001	FC-H	200	90 DEG ELBOW NPT 1" S/3000 LFE	12M 005 201	
1250	18594/ 2001	FC-H	40	90 DEG ELBOW NPT 1.1/2" S/3000 LFE	12M 007 201	

RECEIVED APR 13 2007
NO. 508148 1841736
SIGNATURE: HC

THIRD PARTS CUSTOMER INSPECTOR QUALITY CONTROL

NOTES

THIS IS TO CERTIFY THAT MATERIAL REQUIREMENTS ARE ACCORDING TO
ORDER SPECIFICATIONS
MATERIAL ACC. TO HAVE NR. 01.75 ED. 95
UNLESS DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH

Attn: DASHA - 200

Line 1

07

2" SCH80 SMLS PIPE HEAT #: 625932 HEAT CODE: 2-CB



Contract No.: 06HGC09545
L/C NO. 6FAHDS-00637
Name of Customer: CE FRANKLIN
P.O. NO.: PO.1590105-OS-4900-A
DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE
TOTAL: 1735PIECES, 47BUNDLES, 113.499MT, 34700FT
HENG YANG VALIN STEEL TUBE CO., LTD
MILL TEST REPORT
Date: NOV. 20, 2006 (Revised date: Feb. 16, 2007)
Add: 10 Dalixincun, Hengyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942
Cable: 6993
P.C. 421001

SPEC: ASTM A53B-2002/A106B-2002A, ASME SA53B/SA106B-2004, API 5L B/X42, PSL1-2004, NACE MR-0175-1999										CERTIFICATE NO: 0304056									
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FBET	QUANTITY (MT)	ACTUAL WEIGHT (MT)	CHEMICAL COMPOSITION %									
										C	SI	Mn	P	S	Cu	Ni	Cr	Mo	V
1	96Y401318	0614318	B/X42	2" x 0.154" x 20FT	5	275	5500	9.131	N/A	0.19	0.51	0.88	0.012	0.007	0.08	0.04	0.01	0.01	0.001
2	96Y200802	0625532	B/X42	2" x 0.218" x 20FT	11	668	13360	30.487	N/A	0.20	0.46	0.86	0.017	0.005	0.07	0.03	0.02	0.02	0.001
3	96Y400610	0625903	B/X42	3" x 0.216" x 20FT	7	259	5180	17.836	N/A	0.18	0.47	0.87	0.010	0.005	0.08	0.03	0.04	0.02	0.002
4	96Y101108	0626023	B/X42	3" x 0.300" x 20FT	4	96	1920	8.936	N/A	0.19	0.48	0.84	0.013	0.006	0.08	0.03	0.03	0.01	0.005
5	96Y101004	0626019	B/X42	3" x 0.300" x 20FT	4	96	1920	8.936	N/A	0.20	0.47	0.84	0.013	0.005	0.08	0.03	0.03	0.01	0.005
6	96Y301204	0626017	B/X42	4" x 0.237" x 20FT	9	216	4320	21.163	N/A	0.19	0.46	0.86	0.013	0.006	0.08	0.04	0.03	0.02	0.002
7	96Y301204	0626017	B/X42	4" x 0.337" x 20FT	2	38	760	5.171	N/A	0.19	0.49	0.89	0.015	0.005	0.07	0.03	0.03	0.02	0.002
8	96Y301204	0614194	B/X42	4" x 0.337" x 20FT	2	38	760	5.171	N/A	0.18	0.48	0.87	0.015	0.005	0.08	0.03	0.03	0.01	0.002
9	96Y301204	0626017	B/X42	4" x 0.337" x 20FT	3	49	980	6.668	N/A	0.19	0.49	0.88	0.015	0.005	0.07	0.04	0.04	0.02	0.002
NO.	CONDITION	NONDESTRUCTIVE TEST				HYDROSTATIC TEST													
		EDDY CURRENT TEST	ULTRASONIC TEST	IMPACT	AT (J)	HARDNESS	TEST	FLATTEN	BEND										
1	HOT-ROLLED	OK	N/A	N/A	N/A	HRC 8.5	3000 PSI	N/A	OK										
2	HOT-ROLLED	OK	N/A	N/A	N/A	HRC 6.5	3000 PSI	OK	N/A										
3	HOT-ROLLED	OK	N/A	N/A	N/A	HRC 6.5	3000 PSI	OK	N/A										
4	HOT-ROLLED	OK	N/A	N/A	N/A	HRC 6.5	3000 PSI	OK	N/A										
5	HOT-ROLLED	OK	N/A	N/A	N/A	HRC 7	3000 PSI	OK	N/A										
6	HOT-ROLLED	OK	N/A	N/A	N/A	HRC 6.0	3000 PSI	OK	N/A										
7	HOT-ROLLED	OK	N/A	N/A	N/A	HRC 6.0	3000 PSI	OK	N/A										
8	HOT-ROLLED	OK	N/A	N/A	N/A	HRC 6.0	3000 PSI	OK	N/A										
9	HOT-ROLLED	OK	N/A	N/A	N/A	HRC 6.0	3000 PSI	OK	N/A										

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 5049 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 CONFORM TO ANSI B36.10, A-530-2003/A-530M-2003

PC COMPLETED
DATE RECEIVED
P.O. # 508 295

SIGNATURE HC

APPROVED BY INSPECTOR

Contract No.: 06HGC09541

L/C NO. 6FAHDS-00636

Name of Customer: CE FRANKLIN

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

DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE

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

HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST REPORT

Date: DEC. 05, 2006

Page: 2/6

Add: 10 Dalixincun, Hengyang City, Hunan, China

Tel and Fax: +86 734 8873739 8872942

Cable: 6993

P.C. 421001

1" SCH 80 SMLS PIPE Heat #: 6311646-1 Heat Code: 1-KV

SPEC: ASTM A53B-2002/A106B-2002a, ASME SA53B/SA106B-2004, API 5LB, PSL1-2004, NACE MR-0175-1999												CERTIFICATE NO: 0504056									
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEET	QUANTITY (MT)	ACTUAL WEIGHT(MT)												
7	56Y101105	06210369-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A												
	56Y101109	06210369-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A												
	56Y101138	06311646-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A												
	56Y201147	06210369-1	B	1"X0.179"X20FT	1	126	2520	2.487	N/A												
	56Y301132	06210369-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A												
	56Y301154	06311646-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A												
DELIVERY CONDITION				NONDESTRUCTIVE TEST																	
EDDY CURRENT TEST				ULTRASONIC TEST																	
7	COLD-DRAWN(780°C)			OK	N/A																
	COLD-DRAWN(780°C)			OK	N/A																
	COLD-DRAWN(780°C)			OK	N/A																
	COLD-DRAWN(780°C)			OK	N/A																
	COLD-DRAWN(780°C)			OK	N/A																
	COLD-DRAWN(780°C)			OK	N/A																
	COLD-DRAWN(780°C)			OK	N/A																
TENSILE STRENGTH				σ _b (PSI)		YIELD STRENGTH		δ (%)		ELONGATION		Ak (J) IMPACT		HARDNESS		HYDROSTATIC TEST		FLATTEN TEST		BEND TEST	
7	71775			47125		47125		40.0		40.0		N/A		HRC 3.5		2800 PSI		N/A		OK	
	70325			47125		47125		42.0		42.0		N/A		HRC 4		2800 PSI		N/A		OK	
	68150			43500		43500		46.0		46.0		N/A		HRC 2.5		2800 PSI		N/A		OK	
	70325			47125		47125		40.0		40.0		N/A		HRC 4		2800 PSI		N/A		OK	
	69600			44950		44950		38.0		38.0		N/A		HRC 2.5		2800 PSI		N/A		OK	
	71050			47850		47850		40.5		40.5		N/A		HRC 3.5		2800 PSI		N/A		OK	

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 CONFIRM TO ANSI B36.10, A530/A530M

PC COMPLIANCE MANAGER: *[Signature]*

DATE RECEIVED MAR 08 2007

P.O. # 5085600

SIGNATURE: *[Signature]*

APPROVED BY Q.C. INSPECTOR

Contract No.: 06HGC08487-2

L/C NO. 6FAHD5-00631

Name of Customer: CE FRANKLIN

P.O.NO.: PO.1387967-OR-2100-A

DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE

TOTAL: 2318PIECES, 19BUNDLES, 45.850MT, 46360FT

Date: DEC. 20, 2006

Page: 2/3

HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST REPORT

Add: 10 Dalixincun, Hengyang City, Hunan, China

Tel and Fax: +86 734 8873739 8872942

Cable: 6993

P.C. 421001

1" SCH80 SMLS PIPE HEAT#: 06211729-1 HEAT CODE: 1-KX

SPEC: ASTM A53B-2002/A106B-2002a, ASME SA53B/SA106B-2004, API 5LB, PSL1-2004, NACE MR-0175-1999													CERTIFICATE NO: 0504056				
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEET	QUANTITY (MT)	ACTUAL WEIGHT(MT)								
6	562100374	06211149-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A								
	562100653	06211729-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A								
	562100656	06211729-1	B	1"X0.179"X20FT	5	540	10800	10.682	N/A								
	562200637	06211729-1	B	1"X0.179"X20FT	5	635	12700	12.56	N/A								
	562200647	06211729-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A								
NO.	DELIVERY CONDITION	NONDESTRUCTIVE TEST				CHEMICAL COMPOSITION %											
		EDDY CURRENT TEST	ULTRASONIC TEST	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	CE			
6	COLD-DRAWN(780°C)	OK	N/A	0.19	0.24	0.51	0.010	0.008	0.02	0.01	0.02	0.00	0.000	0.281			
	COLD-DRAWN(780°C)	OK	N/A	0.20	0.24	0.44	0.015	0.015	0.02	0.01	0.02	0.00	0.000	0.279			
	COLD-DRAWN(780°C)	OK	N/A	0.20	0.24	0.44	0.015	0.015	0.02	0.01	0.02	0.00	0.000	0.279			
	COLD-DRAWN(780°C)	OK	N/A	0.20	0.24	0.44	0.015	0.015	0.02	0.01	0.02	0.00	0.000	0.279			
	COLD-DRAWN(780°C)	OK	N/A	0.20	0.24	0.44	0.015	0.015	0.02	0.01	0.02	0.00	0.000	0.279			
NO.	TENSILE STRENGTH	σ _b (PSI)	σ _s (PSI)	δ (%)	AK (J)	IMPACT	HARDNESS	HYDROSTATIC TEST			FLATTEN TEST		BEND TEST				
6	71050		46400	42.0	N/A	N/A	HRC 2.5	2800 PSI			N/A		OK				
	69600		44950	42.5	N/A	N/A	HRC 3	2800 PSI			N/A		OK				
	70325		45675	42.0	N/A	N/A	HRC 3.5	2800 PSI			N/A		OK				
	70325		45675	43.0	N/A	N/A	HRC 4	2800 PSI			N/A		OK				
	68875		44950	43.0	N/A	N/A	HRC 3	2800 PSI			N/A		OK				

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

PC COMPRESSION
QUALITY MANAGER:

DATE RECEIVED MAR 28 2007

P.O. # 508159

SIGNATURE: HC

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

DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE
TOTAL: 2031PIECES, 16BUNDLES, 40.167MT, 40620FT

HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST REPORT

Date: DEC. 05, 2006
Page: 2/6

Add: 10 Dalixincun, Hengyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942
Cable: 6993
P.C. 421001

1" SCH80 SMLS PIPE HEAT#: 6311646-1 HEAT CODE: 1-KY

SPEC: ASTM A53B-2002/A106B-2002a, ASME SA53B/SA106B-2004, API 5LB, PSL1-2004, NACE MR-0175-1999											CERTIFICATE NO: 0504056												
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEET	QUANTITY (MT)	ACTUAL WEIGHT(MT)														
7	56Y101105	06210369-1	B	1"*.179"*.20FT	3	381	7620	7.536	N/A														
	56Y101109	06210369-1	B	1"*.179"*.20FT	3	381	7620	7.536	N/A														
	56Y101138	06311646-1	B	1"*.179"*.20FT	3	381	7620	7.536	N/A														
	56Y201147	06210369-1	B	1"*.179"*.20FT	1	126	2520	2.487	N/A														
	56Y301132	06210369-1	B	1"*.179"*.20FT	3	381	7620	7.536	N/A														
	56Y301154	06311646-1	B	1"*.179"*.20FT	3	381	7620	7.536	N/A														
DELIVERY CONDITION				NONDESTRUCTIVE TEST								CHEMICAL COMPOSITION %											
				EDDY CURRENT TEST		ULTRASONIC TEST		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	CE					
				OK		N/A		0.21	0.23	0.43	0.011	0.023	0.04	0.01	0.02	0.01	0.000	0.291					
7	COLD-DRAWN(780°C)			OK		N/A		0.21	0.23	0.43	0.011	0.023	0.04	0.01	0.02	0.01	0.000	0.291					
	COLD-DRAWN(780°C)			OK		N/A		0.21	0.23	0.43	0.011	0.023	0.04	0.01	0.02	0.01	0.000	0.291					
	COLD-DRAWN(780°C)			OK		N/A		0.22	0.22	0.49	0.016	0.020	0.02	0.01	0.03	0.01	0.001	0.312					
	COLD-DRAWN(780°C)			OK		N/A		0.21	0.23	0.43	0.011	0.023	0.04	0.01	0.02	0.01	0.000	0.291					
	COLD-DRAWN(780°C)			OK		N/A		0.21	0.23	0.43	0.011	0.023	0.04	0.01	0.02	0.01	0.000	0.291					
	COLD-DRAWN(780°C)			OK		N/A		0.22	0.22	0.49	0.016	0.020	0.02	0.01	0.03	0.01	0.001	0.312					
TENSILE STRENGTH				σ b (PSI)		σ s (PSI)		δ (%)		ELONGATION		IMPACT		AK (J)		HARDNESS		HYDROSTATIC TEST		FLATTEN TEST		BEND TEST	
7	71775			47125		47125		40.0				N/A		N/A		HRC 3.5		2800 PSI		N/A		OK	
	70325			47125		47125		42.0				N/A		N/A		HRC 4		2800 PSI		N/A		OK	
	68150			43500		43500		46.0				N/A		N/A		HRC 2.5		2800 PSI		N/A		OK	
	70325			47125		47125		40.0				N/A		N/A		HRC 4		2800 PSI		N/A		OK	
	69600			44950		44950		38.0				N/A		N/A		HRC 2.5		2800 PSI		N/A		OK	
	71050			47850		47850		40.5				N/A		N/A		HRC 3.5		2800 PSI		N/A		OK	

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 COMPRESSION

QUALITY MANAGER:

DATE RECEIVED APR 04 2007

508255-00 IN

SIGNATURE

APPROVED BY O.C. INSPECTOR

Line 2

1" SCH80 SMLS PIPE HEAT #: 6210369-1 HEAT CODE: 1-KZ

Contract No.: 06HGC09541
L/C NO. 6FAHD5-00636
Name of Customer: CE FRANKLIN
P.O.NO.: PO.1587907-OR-2100-A

HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST REPORT

Add: 10 Dalixincun, Hengyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942
Cable: 6993
P.C. 421001

DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE
TOTAL: 2031PIECES, 16BUNDLES, 40.167MT, 40620FT

Date: DEC. 05, 2006
Page: 2/6

SPEC: ASTM A53B-2002/A106B-2002a, ASME SA53B/SA106B-2004, API 5LB, PSL1-2004, NACE MR-0175-1999										CERTIFICATE NO: 0504056								
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEET	QUANTITY (MT)	ACTUAL WEIGHT(MT)									
7	56Y101105	06210369-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A									
	56Y101109	06210369-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A									
	56Y101138	06311646-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A									
	56Y201147	06210369-1	B	1"X0.179"X20FT	1	126	2520	2.487	N/A									
	56Y301132	06210369-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A									
	56Y301154	06311646-1	B	1"X0.179"X20FT	3	381	7620	7.536	N/A									
DELIVERY CONDITION				NONDESTRUCTIVE TEST														
NO.	CONDITION			EDDY CURRENT TEST	ULTRASONIC TEST	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	CE		
7	COLD-DRAWN(780°C)			OK	N/A	0.21	0.23	0.43	0.011	0.023	0.04	0.01	0.02	0.01	0.000	0.291		
	COLD-DRAWN(780°C)			OK	N/A	0.21	0.23	0.43	0.011	0.023	0.04	0.01	0.02	0.01	0.000	0.291		
	COLD-DRAWN(780°C)			OK	N/A	0.22	0.22	0.49	0.016	0.020	0.02	0.01	0.03	0.01	0.001	0.312		
	COLD-DRAWN(780°C)			OK	N/A	0.21	0.23	0.43	0.011	0.023	0.04	0.01	0.02	0.01	0.000	0.291		
	COLD-DRAWN(780°C)			OK	N/A	0.21	0.23	0.43	0.011	0.023	0.04	0.01	0.02	0.01	0.000	0.291		
	COLD-DRAWN(780°C)			OK	N/A	0.22	0.22	0.49	0.016	0.020	0.02	0.01	0.03	0.01	0.001	0.312		
TENSILE STRENGTH				σ _s (PSI)	δ (%)		Ak (J)		HARDNESS		HYDROSTATIC TEST		FLATTEN TEST		BEND TEST			
7	71775			47125	40.0		N/A		HRC 3.5		2800 PSI		N/A		OK			
	70325			47125	42.0		N/A		HRC 4		2800 PSI		N/A		OK			
	68150			43500	46.0		N/A		HRC 2.5		2800 PSI		N/A		OK			
	70325			47125	40.0		N/A		HRC 4		2800 PSI		N/A		OK			
	69600			44950	38.0		N/A		HRC 2.5		2800 PSI		N/A		OK			
	71050			47850	40.5		N/A		HRC 3.5		2800 PSI		N/A		OK			

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

DATE RECEIVED APR 1 2007
P.O. # 508295 INV
SIGNATURE HC
APPROVED BY O.C. INSPECTOR

Contract No.: 06HGC06324

L/C NO. 6FAHD5-00415

Name of Customer: CE FRANKLIN

P.O. NO.: PO.1521057-OR-2100-A

DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE

TOTAL: 1343PIECES, 2BUNDLES, 15.392MT, 26860FT

OCT 02 2006

HENGYANG VALIN STEEL TUBE CO., LTD

MILL TEST REPORT

Date: AUG. 23, 2006

Page: 1/6

Add: 10 Dalixincun, Hengyang City, Hunan, China

Tel and Fax: +86 734 8873739 8872942

Cable: 6993

P.C. 421001

1/2" SCH 80 SMLS PIPE HEAT # 6106555-1 HEAT CODE: 05-M

SPEC: ASTM A53B-2002/A106B-2002a, ASME SA53B/SA106B-2004, API 5LB, PSL1-2004, NACE MR-0175-1999															CERTIFICATE NO: 0504056		
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEET	QUANTITY (MT)	ACTUAL WEIGHT(MT)								
1	567200485	06106557-1	B	1/2" *0.109" *20FT	1	110	2200	0.848	N/A								
2	568100368	06106555-1	B	1/2" *0.147" *20FT	3	550	11000	5.438	N/A								
3	568100308	06106558-1	B	3/4" *0.113" *20FT	1	114	2280	1.179	N/A								
4	568100375	06106555-1	B	3/4" *0.154" *20FT	3	406	8120	5.45	N/A								
5	568100664	06107605-1	B	1" *0.133" *20FT	1	163	3260	2.484	N/A								
NONDESTRUCTIVE TEST										CHEMICAL COMPOSITION %							
DELIVERY CONDITION		EDDY CURRENT TEST	ULTRASONIC TEST	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	AL	CE		
1	COLD-DRAWN(780°C)	OK	N/A	0.21	0.24	0.47	0.019	0.018	0.03	0.01	0.05	0.00	0.000	0.000	0.301		
2	COLD-DRAWN(780°C)	OK	N/A	0.21	0.26	0.48	0.017	0.021	0.03	0.01	0.03	0.00	0.000	0.000	0.299		
3	COLD-DRAWN(780°C)	OK	N/A	0.20	0.26	0.47	0.018	0.022	0.05	0.02	0.03	0.01	0.000	0.000	0.291		
4	COLD-DRAWN(780°C)	OK	N/A	0.21	0.26	0.48	0.017	0.021	0.03	0.01	0.03	0.00	0.000	0.000	0.299		
5	COLD-DRAWN(780°C)	OK	N/A	0.21	0.21	0.46	0.016	0.022	0.03	0.01	0.03	0.00	0.000	0.000	0.295		
TENSILE STRENGTH		YIELD STRENGTH	δ (%) ELONGATION		Ak (J) IMPACT		HARDNESS		HYDROSTATIC TEST			FLATTEN TEST		BEND TEST			
1	66700	43500	35.0		N/A		HRC 3.5		1000 PSI			N/A		OK			
2	68150	44225	43.0		N/A		HRC 3.5		1000 PSI			N/A		OK			
3	69600	44950	41.0		N/A		HRC 4.0		1450 PSI			N/A		OK			
4	69600	44950	44.0		N/A		HRC 4.0		1450 PSI			N/A		OK			
5	68875	44950	43.0		N/A		HRC 4.5		1450 PSI			N/A		OK			

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 CONFIRM TO ANSI B36.10

QUALITY MANAGER:

[Signature]

PC COMPRESSION
RECEIVED MAR 08 2007
DATE
P.O. # 508056-00 JMW
SIGNATURE: <i>[Signature]</i>
APPROVED BY Q.C. INSPECTOR

57



M. A. Stewart & Sons Ltd.

VALVES AND FITTINGS

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.

2nd HC: 0906


RANDY K. LONG
EDMONTON BRANCH MANAGER

PC COMPRESSION	
DATE	RECEIVED MAR 22 2007
P.O. #	508125-00 IM
SIGNATURE:	HC
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 ✓

PRESSURE TESTS

SWING CHECK.

Hydrostatic Shell Test

1500 PSI

0.5 MINUTES

Hydrostatic Seat Test

900 PSI

0.5 MINUTES

MATERIAL TEST REPORTS

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

PART DESCRIPTION

Body
Cover
Clapper/Arm

MATERIAL SPECIFICATION

ASTM A395 DUCTILE IRON
ASTM A395 DUCTILE IRON
ASTM A351 CF8M Stainless Steel

Regards,

M. Wanko

Quality Control Representative
Dresser Flow Control



PC COMPRESSION	
DATE	RECEIVED MAR 26 2007
P.O. #	508161-01 Inv
SIGNATURE:	HC
APPROVED BY Q.C. INSPECTOR	



M. A. Stewart & Sons Ltd.

VALVES AND FITTINGS

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 WITH ALL PUBLISHED SPECIFICATIONS

B-2

REGARDS,
M. A. STEWART & SONS LTD.

[Signature]
RANDY K. LONG
EDMONTON BRANCH MANAGER

1" HC: 1206, 0906

PC COMPRESSION	
DATE	RECEIVED MAR 22 2007
P.O. #	508125-00 <i>IN</i>
SIGNATURE:	<i>HC</i>
APPROVED BY Q.C. INSPECTOR	



M. A. Stewart & Sons Ltd.

VALVES AND FITTINGS

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 WITH ALL PUBLISHED SPECIFICATIONS

G-2

REGARDS,
M. A. STEWART & SONS LTD.


RANDY K. LONG
EDMONTON BRANCH MANAGER

1" HC: 1006, 0906.

PC COMPRESSION RECEIVED MAR 20 2007	
DATE	
P.O. #	508091 /nv
SIGNATURE:	ST
APPROVED BY C.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

Wheatley
1" (DI) THREADED END 2000# PSI WORKING PRESSURE ✓

PRESSURE TESTS

Swing Check

Hydrostatic Shell Test	3000 PSI	0.5 MINUTES
Hydrostatic Seat Test	1800 PSI	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,

M. Woko
Quality Control Representative
Dresser Flow Control



PC COMPRESSION	
RECEIVED MAR 26 2007	
DATE	
P.O. #	508161-01 Inv.
SIGNATURE:	HC.
APPROVED BY Q.C. INSPECTOR	



M. A. Stewart & Sons Ltd.

VALVES AND FITTINGS


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

Q-2 BALL VALVES.

REGARDS,
M. A. STEWART & SONS LTD.


RANDY K. LONG
EDMONTON BRANCH MANAGER

1" HEAT CODES: 0606, 0906, 0506, 0206.

1/2" HEAT CODES: 0506, 0206, 1205, 0606.

PC COMPRESSION	
DATE	RECEIVED FEB 09 2007
P.O. #	507547-00 <i>FW</i>
SIGNATURE:	<i>HC</i>
APPROVED BY Q.C. INSPECTOR	



Date: November 27, 2003

SALES ORDER #: 49153

CUSTOMER:

CE Franklin Ltd.

DFC FIGURE #: 820-503027-131

PURCHASE ORDER #:

984933-OR-2100

SKU #:

1405077

HEAT
Stamped - 696181
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

WHEATLEY
1/2" (WCC) THREADED END 2160# WORKING PRESSURE

SWING CHECK VALVE

PRESSURE TESTS

Hydrostatic Shell Test

3250 PSI

0.5 MINUTES

Hydrostatic Seat Test

2400 PSI

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 A216 WCC Carbon Steel
ASTM A216 WCC Carbon Steel
ASTM A351 CF8M Stainless Steel

Regards,

K. Ziegler
Quality Control Representative
Dresser Flow Control

FC COMPLIANCE	
DATE	RECEIVED APR 04 2007
PO #	508246
SIGNATURE:	<i>HC</i>
APPROVED BY Q.C. INSPECTOR	



LaSalle Steel Co.
1412 150th Street
Hammond IN 46327-1799

CERTIFICATION

CERTIFICATE	Rev
H091478	2
DATE	05/02/06
PAGE	1

S A M CASTLE & CO. H 6501 BINGLE RD I HOUSTON TX 77092 P USA T O	PURCHASE ORDER 21-737741
	ORDER 507812-1
	CUSTOMER ITEM
	ITEM 4112501323T4B
	GRADE 12L14
SHAPE Hexagon	
SIZE 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: Spec/Rev: A108-03E1 Spec/Rev: A29-05

HEAT		GRAIN		SOURCE / MELTED				CAST		REDUCTION RATIO		DI	
37192		COARSE		Acinder Steel (ARGENTINA)				STRAND		15.0:1			
C	MIN	P	S	SI	NI	CR	MO	CU	AL	V			
0.07	1.08	.055	.300	0.010	0.04	0.05	.010	.150	.004	.002			
N		TE		AS		PS		SE		SI		S	
.007		N/A		N/A		.240		N/A		N/A		N/A	
JOB		TENSILE		2% YIELD		ELONG		R OF A		HARDNESS		82% YIELD	
HR52724		70,250 PSI		67,010 PSI		17.00		51.40		HBN = 137			
LOT		JOB		WEIGHT (LBS)		PIECES		LOT		JOB		WEIGHT (LBS)	
2429652		HR52724		4,910		73							

HEAT 37192 MELTED ARGENTINA MFG. USA NAFTA = YES

AW MTL# 05-0012-063
 HEAT# 37192 1/4" = C700
 INSP J. Martinez 7-13-06

PC COMPRESSION
DATE RECEIVED MAR 15 2007
P.O. # 508076 INV
SIGNATURE Hc
APPROVED 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 amended, 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 temperature during processing or while in our possession. No weld repairs performed on the above material.

CERTIFICATE OF TEST

By:

Walter P. Kretzler

Walter P. Kretzler - Director of Q.A./Chief Metallurgist



M. A. Stewart & Sons Ltd.

VALVES AND FITTINGS

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 WITH ALL PUBLISHED SPECIFICATIONS

G-2

REGARDS,
M. A. STEWART & SONS LTD.

3/8" HC: 0906, 1006


RANDY K. LONG
EDMONTON BRANCH MANAGER

PC COMPRESSION	
DATE	RECEIVED MAR 22 2007
P.O. #	508125-00 JAW
SIGNATURE:	HC
APPROVED BY Q.C. INSPECTOR	

CERTIFICATE OF COMPLIANCE

TYCO SALES ORDER: 3079308-00

CUSTOMER: PC Compression Inc.

CUSTOMER PURCHASE ORDER: 506677-00

PRODUCT DESCRIPTION: H5RDC-2 and H5RDC-22

We hereby certify that the valve(s) furnished on the aforementioned order are in accordance with standard materials, manufacturing, production and test specifications, and meet the requirements of the purchase order for which they are required.

Supplied by Tyco Flow Control
ISO 9001-2000

RECEIVED JUL 10 2006	
PC COMPRESSION	
DATE	RECEIVED JUL 10 2006
P.O. #	506677-00 IN
SIGNATURE:	HC.
APPROVED BY Q.C. INSPECTOR	

John Buisman per _____

John Buisman
Operations Manager
Tyco Flow Control



Certificate of Test

Material Test Report Data - Certificate of Test

06/22/2006

AGS GROUP INC
4144 78 AVENUE

EDMONTON, AB T6B 3M8 CANADA

DAN-LOC Order Number: 404701

Customer I/O Number: 0110765

Item	Qty	DAN-LOC Heat Code	Product	Size	Mil Heat Code	Standard
1	200	EJ506 E	B7MATS	1/2" X 2 1/4" FF	590381	ASTM A193 98
2	500	EJ806 C	B7MATS	1/2" X 3" FF	590381	ASTM A193 98
3	50	CBD06 G	B7MATS	5/8" X 2-3/4" FF	590510	ASTM A193 98
5	875	EJ806 G	B7MATS	5/8" X 5 1/4" FF	590519	ASTM A193 98
6	75	DX06 M	B7MATS	7/8" X 4-1/4" FF	590508	ASTM A193 98
9	1000	ESX06 C	B7MATS	7/8" X 5 1/4" FF	590580	ASTM A193 98

Item	C	MN	P	S	SI	CR	NI	MO	CU	TI	V	B	CB	AL	Other	Macro
1	0.41	0.83	.010	.019	0.19	0.95	0.22	.22	.12	0	0	0	0	.028	-	OK
2	0.41	0.93	.010	.018	0.19	0.95	0.22	.22	.12	0	0	0	0	.028	-	OK
3	0.40	0.90	.017	.010	0.26	0.95	0.06	0.18	0.08	0	0	0	0	.028	-	OK
5	0.42	0.82	.011	.024	0.17	0.97	0.21	.21	.18	0	0	0	0	.027	-	OK
6	0.39	0.94	.017	.018	0.20	0.98	0.22	.22	.05	0	0	0	0	.026	-	OK
9	0.41	0.94	.011	.016	.020	0.98	0.23	.22	.11	0	0	0	0	.027	-	OK

Charpy Test = Impact V-Notch

Item	Yield 0.2% Offset	Tensile	% Elong	% RA	Hardness	Actual Hardness	Temp (F)	Spcm #1	Spcm #2	Spcm #3	Temp (F)	Hardness	Proof Load (lbf)
1	83225	102455	22.0	64.0	HRB	96	-	-	-	-	-	-	-
2	88655	104825	24.0	66.0	HRB	90	-	-	-	-	-	-	-
3	81465	101830	24.0	68.0	HRB	97	-	-	-	-	-	-	-
5	104700	118655	22.5	58.5	HRB	95	-	-	-	-	-	-	-
6	91000	102245	25.6	66.6	HRB	96	-	-	-	-	-	-	-
9	88600	107105	27.7	63.2	HRB	97	-100	55	75	74	-	-	-

Item Quench Temp (F) Temper d (F)

1	-	1300	MODIFIED 100 % TESTED MEETS NACE MR0175
2	-	1300	MODIFIED 100 % TESTED MEETS NACE MR0175
3	-	1300	MODIFIED 100 % TESTED MEETS NACE MR0175
5	-	1300	MODIFIED 100 % TESTED MEETS NACE MR0175
6	-	1300	MODIFIED 100 % TESTED MEETS NACE MR0175
9	-	1300	MODIFIED 100 % TESTED MEETS NACE MR0175

Additional Data

Additional Certificate Data: PER EN10204 1991 2. 8

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.

R. Stephens

Authorized Signatory (Typeset signatory indicates the use of Digital Password Authorization.)

PC COMPRESSION	
DATE	RECEIVED JUL 05 2006
P.O. #	506648-00
SIGNATURE:	
APPROVED BY Q.C. INSPECTOR	
TOTAL P.01	

Material Test Report Data - Certificate of Test

02/15/2007

AGS GROUP INC
4144 78 AVENUE

EDMONTON, AB T6B 3M8 CANADA

DAN-LOC Order Number: 405796

Customer PO Number: 0117199

Item	Qty	DAN-LOC Heat Code	Product	Size	Mill Heat Code	Standard
1	1000	GAH06 B ✓	B7M ATS	1/2" X 2-1/2" FF ✓	20002850	ASTM A193 98

STUD.

Item	C	MN	P	S	SI	CR	NI	MO	CU	TI	V	B	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

Charpy Test = Impact V-Notch

Item	Yield 0.2% Offset	Tensile	% Elong	% RA	Hardness Type	Actual Hardness	Temp (F)	Spcm #1	Spcm #2	Spcm #3	24 Hour Temp (F)	Hour Hardness	Test Proof Load (lbf)
1	111785	117885	21.0	61.5	HRB	96	-	-	-	-	-	-	-

Item Quench Temp (F) Tempered (F)

Additional Data

1 - 1300 MODIFIED 100 % TESTED MEETS NACE MR0175
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.)

RECEIVED	DATE	508217
MAR 29 2007		
HC		
APPROVED BY U.S. INS. OFFICE		

INSPECTION CERTIFICATE



Certificate No. : J420061204027

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

Grade : GR.2HM

Size : 1/2-13UNC ✓

Marking : 2HM UNDERLINE KPF LOGO

Surface Condition : PLAIN

Lot No. : F2H2450200

Q'ty Shipped : 9,900 PCS

FACTORY : 601 YONGTAN-DONG, CHUNGJU-CITY,

CHUNGCHONG-DO, KOREA 380-250

TEL : (043) 849 - 1114

FAX : (043) 849 - 1234

FIELD OF TESTING : MECHANICAL, CHEMICAL

LAB. ID. : 111983

CERT. NO. : 0882-01, 0882-02

STANDARD OF CERTIFIED : ISO 9001, ISO 14001, GS9000

CERT. NO. : AC-01889, EAC-03556, MC-01899

1. Chemical Composition (%)

Heat No.	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Ti	V	Al
	x100	x100	x100	x1000	x10000	x100	x100	x100	x10000	x100	x100	x1000
Min.	40											
Max.	40	40	100	40	50							
Spec.	45	24	72	17	10	12	2	8				

2. Macroetch Meet

Division	Surface Condition	Random Condition	Center Segregation	Spec. of Test Method
Spec.	S2	R2	C2	ASTM E381 -
Results	S2	R2	C2	
Tested By	K.R. LEE			

3. Mechanical Properties

Division	Hardness		Specimen Tensile			Proof Load		Tensile Load	Impact Test	Bending Test	Bolt Retempering Hardness	Tap Wrench Fit Test	Decarburization Test By Hardness
	Surface	Core	Yield Strength	Tensile Strength	Elongation	Reduction of Area	Load	Elongation	Individual	Average			
Unit	n = 3						n = 3						
Min.	HRB						1bf						
Max.	HRB												
Spec.	94						21,250						
Min.	94												
Max.	99												
1	HRB						6000						
2	94						6000						
3	93						6000						
4	94						...						
5													
6													
7													
8													
9													
10													
Avg.													
Tested By	G.Y. HWANG												
Spec. of Test Method	ASTM A370 -												

Reference : RESULTS OF 100% HARDNESS TEST ARE WITHIN THE REQUIREMENT (HRB94-HRB99) SPECIFIED IN ASTM A194/A194M COMPLIES WITH EN100043.18

This is to certify that the above results are true and correct in every details

APPROVED BY QUALITY INSPECTOR

IN-SUB CHOE

Chief of Quality Management Dept.

KPF

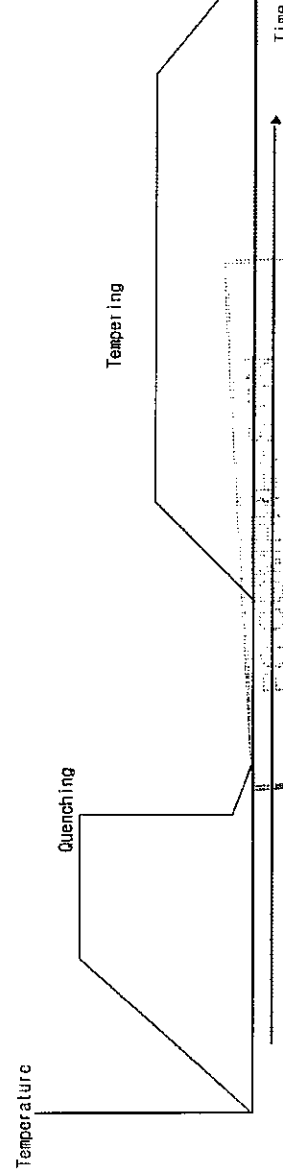
Certificate No. : J420061204027

4. Others

Division	Plate Thickness	Salt Spray Test	Decarburization Test By Microscope		Torque Tension Test		Prevailing Torque Test				Remark
			Partial Decarb. (Base Metal Height)	Gross Decarb. Depth.	Clamp Load	Tightening Torque	1st Install Prevailing Torque	Clamp Load	1st Beam High Prevailing Torque	5th Beam High Prevailing Torque	
Unit	Min.										
	Max.										
Spec.	Min.										
	Max.										
Results	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	Avg.										
Tested By											
Spec. of Test Method											

5. Heat Treatment

Quenching	Min. Temp.	
	Max. Temp.	
	Working Temp.	870 °C
Tempering	Holding Time	30 min.
	Min. Temp.	620 °C
	Working Temp.	675 °C
	Holding Time	90 min.



RECEIVED MAR 29 2007

This is to certify that the above results are true and correct in every details

PO. #

SIGNATURE:

KPF

APPROVED BY O.C. INSPECTION



	WE HEREBY CERTIFY THAT MATERIAL HAS BEEN TESTED IN ACCORDANCE WITH THE SPECIFICATION. 상기 강재는 규격의 시험을 통하여 합격하였음을 증명합니다.	H
1.3-Tensile Strength Def: Decarburized microscope Total	E: Elongation R.A-Reduction of Area S.A-Spheroidized Annealing Def: Decarburized microscope Total	CHIEF OF Q.A SECTION <i>Jung Tae Youn</i>

検査成績表
(MILL CERTIFICATE)

需要家: (CUSTOMER) MARMON / KEYSTONE CANADA

注文者: 三京物産株式会社
(SUPPLIER) (SANKYO & CO., LTD.)

品名:

(COMMODITY) SEAMLESS STAINLESS STEEL TUBE (NO.115 MEIGUI STREET, SUJIATUN DISTRICT, SHENYANG, P.R. CHINA) (CUSTOMER ORDER NO.)

契約番号: S6902

(CONTRACT NO.)

製作番号 (Lot No.)

製造番号 (Mfg No.) (KST)

製造番号 (Dist No.) (KST)

規定単位 (Unit Designation)

単位 (Specification)

重量 (Weight) (Mass) (kg)

延長 (Total Length) (m)

引張強さ (Tensile Test) (Y.S.) (MPa)

伸び (Elongation) (E.L.) (%)

硬さ試験 (Hardness Test) (HRB)

結晶粒径 (Grain Size)

へん平試験 (Flattening)

押し広げ試験 (Flaring)

外観寸法試験 (Measurement of Surface)

渦流探傷試験 (Eddy Current)

破壊試験 (Mechanical)

破壊試験 (Mechanical)

ASTM A262 PRACTICE F

備考 (Remarks)

化学成分表 (Chemical Composition) %

PC COMPRESSION

APPROVED APR 16 2007

SOLUTION HEAT TREATMENT

1080 °C × 2.32Min/W.Q

EN 10204/3.1.B

NACE MR-0175

508305

P.O. #

総工場長

MANAGER OF QUALITY SYSTEM SECTION

上記注文品は、御指定の規格又は仕様に従って製造されその要求事項を満足していることを証明します。

(IT IS HEREWITH CERTIFIED THAT THE ABOVE MATERIALS ARE SATISFACTORY IN COMPLIANCE WITH THE REQUIREMENTS SPECIFIED IN THE CONTRACT.)

APPROVED BY THE INSPECTOR

STS- .375- .035- 672-1336 * 1002453 * E55119A * 4/3/2007

検査成績表
(MILL CERTIFICATE)

需要家: (CUSTOMER) MARMON / KEYSTONE CANADA
注文者: 三京物産株式会社殿
(SUPPLIER) (SANKYO & CO., LTD.)
品名: 中国・瀋陽市蘇家屯区玫瑰街115号
(COMMODITY) SEAMLESS STAINLESS STEEL TUBE (NO.115 MEIGUI STREET, SUJIATUN DISTRICT, SHENYANG, P.R. CHINA)
ASTM/ASTM A269/A213/SA213 (A.W.) TP316/TP316L
契約番号: S7202
寸法: 3/8"OD X 0.035"WT X 20FT (SIZE)
CASE NO.: 06,09

発行日: 2007.02.03
(DATE OF ISSUE)
証明書番号: 07-074
(CERTIFICATE NO.)
需要家管理番号: P.O.#E5511
(CUSTOMER ORDER NO.)

製作番号 (Mfg No.) (三京)		ロット番号 (Lot No.)	製造番号 (Mfg. No.) (KST)	製鋼番号 (Heat No.) (KST)	数量 (Quantity)			引張試験 (Tension Test)			硬さ試験 (Hardness Test)	結晶粒度 (Grain Size)	へん平試験 (Flattening)	GOOD
					本数 (No. of Pcs.)	重量 (Mass) kg	延長 (Total Length) m	0.2% 耐力 (0.2% Y.S.) MPa	引張り強さ (T.S.) MPa	伸び (E.L.) (%)	HRB			
指定単位 (Unit Designation)		規格 (Specifying)		最小 (Min)	本 (Pcs.)				MPa	(%)	35		押し広げ試験 (Flaring)	GOOD
				最大 (Max)										
06-12-012	39			672-1336	81	95			285	590	54.1	75.4	外観寸法試験 (Measurement & Surface)	GOOD
06-12-012	40		✓	672-1336	98	115			280	595	55.1	75.4	渦流探傷試験 (Eddy Current)	GOOD
06-12-012	41		✓	672-1337	67	79			285	590	55.1	75.4	換鏡試験 (Microscopic)	—
06-12-012	42			672-1337	134	158			280	590	54.5	74.6	硫酸銅腐食試験 (Intergranular Corrosion Test)	GOOD
06-12-012	43			672-1337	23	27			295	610	52.1	76.5	ASTM A262 PRACTICE E 備考 (Remarks)	GOOD
TOTAL					403	474								SOLUTION HEAT TREATMENT: 1080 °C × 2.15Min/W.Q EN 10204/3.1.B NACE MR-0175
化学成分表 (Chemical Composition) %														
製鋼番号 (Heat No.)	C	Si	Mn	P	S	Ni	Cr	Mo	PC COMPRESSION					
最小 (Min)	× 100	× 100	× 100	× 1000	× 1000	× 100	× 100	× 100						
最大 (Max)														
672-1337	3.5	100	200	45	30	1400	1800	300						
672-1337	2.5	36	133	29	7	1281	1630	209						
672-1336	1.8	33	130	28	8	1279	1628	213						

上記注文品は、御指定の規格又は仕様に従って製造されその要求事項を満足
(IT IS HEREWITH CERTIFIED THAT THE ABOVE MATERIALS ARE SATISFACTORY REQUIREMENTS SPECIFIED IN THE CONTRACT.)

DATE: 2007.02.03
検査員: 松本 隆夫
(MANAGER OF QUALITY SYSTEM SECTION)
508455
SIGNATURE: HC
APPROVED BY Q.C. INSPECTOR



Copeland Customer Service
(800) 996-4660
www.copeland-corp.com

Material Data Safety Sheet

From: Copeland Customer Service

Subject: Copeland Fuel Gas Booster Oil

CAUTION:

This oil is intended for use only in the Copeland Fuel Gas Booster.

Use of any other oil in the Copeland Fuel Gas Booster oil may result in failure and is not covered by warranty.

Dispose Waste Oil Properly:

If the oil has not been contaminated it can be disposed the same as a synthetic motor oil.

If the oil is contaminated the end user must comply with all applicable regulations for disposal of hazardous materials.

Supplier:

CPI Engineering Services INC.
2300 James Savage Rd.
Midland, MI 48642

Emergency Number: (989) 496-3780

Form No. 2001-125
Page 1 of 5
Revision 1
Issued 12/17/01

Copeland is a registered trademark of Copeland Corporation. ©2001 Copeland Corporation.

Section 1**Product Name and Information**

Product (Trade Name and Synonyms): CP-6006 Series

Chemical Name: Polyalphaolefin

Chemical Family: Synthetic Hydrocarbon

Formula: $C_{10n}H_{20n+2}$

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

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; CO₂ 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.

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

Copeland is a registered trademark of Copeland Corporation. ©2001 Copeland Corporation.

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



Alcoa Industrial Chemicals

ACTIVATED
ALUMINAS

F-200

ALCOA

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 loading of towers. The high crush strength also allows use of taller towers that make more efficient use of the desiccant. 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 CO_2 , 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_2O adsorption capacity. With proper tower design and effective regeneration, F-200 can achieve an

ultra low H_2O effluent specification (i.e. dew point). F-200 also has excellent cyclic stability that yields a long life.

Applications

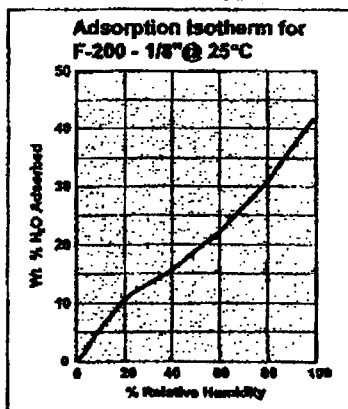
1. Drying. Nearly all gases and liquids can be dried with F-200. Water removal is often necessary for efficient processing, storage, and transportation of fluids.

The 3/16" size is normally recommended for vapor phase dehydration applications where pressure drop minimization yet high H_2O 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_2O 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.



2. 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.

3. 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.

4. 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 (2.0 mm)	1/8 Inch (3.2 mm)	3/16 Inch (4.8 mm)	1/4 Inch (6.4 mm)
Surface area, m ² /g	360	355	340	325
Total pore volume, cc/g	0.5	0.5	0.5	0.5
Packed Bulk Density, lbs/ft ³ (kg/m ³)	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 ₂ O ₃	93.1			
SiO ₂	0.02			
Fe ₂ O ₃	0.02			
Na ₂ 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 arrangements 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 Alcoa.

MSDS Number-149

Alcoa Industrial Chemicals

PRODUCT
DATA

USA 3023-R33-0437 Page 2 of 2

United States of America & Latin America
Alcoa Industrial Chemicals
Adsorbents & Catalysts Division
16010 Barkers Point Lane, Suite 250, Houston, TX 77079, USA
Phone: 800-221-7382 or 281-870-9696 • Fax: 281-870-9844
South America São Paulo, Brazil • Europe Frankfurt, Germany • Asia Tokyo, Japan



CUSTOMER : 45322366
SALES AREA: AB0D
DATE : 09.01.2003

PC COMPRESSION
A DIV OF PYRAMID CORP
607- 15 AVE
NISKU, AB
T0C 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 (ALL GRADES) ENGLISH	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
Fax : 403-233-7011

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: HCl0872/03A
Effective Date: 2003 January 08
Date of Revision: 2003 January 08

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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 Feedstock; Alumina PX 1; Alumina RF200; Alumina S201; Alumina S400; Alumina S431; Alumina S501; Alumina S2001; Alumina S-100 SR; Alumina Selexb CDO-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: Al₂O₃.

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)

Hazardous Ingredients: None according to Controlled Products Regulations.

Non-Hazardous Ingredients	CAS No.	ACGIH TLV	%
Aluminium Oxide	001344-28-1	10 mg/M3 as Al *A4	85 - 95
Calcium Oxide (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 pertain 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 (STEL)	OSHA PEL (TWA)	(STEL)	NIOSH REL (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

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 inflammation 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)

INTERNATIONAL: Aluminium Oxide is found on the following inventories: EINECS (European Inventory of Existing Commercial Chemical Substances), ACOIN (Australia), MITI (Japan) and Korea.

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.
2. 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.
3. Supplier's Material Safety Data Sheet(s).
4. "CHEMINFO", through "CCINFODisc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada.

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.

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