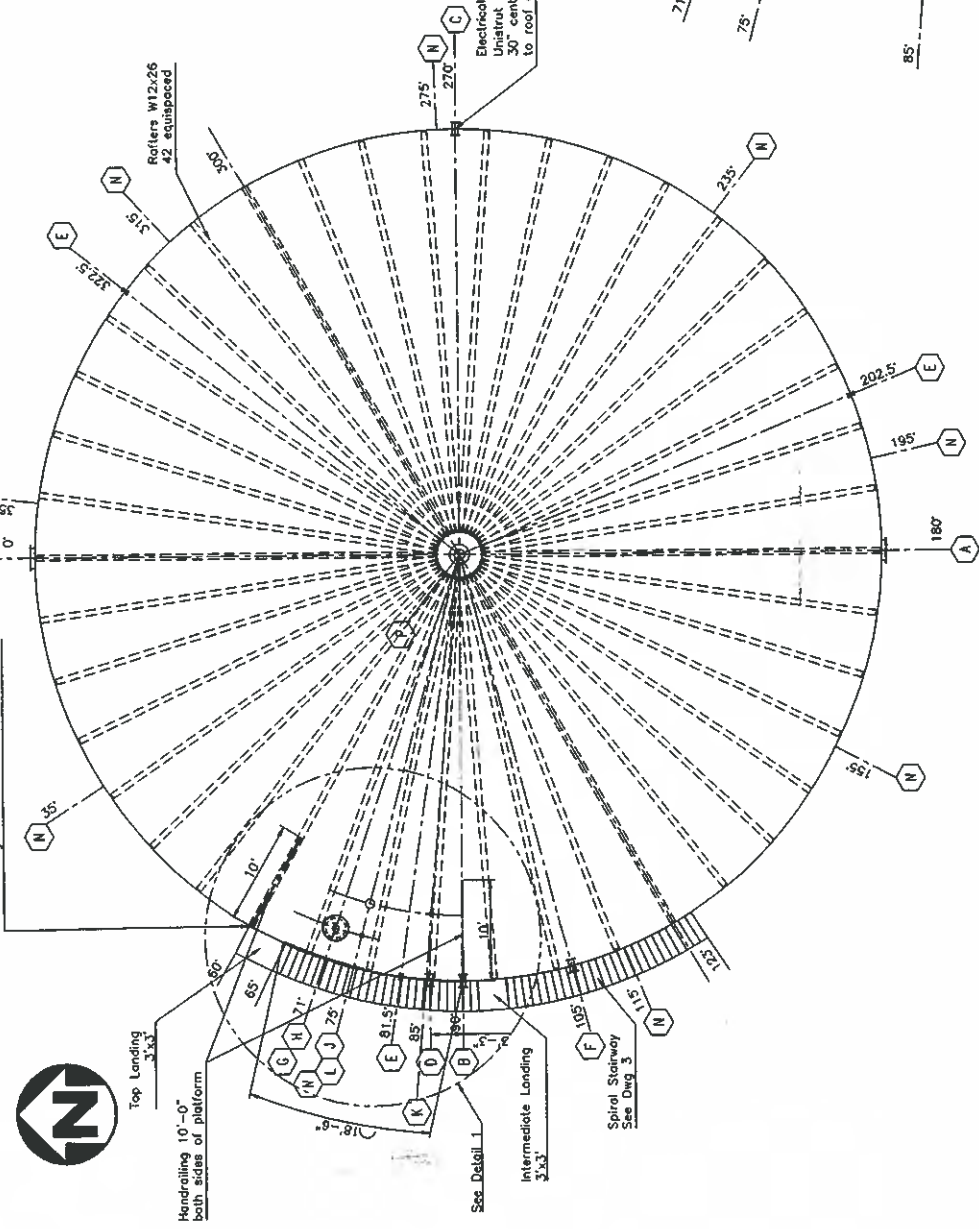


5. **Gem-Steel Edmonton Limited – Aboveground Tank Construction**

5.1 Tank As-Built Drawings

Electrical routing:
Unistrut clips mounted on 1"x 4" sq pods
30" center to center up entire shell
to roof edge 60' & 270'



ORIENTATION VIEW

GENERAL NOTES

- Code of Construction: API-650, Latest Edition
- All dimensions are in Imperial unless noted otherwise.
- Product Stored: Fuel
- Diameter: 84'-0"
- Height: 32'-0"
- Nominal Capacity: 5 M litres
- Operating Temperature Range: -46 / +20°C
- Product Specific Gravity: 0.84 @ 15°C

Inspection

- Vacuum Testing: Floor
- Liquid Penetrant Inspection: Shell to Floor Weld & all Shell Welds
- Radiography: Vertical Shell Welds - Spot as per API 650
- Radiography: Horizontal Shell Welds - Spot as per API 650
- Air Test: Repairs

Materials

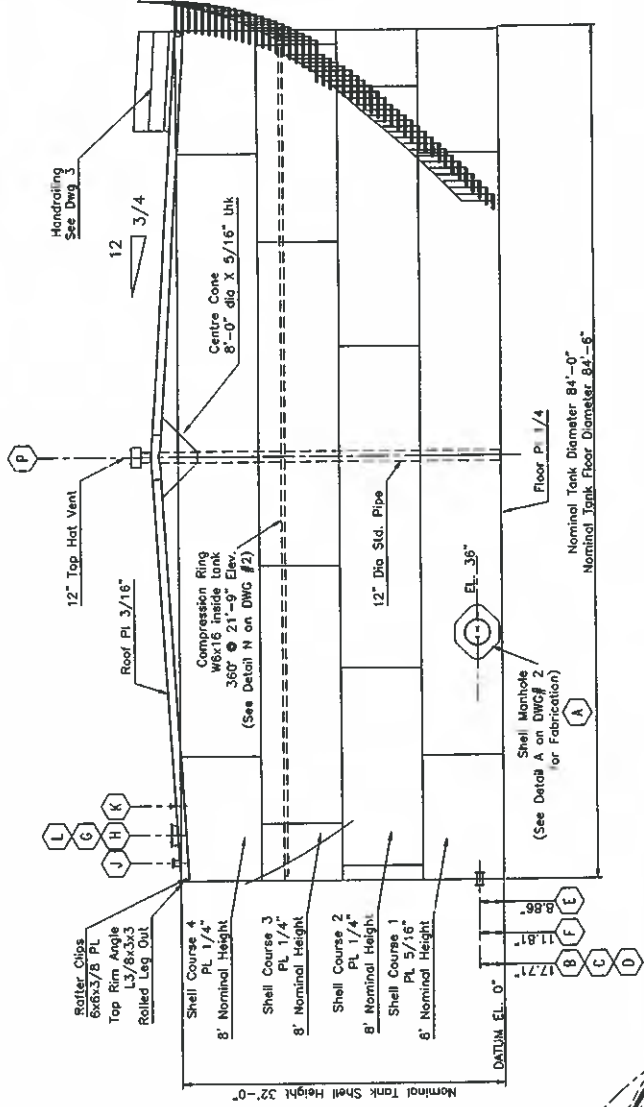
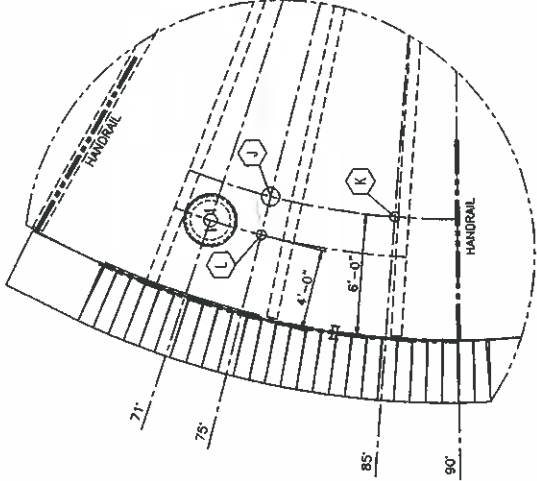
- Structural Bolts: A-325 Cadmium Plated
- Structural Steel: G40.21, 300W
- Pipe Nozzles: A333 Gr.6 Impact Energy 18J @ -45°C
- Forged Flanges: 150# RF50 A350M Gr. LF2
- Steel Plate: G40.21M-260WT, Killed & Fine-Grain Practice
- Roof Support Column: 12" STD Structural Grade Pipe
- Manway Gasket: 1/8" NBR/Aramid Fibre
- Welding Electrodes: As per Welding Procedures
- Flange Bolting: B7 Studs c/w XH Nuts, all bare finish

AS BUILT

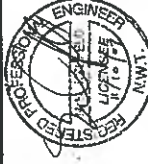
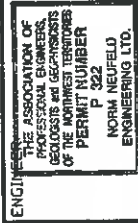
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	REVISION DESCRIPTION	DATE	BY
1	REVISED AS-BUILT	OCT. 2011	-
2	REVISED PER CUSTOMER COMMENTS	AUG. 2011	-
3	REVISED PER CUSTOMER COMMENTS	AUG. 2011	-
4	PRELIMINARY	MAY 2011	-
5	REVISION DESCRIPTION		

DETAIL 1
2X SCALE



ELEVATION VIEW
(SEE THIS DRAWING FOR TRUE ORIENTATION)



GENERAL TANK LAYOUT

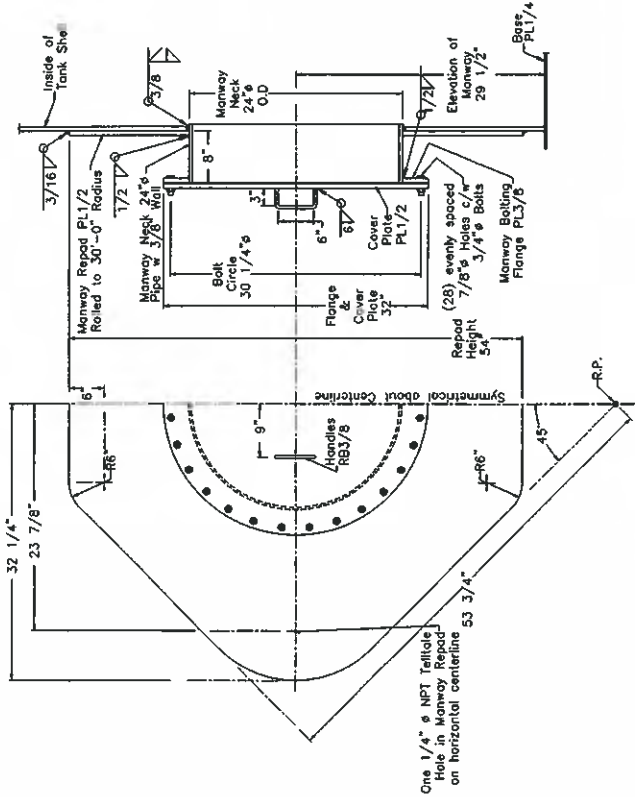
TITLE:	PROJECT:
GENERAL TANK LAYOUT	Milne Inlet, Baffin Island, Nunavut Fuel System Upgrade 5M Lt. Diesel Fuel Storage Tank 84'Ø x 32' High
CLIENT:	DATE:
Hatch - Mary River Ore Project Baffin Island, Nunavut	May 2011
CHK'D BY:	DATE:
B.K.G.	May 2011
DRAWN BY:	APP'D BY:
J.O.C.	-
DRAWING #	SCALE:
BA84322011-1	N.T.S.
	REVISION #
	1

NOZZLE SCHEDULE

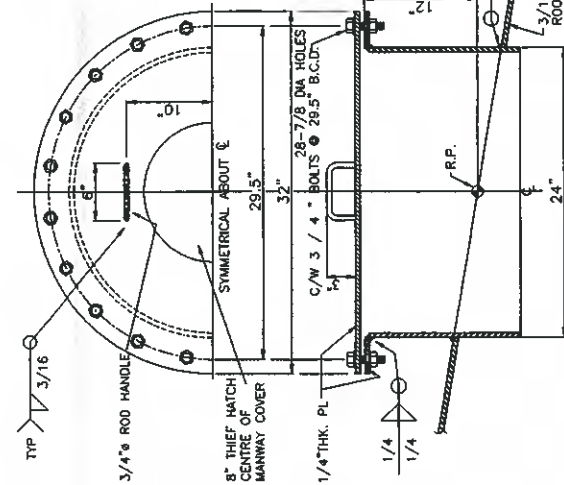
MARK	QTY	DESCRIPTION	SIZE	PROJ.	RATING	LOC.	ELV.
A	2	Shell Manhole	24"	8"	RF50	07/180	36"
B	1	Tank Section	6"	8"	RF50	90	17.71'
C	1	Tank Filler	6"	8"	RF50	270	17.71'
D	1	Tank Filler	6"	8"	RF50	270	17.71'
E	1	Water Drain Nozzle	3"	8"	RF50	81.5/202.5/322.5	8.85'
F	1	Spare Shell Nozzle	6"	8"	RF50	105	11.81'
G	1	Gauge Hatch	6"	8"	RF50	71	N/A
H	1	Roof Manway	24"	8"	RF50	70	N/A
I	1	Gauge Hatch	6"	8"	RF50	75	N/A
J	1	Spare (G/w blind flg & thd spig)	2"	8"	RF50	85	N/A
K	1	Level Transmitters	1 1/2"	8"	TPG RPT	3000#	N/A
L	1	Grounding Lugs	12"		NOZZLE	150#	See Det.
P	1	Center Roof Vent	12"		NOZZLE	150#	See Det.

GEM STEEL

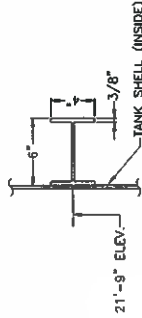
8880-24 Street
Edmonton, Alberta
Canada T6P 0X8
Ph: (780) 448-0880
Fax: (780) 448-0881



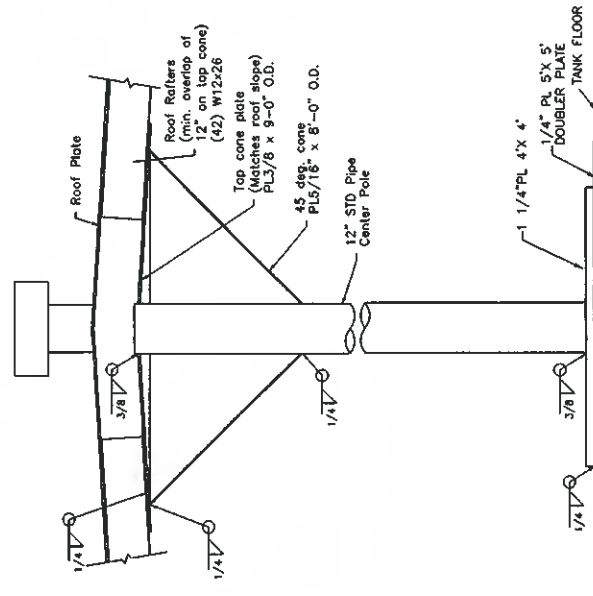
A 24" Ø SHELL MANWAY DETAIL
NTS



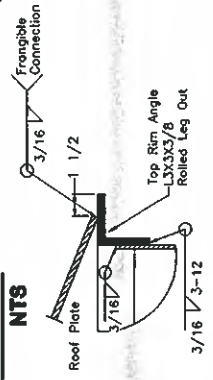
B ROOF MANWAY
NTS



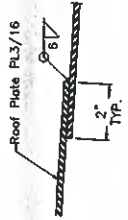
N COMPRESSION RING DET.
NTS



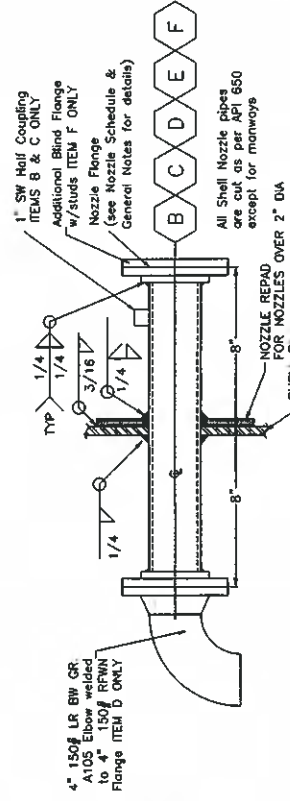
D BASE PLATE & CENTER CONE
NTS



G RIM ANGLE DETAIL
NTS

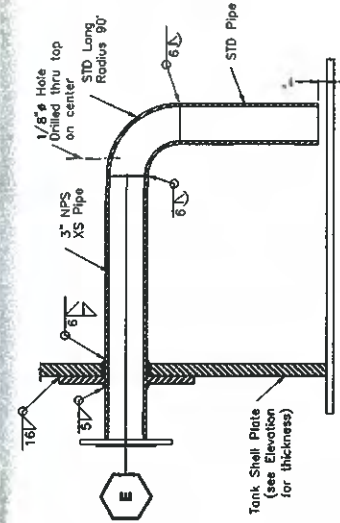


F ROOF PLATE WELD DET.
NTS

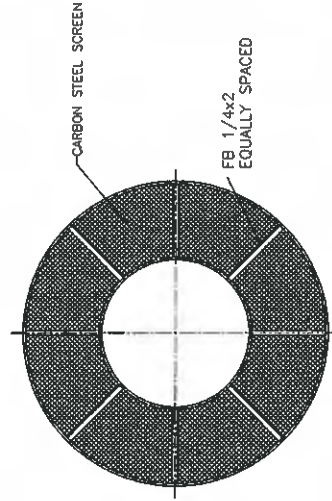


H SHELL NOZZLE
NTS

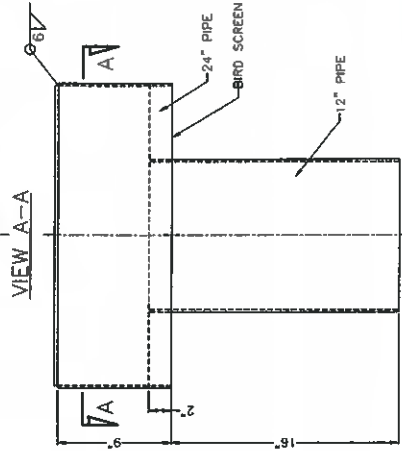
C TOP HAT VENT DETAIL
NTS



M WATER DRAW OFF DET.
NTS

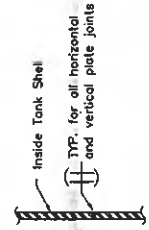


J FLOOR PLATE WELD JOINT
NTS



E TYP. ROOF NOZZLE DET.
NTS

ALL ROOF NOZZLE PIPES (X) ARE CUT PER API 650 EXCEPT MANWAYS OR VENTS



K SHELL WELD DETAIL
NTS

ENGINEER



GENERAL TANK DETAILS

TITLE

PROJECT

**Milne Inlet, Baffin Island, Nunavut Fuel System
Upgrade 5M Lt. Diesel Fuel Storage Tank
84'Ø x 32' High**

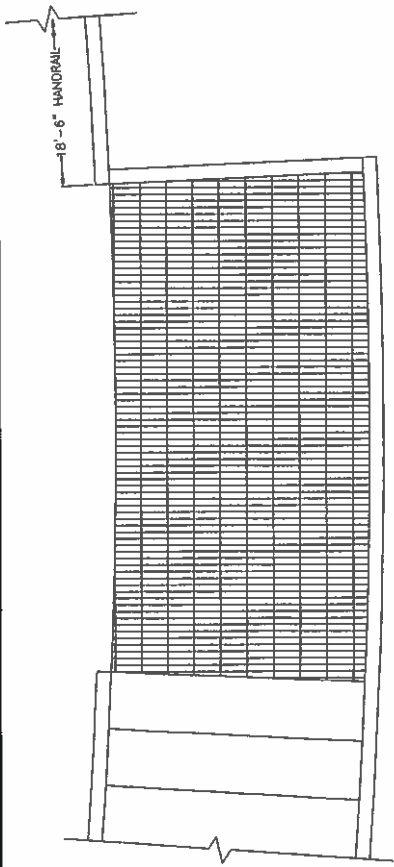
CLIENT:	Hatch - Mary River Ore Project Baffin Island, Nunavut		
CHK'D BY:	B.K.G.	DATE:	May 2011
DRAWN BY:	J.O.C.	APP'D BY:	-
DRAWING #	BA84322011-2		
REVISION #	1		

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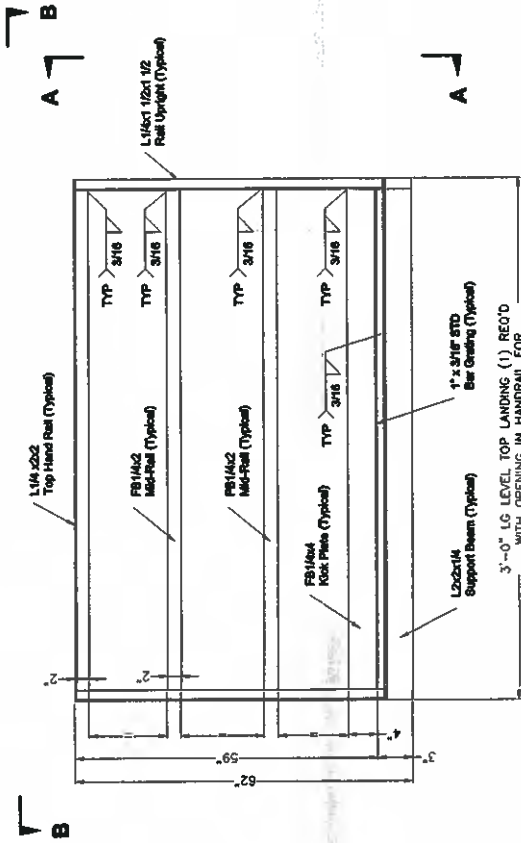


REV	DATE	BY
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2	AUG. 2011	-
3	AUG. 2011	-
4	MAY 2011	-

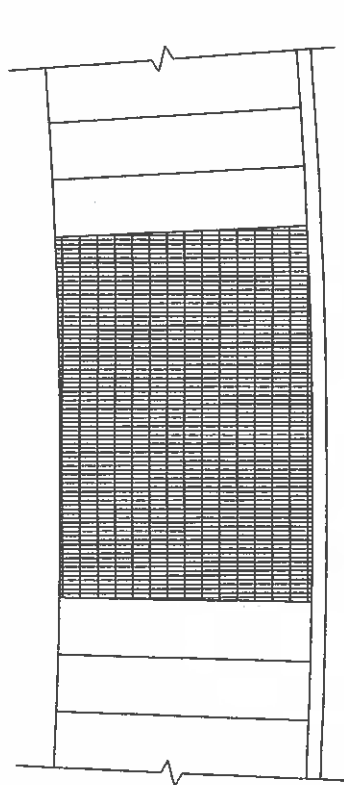
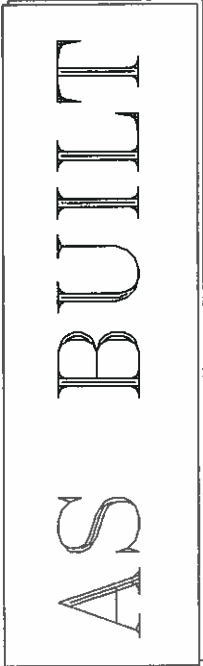
N COMPRESSION RING DET.
NTS



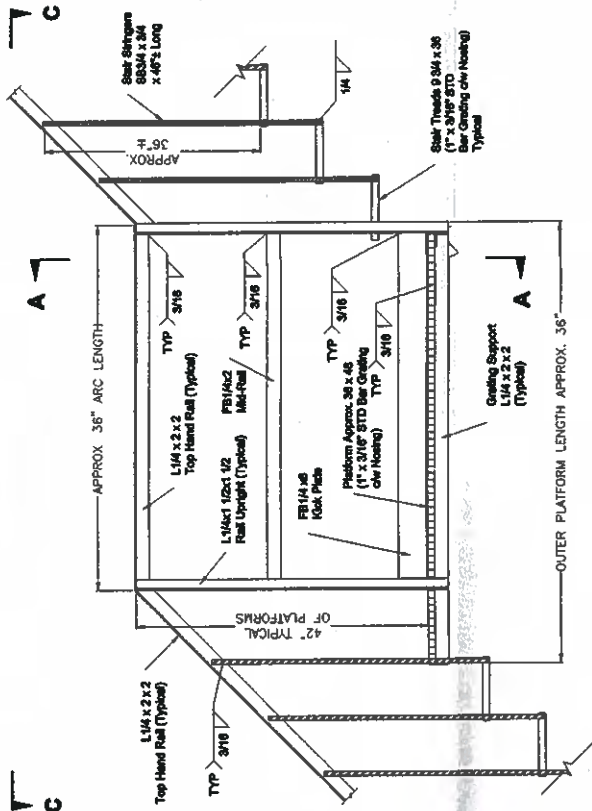
SECTION B-B



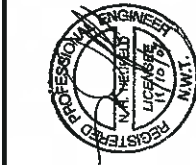
Q ROOF LANDING
NTS



SECTION C-C



R SPIRAL STAIRS & INTERMEDIATE PLATFORM DET.
NTS



ENGINEER:

TITLE: SPIRAL STAIRWAY & LANDING
DETAILS

PROJECT: Milne Inlet, Baffin Island, Nunavut Fuel System
Upgrade 5M Lt. Diesel Fuel Storage Tank
84'Ø x 32' High

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1	REVISED AS-BUILT	OCT. 2011	-
C	REVISED PER CUSTOMER COMMENTS	AUG. 2011	-
B	REVISED PER CUSTOMER COMMENTS	AUG. 2011	-
A	PRELIMINARY	MAY 2011	-

CLIENT: Hatch - Mary River Ore Project Baffin Island, Nunavut	CHK'D BY: B.K.G.	DATE: May 2011	CAD FILE: BA84322011-3
DRAWN BY: J.O.C.	APP'D BY: -	SCALE: N.T.S.	REVISION # 1
DRAWING # BA84322011-3			

5.2 Mill Test Reports (MTRs) and Certificates – Diesel Tank



9060 – 24 St. Edmonton, AB. T6P 1X8

Phone (780) 449-0000

Fax (780) 449-0001

MILL TEST REPORTS (MTR'S)

PROJECT: MARY RIVER - BAFFIN ISLAND,
NUNAVUT

PURCHASE ORDER# H377697-CM-010

1) 5 million liter Diesel Fuel Storage Tank



2011 MARY RIVER, BAFFIN ISLAND - MTR LIST OF MATERIALS - Wed-Oct-5-2011

Material Description	Heat Number
Cold Temp. Plate	
Plate 3/16" 260WT Cold Temp. Material	NW0790
	NW0854
	NW0863
	NW0858
	NW0860
Cold Temp. Plate	
Plate 1/4" 260WT Cold Temp. Material	NW0828
	NW0811
	NW0804
	NW0821
	NW0844
	NW0810
	NW0809
	NW0830
	NW0834
	NW0819
	NW0831
	NW0843
Cold Temp. Plate	
Plate 5/16" 260WT Cold Temp. Material	NW0828
	NW0831
	NW0819
	NW0833
	NT6686
All 44W Grade Plate	
Plate 1/4" 44W	NW0667
Plate 3/8" 44W	1658L-04
Plate 1/2" 44W	E1A252
Plate 1-1/4" 44W	V305026
Beam	
W 12 X 26 Beam	22586470
	22568530
	22568530
	D 098967
	2103045
	22586530
	D 097161
	22586460
	2107168
	1107162
	1107167

2011 MARY RIVER, BAFFIN ISLAND - MTR LIST OF MATERIALS - Wed-Oct-5-2011

	1107163
W 6 X 16 Beam	2004669
Channel	
Angle Iron	
L 3 x 3 x 3/8 Angle Iron	SE1110059101
	SE1110059201
L 3 x 3 x 1/4 Angle Iron	SE1110148401
L 2 x 2 x 1/4 Angle Iron	W904277
	W908728
	W907721
L 1-1/2 x 1-1/2 x 1/4 Angle Iron	SE1010067401
	N104483
Flat Bar	
Flat Bar 3/8 x 6	SE1010075701
	SE1110162702
Flatbar 1/4 x 6	R639946
Flat Bar 1/4 x 4	SE1010017601
	SE1010284601
Flat Bar 1/4 x 2	SE1010090401
	SE1010581801
	SE1110223201
Hot Rolled Bar Stock	
Round bar 3/4"	SE1010075201
Square bar 3/4"	N103588
ALL PIPE Grades / Schedules	
2" XS A333 Low Temp. Pipe	O75O6827
	10-A8715
	10603028
2"-Sch.80, A106B	556818
3" XS A333 Low Temp. Pipe	33330
	Y607-637
	930423
3" XS - A106B	1026650V
3" Sch.40 - A333 Low Temp. Pipe	36390
3" Sch.40 - A106	1105995

2011 MARY RIVER, BAFFIN ISLAND - MTR LIST OF MATERIALS - Wed-Oct-5-2011

	31C158
4" XS A333 Low Temp. Pipe	O822342V
	B52873
6" XS A333 Low Temp. Pipe	80893
	10324-49Y
6" Std. A333 Low Temp. Pipe	1034963V
6" Std. A53 Pipe	C926150
12" Sch.40 - ASME A252 Grade 3	R10200525
ALL Flanges, Blinds, Elbows etc...	
2"-150# -Raised Face Slip-On Flange - LF2 Low Temp.	48960
	931274
	28V0
	16V1
2"-150# -R.F. Blind Flange - LF2 Low Temp.	73669
	21382
3" - 150# - R.F.S.O. Flange - LF2 Low Temp.	31243
3" Std.-L.R.B.W. 90 Degree Elbow	751-0381
4" - 150# - R.F.S.O. Flange - LF2 Low Temp.	31240
4" - 150# - R.F.W.N. Flange - LF2 Low Temp.	74569
	31240
4"-150# -R.F. Blind Flange - LF2 Low Temp.	10/31378
4" Std.-L.R.B.W. 90 Degree Elbow	2-70387
6" - 150# - R.F.S.O. Flange - LF2 Low Temp.	31240
	802220
	4390797
6" - 150# - R.F. W.N. Flange - LF2 Low Temp.	362V9
	555299
6"-150# -R.F. Blind Flange	09/36040
	21303
COUPLINGS & MISC. FITTINGS	
1-1/2" - 3000# Coupling	4773
2" - 3000# Coupling	4183
	4421

2011 MARY RIVER, BAFFIN ISLAND - MTR LIST OF MATERIALS - Wed-Oct-5-2011

[illegible]



EVRAZ INC. NA
EVRaz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. DATE PAGE

1155521 May 06, 2011 1

MILL ORDER NO. DATE

242387

CUSTOMER ORDER NO.

M62006238

JOB/RED. NO.

SHIPPING NO.

1155521

DATE

05/06/2011

CARRIER

UNION PACIFIC

CAR/TRUCK NO.

ORANGE

RUSSEL METALS INC (EDMONTON)

ATTN: TIM MAIER

PO BOX 4128

EDMONTON, AB T6E 4T2

CA

RUSSEL METALS INC-EDMONTON-BATES

P.O. BOX 4128

EDMONTON, AB T6E 4T2

CANADA

ISO 9001
REGISTERED
1478 PROOF

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.1880 X 98.000ME X 528.000 SCHEDULE B:7208.52.00.00 PT# 57491									
	3 PCS 8277 LBS	NW0790		480	655	26				
				LCVN @ -50	DES F 2.5mm	19	18	17	18	ft.lbf
	5 PCS 13795 LBS	NW1755		469	660	29				
				LCVN @ -50	DES F 2.5mm	15	40	31	28	ft.lbf
	8 PCS 22072 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE
NW0790	.14	.85	.009	.009	.20	.01	.04	.002	.005	.043	.01	.00					
NW1755	.13	.85	.012	.008	.24	.01	.05	.009	.005	.046	.02	.00					
	HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (") WERE ROLLED IN THE USA.																
.....	END OF REPORT																

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA

EVRAZ Oregon Steel - 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

61A035535

CERTIFICATE NO.	DATE
1148532	Apr-04, 2011
MILL ORDER NO.	DATE
242387	
CUSTOMER ORDER NO.	
M62006238	
JOB REQ. NO.	
SHIPPING NO.	DATE
1148532	04/04/2011
CARRIER	
UNION PACIFIC	
CAR/TRUCK NO.	
ORANGE	

ISO 9001 REGISTERED U.S. PLATE PROPERTY	SOLD TO	RUSSEL METALS INC [EDMONTON] ATTN: TIM MAIER PO BOX 4128 EDMONTON, AB T6E 4T2 CA	RUSSEL METALS INC-EDMONTON-BATES P.O. BOX 4128 EDMONTON, AB T6E 4T2 CANADA
---	----------------	---	--

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2'	% RA	HARDNESS BHN	HARDNESS BEND TEST	IMPACTS
1	0.1880 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57491									
	2 PCS 5518 LBS	NW0854		472	635 25					
				LCVN @ -50	DEB F 2.5mm	25 25 23 / 24				ft.lbf
	19 PCS 52421 LBS	NW0858		473	630 28					
				471	630 28					
				LCVN @ -50	DEB F 2.5mm	25 25 25 / 25				ft.lbf
				LCVN @ -50	DEB F 2.5mm	22 26 25 / 24				ft.lbf
	21 PCS 57939 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE
NW0854	.08	1.09	.011	.011	.27	.02	.05	.009	.037	.02					
NW0858	.07	1.09	.011	.010	.26	.01	.05	.005	.035	.01					
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.															
.....	END OF REPORT														

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA

EvrAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1149950	APR 11, 2011	1
MILL ORDER NO.	DATE	
242387		
CUSTOMER ORDER NO.		
M62006238		
JOB/REQ. NO.		
SHIPPING NO.	DATE	
1149950	04/11/2011	
CARRIER		
UNION PACIFIC		
CAR/TRUCK NO.		
BLUE		

RUSSEL METALS INC [EDMONTON]

ATTN:TIM MAIER

PO BOX 4128

EDMONTON, AB T6E 4P2

CA

RUSSEL METALS INC-EDMONTON-BATES

P.O. BOX 4128

EDMONTON, AB T6E 4T2

CANADA

1484 BA 40

ISO 9001
REGISTERED
 U.S. PLATE PRODUCER

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
 CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
 AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.1880 X 98.000ME X 528.000 SCHEDULE B:7208.52.00.00 PT# 57491	NW0860		480 468	645 630	28 30				
	5 PCS 13795 LBS									
	5 PCS 13795 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE	McQAL Gr 1.00
NW0860	08	1.05	.010	.011	.29	.02	.05	.006	.038	.02	.00					
	HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.															
.....	END OF REPORT															

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA
Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1149953	Apr 11, 2011	1
MILL ORDER NO.	DATE	
242387		
CUSTOMER ORDER NO.		
M62006238		
JOB REQ. NO.		
SHIPPING NO.	DATE	
1149953	04/11/2011	
CARRIER		
UNION PACIFIC		
CAR/TRUCK NO.		
ORANGE		

ISO 9001 REGISTERED U.S. PLATE PRODUCTIONS	RUSSEL METALS INC [EDMONTON] ATTN: TIM MAIER PO BOX 4128 EDMONTON, AB T6E 4T2 CA	RUSSEL METALS INC-EDMONTON-BATES P.O. BOX 4128 EDMONTON, AB T6E 4T2 CANADA
--	--	---

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
 CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
 AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.1880 X 98.000ME X 528.000 SCHEDULE B:7208.52.00.00 PT# 57491									
	17 PCS 46903 LBS	NW0854		472 480	635 25 635 27					
				LCVN @ -50	DEG F 2.5mm	25 25	23 / 24			ft.lbf
				LCVN @ -50	DEG F 2.5mm	24 22	24 / 23			ft.lbf
	5 PCS 13795 LBS	NW0860		480 468	645 28 630 30					
				LCVN @ -50	DEG F 2.5mm	22 20	20 / 20			ft.lbf
				LCVN @ -50	DEG F 2.5mm	25 24	22 / 23			ft.lbf
	22 PCS 60698 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	REMARKS
NW0854	.08	1.09	.011	.011	.27	.02	.05	.009	.005	.037	.02	.00						
NW0860	.08	1.05	.010	.011	.29	.02	.05	.006	.005	.038	.02	.00						
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (*) WERE ROLLED IN THE USA.																		
.....	END OF REPORT																	

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

QUALITY COORDINATOR



EVRAZ

EVRAZ INC. NA
EVRAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

61A035534

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE
1148531	Apr 04, 2011
MILL ORDER NO.	DATE
242387	
CUSTOMER ORDER NO.	
M62006238	
JOB/REQ. NO.	
SHIPPING NO.	DATE
1148531	04/04/2011
CARRIER	
UNION PACIFIC	
CAR/TRUCK NO.	
BLUE	

ISO 9001 REGISTERED U.S. PLATE PRODUCER	S O L D T O	RUSSEL METALS INC (EDMONTON) ATTN: TIM MAIER PO BOX 4128 EDMONTON, AB T6E 4T2 CA	RUSSEL METALS INC-EDMONTON-BATES P.O. BOX 4128 EDMONTON, AB T6E 4T2 CANADA <i>1484</i>
---	------------------------------	--	--

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CANADA. LCVN 20 FT. LBF
AVG @ -50 F (H) 20 FT. LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.1880 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57491	NW0858		473 471	630 28 630 28					
	21 PCS 57939 LBS									
	21 PCS 57939 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	W
NW0858	.07	1.09	.011	.010	.26	.01	.05	.005	.005	.035	.01	.00						
	HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.																	
.....	END OF REPORT																	

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA BY



EVRAZ
Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

EVRAZ INC. NA
14400 N. Rivergate Blvd., Portland, Oregon 97203

61A035853

REPORT OF CHEMICAL/PHYSICAL TESTS

ISO 9001 REGISTERED US PLATE PRODUCED		SOLD TO		RUSSEL METALS INC [EDMONTON] ATTN: TIM MAIER PO BOX 4128 EDMONTON, AB T6E 4T2 CA	RUSSEL METALS INC-EDMONTON-BATES P.O. BOX 4128 EDMONTON, AB T6E 4T2 CANADA	CERTIFICATE NO. 1154187	DATE Apr 30, 2011	PAGE 1
THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF AVG @ -50 F (H) 20 FT.LBF MIN.				MILL ORDER NO. 242387		DATE 04/30/2011		
SHIPPING NO. 1154187				CUSTOMER ORDER NO. M62006238		JOB/REQ. NO.		
CARRIER UNION PACIFIC				SHIPPING NO. 1154187		DATE 04/30/2011		
CAR/TRUCK NO. ORANGE				UNION PACIFIC		CE		

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BEND BHN TEST	IMPACTS
1	0.1880 X 98.000ME X 528.000 SCHEDULE B:7208.52.00.00 PT# 57491								
3 PCS	8277 LBS	NW0854		472 480	635 635	25 27			
				LCVN @ -50	DEG F 2.5mm	25	25	23	24 ft.lbf
				LCVN @ -50	DEG F 2.5mm	24	22	24	23 ft.lbf
5 PCS	13795 LBS	NW0858		473 471	630 630	28 28			
				LCVN @ -50	DEG F 2.5mm	25	26	25	25 ft.lbf
				LCVN @ -50	DEG F 2.5mm	22	26	25	24 ft.lbf
8 PCS	22072 LBS TOTALS								

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE
NW0854	.08	1.09	.011	.011	.27	.02	.05	.009	.005	.037	.02	.00			
NW0858	.07	1.09	.011	.010	.26	.01	.05	.005	.005	.035	.01	.00			
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (*) WERE ROLLED IN THE USA.															
.....	END OF REPORT	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

I certify the above to be correct as contained in the records of EVRAZ INC. NA BY Christina Technical Support Coordinator



EVRAZ

Evraz Oregon Steel: 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

61Au35531

CERTIFICATE NO.	DATE
1149054	Apr 06, 2011
MILL ORDER NO.	DATE
242387	
CUSTOMER ORDER NO.	
M62006238	
JOBREQ NO.	
SHIPPING NO.	DATE
1149054	04/06/2011
CARRIER	
UNION PACIFIC	
CAR/TRUCK NO.	
ORANGE	

RUSSEL METALS INC [EDMONTON] ATTN: TIM MAIER PO BOX 4128 EDMONTON, AB T6E 4T2 CA	RUSSEL METALS INC-EDMONTON-BATES P.O. BOX 4128 EDMONTON, AB T6E 4T2 CANADA
--	---

ISO 9001 REGISTERED PLATE PROGRAM	SOLD TO	1484 BATH
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THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 50WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.1880 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57491									
	2 PCS 5518 LBS	NW0863		473 468	635 30 635 28					
				LCVN @ -50	DEG F 2.5mm	24 24 24 / 24				ft.lbf
				LCVN @ -50	DEG F 2.5mm	25 25 23 / 24				ft.lbf
	2 PCS 5518 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	Mc
NW0863	.09	1.06	.008	.009	.29	.02	.05	.003	.005	.035	.03	.00						
	HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (*) WERE ROLLED IN THE USA.																	
.....	END OF REPORT																	

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA
EvrAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

62A005039

CERTIFICATE NO. 1154179
DATE Apr 30, 2011
PAGE 1

MILL ORDER NO. 242388
CUSTOMER ORDER NO. M620005238
JOB REQ. NO.
SHIPPING NO. 1154179
DATE 04/30/2011
CARRIER UNION PACIFIC
CARTRUCK NO. WHITE

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

RUSSEL METALS INC (EDMONTON)
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

ISO 9001
REGISTERED
U.S. PLATE PRODUCTION

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 250WT CAT4. LCVN 20 FT. LBF
AVG @ -50 F (H) 20 FT. LBF MIN.

BAHO
1484

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PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57493									
	2 PCS 7338 LBS	NTW0811		605	785	24				
				610	795	26				
				LCVN @ -50	DEG F 5.0mm	30	22	24	25	ft. lbf
				LCVN @ -50	DEG F 5.0mm	30	24	23	25	ft. lbf
	2 PCS 7338 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE
NW0811	0.15	1.19	0.015	0.005	0.27	0.01	0.04	0.023	0.02	0.00					
	HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.														
.....	END OF REPORT														

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

Technical Support Coordinator

61A035518



EVRAZ INC. NA
EVRAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. 1146798
DATE Mar 24, 2011
MILL ORDER NO. 242388
DATE

RUSSEL METALS INC - EDMONTON - BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA



THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

1484

BA HO

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000MB X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57493									
	2 PCS 7338 LBS	NW0804		565 605	765 800	22 21				
				LCVN @ -50	DEG F 5.0mm	39 25	29 / 31			ft.lbf
				LCVN @ -50	DEG F 5.0mm	30 13	46 / 29			ft.lbf
	3 PCS 11007 LBS	NW0821		575 565	770 760	24 27				
				LCVN @ -50	DEG F 5.0mm	39 24	31 / 31			ft.lbf
				LCVN @ -50	DEG F 5.0mm	34 29	26 / 29			ft.lbf
	10 PCS 36690 LBS	NW0844		595 595	780 775	22 27				

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE
NW0804	0.14	1.23	0.013	0.005	0.22	0.01	0.04	0.017	0.03	0.00					
NW0821	0.15	1.21	0.010	0.003	0.22	0.01	0.05	0.013	0.03	0.00					
NW0844	0.14	1.20	0.011	0.004	0.25	0.01	0.05	0.016	0.03	0.00					
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (+) WERE ROLLED IN THE USA.															

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA
EVRAZ Oregon Steel 14406 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. 1146798
DATE Mar 24, 2011
PAGE 2

MILL ORDER NO. 242388
CUSTOMER ORDER NO. M62006238
JOB REQ. NO.
SHIPPING NO. 1146798
DATE 03/24/2011
CARRIER UNION PACIFIC
CAR/TRUCK NO. WHITE

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CANADA

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

ISO 9001
REGISTERED
U.S. PATENT PENDING

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4 LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000	NW0844								
	10 PCS 36690 LBS									
	15 PCS 55035 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Cr	Al	Mo	Ti	B	N	Ca	CE Max. 0.0050
NW0844	0.14	1.20	0.011	0.004	0.25	0.01	0.05	0.016	0.016	0.03	0.036	0.00					
	HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.																
	END OF REPORT																

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

EVRAZ INC. NA

REPORT OF CHEMICAL/PHYSICAL TESTS

61A035519

CERTIFICATE NO.	DATE
1146799	Mar 24, 2011
MILL ORDER NO.	DATE
242388	
CUSTOMER ORDER NO.	
M62006238	
JOB REQ. NO.	
SHIPPING NO.	DATE
1146799	03/24/2011
CARRIER	
UNION PACIFIC	
CAR/TRUCK NO.	
BLUZE	

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

RUSSEL METALS INC (EDMONTON)
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

ISO 9001
REGISTERED
U.S. PATENT 5,600,000

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57493									
	7 PCS 25683 LBS	NW0804		565 605	765 800	22 21				
				LCVN @ -50	DEG F 5.0mm	39 25	29 / 31			ft.lbf
				LCVN @ -50	DEG F 5.0mm	30 13	46 / 29			ft.lbf
	8 PCS 29352 LBS	NW0810		575 615	765 810	24 21				
				LCVN @ -50	DEG F 5.0mm	38 28	28 / 31			ft.lbf
				LCVN @ -50	DEG F 5.0mm	10 25	26 / 20			ft.lbf
	15 PCS 55035 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	McQuaid Bn Chem. Re.
NW0804	.14	1.23	.013	.005	.22	.01	.04	.017	.013	.042	.03	.00						
NW0810	.15	1.24	.014	.004	.25	.01	.04	.017	.014	.041	.03	.00						
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.																		
END OF REPORT																		

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

QUALITY COORDINATOR

EVRAZEVRAZ INC. NA
EVRAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203**REPORT OF CHEMICAL/PHYSICAL TESTS**

CERTIFICATE NO.	DATE	PAGE
1146680	Mar 24, 2011	1
MILL ORDER NO.	DATE	
242388		
CUSTOMER ORDER NO.		
M62006238		
JOB REQ. NO.		
SHIPPING NO.	DATE	
1146680	03/24/2011	
CARRIER		
UNION PACIFIC		
CAVTRUCK NO.		
WHITE		

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6B 4T2
CANADA

RUSSEL METALS INC (EDMONTON)
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6B 4T2
CA

ISO 9001
REGISTERED
US PLATE PROD

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 250WT CAT4 LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57493									
4 PCS	14676 LBS	NW0809		625	810	20				
				625	810	25				
				LCVN @ -50	DEG F 5.0mm	25	36	28 / 29	ft.lbf	
				LCVN @ -50	DEG F 5.0mm	22	40	26 / 29	ft.lbf	
1 PC	3669 LBS	NW0828		595	775	24				
				LCVN @ -50	DEG F 5.0mm	30	24	30 / 28	ft.lbf	
6 PCS	22014 LBS	NW0830		625	800	24				
				620	795	23				
				LCVN @ -50	DEG F 5.0mm	26	40	30 / 32	ft.lbf	
				LCVN @ -50	DEG F 5.0mm	45	32	25 / 34	ft.lbf	

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE
NW0809	.14	1.20	.016	.003	.20	.01	.04	.021	.039	.03	.00				
NW0828	.14	1.21	.008	.004	.25	.01	.05	.018	.043	.01	.00				
NW0830	.14	1.25	.013	.005	.26	.01	.05	.030	.038	.02	.00				
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA.															
HEATS INDICATED WITH (+) WERE ROLLED IN THE USA.															

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By _____



EVRAZ INC. NA
EVRaz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1146680	Mar 24, 2011	2
MILL ORDER NO.	DATE	
242388		
CUSTOMER ORDER NO.		
M62006238		
JOB/REQ. NO.		
SHIPPING NO.	DATE	
1146680	03/24/2011	
CARRIER		
UNION PACIFIC		
CAR/TRUCK NO.		
WHITE		

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

1484 BA H0

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

ISO 9001
REGISTERED
U.S. PLATE

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT. LBF
AVG @ -50 F (H) 20 FT. LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSIX 100	TENSILE PSIX 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000									
	4 PCS 14676 LBS	NW0834		610 600	785 790	25 22				
				LCVN @ -50 DEG F 5.0mm	28 26 20 / 24	ft. lbf				
				LCVN @ -50 DEG F 5.0mm	31 34 35 / 33	ft. lbf				
	15 PCS 55035 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE	REMARKS
NW0834	.14	1.20	.012	.005	.26	.01	.05	.019	.014	.048	.04	.00				
	HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.															
	END OF REPORT															

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

61A035523



EVRAZ INC. NA
Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. 1146681
DATE Mar 24, 2011
PAGE 1

ISO 9001 REGISTERED US PLATE FABRICATOR	SOLD TO RUSSEL METALS INC [EDMONTON] ATTN: TIM MAIER PO BOX 4128 EDMONTON, AB T6E 4T2 CA	RUSSEL METALS INC-EDMONTON-BATES P.O. BOX 4128 EDMONTON, AB T6E 4T2 CANADA	MILL ORDER NO. 242388 CUSTOMER ORDER NO. M62006238 JOB REQ NO.
	1484 BA 40	SHIPPING NO. 1146681 DATE 03/24/2011	CARRIER UNION PACIFIC CARTRUCK NO. BLUE
	THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4 LCVN 20 FT.LBF AVG @ -50 F (H) 20 FT.LBF MIN.		
	PHYSICAL PROPERTIES		
	3 PCS 11007 LBS 7 PCS 25683 LBS 5 PCS 18345 LBS		

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000MB X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57493	NW0809		625	810	20				
				625	810	25				
				LCVN @ -50	DEG F 5.0mm	25	36	28 / 29	ft.lbf	
				LCVN @ -50	DEG F 5.0mm	22	40	26 / 29	ft.lbf	
		NW0811		605	785	24				
				610	795	26				
				LCVN @ -50	DEG F 5.0mm	30	22	24 / 25	ft.lbf	
				LCVN @ -50	DEG F 5.0mm	30	24	23 / 25	ft.lbf	
		NW0821		575	770	24				
				565	760	27				

CHEMICAL ANALYSIS										
HEAT NO.	C	Mn	P	S	Si	Cr	Ni	V	Co	Al
NW0809	14	1.20	.016	.003	.20	.01	.04	.021	.014	.039
NW0811	15	1.19	.015	.005	.27	.01	.04	.023	.014	.046
NW0821	15	1.21	.010	.003	.22	.01	.05	.013	.012	.033
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.										

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA
EVRAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1146682	Mar 24, 2011	2
MILL ORDER NO.	DATE	
242388		
CUSTOMER ORDER NO.		
MC2006238		
JOB/REQ. NO.		
SHIPPING NO.	DATE	
1146682	03/24/2011	
CARRIER		
UNION PACIFIC		
CANTRUCK NO.		
ORANGE		

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

RUSSEL METALS INC [EDMONTON]
ATTN:TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

ISO 9001
REGISTERED
U.S. PATENT PENDING

1484 BA H0

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000									
	1 PC 3669 LBS	NW0821		LCVN @ -50 DEG F 5.0mm	38 24 31 / 31	ft.lbf				
	7 PCS 25683 LBS	NW0844		LCVN @ -50 DEG F 5.0mm	34 28 26 / 29	ft.lbf				
	16 PCS 58704 LBS TOTALS			595 780 22						
				595 775 27						
				LCVN @ -50 DEG F 5.0mm	28 26 29 / 26	ft.lbf				
				LCVN @ -50 DEG F 5.0mm	48 27 33 / 36	ft.lbf				

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	Mc
NW0821	15	1.21	.010	.003	.22	.01	.05	.013	.012	.033	.03	.00						
NW0844	14	1.20	.011	.004	.25	.01	.05	.016	.016	.036	.03	.00						
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.																		
END OF REPORT																		

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

61A035525

EVRAZ
EVRaz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. 1148255 DATE Mar 31, 2011

WILL ORDER NO. 242388 DATE

CUSTOMER ORDER NO. M62006238

JOB/REQ NO.

SHIPPING NO. 1148255 DATE 03/31/2011

CARRIER UNION PACIFIC

CAR/TRUCK NO. ORANGE

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

1484 BA 40

RUSSEL METALS INC (EDMONTON)
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT. LBF
AVG @ -50 F (H) 20 FT. LBF MIN.

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57493									
	2 PCS 7338 LBS	NW0804		565 605	765 800	22 21				
	7 PCS 25683 LBS	NW0810		LCVN @ -50 LCVN @ -50	DEG F 5.0mm DEG F 5.0mm	39 25 29 / 31 30 13 46 / 29				ft. lbf ft. lbf
	4 PCS 14676 LBS	NW0819		575 615	765 810	24 21				
				LCVN @ -50 LCVN @ -50	DEG F 5.0mm DEG F 5.0mm	38 28 28 / 31 10 25 26 / 20				ft. lbf ft. lbf

PHYSICAL PROPERTIES

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Al	Ca	CE
NW0804	14	1.23	.013	.005	.22	.01	.04	.017	.013	.042	.03	.00	
NW0810	15	1.24	.014	.004	.25	.01	.04	.017	.014	.041	.03	.00	
NW0819	14	1.20	.010	.005	.25	.01	.05	.016	.017	.045	.05	.00	
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (+) WERE SOLIDIFIED IN THE USA.													

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Al	Ca	CE
NW0804	14	1.23	.013	.005	.22	.01	.04	.017	.013	.042	.03	.00	
NW0810	15	1.24	.014	.004	.25	.01	.04	.017	.014	.041	.03	.00	
NW0819	14	1.20	.010	.005	.25	.01	.05	.016	.017	.045	.05	.00	
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (+) WERE SOLIDIFIED IN THE USA.													

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA
Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1148255	Mar 31, 2011	2
MILL ORDER NO.	DATE	
242388		
CUSTOMER ORDER NO.		
MC2006238		
JOB/REQ. NO.		
SHIPPING NO.	DATE	
1148255	03/31/2011	
CARRIER		
UNION PACIFIC		
CAR/TRUCK NO.		
ORANGE		

RUSSEL METALS INC [EDMONTON]

ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB
CA

RUSSEL METALS INC-EDMONTON-BATES

P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

ISO 9001

REGISTERED

FOR PLATE PROCESS

SOLD TO

7/4"

1484

BA H0

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4 LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000									
	4 PCS 14676 LBS	NW0819		LCVN @ -50 DEG F 5.0mm	LCVN @ -50 DEG F 5.0mm	28 30 29 / 29	ft.lbf			
	1 PC 3669 LBS	NW0821		LCVN @ -50 DEG F 5.0mm	LCVN @ -50 DEG F 5.0mm	30 33 28 / 30	ft.lbf			
	1 PC 3669 LBS	NW0831		LCVN @ -50 DEG F 5.0mm	LCVN @ -50 DEG F 5.0mm	34 29 26 / 29	ft.lbf			

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE
NW0819	14	1.20	.010	.005	.25	.01	.05	.016	.017	.045	.05	.00					
NW0821	15	1.21	.010	.003	.22	.01	.05	.013	.012	.033	.03	.00					
NW0831	15	1.20	.018	.005	.21	.01	.05	.021	.016	.046	.02	.00					
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA.																	
HEATS INDICATED WITH (+) WERE ROLLED IN THE USA.																	

I certify the above to be correct as contained in the records of EVRAZ INC. NA

By

QUALITY COORDINATOR

61A035527

EVRAZEVRAZ INC. NA
Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203**REPORT OF CHEMICAL/PHYSICAL TESTS**

CERTIFICATE NO.	DATE
1148254	Mar 31, 2011
MILL ORDER NO.	DATE
242388	

CUSTOMER ORDER NO.	
M62006238	
JOB/REQ NO.	
SHIPPING NO.	DATE
1148254	03/31/2011
CARRIER	
UNION PACIFIC	
CARTRUCK NO.	
BLUE	

ISO 9001
REGISTERED
147178

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

1484 Bat 40

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4 LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57493									
1 PC	3669 LBS	NW0810		575 615	765 810	24 21				
				LCVN @ -50	DEG F 5.0mm	38	28	28 / 31		ft.lbf
				LCVN @ -50	DEG F 5.0mm	10	25	26 / 20		ft.lbf
3 PCS	11007 LBS	NW0819		605 610	780 780	22 21				
				LCVN @ -50	DEG F 5.0mm	28	30	29 / 29		ft.lbf
				LCVN @ -50	DEG F 5.0mm	30	33	28 / 30		ft.lbf
11 PCS	40359 LBS	NW0831		590 615	775 790	23 24				

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE
NW0810	15	1.24	.014	.004	.25	.01	.04	.017	.014	.041	.03				
NW0819	14	1.20	.010	.005	.25	.01	.05	.016	.017	.045	.05				
NW0831	15	1.20	.018	.005	.21	.01	.05	.021	.016	.046	.02				
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (H) WERE ROLLED IN THE USA.															

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA BY



EVRAZ INC. NA

Evraz Oregon Steel - 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1148254	Mar 31, 2011	2
MILL ORDER NO.	DATE	
242388		
CUSTOMER ORDER NO.		
M62006238		
JOB/REQ. NO.		
SHIPPING NO.	DATE	
1148254	03/31/2011	
CARRIER		
UNION PACIFIC		
CAR/TRUCK NO.		
BLUE		

ISO 9001
REGISTERED
PLATE PHOTO

S O L D T O

RUSSEL METALS INC (EDMONTON)
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

1484 BA HD

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE-ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

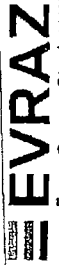
ITEM	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000MX X 528.000									
	11 PCS 40359 LBS	NW0831								
	15 PCS 55035 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE
NW0831	.15	1.20	.018	.005	.21	.01	.05	.021	.016	.046	.02	.00			
	HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (^) WERE ROLLED IN THE USA.														
.....	END OF REPORT														

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

QUALITY COORDINATOR



EVRAZ INC. NA
Evraz Oregon Steel 1400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	1146885	DATE	Mar 25, 2011	PAGE	1
MILL ORDER NO.	242388	DATE			
CUSTOMER ORDER NO.	M62006238				
JOB/REQ. NO.					
SHIPPING NO.	1146885	DATE	03/25/2011		
CARRIER	UNION PACIFIC				
CAR/TRUCK NO.	WHITE				

ISO 9001 REGISTERED 		S O L D T O RUSSEL METALS INC [EDMONTON] ATTN: TIM MAIER PO BOX 4128 EDMONTON, AB T6E 4T2 CA	RUSSEL METALS INC-EDMONTON-BATES P.O. BOX 4128 EDMONTON, AB T6E 4T2 CANADA 1484 BA 40
THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF AVG @ -50 F (H) 20 FT.LBF MIN.			

PHYSICAL PROPERTIES

ITEM	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0-2500 X 98.000MB X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57493	NW0830		625 620	800 795	24 23				
	10 PCS 36690 LBS									
	10 PCS 36690 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE
NW0830	14	1.25	.013	.005	.26	.01	.05	.030	.02	.00					
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (*) WERE ROLLED IN THE USA.															
END OF REPORT															

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA
Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. 1146887
DATE Mar 25, 2011
PAGE 1

WILL ORDER NO. 242388
CUSTOMER ORDER NO. M62006238
JOBREQ. NO.
SHIPPING NO. 1146887
DATE 03/25/2011
CARRIER UNION PACIFIC
CARTRUCK NO. BLUE

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

ISO 9001
REGISTERED
US PLATE PROD

1484 BA H0

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CMT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000 SCHEDULE B:7208.52.00.00 PT# 57493									
	6 PCS 22014 LBS	NW0809		625 810 20 625 810 25 LCVN @ -50 DEG F 5.0mm LCVN @ -50 DEG F 5.0mm				25 35 28 / 29 ft.lbf 22 40 26 / 29 ft.lbf		
	9 PCS 33021 LBS	NW0834		610 785 25 600 790 22 LCVN @ -50 DEG F 5.0mm LCVN @ -50 DEG F 5.0mm				25 26 20 / 24 ft.lbf 31 34 35 / 33 ft.lbf		
	15 PCS 55035 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE	McQuaid Grain Size
NW0809	.14	1.20	.016	.003	.20	.01	.04	.021	.014	.039	.03	.00				
NW0834	.14	1.20	.012	.005	.26	.01	.05	.019	.014	.048	.04	.00				
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (V) WERE ROLLED IN THE USA.																
.....	END OF REPORT	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA
Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. 1146888
DATE Mar 25, 2011
PAGE 1

ISO 9001
REGISTERED

S O L D
T O

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

RECEIVED
PLATE PRODUCTION

1484 BA H0

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57493									
3 PCS	11007 LBS	NW0809		625	810	20				
				625	810	25				
				LCVN @ -50	DEG F 5.0mm	25	36	28	/ 29	ft.lbf
				LCVN @ -50	DEG F 5.0mm	22	40	26	/ 29	ft.lbf
6 PCS	22014 LBS	NW0811		605	785	24				
				610	795	26				
				LCVN @ -50	DEG F 5.0mm	30	22	24	/ 25	ft.lbf
				LCVN @ -50	DEG F 5.0mm	30	24	23	/ 25	ft.lbf
6 PCS	22014 LBS	NW0821		575	770	24				
				565	760	27				

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	MOVED BY DATE
NW0809	.14	1.20	.016	.003	.20	.01	.04	.021	.014	.039	.03	.00						
NW0811	.15	1.19	.015	.005	.27	.01	.04	.023	.014	.046	.02	.00						
NW0821	.15	1.21	.010	.003	.22	.01	.05	.013	.012	.033	.03	.00						
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA.																		
HEATS INDICATED WITH (+) WERE ROLLED IN THE USA.																		

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

TO BE

RUSSEL METALS INC [EDMONTON]
ATTN:TIM MAIER
PO BOX 4128
EDMONTON, AB T6B 4T2
CA

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

BA HO

1484

DATE 03

SHIPPING NO.
1146888

BA HO

487

4

0

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BEND BHN TEST	IMPAIRMENTS
1	0.2500 X 98.000ME X 528.000	XW0821							
	6 PCS 22014 LBS			LCVN @ -50 DEG F	LCVN @ -50 DEG F	5.0mm	39 24 31 / 31	ft. lbf	
	15 PCS 55035 LBS TOTALS			LCVN @ -50 DEG F	LCVN @ -50 DEG F	5.0mm	34 29 26 / 29	ft. lbf	

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	Mo Cont. by Grain Size
NW0821	15	1.21	.010	.003	22	.01	.05	.013	.012	.033	.03	.00						
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (^) WERE ROLLED IN THE USA. END OF REPORT																		

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By _____

61A035367



EVRAZ INC. NA
EVRaz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. 1149951

DATE Apr 11, 2011

MILL ORDER NO. 242388

DATE

CUSTOMER ORDER NO. M62006238

DATE

JOB/REQ. NO.

DATE

SHIPPING NO. 1149951

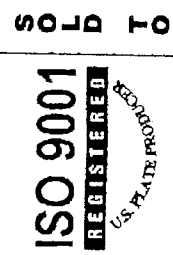
DATE 04/11/2011

CARRIER UNION PACIFIC

DATE

CART/TRUCK NO. BLDE

DATE



RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

1484 BA H0

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000 SCHEDULE B:7208.52.00.00 PT# 57493									
	2 PCS 7338 LBS	NW0809		625 625	810 810	20 25				
				LCVN @ -50	DEG F 5.0mm	25	36	28	/ 29	ft.lbf
	3 PCS 11007 LBS	NW0811		605 610	785 795	24 26				
				LCVN @ -50	DEG F 5.0mm	30	22	24	/ 25	ft.lbf
				LCVN @ -50	DEG F 5.0mm	30	24	23	/ 25	ft.lbf
	1 PC 3669 LBS	NW0821		575 565	770 760	24 27				

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE
NW0809	14	1.20	.016	.003	.20	.91	.04	.021	.039	.03	.00				
NW0811	15	1.19	.015	.005	.27	.01	.04	.023	.046	.02	.00				
NW0821	15	1.21	.010	.003	.22	.01	.05	.013	.033	.03	.00				
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.															

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

QUALITY COORDINATOR



EVRAZ INC. NA
EVRAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. 1149951
DATE APR 11, 2011
PAGE 2

MILL ORDER NO. 242388
CUSTOMER ORDER NO. M62006238
JOB/REQ. NO.
SHIPPING NO. 1149951
DATE 04/11/2011
CARRIER UNION PACIFIC
CAR/TRUCK NO. BLUE

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA
RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

ISO 9001
REGISTERED
QUALITY MANAGEMENT SYSTEM
SOLD TO
THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000MB X 528.000									
	1 PC 3669 LBS	NW0821		LCVN @ -50 625	DEB F 5.0mm 800	24		39 24	31 / 31	ft.lbf
	2 PCS 7338 LBS	NW0830		LCVN @ -50 620	DEB F 5.0mm 795	23		34 29	26 / 29	ft.lbf
	4 PCS 14676 LBS	NW0843		LCVN @ -50 565	DEB F 5.0mm 760	23		26 40	30 / 32	ft.lbf
	1 PC 3669 LBS	NW0844		LCVN @ -50 595	DEB F 5.0mm 780	22		46 32	25 / 34	ft.lbf
				595	775	27		25 24	32 / 27	ft.lbf

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE	McQand Bn Grain Size
NW0821	15	1.21	.010	.003	.22	.01	.05	.013	.033	.03	.00					
NW0830	14	1.25	.013	.005	.26	.01	.05	.030	.038	.02	.00					
NW0843	16	1.16	.014	.004	.25	.01	.05	.015	.034	.02	.00					
NW0844	14	1.20	.011	.004	.25	.01	.05	.016	.036	.03	.00					
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.																

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

QUALITY COORDINATOR

61AU35524



EVRAZ INC. NA
EVRaz Oregon Steel 1400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. 1146682
DATE Mar 24, 2011
MILL ORDER NO. 242388
CUSTOMER ORDER NO. M52006238
JOB REQ. NO.
SHIPPING NO. 1146682
DATE 03/24/2011
CARRIER UNION PACIFIC
CAR/TRUCK NO.
ORANGE

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

ISO 9001
REGISTERED
US PLATE MARK

R 1/4"

484 BA H0

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT. LBF
AVG @ -50 F (H) 20 FT. LBF MIN.

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000 SCHEDULE B:7208.52.00.00 PT# 57493									
	7 PCS 25683 LBS	NW0804		565 605	765 800	22 21				
				LCVN @ -50	DEG F 5.0mm	39 25	29 / 31	ft. lbf		
				LCVN @ -50	DEG F 5.0mm	30 13	46 / 29	ft. lbf		
	1 PC 3669 LBS	NW0810		575 615	765 810	24 21				
				LCVN @ -50	DEG F 5.0mm	38 28	28 / 31	ft. lbf		
				LCVN @ -50	DEG F 5.0mm	10 25	26 / 20	ft. lbf		
	1 PC 3669 LBS	NW0821		575 565	770 760	24 27				

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	W	Other
NW0804	14	1.23	.013	.005	.22	.01	.04	.017	.013	.042	.03	.00							
NW0810	15	1.24	.014	.004	.25	.01	.04	.017	.014	.041	.03	.00							
NW0821	15	1.21	.010	.003	.22	.01	.05	.013	.012	.033	.03	.00							
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.																			

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA
Evraz Oregon Steel 1440 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1149951	Apr 11, 2011	3
MILL ORDER NO.	DATE	
242388		
CUSTOMER ORDER NO.		
M62006238		
JOB/REQ. NO.		
SHIPPING NO.	DATE	
1149951	04/11/2011	
CARRIER		
UNION PACIFIC		
CART/BUCK NO.		
BLDB		

RUSSEL METALS INC - EDMONTON - BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

ISO 9001
REGISTERED
U.S. PATENTED

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000									
	1 PC 3669 LBS	NW0844								
	13 PCS 47697 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE	Mo and Bn Comments
NW0844	.14	1.20	.011	.004	.25	.01	.05	.016	.036	.03	.00					
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.																
END OF REPORT																

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA BY

61AU35524



EVRAZ INC. NA
Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE
1146682	Mar 24, 2011
MILL ORDER NO.	DATE
242388	

CUSTOMER ORDER NO.
M62006238
JOB/REQ. NO.
SHIPPING NO.
1146682
DATE
03/24/2011

RUSSEL METALS INC [EDMONTON] ATTN: TIM MAIER PO BOX 4128 EDMONTON, AB T6E 4T2 CA	RUSSEL METALS INC-EDMONTON-BATES P.O. BOX 4128 EDMONTON, AB T6E 4T2 CANADA
--	---

ISO 9001 REGISTERED EDMONTON PLATE	SOLD TO R 1/4"
---	-------------------

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT. LBF
AVG @ -50 F (H) 20 FT. LBF MIN.

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57493									
	7 PCS 25683 LBS	NW0804		565 605	765 800	22 21				
				LCVN @ -50	DEG F 5.0mm	39	25	29 / 31		ft. lbf
				LCVN @ -50	DEG F 5.0mm	30	13	46 / 29		ft. lbf
	1 PC 3669 LBS	NW0810		575 615	765 810	24 21				
				LCVN @ -50	DEG F 5.0mm	38	28	28 / 31		ft. lbf
				LCVN @ -50	DEG F 5.0mm	10	25	26 / 20		ft. lbf
	1 PC 3669 LBS	NW0821		575 565	770 760	24 27				

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	OE
NW0804	.14	1.23	.013	.005	.22	.01	.04	.017	.013	.042	.03	.00			
NW0810	.15	1.24	.014	.004	.25	.01	.04	.017	.014	.041	.03	.00			
NW0821	.15	1.21	.010	.003	.22	.01	.05	.013	.012	.033	.03	.00			
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH () WERE ROLLED IN THE USA.															

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA BY



EVRAZ INC. NA
EvrAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1146681	Mar 24, 2011	2
MILL ORDER NO.	DATE	
242388		
CUSTOMER ORDER NO.		
M62006238		
JOBREQ. NO.		
SHIPPING NO.	DATE	
1146681	03/24/2011	
CARRIER		
UNION PACIFIC		
CAR/TRUCK NO.		
BLUE		

ISO 9001 REGISTERED US PLATE PROD.	S O L D T O	RUSSEL METALS INC (EDMONTON) ATTN: TIM MAIER PO BOX 4128 EDMONTON, AB T6E 4T2 CA	RUSSEL METALS INC-EDMONTON-BATES P.O. BOX 4128 EDMONTON, AB T6E 4T2 CANADA
--	--------------------	--	---

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CXT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000ME X 528.000	NW0821							
	5 PCS 18345 LBS								
	15 PCS 55035 LBS TOTALS								

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	MO. & B. SIZE
NW0821	1.15	1.21	.010	.003	.22	.01	.05	.013	.012	.033	.03	.00						
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (") WERE ROLLED IN THE USA.																		
.....	END OF REPORT																	

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

QUALITY COORDINATOR



EVRAZ INC. NA
EvrAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

61A035526

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	1148253	DATE	Mar 31, 2011
MILL ORDER NO.	242389	DATE	
CUSTOMER ORDER NO.	M62006238		
JOB REQ. NO.			
SHIPPING NO.	1148253	DATE	03/31/2011
CARRIER	UNION PACIFIC		
CARTRUCK NO.	WHITE		

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CANADA

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

ISO 9001
REGISTERED
PLATE MARKING

1484 BA H0

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.3130 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57495	NW0828		585 575	765 760	23 23				
	13 PCS 59709 LBS									
	13 PCS 59709 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	Mc	Other
NW0828	.14	1.21	.008	.004	.25	.01	.05	.018	.012	.043	.01	.00							
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.																			
END OF REPORT																			

I certify the above to be correct as contained in the records of EVRAZ INC. NA

BY QUALITY COORDINATOR

Evrz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1146886	Mar 25, 2011	1
MAIL ORDER NO.		DATE
242389		
CUSTOMER ORDER NO.		
M62006238		
JOB/REQ. NO.		
SHIPPING NO.		DATE
1146886		03/25/2011
CARRIER		
UNION PACIFIC		
CAR/TRUCK NO.		
WHITE		

RUSSEL METALS INC [EDMONTON]

ATTN: TIM MAIER

PO BOX 4128

EDMONTON. AB T6E 4T2

CA

ISO 9001

REGISTERED

U.S.

U.S. ALATP PRODUCTS

3

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 50WT CAT4. LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

PHYSICAL PROPERTIES

[illegible]

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	McQuay-Norris Chem. Co.
NW0831	.15	1.20	.018	.005	.21	.01	.05	.021	.016	.046	.02	.00						
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA. END OF REPORT																		

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By



EVRAZ INC. NA
Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO. 1149948
DATE APR 11, 2011
MILL ORDER NO. 242389
DATE

RUSSEL METALS INC-EDMONTON-BATES
P.O. BOX 4128
EDMONTON, AB T6E 4T2
CANADA

RUSSEL METALS INC [EDMONTON]
ATTN: TIM MAIER
PO BOX 4128
EDMONTON, AB T6E 4T2
CA

ISO 9001
REGISTERED
2017-2020

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260WT CAT4 LCVN 20 FT.LBF
AVG @ -50 F (H) 20 FT.LBF MIN.

1484 BA #0

R 5" 16

SHIPPING NO. 1149948
DATE 04/11/2011
CARRIER UNION PACIFIC
CAR/TRUCK NO. WHITE

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.3130 X 98.000ME X 528.000 SCHEDULE B: 7208.52.00.00 PT# 57495									
	2 PCS 9186 LBS	NW0819		580	775	20				
				LCVN @ -50	DEG F	5.0mm	32	29	30	ft.lbf
	5 PCS 22965 LBS	NW0833		585	775	25				
				LCVN @ -50	DEG F	5.0mm	25	23	22	ft.lbf
	7 PCS 32151 LBS TOTALS									

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cr	Mo	Ti	B	N	Ca	CE
NW0819	.14	1.20	.010	.005	.25	.01	.05	.016	.045	.05	.00				
NW0833	.14	1.23	.013	.005	.26	.01	.05	.017	.050	.03	.00				
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.															
..... END OF REPORT															

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By

EVRAZ

EVRAZ INC. NA

8250 130th Street, Surrey, BC, V4W 8J9

Test Certificate

Form TC1: Revision 1: Date 31 Oct 2000

Customer: C.W. CARRY LTD. 5815 - 75TH STREET EDMONTON AB T6E0T3	Customer P.O. No.: 26520	Mill Order No.: 41-240145-01	Shipping Manifest: ST046526
Product Description: CSA G40.21(2004)44W/300W / ASTM A36(05) A709(01A)36/ASME SA36(01B)		Ship Date: 18 May 11	Cert No: 011125240 (Page 1 of 1)
Size: 0.250 X 96.00 X 240.0 (IN)		Cert Date: 18 May 11	

Tensiles				Charpy Impact Tests			
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong %
NW0667	A24	0.250 X 96.00 (CUT)	L 52000	72000	26	26	26
NW1370	A20	0.250 X 96.00 (CUT)	C 50000	71000	28	26	26
			C 50000	69000	30		

Chemical Analysis											
Heat Id	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Ch
NW0667	.14	.86	.005	.008	.30	.051	.01	.05	.01	.00	.005
NW1370	.13	.87	.012	.007	.23	.045	.01	.05	.02	.00	.005

MATERIAL MARKED WITH AN ASTERISK IS PRODUCED FROM COIL
* NW1370 A20 PCES: 6, WGT: 9801

* NW0667

A24 PCES: 24, WGT: 39204

Cust Part # :	WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH THE APPROPRIATE SPECIFICATION	Greg Baldon CHECKED BY
---------------	--	---------------------------

P38

CON

1601 JOL

10F2

ESSAR Steel Algonia Inc.

105 West Street, Sault Ste. Marie, Ontario Canada P6A 7B4

CUSTOMER PURCHASE ORDER NUMBER PO-0025800-1	ENTRY DATE 2011/02/03	CREATE DATE 2011/02/03	TALLY NUMBER 212374	SHIPPER'S NO. -	CARRIER BCOL	MILL ORDER 73422
--	--------------------------	---------------------------	------------------------	--------------------	-----------------	---------------------

CHARGE TO CUSTOMER NAME AND ADDRESS

C W CARRY LTD STEEL SERVICE CENTRE
5815 - 75TH STREET
EDMONTON ALBERTA
T6H 0T3

SHIP TO CUSTOMER NAME AND ADDRESS

CW CARRY LTD
STEEL SERVICES CENTRE
CLOVER BAR ALBERTA

CUSTOMER SPECIFICATION

HR MULTIPLE CERTIFIED PLATE - HSLA - CSA G40.21 38W/44W/ASTM A36/ASME SA36
(04) (04) (08) (10) - FLATNESS 1/2 A-6

MILL TEST REPORTS

ESSAR STEEL ALGONIA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES.

M. MCLEAN

MANAGING METALLURGIST

SUPPLEMENTARY INSTRUCTIONS

TEST CERT 1: RMILES@CWCARRY.COM TEST CERT 2: PLATE TEST COUPO
N:

INSP YR TEST REPORTS REQUIRED

2000173573 PF

CUST RESALE

2011/02/07 07:26

THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGONIA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705) 945-2624 COLLECT FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT.

MEETS EN 10204 3.1

ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEELALGONIA.COM

ALL HEATS FULLY KILLED

HEATS INDICATED WITH (*) FINE GRAINED

HEATS INDICATED WITH (+) MADE IN CANADA WITH DOMESTIC AND NORTH AMERICAN MATERIALS

CUSTOMER ITEM 00002 OUR ITEM 002 DIMENSIONS .375 X 120 X 480 "

PLATE NUMBER	HEAT-MS	PIECES	NO.	WEIGHT
01361	1660L-01	1	1	6125
02839	1658L-03	2	2	12251
02841	1658L-04	2	2	12251
02843	1658L-04	2	2	12251
02850	1658L-55	1	1	6125

HEAT-MS	PIECES	NO.	WEIGHT
1658L-02	1	1	6125
1658L-04	2	2	12251
1658L-04	2	2	12251
1658L-54	2	2	12251

TENSILE TESTS:

* SAMPLE	* GAUGE	* TEST	* YIELD TENSILE	* % ELONG
SRCE	COND. METH	DIR	RSI	RSI
166"	AR	2	71.1	25(8")
166"	AR	2	71.4	25(8")
166"	AR	2	74.0	24(8")

LAB
ALG
ALG
ALG

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

1601 04.2012

ESSAR Steel Algoma Inc. 105 West Street, Sault Ste. Marie, Ontario Canada P6A 7B4

CUSTOMER PURCHASE ORDER NUMBER PO-0025800-1	ENTRY DATE 2011/02/03	CREATE DATE 2011/02/03	TALLY NUMBER 212374	SHIPPER'S NO. -	CARRIER BCOL	MILL ORDER 73422
--	--------------------------	---------------------------	------------------------	--------------------	-----------------	---------------------

CHARGE TO CUSTOMER NAME AND ADDRESS
C W CARRY LTD STEEL SERVICE CENTRE
5815 - 75TH STREET
EDMONTON ALBERTA
T6E 0T3

SHIP TO CUSTOMER NAME AND ADDRESS
CW CARRY LTD
STEEL SERVICES CENTRE
CLOVER BAR ALBERTA

CUSTOMER SPECIFICATION
HR MULTIPLE CERTIFIED PLATE - HSLA - CSA G40.21 38W/44W/ASTM A36/ASME SA36
(04) (04) (08) (10) - FLATNESS 1/2 A-6

M. MCLEAN
MANAGING METALLURGIST

THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705) 945-2624 COLLECT FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT.

SUPPLEMENTARY INSTRUCTIONS
TEST CERT 1: RMILES@CWCARRY.COM TEST CERT 2: PLATE TEST COUPO
N:

CUST RESALE		2011/02/07 07:26																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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****WARNING****
THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE CHEMICAL ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

SSAB

12400 Highway 43 North, Axis, Alabama 36505

Test Certificate

Form TC1: Revision 1: Date 31 Oct 2000

62A004783

Customer: RUSSEL METALS INC - EDMONTON P.O. BOX 4128 EDMONTON AB T6E4T2		Customer P.O. No.: 62006139 & 41-290251		Mill Order No.: 41-290252-02		Shipping Manifest : ARI10820A										
Product Description: CSA G40.21(2003)44W/300W /ASTM A36(08) A709(01A)36/ASME SA36(01ED)		Ship Date: 14 Feb 11 Cert Date: 14 Feb 11		Cert No: 081264318 (Page 1 of 1)												
Size: 0.500 X 120.0 X 240.0 (IN)																
Tested Pieces		Tensiles		Charpy Impact Tests												
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong % 2in 8in	Tst Dir	Average Hardness	Abs. Energy(FTLB) 1 2 3 Avg	% Shear 1 2 3 Avg	Tst Tmp	Tst Dir (mm)	Tst Siz (mm)	BDWTT Temp %Shr	
E1A252	A87	0.497 X 120.0 (DISCRT)	L 53000	74000			23	T								
Chemical Analysis																
Heat Id	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Cb	V	Ti	B	N	ORGN
E1A252	.18	.90	.013	.003	.24	.028	.25	.10	.14	.03	.002	.005	.020	.0001	.0088	USA

MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT
MTR DIN EN10204:2004 TYPE 3.1 COMPLIANT
PRODUCTS SHIPPED:

E1A252 A87 PCES: 10, WGT: 40983

(r)

Cust Part # : 42583

WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION

Jason Thomas
SENIOR METALLURGIST

HT.# V 305026 *FL*

1 1/4" PLATE
1598
off

PT. GUNAWAN DIANJAYA STEEL Tbk.
Surabaya - Indonesia

Page : 51 of 58



Certified Quality Management System

ISO 9001:2008
Cert. No. 81 0945177

Head Office :
Jl. Mangrove No. 29 A
Gresik - Asemrowo - Surabaya 60183
Phone : (62-31) 7490588 (Hunting)
Fax : (62-31) 7490581
E-mail : quality@gunawansteel.com
http://www.gunawansteel.com

MILL TEST CERTIFICATE
ACC. TO EN10204 : 2004 3.1

Customer : WIRTH STEEL
Order No. : E-044-2011 ORDER NO. 0038-V
S. Contract no. : 018/0309/2011 LOT 1
Material : NEWLY PRODUCED, PRIME QUALITY, HOT ROLLED STEEL PLATES
Specification : CSA G40.21 GRADE 44W
Tolerances : ASTM A8

Certificate No. : GDS/002/11/044
Date : March 30, 2011
SHIPPING MARKS : PT. GOS TSK/SIZE/HEAT NO./PLATE NO./SPEC/
MADE IN INDONESIA/VANCOUVER, AND BE38-V
COLOUR MARKING : BRIGHT GREEN

Heat Number	Plate Number	Quantity	Dimensions (mm)			Weight (MT)	Ladle Analysis (%)																Tensile Test				Impact Value in Joule				Reference
			T INCH	W INCH	L INCH		C	Si	Mn	P	S	Nb	Cu	Cr	Ni	Mo	V	Al	Ti	N	Test No.	Y.S KSI Min/Max	T.S KSI Min/Max	El % 200mm 5in/50in	Bend Test	Impact Value in Joule (°C)					
																										I	II	III	Av		
V 306026	O 1	1	1-1/4	96	384	5.928	17	26	106	8	3	3	5	2	3	11	4	40	3	7	R2	48	75	34							
	R 1	1				5.928																									
Sub total		8				47.424																									
V 205689	F 1	1	1-1/2	96	240	4.446	19	24	106	8	6	4	5	3	3	8	4	40	3	5	O2	48	73	32							
	G 1	1				4.446																									
	G 2	1				4.446																									
	G 3	1				4.446																									
	G 4	1				4.446																									
V 306026	H 2	1				4.446	17	26	106	8	3	3	5	2	3	11	4	40	3	7	R2	48	75	34							
	H 3	1				4.446																									
	H 4	1				4.446																									
	O 2	1				4.446																									
	R 2	1				4.446																									
J 1002534	T 2	1				4.446																									
Sub total		11				48.906	20	19	110	16	7	<10	3	3	2	<10	<5	37	<5	5	P3	47	73	30							
V 106102	R 1	1	1-1/2	96	288	5.335	18	24	111	14	4	3	6	4	3	2	3	30	3	7	S1	61	73	28							
V 205689	R 3	1				5.335	19	24	106	8	5	4	5	3	3	8	4	40	3	5	O2	48	73	32							
V 205682	H 1	1				5.335	18	19	106	7	3	3	4	2	2	3	30	3	5		U3	44	68	31							
	H 2	1				5.335																									
	K 3	1				5.335																									

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENT CALLED FOR BY THE ABOVE ORDER



PT. GUNAWAN DIANJAYA STEEL
PT. GUNAWAN DIANJAYA STEEL
PT. GUNAWAN DIANJAYA STEEL

W/2x26 1603pk 10A/SPR BAF

Bill To: C.W. CARRY LTD. ACCIS PAYABLE 5815 75 ST NW EDMONTON T6E 0T3
Ship To: 1 C.W. CARRY LTD. CN SIDING 2062 EDMONTON T6E-0T3
Order Date: 03/22/2011 PO No: 26508 Mill Order No: 3871261 Load No: 136893 Manifest No: 2065361
AB CA AB CA
GERDAU AMERISTEEL Midlothian Mill 300 Ward Road Midlothian, TX 76065 (972) 775-8241
CERTIFIED MATERIAL TEST REPORT

SIZE W 12 X 26# / W310 X 38.7
SPECIFICATIONS ASTM A6-09, A992-06a, A572-07
GRADE 992/572-50
LENGTH 40 FT / 12.192 M
PRODUCT WF BEAMS

HEAT NO: 22586470

C .08 S .033 Si .22 Cu .34 Ni .10 Cr .15 Mo .029 Sn .011 V .002 Nb .018 CE .29

Yield Strength

KSI MPa
56.2 387.5
56.3 388.2

TENSILE TEST RATIOS

YLD/TENS TENS/YLD YLD/TENS TENS/YLD
.75 1.33 .75 1.33

Tensile Strength

KSI MPa
75.0 517.1
74.8 515.7

Specimen Area

Sq In Sq cm
0.542 3.50
0.536 3.46

Elongation

% Gage Length
24.4 8 In 200 mm
24.3 8 In 200 mm

Bend Test

Dia. Result

ROA %

CHEMICAL ANALYSIS

PHYSICAL PROPERTIES

All manufacturing processes of this product, including electric arc MELTING and continuous CASTING, occurred in the U.S.A.
CMTR complies with EN 10204 3.1

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material specifications and applicable purchaser designated requirements."

Signed: Tom L. Harrington Date: Apr. 12, 2011 Signed: _____ Date: _____
Tom L. Harrington: Quality Assurance Manager Notary Public (if applicable)
Page: 1 of 1

W12x26 1583 BA

BILL TO:
VARSTEEL LTD
ACCTS PAYABLE
220 4TH ST. S.
LETHBRIDGE
T1J 4J7

STE-330
AB
CA

Ship To: 12
VARSTEEL-DELTA
9500 RIVER ROAD
DELTA
V4G 1B5

BC
CA

Order Date: 12/13/2010

PC No: DE-913916
Mill Order No: 3823759
Load No: 1354008
Manifest No: 2053014

CERTIFIED MATERIAL TEST REPORT

GERDAU AMERISTEEL
Midlothian Mill
300 Ward Road
Midlothian, TX 76065
(972) 775-8241

GRADE
992/572-50

SIZE
W 12 X 26 1/2 / W310 X 38.7

LENGTH
40 FT / 12.192 M

HEAT NO: 22568530 HT.# 22568530

C Mn P S Si Cu Ni Cr Mo Sn V Al Nb CE

.07 .92 .014 .034 .26 .37 .12 .13 .038 .016 .002 .003 .017 .29

CHEMICAL ANALYSIS

Yield Strength

KSI MPa
58.5 403.3
56.6 404.0

Tensile Strength

KSI MPa
76.2 525.4
76.1 524.7

PHYSICAL PROPERTIES

Specimen Area	Sq In	Sq Cm	Elongation %	Cage Length
	0.517	3.34	26.5	8 in 200 mm
	0.523	3.37	24.8	8 in 200 mm

Bend Test

Dia. Result

ROA %

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A.
ENFS complies with EN 10204 3.1

We hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material.

Signed: *Tom L. Harrington*
Tom L. Harrington: Quality Assurance Manager

Date: Feb. 04, 2011

Signed:

Notary Public (if applicable)

Date:

HMS 1102(A)-3a

K. S. Shim

General Manager of Q.A Team

WE HEREBY CERTIFY THAT THE MATERIAL HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ABOVE ORDER

2009014

A4(210)

INSPECTION CERTIFICATE

W12x26 BA

1583

ORIGINAL

Contract No.	
Customer	HYUNDAI CORPORATION
L/C No.	
P/O No.	462011018006
Commodity	H-BEAM
Specification	ASTM A36/A572G50/A992/CS A360W

H HYUNDAI STEEL COMPANY	
Head Office	1, Songhyeon-dong, Dong-gu, Inc 401-712, S. Korea
Certificate No.	
Class Cert. No.	IH20110104416 - 4
Date of Issue	

Dimensions & Length	Heat No.	Pieces	Chemical Composition (%)											Tensile Test			Bend Test	Impact Test (V-notch)			Remarks					
														Tensile Strength	Yield point	Elongation (%)		AVG	1	2		3				
			C	Si	Mn	P	S	Cu	Ni	Mo	Al	Nb														
			Weights (kg)																							
			x100											x1000			x1000			N/mm ²			%			
10X8X39 50.00 FT	D 098608	5	17	16	65	31	20	25	2	2	6					519.8	379.5	25.5								
10X8X45 40.00 FT	D 098531	9	16	17	75	32	32	27	10	10	24					524.7	382.5	25.0								
10X10X49 40.00 FT	E 147604	12	19	16	61	28	16	30	2	3	25					492.3	372.7	27.5								
10X10X49 40.00 FT	E 149463	10.668	19	16	61	28	16	30	2	3	25					496.2	376.5	27.0								
10X10X49 60.00 FT	E 149463	13.335	19	17	62	30	19	25	2	4	15					538.4	399.1	25.5								
12X6-1/2X26 40.00 FT	D 098967	15.996	19	17	62	30	19	25	2	4	15					539.4	401.1	25.0								
12X6-1/2X26 50.00 FT	D 098967	11.328	15	16	62	31	20	32	1	10	15					549.2	426.6	25.0								
12X6-1/2X26 50.00 FT	D 098964	16	17	17	66	33	23	28	2	3	19					549.2	431.5	25.5								
12X6-1/2X26 50.00 FT	D 098966	9.440	17	17	66	33	23	28	2	3	17					549.2	404.0	25.0								
12X6-1/2X26 55.00 FT	D 098968	4.720	17	15	64	26	20	27	1	10	13					535.4	400.1	26.0								
SUB TOTAL		117	17	16	63	23	20	21	1	3	16					541.3	393.2	26.0								
(Note) (1) Coq:		89.520														513.9	383.4	26.5								
																524.7	387.4	26.0								
																531.5	394.2	26.0								
																534.5	395.2	26.5								

(2) Gauge length : 200 mm

Heat Number
D098967

NUCOR STEEL GERRITY
P.O. Box 2704
Mt. Pleasant, S.C. 294
Phone: (843) 336 6000

HERRELEY
S.C. 20464
330 6000

W/2

VERSTER LTD
330. 210.400
SIREN SUITE

W/2x26

CERTIFIED MILL TEST REPORT

BA

ALL BEAMS PRODUCED BY Nucor-Borkley AND
rolled to a fully killed and fine grain practice,
used in the direct manufacturing of this material.

SHIP TO: VARSTEEL INC
602 13 AVE
COSTA MESA : 2715

ETHER 235, 95 1:1 44
RISXO 95 TKE /PG

STATEMENT OF WORK: TESTING - ACCURACY WITH ASTM SPECIFICATION: 45/00K-10 and 437d. QUALITY MANUAL: Rev 4/21.

[illegible][illegible]

BRUCE A. WOOD
Maternalist

Heat Number
22586530

CERTIFIED MATERIAL TEST REPORT
GERDAU AMERISTEEL
Midlothian Mill
300 Ward Road
Midlothian, TX 76065
(972) 775-8241

Order Date: 12/16/2019
PO No: ES-934193
Mill Order No: 2826081
Load No: 1367004
Manifest No: 2064151

Ship To: 26
Varadero Regina
2191 Albert Street N.
REGINA
S49 3E1
CA

PRODUCT
WF BEAMS

LENGTH
40 FT / 12.192 M

GRADE
992/572-00

SIZE
W 12 X 26# / W310 X 28.7

REMARKS
ADIR 60-02, 600-000, 600-07

CHEMICAL ANALYSES

	C	Mn	P	S	SI	CU	NI	CR	MO	SN	V	AL	NO	CE
	.02	.24	.011	.038	.26	.30	.12	.13	.033	.010	.002	.003	.018	.3

PHYSICAL PROPERTIES

Tensile Strength	
ksi	MPa
74.8	515.7
73.1	504.0

Spectrometric	
Sq In	Sq cm
0.521	3.36
0.533	3.44

Pend Test	
Gage Length	Dia. Result
8 In 200 mm	
8 In 200 mm	

ROD
5

TENSILE TEST RATIOS

YLD/TENS TENS/YLD YLD/TENS TENS/YLD	
1.7	1.33
1.76	1.32

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A.
This complies with EN 10204 3.1

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material specifications and applicable purchaser designated requirements."

Signed: *[Signature]* Date: Apr. 30, 2011
Tom L. Harrington, Quality Assurance Manager

Signed: *[Signature]* Date: *[Blank]*
Notary Public (if applicable)

Heat Number
22566460

Bill To:
VAPORTECH LTD
AMCTS PAYABLE
220 4TH ST. N.
LETHBRIDGE
T1J 4J7

STE-130
AB
CA

SPECIFICATION
ASTM A6-90, A992-90a, A572-07

HEAT NO: 22566460

SIZE
W 12 X 10 / W10 X 10.1

TENSILE STRENGTH

KSI MPa
95.8 884.0
96.2 888.2

TENSILE TEST RATIOS

YLD/TENS TENS/YLD YLD/TENS TENS/YLD
1.74 1.35 1.74 1.25

TENSILE STRENGTH

KSI MPa
75.5 690.6
76.0 694.0

Chemical Analysis

Cu Ni Cr Mn S P S
.36 .09 .15 .029 .011 .002 .004 .018 .13

PHYSICAL PROPERTIES

Elongation
Gage Length
8 in 200 mm
6 in 200 mm

Sub. Test
Dia. Result

R36

Order Date: 01/10/2011
PO No: RD-934667
Order No: 3834544
Lead No: 1573035
Manifest No: 2069300

AB
CA

LENGTH
40 FT / 12.192 M

PRODUCT
WF BEAMS

CERTIFIED MATERIAL TEST REPORT
GERDAU AMERISTEEL
Midlothian Mill
300 Waco Road
Midlothian, TX 76065
(972) 775-8241

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A.
EXTRA compliance with EN 10204 3.1

"I, hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material specifications and applicable purchaser designated requirements."

Signed: *Tom L. Harrington* Date: May 03, 2011
Tom L. Harrington: Quality Assurance Manager

Signed: Notary Public (IT 001133512)

Date: _____
Page: 1 of 1

Bruce R. Work
Metallurgist

1583

W12x26

6/07/11 4:50:25

CERTIFIED MILL TEST REPORT

NUCOR STEEL - BERKELEY
P.O. Box 2253
Mills, Pleasanton, S.C. 29664
Phone: (843) 336-6000

100% MELTED AND MANUFACTURED IN THE USA
All beams produced by Nucor Berkeley are cast and
rolled to a fully killed and fine grain practice.
Mercury has not been used in the direct manufacturing of this material.

Customer #.: 2715 - 6

SHIP TO: VARSIEL INC
602-13 AVE

SOLD TO: VARSIEL LTD
340. 220-414 STREET SOUTH

CHETWORTH, NB T1J 4J7

NISKU, AB T9E 7P6

B.O.L. #.: 304088

SPECIFICATIONS: Treated in accordance with ASTM Specification 06 11/A6M 11 and 0170. Quality Manual Rev 026.

ASTM: A270-00-05

PSM: A302.06A.036-03/0523.05-50/6572-07-50/A739 10 50/A704-345M

Description	Heat Grade(s)	Yield Ratio	Tensile (PSI)	Yield (MPa)	C XXXXX	Mo T1	Mn T1	P XXXXX	S XXXXX	B XXXXX	V XXXXX	Si XXXXX	Cu XXXXX	Ni XXXXX	CE1 XXXXX	CE2 XXXXX
W12x26 040' 03.00' W310x38.7 012.1920m	1107167 A392-06A	.62	54000 386 502	48600 473 502	.06 .04 XXXXX	.81 .01 XXXXX	.006 .0076 XXXXX	.006 .0076 XXXXX	.023 .0002 XXXXX	.023 .0002 XXXXX	.24 .003 XXXXX	.15 .027 XXXXX	.15 .027 XXXXX	.16 4.42 XXXXX	.23 .1302 XXXXX	.23 .1302 XXXXX
W12x26 040' 03.00' W310x38.7 012.1920m	1107167 A392-06A	.62	54000 386 502	48600 473 502	.06 .04 XXXXX	.81 .01 XXXXX	.006 .0076 XXXXX	.006 .0076 XXXXX	.023 .0002 XXXXX	.023 .0002 XXXXX	.24 .003 XXXXX	.15 .027 XXXXX	.15 .027 XXXXX	.16 4.42 XXXXX	.23 .1302 XXXXX	.23 .1302 XXXXX
W12x26 040' 03.00' W310x38.7 012.1920m	1107167 A392-06A	.62	54000 386 502	48600 473 502	.06 .04 XXXXX	.81 .01 XXXXX	.006 .0076 XXXXX	.006 .0076 XXXXX	.023 .0002 XXXXX	.023 .0002 XXXXX	.24 .003 XXXXX	.15 .027 XXXXX	.15 .027 XXXXX	.16 4.42 XXXXX	.23 .1302 XXXXX	.23 .1302 XXXXX
W12x26 040' 03.00' W310x38.7 012.1920m	1107167 A392-06A	.62	54000 386 502	48600 473 502	.06 .04 XXXXX	.81 .01 XXXXX	.006 .0076 XXXXX	.006 .0076 XXXXX	.023 .0002 XXXXX	.023 .0002 XXXXX	.24 .003 XXXXX	.15 .027 XXXXX	.15 .027 XXXXX	.16 4.42 XXXXX	.23 .1302 XXXXX	.23 .1302 XXXXX

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the purchaser, meet applicable specifications.

Bruce R. Work
Metallurgist

Heat Number
1107163

Vendor
NUCOR STEEL (BERKELEY) (US)

LAND 15
NUCOR STEEL - BERKELEY
P.O. BOX 2259
Mt. Pleasant, S.C. 29464
Phone: (843) 336-6000

CERTIFIED MILL TEST REPORT

W6x16

Sold To: PRICE STEEL LTD.
13500 - 156 STREET

EDMONTON, AB T5V 1L3

Ship To: PRICE STEEL LTD.
13500 - 156 STREET

EDMONTON, AB T5V 1L3

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.

AASHTO : M270-50-05

ASTM : A992-06a; A36-08/A529-05-50/A572-07-50/A709-345W/A70909a0S

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI)	Tensile (MPa)	Elong (%)	Chemical Analysis (%)									
						C	Mn	P	S	Si	Cu	Ni	CE1	CE2	Pcm
W6X16	2004669	.83	56400	67600	28.38	.06	.83	.006	.021	.16	.17	.05	.23	.2633	.1279
040' 00.00"	A992-06a		389	466		.03	.00	.0079	.0004	.002	.027				
W150X24.0		.83	56400	68100	24.53							4.08			
012.1920m			389	470		12 Piece(s)									
W6X16	2004664	.83	58400	70000	25.51	.06	.87	.006	.028	.22	.15	.04	.23	.2813	.1337
040' 00.00"	A992-06a		403	483		.03	.00	.0080	.0004	.002	.029				
W150X24.0		.83	57400	69100	24.19							4.06			
012.1920m			396	476		48 Piece(s)									

2 Heat(s) for this MTR.

RECEIVED MAY 27 2010

100% MELTED AND MANUFACTURED IN THE USA
All beams produced by Nucor-Berkeley are cast and
rolled to a fully killed and fine grain practice.
Mercury has not been used in the direct manufacturing of this material.

Customer #: 827 - 1
Customer PO: 29131F
B.O.L. #...: 815915
Invoice #...: 1189232

CE1 = C + (Mn/5) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)
CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work
Metallurgist

SOLD C W CARRY(1967) LTD
TO: 5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

NUCOR
NUCOR STEEL SEATTLE, INC.

Page: 3

CERTIFIED MILL TEST REPORT

SHIP C W CARRY
TO: 5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

13x3x3/8

Ship from:
Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 2-Mar-2011
B.L. Number: 408836
Load Number: 247833

BA/HO

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

NBMG-08 March 24, 2009

HEAT NUM. *	DESCRIPTION	PHYSICAL TESTS				CHEMICAL TESTS														
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT%	DEF	C	Ni	Mn	Cr	P	Mo	S	V	Si	Cb	Cu	Sn	C.E.
PO# ==> SE1110059101	26198																			
	Nucor Steel Seattle, Inc.	50,052	72,403	32.0%					.16	.71	.013	.013	.020	.042	.006	.042	.25	.36	.33	
	3x3x3/8 Angle	345MPa	499MPa						.11	.07										
	40' A36/44W	49,171	72,109	31.3%																
	CSA G40.21-04 44W/ASTM A36/A36M-08	339MPa	497MPa																	
PO# ==> SE1110059501	26198																			
	Nucor Steel Seattle, Inc.	51,501	73,745	30.5%		***		.17	.69	.011	.011	.030	.035	.007	.035	.24	.31	.33		
	3x3x3/16 Angle	355MPa	508MPa					.10	.07											
	40' A36/44W	52,490	74,434	28.9%																
	CSA G40.21-04 44W/ASTM A36/A36M-08	362MPa	513MPa																	
ASTM A709/A709M-08 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA ASTM A36/A36M-08, A709/A709M-09a GR36, ASME SA36-07 Ed 09 Ad																				
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I HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.

ALL MANUFACTURING PROCESSES OF THE STEEL MATERIALS IN THIS PRODUCT, INCLUDING MELTING, HAVE OCCURRED WITHIN THE UNITED STATES. ALL PRODUCTS PRODUCED ARE WELD FREE. MERCURY, IN ANY FORM, HAS NOT BEEN USED IN THE PRODUCTION OR TESTING OF THIS MATERIAL.

QUALITY
ASSURANCE: Winky Lai

Winky Lai

SOLD C W CARRY(1967) LTD
TO: 5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

NUCOR
NUCOR STEEL SEATTLE, INC.

CERTIFIED MILL TEST REPORT

Page: 1

SHIP C W CARRY
TO: 5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

L3x3x8

Ship from:
Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 10-May-2011
B.L. Number: 412461
Load Number: 250367

1590 BA/HO

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

NEMG-08 March 9, 2011

HEAT NUM. *	DESCRIPTION	PHYSICAL TESTS					CHEMICAL TESTS												
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT% DEF	C	NI	Mn	Cr	P	Mo	S	V	Si	Cb	Cu	Sh	C.E.
PO# => SE1110059201	26737 Nucor Steel - Seattle Inc	50,422	72,943	28.1%															
	3x3x3/8 Angle	348MPa	503MPa																
	40' A36/44W	50,687	73,318	28.1%															
	CSA G40.21-04 44W/ASTM A36/A36M-08	349MPa	506MPa																
	ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA																		
PO# => SE1110147902	26737 Nucor Steel - Seattle Inc	48,880	71,973	28.9%															
	1-1/2x1-1/2x3/16 Angle	337MPa	496MPa																
	40' A36/44W	49,051	71,954	28.1%															
	CSA G40.21-04 44W/ASTM A36/A36M-08	338MPa	496MPa																
	ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA																		
PO# => SE1110147902	26737 Nucor Steel - Seattle Inc	48,880	71,973	28.9%															
	1-1/2x1-1/2x3/16 Angle	337MPa	496MPa																
	40' A36/44W	49,051	71,954	28.1%															
	CSA G40.21-04 44W/ASTM A36/A36M-08	338MPa	496MPa																
	ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA																		
PO# => SE1110147902	26737 Nucor Steel - Seattle Inc	48,880	71,973	28.9%															
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	CSA G40.21-04 44W/ASTM A36/A36M-08	338MPa	496MPa																
	ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA																		
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	CSA G40.21-04 44W/ASTM A36/A36M-08	338MPa	496MPa																
	ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA																		
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PO# => SE1110147902	26737 Nucor Steel - Seattle Inc	48,880	71,973	28.9%															
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	CSA G40.21-04 44W/ASTM A36/A36M-08	338MPa	496MPa																
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PO# => SE1110147902	26737 Nucor Steel - Seattle Inc	48,880	71,973	28.9%															
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PO# => SE1110147902	26737 Nucor Steel - Seattle Inc	48,880	71,973	28.9%															
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PO# => SE1110147902	26737 Nucor Steel - Seattle Inc	48,880	71,973	28.9%															
	1-1/2x1-1/2x3/16 Angle	337MPa	496MPa																
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PO# => SE1110147902	26737 Nucor Steel - Seattle Inc	48,880	71,973	28.9%															
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	ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA																		
PO# => SE1110147902	26737 Nucor Steel - Seattle Inc	48,880	71,973	28.9%															

CERTIFIED MILL TEST REPORT

NUCOR
NUCOR STEEL SEATTLE, INC.

SOLD TO: C W CARRY(1967) LTD
5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

SHIP TO: C W CARRY
5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

Ship from: Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 17-Mar-2011
B.L. Number: 410083
Load Number: 248452

NBMG-08 March 24, 2009

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

Material Safety Data Sheets are available at www.nucorbar.com or by contacting 360-272-2262																			C.E.
HEAT NUM.*	DESCRIPTION	PHYSICAL TESTS				WT%	DEF	CHEMICAL TESTS											
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND			C	Ni	Mn	Cr	P	Mo	S	V	Si	Cb	Cu	Sn
PO# => SE1110080302	26198 Nucor Steel Seattle, Inc. 3/8x5" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08	52,267 360MPa 52,556 362MPa	77,119 532MPa 76,904 530MPa	27.3% 34.4%		***		.19 .11		.71 .10		.015 .020		.036 .007		.19 .003		.36	.37
PO# => SE1110148401	26198 Nucor Steel Seattle, Inc. 3x3x1/4 Angle 40' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08	52,566 362MPa 52,461 362MPa	74,493 514MPa 74,792 516MPa	34.4% 34.4%		***		.16 .11		.68 .13		.017 .030		.041 .008		.21 .003		.36	.34
NDA ASTM A36/A36M-08, A709/A709M-09a GR36, ASME SA36-07 Ed 09 Ad																			
ASTM A709/A709M-08 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE																			
ASTM A709/A709M-08 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE																			
NDA ASTM A36/A36M-08, A709/A709M-09a GR36, ASME SA36-07 Ed 09 Ad																			

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QUALITY ASSURANCE: Winky Lai

Winky Lai

W-114962



WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 668-8811

Chemical and Physical Test Report
MADE IN CANADA

1612 M.R.

SHIP TO C.W. CARRY 1976 LTD 5815 75TH ST. - SIDING CN Z062 780-465-0381 EDMONTON, AB T6E 0T3	INVOICE TO C.W. CARRY 1976 LTD ACCTS PAYABLE 5815 75 ST NW EDMONTON, AB T6E 0T3	SHIP DATE 04/11/11	CUST. ACCOUNT NO 60122230
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PRODUCED IN: WHITBY

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A2 X 2 X 3/16	44W	C.S.A. G40.21-04 (R2009) 44W	1025269-02	26677-02
HEAT I.D.				
W908728	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.11 .80 .013 .032 .18 .34 .10 .13 .030 .000 .0008 .0000 .009 .000 .000000 .000 .000000 .326		
Mechanical Test:	Yield 50487 PSI, 348.1 MPA	Tensile: 68447 PSI, 471.93 MPA	%El: 28.8/8in, 28.8/200MM	Def HT: 0, 0MM %/h 0
Mechanical Test:	Yield 50846 PSI, 350.67 MPA	Tensile: 68307 PSI, 470.96 MPA	%El: 30.0/8in, 30.0/200MM	Def HT: 0, 0MM %/h 0

PRODUCED IN: WHITBY

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A2 X 2 X 3/16	44W	C.S.A. G40.21-04 (R2009) 44W	1025269-01	26677-01
HEAT I.D.				
W908760	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.16 .70 .010 .037 .18 .37 .08 .07 .020 .000 .0008 .0000 .011 .000 .000000 .000 .000000 .373		
Mechanical Test:	Yield 55249 PSI, 380.93 MPA	Tensile: 75082 PSI, 517.67 MPA	%El: 26.2/8in, 26.2/200MM	Def HT: 0, 0MM %/h 0
Mechanical Test:	Yield 55878 PSI, 385.27 MPA	Tensile: 74788 PSI, 515.65 MPA	%El: 26.2/8in, 26.2/200MM	Def HT: 0, 0MM %/h 0

PRODUCED IN: WHITBY

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A2 X 2 X 3/16	44W	C.S.A. G40.21-04 (R2009) 44W	1025269-01	26677-01
HEAT I.D.				
W908762	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.16 .66 .010 .031 .18 .33 .08 .06 .021 .000 .0008 .0000 .010 .000 .000000 .000 .000000 .342		
Mechanical Test:	Yield 52639 PSI, 362.93 MPA	Tensile: 71193 PSI, 490.86 MPA	%El: 28.9/8in, 28.9/200MM	Def HT: 0, 0MM %/h 0
Mechanical Test:	Yield 53088 PSI, 366.02 MPA	Tensile: 71892 PSI, 495.61 MPA	%El: 28.1/8in, 28.1/200MM	Def HT: 0, 0MM %/h 0

Customer Notes

NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY.

This material, including the billets, was melted and manufactured in Canada

Bhaskar Yalamanchilli

Quality Director

Gerdau Ameristeel

THE ABOVE FIGURES ARE CERTIFIED CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Metallurgical Services Manager

WHITBY STEEL MILL

Seller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE SELLER, AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. In no event shall seller be liable for indirect, consequential or punitive damages arising out of or related to the materials furnished by seller.

Any claim for damages for materials that do not conform to specifications must be made from buyer to seller. Immediately after delivery of same. In order to allow the opportunity to inspect the material in question.



WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 668-8811

Chemical and Physical Test Report
MADE IN CANADA

W-112932

L2x2x1/4

1590

HOPE & MARY

SHIP TO C.W. CARRY 1976 LTD 5815 75TH ST. - SIDING CN Z062 780-465-0381 EDMONTON, AB T6E 0T3	INVOICE TO C.W. CARRY 1976 LTD ACCTS PAYABLE 5815 75 ST NW EDMONTON, AB T6E 0T3	SHIP DATE 01/27/11	CUST. ACCOUNT NO 60122230
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PRODUCED IN: WHITBY

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A2 X 2 X 1/4	44W	C.S.A. G40.21-04 (R2009) 44W	1005227-03	25713-03
HEAT I.D.	C	Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eq		
W507721	.13	.76 .013 .031 .20 .37 .13 .10 .027 .000 .0004 .0184 .012 .000 .00000 .354		
Mechanical Test:	Yield 55963 PSI, 385.85 MPA	Tensile: 74581 PSI, 514.22 MPA	%El: 26.2/8in, 26.2/200MM	Def HT: 0, 0MM %/h 0
Mechanical Test:	Yield 56096 PSI, 386.77 MPA	Tensile: 75122 PSI, 517.95 MPA	%El: 27.5/8in, 27.5/200MM	Def HT: 0, 0MM %/h 0

PRODUCED IN: WHITBY

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A2 X 2 X 1/4	44W	C.S.A. G40.21-04 (R2009) 44W	1005227-03	25713-03
HEAT I.D.	C	Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eq		
W507723	.13	.76 .013 .031 .20 .37 .13 .10 .027 .000 .0004 .0184 .012 .000 .00000 .344		
Mechanical Test:	Yield 54530 PSI, 375.97 MPA	Tensile: 72706 PSI, 501.28 MPA	%El: 28.8/8in, 28.8/200MM	Def HT: 0, 0MM %/h 0
Mechanical Test:	Yield 54637 PSI, 376.71 MPA	Tensile: 73213 PSI, 504.79 MPA	%El: 25.0/8in, 25.0/200MM	Def HT: 0, 0MM %/h 0

PRODUCED IN: WHITBY

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A2 X 2 X 3/16	44W	C.S.A. G40.21-04 (R2009) 44W	1005227-02	25713-02
HEAT I.D.	C	Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eq		
W507779	.15	.70 .013 .036 .21 .35 .10 .08 .035 .000 .0004 .0182 .010 .000 .00000 .354		
Mechanical Test:	Yield 58245 PSI, 387.8 MPA	Tensile: 73959 PSI, 509.93 MPA	%El: 28.8/8in, 28.8/200MM	Def HT: 0, 0MM %/h 0
Mechanical Test:	Yield 59045 PSI, 386.42 MPA	Tensile: 73604 PSI, 507.48 MPA	%El: 27.5/8in, 27.5/200MM	Def HT: 0, 0MM %/h 0

Customer Notes

NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY.
This material, including the billets, was melted and manufactured in Canada

Bhaskar Yalamanchili
Quality Director
Gerdau Ameristeel

Maackary

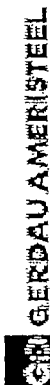
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Metallurgical Services Manager
WHITBY STEEL MILL

THE ABOVE FIGURES ARE CERTIFIED CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Seller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE SELLER, AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 668-8611

Chemical and Physical Test Report
MADE IN CANADA

W-105595

1392

L2x2x1/4

SHIP TO C.W. CARRY 1976 LTD 5815 75TH ST. - SIDING CN Z062 780-465-0381 EDMONTON, AB T6E 0T3		INVOICE TO C.W. CARRY 1976 LTD ACCTS PAYABLE 5815 75 ST NW EDMONTON, AB T6E 0T3		SHIP DATE 04/28/10		CUST. ACCOUNT NO 60122230	
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PRODUCED IN: WHITBY

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A2 X 2 X 1/4"	44W	C.S.A. G40.21-04 (R2009) 44W	0071134-01	21857-01
HEAT I.D.				
W804277	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqw	.12 .80 .009 .037 .18 .40 .13 .12 .037 .000 .000 .0010 .0000 .011 .000 .00000 .000 .00000 .363		
Mechanical Test:	Yield 50867 PSI, 348.27 MPA	Tensile: 59925 PSI, 480.05 MPA	Def HT: 0, 0MM	%h 0
Mechanical Test:	Yield 51861 PSI, 366.19 MPA	Tensile: 70408 PSI, 485.43 MPA	Def HT: 0, 0MM	%h 0

PRODUCED IN: WHITBY

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A2 X 2 X 1/4"	44W	C.S.A. G40.21-04 (R2009) 44W	0071134-01	21857-01
HEAT I.D.				
W804280	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqw	.12 .79 .007 .030 .17 .34 .14 .09 .043 .000 .000 .0010 .0000 .010 .000 .00000 .000 .00000 .338		
Mechanical Test:	Yield 59885 PSI, 411.38 MPA	Tensile: 73808 PSI, 508.98 MPA	Def HT: 0, 0MM	%h 0
Mechanical Test:	Yield 60107 PSI, 414.42 MPA	Tensile: 76023 PSI, 517.27 MPA	Def HT: 0, 0MM	%h 0

PRODUCED IN: WHITBY

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A4 X 4 X 1/4"	44W	A36/44W/50W/A625GR60/ASTM-A36-08/A625GR60 M-08/CSA-G40.21-04(R2009) 44	0071134-04	21857-04
HEAT I.D.				
W804318	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqw	.17 .92 .009 .041 .17 .32 .13 .09 .020 .000 .000 .0008 .0147 .010 .000 .00000 .000 .00000 .398		
Mechanical Test:	Yield 53414 PSI, 368.28 MPA	Tensile: 73239 PSI, 504.97 MPA	Def HT: 0, 0MM	%h 0
Mechanical Test:	Yield 54495 PSI, 376.73 MPA	Tensile: 73790 PSI, 508.78 MPA	Def HT: 0, 0MM	%h 0

Customer Notes

NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY.

This material, including the billette, was melted and manufactured in Canada

Bhaaker Yalamanchilli

Quality Director

Gerdau Ameristeel

Metallurgical Services Manager

WHITBY STEEL MILL

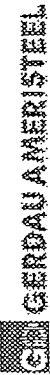
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N-080652



CAMBRIDGE STEEL MILL
160 ORION PLACE
CAMBRIDGE ON N1R 1R9 CAN
(519) 740-2488

Chemical and Physical Test Report
MADE IN CANADA

16/2 M.R.

SHIP TO C.W. CARRY 1976 LTD 5815 75TH ST. - SIDING CN Z062 780-465-0381 EDMONTON, AB T6E 0T3	INVOICE TO C.W. CARRY 1976 LTD ACCTS PAYABLE 5815 75 ST NW EDMONTON, AB T6E 0T3	SHIP DATE 03/02/11	CUST. ACCOUNT NO 60122230
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PRODUCED IN: CAMBRIDGE

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A1 1/2 X 1 1/2 X 1/4	44W	CSA-G40.21-300W-04(44W); ASTM A36/A36M-08	1013545-13	26158-13
HEAT I.D.	C	Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca Zn C Eqv		
N104477	.17	.50 .010 .029 .21 .35 .13 .11 .040 .004 .002 .0002 .0198 .011 .002 .00100 .002 .00000 .00400 .33		

Mechanical Test: Yield 49120 PSI, 338.67 MPA Tensile: 72297 PSI, 498.47 MPA %El: 28.08in, 28.0200MM Red R 36.3 : 1

Customer Requirements CASTING: STRAND CAST

Mechanical Test: Yield 48759 PSI, 336.18 MPA Tensile: 71930 PSI, 495.94 MPA %El: 28.08in, 28.0200MM Red R 36.3 : 1

Customer Requirements CASTING: STRAND CAST

PRODUCED IN: CAMBRIDGE

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A1 1/2 X 1 1/2 X 1/4	44W	CSA-G40.21-44W-04	1013545-13	26158-13
HEAT I.D.	C	Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca Zn C Eqv		
N104483	.16	.59 .014 .036 .16 .37 .12 .16 .030 .003 .002 .0001 .0707 .011 .001 .00100 .002 .00030 .00200 .33		

Mechanical Test: Yield 51848 PSI, 357.48 MPA Tensile: 72007 PSI, 496.47 MPA %El: 28.56in, 28.5200MM Red R 36.3 : 1

Customer Requirements CASTING: STRAND CAST

Mechanical Test: Yield 51198 PSI, 352.58 MPA Tensile: 72243 PSI, 498.1 MPA %El: 29.08in, 29.0200MM Red R 36.3 : 1

Customer Requirements CASTING: STRAND CAST

Customer Notes

NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY.

This material, including the billets, was melted and manufactured in Canada

Bhaskar Yalamanchili

Quality Director

Gerdau Ameristeel

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Metallurgical Services Manager

CAMBRIDGE STEEL MILL

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SOLD
TO:
RUSSEL - EDMONTON
P O BOX 4128
EDMONTON AB T6E 4T2
CANADA

NUCOR
NUCOR STEEL SEATTLE, INC.

CERTIFIED MILL TEST REPORT

61A030305

SHIP
TO:
RUSSEL METALS INC
7016 99TH STREET
EDMONTON AB T6E 4T2
CANADA

L1 1/2 x 1 1/2 x 1/4 1302

Ship from:

Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 14-Apr-2010
B.L. Number: 390781
Load Number: 234236

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

NBMC-08 March 24, 2009

HEAT NUM. * DESCRIPTION		PHYSICAL TESTS				CHEMICAL TESTS														
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT%	DEF	C	Ni	Mn	Cr	P	Mo	S	V	Sf	Cb	Cu	Sn	C.E.
PO# => SE1010067401	M61085624																			
	Nucor Steel Seattle, Inc.	51,528	77,458	25.8%		***			.17	.74	.017	.030	.030	.030	.006	.004	.17	.37	.36	
	1-1/2x1-1/2x1/4 Angle	355MPa	534MPa						.15	.12	.030									
	20' A36/44W	51,414	77,291	27.3%																
	CSA G40.21-04 44W/ASTM A36/A36M-08	354MPa	533MPa																	
PO# => SE1010067801	ASTM A709/A709M-08 GR 36 [250]																			
	ASME SA36-2007 EDITION																			
	ASTM A36/A36M-08, A709/A709M-07																			
	GR36, ASME SA36-07																			
	Nucor Steel Seattle, Inc.	52,860	73,829	26.6%		***			.15	.71	.017	.034	.034	.034	.006	.005	.21	.33	.33	
PO# => SE1010074202	1-1/2x1-1/2x3/16 Angle	364MPa	509MPa						.11	.12	.020									
	20' A36/44W	52,896	74,041	27.3%																
	CSA G40.21-04 44W/ASTM A36/A36M-08	365MPa	510MPa																	
	ASTM A709/A709M-08 GR 36 [250]																			
	ASME SA36-2007 EDITION																			
PO# => SE1010074202	ASTM A36/A36M-08, A709/A709M-07																			
	GR36, ASME SA36-07																			
	Nucor Steel Seattle, Inc.	49,689	74,004	30.5%		***			.16	.76	.014	.032	.032	.032	.005	.004	.22	.32	.34	
	1/2x3" Flat	343MPa	510MPa						.12	.11	.020									
	20' A36/44W	49,902	74,163	29.7%																
PO# => SE1010074202	CSA G40.21-04 44W/ASTM A36/A36M-08	344MPa	511MPa																	
	ASTM A709/A709M-08 GR 36 [250]																			
	ASME SA36-2007 EDITION																			
PO# => SE1010074202	ASTM A36/A36M-08, A709/A709M-07																			
	GR36, ASME SA36-07																			

I HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.
ALL MANUFACTURING PROCESSES OF THE STEEL MATERIALS IN THIS PRODUCT, INCLUDING
HEATING, HAVE OCCURRED WITHIN THE UNITED STATES. ALL PRODUCTS PRODUCED ARE WELD FREE,
MERCURY, IN ANY FORM, HAS NOT BEEN USED IN THE PRODUCTION OR TESTING OF THIS MATERIAL.

QUALITY
ASSURANCE: *Winkyl Lai*

SOLD TO: C W CARRY(1967) LTD
5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

SHIP TO: C W CARRY
5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

NUCOR
NUCOR STEEL SEATTLE, INC.

16/2 M.R.

Ship from:

Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 6-May-2011
B.L. Number: 412316
Load Number: 250220

CERTIFIED MILL TEST REPORT

Page: 1

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

NBMG-08 March 9, 2011

HEAT NUM. *		DESCRIPTION	PHYSICAL TESTS					CHEMICAL TESTS													
PO# =>			YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT%	DEF	C	Ni	Mn	Cr	P	Mo	S	V	Si	Cb	Cu	Sn	C.E.
SE1110223201	26737 Nucor Steel - Seattle Inc 1/4x2" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08	54,015 372MPa 53,309 368MPa	73,513 507MPa 74,215 512MPa	30.5% 27.3%				.15 .14	.67 .18	.016 .040	.040 .008	.19 .001	.32	.34							
ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA ASTM A36/A36M-08, A709/A709M-09a GR36, ASME SA36-07 Ed 09 Ad																					
SE1110223302	26737 Nucor Steel - Seattle Inc 3/8x2-1/2" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08	53,461 369MPa 54,104 373MPa	76,634 528MPa 76,994 531MPa	26.6% 30.5%				.15 .17	.76 .22	.017 .050	.029 .010	.17 .003	.37	.37							
ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA ASTM A36/A36M-08, A709/A709M-09a GR36, ASME SA36-07 Ed 09 Ad																					

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.

1.) Heat and Manufactured in the United States.
2.) Mercury, Radium, or Alpha source materials in any form
3.) have not been used in the production of this material.

QUALITY
ASSURANCE: Winky Lai

SOLD C W CARRY(1967) LTD
TO: 5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

SHIP C W CARRY
TO: 5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

NUCOR
NUCOR STEEL SEATTLE, INC.

CERTIFIED MILL TEST REPORT

Page: 2

Ship from:

Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 26-Apr-2011
B.L. Number: 411892
Load Number: 249376

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

NBMG-08 March 9, 2011

HEAT NUM. *	DESCRIPTION	PHYSICAL TESTS					CHEMICAL TESTS													
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT%	DEF	C	Ni	Mn	Cr	P	Mo	S	V	Si	Cb	Cu	Sn	C.E.
PO# => SE1110162702	26737 Nucor Steel - Seattle Inc 3/8x6" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08	48,177 332MPa 47,751 329MPa	72,029 497MPa 71,347 492MPa	34.4% 34.4%				.18 .11	.69 .15	.016 .030	.049 .006	.19 .003	.36 .36							
	ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA																			
	ASTM A36/A36M-08, A709/A709M-09a GR36, ASME SA36-07 Ed 09 Ad																			
PO# => SE1110162801	26737 Nucor Steel - Seattle Inc 1/2x6" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08	50,510 348MPa 50,836 351MPa	74,376 513MPa 73,903 510MPa	31.3% 32.0%				.16 .12	.73 .14	.016 .030	.044 .006	.21 .003	.33 .35							
	ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA																			
	ASTM A36/A36M-08, A709/A709M-09a GR36, ASME SA36-07 Ed 09 Ad																			

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.
1.) Heat-treated and manufactured in the United States.
2.) Heat-treated and manufactured in the United States.
3.) Mercury, Radium, or Alpha source materials in any form have not been used in the production of this material.

QUALITY
ASSURANCE:

Winky Lai

Winky Lai

SOLD C W CARRY (1967) LTD
5815 75TH ST
TO: EDMONTON AB T6E 0T3
CANADA

SHIP C W CARRY
5815 75TH ST
TO: EDMONTON AB T6E 0T3
CANADA

NUCOR
NUCOR STEEL SEATTLE, INC.

CERTIFIED MILL TEST REPORT

Page: 3

Ship from:

Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 8-Mar-2010
B.L. Number: 389014
Load Number: 232608

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

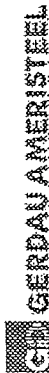
NBSMG-08 March 24, 2009

HEAT NUM. *	DESCRIPTION	PHYSICAL TESTS				CHEMICAL TESTS														
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT%	DEF	C	Ni	Mn	Cr	P	Mo	S	V	Si	Cb	Cu	Sn	C.E.
PO# ==> SE1010075701	20724	51,453	73,938	32.8%				.15	.74	.017	.043	.20	.36	.34						
	Nucor Steel - Seattle Inc	355MPa	510MPa					.11	.13	.030	.005	.005								
	3/8x6" Flat	51,796	73,338	34.4%																
	20' A36/44W																			
	CSA G40.21-04 44W/ASTM A36/A36M-08	357MPa	506MPa																	
	ASTM A709/A709M-08 GR 36 [250]																			
	ASME SA36-2007 EDITION																			
	ASTM A36/A36M-08, A709/A709M-07																			
	GR36, ASME SA36-07																			

I HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.

ALL MANUFACTURING PROCESSES OF THE STEEL MATERIALS IN THIS PRODUCT, INCLUDING MELTING, HAVE OCCURRED WITHIN THE UNITED STATES. ALL PRODUCTS PRODUCED ARE MILD FREE. MERCURY, IN ANY FORM, HAS NOT BEEN USED IN THE PRODUCTION OR TESTING OF THIS MATERIAL.

QUALITY ASSURANCE: Winky Lai



GERDAU AMERISTEEL MANITOBA
27 MAIN ST.
SELKIRK MB R1A 1P6 CAN
(204)482-3241

Chemical and Physical Test Report
MADE IN CANADA

R-024271

FB 1/4 x 6 *1493*

SHIP TO C.W. CARRY LTD. 5815 75TH ST EDMONTON, AB		INVOICE TO C.W. CARRY LTD ACCTS PAYABLE 5815 75 ST NW EDMONTON, AB T6E 0T3	SHIP DATE 01/28/11	CUST. ACCOUNT NO 60122230
---	--	---	------------------------------	-------------------------------------

PRODUCED IN: MANITOBA

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
F1/4 X 6	44W/50W	CSA G40.21-04	1005186-02	25719-02
HEAT I.D.	C	Mn P S Si Cu Cr Nb V		
R639935	.18	1.04 .012 .024 .22 .32 .12 .015 .000 .000		
Mechanical Test:	Yield 54400 PSI, 375.07 MPA	Tensile: 80900 PSI, 557.79 MPA	%El: 31.6/2in, 31.6/50.8mm	
Mechanical Test:	Yield 55200 PSI, 380.59 MPA	Tensile: 81400 PSI, 561.23 MPA	%El: 31.5/2in, 31.5/50.8mm	

PRODUCED IN: MANITOBA

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
F1/4 X 6	44W/50W	CSA G40.21-04	1005186-01	25719-01
HEAT I.D.	C	Mn P S Si Cu Cr Nb V		
R639946	.17	1.04 .008 .023 .20 .27 .12 .023 .000 .000		
Mechanical Test:	Yield 54600 PSI, 376.45 MPA	Tensile: 79200 PSI, 546.06 MPA	%El: 32.1/2in, 32.1/50.8mm	
Mechanical Test:	Yield 54000 PSI, 372.32 MPA	Tensile: 79200 PSI, 546.06 MPA	%El: 32.2/2in, 32.2/50.8mm	

PRODUCED IN: MANITOBA

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
F3/8 X 6	44W/50W	CSA G40.21-04	1005186-03	25719-03
HEAT I.D.	C	Mn P S Si Cu Cr Nb V		
R639956	.19	.95 .012 .026 .22 .29 .13 .021 .000 .017		
Mechanical Test:	Yield 57600 PSI, 397.14 MPA	Tensile: 79800 PSI, 550.2 MPA	%El: 32.2/2in, 32.2/50.8mm	
Mechanical Test:	Yield 57600 PSI, 397.14 MPA	Tensile: 79800 PSI, 550.2 MPA	%El: 32.2/2in, 32.2/50.8mm	

Customer Notes

NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY.
This material, including the billets, was melted and manufactured in Canada

Bhaskar Yalamanchili
Quality Director
Gerdau Ameristeel

THE ABOVE FIGURES ARE CERTIFIED CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Metallurgical Services Manager
GERDAU AMERISTEEL MANITOBA

Seller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE SELLER, AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In no event shall seller be liable for indirect, consequential or punitive damages arising out of or related to the materials furnished by seller.
Any claim for damages for materials that do not conform to specifications must be made from buyer to seller immediately after delivery of same in order to allow the seller the opportunity to inspect the material in question.

SOLD C W CARRY(1967) LTD
5815 75TH ST
TO: EDMONTON AB T6E 0T3
CANADA

SHIP C W CARRY
5815 75TH ST
TO: EDMONTON AB T6E 0T3
CANADA

FB 1/4 x 4

1247

NUCOR
NUCOR STEEL SEATTLE, INC.

Ship from:
Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 9-Feb-2010
B.L. Number: 388199
Load Number: 231573

CERTIFIED MILL TEST REPORT

Page: 1

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Material Safety Data Sheets are

I HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.

ALL MANUFACTURING PROCESSES OF THE STEEL MATERIALS IN THIS PRODUCT, INCLUDING MELTING, HAVE OCCURRED WITHIN THE UNITED STATES. ALL PRODUCTS PRODUCED AND FIELD FREE.

MELTING, IN ANY FORM, HAS NOT BEEN USED IN THE PRODUCTION OR TESTING OF THIS MATERIAL.

QUALITY ASSURANCE: Winky Lai

Winky Lai

SOLD C W CARRY(1967) LTD
TO: 5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

SHIP C W CARRY
TO: 5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

NUCOR
NUCOR STEEL SEATTLE, INC.

CERTIFIED MILL TEST REPORT

Page: 3

Ship from:

Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 29-Jun-2010
B.L. Number: 394800
Load Number: 236979

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

NBMG-08 March 24, 2009

HEAT NUM. *	DESCRIPTION	PHYSICAL TESTS				CHEMICAL TESTS														
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT%	DEF	C	Ni	Mn	Cr	P	Mo	S	V	Si	Cb	Cu	Sn	C.I.E.
PO# => SE1010284001	22791 Nucor Steel Seattle, Inc. 2x2x1/8 Angle 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08	53,230 367MPa 52,572 362MPa	72,681 501MPa 72,481 500MPa	26.6% 28.1%		***		.15 .10	.71 .12	.015 .020	.042 .006	.21 .003	.30	.32						
PO# => SE1010284601	22791 Nucor Steel - Seattle Inc 1/4x4" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08	52,337 361MPa 52,067 359MPa	74,565 514MPa 73,968 510MPa	28.1% 28.1%				.18 .11	.81 .11	.015 .030	.041 .007	.15 .003	.32	.37						
	ASTM A709/A709M-08 GR 36 [250] ASME SA36-2007 EDITION ASTM A36/A36M-08, A709/A709M-07 GR36, ASME SA36-07																			
	ASTM A709/A709M-08 GR 36 [250] ASME SA36-2007 EDITION ASTM A36/A36M-08, A709/A709M-07 GR36, ASME SA36-07																			

I HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.
ALL MANUFACTURING PROCESSES OF THIS STEEL MATERIALS IN THIS PRODUCT, INCLUDING
MELTING, HAVE OCCURRED WITHIN THE UNITED STATES. ALL PRODUCTS PRODUCED ARE MELD FREE.
MERCURY, IN ANY FORM, HAS NOT BEEN USED IN THE PRODUCTION OR TESTING OF THIS MATERIAL.

QUALITY
ASSURANCE: Winky Lai

61A030307

CERTIFIED MILL TEST REPORT

NUCOR
NUCOR STEEL SEATTLE, INC.

RUSSEL - EDMONTON
 SOLD PO BOX 4128
 TO: EDMONTON AB T6E 4T2
 CANADA

Ship from:

Nucor Steel Seattle, Inc.
 2424 SW Andover
 SEATTLE, WA 98106-1100
 206-933-2222

Date: 15-Apr-2010
 B.L. Number: 390843
 Load Number: 234235

SHIP TO: EDMONTON AB T6E 4T2
 CANADA
 7016 99TH STREET
 RUSSEL METALS INC
 FB1/4x2 1302

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

HEAT NUM.*	DESCRIPTION	PHYSICAL TESTS				CHEMICAL TESTS									
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT% DEF	C	Ni	Mn	P	Mo	S	V	Si	Cb
PO# --> SE1010074801	M61035474 Nucor Steel Seattle, Inc. 1/4x4" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08	49,850 344MPa 50,460 348MPa	72,659 501MPa 70,397 485MPa	27.3% 32.0%		***	.16 .11	.63 .13	.015 .030	.042 .005	.25 .003	.31 .003	.33		
PO# --> SE1010090401	M61035474 Nucor Steel Seattle, Inc. 1/4x2" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08	52,901 365MPa 52,812 364MPa	74,377 513MPa 73,874 508MPa	27.3% 26.8%		***	.17 .11	.76 .09	.014 .020	.036 .006	.16 .003	.34 .003	.35		

I HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.

ALL MANUFACTURING PROCESSES OF THE STEEL MATERIALS IN THIS PRODUCT, INCLUDING MELTING, HAVE OCCURRED WITHIN THE UNITED STATES. ALL PRODUCTS PRODUCED ARE WELD FREE. MERCURY, IN ANY FORM, HAS NOT BEEN USED IN THE PRODUCTION OR TESTING OF THIS MATERIAL.

QUALITY
ASSURANCE:

Winky Lai

Winky Lai

SOLD C W CARRY(1967) LTD
5815 75TH ST
TO: EDMONTON AB T6E 0T3
CANADA

SHIP C W CARRY
5815 75TH ST
TO: EDMONTON AB T6E 0T3
CANADA

NUCOR
NUCOR STEEL SEATTLE, INC.

CERTIFIED MILL TEST REPORT

Page: 1

1612 M.R.

Ship from:

Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 6-May-2011
B.L. Number: 412316
Load Number: 250220

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

NBMG-08 March 9, 2011

HEAT NUM. *	DESCRIPTION	PHYSICAL TESTS				CHEMICAL TESTS														
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT%	DEF	C	Ni	Mn	Cr	P	Mo	S	V	Si	Cb	Cu	Sn	C.E.
PO# => SE1110223201	26737 Nucor Steel - Seattle Inc 1/4x2" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08 ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA GR36, ASME SA36-07 Ed 09 Ad	54,015 372MPa 53,309 368MPa	73,513 507MPa 74,215 512MPa	30.5% 27.3%				.15 .14			.67 .18		.016 .040		.040 .008		.19 .001		.32 .34	
PO# => SE1110223302	26737 Nucor Steel - Seattle Inc 3/8x2-1/2" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08 ASTM A709/A709M-10 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA GR36, ASME SA36-07 Ed 09 Ad	53,461 369MPa 54,104 373MPa	76,634 528MPa 76,994 531MPa	26.6% 30.5%				.15 .17			.76 .22		.017 .050		.029 .010		.17 .003		.37 .37	

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.
1. Weld repair was not performed on this material.
2. Material was manufactured in the United States in any form.
3. Nucor's Radiography Department has inspected this material.
We have not been used in the production of this material.

QUALITY
ASSURANCE: Winky Lai

Winky Lai

CERTIFIED MILL TEST REPORT

Page: 3

NUCOR

NUCOR STEEL SEATTLE, INC.

SOLD TO:
C W CARRY (1967) LTD
5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

SHIP TO:
C W CARRY
5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

Ship from:
Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 20-Dec-2010
B.L. Number: 404619
Load Number: 244787

NBMG-08 March 24, 2009

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

HEAT NUM. *		DESCRIPTION	PHYSICAL TESTS				CHEMICAL TESTS														
			YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT%	DEF	C	NI	Mn	Cr	P	Mo	S	V	SI	Cb	Cu	Sn	C.E.
PO# => SE1010581701	24846 Nucor Steel Seattle, Inc. 1/2x2" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08		52,100 359MPa 53,109 366MPa	77,782 536MPa 78,010 538MPa	25.0% 31.3%		***		.19 .09	.77 .14	.032 .020	.032 .007	.23 .003	.30							.38
	ASTM A709/A709M-08 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA																				
	ASTM A36/A36M-08, A709/A709M-09a GR36, ASME SA36-07 Ed 09 Ad																				
PO# => SE1010581801	24846 Nucor Steel Seattle, Inc. 1/4x2" Flat 20' A36/44W CSA G40.21-04 44W/ASTM A36/A36M-08		55,455 382MPa 56,353 389MPa	79,069 545MPa 79,295 547MPa	25.8% 26.6%		***		.18 .10	.70 .13	.021 .020	.029 .006	.21 .003	.37							.36
	ASTM A709/A709M-08 GR 36 [250] ASME SA36-2007 EDITION-2009 ADDE NDA																				
	ASTM A36/A36M-08, A709/A709M-09a GR36, ASME SA36-07 Ed 09 Ad																				

I HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.

ALL MANUFACTURING PROCESSES OF THE STEEL MATERIALS IN THIS PRODUCT, INCLUDING ALL PRODUCTS PRODUCED AND FIELD PREP. HEATING, HAVE OCCURRED WITHIN THE UNITED STATES. IN ANY FORM, HAS NOT BEEN USED IN THE PRODUCTION OR TESTING OF THIS MATERIAL. MERCURY.

QUALITY ASSURANCE: Winky Lai

[Signature]

SOLD C W CARRY(1967) LTD
TO: 5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

SHIP C W CARRY
TO: 5815 75TH ST
EDMONTON AB T6E 0T3
CANADA

NUCOR
NUCOR STEEL SEATTLE, INC.

3/4" BAR

1247 JFL

CERTIFIED MILL TEST REPORT

Page: 2

Ship from:

Nucor Steel Seattle, Inc.
2424 SW Andover
SEATTLE, WA 98106-1100
206-933-2222

Date: 5-Mar-2010
B.L. Number: 388954
Load Number: 232569

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

NBSM-08 March 24, 2009

HEAT NUM. *	DESCRIPTION	PHYSICAL TESTS				CHEMICAL TESTS										C.E.			
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT%	DEF	C	Ni	Mn	Cr	P	Mo	S	V	Si	Cb	Cu	Sn
PO# => SE1010075201	2N08 Nucor Steel - Seattle Inc	54,391	78,189	21.9%					.18	.66	.019	.035	.21	.33	.35				
	3/4" Rd 20'	375MPa	539MPa						.11	.12	.020	.00	.00	.00	.00				
	A36/44W	54,704	77,603	23.4%															
	CSA G40.21-04 44W/ASTM A36/A36M-08	377MPa	535MPa																
	ASTM A709/A709M-08 GR 36 [250]																		
	ASME SA36-2007 EDITION																		
	ASTM A36/A36M-08, A709/A709M-07																		
	GR36, ASME SA36-07																		

I HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.

ALL MANUFACTURING PROCESSES OF THE STEEL MATERIALS IN THIS PRODUCT, INCLUDING MELTING, BUT NOT LIMITED TO THE UNITED STATES. ALL PRODUCTS PRODUCED ARE WELD FREE. MERCURY, IN ANY FORM, HAS NOT BEEN USED IN THE PRODUCTION OR TESTING OF THIS MATERIAL.

QUALITY
ASSURANCE:

Winky Lai

Winky Lai



CAMBRIDGE STEEL MILL
150 ORION PLACE
CAMBRIDGE ON N1T 1R9 CAN
(519) 740-2488

Chemical and Physical Test Report
MADE IN CANADA

61A034732

N-080525

3" / 4" stock.

1595

SHIP TO RUSSEL METALS - EDMONTON C/O CN OIL & GAS DIST CTR CN TRACK VS38 SCOTFORD, AB T8L 4A4	INVOICE TO RUSSEL METALS INC ACTS PAYABLE PO BOX 4128 EDMONTON, AB T6E 4T2	SHIP DATE 02/22/11	CUST. ACCOUNT NO 60072055
---	--	-----------------------	------------------------------

PRODUCED IN: CAMBRIDGE														SALES ORDER		CUST P.O. NUMBER	
SHAPE + SIZE	GRADE	SPECIFICATION												0130562-13		61037695-13	
F1/2 X 4	44W	CSA-G40.21-300W-04(44W); ASTM A36/A36M-08															
HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	Sn	Al	Zr	C Eqv	
N103039	.18	.63	.017	.039	.18	.37	.13	.19	.050	.003	.001	.0001	.015	.001	.001	.37	

Mechanical Test: Yield 46584 PSI, 321.19 MPA Tensile: 72121 PSI, 497.26 MPA %El: 27.5/8in, 27.5/200MM Red R 12.5 : 1 Idl Diam: .6

Customer Requirements CASTING: STRAND CAST

Mechanical Test: Yield 46272 PSI, 332.82 MPA Tensile: 72088 PSI, 497.02 MPA %El: 27.5/8in, 27.5/200MM Red R 12.5 : 1 Idl Diam: .6

Customer Requirements CASTING: STRAND CAST

CUST ITEM NUMBER: 37816

PRODUCED IN: CAMBRIDGE														SALES ORDER		CUST P.O. NUMBER	
SHAPE + SIZE	GRADE	SPECIFICATION												0130562-19		61037695-19	
S3/4	44W	CSA-G40.21-300W-04(44W); ASTM A36/A36M-08															
HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	Sn	Al	Ti	Zr	C Eqv
N103588	.18	.65	.016	.041	.17	.40	.10	.13	.040	.003	.001	.0001	.0039	.012	.001	.00100	.36

Mechanical Test: Yield 48330 PSI, 333.22 MPA Tensile: 71915 PSI, 495.84 MPA %El: 27.0/8in, 27.0/200MM Red R 44.4 : 1

Customer Requirements CASTING: STRAND CAST

Mechanical Test: Yield 47825 PSI, 329.74 MPA Tensile: 72287 PSI, 498.4 MPA %El: 25.0/8in, 25.0/200MM Red R 44.4 : 1

Customer Requirements CASTING: STRAND CAST

CUST ITEM NUMBER: 37870

Customer Notes

NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY.

This material, including the billets, was melted and manufactured in Canada

Bhaskar Yalamanchili

Quality Director

Gerdau Ameristeel

Metallurgical Services Manager

CAMBRIDGE STEEL MILL

Seller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE SELLER, AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. In no event shall seller be liable for indirect, consequential or punitive damages arising out of or related to the materials furnished by seller.

Any claim for damages for materials that do not conform to specifications must be made from buyer to seller immediately after delivery of same in order to allow the seller the opportunity to inspect the material in question.

Trans Am Pipe & Equipment / Seq # : 0506827
Shipments / Seq # : 0506827
Rev'd By : SB
1558

2" XH A333 HT# 07506827

1345
10F1
S

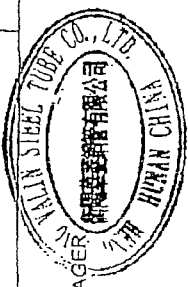
Contract No.: CI-09-418
PO NO.: CI-09-418
Name of Customer: TRANS AM PIPING PRODUCTS LTD.,
L/C NO.: DPCHCV929006
Description: PIPE
TOTAL: 91 PCS, 2 BUNDLES, 4.013MT

HENGYANG VALIN STEEL TUBE CO., LTD
MILL INSPECTION CERTIFICATE
Date: NOV 05, 2009
Page: 1/1

Add: 10 Dalkincun, Hengyang City, Hunan, China
Tel and Fax: 186 734 8873739 8872942
Cable: 6993
P.C. 421001

SPEC:ASTM A333 GR 6-2005/ASME SA333 GR 6-2007 ,NACE MR0175-2003/ISO 15156																				CERTIFICATE NO:09-1-11-13					
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEETS	QUANTITY	(MT)	ACTUAL WEIGHT(MT)															
1	09-A10493	07506827	B	60.3 2" X 5.54 A333 GR 6 B.E. XS																					

REMARKS: 1. We hereby certify that this certificate of quality is issued and signed by the manufacture.
2. We hereby certify that the properties described herein meet the requirement of the above spec.
3. We hereby certify that this certificate is issued accordance with EN 10204 3.1B
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. HEAT TREATMENT CONDITION FOR PIPE NORMALIZED: 900°C X 10MIN
6. Impact Test: 5X10X55MM AT -45°C
7. DIMENSION STANDARD: ASME B36.10
8. MANUFACTURE METHOD: COLD DRAWN

Contract No.:	CI-09-418
PQ.NO.:	CI-09-418
Name of Customer:	TRANSAM
L/C NO.:	DPCHCV9
Description:	PIPE
QTY:	91 PCS

PO.NO.: CI-09-418
Name of Customer: TRANS AM PIPING PRODUCTS LTD.,
L/C NO.: DPCHCV929006

TOTAL: 91 PCS ~~3 BUNDLES~~ 4.013MT

SPEC:ASTM A333 GR 6-2005/ASME SA333 GR6-2007 ,NACE MR0175-2003/ISO 15156

CERTIFICATE NO:09-1-11-13																		
NO.		BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEETS	QUANTITY (MT)	ACTUAL WEIGHT(MT)								
1		09-A10493	07506827	B	60.3 2" X 5.54 A333 GR 6 B.E. XS													

REMARKS: 1. We hereby certify that this certificate of quality is issued and signed by the manufacture.

2. We hereby certify that the properties described herein meet the requirement of the above spec.

3. We hereby certify that this certificate is issued in accordance with EN 10204 3.1B

4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2")

A. For pipes $\leq 1''$ full length specimen were used;

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

5 HEAT TREATMENT CONDITION FOR PIPE NORMALIZED: 900°C X 10MIN

5. Impact Test : 5X10X55MM AT -45°C

7. DIMENSION STANDARD: ASME B36.10

3. MANUFACTURE METHOD: COLD DRAWN



QUALITY MANAGER

上海自來水有限公司



AMERICAN CHINA

2" XH A333 GR 6 STEEL PIPE
A333 GR 6 STEEL PIPE
A333 GR 6 STEEL PIPE

P.O. # 11724 Item# 4
Heat Number: 10603028
Shipping / Seq # : 10603028
Trans. / Seq # : 10603028
Shipments / Seq # : 10603028
Rev'd By: SB
1326

Contract No.: CH-10-181
PO. NO.: CH-10-181
Name of Customer: TRANS AM PIPING PRODUCTS LTD.,
L/C NO.: DPCHCV012667
Description: PIPE
TOTAL: 1

HENGYANG VALIN STEEL TUBE CO., LTD
MILL INSPECTION CERTIFICATE
Date: JUN 03, 2010
Page: 1/1

Add: 10 Dalixincun, Hengyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942
Cable: 6993
P.C. 421001

BAF

SPEC: ASTM A333 GR 6-2005/ASME SA333 GR 6-2007, NACE MR0175-2003/ISO 15156

SPEC:ASTM A333 GR 6-2005/ASME SA333 GR6-2007 ,NACE MR0175-2003/ISO 15156											CERTIFICATE NO:10-1-06-11										
TOTAL: 1											1535-71										
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEETS	QUANTITY (MT)	ACTUAL WEIGHT(MT)												
1	10-A5331	10603028	B	60.3 2" X 5.54 A333 GR 6 B.E. XS																	
																					
NONDESTRUCTIVE TEST											CHEMICAL COMPOSITION %										
NO	DELIVERY CONDITION(≥650°C)		ET		UT		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Ti	B	Nb	CE	
	NORMALIZED		OK				0.18	0.41	1.32	0.023	0.014	0.01	0.01	0.02	0	0.01	0	0	0.001	0.41	
1																					
NO.	T.S. (MPa)		Y.S. (MPa)		E.L. (%)		Ak (J) IMPACT			HARDNESS BRINNEL (HB)		HYDROSTATIC TEST (MPa)		FLATTEN TEST		BEND TEST					
1	535/535		Full L, Lo=50mm 390/350		32.0/32.0		1	2	3	AVG.	165/165		17.0		OK		OK				
							57/59	66/61	63/67	59/62											

REMARKS: 1. We hereby certify that this certificate of quality is issued and signed by the manufacturer.

2. We hereby certify that the properties described herein meet the requirement of the above spec.

3. We hereby certify that this certificate is issued accordance with EN 10204 3.1B

4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge length=2")

A. For pipes ≤ 6" full length specimen were used;

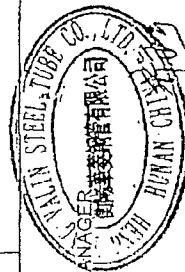
B. For pipes > 6" longitudinal strip specimen were used; the width of the gauge length portion is 3/4"

5. HEAT TREATMENT CONDITION FOR PIPE NORMALIZED 900°C X 10MIN

6. Impact Test: 5X10X55MM AT -45°C

7. DIMENSION STANDARD: ASME B36.10

8. MANUFACTURE METHOD: COLD DRAWN



Benteler Stahl/Rohr GmbH
Postfach 13 40
33043 Paderborn
Deutschland
Tel.: +49.5254.81-0 Fax: +49.5254.13666

Seite 2
A06B

1494
1 of 5

BENTELER
Stahl/Rohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1
EN 10204:2005-01

Benteler Stahl/Rohr GmbH - Postfach 1340 - 33043 Paderborn - Deutschland

Emco Westlund
4103 - 84 th Avenue
EDMONTON, AB T6B 2Z3
KANADA

Dokument-Nr.: 41-568248/002/P

Document No.:
No. du document:

Kunden-Bestell-Nr.:

Purchase Order No.:
No. de commande du client:

Benteler Auftrags-Nr.:

Benteler Order No.:

No. de commande Benteler:

Versandanzeigen-Nr.:

Dispatch Note No.:

No. d'avis d'expédition:

Produkt: NAHTLOSE STAHLROHRE

Product: SEAMLESS STEEL TUBES

Produit: TUBES D'ACIER SANS SOUDURE

BST 09-5133 / E.W. 9115282-00

1546851

4113429

Prüf-Nr.:

Inspection No.:
No. du certificat:

Hersteller:

Manufacturer:

Producteur:

Herstellerzeichen:

Manufacturer's brand:

Marque du producteur:

Stempel des Abnahmebeauftragten:

Stamp of the inspection representative:

Poinçon du contrôleur:

Stahlschmelzungsverfahren:

Steelmaking process:

Procédé d'élaboration de l'acier:

ELEKTROSTAHL

ELECTRIC FURNACE

FOUR ELECTRIQUE

WA

Warmrohrwerk/Zieherei
ISO/TS 16949 (ISO 9001) TÜV CERT 44111090381-002
PED 97/23/EC TÜV CERT 07-202-5635 WZ-0606/07



Blatt: 1 /

Page:
Page:

Lieferbedingungen:

Terms of delivery:

Conditions de livraison:

Maße - Toleranzen:

Dimensions-tolerances:

Dimensions-tolerances:

Stahlsorte:

Steel grade:

Nuance d'acier:

Lieferzustand:

Delivery condition:

État de livraison:

Produktkennzeichnung:

Product marking:

Marquage du produit:

API Specification 5L Forty-Fourth Edition, October 2007, ISO 3183:2007, PSL 1, ASME SA-106, ASME

Section II Part A Edition 2007 Addenda 2009b, S5, ASTM-A 106-2008, S6, CSA Standard Z245.1-07

Category I, Sour Service, NACE MR0175/ISO 15156-1:2001, NACE MR0175/ISO 15156-2:2003

ASME B36.10M-2004, ASME SA-530, ASME Section II Part A Edition 2007 Addenda 2009b, ASTM-A 530-2004a

GRADE 290, GRADE B, GRADE X 42

Hot rolled

FS: BENTELER Z.245.1-07 - ISO 3183 - A 106-S6 - SA-106-S5 5L-0151.1 API SIGN 0110 PSL1

B/X42/290 SS HEAT-NO. TEST PRESSURE NDE DIMENSIONS WA GERMANY P.O. 9115282-00

AEZ = Ätztennenbeschriftung, Etching ink marking, Gravure à l'encre | FK = Farbkennzeichnung, colour marking, marquage par couleur | FS = Farbschablonenzeichnung, paint stencilling, marquage par poignonage | TS = Tintenstrahlkennzeichnung, ink jet spray marking, imprimante à jet d' | LK = Laserkennzeichnung, Laser marking, Marquage laser | PKE = Etikettenkennzeichnung, tag marking, marquage sur étiquette | PS = Prägestempel, die/stamp, marquage par poinçonage

Pos. Stück Maße
Item Number Dimensions
Poste Nombre Dimensions

Pos. Stück Maße
Item Number Dimensions
Poste Nombre Dimensions

0001 200 1/2" NPS * Sched. 80
20 FT - 22 FT

Länge
Length
Longueur
feet

Gewicht
Weight
Poids
lbs

Schmelzen-Nr.
Heat No.
No. de coulée

Prüfdruck
Test pressure
Pression d'épreuve
PSI

Rohr-Nr.-Gruppe
Tube number group
Série de no. des tubes

Vielfachlä
Multiple len
Longueurs r

252-0354

1009A. 9.

24x5 #333

	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	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	52
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Page: 1/1

CERTIFICATE NO:10-1-12-06

REMARKS: 1. We hereby certify that this certificate of quality is issued and signed by the manufacture.

2. We hereby certify that the properties described herein meet the requirement of the above spec.

3. We hereby certify that this certificate is issued accordance with EN 10204 3.1B

4. SPECIMEN SIZE: (Pile end | longitudinal) Gauge | length=2"

A For pipes $\leq 1\frac{1}{2}$ full (concrete pipe) used:

A. For pipes ≤ 1 full length specimen were used;

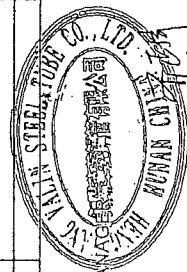
B. For pipes $> 1"$ longitudinal strip specimen were used; the width of the gaug-

S. HEAT TREATMENT CONDITION FOR

5. Impact Test : 2.5X10X55MM AT -45°C

7. DIMENSION STANDARD: ASME B36.10

3. MANUFACTURE METHOD: COLD DRAWN



QUALITY MANAGEMENT

1494 2075

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.: 41-568248/002/P

Document No.:
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Pos.	Stück	Maße	Länge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vielfachlä
Item	Number	Dimensions	Length	Weight	Heat No.	Test pressure	Tube number group	Multiple len
Poste	Nombre	Dimensions	Longueur	Poids	No. de coulée	Pression d'épreuve	Série de no. des tubes	Longueurs r
			feet	lbs		PSI		
0002	80	1/2" NPS * Sched. 160 20 FT - 22 FT	1661,42	2172	556757	3000	5	252-0508
0003	146	3/4" NPS * Sched. 80 20 FT - 22 FT	3142,26	4762	556818	3000	5	252-0362
0004	97	1" NPS * Sched. 160 20 FT - 22 FT	2099,74	5964	557121	3000	5	252-0524

Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
Item	Heat No.													
Poste	No. de coulée													
0001	556818	0,130	0,220	0,79	0,009	0,004	0,10	0,03	0,08	0,12	0,002	0,001	0,002	0,01
0002	556757	0,140	0,210	0,80	0,018	0,005	0,12	0,02	0,08	0,19	0,002	0,001	0,002	0,01
0003	556818	0,130	0,220	0,79	0,009	0,004	0,10	0,03	0,08	0,12	0,002	0,001	0,002	0,01
0004	557121	0,130	0,190	0,81	0,009	0,002	0,16	0,06	0,11	0,11	0,003	0,001	0,002	0,01

1. Formel: $CE_{IIW} = C + (Mn/6) + ((Cr + Mo + V)/5) + ((Cu + Ni)/15) \leq 0,40 \%$
2. Formel: $CEV = C + F * ((Mn/6) + (Si/24) + (Cu/15) + (Ni/20) + ((Cr + Mo + V + Nb)/5) + (5 * B)) \leq 0,40$
3. Formel: $Mn/C \geq 3/1$
4. Formel: $Cr + Cu + Mo + Ni + V \leq 1,00 \%$

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr	1. Formel	2. Formel	3. Formel	4. Formel
Item	Heat No.	1. Formula	2. Formula	3. Formula	4. Formula
Poste	No. de coulée	1. Formule	2. Formule	3. Formule	4. Formule
0001	556818	0,301	0,274	6,077	0,332
0002	556757	0,320	0,300	5,714	0,412
0003	556818	0,301	0,274	6,077	0,332
0004	557121	0,324	0,291	6,231	0,443

Benteler Stahl/Rohr GmbH
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Deutschland
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1494 3 of 5
BENTELER
Stahl/Rohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.: 41-568248/002/P

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Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]

Pos. Schmelzen-Nr.

Item	Heat No.	C	SI	MN	P	S	CR	MO	NI	CU	V	NB	TI	B
0001	556818	0,140	0,220	0,81	0,008	0,002	0,10	0,04	0,08	0,12	0,002	0,005	0,003	0,0
0001	556818	0,140	0,230	0,81	0,008	0,002	0,11	0,04	0,08	0,12	0,002	0,005	0,003	0,0
0002	556757	0,140	0,220	0,80	0,016	0,003	0,12	0,03	0,08	0,19	0,002	0,005	0,002	0,0
0002	556757	0,140	0,220	0,80	0,015	0,003	0,13	0,03	0,08	0,19	0,002	0,005	0,002	0,0
0003	556818	0,140	0,220	0,81	0,008	0,002	0,10	0,04	0,08	0,12	0,002	0,005	0,003	0,0
0003	556818	0,140	0,230	0,81	0,008	0,002	0,11	0,04	0,08	0,12	0,002	0,005	0,003	0,0
0004	557121	0,120	0,180	0,78	0,008	0,001	0,17	0,06	0,10	0,11	0,002	0,003	0,002	0,0
0004	557121	0,130	0,180	0,80	0,007	0,001	0,17	0,06	0,10	0,12	0,002	0,003	0,002	0,0

1. Formel: $CE\ IIW = C + (Mn/6) + ((Cr + Mo + V)/5) + ((Cu + Ni)/15) \leq 0,40\ %$

2. Formel: $CEV = C + F * ((Mn/6) + (Si/24) + (Cu/15) + (Ni/20) + ((Cr + Mo + V + Nb)/5) + (5 * B)) \leq 0,40$

3. Formel: $Mn/C \geq 3/1$

4. Formel: $Cr + Cu + Mo + Ni + V \leq 1,00\ %$

Formelergebnisse / Formula results / Résultats des formules

Pos.	Schmelzen-Nr	1. Formel	2. Formel	3. Formel	4. Formel
Item	Heat No.	1. Formula	2. Formula	3. Formula	4. Formula
Poste	No. de coulée	1. Formule	2. Formule	3. Formule	4. Formule
0001	556818	0,316	0,299	5,785	0,342
0001	556818	0,318	0,301	5,785	0,352
0002	556757	0,321	0,303	5,714	0,422
0002	556757	0,323	0,305	5,714	0,432
0003	556818	0,316	0,299	5,785	0,342
0003	556818	0,318	0,301	5,785	0,352
0004	557121	0,310	0,269	6,500	0,442
0004	557121	0,324	0,292	6,153	0,452

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BENTELER
Stahl/Rohr

1494 4055

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ABNAHMEPRÜFZEUGNIS EN 10204-3.1
INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1

Prüfsergebnisse / Test results / Résultats des essais

Die Rohre sind auf Dichtheit geprüft durch:
The tubes have been submitted to a leak tightness test by:
Les tubes ont passé un contrôle d'étanchéité par:

Die Rohre wurden zerstörungsfrei geprüft:
The tubes are non destructive tested:
Les tubes ont passé un essai non destructif:

Augensichtkontrolle:
Visual inspection:
Examen visuel:

PASSED

Maßkontrolle:
Dimensions examination:
Vérification des dimensions:

PASSED

Biegeversuch:
Bending test:
Essai de cintrage:

PASSED

Ergebnisse der mechanischen Prüfung / Results of mechanical testing / Résultats des essais mécaniques

Die Probennahme erfolgte an Vielfachlängen.
The sampling was carried out on multiple lengths.
L'échantillonnage était réalisé aux longueurs multiples.

Zugversuch Vollprobe / Tensile test Full section test specimen / Essai de traction Eprouvette a section complete

Pos. Item Poste	Proben-Nr. Specimen No. No. de l'éprouvette	Schmelzen-Nr. Heat No. No. de coulée	Probenabmessung Specimen dimensions Dimensions de l'éprouv.	Streckgrenze Yield strength Limite élastique	Zugfestigkeit Tensile strength Résistance à la traction	Dehnung Elongation Allongement	Einschnürung Area reduction Coefficient de striction	Re/R Re/R Re/R
Anforderungen Requirements Exigences			mm	ReH N/mm ² MIN 290	Rm N/mm ² 415-625	A2" % MIN 30	1. Formel 1. Formula 1. Formule	
0001	000001	556818	21,40 X 3,90	371	492	42		
0002	000001	556757	21,34 X 4,71	323	477	42		
0003	000001	556818	26,70 X 3,90	373	503	52		
0004	000001	557121	33,38 X 6,22	312	464	52		

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1494 5 of 5
BENTELER
Stahl/Rohr

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1

CERTIFICAT DE RECEPTION EN 10204-3.1

Härteprüfung / Hardness test / Essai de dureté

Dokument-Nr.: 41-568248/002/P
Document No.:
No. du document:
Prüf-Nr.:
Inspection No.:
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Pos.	Proben-Nr.	Schmelzen-Nr.	Härte				
Item	Specimen No.	Heat No.	Hardness				
Poste	No. de l'éprouv.	No. de coulée	Dureté				
Anforderungen			HRC	HB	HV	HRB	HBW
Requirements							
Exigences				MAX 200			
0001	000001	556818		149			
0002	000001	556757		139			
0003	000001	556818		155			
0004	000001	557121		138			

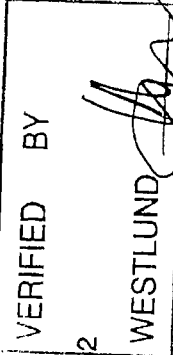
Restmagnetismus / Demagnetize / Démagnétiser

demagnetized tubes; 1 measurement per 4 hours on both tube ends Two readings 180° apart around the circumference. Average value max 3.0 Millitesla (24 A/cm), individual value max 3.5 Millitesla (28 A/cm)

Vermerk / Remark / Remarque

NACE Standard: Hardness acc. to NACE MR0175/ISO 15156: HRC max 22., The material meets the requirements of NACE MR0103;
Certificate remarks: Sour Service, The Material is Aluminium deoxyzidized and inclusion shape controlled with Calcium-Silicon treatment, This is to confirm that the seamless linepipe supplied by Benteler and verified to CSA Standard Z245.1-07 meets the requirement for micro hardness of max. 248 HV 500 gf., No weld repair has been carried out; Bend test: mandrel diameter 12D; Bending angle: 90 °

Verkäufer(in) / Salesman/woman in charge : Mr Buerger, Tel.: 05254/81-4266, Fax: 4299



Paderborn Schloß Neuhaus, 15.02.2010, TEL.: 05254.81-1765 FAX: 05254.81-1762

Abnahmebeauftragter
Inspection representative
Contrôleur

THOMAS GOLLAN / GUT
Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechtsgültig.
We certify that the supplied products comply with the order specification. This document was prepared by means of electronic data processing and is valid without signature.
Nous attestons que les produits livrés sont conformes aux stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.



Tenaris

INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Siderca S.A.I.C.
Dr. Jorge A. Simini 250
(82804474) Campana
Buenos Aires, Argentina
(54) 3489 433100 tel
(54) 3489 433405 fax

Cliente / Customer VAN LEEUWEN CANADA			Expediental Manufacturing Order 57887.01		Número / Number 216076	Fecha / Date 03/08/2004	Pág./Page 2 / 13
Producto / Product Seamless steel line pipe			Orden de Compra / Purchase Order PO 45029439		Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1			Grado / Grade 186+290/II		Extremos / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 88.90 x 7.62 mm 3 1/2 x 0.300 inches		Schedule 80	Peso Nominal / Nominal Weight 15.27 KG/MT 10.25 LB/FT	Longitud / Length S.R. (SP)	Superficie Externa / External Surface VARNISHED		Capacidades / Quantities 602 Pz 3990.87 m 60598 Kg 602 Pcs 13093.41 Ft 133596 Lb

ENSAYOS DE TRACCION / TENSILE TEST

ENSAYOS DE TRACCIÓN / 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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		Specimen condition					Test Temp	Size		Area	Offset Method		EUL Method		Req. Min		V. obt.	Req. Min	V. obt.	Req. Max	Y.S/UTS Ratio	Lo 2"	Req. Min	V. obt	Req. Min	Area Red.	Req. Min	V. Obt	Req. Max																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Heat	Test Nº	Zona	Estado	Ext.	Nº P/T	Tipo			Ori		Inches	Inchs2	%	KsI	Req. Min	V. obt.														EUL	Req. Min	V. obt.	Req. Max	KsI	Req. Min	V. obt.	Req. Max	Obt	%	Req. Min	Area Red.	Req. Min	V. Obt	Req. Max																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

TEST TECNOLÓGICO / TECHNOLOGICAL TEST

Aplastamiento		Abocardado		Pestañado		Ens. De anillo expandido		Ens. De Tracción de anillo	
Flattening Test		Flaring Test		Flange Test		Ring expanding Test		Ring tensile Test	
Satisfact.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pro = Procesado / Process									
N = Normalizada / Normalized									
DIST = Distorsionada / Stress Relief									
Q & T = Templado y Revenido / Quenched & Tempered									
TA/RT = Temp. Ambiente / Room Temperature									
RE = Rectangular		CI = Cilíndrica / Cylindrical		C/B = Cuerpo / Body		L = Longitudinal		V.Obt = Valor Obtenido / Obtained value	
ST = Segmento Tubular / Tubular segmen		P/A = Promedio / Average		R/U = Recalque / Upset		T = Transversal		E = Comienzo de marcación / Stenciling starting	
TU = Transversal		Min = Mínimo / minimum		Max = Máximo / Maximum		P/T = Tubo / Pipe		O = Extremo opuesto al E / Opposite extreme to E	
						EXT = Extremo / End			
						M = Medio / Middle			

CAU 17604



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INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

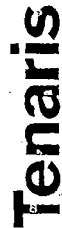
Cliente / Customer VAN LEEUWEN CANADA		Expedient / Manufacturing Order 517887.01		Número / Number 216076		Fecha / Date 03/08/2004		Pág./Page 3 / 13	
Producto / Product Seamless steel line pipe		Orden de Compra / Purchase Order PO 45029439		Item 00001		Referencia del Cliente / Customer Reference			
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1		Grado / Grade 186+290/II		Extremos / Ends BEVELLED AT 30 DEG. ASTM					
Dimensiones / Dimensions 88.90 x 7.62 mm		Peso Nominal / Nominal Weight 15.27 KG/MT		Longitud / Length S.R. (SP)		Superficie Externa / External Surface VARNISHED			
3 1/2 x 0.300 inches		10.25 LB/FT				Cantidades / Quantities 602 Pz 3990.87 m 60598 Kg 602 Pcs 13093.41 Ft 133596 Lb			

ENSAYOS DE TRACCION / TENSILE TEST

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 area	Dureza / Hardness Tipo / type: BHN				
Heat	Test N°	Specimen condition			Test Temp	Size	Area	Offset Method		EUL Method				Req.		V. obt	Req. Max	Y.S./U.T.S Ratio	Lo 2"	Req.		V. obt	Area Red.	Req. Min	V. Obt	Req. Max		
								Zona	Estado	Ext.	N°	P/T	Tipo	Ort	°C					Inches	Inchs2						%	Ksi
33330	441353	C/B	PRO		L	TA/RT	0.754 X 0.296	0.226					0.5	42	70.2	80	81.7		50.8	33.6	35.0			181	237			
33330	441354	C/B	PRO		L	TA/RT	0.757 X 0.302	0.231					0.5	42	69.5	60	81.1		50.8	33.6	34.8			190	237			
33330	441355	C/B	PRO		L	TA/RT	0.763 X 0.291	0.224					0.5	42	68.4	60	79.7		50.8	33.6	36.0			180	237			
33330	441356	C/B	PRO		L	TA/RT	0.755 X 0.300	0.228					0.5	42	69.5	60	80.7		50.8	33.6	34.1			182	237			
33330	441357	C/B	PRO		L	TA/RT	0.758 X 0.313	0.240					0.5	42	67.8	60	76.8		50.8	33.6	35.8			185	237			
33330	441358	C/B	PRO		L	TA/RT	0.759 X 0.289	0.222					0.5	42	68.2	60	80.7		50.8	33.6	35.4			178	237			
33330	441359	C/B	PRO		L	TA/RT	0.760 X 0.292	0.224					0.5	42	72.6	80	83.1		50.8	33.6	35.6			177	237			
33330	441366	C/B	PRO		L	TA/RT	0.759 X 0.289	0.222					0.5	42	70.6	60	81.4		50.8	33.6	35.2			176	237			
33330	441372	C/B	PRO		L	TA/RT	0.752 X 0.298	0.226					0.5	42	71.0	60	82.1		50.8	33.6	35.3			180	237			
33330	441373	C/B	PRO		L	TA/RT	0.748 X 0.291	0.220					0.5	42	70.1	60	80.9		50.8	33.8	35.7			176	237			

TEST TECNOLÓGICO / TECHNOLOGICAL TEST										NOTA / NOTE:																	
Aplastamiento / Curvado		Abocardado / Flaring		Pestaneado / Flange		Ens. De anillo expandido / Ring expanding		Ens. De tracción de anillo / Ring tensile																			
Flattening Test		Bend test		Flange Test		Ring expanding Test		Ring tensile Test																			
Satisfact.		N/A		N/A		N/A		N/A																			
Pro = Procesado / Process										RE = Rectangular		C/B = Cuerpo / Body		L = Longitudinal		V.Obt. = Valor Obtenido / Obtained value											
N = Normalizado / Normalized										CI = Cilíndrico / Cylindrical		RU = Rosca / Upset		T = Transversal		E = Comienzo de marcado / Stenciling starting											
DIST = Distorsionada / Stress Relief										ST = Segmento Tubular / Tubular segmen		P/A = Promedio / Average		P/T = Tubo / Pipe		O = Extremo opuesto al E / Opposite extreme to E											
Q & T = Templado y Revenido / Quenched & Tempered										TU = Transversal		Min = Mínimo / minimum		EXT = Extremo / End		M = Medio / Middle											
T/ART = Temp. Ambiental / Room Temperature																											

CAI 17504



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INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Cliente / Customer VAN LEEUWEN CANADA				Expediente / Manufacturing Order 57887.01	Número / Number 216076	Fecha / Date 03/08/2004	Pág. / Page 4 / 13
Producto / Product Seamless steel line pipe				Orden de Compra / Purchase Order PO 45029439	Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1				Grado / Grade 186+290/II	Extremos / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 88.90 x 7.62 mm 3 1/2 x 0.300 inches		Schedule 80	Peso Nominal / Nominal Weight 15.27 KG/MT 10.25 LB/FT	Longitud / Length S.R. (SP)	Superficie Externa / External Surface VARNISHED	Cantidades / Quantities 602 Pz 3990.87 m 602 Pcs 13093.41 Ft	60598 Kg 133596 Lb

ENSAYOS QUÍMICOS / CHEMICAL ANALYSES

[illegible]

Unit / Description	Carbono Equivalente/Equivalent Carbon
1.000 kg of Anhydrous	

NOTAS / NOTES: H = Análisis de colada / Heat Analysis.

NOTAS / NOTES: H = Análisis de colada / Hea

$$CEO1 = C + (MN/6) + CB + MO + V/5 + (NI + CL)/15$$
$$\text{Sum } 1 = \text{CR} + \text{CU} + \text{MO} + \text{NI} + \text{V}$$

R1 = MNC

P = Ratio * = PPM / Part per million

PCM

91M 3

R3 34

GALL 17504



(EN 10204 3.1B - ISO 10474 3.1B)

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ENSAÏOS QUÍMICOS / CHEMICAL ANALYSES

* = ppm / Part per million

CALL 17304



INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

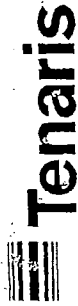
Siderca S.A.I.C.
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Cliente / Customer VAN LEEUWEN CANADA		Expedientel Manufacturing Order 57887.01		Número / Number 216076		Fecha / Date 03/08/2004		Pag./Page 6 / 13	
Producto / Product Seamless steel line pipe		Orden de Compra Purchase Order PO 45029439		Item 00001		Referencia del Cliente / Customer Reference			
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1		Grado / Grade 186+290/II		Extremos / Ends BEVELLED AT 30 DEG. ASTM		Cantidades / Quantities 602 Pz 3990.87 m 60598 Kg 602 Pcs 13093.41 Ft 133596 Lb			
Dimensiones / Dimensions 88.90 x 7.62 mm 3 1/2 x 0.300 Inches		Paso Nominal / Nominal Weight 15.27 KG/MT 10.25 LB/FT		Longitud / Length S.R. (SP)		Superficie Exterior / External Surface VARNISHED			

ENSAYOS QUIMICOS / CHEMICAL ANALYSES

		ELEMENTOS QUIMICOS Y MEMORIALES ANALITICOS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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NOTAS / NOTES:	H = Analisis de colada / Heat Analysis.	P = Analisis de producto / Product Analysis	C.e = Carbono Equivalente/Equivalent Carbon	R = Ratio	* = PPM / Part per million
CEQ 1 =	C+(Mn/6)+(Cr+Mo+V)/5+(Ni+Cu)/15	CEQ 2 =	C+F((Mn/6)+(Si/24)+(Cu/15)+(Ni/20)+(Cr+Mo+V+Ni)/5+(S/8))	PCM =	
Sum 1 =	CR+CU+MO+NI+V	SUM 2 =		SUM 3 =	
R 1 =	MN/C	R 2 =		R 3 =	



INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

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Cliente / Customer VAN LEEUWEN CANADA		Expeditel Manufacturing Order 57987.01		Número / Number 216076		Fecha / Date 03/08/2004		Pág./Page 7 / 13	
Producto / Product Seamless steel line pipe		Orden de Compra / Purchase Order PO 45029439		Item 00001		Referencia del Cliente / Customer Reference			
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1		Grado / Grade 1&6+290H		Extremos / Ends BEVELLED AT 30 DEG. ASTM					
Dimensiones / Dimensions 88.90 x 7.62 mm 3 1/2 x 0.300 inches		Paso Nominal / Nominal Weight 15.27 KG/MT 10.25 LB/FT		Longitud / Length S.R. (SP)		Superficie Externa / External Surface VARNISHED		Caridades / Quantities 602 Pz 3990.87 m 602 Pcs 13093.41 Ft 60598 Kg 133596 Lb	

ENSAYOS DE IMPACTO / IMPACT TEST

ENSAYOS DE IMPACTO / IMPACT TESTS																					
Colada Heat	Ensayo Test	Condición de la probeta / Specimen condition				Energía Absorbida / Absorbed Energy				Área ductil / Shear Area (%)						Expansión Lateral/Lateral Exp. (Mils)					
		Zona Zone	Método Method	Entalla Notch	Dimensiones Size Inches	Orient.	Temper. °C	Unidad Unit	Req.			V. Obt./Obtained Values			Req.			V. Obt./Obtained Values			
									Min	P/A	P/A	Min	P/A	Min	P/A	Min	P/A	Min	P/A	1	2
32824	441323	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	7.0	9.0	122.0	120.0	120.0	120.7							
32824	441323	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	0.0	20.0	128.0	128.0	146.0	134.0		85.0	100.0	100.0	100.0	100.0	
32824	441340	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	0.0	20.0	120.0	120.0	124.0	120.0	121.3	85.0	100.0	100.0	100.0	100.0	
32824	441340	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	7.0	9.0	115.0	132.0	114.0	121.3							
33330	441287	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	0.0	20.0	119.0	124.0	138.0	119.0	126.3	85.0	100.0	100.0	100.0	100.0	
33330	441287	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	7.0	9.0	128.0	118.0	131.0	116.0	125.0						
33330	441288	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	0.0	20.0	114.0	112.0	112.0	112.7		85.0	100.0	100.0	100.0	100.0	
33330	441288	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	7.0	9.0	106.0	107.0	111.0	107.0	108.7						
33330	441290	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	0.0	20.0	114.0	120.0	118.0	114.0	117.3	85.0	100.0	100.0	100.0	100.0	
33330	441290	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	7.0	9.0	113.0	108.0	112.0	108.0	111.0						
33330	441292	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	0.0	20.0	130.0	118.0	118.0	118.0	121.3	85.0	100.0	100.0	100.0	100.0	
33330	441292	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	7.0	9.0	114.0	128.0	110.0	110.0	118.7						
33330	441293	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	0.0	20.0	128.0	114.0	108.0	108.0	116.0						
33330	441293	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	7.0	9.0	121.0	115.0	114.0	114.0	116.7						
33330	441294	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	0.0	20.0	121.0	114.0	114.0	114.0	116.3	85.0	100.0	100.0	100.0	100.0	
33330	441294	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	7.0	9.0	114.0	117.0	115.0	114.0	115.3						
33330	441296	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	0.0	20.0	112.0	117.0	121.0	112.0	116.7						
33330	441296	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	7.0	9.0	116.0	122.0	112.0	112.0	118.3						
33330	441297	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	7.0	9.0	112.0	113.0	109.0	109.0	111.3						
33330	441297	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	0.0	20.0	110.0	128.0	128.0	110.0	121.7	85.0	100.0	100.0	100.0	100.0	
33330	441297	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	7.0	9.0	109.0	113.0	113.0	109.0	111.7						
33330	441298	C/B	CHARPY	V	0.394 x 0.197	L	-52	Joules	0.0	20.0	117.0	130.0	130.0	117.0	125.7	85.0	100.0	100.0	100.0	100.0	

NOTE: Req = Requisitos / Requirements C/B = Cuerpo / Body R/U = Recaque / Upset Orient = Orientación / Orientation V = Valor / Value P/A = Promedio / Average Min = Minimum T/E = Temp. Ens. / Test Temp.

CAJ17504



INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

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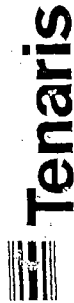
Cliente / Customer VAN LEEUWEN CANADA		Expedientel Manufacturing Order 57887.01		Número / Number 216076	Fecha / Date 03/08/2004	Pág./Page 8 / 13
Producto / Product Seamless steel line pipe		Orden de Compral Purchase Order PO 45029439		Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1		Grado / Grade 186+290/II		Extremos / Ends BEVELLED AT 30 DEG. ASTM		
Diménsiones / Dimensions 88.90 x 7.62 mm 3 1/2 x 0.300 Inches		Peso Nominal / Nominal Weight 15.27 KG/MT 10.25 LB/FT		Superficie Externa / External Surface VARNISHED		Cantidades / Quantities 602 Pz 3990.87 m 60598 Kg 602 Pcs 13093.41 Ft 133596 Lb

ENSAYOS DE IMPACTO / IMPACT TEST

Colada Heat	Ensayo Test	Condición de la probeta / Specimen condition				Energía Absorbida / Absorbed Energy										Area ductil / Shear Area (%)						Expansión Lateral/Lateral Exp. (Mils)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
		Zona Zone	Método Method	Entalla Notch	Dimensiones Size Inches	Orient.	Temper. °C	Unidad Unit	Req.			V.Obt./Obtained Values			Req.			V.Obt./Obtained Values			Req.			V.Obt./Obtained Values																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
									Min	P/A	P/A	Min	P/A	P/A	Min	P/A	P/A	Min	P/A	P/A	Min	P/A	P/A	Min	P/A	P/A	Min	P/A	P/A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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33330	441301	C/B	CHARPY	V	0,394 x 0,197	L	-52	Joules	7,0	9,0	121,0	121,0	138,0	121,0	126,7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				

NOTE: Req = Requisitos / Requirements C/B = Cuerpo / Body RU = Roscaque / Upsal Orient = Orientación / Orientation V = Valor / Value P/A = Promedio / Average Min = Mínimo / Minimum T/E = Temp. Ens. / Test Temp.

CAU.17364



INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

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Cliente / Customer VAN LEEUWEN CANADA		Expediente/ Manufacturing Order 57887.01		Número / Number 216076		Fecha / Date 03/08/2004		Pág./Page 9 / 13	
Producto / Product Seamless steel line pipe		Orden de Compras/ Purchase Order PO 45029439		Item 00001		Referencia del Cliente / Customer Reference			
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1		Grado / Grade 186+290H		Extremos / Ends BEVELLED AT 30 DEG. ASTM					
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Schedule 80								60598 Kg 133596 Lb	

ENSAYOS DE IMPACTO / IMPACT TEST

ENSAYOS DE IMPACTO / IMPACT TESTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Colada Heat	Ensayo Test	Condición de la probeta / Specimen condition				Energía Absorbida / Absorbed Energy				Area ductil / Shear Area (%)				Expansión Lateral/Lateral Exp. (Mils)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		Zona Zone	Método Method	Entalla Notch	Dimensiones Size Inches	Orient. Orient.	Temper. °C	Unidad Unit	Req.		V.Obt./Obtained Values			Req.		V.Obt./Obtained Values			Req.		V.Obt./Obtained Values																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
									Min	P/A	1	2	3	Min	P/A	1	2	3	Min	P/A	1	2	3	Min	P/A	1	2	3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
33330	441351	C/B	CHARPY	V	0.394 x 0.197	L	-45	Joules	0.0	20.0	117.0	118.0	113.0	113.0	118.0	85.0	100.0	100.0	100.0	100.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														

NOTE: Req = Requisitos / Requirements C/B = Cuerpo / Body RIU = Resacaque / Upset Orient = Orientación / Orientation V = Valor / Value P/A = Promedio / Average Min = Minimum / Minimum T/E = Temp. Ens. / Test Temp.

CAU 17304



Tenaris

INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Siderca S.A.I.C.
Dr. Jorge A. Simini Zso
(828044HA) Campana
Buenos Aires, Argentina
(34) 3489 433100 tel
(34) 3489 433405 fax

Cliente / Customer VAN LEEUWEN CANADA		Expediente/ Manufacturing Order 57887.01		Número / Number 216076		Fecha / Date 03/08/2004		Pág./Page 10 / 13	
Producto / Product Seamless steel line pipe		Orden de Compra/ Purchase Order PO 45029439		Item 00001		Referencia del Cliente / Customer Reference			
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1		Grado / Grade 1&6+290/II		Extremos / Ends BEVELLED AT 30 DEG. ASTM					
Dimensiones / Dimensions 88.90 x 7.62 mm 3 1/2 x 0.300 inches		Peso Nominal / Nominal Weight 15.27 KG/MT 10.25 LB/FT		Longitud / Length S.R. (SP)		Superficie Externa / External Surface VARNISHED		Cantidades / Quantities 602 Pz 3990.87 m 60598 Kg 602 Pcs 13093.41 Ft 133596 Lb	

ENSAYOS DE IMPACTO / IMPACT TEST

ENSAYOS DE IMPACTO / IMPACT TESTS																								
Condición de la probeta / Specimen condition										Energía Absorbida / Absorbed Energy														
Colada Heat	Ensayo Test	Zona Zone	Método Method	Entalla Notch	Dimensiones Size Inches	Orient.	Temper.		Unidad Unit	Req.			V.Obt./Obtained Values			Req.			V.Obt./Obtained Values			Expansion Lateral/Lateral Exp. (Mils)		
							°C	T/E		Min	P/A	Min	P/A	Min	P/A	Min	P/A	Min	P/A	Min	P/A	Min	P/A	Min	P/A

NOTE: Req = Requisitos / Requirements C/B = Cuerpo / Body RU = Recalque / Upseal Orient = Orientación / Orientation V = Valor / Value P/A = Promedio / Average Min = Mínimo / Minimum T/E = Temp. Ens. / Test Temp.

CAU17504



Tenaris

Siderca S.A.I.C.
Dr. Jorge A. Simini 250
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(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 57887.01		Número / Number 216076	Fecha / Date 03/08/2004	Pág./Page 11 / 13
Producto / Product Seamless steel line pipe		Orden de Compra/ Purchase Order PO 45029439		Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1		Grado / Grade 1&6+290/II		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 88.90 x 7.62 mm	Schedule 80	Peso Nominal / Nominal Weight 15.27 KG/MT	Longitud / Length S.R. (SP)	Superficie Externa / External Surface VARNISHED	Cantidades / Quantities 602 Pz 3990.87 m	60598 Kg
3 1/2 x 0.300 inches		10.25 LB/FT			602 Pcs 13093.41 Ft	133596 Lb
Marcas / Marking LLL = Longitud / length PPP = Peso / Weight @ = Monograma / Monogram API HNXXXX = Colada / Heat						
& = Monograma / Monogram SIDERCA NNNN = Número de tubo / Nbr of pipe MM.YY = Mes / Año Month / Year YT = Año / Trimestre Year / Quarter						
Estando (Tubo) / Stencilling (Pipe) NNNNN LLLL PPPPP TENARIS SD MM.YY A333/SA333 CSA Z245.1-98 3 X 0.3 10.25 1/8 QT/290CAT II HQ M45C SCH80 XS 3000PSI SEAMLESS PO45029439 V.L. CODE 21800 5/7887.01 MADE IN ARGENTINA HNXXXX						
Tarjeta / Card : SIDERCA MADE IN ARGENTINA P.O.: PO 45029439 OF: 57887-01 PIECES: LENGTH: WEIGHT(KG): LIFT: SIZE: 88.90 X 7.62 GDO:1&6+290/II SPEC: ASTM A333 HEAT: GL.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./L.F. AND CONTINUOUS CASTING - FULL ALUMINIUM KILLED AND FINE GRAIN PRACTICE. -THE LF PRACTICE INCLUDES A FINAL INJECTION OF CALCIUM SILICIDE WIRE FOR MICROINCLUSION SHAPE CONTROL. -MATERIAL FREE FROM MERCURY CONTAMINATION.						
PROCESO DE LAMINACIÓN -FABRICACIÓN DE TUBO: LAMINADO EN CALIENTE Y SIN COSTURA.						
ROLLING PROCESS -MANUFACTURING PROCESS: SEAMLESS HOT ROLLED.						
CONTROLES -CONTROL VISUAL Y DIMENSIONAL: SATISFACTORIO. -CONTROL NO DESTRUCTIVO TUBO (C.N.D.): SATISFACTORIO.						
CONTROLS -VISUAL AND DIMENSIONAL INSPECTION: SATISFACTORY. -PIPE NON DESTRUCTIVE TEST (N.D.T.): SATISFACTORY.						



Tenaris

INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Siderca S.A.I.C.
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(54) 3489 433100 tel
(54) 3489 433405 fax

Cliente / Customer VAN LEEUWEN CANADA		Expedientel Manufacturing Order 57887.01		Número / Number 216076	Fecha / Date 03/08/2004	Pág./Page 12 / 13
Producto / Product Seamless steel line pipe		Orden de Compra Purchase Order PO 45029439		Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1		Grado / Grade 186+290/II		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 88.90 x 7.62 mm 3 1/2 x 0.300 inches		Peso Nominal / Nominal Weight 15.27 KG/MT 10.25 LB/FT		Superficie Externa / External Surface VARNISHED		
Schedule 80		Longitud / Length S.R. (SP)		Cantidad / Quantities 602 Pz 3990.87 m 602 Pcs 13093.41 Ft		
Schedule 80		Longitud / Length S.R. (SP)		Cantidad / Quantities 602 Pz 3990.87 m 602 Pcs 13093.41 Ft		
*CONDICIONES DEL MATERIAL * -NO REPARADO POR SOLDADURA.						
*PROPIEDADES DEL MATERIAL * -LA DUREZA CUMPLE CON LA NORMA NACE MR 01-75 ULTIMA EDICION. -EL MATERIAL CUMPLE CON LOS REQUISITOS DE ASTM A530/A530M EDICION 98.						
*NORMAS * -CERTIFICADO DE ACUERDO CON: EN 10204 3.1.B/95 - ISO 10474 3.1.B/92. -EDICION DE LA NORMA : ASME SA 333/01. -EDICION DE LA NORMA : NACE MR-01-75 ULTIMA EDICION -EDICION DE LA NORMA: CSA Z245.1/98. -EDICION DE LA NORMA : ASTM A333/99.						
Observaciones / Remarks HYDROSTATIC TEST PRESSURE: 211 Kg/Cm2 = 3000 PSI (5 sec.). HEAT TREATMENT: QUENCHED & TEMPERED. QUENCH MEDIA OF HEAT TREATING PROCESS: WATER INSPECTION METHODS: E.M.I. LONG.(EXT.) NOTCH 5% E.M.I. LONG.(INT.) NOTCH 10% E.M.I. TRANSV. (EXT./INT.) NOTCH 10%. IMPACT TEST ACCORDING ASTM A370. HARDNESS ACCORDING TO NACE MR-01-75 LATEST EDITION.						



Siderca SAIC
Dr. Jorge A. Simini 250
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Buenos Aires, Argentina
(54) 3489 433100 Tel
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INSPECTION CERTIFICATE

(EN 10204 3.1B - ISO 10474 3.1B)

Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 517887.01		Número / Number 216076	Fecha / Date 03/08/2004	Pág. / Page 13 / 13
Producto / Product Seamless steel line pipe		Orden de Compra / Purchase Order PO 45029439		Item 00001	Referencia del Cliente / Customer Reference	
Norma / Standard ASTM A333/ASME SA333 + CSA Z245.1		Grado / Grade 18.6+290/III		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 88.90 x 7.62 mm		Superficie Externa / External Surface VARNISHED		Cantidad / Quantities 602 Pz 3990.87 m		
Schedule 80		Longitud / Length S.R. (SP)		602 Pcs 13093.41 Ft		
Peso Nominal / Nominal Weight 15.27 KG/MT		60598 Kg				
3 1/2 x 0.300 Inches		133596 Lb				

ONE YELLOW LONGITUDINAL STRIPE FULL LENGTH.

ONE ORANGE BAND.

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. Si necesita asegurar la autenticidad de este certificado, contactarse con Siderca SAIC. e-mail: aye@siderca.com	Any alteration and / or falsification will be subject to the law. If you need to assure the authenticity of this certificate, please do not hesitate to contact Siderca SAIC through this e-address: aye@siderca.com

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

CAU 17604

3 XH A333

Y607-637



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

CONTRACT NO:
NAME OF CUSTOMER:
DESCRIPTION:
TOTAL:
DATE:

2005041
WEIFANG STEEL CANADA LTD.
SEAMLESS STEEL PIPE
4467 pieces,
16-Oct-06

Add: Qianqiao Industrial Area, Wuxi City, Jiangsu
Province, 214151, P.R.China
Tel: 0086-510-83231334
Fax: 0086-510-83216987

Page: 1 of 1

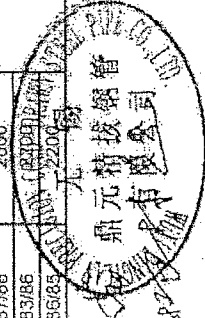
SPECIFICATION: ASTM/A333-1999, GR. 6, NACE MRO-175-1999													CERTIFICATE NO: 06101601				
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE		QUANTITY											
						BUNDLES	PIECES	FEET	WEIGHT(MT)								
1	R060509497	Y060505521	GR.B	2" STD A333-GR 6 SRL*21'		6	181			3,801		6,298					
2	R060509147/148	Y607-634	GR.B	3" STD A333-GR 6 SRL*21'		16	296			6,216		21,392					
3	R060509001/1002	Y607-635	GR.B	4" STD A333-GR 6 SRL*21'		39	383			6,321		30,965					
4	R060709260	Y603-854	GR.B	1" XH A333-GR 6 SRL*21'		6	512			10,752		10,607					
5	R060509491/492/493	Y060505520	GR.B	2" XH A333-GR 6 SRL*21'		32	1,161			24,381		55,587					
6	R060509234/235/236/237	Y607-637	GR.B	3" XH A333-GR 6 SRL*21'		56	1,050			22,050		102,637					
7	R060509488/489	Y607-636	GR.B	4" XH A333-GR 6 SRL*21'		18	301			8,043		54,713					
8	R060509342/343/344	Y607-633	GR.B	2" STD A333-GR 6 SRL*21'		25	470			9,870		33,332					
9	R060509145	Y607-637	GR.B	3" STD A333-GR 6 SRL*21'		10	113			2,373		15,401					
NO.	DELIVERY CONDITION	CHEMICAL COMPOSITION %										NONDESTRUCTIVE TEST					
		C	Si	Mn	P	S	Cr	Ni	Mo	IL	W	V	EDDY CURRENT TEST	ULTRASONIC TEST			
1	COLD-DRAWN	0.18	0.21	1.31	0.009	0.005	0.07	0.04	0.011	0.011	0.006	0.001	OK	/			
2	COLD-DRAWN	0.19	0.23	1.29	0.010	0.005	0.08	0.04	0.02	0.01	0.006	0.001	OK	/			
3	COLD-DRAWN	0.18	0.23	1.28	0.012	0.006	0.10	0.05	0.01	0.012	0.003	0.001	OK	/			
4	COLD-DRAWN	0.17	0.21	1.30	0.008	0.004	0.08	0.02	0.01	0.002	0.002	0.002	OK	/			
5	COLD-DRAWN	0.15	0.20	1.31	0.011	0.005	0.07	0.04	0.011	0.001	0.002	0.002	OK	/			
6	COLD-DRAWN	0.19	0.23	1.29	0.009	0.005	0.10	0.04	0.02	0.01	0.003	0.001	OK	/			
7	COLD-DRAWN	0.17	0.21	1.29	0.011	0.004	0.09	0.04	0.014	0.001	0.003	0.001	OK	/			
8	COLD-DRAWN	0.18	0.22	1.28	0.008	0.003	0.08	0.02	0.01	0.001	0.002	0.001	OK	/			
9	COLD-DRAWN	0.19	0.23	1.29	0.009	0.005	0.10	0.04	0.02	0.01	0.005	0.002	OK	/			
NO.	YIELD STRENGTH (PSI)	TENSILE STRENGTH (PSI)										CHARPY IMPACT TEST		HYDROSTATIC TEST (PSI)	HEAT TREATMENT		
		ELONGATION QL=50mm, %										Temp	Dime(mm)			J	
1	56000 / 58900	75635	76360	77090	78545	34.0/33.0	OK	-45°C	10*3.3*55mm	70/72-62/68	2500	Normalizad 860°C 20min					
2	60360 / 59635	75635	76360	77090	78545	34.0/33.0	OK	-45°C	10*5*55mm	76-96-80/85	2500						
3	45820 / 47270	72725	74180	74180	74907	30.5/30.0	OK	-45°C	10*5*55mm	90-92-81/88	2200						
4	53090 / 55270	74180	74907	74180	74907	32.5/31.5	OK	-45°C	10*3.3*55mm	64-68-70/68	950						
5	53820 / 58910	74180	75635	74180	75635	32.0/31.0	OK	-45°C	10*5*55mm	94-90-85/90	2200						
6	58180 / 58910	74910	76360	74910	76360	33.5/32.5	OK	-45°C	10*5*55mm	94-94-78/85	2200						
7	62545 / 63270	73450	74180	73450	74180	34.0/33.5	OK	-45°C	10*10*55mm	88-90-82/87	2800						
8	62545 / 64000	77820	80000	77820	80000	33.5/32.0	OK	-45°C	10*5*55mm	70-77-30/75	8786						
9	58910 / 59635	77090	77815	77090	77815	34.0/33.5	OK	-45°C	10*5*55mm	86-90-80/85	8685						

REMARKS:

- We hereby certify that this certificate of quality is issued and signed by the manufacturer.
- We hereby certify that the properties described herein meet the requirement of the above spec.
- We hereby certify that this certificate is issued accordance with EN10204 3.1.B.
- Origin: Made in China

ISSUED BY:

QUALITY MANAGER:



Contract No: 2110001760

HENGYANG VALIN STEEL TUBE CO., LTD

Name of Customer: IMEX CANADA INC

MILL TEST CERTIFICATE

Add: 10 Dalixincun, Hengyang City, Hunan, China

Tel and Fax: +86 734 8873739 8872942

Cable: 6993

P.C. 421001

DESCRIPTION: | Seamless Steel Line Pipe

TOTAL: 1637PIECES, 123BUNDLES, 171.153MT

DATE: JAN 14 2011

page 5/6

1559

311 SCH 80

A106B

SPEC: ASTM A53/A106 B/ASME SA53/SA106 B/API 5L/CSA Z245.1 GR 290 CAT 1 NACE MR-0175/ISO 15156-2 (REGION 3)/MR-0103 SOUR SERVICE

CERTIFICATE NO: 2011-03-0118-5																			
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEET	THEORETICAL WEIGHT (MT)	part code										
28	902101310	1026650V	B/290	3" * 0.300" * 40FT	3	27	1080	5.03	2860031										
29	80*200670	1026690V	B/290	3" * 0.438" * 20FT	1	22	440	2.865	2860049										
30	80*300541	1026532V	B/290	3" * 0.600" * 20FT	2	17	340	2.87	2860096										
31.1	902103113	1015642V	B/290	4" * 0.237" * 20FT	6	108	2160	10.59	2860016										
31.2	902103114	1027278V	B/290	4" * 0.237" * 20FT	3	56	1120	5.491	2860016										
Total					15	230	5140	26.846	2860016										
NO.	DELIVERY CONDITION	NONDESTRUCTIVE TEST																	
	EMI	UT	TYPE	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Ti	B	Nb	Mn:C	CE (IIW)	
28	HOT-ROLLED	OK	OK	P	0.12	0.23	1.08	0.008	0.002	0.05	0.02	0.03	0.01	0.0019	0.026	0.0001	0.028	9.00	0.28
29	HOT-ROLLED	OK	OK	P	0.13	0.24	1.07	0.008	0.002	0.05	0.02	0.03	0.01	0.0019	0.026	0.0001	0.028	8.23	0.3C
				L	0.13	0.24	1.08	0.008	0.002	0.04	0.02	0.03	0.01	0.0019	0.026	0.0001	0.028	8.31	0.3C
				P	0.14	0.24	1.05	0.009	0.002	0.06	0.03	0.05	0.02	0.0013	0.027	0.0001	0.035	7.50	0.32
30	HOT-ROLLED	OK	OK	P	0.14	0.25	1.06	0.009	0.002	0.06	0.03	0.05	0.02	0.0013	0.027	0.0001	0.035	7.57	0.32
				L	0.13	0.27	1.04	0.009	0.002	0.06	0.03	0.03	0.01	0.0029	0.028	0.0003	0.028	8.00	0.29
				P	0.13	0.22	1.01	0.010	0.004	0.04	0.02	0.03	0.01	0.0031	0.031	0.0003	0.028	7.77	0.29
31.1	HOT-ROLLED	OK	OK	P	0.13	0.21	1.00	0.010	0.004	0.04	0.02	0.03	0.01	0.0031	0.031	0.0003	0.028	7.69	0.29
				L	0.13	0.20	1.01	0.010	0.004	0.04	0.02	0.04	0.01	0.0031	0.025	0.0002	0.027	7.77	0.29
				P	0.13	0.23	1.05	0.012	0.002	0.06	0.02	0.04	0.01	0.0022	0.028	0.0002	0.032	8.08	0.3C
31.2	HOT-ROLLED	OK	OK	P	0.14	0.24	1.04	0.012	0.002	0.06	0.02	0.04	0.01	0.0022	0.028	0.0002	0.032	7.43	0.32
				L	0.14	0.23	1.05	0.013	0.002	0.06	0.02	0.04	0.01	0.0022	0.028	0.0002	0.032	7.50	0.32
				P	0.12	0.26	1.02	0.010	0.002	0.04	0.02	0.04	0.01	0.0045	0.031	0.0002	0.032	8.50	0.27
				P	0.13	0.27	1.03	0.010	0.002	0.04	0.02	0.04	0.01	0.0045	0.031	0.0002	0.032	7.92	0.25
				L	0.12	0.27	1.02	0.010	0.002	0.03	0.02	0.05	0.01	0.0045	0.031	0.0002	0.032	8.50	0.27
NO	TENSILE STRENGTH		YIELD STRENGTH (PSI)	ELONGATION δ (%)	IMPACT								HYDROSTATIC TEST (Psi/s)		FLATTEN TEST		BEND TEST		
	σ b (PSI)	σ s (PSI)			SIZE	AK (J)	Ort/Tem												
28	67425	51475	43.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
29	71050	60175	39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
30	62350	48575	43.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
31.1	71050	52200	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
31.2	69600	52200	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

REMARKS: 1. We hereby certify that this certificate of quality was prepared and signed by the manufacturer.
2. We hereby certify that the properties described herein meet the requirement of the above specification.
3. We hereby certify that this certificate is issued in accordance with EN10204 3.1.1 OR 3.1.2.
4. Type: P-Product analysis, L-Ladle analysis;

WESTLUND

QUALITY MANAGER

ISO 15156-2 (REGION 3)/MR-0103 SOUR SERVICE

HUNAN CHINA

B62875

产 品 质 量 证 明 书



Page 1 / 1

无锡市江海西路888号

Tel : (0510) 83073086 Fax : (0510) 83073086

MIL-1 TEST CERTIFICATE

EN 10204 3.1)

[illegible]

2010 Sept 27

BRI-CHEM

STEEL COOPERATION

BOARD APPROVED



Tenaris

INSPECTION CERTIFICATE

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

SIDERCA S.A.I.C.
Dr. Jorge A. Simini 250
(8280AMHA) Campana
Buenos Aires, Argentina
(54) 3489 433100 tel.
(54) 3489 433405 fax

Cliente / Customer
VAN LEEUWEN CANADA
Producto / Product
CARBON STEEL FOR SERVICES AT LOW TEMPERA

Expediente / Manufacturing Order 5/0823.06	Número / Number 335078	Fecha / Date 06/08/2006	Pág./Page 1 / 6
Orden de Compra / Purchase Order 45000372	Item 00010	Referencia del Cliente / Customer Reference 45000372	
Grado / Grade 16/290 2SS	Extremos / Ends BEVELLED AT 30 DEG. ASTM		

Norma / Standard ASTM A333/ASME SA333 CSA Z45.1-02/CANADA TENARIS P4.18-01/00 OCT 24, 2003	Superficie Externa / External Surface VARNISHED	Longitud / Length S.R. (SP)	Peso Nominal / Nominal Weight 42.56 KG/MT 28.57 LB/FT
Dimensiones / Dimensions 168.30 x 10.97 mm 6 5/8 x 0.432 inches	Schedule 80		

ENSAYOS DE TRACCION / TENSILE TEST

Nº de 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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	Specimen condition				Test Temp	Size	Area	Inches	Inches ²	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. Min	V. obt.	Req. Min	V. obt.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
										Zona	Estado	Ext	Nº P/T	Tipo	Ori															%	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	Ksi	

TEST TECNOLÓGICO / TECHNOLOGICAL TEST

Apilado / Flattening Test	Curvado / Bend Test	Abocinado / Flaring Test	Expandido / Flange Test	Ensayo de Tracción / Ring Tensile Test	Ensayo de Tracción / Ring Tensile Test
Satisfacción	NA	NA	NA	NA	NA
Pro =	Proceso / Process	PMHT = Post Weld Heat Treatment			
N =	Normalizado / Normalized				
DIST =	Distribución / Stress Relief				
Q & T =	Templeado y Revenido / Quenched & Tempered				
TART =	Temperatura Ambiente / Room Temperature				
RE =	Rectificado / Rectified				
CI =	Cilindrico / Cylindrical				
ST =	Segmentado / Segmented				
TU =	Transversal / Transversal				
L =	Longitudinal				
T =	Transversal				
P/T =	Tubo / Pipe				
EXT =	Extremo / End				
M =	Medio / Middle				
CH =	Ensayo en Caliente / Hot Testing				
V.Obt =	Valor Obtenido / Obtained value				
E =	Comienzo de marcado / Stenciling starting				
O =	Extremo opuesto al E / Opposite extreme to E				
CH =	Ensayo en Caliente / Hot Testing				

Calificación



INSPECTION CERTIFICATE

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

SIDERCA S.A.I.C.
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(54) 3489 433100 tel.
(54) 3489 433405 fax

Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 5/0823.06		Número / Number 335076	Fecha / Date 06/08/2006	Pág. / Page 3 / 6
Producto / Product CARBON STEEL FOR SERVICES AT LOW TEMPERA		Orden de Compra / Purchase Order 45000372		Item 00010	Referencia del Cliente / Customer Reference 45000372	
Norma / Standard ASTM A333/ASME SA333 CSA Z245.1-02/CANADA TENARIS P4.18-01/00 OCT 24,2003		Grado / Grade 1/6/290 2SS		Extremos / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 168.30 x 10.97 mm 6 5/8 x 0.432 Inches		Schedule 80		Peso Nominal / Nominal Weight 42.56 KG/MT 28.57 LB/FT		Longitud / Length S.R. (SP)
				Superficie Externa / External Surface VARNISHED		Cantidades / Quantities 267 Pz 1758.12 m 267 Pcs 5768.11 Ft
						74707 Kg 164701 Lb

(54) 3489 433405 fax



INSPECTION CERTIFICATE

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

SIDERCA S.A.I.C.
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(54) 3489 433405 fax

Ciente / Customer VAN LEEUWEN CANADA		Expediente/ Manufacturing Order 5/0823.06		Número / Number 335076	Fecha / Date 06/08/2008	Pág./Page 4 / 6
Producto / Product CARBON STEEL FOR SERVICES AT LOW TEMPERA		Orden de Compra/ Purchase Order 45000372		Item 00010	Referencia del Cliente / Customer Reference 45000372	
Norma / Standard ASTM A333/ASME SA333 CSA Z245.1-02*CANADA TENARIS P4.18-01/00 OCT 24.2003		Grado / Grade 1/6290 2SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 168.30 x 10.97 mm 6 5/8 x 0.432 Inches		Peso Nominal / Nominal Weight 42.56 KG/MT 28.57 LB/FT		Superficie Externa / External Surface VARNISHED		
Schedule 80		Longitud / Length S.R. (SP)		Cantidades / Quantities 267 Pz 1758.12 m 267 Pcs 5768.11 Ft		
S = Monograma / Monogram SIDERCA MM.YY = Mes / Año Month / Year		NNNN = Número de tubo / Nbr of pipe YYT = Año / Trimestre Year / Quarter		Marcas / Marking LLL = Longitud / length HNXXXX = Colada / Heat		
PPP = Peso / Weight HNXXXX = Colada / Heat						
Prueba Hidráulica / Hydrostatic Test						
Presión / Pressure		Tiempo / Time		Resultado / Results		
Valor / Value		Segundos / Seconds		Satisfactorio / Satisfactory		
PSI		5,00				
Estarcido (Tubo) / Stencilling (Pipe)						
NNNN LLLL PPPPP TENARIS SD MM.YY ASTM A333/ASME SA333 CSA Z245.1 6 X 10.97 28.57 1/6 QT/290 CAT II SS HQ M45C SCH80 XS 3000PSI SEAMLESS PO 45000372 5/0823.06 MADE IN ARGENTINA HNXXXX						
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.						
PROCESO DE LAMINACIÓN						
- FABRICACIÓN DE TUBO: LAMINADO EN CALIENTE Y SIN COSTURA.						
CONTROLES						
- CONTROL VISUAL Y DIMENSIONAL SATISFACTORIO.						
CONDICIONES DEL MATERIAL						
- NO REPARADO POR SOLDADURA.						
PROPIEDADES DEL MATERIAL						
- LA DUREZA CUMPLE CON LA NORMA NACE MR 01-75 ÚLTIMA EDICIÓN.						
MANUFACTURED BY SIDERCA						
ACIERAGE PROCESS						
STEEL MAKING PROCESS: E.A.F. F. AND CONTINUOUS CASTING - FULL ALUMINUM 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.						
ROLLING PROCESS						
- MANUFACTURING PROCESS: SEAMLESS HOT ROLLED.						
CONTROLS						
VISUAL AND DIMENSIONAL INSPECTION - SATISFACTORY.						
MATERIAL CONDITIONS						
NOT REPAIRED BY WELDING.						
MATERIAL PROPERTIES						
- HARDNESS ACCORDING TO NACE MR 01-75 LATEST EDITION.						



INSPECTION CERTIFICATE

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

SIDERCA S.A.L.C.
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Cliente / Customer VAN LEEUWEN CANADA		Expediente / Manufacturing Order 5/0823.06		Número / Number 335076	Fecha / Date 06/08/2006	Pág. / Page 5 / 6
Producto / Product CARBON STEEL FOR SERVICES AT LOW TEMPERA		Orden de Compra / Purchase Order 45000372		Item 00010	Referencia del Cliente / Customer Reference 45000372	
Norma / Standard ASTM A333/ASME SA333 CSA Z245.1-02*CANADA TENARIS P4.18-01/00 OCT 24, 2003		Grado / Grade 1/6/290 2SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 168.30 x 10.97 mm		Peso Nominal / Nominal Weight 42.56 KG/MT		Cantidades / Quantities 267 Pz 1758.12 m		
6 5/8 x 0.432 inches		28.57 LB/FT		267 Pcs 5788.11 Ft		
Longitud / Length S.R. (SP)		Superficie Externa / External Surface VARNISHED		74707 Kg 164701 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				
NORMAS		*STANDARDS*				
-EDICION DE LA NORMA : NACE MR-01-75 ULTIMA EDICION		-EDITION OF REGULATION: NACE MR-01-75 LATEST EDITION				
-EDICION DE LA NORMA: ASME SA 333 SEC. II PARTE A/01 Addendum 2003.		-EDITION OF REGULATION: ASME SA 333 SEC. II PART A /01 Addendum 2003.				
-EDICION DE LA NORMA : ASTM A333/04a.		-EDITION OF REGULATION: ASTM A333/04a.				
-EDICION DE LA NORMA: CSA Z245.1/02.		-EDITION OF REGULATION: CSA Z245.1/02.				

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. TRANS. (EXT./INT.) NOTCH 10%

ONE YELLOW LONGITUDINAL BAND

END MARKING - ONE ORANGE BAND

Tratamiento térmico (Tubo) Heat treatment (Pipe)

Método de tratamiento del tratamiento térmico (Tubos) / Quench media of treatment process (Pipes)

Protectores / Ends Protectors:

NON LISTABLE CLOSED PLASTIC PROTECTOR FOR FLAT / BEVELER PIPE SUPPLIER METAL CENTRO.

WATER



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 5/0823.06		Número / Number 335076	Fecha / Date 06/08/2006	Pág./Page 6 / 6
Producto / Product CARBON STEEL FOR SERVICES AT LOW TEMPERA		Orden de Compra/ Purchase Order 45000372		Item 00010	Referencia del Cliente / Customer Reference 45000372	
Norma / Standard ASTM A333/ASME SA333 CSA Z245.1-02/CANADA TENARIS P4.18-01/00 OCT 24, 2003		Grado / Grade 1/6/290 2SS		Extremo / Ends BEVELLED AT 30 DEG. ASTM		
Dimensiones / Dimensions 168.30 x 10.97 mm 6 5/8 x 0.432 Inches		Schedule 80		Superficie Externa / External Surface VARNISHED		
Peso Nominal / Nominal Weight 42.56 KGMT 28.57 LBIFT		Longitud / Length S.R. (SP)		Cantidades / Quantities 267 Pz 1758.12 m 267 Pcs 5768.11 Ft 164701 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.

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 proveedor del certificado entregue una copia del mismo, deberá garantizar la conformidad con el original, haciéndose responsable por cualquier uso ilegal o indebido.

Cualquier alteración o falsificación está sujeta a la ley. Si necesita asegurar la autenticidad de este certificado, comuníquese con Siderca S.A.I.C. e-mail: sys@siderca.com

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.

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 ensure 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. If you need to assure the authenticity of this certificate, please do not hesitate to contact Siderca SAIC through this e-address: sys@siderca.com

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

6 X 17 H3322

10322 9.1

6" XS-A333
PIPE

#10324-49Y

BAT

Contract No.: 221001764-2
L/C NO.: 0FAHDS00364
P.O. NO.: POJ241995-OR-2100-D (LOT B)
Name of Customer: CHINA PETROLEUM
DESCRIPTION: SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.
DATE: JUL 09, 2010
Page: 2/2
HENG YANG VALIN STEEL TUBE CO., LTD
MILL TEST REPORT
CERTIFICATE NO.: 2010-02-0538

Add: 10 Daitaoan, Hengyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942
Cable: 6993
P.C. 421001

NO	DELIVERY CONDITION	HEAT NO.	STEEL NO.	GRADE	SIZE	BUNDLES	PIECES	FEET	QUANTITY (MT)	ACTUAL WEIGHT (MT)	CHEMICAL COMPOSITION (%)																	CE	
											C	SI	Mn	P	S	CU	NI	Cr	Mo	V	Ti	B	Nb	Mo+Cu					
3	HOT-ROLLED	68275	86214042	A333-6	6"X0.437"-40FT	12	60	2401.58	31.164	N/A	0.11	0.22	1.05	0.008	0.0015	0.07	0.02	0.03	0.01	0.01	0.02	0.0001	0.025	0.55	0.30				
4	HOT-ROLLED	70325	86214042	A333-6	6"X0.437"-40FT	9	44	1761.15	22.853	N/A	0.11	0.23	1.04	0.008	0.0016	0.07	0.02	0.03	0.01	0.01	0.02	0.0001	0.025	0.45	0.30				
5	HOT-ROLLED	65700	86214042	A333-6	6"X0.500"-40FT	27	79	3162.07	62.305	N/A	0.12	0.24	1.07	0.008	0.0013	0.07	0.02	0.03	0.01	0.01	0.02	0.0001	0.025	0.52	0.31				
4	HOT-ROLLED	68275	86214042	A333-6	6"X0.500"-40FT	5	10	400.26	9.95	N/A	0.11	0.23	1.05	0.010	0.003	0.07	0.02	0.03	0.01	0.01	0.02	0.0001	0.025	0.52	0.31				
5	HOT-ROLLED	70325	86214042	A333-6	6"X0.500"-40FT	5	10	400.26	9.95	N/A	0.11	0.23	1.04	0.008	0.0015	0.08	0.03	0.05	0.01	0.01	0.028	0.0001	0.028	0.36	0.30				
5	HOT-ROLLED	70325	86214042	A333-6	6"X0.500"-40FT	5	10	400.26	9.95	N/A	0.11	0.23	1.03	0.009	0.0015	0.08	0.03	0.05	0.01	0.01	0.028	0.0001	0.028	0.36	0.30				
5	HOT-ROLLED	70325	86214042	A333-6	6"X0.500"-40FT	5	10	400.26	9.95	N/A	0.12	0.25	1.05	0.007	0.0015	0.08	0.03	0.04	0.01	0.01	0.021	0.0002	0.03	0.83	0.32				
5	HOT-ROLLED	70325	86214042	A333-6	6"X0.500"-40FT	5	10	400.26	9.95	N/A	0.12	0.25	1.05	0.007	0.0015	0.08	0.03	0.04	0.01	0.01	0.021	0.0002	0.03	0.83	0.32				
5	HOT-ROLLED	70325	86214042	A333-6	6"X0.500"-40FT	5	10	400.26	9.95	N/A	0.11	0.27	1.05	0.007	0.0019	0.08	0.02	0.05	0.01	0.01	0.024	0.0001	0.028	0.55	0.31				
TENSILE STRENGTH											IMPACT																	HIC	
YIELD STRENGTH											HARDNESS																	HEAT TREATMENT	
ELONGATION											FLATTEST																	SSC TEST	
SIZE											HYDROSTATIC TEST (PSI @ 100°F)																	N/A	
T/45°C											T/45°C																	N/A	
T/45°C											T/45°C																	N/A	
T/45°C											T/45°C																	N/A	
T/45°C											T/45°C																	N/A	



QUALITY MANAGER.

REMARKS: 1. We hereby certify that this certificate of quality is issued and signed by the manufacturer.
2. We hereby certify that the properties described herein meet the requirement of the above specification.
3. We hereby certify that this certificate is issued accordance with EN10204 3.1/DIN 50049 3.1B
4. Type P-Product analysis, L-Ladle analysis.
5. Origin: Made in China.
6. Content of chemical composition: C+Cu+Mo+V+Ni≤1%.

6" STD A333 HT 103496 V

BAT

HENGYANG VALIN STEEL TUBE CO., LTD
MILL TEST REPORT

Add: 10 Daixincun, Hengyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942
Cable: 6993
P.C. 421001

Contract No: 2210001881
L/C NO.:11074606T02126
Customer: CCTF CORPORATION
P.O NO.:4888062-00
DESCRIPTION: SEAMLESS STEEL PIPE

2860077

Date: NOV 17, 2010

TOTAL: 218PIECES, 49BUNDLES, 76959MT

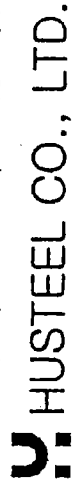
SPEC: ASTM A333-6/SAME SA333-6 / CSAZ245.1 Gr.290 Cat 2 SOUR SERVICE

CERTIFICATE NO: 2010-03-1115-1

SPEC: ASTM A333-6/SAME SA333-6 / CSAZ245.1 Gr.290 Cat 2 SOUR SERVICE																THEORETICAL WEIGHT(MT)		ACTUAL WEIGHT(MT)			
NO	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEET														
9	K91103231	1034963V	A333-6	6"X0.280"X21FT	7	49	1029	8.862							N/A						
					7	49	1029	8.862							N/A						
Total														CE							
NONDESTRUCTIVE TEST				CHEMICAL COMPOSITION (%)																	
NO.	DELIVERY CONDITION	EMI	UT	TYPE:	C	SI	Mn	P	S	Cu	Ni	Cr	Mo	V	Ti	B	Nb	Pcm	IITW		
																				OK	OK
9	NORMALIZED	OK	OK	P	0.12	0.22	1.05	0.0080	0.0021	0.07	0.03	0.04	0.01	0.0010	0.022	0.0001	0.030	0.17	N/A		
				L	0.11	0.22	1.05	0.0090	0.0024	0.08	0.04	0.05	0.01	0.0100	0.023	0.0001	0.029	0.19	N/A		
				IMPACT				HARDNESS				HYDROSTATIC TEST (PSI/6s)				FLATTE N TEST		HEAT TREATMENT		HIC TEST	
TENSILE STRENGTH σ b (Psi)		YIELD STRENGTH σ s (Psi)		ELONGATION δ (%)		SIZE		Average		On/Tem		% shear area		HRC≤22							
71050		71050		55100		40.0/39.5		10X5X55		VB/82/82/84		83		T/45°C		90/90/90		2670		Normalized: 920°C±10°C 15Min	
9		71050		55100		40.0/39.5		10X5X55		VB/82/82/84		83		T/45°C		90/90/90		2670		Normalized: 920°C±10°C 15Min	

124588 6'-58'-453

INSPECTION CERTIFICATE



HUSTEEL CO., LTD.
 HEAD OFFICE : Shinan B/D 15F, 943-19, Daechi-dong, Kangnam-ku, Seoul 135-845, KOREA
 DANGJIN PLANT : 569-1, BUGOK-RI, SONGAK-MYEON, DANGJIN-GUN, CHUNGCHONGNAM-DO, KOREA
 DAEBUL PLANT : 11 BLOCK, DAEBUL NATIONAL INDUSTRIAL COMPLEX, NABUL-RI, SAMHO-EUP, YOUNGAM-KUN, CHULLANAM-DO, KOREA

P/O No. 4886837-00
 L/C No. : SH980317JK
 ISSUED DATE : 2009.12.30
 COMMODITY : E.R.W. STEEL PIPE
 SPECIFICATION : API 5L B/ASTM A53B
 : ASME SA 53B

CERTIFICATE No. : 091230-A452-1
 MANUFACTURED No. : 09-12-006
 SUPPLIER : HUSTEEL CO., LTD.
 CUSTOMER : HUSTEEL USA INC.

CHEMICAL COMPOSITION(%)																				
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Sampaloy

SIGNATURE
 WE HEREBY CERTIFY THAT THE PRODUCTS HEREIN HAVE BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ORDER.

TEAM MANAGER OF QUALITY ASSURANCE TEAM

HMC C-30-05-(21)

HUSTEEL

1032
 3771
 3005
 3030
 " 3064

本溪北方钢管有限公司
BENXI NORTHERN STEEL PIPES CO., LTD.

产品质量证明书



本溪北方钢管有限公司
BENXI NORTHERN STEEL PIPES CO., LTD.
AP LICENSE NO. 17450000

北 台 MILL TEST CERTIFICATE 1295
CENTER COLUMN

兹为贵单位所订之该批ERW埋弧焊钢管，技术条件、合同规格合格，特此证明。

This is to certify that in accordance with the relevant specifications and contracts, the ERW steel pipes manufactured were tested and qualified by our Quality Control Department.

该批埋弧焊钢管理论重量计 3775 支 55930.80 米
ASTM A252 GRADE 3
3384.700 吨

The ERW steel pipes are tested according to 3775 pcs 55930.80 M 3384.700 MT and counted nominally amount.

Destination: VANCOUVER B.C., CANADA



序号	炉号	钢级	产品规格 (Size)			数量		外观尺寸	化学成分 (%)				物理性能				焊接性能	水压试验	屈服试验	无损检验
			O.D.	W.T.	Length	根 (Pos)	米 (M)		C	Si	Mn	P	S	Yield strength (Mpa)	Tensile strength (Mpa)	Elongation (%)				
8521	L9410987	3	219.1	8.18	12.192	300	3657.600	OK	12	25	146	2.7	0.7	370	515	32.0	OK	—	Test	UT
8521	L9410988	3	219.1	8.18	12.192	300	3657.800	OK	10	27	155	3.1	1.2	385	510	30.5	OK	—	Test	OK
8521	L9410985	3	219.1	8.18	12.192	300	3657.600	OK	12	25	154	3.0	1.0	375	515	31.0	OK	—	Test	OK
8521	L9410983	3	219.1	8.18	15.240	200	3048.000	OK	11	26	158	3.3	1.1	390	510	30.5	OK	—	Test	OK
8521	L9410984	3	219.1	8.18	18.288	150	2743.200	OK	12	28	152	3.1	1.0	395	520	30.0	OK	—	Test	OK
8521	08107318	3	219.1	9.525	12.192	100	1219.200	OK	18	27	118	1.6	0.2	395	515	30.5	OK	—	Test	OK
8521	08107327	3	219.1	9.525	18.288	100	1828.800	OK	19	25	126	1.7	0.4	390	510	32.0	OK	—	Test	OK
8521	2-000006	3	273.1	9.27	12.192	200	2438.400	OK	11	27	129	2.4	0.5	400	525	32.0	OK	—	Test	OK
8521	2-000007	3	273.1	9.27	12.192	200	2438.400	OK	17	25	127	2.3	0.7	390	515	31.0	OK	—	Test	OK
8521	1-000006	3	273.1	9.27	18.240	200	3048.000	OK	11	27	125	2.3	0.5	405	520	32.5	OK	—	Test	OK
8521	08107318	3	273.1	9.27	18.288	200	3657.600	OK	18	24	118	1.6	0.2	395	515	30.5	OK	—	Test	OK
8521	08107317	3	273.1	9.27	18.288	250	4572.000	OK	19	26	126	1.7	0.4	390	510	32.0	OK	—	Test	OK
8521	R10200525	3	323.9	9.525	12.192	107	1304.544	OK	16	13	128	1.8	2.8	350	470	27.0	OK	—	Test	OK



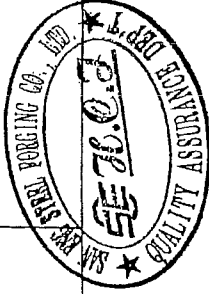
SAN ENG STEEL FORGING CO LTD
311, Jen Hsin Road, Jen Wu Hsiang
Kaohsiung Hsien, Taiwan, R.O.C.
TEL: 07-3724249; FAX: 07-3712923
URL: www.saneng.com.tw
e-mail: saneng@ksts.seed.net.tw

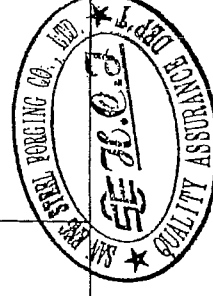
(MILL TEST CERTIFICATE)

EN10204-3.1.B(DIN50049/3.1.B)
Customer: SEYBOLD INTERNATIONAL CORP.
Order No.: 7001945-CCIF

Certificate No.: SE-1945B
Date: 02/10/2010
Page: 1 OF 3

PO# 4887136

PRODUCT			MATERIAL SPECIFICATIONS			DIMENSIONAL SPECIFICATIONS											
FORGED CARBON STEEL FLANGES			ASTM A350 LF2-07 CL.1/ ASME SA350 LF2-07			ASME B16.5-09 CSA Z245.12											
Item No.	CODE NO	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)													
				C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N	CE(*)	
			Min Max														
1	7580034	150 WNRFS160 2" LF2	10 PCE	0.222	0.240	1.010	0.015	0.014	0.022	0.063	0.122	0.009	0.015	0.005	0.003	0.005	0.003
2	7580040	150 WNRFS160 3" LF2	9 PCE	0.200	0.220	1.160	0.019	0.013	0.100	0.080	0.070	0.005	0.003	0.005	0.010	0.010	0.414
3	7580040	150 WNRFS160 3" LF2	1 PCE	0.210	0.200	1.170	0.009	0.010	0.060	0.070	0.040	0.005	0.003	0.005	0.010	0.010	0.422
4	7580038	150 WNRFS160 4" LF2	10 PCE	0.210	0.200	1.110	0.007	0.010	0.050	0.060	0.050	0.005	0.003	0.005	0.008	0.008	0.415
5	7580201	150 WNRFS160 1 1/2" LF2	25 PCE	0.209	0.220	1.020	0.014	0.008	0.008	0.012	0.054	0.002	0.005	0.005	0.006	0.006	0.386
6	7580223	150 BLRF 1 1/2" LF2	6 PCE	0.210	0.190	0.990	0.013	0.006	0.050	0.080	0.040	0.030	0.002	0.005	0.008	0.008	0.403
7	7580223	150 BLRF 1 1/2" LF2	4 PCE	0.230	0.270	1.010	0.012	0.009	0.080	0.110	0.070	0.020	0.002	0.001	-	-	0.434
8	7586504	150 SORF 2" LF2	40 PCE	0.209	0.250	1.010	0.013	0.014	0.010	0.014	0.055	0.002	0.005	0.005	0.004	0.004	0.385
9	7580226	150 THRF 1 1/2" LF2	25 PCE	0.212	0.240	1.010	0.015	0.017	0.005	0.019	0.050	0.002	0.004	0.001	0.004	0.004	0.388
10	7586501	150 THRF 4" LF2	15 PCE	0.209	0.250	1.010	0.013	0.014	0.010	0.014	0.055	0.002	0.005	0.005	0.004	0.004	0.385
Item No.	Heat No.	T.S.(*) (MPa)	Y.S.(*) (MPa)	E.L.(*) (%)	Hardness (HB)	R.A.(*) (%)	Impact Test Temp: -46°C		Material Supplier	HEAT TREATMENT(*) N		REMARKS					
							1 Minimum: 20.0 Joule	2 3		HEAT TREATMENT(*) N	REMARKS						
1	931232	517.8	339.3	32.2	157	64.0	35.0	38.0	NTMK	NTMK	880°CX3HRS	CONFORMS WITH NACE MR0103-07 AND NACE					
2	48960	508.0	311.9	35.4	155	69.5	35.0	33.0	OEMK	OEMK	MR0175/ISO15156.2	CONFORMS WITH Z245.12 CAT II GR.248 SOUR					
3	41369	539.4	379.5	34.0	153	65.9	22.0	22.0	RED OCTOBER	RED OCTOBER	SERVICE-05	TEST SPECIMEN SIZE: 10X10					
4	13176	523.7	354.0	35.0	157	65.9	21.0	23.0	OEMK	OEMK	TEST SPECIMEN ORIENTATION: TRANSVERSE	IMPACT TEST TEMP.: -46°C					
5	921027	511.9	343.2	32.6	155	66.0	32.0	57.0	NTMK	NTMK							
6	34245	491.0	303.8	38.0	147	68.6	19.0	28.0	OEMK	OEMK							
7	43448	537.6	330.8	35.0	179	60.0	28.3	40.1	OEMK	OEMK							
8	931274	509.9	325.6	34.8	154	65.0	27.0	26.0	NTMK	NTMK							
9	920952	513.9	349.1	32.6	158	66.0	35.0	34.0	NTMK	NTMK							
10	931274	509.9	325.6	34.8	154	65.0	27.0	26.0	NTMK	NTMK							
*1: T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.																	
*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.																	
*3: C.E. Value = C + (Mn /6) + (Cr + Mo +V) / 5 + (Ni + Cu) / 15																	
We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.															Manager of Quality Assurance Dept		



2"-150#-RFSO-LF2 FLG.

#48960

Page 2 of 3

1576



SAN ENG STEEL FORGING CO. LTD.
311, Jen Hsin Road, Jen Wu Hsiang
Kaohsiung Hsien, Taiwan, R.O.C.
TEL: 07-3724249; FAX: 07-3712923
URL: www.saneng.com.tw
e-mail: seneng@ksts.seed.net.tw

(MILL TEST CERTIFICATE)

EN10204-3.1.B(DIN50049/3.1.B)

Customer: W.F. FITTINGS & FLANGES (CANADA)

LTD.

Order No.: E05179KDW5

RA 911488888

Certificate No.: SE080263

Date: 04/29/2009

Page: 1 OF 2

DIMENSIONAL SPECIFICATIONS

ASTM A350 LF2-07 CL.1 / ASME SA350 LF2-07

ASME B16.5-03
CSA Z245.12

MATERIAL SPECIFICATIONS

FORGED CARBON STEEL FLANGES

FORGED CARBON STEEL FLANGES				CHEMICAL COMPOSITION (%)														CE(%)
Item No.	CUSTOMER P/N	DESCRIPTION	QUANTITY															
			Min Max	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N			
1		150 SORF 2" LF2 -	40 PCE	0.200	0.220	1.160	0.019	0.013	0.100	0.080	0.070	0.005	0.003	0.080	-	0.422		
2		150 THRF 2" LF2 *	40 PCE	0.190	0.140	1.120	0.010	0.016	0.100	0.110	0.050	0.005	0.003	0.005	0.010	0.410		
J3		150 WNRFXS 2" LF2	240 PCE	0.190	0.140	1.120	0.010	0.016	0.100	0.110	0.050	0.005	0.003	0.005	0.009	0.410		
J4		150 WNRFXS 3" LF2	120 PCE	0.210	0.220	1.070	0.010	0.011	0.050	0.070	0.040	0.005	0.003	0.005	0.010	0.409		
5		300 BLRF 8" LF2 -	2 PCE	0.190	0.250	0.900	0.015	0.011	0.180	0.270	0.220	0.020	-	0.001	0.008	0.425		
6		300 WNRFX STD 8" LF2 ~	25 PCE	0.181	0.260	0.880	0.011	0.025	0.013	0.014	0.081	0.002	0.004	0.005	0.006	0.337		
7		150 BLRF 4" LF2 ~	50 PCE	0.200	0.180	1.050	0.013	0.010	0.070	0.080	0.040	0.005	0.003	0.005	0.007	0.401		
8		300 BLRF 4" LF2.	15 PCE	0.200	0.170	1.080	0.011	0.013	0.080	0.050	0.050	0.005	0.003	0.005	0.006	0.400		
9		300 WNRFX STD 6" LF2 ~	20 PCE	0.190	0.210	1.180	0.012	0.015	0.120	0.040	0.060	0.005	0.003	0.005	0.009	0.408		
10		300 WNRFXS 2" LF2	100 PCE	0.200	0.220	1.160	0.019	0.013	0.100	0.080	0.070	0.005	0.003	0.005	0.010	0.422		

Item No.	Heat No.	Impact Test			Material Supplier	REMARKS
		Temp: -46°C	Temp: 20.0 Joule	Temp: 20.0 Joule		
1	48960	35.0	33.0	25.0	OEMK	CONFORMS WITH NACE MR0175-03 AND MR0103-07/ISO15156.2
2	29572	45.0	32.0	35.0	OEMK	CONFORMS WITH Z245.12 CAT II GR.280 SOUR SERVICE-05
3	29572	45.0	32.0	35.0	OEMK	TEST SPECIMEN SIZE: 10X10
4	31045	29.0	25.0	49.0	OEMK	TEST SPECIMEN ORIENTATION: TRANSVERSE
5	50724	60.0	56.0	29.0	RED OCTOBER	IMPACT TEST TEMP.: -46°C
6	726759	49.0	47.0	29.0	NTMK	
7	34185	33.0	23.0	35.0	OEMK	
8	21784	24.0	25.0	25.0	OEMK	
9	38673	25.0	24.0	22.0	OEMK	
10	48960	35.0	33.0	25.0	OEMK	

*1: T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.

*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.

*3: C.E. Value = C + (Mn/5) + (Cr + Mo +V) / 5 + (Ni + Cu) / 15

We hereby certify that the material has been tested in accordance with the above specification and all the requirements called for by the above order.



Manager of Quality Assurance Dept

2150-LF RFSD

1624 BAF



CERTIFICADO DE INSPECCION
Inspection Certificate - Certificat de Réception
DIN EN 10204 / 3.1
ISO 10474 / 3.1

CLIENTE / Customer / Client
ALLEN FITTING CANADA
172 TURBO DRIVE
SHERWOOD PARK, ALBERTA
T8H 2J6 - CANADA

ULMA FORUM S.COOP.
B° Zúñiga, 3 - Ayto. 1°
20560 ONATI (Gipuzkoa) SPAIN
Tel.: 34 - 943 780505
Fax: 34 - 943 781808
E-mail: ulma@ulmaproing.com

131099

HOJA: 2

FECHA: 30/04/2010

N°: 2

DE: 12/02/2010

SU PEDIDO N°: 021210AES - EDMONTON

FLANGES

PRODUCTO

ASME B16.5-09

NORMAS APLICABLES

MATERIAL CORRESPONDIENTE

NACE MR-01-758016156-2.05 & MR-01-03003

Gr. 248 CAT II

PARTIDA	CANTIDAD	DESCRIPCION	LOTE	OBSERVACIONES	COLADA N°	RESISTENCIA	UNITE BLAT	ALUMINUM	ESTRUCION	RESISTENCIA	PROBADA	DUREZA
Item	Quantity	Description		Remarks	Heat No.	T. Strength	Y Strength	Exposition	Prod. Area	Impact Test	Medium	Hardness
Poste	Quantité	Description		Observations	N° Coule	Repaet	Repaet	Lot. # 0	Section	Railliance	Appareil	Dureté
78	78	SO 2 150LB RF A350LF2	1050	NE	28V0	523	331	30.80	58.80	64	62	182 155
83	83	BLIND 3 150LB RF A350LF2	1050	NE	159V0	603	311	35.40	63.40	40	48	145 155
83	47	BLIND 3 150LB RF A350LF2	830	NE	362V9	508	311	34.50	60.40	38	53	146 156
92	36	WN 8 600LB XS/80 RF A350LF2	1030	NE	104V0	507	308	35.00	62.30	40	54	148 156

COMPOSICION QUIMICA - STEEL MARKER'S LADLE ANALYSIS - ANALYSE CHIMIQUE

C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	Al %	Ti %	N %	CEq %
0.200	0.270	0.840	0.010	0.001	0.080	0.100	0.040	0.005	0.004	0.280	0.028	0.000	0.000	0.390
0.200	0.220	0.840	0.013	0.001	0.090	0.090	0.040	0.006	0.001	0.240	0.030	0.000	0.000	0.388
0.210	0.250	0.870	0.007	0.007	0.030	0.060	0.010	0.001	0.001	0.190	0.035	0.000	0.000	0.390
0.190	0.210	0.860	0.004	0.008	0.070	0.140	0.040	0.001	0.002	0.140	0.021	0.000	0.000	0.391

(7) OBSERVACIONES: N NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR

Remarks

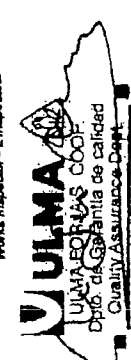
Observations

FLANGE COMPLIES TO

CSA Z245.12 GR.248 CAT.II

SOUR SERVICE ISO15156.2

VERIFIED BY
WESTLUND



EL INSPECTOR
Works Inspector - L'Inspecteur

Les dimensions y la condition superficielle se hallaron satisfactorias
- Dimension and surface condition were found acceptable
- Les dimensions et états de surface sont satisfaisants
- Los materiales checked cumplen las normas aplicables
- Manufacturing requirements are satisfied
- Les normes applicables sont respectées

1788-6504

CLIENTE / Customer / Client

CCTF CORPORATION (EDMONTON)
5407 - 53 AVENUE NW
EDMONTON, AB T6B 3G2
CANADA

CERTIFICADO DE INSPECCION

Inspection Certificate - Certificat de Réception

DIN EN 10204 / 3.1
ISO 10474 / 3.1

FECHA: 07/06/2011
Date:

N.º No.

HOJA: 1
Page:

139014

PRODUCTO
Article - Produit

FLANGES

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

DE
of - de 01/10/2010

NORMAS APLICABLES
Requirements - Normes Applicables:

ASME B16.5-09

MATERIAL CORRESPONDIENTE
Material Correspondent - Qualit

AISA350LF2CL1-07
ASTM/A5ME

MODO DE FUSION (*)
Steel Making - Elaboration de l'acier

NACEMR0175/ISO15156-2 Region 3-2003
NACE MR0103 : 2007
CSA-Z245.12-09 GR248 CAT II - SS

E = Elec. Y = Origeno básico

PARTIDA Item Poste	CANTIDAD Quantity Quantité	DESCRIPCION Description Description	LOTE	OBSERVACIONES Remarks Observations (*)	COLADA N.º Heat No. N.º-Coulee	RESISTENCIA T. Strength Resist Rupt		LÍMITE ELAST. Y. Strength 0.2 %		ALARGAM. Elongation Lo: 4 d		ESTRICCION Red. Area Striction		RESILIENCIA Impact test Résistance		CHARPY V		DUREZA Hardness Dureté HB
						N/mm2	N/mm2	%	%	%	%	Joules	Joules	MEDIA Average Moyenne	°C			
121 7586504	40	SO 2 150LB RF A350LF2	1401	NE	16V1	517	321	32,00	59,40	60	59	55	58	-50	150	157		

COMPOSICION QUIMICA - STEEL MAKER'S LADLE ANALYSIS - ANALYSE CHIMIQUE

COLADA N.º Heat No. N.º Coulee	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	Al %	Ti %	N %	CEq %
16V1	0,210	0,230	0,850	0,015	0,001	0,110	0,120	0,050	0,001	0,002	0,290	0,034	0,000	0,000	0,411

(*) OBSERVACIONES:
Remarks
Observations

N_ NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR



SGI 6005967 ULMA FORJA, S.COOP.

SGI 6000235

SGI 1932164

Rº Zubillaga, 3 - Apdo. 1º
28560 ONATI (Gipuzkoa) SPAIN
by TÜV Rheinland
Tel: 34 - 943 780552
Fax: 34 - 943 781808
E-mail: ulma@ulmapipe.com

1636



MARCA DEL FABRICANTE
Mark of factory
Marque du fabricant

DEPARTAMENTO QUALITY ASSURANCE

Section
Département

- Las dimensiones y la condición superficial se hallaron satisfactoria
- Dimension and surface condition were found acceptable
- Les dimensions et états de surface sont satisfaisants

- Los materiales citados cumplen las normas aplicables.
- Manufacturing requirements are satisfied
- Les normes applicables sont respectées

EL INSPECTOR
Works Inspector - L'Inspecteur



S. Cont
L. J. J. J.



SAFANG-STEEL FORGING CO. LTD.
311, Jen Hsin Road, Jen Wu Dist
Kaohsiung, Taiwan, R.O.C.
TEL: 07-3724249; FAX: 07-3712923
URL: www.safang.com.tw
e-mail: safang@kts.seed.net.tw

MILL TEST CERTIFICATE

EN10204-3.1.B(DIN50493.1.B)
W.F.F. FITTINGS & FLANGES (CANADA)
Customer: LTD.

Order No.: D000168(2)

Certificate No.: SE100734
Date: 03/28/2011
Page: 1 OF 2

1636

DIMENSIONAL SPECIFICATIONS

ASTM A350 LF2-07/ASME SA350 LF2-07

ASME B16.5-09
CSA Z245.12

PRODUCT

FORGED CARBON STEEL FLANGES

Item No.	CODE NO	DESCRIPTION	QUANTITY		CHEMICAL COMPOSITION (%)												OE(%)	
			Min	Max	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N		
1	7586824	150 WNRF STD 4" LF2	37 PCE	0.210	0.300	0.150	0.600	0.035	-	0.400	0.300	0.400	0.120	0.080	0.080	-	0.415	
2	7586824	150 WNRF STD 4" LF2	13 PCE	0.200	0.210	0.200	1.110	0.007	0.010	0.060	0.060	0.050	0.005	0.003	0.005	0.008	0.407	
3	7585321	150 WNRF STD 10" LF2	6 PCE	0.206	0.240	0.240	1.100	0.011	0.003	0.100	0.060	0.040	0.010	0.009	0.001	0.008	0.400	
4	7586267	150 WNRF XS 4" LF2	122 PCE	0.200	0.210	0.200	1.100	0.015	0.010	0.023	0.045	0.002	0.002	0.033	0.005	0.004	0.407	
5	7585267	150 WNRF XS 4" LF2	28 PCE	0.210	0.200	0.200	1.100	0.007	0.003	0.100	0.060	0.040	0.010	0.009	0.001	0.008	0.415	
6	7586506	150 SORF 4" LF2	10 PCE	0.198	0.270	0.270	1.060	0.010	0.014	0.013	0.019	0.045	0.005	0.007	0.005	0.006	0.384	
7	7585566	150 BLRF 2" LF2	50 PCE	0.209	0.240	0.240	1.060	0.009	0.009	0.008	0.039	0.045	0.005	0.029	0.005	0.004	0.405	
8	7585571	150 BLRF 4" LF2	10 PCE	0.209	0.270	0.270	1.050	0.009	0.009	0.008	0.039	0.045	0.005	0.029	0.005	0.004	0.396	
9	7585585	150 BLRF 6" LF2	10 PCE	0.211	0.280	0.280	1.090	0.013	0.014	0.012	0.023	0.047	0.005	0.008	0.005	0.006	0.402	
10	7581210	300 WNRF XS 6" LF2	10 PCE	0.208	0.280	0.280	0.990	0.014	0.012	0.007	0.015	0.053	0.002	0.002	0.005	0.003	0.380	

HEAT TREATMENT(2)

REMARKS
850°C X 3HRS
CONFORMS WITH NACE MR0103-07 AND NACE MR0175/ISO15155.2
CONFORMS WITH Z245.12 CAT II GR.248 SOUR SERVICE-05
TEST SPECIMEN SIZE: 10X10
TEST SPECIMEN ORIENTATION: TRANSVERSE
IMPACT TEST TEMP: -46°C

Material Supplier

OEMK
WEI CHIH STEEL
NTMK
WEI CHIH STEEL
OEMK
NTMK
NTMK
NTMK
NTMK

Impact Test
Temp: -46°C
Minimum: 20.0 Joule

RA(%)
30.0

Hardness
(HB)
197

E.L.(%)
22.0

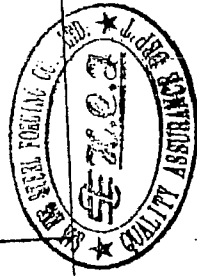
Y.S.(MPa)
250.0

T.S.(MPa)
485.0

Min
Max

Heat No.

1 13176
2 80399
3 920973
4 80398
5 13176
6 31240
7 21362
8 21380
9 21303
10 931228



Manager of Quality Assurance Dept

CERTIFIED BY

WESTLUND Dayshun

*1: T.S. = Tensile Strength, Y.S. = Yield Strength, E.L. = Elongation, RA = Reduction of Area.

*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T.=Solution Treated, S.R.=Stress Relieved, A.C.=Air Cooled, F.C.=Furnace Cooled, W.C.=Water Cooled, O.C.=Oil Cooled.

*3: C.E. Value = C + (Mn 16) + (Cr + Mo +V) / 5 + (Ni + Cu) / 15

We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.

36-150-LF RFSO

PO# 9115604



SAN ENG STEEL FORGING CO. LTD.
311, Jen Hsin Road, Jen Wu Hsiang
Kaohsiung Hsien, Taiwan, R.O.C.
TEL: 07-3724249; FAX: 07-3712923
URL: www.saneng.com.tw
e-mail: saneng@kts.lead.net.tw

MILL TEST CERTIFICATE

EN10204-3.13(DIN50049/3.1.B)
Customer: SEYBOLD INTERNATIONAL CORP.
Order No.: 7002986(3)-ALLIED

Certificate No.: SE2986C2
Date: 12/29/2010
Page: 1 OF 2

PRODUCT		MATERIAL SPECIFICATIONS		DIMENSIONAL SPECIFICATIONS												
FORGED CARBON STEEL FLANGES		ASTM A350 LF2-07 ASME SA350 LF2-07		ASME B16.5-09 CSA Z245.12												
Item No.	CUSTOMER P/N	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)										CE(*)		
			Min Max	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N	
1		150 WNRFS XS 8" LF2	10 PCE	0.210	0.150	1.350	0.035	0.040	0.400	0.300	0.400	0.120	0.080	0.080	-	0.390
2		150 SORF 3" LF2	20 PCE	0.214	0.250	1.080	0.009	0.008	0.036	0.033	0.051	0.005	0.007	0.005	0.007	0.407
3		150 SORF 4" LF2	10 PCE	0.198	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.006	0.384
4		150 SORF 6" LF2	10 PCE	0.198	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.006	0.409
5		300 WNRFS STD 2" LF2	49 PCE	0.210	0.220	1.070	0.010	0.011	0.050	0.070	0.040	0.005	0.003	0.005	0.010	0.386
6		300 WNRFS STD 2" LF2	26 PCE	0.209	0.220	1.020	0.014	0.008	0.008	0.012	0.054	0.002	0.005	0.005	0.006	0.414
7		300 WNRFS STD 3" LF2	75 PCE	0.222	0.240	1.010	0.015	0.014	0.022	0.063	0.122	0.009	0.015	0.005	0.003	0.420
8		600 WNRFS XS 8" LF2	25 PCE	0.190	0.250	1.120	0.017	0.004	0.130	0.110	0.130	0.020	0.005	0.001	0.008	0.402
9		600 BLRF 2" LF2	25 PCE	0.211	0.260	1.090	0.013	0.014	0.012	0.023	0.047	0.005	0.008	0.005	0.006	0.384
10		600 BLRF 3" LF2	10 PCE	0.198	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.006	
Item No.	Heat No.	T.S.(*) (MPa)	Y.S.(*) (MPa)	E.L.(*) (%)	Hardness (HBS)	RA.(*) (%)	Impact Test Temp: -46°C Minimum: 20.0 Joule		Material Supplier	HEAT TREATMENT(*)		REMARKS				
		Min Max	Min Max	Min Max			1	2	3							
1	915541	508.0	333.4	35.4	150	66.8	51.0	49.0	54.0	NTMK			CONFORMS WITH NACE MR0103-07 AND NAB900CE MR0175/ISO15156.2 CONFORMS WITH Z245.12 CAT II GR.248 SOUR SERVICE-05 TEST SPECIMEN SIZE: 10X10 TEST SPECIMEN ORIENTATION: TRANSVERSE IMPACT TEST TEMP.: -46°C			
2	31243	533.5	363.8	35.8	155	69.5	70.0	64.0	74.0	NTMK						
3	31240	511.9	371.7	31.8	152	68.6	74.0	70.0	76.0	NTMK						
4	31240	511.9	371.7	31.8	152	68.6	74.0	70.0	76.0	NTMK						
5	31045	517.8	348.1	35.4	153	67.7	29.0	25.0	49.0	OEMK						
6	921027	511.9	343.2	32.6	155	66.0	32.0	57.0	28.0	NTMK						
7	931232	517.8	339.3	32.2	157	64.0	35.0	38.0	27.0	NTMK						
8	951412	531.5	383.4	33.2	153	69.5	123.0	42.0	110.0	GODD STEEL						
9	21303	523.7	359.9	35.6	154	68.6	52.0	56.0	49.0	NTMK						
10	31240	511.9	371.7	31.8	152	68.6	74.0	70.0	76.0	NTMK						



*1: T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.

*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.

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

We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.

Manager of Quality Assurance Dept

VERIFIED BY

WESTLUND *Payne*

311 LR. 90° ELB.



INSPECTION CERTIFICATE

915602-00

PURCHASER: SEYBOLD

ASTM A234 WPB-07

STANDARD: ASME SA234 WPB-04

DATE: 2010 - 12 - 14

ORDER NO: 7002939/911560200

8. MEI-CHUNG RD. NIAO-SONG

KAHSIUNG HSIEN 83301 TAIWAN

TEL: 886-77310527-8

FAX: 886-77315887

CSA Z245.1-15 Gr.241 Cat I Sour Service

MATERIALS: ASTM A106 Gr. B (SEAMLESS PIPE)

INSP. SPEC.: ASME B16.9 - 03

P.I. NO: 0605-1

CERTIFI. NO: 545

ACCORDING TO EN10204/DIN50049/3.1

ITEM NO.	PRODUCT & SIZE		QUANTITY PCS	MFG NO.	VISUAL & DIMENSIONAL INSPECTION	HARDNESS MAX. 197 HB	HEAT TREATMENT (NOTE)	MAGNETIC PARTICLE EXAMINATION	IMPACT TEST (J)							
19	ELL 90 LR 1"	STD	600	011563 (01)	GOOD	111 - 116	A - 157-0276									
20	ELL 90 LR 1.1/4"	STD	400	9K3585 (9K)	GOOD	124 - 127	A - 157-0292									
21	ELL 90 LR 1.1/2"	STD	400	0F6283 (0F)	GOOD	128 - 136	A - 157-0314									
22	ELL 90 LR 2"	160	30	9L3556	GOOD	143 - 144	A - 157-0346									
23	ELL 90 LR 2"	STD	300	0H6200	GOOD	133 - 134	A - 157-0346									
24	ELL 90 LR 2.1/2"	STD	200	0G3177	GOOD	132 - 139	A - 157-0365									
25	ELL 90 LR 3"	STD	600	0H2701	GOOD	131 - 134	A - 157-0381									
26	ELL 90 LR 6"	STD	300	0E6109	GOOD	144 - 149	A - 157-0462									
27	ELL 90 LR 6"	XH	30	0C4960	GOOD	149 - 153	A - 157-1035									
28	ELL 90 LR 10"	STD	60	0E3915	GOOD	153 - 160	A - 157-0573									
CHEMICAL COMPOSITION %																
ITEM NO.	MATERIAL CHARGE NO.	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Y S	T S	E	C.E.
		STANDARD	MIN.	MAX.	x100	x100	x1000	x100	x100	x100	x100	x1000	KSI	KSI	%	X100
													30	10	29	50	58	40	40	15	8	20	35.0	60.0		50
19	110963	20	21	50	14	4	4	2	3	1	1	<1	45.1	68.0	35.6	29
20	210785	21	23	53	14	10	2	1	1	1	1	<1	48.6	68.2	33.0	30
21	210783	21	27	53	19	5	1	1	1	1	1	<1	46.4	66.7	38.0	30
22	305156	13	19	76	8	3	7	4	2	1	<1	<1	44.7	66.2	40.0	27
23	908300	19	26	47	20	9	2	1	2	1	1	<1	66.2	77.0	36.2	27
24	308577	13	19	76	10	2	6	4	4	2	<1	<1	46.2	66.0	36.0	27
25	309301	18	24	55	4	2	6	3	3	1	<1	<1	41.1	61.7	35.9	28
26	501309	17	24	96	9	2	7	2	7	3	<1	<1	42.8	64.4	35.1	35
27	191260	17	24	99	13	4	9	3	4	2	<1	<1	44.2	57.4	36.5	35
28	000615	17	21	95	15	7	10	3	5	1	<1	2	38.4	62.8	36.0	34

157-0331

CHEMICAL COMPOSITION %

ITEM NO.	MATERIAL CHARGE NO.	CHEMICAL COMPOSITION %											PHYSICAL TEST				
		C x100	Si x100	Mn x100	P x1000	S x1000	Cu x100	Ni x100	Cr x100	Mo x100	V x100	Nb x1000	Y S	T S	E	C.E.	
													KSI	KSI	%		x100
	STANDARD		10	29									35.0	60.0			
	MIN.																
	MAX.	30		135	50	58	40	40	40	15	8	20		95.0		50	
19	110963	20	21	50	14	4	4	2	3	1	1	<1	45.1	68.0	35.6	29	
20	210785	21	23	53	14	10	2	1	1	1	1	<1	48.6	68.2	33.0	30	
21	210783	21	27	53	19	5	1	1	1	1	1	<1	46.4	66.7	38.0	30	
22	305156	13	19	76	8	3	7	4	2	1	<1	<1	44.7	66.2	40.0	27	
23	908300	19	26	47	20	9	2	1	2	1	1	<1	66.2	77.0	36.2	27	
24	308577	13	19	76	10	2	6	4	4	2	<1	<1	46.2	66.0	35.0	27	
25	309301	18	24	55	4	2	6	3	3	1	<1	<1	41.1	61.7	35.9	28	
26	501309	17	24	96	9	2	7	2	7	3	<1	<1	42.8	64.4	35.1	35	
27	191260	17	24	99	13	4	9	3	4	2	<1	<1	44.2	67.4	36.5	35	
28	000615	17	21	95	15	7	10	3	5	1	<1	2	38.4	62.8	36.0	34	

(NOTE): A: HOT FORMED WITH FINAL TEMPERATURE BETWEEN 620°C-980°C; AIR COOLING; VERIFIED BY

N: NORMALIZING AT TEMPERATURE 880°C X 0.5 HR; AIR COOLING.

NACE MR-01-75-03/ISO15156.2 & NACE MR 0103-03: 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.

Ou L Lan

MANAGER OF Q.A. DEPT.

44L150-LF2 R750
PO#915604



SAN ENG STEEL FORGING CO. LTD
311, Jen Hsin Road, Jen Wu Hsiang
Kaohsiung Hsien, Taiwan, R.O.C.
TEL: 07-3724249; FAX: 07-3712923
URL: www.saneng.com.tw
e-mail: saneng@ksts.lead.net.tw

(MILL TEST CERTIFICATE)

EN10204-3.1 (PDIN50049/3.1.B)
Customer: SEYBOLD INTERNATIONAL CORP.
Order No.: 7002986(3)-ALLIED

Certificate No.: SE2986C2
Date: 12/29/2010
Page: 1 OF 2

Order No.: 7007358613/FALLFED

e-mail: santheng@kts.secd.net.tw

ASTM A350 LF2-07 ASME SA350 LF2-07

ASTM B16.5-09
CSA Z245.12

FORGED CARBON STEEL FLANGES

PRODUCT

MATERIAL SPECIFICATIONS

DIMENSIONAL SPECIFICATIONS

Item No.	CUSTOMER P/N	DESCRIPTION	QUANTITY		CHEMICAL COMPOSITION (%)											CE(*)		
			Min	Max	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb		N	
1		150 WNRF XS 8" LF2	10 PCE		0.300	0.150	0.600	0.035	0.040	0.400	0.300	0.400	0.120	0.080	0.080	-	-	0.390
2		150 SORF 3" LF2	20 PCE		0.210	0.250	1.030	0.018	0.020	0.009	0.017	0.051	0.004	0.012	0.005	0.007	-	0.407
3		150 SORF 4" LF2	10 PCE		0.198	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.006	-	0.384
4		150 SORF 6" LF2	10 PCE		0.198	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.006	-	0.384
5		300 WNRF STD 2" LF2	49 PCE		0.210	0.220	1.070	0.010	0.011	0.050	0.070	0.040	0.005	0.003	0.005	0.010	-	0.409
6		300 WNRF STD 2" LF2	26 PCE		0.209	0.220	1.020	0.014	0.008	0.008	0.012	0.054	0.002	0.005	0.005	0.006	-	0.386
7		300 WNRF STD 3" LF2	75 PCE		0.222	0.240	1.010	0.015	0.014	0.022	0.063	0.122	0.009	0.015	0.005	0.003	-	0.414
8		600 WNRF XS 8" LF2	25 PCE		0.190	0.250	1.120	0.017	0.004	0.130	0.110	0.130	0.020	0.005	0.001	0.008	-	0.420
9		600 BLRF 2" LF2	25 PCE		0.211	0.260	1.090	0.013	0.014	0.012	0.023	0.047	0.005	0.008	0.005	0.006	-	0.402
10		600 BLRF 3" LF2	10 PCE		0.198	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.006	-	0.384

Heat No.

915541

31243

31240

31240

31045

921027

931232

951412

21303

31240

Item No.	Heat No.	T.S.(*) (MPa)	Y.S.(*) (MPa)	E.L.(*) (%)	Hardness (HB)	R.A.(*) (%)	Impact Test Temp: -46°C Minimum: 20.0 Joule			Material Supplier	HEAT TREATMENT(°C)	REMARKS
							1	2	3			
1	915541	508.0	333.4	35.4	150	66.8	61.0	49.0	54.0	NTMK	890°C X3HRS	CONFORMS WITH NACE MR0103-07 AND NAB900CE MR0175/ISO15156.2
2	31243	533.5	363.8	35.8	155	69.5	70.0	64.0	74.0	NTMK		CONFORMS WITH Z245.12 CAT II GR.248 SOUR SERVICE-05
3	31240	511.9	371.7	31.8	152	68.6	74.0	70.0	76.0	NTMK		TEST SPECIMEN SIZE: 10X10
4	31240	511.9	371.7	31.8	152	68.6	74.0	70.0	76.0	NTMK		TEST SPECIMEN ORIENTATION: TRANSVERSE
5	31045	517.8	348.1	35.4	153	67.7	29.0	25.0	49.0	OEMK		IMPACT TEST TEMP: -46°C
6	921027	511.9	343.2	32.6	155	66.0	32.0	57.0	28.0	NTMK		
7	931232	517.8	339.3	32.2	157	64.0	35.0	38.0	27.0	NTMK		
8	951412	531.5	383.4	33.2	153	69.5	123.0	42.0	110.0	GODO STEEL		
9	21303	523.7	359.9	35.6	154	68.6	52.0	56.0	49.0	NTMK		
10	31240	511.9	371.7	31.8	152	68.6	74.0	70.0	76.0	NTMK		

*1: T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.

*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.

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

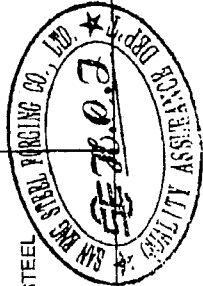
Santheng Engineering Co., Ltd.

QUALITY ASSURED

Manager of Quality Assurance Dept

Santheng Engineering Co., Ltd.

We hereby certify that the material has been tested in accordance with the above specification and meets with the requirements called for by the above order.



Manager of Quality Assurance Dept

VERIFIED BY

WESTLUND *Westlund*

*1: T.S. = Tensile Strength, Y.S. = Yield Strength, E.L. = Elongation, R.A. = Reduction of Area.

*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.

*3: C.E. Value = $C + (Mn / 6) + (Cr + Mo + V) / 5 + (Ni + Cu) / 15$

We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.



METALFAR

PRODOTTI INDUSTRIALI S.P.A.
23881 CESANA BRIANZA (LC) ITALY
Tel. +39 0362 855411 - Fax +39 0362 855149
E-mail: info@metalfar.it

MATERIAL TEST DEPARTMENT
SALA PROVE ED ANALISI MATERIALI

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

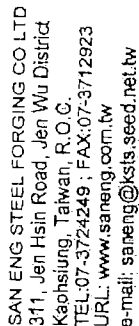
FORGED FLANGES & FITTINGS LTD
CASTLE HOUSE - STATION ROAD
NEW BARRY/HEMPY, GB

INSPECTION CERTIFICATE EN 10204/3.1

CERTIFICATO DI COLLAUDO

N. 3928 / 04/10/2008
INVOICE / FATURA: 2332 / 03/10/2008
S. 55894
DEL. NOTE / BOLL: 5081 / 03/10/2008

HEAT CODE COD. COLATA		HEAT COLATA	ITEM POS.	YOUR P.O. VS. ORDINE	OUR REFERENCE NS. ORDINE	QUANTITY QUANTITA	DESCRIPTION DESCRIZIONE		DIM. ACCORDANCE TO DIM. IN ACCORDO A		VISUAL & DIMENSIONAL VISIVO E DIMENSIONALE		
74569			0011	3452	08002727 0030	224	W/A 150 27 4" STD A105		ASME/ANSI B16.5		SATISFACTORY		
HEAT CODE COD. COLATA		HEAT COLATA	ITEM POS.										
74569			0011	ASTM A 105									
HEAT CODE COD. COLATA		HEAT COLATA	ITEM POS.										
74569			0011	126.60	50.80	331.0	522	32.0	58.0	159-163	0.0	0.0	
HEAT CODE COD. COLATA		HEAT COLATA	ITEM POS.										
74569			0011	ASTM/ASME A 105/SA 105 M - 05									
				MATERIAL IN ACCORDANCE TO MATERIALE IN ACCORDO A				HEAT TREATMENT TRATTAMENTO TERMICO					
				VERIFIED TRUE COPY OF ORIGINAL FORGED FLANGES & FITTINGS LIMITED				NORMALIZED AT 970 C - COOLED IN STILL AIR VERIFIED BY WESTLUND					
				LF2: CHARPY TEST SPECIMEN RESULT AS 10X10mm MATERIAL IN ACCORDANCE WITH NACE MR-0175/2005 2008				QUALITY CONTROL DEPARTMENT UFFICIO CONTROLLO QUALITA BRACCHI FLAVIO					
								INSPECTION AUTHORITY ENTE UFFICIALE COLLAUDO MFF					
								MANUFACTURER'S SYMBOL MARCHIO PRODUZIONE					



EN10204-3.1.B(DIN50049/3.1.B)

Customer: SEYBOLD INTERNATIONAL CORP.

Order No.: 7003036(6)-ALLIED

Certificate No.: SE-3036F

Date: 05/02/2011

Page: 1 OF 1

PRODUCT			MATERIAL SPECIFICATIONS										DIMENSIONAL SPECIFICATIONS									
FORGED CARBON STEEL FLANGES			ASTM A350 LF2-10/ASME SA350 LF2-10										ASME B16.5-09 CSA Z245.12									
Item No.	CODE NO	DESCRIPTION	QUANTITY		CHEMICAL COMPOSITION (%)																	
			Min	Max	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N	CE(*)					
1		150 WNRF STD 2" LF2	10 PCE		0.222	0.240	1.010	0.015	0.014	0.022	0.063	0.122	0.009	0.015	0.080	-	-					
2		150 SORF 6" LF2	50 PCE		0.220	0.210	1.140	0.014	0.002	0.007	0.030	0.010	0.007	0.003	0.001	0.006	0.414					
3		600 WNRF XS 3" LF2	100 PCE		0.214	0.300	1.080	0.009	0.008	0.026	0.033	0.051	0.005	0.007	0.005	0.007	0.419					
4		600 WNRF XS 4" LF2	8 PCE		0.198	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.006	0.407					
																	0.384					
Item No.	Heat No.	T.S.(*) (MPa)	Y.S.(*) (MPa)	E.L.(*) (%)	Hardness (HB)	R.A.(*) (%)	Impact Test Temp: -46°C			Material Supplier	HEAT TREATMENT(*)		REMARKS									
							Minimum: 20.0 Joule	2	3		☒ N	☒ N										
1	931232	485.0	655.0	32.2	157	64.0	35.0	38.0	27.0	NTMK			890°C X 3 HRS									
2	4390797	513.9	345.2	35.4	149	69.5	90.0	61.0	88.0	ACOMINAS			CONFORMS WITH NACE MR0103-07 AND NACE MR0175/ISO15156.2									
3	31243	533.8	363.8	35.8	155	69.5	70.0	64.0	74.0	NTMK			CONFORMS WITH Z245.12 CAT II GR.248 SOUR SERVICE-05									
4	31240	511.9	371.7	31.8	152	68.6	74.0	70.0	76.0	NTMK			TEST SPECIMEN SIZE: 10X10 TEST SPECIMEN ORIENTATION: TRANSVERSE IMPACT TEST TEMP.: -46°C									
*1: T.S. = Tensile Strength, Y.S.= Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.																						
*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.																						
*3: C.E. Value = C + (Mn /6) + (Cr + Mo +V) / 5 + (Ni + Cu) /15																						
We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.																						
Manager of Quality Assurance Dept																						

41-90 ELP

HSU 812-0920

Purchaser: WESTLUND INDUSTRIAL SUPPLY

INSPECTION CERTIFICATE



Thai Benkan Co., Ltd.
58 Soi Watnuai, Bangkok, Prapachong,
Samutprakan, 10130 Thailand.

TO EN10204 3.1

E-No. MC-339 Purchase Order No. D000221 Job No. SPC003158, PO. 91819-00

D M Y Certificate No. 12062011 T- 2011140328

No.	MFG. No.	Specification for Material		Specification for Inspection		Visual Examination		Dimensional Inspection		
		ASTA A234-10MAGNME SA234-07 Gr. WPB		ASME B16.9-2007, B16.25-2009		Good		Good		
		CEA 234.11-08 Gr. 241 CAT 1 SS NACE MR0175/ISO 15156-2:2003/AFNOR 103-07								
		Product & Size		Quantity		Heat Treatment (Note 1)		Hardness Actual Data		
1	7510462	80 EL WPB 6 S40		160/200		A		HB : 115 - 145		
2	7510462	90 EL WPB 6 S40		40/200		A		HB : 115 - 145		
3	7510481	90 EL WPB 8 S40		30		A		HB : 115 - 145		
4	7510420	90 EL WPB 4 S40		89/300		A		HB : 115 - 145		
5	7510420	90 EL WPB 4 S40		161/300		A		HB : 115 - 145		

Chemical Composition %

Specification	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	C.E.	Tension Test #2		
	x	x	x	x	x	x	x	x	x	x	x	x	YS	TS	E
Min.	100	100	100	1000	1000	100	100	100	100	1000	1000	100	MPa		
Max.	10	29											240	415	30
Material Heat No.	30		106	50	58	40	40	40	15	80	20		GOOD		
1 08428	18	20	79	11	3	3	3	6	1	0	0	33	297	477	38
2 08428	18	20	79	11	3	3	3	6	1	0	0	33	297	477	38
3 JOL2773	19	22	88	15	7	1	2	4	7	0	0	36	311	492	40
4 JOL8102	20	25	87	11	5	2	2	5	10	0	0	38	359	523	36
5 2-70387	20	23	83	7	4	1	1	2	<1	<1	<1	34	289	443	68

VERIFIED BY

2. The fittings were manufactured, sampled, tested and inspected in accordance with the specification, and was found to meet the requirements. (Note: Heat-treated with final temperature between 620°C-980°C, Air Cooling. N: Normalizing 910°C for 1 hour, Air Cooling. S: Stress Relieving 675°C for 1 hour, Air Cooling.)

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

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.

* 1: T₁ symbolized wall thickness in mm. * 2: YS Yield strength TS = Tensile strength E = Elongation

Quality Assurance Manager
Thai Benkan Co., Ltd.

WESTLUND *Signature*

611-150-42-RFSO



SAN ENG STEEL FORGING CO. LTD.
311, Jen Hsin Road, Jen Wu Hsiang
Kaohsiung Hsien, Taiwan, R.O.C.
TEL: 07-3724249; FAX: 07-3712923
URL: www.saneng.com.tw
e-mail: saneng@ktsi.saneng.net.tw

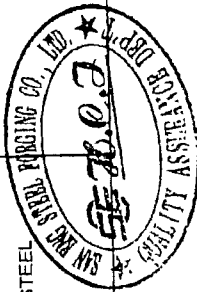
MILL TEST CERTIFICATE

EN10204-3.1 (DIN50049/3.1.B)
Customer: SEYBOLD INTERNATIONAL CORP.
Order No.: 7002886(3) ALLIED

PO# 9115604

Certificate No.: SE2986C2
Date: 12/29/2010
Page: 1 OF 2

PRODUCT		MATERIAL SPECIFICATIONS		DIMENSIONAL SPECIFICATIONS													
FORGED CARBON STEEL FLANGES		ASTM A350 LF2-07 ASME SA350 LF2-07		ASME B16.5-09 CSA Z245.12													
Item No.	CUSTOMER P/N	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)													
			Min Max	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N	CE(*)	
1		150 WNRFS XS 8" LF2	10 PCE	0.210	0.150	0.600	0.035	0.040	0.400	0.300	0.400	0.120	0.080	0.080	-	-	0.390
2		150 SORF 3" LF2	20 PCE	0.214	0.250	1.030	0.018	0.020	0.009	0.017	0.051	0.004	0.012	0.005	0.007	-	0.407
3		150 SORF 4" LF2	10 PCE	0.198	0.300	1.080	0.009	0.008	0.026	0.033	0.051	0.005	0.007	0.005	0.007	-	0.384
4		150 SORF 6" LF2	10 PCE	0.198	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.006	-	0.384
5		300 WNRFS STD 2" LF2	49 PCE	0.210	0.220	1.070	0.010	0.011	0.050	0.070	0.040	0.005	0.003	0.005	0.010	-	0.409
6		300 WNRFS STD 2" LF2	26 PCE	0.209	0.220	1.020	0.014	0.008	0.008	0.012	0.054	0.002	0.005	0.005	0.006	-	0.386
7		300 WNRFS STD 3" LF2	75 PCE	0.222	0.240	1.010	0.015	0.014	0.022	0.063	0.122	0.009	0.015	0.005	0.003	-	0.414
8		600 WNRFS XS 8" LF2	25 PCE	0.190	0.250	1.120	0.017	0.004	0.130	0.110	0.130	0.020	0.005	0.001	0.068	-	0.420
9		600 BLRF 2" LF2	25 PCE	0.211	0.260	1.090	0.013	0.014	0.012	0.023	0.047	0.005	0.008	0.005	0.006	-	0.402
10		600 BLRF 3" LF2	10 PCE	0.198	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.006	-	0.384
Item No.	Heat No.	T.S.(*) (MPa)	Y.S.(*) (MPa)	E.L.(*) (%)	Hardness (HRC)	Impact Test Temp: -46°C Minimum: 20.0 Joule		Material Supplier	HEAT TREATMENT(*)		REMARKS						
		Min Max	Min Max			1	2		2	3							
1	915641	508.0	333.4	35.4	150	61.0	49.0	NTMK	54.0	NTMK	CONFORMS WITH NACE MR0103-07 AND NAB90CE MR0175/ISO15156.2 CONFORMS WITH Z245.12 CAT II GR.248 SOUR SERVICE-05						
2	31243	533.5	363.8	35.8	155	70.0	64.0	NTMK	74.0	NTMK	TEST SPECIMEN SIZE: 10X10 TEST SPECIMEN ORIENTATION: TRANSVERSE IMPACT TEST TEMP.: -46°C						
3	31240	511.9	371.7	31.8	152	74.0	70.0	NTMK	76.0	NTMK							
4	31240	511.9	371.7	31.8	152	74.0	70.0	NTMK	76.0	NTMK							
5	31045	517.8	348.1	35.4	153	29.0	25.0	OEMK	49.0	OEMK							
6	921027	511.9	343.2	32.6	155	32.0	57.0	NTMK	28.0	NTMK							
7	931232	517.8	339.3	32.2	157	35.0	38.0	NTMK	27.0	NTMK							
8	951412	531.5	383.4	33.2	153	123.0	42.0	GODO STEEL	110.0	GODO STEEL							
9	21303	523.7	359.9	35.6	154	52.0	56.0	NTMK	49.0	NTMK							
10	31240	511.9	371.7	31.8	152	74.0	70.0	NTMK	76.0	NTMK							



*1: T.S. = Tensile Strength, Y.S. = Yield Strength, E.L. = Elongation, R.A. = Reduction of Area.

*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.

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

We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.

Manager of Quality Assurance Dept

VERIFIED BY

WESTLUND *Signature*

61L150-LF2-RFSO

Page 5076



SAN ENG STEEL FORGING CO. LTD
311, Jen Hsin Road, Jen Wu Hsiang
Kaohsiung Hsien, Taiwan, R.O.C.
TEL: 07-3724249; FAX: 07-3712923
URL: www.saneng.com.tw
e-mail: saneng@kts.seed.net.tw

MILL TEST CERTIFICATE

EN10204-3.1(BDIN50049/3.1.B)
W.F.FITTINGS & FLANGES (CANADA)
Customer: LTD.
Order No.: E05138KDMIS

Certificate No.: SE090102
Date: 02/16/2009
Page: 1 OF 2

109114725-00

DIMENSIONAL SPECIFICATIONS

MATERIAL SPECIFICATIONS

ASME B16.5-03
CSA Z245.12

PRODUCT

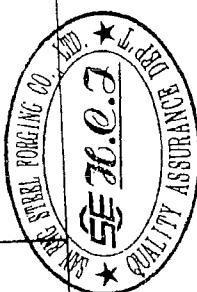
ASTM A350 LF2-07 CL. 1/ ASME SA350 LF2-07

FORGED CARBON STEEL FLANGES

FORGED CARBON STEEL FLANGES			CHEMICAL COMPOSITION (%)																	CE(*)3	
Item No.	CUSTOMER P/N	DESCRIPTION	QUANTITY																Nb	N	
			Min	Max	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V							
1	758-5208	150 WNRF XS 2" LF2	210 PCE		0.190	0.140	1.120	0.035	0.040	0.400	0.300	0.400	0.120	0.080	0.080	-	-	-			
2	758-5232	150 WNRF XS 3" LF2	160 PCE		0.200	0.220	1.160	0.010	0.016	0.100	0.110	0.050	0.005	0.003	0.005	0.009		0.410			
3	758-5236	150 BLRF 2" LF2	50 PCE		0.200	0.220	1.160	0.010	0.011	0.050	0.070	0.040	0.005	0.003	0.005	0.010		0.409			
4	758-0230	150 BLRF 3" LF2	50 PCE		0.210	0.200	1.110	0.007	0.013	0.100	0.080	0.070	0.005	0.003	0.005	0.010		0.422			
5	758-5577	150 BLRF 4" LF2	42 PCE		0.200	0.180	1.060	0.013	0.010	0.060	0.060	0.050	0.005	0.003	0.005	0.008		0.415			
6	758-5577	150 BLRF 4" LF2	8 PCE		0.210	0.220	1.070	0.010	0.011	0.050	0.070	0.040	0.005	0.003	0.005	0.007		0.401			
7	758-6504	150 BLRF 6" LF2	25 PCE		0.210	0.210	1.060	0.014	0.008	0.090	0.080	0.030	0.010	0.004	0.001	0.007		0.413			
8	758-1490	600 WNRF XS 8" LF2	15 PCE		0.180	0.230	0.930	0.014	0.010	0.160	0.090	0.120	0.010	0.001	0.001	0.008		0.374			
9	758-0233	1500 THRTJ 2" LF2	9 PCE		0.210	0.200	1.110	0.007	0.010	0.060	0.060	0.050	0.005	0.003	0.005	0.008		0.415			
10	758-0233	1500 THRTJ 2" LF2	1 PCE		0.210	0.200	1.170	0.009	0.010	0.060	0.070	0.040	0.005	0.003	0.005	0.010		0.427			
			HEAT TREATMENT(*)2																		

HEAT TREATMENT(*)

Item No.	Heat No.	T.S.(*)		Y.S.(*)	E.L.(*)	Hardness (HB)	R.A.(*)	Impact Test		Material Supplier	REMARKS
		Min	Max					Temp: -46°C	Temp: 20.0 Joule		
1	29572	505.0	517.8	300.1	35.0	150	67.7	45.0	32.0	OEMK	910°C X5HRS
2	31045	517.8	517.8	348.1	35.4	153	67.7	29.0	25.0	OEMK	CONFORMS WITH NACE MR0175-03 AND MR0103-07/ISO15156.2
3	48960	508.0	523.7	311.9	35.4	155	69.5	35.0	33.0	OEMK	CONFORMS WITH Z245.12 CAT II GR.290 SOUR SERVICE-05
4	13176	523.7	521.4	315.6	35.0	157	68.6	21.0	23.0	OEMK	TEST SPECIMEN SIZE: 10X10
5	34185	521.4	517.8	348.1	34.6	147	67.7	33.0	25.0	OEMK	TEST SPECIMEN ORIENTATION: TRANSVERSE
6	31045	517.8	508.0	360.9	35.4	153	70.0	53.0	79.0	KOTOBUKI	IMPACT TEST TEMP.: -46°C
7	802220	508.0	511.9	315.8	35.0	155	67.7	26.0	29.0	RED OCTOBER	
8	58091	511.9	523.7	315.8	31.4	148	65.9	21.0	23.0	OEMK	
9	13176	523.7	539.4	379.5	35.0	157	65.9	22.0	23.0	RED OCTOBER	
10	41369	539.4			34.0	153	65.9				



VERIFIED BY

WESTLUND

Manager of Quality Assurance Dept

*1: T.S. = Tensile Strength, Y.S. = Yield Strength, E.L. = Elongation, R.A. = Reduction of Area.
*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved.
*3: C.E. Value = C + (Mn / 6) + (Cr + Mo + V) / 5 + (Ni + Cu) / 15

We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.



SAN ENG STEEL FORGING CO. LTD
311, Jen Hsin Road, Jen Wu District
Kaohsiung, Taiwan, R.O.C.
TEL: 07-3724249; FAX: 07-3712923
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61-150#LF7 SORF50

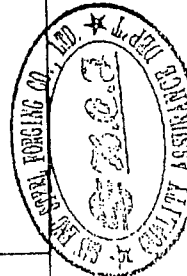
MILL TEST CERTIFICATE

EN10204-3.1 B(DIN50049/3.1.3)
Customer: SEYBOLD INTERNATIONAL CORP.
Order No.: 7003036(8)-ALLIED

BAFF 1624

Certificate No.: SE-3036F
Date: 05/02/2011
Page: 1 OF 1

PRODUCT				MATERIAL SPECIFICATIONS				DIMENSIONAL SPECIFICATIONS											
FORGED CARBON STEEL FLANGES				ASTM A350 LF2-10/ASME SA350 LF2-10				ASME B16.5-09 CSA Z245.12											
Item No.	CODE NO	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)												HEAT TREATMENT(°2)			
				C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N	CE(%)			
				Min	Max														
1		150 WNR STD 2" LF2	10 PCE	0.222	0.150	0.600	0.035	0.040	0.400	0.300	0.400	0.120	0.080	0.080	0.080	-	0.414		
2		150 SORF 6" LF2	50 PCE	0.220	0.240	1.010	0.015	0.014	0.022	0.063	0.122	0.009	0.015	0.003	0.005	0.003	0.419		
3		600 WNR XS 3" LF2	100 PCE	0.214	0.210	1.140	0.014	0.008	0.007	0.030	0.101	0.007	0.003	0.001	0.005	0.006	0.407		
4		600 WNR XS 4" LF2	8 PCE	0.198	0.300	1.080	0.009	0.014	0.026	0.033	0.051	0.005	0.007	0.005	0.005	0.006	0.384		
				0.270	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.005	0.006			
Item No.	Heat No.	T.S.(MPa)	Y.S.(MPa)	E.L.(%)	Hardness (HB)	RA.(%)	Impact Test Temp: -46°C Minimum: 20.0 Joule	Material Supplier		REMARKS									
1	931232	517.8	339.3	32.2	157	64.0	27.0	NTMK	CONFORMS WITH NACE MR0103-07 AND NACE MR0175/ISO15156.2										
2	4390797	513.9	345.2	35.4	149	69.5	88.0	ACOMINAS	CONFORMS WITH Z245.12 CAT II GR.248 SOUR SERVICE-05										
3	31293	533.5	363.8	35.8	155	69.5	74.0	NTMK	TEST SPECIMEN SIZE: 10X10										
4	31240	511.9	371.7	31.8	152	68.6	76.0	NTMK	TEST SPECIMEN ORIENTATION: TRANSVERSE										
*1: T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.																			
*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.																			
*3: C.E. Value = C + (Mn/6) + (Cr + Mo + V) / 5 + (Ni + Cu) / 15																			
We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.																			
Manager of Quality Assurance Dept																			



CLIENTE / Customer / Client

ALLIED FITTING CANADA
172 TURBO DRIVE
SHERWOOD PARK, ALBERTA
T8H 2L8 - CANADA

CERTIFICADO DE INSPECCION

Inspection Certificate - Certificat de Réception

DIN EN 10204 / 3.1
ISO 10474 / 3.1

FECHA:
Date:

30/04/2010

N°

131089

HOJA:
Page:

2

PRODUCTO
Article - Produit:

FLANGES

SU PEDIDO N°
Your Order No.
Votre Cde N°:

021210AES - EDMONTON

DE
of - de

Certified acc. PED 97/23/EC
by TÜV Rheinland
N° 01 202 EQ 02 7445

NORMAS APLICABLES
Requirements - Normes Applicables:

ASME B16.5-09

MATERIAL CORRESPONDIENTE
Material Correspondent - Quin:

AISA350LF2CL1-07

ASTM/A5ME

MODO DE FUSION (*)
Steel Making - Elaboration de l'acier

NACE MR-01-76ISO16156-2-05 & MR-01-03/03
CAN/CSA-Z245.12
Gr.2A8 CAT II

DEPARTAMENTO QUALITY ASSURANCE
Section

76777

UULMA FORJA S.COOP.

Bº Zubileaga, 3 - Apdo. 1º
20580 OKATI (Gipuzkoa) SPAIN
Tel: 34 - 943 780553
Fax: 34 - 943 781806
E-mail: ulima@ulimaping.com

PARTIDA Item Poste	CANTIDAD Quantity Quantité	DESCRIPCION Description Description	LOTE	OBSERVACIONES Remarks Observations	COLADA N° Heat No. N° Coudée	RESISTENCIA T. Strength Résist. Rupt. N/mm²	UNITE BLAST Y. Strength 0.2 % N/mm²	ALARGAM. Elongation Allongement Lx: f d %	ESTRICCION Red. Area Striction N	RESILIENCIA Impact test Résilience Joules	DUREZA Hardness Dureté HB
78	75	SO 2 150LB RF A350LF2	1050	NE	28V0	523	331	30.60	56.80	64	162 158
83	53	BLIND 3 150LB RF A350LF2	1050	NE	158V0	503	311	35.40	63.40	40	145 155
83	47	BLIND 3 150LB RF A350LF2	630	NE	362V8	508	311	34.30	60.40	53	148 156
92	35	WN 6 600LB XS/80 RF A350LF2	1030	NE	104V0	507	308	35.00	62.30	40	148 156

COMPOSICION QUIMICA - STEEL MARKER'S LADLE ANALYSIS - ANALYSE CHIMIQUE

C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	Al %	Ti %	N %	CEq %
0.200	0.270	0.840	0.010	0.001	0.080	0.100	0.040	0.005	0.004	0.260	0.028	0.000	0.000	0.390
0.200	0.220	0.840	0.013	0.001	0.090	0.090	0.040	0.008	0.001	0.240	0.030	0.000	0.000	0.388
0.210	0.250	0.870	0.007	0.001	0.030	0.080	0.010	0.001	0.001	0.190	0.035	0.000	0.000	0.380
0.190	0.210	0.960	0.004	0.008	0.070	0.140	0.040	0.001	0.002	0.140	0.021	0.000	0.000	0.391

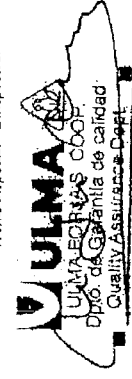
(*) OBSERVACIONES:
Remarks
Observations

N_ NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR

- Les dimensions y la condition superficial se hallaron satisfactoria
- Dimension and surface condition were found acceptable
- Les dimensions et états de surface sont satisfaisants

- Los materiales citados cumplen las normas aplicables
- Manufacturing requirements are satisfied
- Les normes applicables sont respectées

EL INSPECTOR
Works Inspector - L'inspecteur



61150-LF2 BUND
 CO2218, PO. 9115704-00 Page 4 of 5

Certificate No.: SE100734
 Date: 03/28/2011
 Page: 1 OF 2

MILL TEST CERTIFICATE

EN10204-3.1(B) DIN50049/3.1(B)
 Customer: W.F.F. FITTINGS & FLANGES (CANADA)
 Order No.: 200016812

SAIYUNG-STEEL FORGING CO. LTD
 311, Jen Hsin Road, Jen Wu District
 Keelung, Taiwan, R.O.C.
 TEL: 07-3724249; FAX: 07-3712923
 URL: www.saiyung.com.tw
 e-mail: saieng@kats.seed.net.tw



Order No.: D000168(2)

URL: www.saneng.com.tw

e-mail: saneng@ksts.seed.net.tw

PRODUCT

FORGED CARBON STEEL FLANGES

MATERIAL SPECIFICATIONS

ASTM A350 LF2-07/ASME SA350 LF2-07

DIMENSIONAL SPECIFICATIONS

ASME B16.5-09
CSA Z245.12

Item No.	CODE NO	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)													CE(%)		
				C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N				
				Min	Max														
1	7586824	150 WNR STD 4" LF2	37 PCE	0.210	0.200	1.110	0.007	0.010	0.060	0.400	0.300	0.400	0.120	0.080	0.005	-	-	0.415	
2	7586824	150 WNR STD 4" LF2	13 PCE	0.200	0.210	1.100	0.011	0.003	0.100	0.060	0.060	0.060	0.005	0.003	0.005	-	-	0.407	
3	7585321	150 WNR STD 10" LF2	6 PCE	0.206	0.240	1.080	0.015	0.010	0.023	0.045	0.033	0.003	0.005	0.005	0.004	-	-	0.400	
4	7586267	150 WNR XS 4" LF2	122 PCE	0.200	0.210	1.100	0.011	0.003	0.100	0.060	0.040	0.010	0.009	0.001	0.008	-	-	0.407	
5	7585267	150 WNR XS 4" LF2	28 PCE	0.210	0.200	1.110	0.007	0.010	0.060	0.060	0.050	0.005	0.003	0.005	0.008	-	-	0.415	
6	7586508	150 SORF 4" LF2	10 PCE	0.198	0.270	1.060	0.010	0.014	0.013	0.019	0.048	0.005	0.007	0.005	0.006	-	-	0.384	
7	7585556	150 BLRF 2" LF2	50 PCE	0.209	0.240	1.090	0.009	0.009	0.009	0.009	0.039	0.045	0.005	0.029	0.005	-	-	0.405	
8	7585557	150 BLRF 4" LF2	50 PCE	0.209	0.270	1.050	0.009	0.009	0.008	0.008	0.039	0.045	0.005	0.029	0.005	-	-	0.396	
9	7585585	150 BLRF 6" LF2	10 PCE	0.211	0.260	1.090	0.013	0.014	0.012	0.012	0.023	0.047	0.005	0.008	0.005	-	-	0.402	
10	7581210	300 WNR XS 6" LF2	10 PCE	0.208	0.280	0.990	0.014	0.012	0.007	0.007	0.015	0.053	0.002	0.002	0.005	-	-	0.380	

HEAT TREATMENT(2)

REMARKS

850°C X 3 HRS

CONFORMS WITH NACE MR0103-07 AND NACE MR0175/ISO15156.2

CONFORMS WITH Z245.12 CAT II GR 248 SOUR SERVICE-05

TEST SPECIMEN SIZE: 10X10

TEST SPECIMEN ORIENTATION: TRANSVERSE

IMPACT TEST TEMP: -46°C

Material Supplier

OEMK

WEI CHIH STEEL

NTMK

WEI CHIH STEEL

OEMK

NTMK

NTMK

NTMK

NTMK

NTMK

Impact Test

Temp: -48°C

Minimum: 20.0 Joule

1

2

3

21.0

23.0

24.0

30.0

61.0

101.0

57.0

70.0

59.0

61.0

101.0

24.0

76.0

57.0

66.0

43.0

56.0

46.0

RA.(%)

(%)

30.0

65.9

71.3

71.0

71.3

65.9

68.6

69.5

70.4

68.5

67.0

Hardness (HB)

-

197

157

155

157

155

157

152

156

153

154

Y.S.(MPa)

(MPa)

250.0

354.0

379.5

331.5

379.5

354.0

371.7

375.6

354.0

359.9

333.4

T.S.(MPa)

(MPa)

485.0

523.7

539.4

511.9

539.4

523.7

511.9

525.6

509.9

523.7

505.0

Min

Max

Min

Max

Min

Max

Min

Max

Min

Max

Min

Max

Heat No.

13176

80398

920973

80398

13176

31240

21382

21380

21303

931228

Item No.

1

2

3

4

5

6

7

8

9

10

*1: T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.

*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T.=Solution Treated, S.R.=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.

*3: C.E. Value = C + (Mn /5) + (Cr + Mo +V) / 5 + (Ni + Cu) / 15

QUALITY ASSURANCE

Manager of Quality Assurance Dept

VERIFIED BY

87



*1: T.S. = Tensile Strength, Y.S. = Yield Strength, E.L. = Elongation, R.A. = Reduction of Area.
 *2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T.=Solution Treated, S.R.=Stress Relieved.
 A.C.=Air Cooled, F.C.=Furnace Cooled, W.C.=Water Cooled, O.C.=Oil Cooled.

*3: C.E. Value = C + (Mn/16) + (Cr + Mo + V) / 5 + (Ni + Cu) / 15

We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.

VERIFIED BY

Manager of Quality Assurance Dept

WESTLUND

CERTIFIED MILL TEST REPORT

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LOG NO. F00000000014300

Page 13 of 27

BONNEY FORGE CORPORATION

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 05/10/2011

CUSTOMER

ORDER NO.: 9115923-00

BONNEY ORDER NO. B000096865

SHIP TO: WESTLUND INDUSTRIAL SUPPLY
4103-84 AVENUE
EDMONTON AB T6B2Z3
CANADA

1 1/2" CPLG. 1576

LOT # 4773

(10F2)

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO.	CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
53 7523661	48	4773	11/2 3M A105N COUP T SA/A105N	Al 0.024 C 0.190 Cb 0.000 Co 0.004 Cr 0.040 Cu 0.090 Mn 1.020 Mo 0.010 N 0.004 Nb 0.016 Ni 0.030 P 0.007 S 0.021 Si 0.250 V 0.004 CE(Long Formula) = 0.38 T/S(PSI) 74,375 Y/S(PSI) 48,125 EL(%) 28.55 RA(%) 63.75 Brinell 135 BHN 132 BHN
54 7523726	250	4785	1/2 3000 A105N HCP T SA/A105N	Al 0.023 C 0.220 Co 0.004 Cr 0.040 Cu 0.070 Mn 1.030 Mo 0.000 N 0.004 Nb 0.012 Ni 0.020 P 0.008 S 0.019 Si 0.260 V 0.004 CE(Long Formula) = 0.41 T/S(PSI) 75,000 Y/S(PSI) 48,750 EL(%) 32.90 RA(%) 66.30 Brinell 137 BHN 139 BHN
57 7523971	25	4811 MALE	3/8 3M A105N UNAR T SA/A105N	Al 0.025 C 0.200 Co 0.004 Cr 0.090 Cu 0.170 Mn 0.990 Mo 0.010 N 0.004 Nb 0.013 Ni 0.040 P 0.014 S 0.017 Si 0.200 V 0.004 CE(Long Formula) = 0.40 T/S(PSI) 74,375 Y/S(PSI) 51,875 EL(%) 33.05 RA(%) 65.40 Brinell 137 BHN 139 BHN
7523971		4811 FEMALE	3/8 3M A105N UNAR T SA/A105N	Al 0.025 C 0.200 Co 0.004 Cr 0.090 Cu 0.170 Mn 0.990 Mo 0.010 N 0.004 Nb 0.013 Ni 0.040 P 0.014 S 0.017 Si 0.200 V 0.004 CE(Long Formula) = 0.40 T/S(PSI) 74,375 Y/S(PSI) 51,875 EL(%) 33.05 RA(%) 65.40 Brinell 137 BHN 139 BHN

VERIFIED BY

WESTLUND *[Signature]*

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

by

Kylee Ruiz

Kylee Ruiz

QUALITY PROCESS MANAGER

CMTR: REV2

CERTIFIED MILL TEST REPORT

B® The Best Value -
Price, Quality, Service
All The Time.

LOG NO. F00000000014300

Page 27 of 27

BONNEY FORGE CORPORATION

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 05/10/2011

CUSTOMER

ORDER NO.: 9115923-00

BONNEY ORDER NO. B000096865

SHIP TO: WESTLUND INDUSTRIAL SUPPLY
4103-84 AVENUE
EDMONTON AB T6B2Z3
CANADA

1 1/2" CPLG. 1576
JK

20F2

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. CERTIFYING TO ASTM A350 LF2 07 REVISION.
3. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
4. THE MATERIAL SUPPLIED AS A105N MEETS THE REQUIREMENTS OF BOTH NACE MRO103-2007 AND NACE MRO175/ISO 15156-2.
5. CERTIFYING ASTM A105-09 / ASME SA105-07 EDITION.
6. THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SA350-LF2.
7. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH A350-LF2.
8. THE MATERIAL SUPPLIED AS A350 LF2 CL1 MEETS THE REQUIREMENTS OF BOTH NACE MRO103-2007 AND NACE MRO175/ISO 15156-2.
9. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.
10. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
11. THE UNIT OF MEASURE FOR TENSILE AND YIELD (0.2%) STRENGTH ARE IN REPORTED IN PSI.
12. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN. 2 INCH OR 50 MM GAGE LENGTH.

VERIFIED BY
WESTLUND *[Signature]*

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

by *Kylee Ruiz*

Kylee Ruiz
QUALITY PROCESS MANAGER

CMTR: REV2

CERTIFIED MILL TEST REPORT



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LOG NO. 325092

PAGE 23

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www.bonneyforge.com

CUSTOMER WESTLUND INDUSTRIAL SUPPLY

Date 08/27/08

CUSTOMER'S Order No. 114712-00

Bonney Order No.

SHIPPED TO WESTLUND INDUSTRIAL SUPPLY
4103 - 84 AVENUE

B000040088

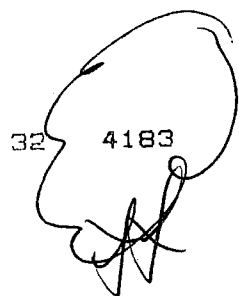
EDMONTON, ABT6B2Z3 Canada

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

ITEM QUANTITY LOT NO.

SA/A350-LF2 CL 1

113 1 4072 7680022 1 1/2 3000 LF2 COUP T
C .210 MN 1.080 P .005 S .022 SI .250
NI .030 CU .090 CO .003 CR .040 MO .010
V .000 AL .025 NB .016
CE(LONG FORMULA) = 0.41
T/S 75375 Y/S 51125 EL 32.70 RA 62.05
BRINELL HARDNESS1: 135 HARDNESS2: 132
CHARPY: -50F 17.0, 31.0, 24.0 (FT/LBS)
AVERAGE 24.0



114 32 4183 7680023 2 3000 LF2 COUP T
C .210 MN 1.020 P .008 S .020 SI .200
NI .050 CU .140 CO .004 CR .060 MO .020
V .000 AL .025 NB .014
CE(LONG FORMULA) = 0.41
T/S 72895 Y/S 48254 EL 33.70 RA 66.90
BRINELL HARDNESS1: 139 HARDNESS2: 139
CHARPY: -50F 47.0, 81.0, 33.0 (FT/LBS)
AVERAGE 53.6

115 25 56008 7680031 3/4 3000 LF2 90EL S
C .220 MN 1.150 P .010 S .021 SI .250
NI .020 CU .070 CR .040 MO .005 V .016
AL .001 NB .001
CE(LONG FORMULA) = 0.43
T/S 83000 Y/S 49800 EL 31.00 RA 60.00
BRINELL HARDNESS1: 159 HARDNESS2: 159
CHARPY: -50F 23.0, 16.0, 15.0 (FT/LBS)
AVERAGE 18.0

***** 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.

VERIFIED BY

by

Cris Booze

WESTLUND

QUALITY PROCESS MANAGER



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LOG NO. 325092 PAGE 27

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CUSTOMER WESTLUND INDUSTRIAL SUPPLY

Date 08/27/08

CUSTOMER'S Order No. 114712-00

Bonney Order No.

SHIPPED TO WESTLUND INDUSTRIAL SUPPLY
4103 - 84 AVENUE

B000040088

EDMONTON, ABT6B2Z3 Canada

2 of 2

ITEM QUANTITY LOT NO.

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

THE MATERIAL SUPPLIED IDENTIFIED AS A105QT WAS QUENCHED AND TEMPERED
IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.

THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER
SPECIFICATIONS.

THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED
IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.

CERTIFYING ASTM A105-05 / ASME SA105-04 EDITION.

THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2
BUT MEETS THE REQUIREMENTS OF ASME SA350-LF2.

THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES
FAHRENHEIT IN ACCORDANCE WITH A350-LF2.

CERTIFYING TO ASTM A350 LF2 04A REVISION.

THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350
HEAT TREATING REQUIREMENTS.

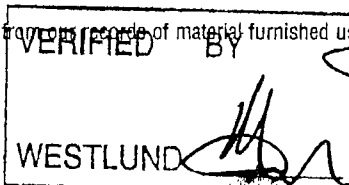
THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204:2004
EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)

THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-
2003 AND NACE MR0175-2002.

ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN,
2 INCH OR 50 MM GAGE LENGTH.

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

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



by

Cris Boozel



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LOG NO. F00000000000705

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BONNEY FORGE CORPORATION

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www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

DATE 03/31/2010

CUSTOMER

ORDER NO.: 4887821-00

BONNEY ORDER NO. B000072045

SHIP TO: CCTF CORPORATION (EDMONTON)
5407 - 53RD AVE.
EDMONTON AB T6B 3G2
Canada

2" CPLG. 1/2 3

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO	
			CHEMICAL ANALYSIS	PHYSICAL PROPERTIES, REMARKS
6	250	4272	1/2 3000 LF2 COUP T	SA/A350 LF2 CL1
7680018			Al 0.020 B 0.000 C 0.200 Co 0.003 Cr 0.040 Cu 0.130 Mn 1.010 Mo 0.010 Nb 0.017 Ni 0.030 P 0.009 S 0.019 Si 0.210 V 0.000 CE(Long Formula) = 0.39 T/S 72,500 Y/S 51,250 EL 32.90 RA 65.85 Brinell 130 BHN 130 BHN Charpy -50 F 30/86/53 (Ft/Lbs) Average 56.30	
7	240	4421	2 3000 LF2 COUP T	SA/A350 LF2 CL1
7680023			Al 0.022 C 0.200 Co 0.003 Cr 0.030 Cu 0.070 Mn 1.000 Mo 0.005 Nb 0.018 Ni 0.020 P 0.010 S 0.022 Si 0.180 V 0.004 CE(Long Formula) = 0.38 T/S 73,744 Y/S 49,633 EL 32.80 RA 58.84 Brinell 132 BHN 132 BHN Charpy -50 F 24/12/36 (Ft/Lbs) Average 24.00	
8	250	57546	3/4 3000 LF2 90EL S	SA/A350 LF2 CL1
7680031			Al 0.027 C 0.190 Co 0.004 Cr 0.060 Cu 0.150 Mn 1.020 Mo 0.010 Nb 0.018 Ni 0.060 P 0.008 S 0.022 Si 0.220 V 0.000 CE(Long Formula) = 0.39 T/S 72,428 Y/S 47,295 EL 35.00 RA 67.50 Brinell 139 BHN 139 BHN Charpy -50 F 46/47/70 (Ft/Lbs) Average 54.30	

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 Brenda Garlock
BRENDA GARLOCK
QUALITY PROCESS MANAGER

CMTR: REV2

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www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

DATE 03/31/2010

CUSTOMER

BONNEY ORDER NO. B000072045

ORDER NO.: 4887821-00

SHIP TO: CCTF CORPORATION (EDMONTON)
5407 - 53RD AVE.
EDMONTON AB T6B 3G2
Canada

2/2

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. CERTIFYING TO ASTM A350 LF2 07 REVISION.
3. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MRO103-2007 AND NACE MRO175/ISO 15156.
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. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.
7. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
8. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.

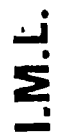
We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks.

by Brenda Garlock

BRENDA GARLOCK
QUALITY PROCESS MANAGER

CMTR: REV2

BAU



INDUSTRIA MECCANICA LIGURE SPA

Del. Note Nr 1866	Dated
Krivica Nr 1274	Dated

	VISUAL & DIMENS.
DIM. ACC. TO	
CASA ARREDAVITA'	
16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli,4 - Tel.0185-467961 - FAX 0185-466007	

[illegible]

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
SPECIFICATIONS AND P.O. REQUIREMENTS



I.M.L.

INDUSTRIA MECCANICA LIGURE SPA

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Cappelli, 4 - Tel. 0185.467661 - Fax 0185.766170 - E-mail: info@iml.it

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

IRACO LIMITED - CASTLE HOUSE

STATION ROAD - NEW BARNET

HERTFORDSHIRE EN5 1PE - UNITED KINGDOM

Certificate Nr 17279

Invoice Nr 201

Del. Note Nr 315

Dated 21.02.2007

Dated 20.02.2007

Dated 20.02.2007

This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 3 - 3

HEAT CODE		HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION										DIM. ACC. TO		VISUAL & DIMENS.		
H14 H96 GP8 TN4 GM6 GU9 48K	79376	90	17025	2008-2E201-0000843-077	12	FITTING 45 ELB. THRD NPT 3M 1" A350/LF2	SEE NOTE	768-0008	SATISFACTORY												
	77285	90	17025	2006-2E201-0000843-077	63	FITTING 45 ELB. THRD NPT 3M 1" A350/LF2	SEE NOTE	768-0008	SATISFACTORY												
	70200	91	17025	2008-2E201-0000843-078	48	FITTING 45 ELB. THRD NPT 3M 2" A350/LF2	SEE NOTE	768-0011	SATISFACTORY												
	78877	93	17025	2006-2E201-0000843-080	105	FITTING TEE THRD NPT 3M 3/4" A350/LF2	SEE NOTE	768-0013	SATISFACTORY												
	70202	103	17025	2008-2E201-0000843-090	100	FITTINGS 90 ELB. SW 3M 3/4" A350/LF2	SEE NOTE	768-0031	SATISFACTORY												
	75349	104	17025	2006-2E201-0000843-091	150	FITTING 90 ELB. SW 3M 1" A350/LF2	SEE NOTE	768-0002	SATISFACTORY												
	72435	110	17025	2006-2E201-0000843-094	99	FITTINGS HEX.H.PLUG THRD NPT 2" A350/LF2	SEE NOTE	768-0060	SATISFACTORY												
HEAT CODE		HEAT	ITEM	MATERIAL		C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	AN%	C.E.%	OTHER ELEMENTS
H14 H96 GP8 TN4 GM6 GU9 48K	79376	90	ASTM A350 LF2 cl.1	0.190	0.210	0.870	0.023	0.020	0.140	0.070	0.010	0.010	0.280	0.003	0.000	0.000	0.000	0.006	0.389		
	77285	90	ASTM A350 LF2 cl.1	0.190	0.210	0.850	0.020	0.017	0.070	0.050	0.010	0.002	0.170	0.002	0.001	0.000	0.015	0.363			
	70200	91	ASTM A350 LF2 cl.1	0.210	0.200	0.860	0.017	0.012	0.080	0.050	0.010	0.009	0.170	0.002	0.001	0.000	0.006	0.386			
	78877	93	ASTM A350 LF2 cl.1	0.195	0.220	0.960	0.018	0.018	0.120	0.060	0.010	0.005	0.200	0.002	0.000	0.000	0.016	0.399			
	70202	103	ASTM A350 LF2 cl.1	0.185	0.190	0.930	0.020	0.017	0.130	0.070	0.020	0.010	0.200	0.002	0.000	0.000	0.005	0.388			
	75349	104	ASTM A350 LF2 cl.1	0.190	0.240	0.910	0.020	0.027	0.150	0.070	0.010	0.002	0.190	0.002	0.000	0.000	0.014	0.391			
	72435	110	ASTM A350 LF2 cl.1	0.205	0.230	0.940	0.021	0.013	0.090	0.050	0.010	0.005	0.160	0.001	0.000	0.000	0.012	0.396			
HEAT CODE		HEAT	ITEM	TEST SPECIMEN RECT. mm	YIELD POINT N/mm2 >=0.2%	TENSILE STRENGTH N/mm2 >=	ELONGATION %>=	REDUCTION OF AREA %>=	HARDNESS Hc		BEND TEST	FLATTENING TEST	IMPACT TEST - JOULE/Jm2		SHAPE 1=O 2=D 3		YIELD POINT N/mm2 >=0.2%				
H14 H96 GP8 TN4 GM6 GU9 48K	79376	90	122,65	50,00	323,0	520,0	34,5	58,5	153 - 160		0,0	0,0	KV		57	1	0,0				
	77285	90	122,65	50,00	309,0	546,0	35,0	60,0	156 - 166		0,0	0,0	KV		62	1	0,0				
	70200	91	122,65	50,00	316,0	528,0	33,5	54,5	156 - 160		0,0	0,0	KV		63	1	0,0				
	78877	93	122,65	50,00	321,0	566,0	31,0	54,0	156 - 168		0,0	0,0	KV		60	1	0,0				
	70202	103	122,65	50,00	320,0	522,0	33,5	58,5	152 - 160		0,0	0,0	KV		59	1	0,0				
	75349	104	122,65	50,00	318,0	520,0	34,0	56,0	152 - 158		0,0	0,0	KV		54	1	0,0				
	72435	110	122,65	50,00	309,0	533,0	30,0	56,0	160 - 166		0,0	0,0	KV		58	1	0,0				
HEAT CODE		HEAT	ITEM	MATERIAL IN ACCORDANCE TO				HEAT TREATMENT				FURNACE				STEEL MILL				Our Ref.	
H14 H96 GP8 TN4 GM6 GU9 48K	79376	90	ASME SA ASTM A350-04a Gr. LF2 cl.1				Normalized at 900°C / Air Cool				ELECTRIC FURNACE				RIVA ACCIAI				041298		
	77285	90	ASME SA ASTM A350-04a Gr. LF2 cl.1				Normalized at 900°C / Air Cool				ELECTRIC FURNACE				RIVA ACCIAI				051354		
	70200	91	ASME SA ASTM A350-04a Gr. LF2 cl.1				Normalized at 900°C / Air Cool				ELECTRIC FURNACE				RIVA ACCIAI				041384		
	78877	93	ASME SA ASTM A350-04a Gr. LF2 cl.1				Normalized at 900°C / Air Cool				ELECTRIC FURNACE				RIVA ACCIAI				061083		
	70202	103	ASME SA ASTM A350-04a Gr. LF2 cl.1				Normalized at 900°C / Air Cool				ELECTRIC FURNACE				RIVA ACCIAI				031508		
	75349	104	ASME SA ASTM A350-04a Gr. LF2 cl.1				Normalized at 900°C / Air Cool				ELECTRIC FURNACE				RIVA ACCIAI				051212		
	72435	110	ASME SA ASTM A350-04a Gr. LF2 cl.1				Normalized at 900°C / Air Cool				ELECTRIC FURNACE				RIVA ACCIAI				061490		
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		FITTINGS		IML		STUDBOLTS		

CERTIFIED MILL TEST REPORT



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 www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 09/22/09

CUSTOMER'S Order No.: 9115164-00

Bonney Order No. 000061033

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
 4103 - 84 AVENUE

11
1 SOCK-O-LET.

EDMONTON, ABT6B2Z3 Canada

ITEM QUANTITY LOT NO.			GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:	
			SA/A350-LF2 CL 1	
046	25	56348 7690117	10 -6 X 1 3000 LF2 SOCK S	
			C .220 MN 1.150 P .009 S .024 SI .190	
			NI .020 CU .002 CO .002 CR .040 MO .008	
			V .015 AL .018 NB .000	
			CE(LONG FORMULA) = 0.43	
			T/S 78518 Y/S 54271 EL 33.31 RA 68.19	
			BRINELL HARDNESS1: 141 HARDNESS2: 139	
			CHARPY: -50F 42.0, 78.0, 87.0 (FT/LBS)	
			AVERAGE 69.0	
	56729	7690117	10 -6 X 1 3000 LF2 SOCK S	
			C .200 MN 1.100 P .007 S .015 SI .200	
			NI .010 CU .020 CO .002 CR .030 MO .010	
			V .000 AL .023 NB .013	
			CE(LONG FORMULA) = 0.39	
			T/S 73875 Y/S 51375 EL 33.10 RA 67.70	
			BRINELL HARDNESS1: 127 HARDNESS2: 130	
			CHARPY: -50F 48.0, 41.0, 31.0 (FT/LBS)	
			AVERAGE 40.0	

***** 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.

VERIFIED BY *[Signature]*
 Cris Boozel
 WESTLUND *[Signature]*
 QUALITY PROCESS MANAGER

CERTIFIED MILL TEST REPORT



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LOG NO. 336425 PAGE 18

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

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 09/22/09

CUSTOMER'S Order No.: 9115164-00

Bonney Order #000061033

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
4103 - 84 AVENUE

EDMONTON, ABT6B2Z3 Canada

ITEM QUANTITY LOT NO.

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

1. THE MATERIAL SUPPLIED IDENTIFIED AS A105QT WAS QUENCHED AND TEMPERED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
2. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
3. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
4. CERTIFYING ASTM A105-05 / ASME SA105-07 EDITION.
5. THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SA350-LF2.
6. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH A350-LF2.
7. CERTIFYING TO ASTM A350 LF2 07 REVISION.
8. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.
9. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
10. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2007 AND NACE MR0175/ISO 15156.
11. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.

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

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

VERIFIED BY
WESTLUND

by
Cris Boazel

QUALITY PROCESS MANAGER

CMTR: REV 1

CERTIFIED MILL TEST REPORT



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LOG NO. 335892 PAGE 35
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 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906
 www.bonneyforge.com

CUSTOMER: WESTLUND INDUSTRIAL SUPPLY

Date 09/04/09

CUSTOMER'S Order No.: 7823030

Bonney Order No. 000059951

SHIPPED TO: WESTLUND INDUSTRIAL SUPPLY
 4103 - 84 AVENUE

11
1-3000 SOCK-O-LET

EDMONTON, ABT6B2Z3 Canada

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

SA/A350-LF2 CL 1

088	19	57441	7690128	12 -6 X 3/4 3000 LF2 SOCK S	
					C .200 MN 1.030 P .011 S .023 SI .200 NI .040 CU .160 CO .004 CR .100 MO .010 V .000 AL .026 NB .018 CE(LONG FORMULA) = 0.41 T/S 76875 Y/S 54375 EL 30.45 RA 61.55 BRINELL HARDNESS1: 141 HARDNESS2: 139 CHARPY: -50F 56.0, 64.0, 41.0 (FT/LBS) AVERAGE 53.6

4

089	4	57433	7690117	10 -6 X 1 3000 LF2 SOCK S	
					C .200 MN 1.030 P .011 S .023 SI .200 NI .040 CU .160 CO .004 CR .100 MO .010 V .000 AL .026 NB .018 CE(LONG FORMULA) = 0.41 T/S 76875 Y/S 54375 EL 30.45 RA 61.55 BRINELL HARDNESS1: 141 HARDNESS2: 139 CHARPY: -50F 56.0, 64.0, 41.0 (FT/LBS) AVERAGE 53.6

090	5	57441	7690128	12 -6 X 3/4 3000 LF2 SOCK S	
					C .200 MN 1.030 P .011 S .023 SI .200 NI .040 CU .160 CO .004 CR .100 MO .010 V .000 AL .026 NB .018 CE(LONG FORMULA) = 0.41 T/S 76875 Y/S 54375 EL 30.45 RA 61.55 BRINELL HARDNESS1: 141 HARDNESS2: 139 CHARPY: -50F 56.0, 64.0, 41.0 (FT/LBS) AVERAGE 53.6

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

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

VERIFIED BY

 WESTLUND
 Cris Boozel
 QUALITY PROCESS MANAGER

CERTIFIED MILL TEST REPORT

1052



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

LOG NO. F00000000005497

Page 13 of 14

BONNEY FORGE CORPORATION

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 08/24/2010

CUSTOMER

ORDER NO.: 9115620-00

BONNEY ORDER NO. B000080442

SHIP TO: WESTLUND INDUSTRIAL SUPPLY
4103-84 AVENUE
EDMONTON AB T6B2Z3
CANADA

1st - LF2 SOCK-O-LET.
3000#

GRADE OR SPECIFICATION NO.

CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO.
44	25	57990	31/2-3 X 1 3000 LF2 THRD T
7692070			SA/A350 LF2 CL1
Al 0.022 C 0.220 Cb 0.000 Co 0.030 Cr 0.030 Cu 0.070 Mn 1.020 Mo 0.010 Nb 0.014 Ni 0.020 P 0.008 S 0.023 Si 0.290 Sn 0.010 V 0.004 CE(Long Formula) = 0.40 T/S 75,000 Y/S 53,750 EL 27.15 RA 56.75 Brinell 130 BHN 132 BHN Charpy -50 F 40/31/67 (Ft-Lbs) Average 46.00			

46 25 58038

10 -6 X 1 3000 LF2 SOCK S

SA/A350 LF2 CL1

Al 0.021 C 0.210 Cb 0.000 Co 0.004 Cr 0.040 Cu 0.140 Mn 1.000 Mo 0.010
 N 0.005 Nb 0.013 Ni 0.040 P 0.008 S 0.018 Si 0.210 Sn 0.010 V 0.004
 CE(Long Formula) = 0.40
 T/S 72,500 Y/S 49,375 EL 33.65 RA 65.85
 Brinell 137 BHN 135 BHN
 Charpy -50 F 45/19/36 (Ft-Lbs)
 Average 33.30

VERIFIED BY

WESTLUND

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

Trudy Smith

TRUDY SMITH

QUALITY PROCESS MANAGER

CERTIFIED MILL TEST REPORT

B® The Best Value -
Price, Quality, Service
All The Time.

LOG NO. F00000000005497

2 of 2
Page 14 of 14

BONNEY FORGE CORPORATION

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 08/24/2010

CUSTOMER

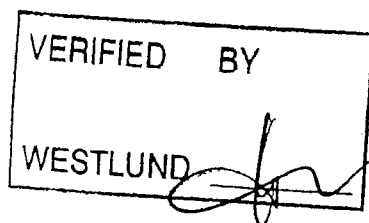
BONNEY ORDER NO. B000080442

ORDER NO.: 9115620-00

SHIP TO: WESTLUND INDUSTRIAL SUPPLY
4103-84 AVENUE
EDMONTON AB T6B2Z3
CANADA

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. CERTIFYING TO ASTM A350 LF2 07 REVISION.
3. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
4. THE MATERIAL SUPPLIED AS A105N MEETS THE REQUIREMENTS OF BOTH NACE MRO103-2007 AND NACE MRO175/ISO 15156-2.
5. CERTIFYING ASTM A105-09 / ASME SA105-07 EDITION.
6. THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SA350-LF2.
7. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH A350-LF2.
8. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.
9. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
10. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.
11. ITEM - 22, 23 -THE MATERIAL SUPPLIED IDENTIFIED AS A105QT WAS QUENCHED AND TEMPERED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.



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

Trudy Smith

TRUDY SMITH
QUALITY PROCESS MANAGER

CMTR: REV2

5.3 CWB Letter of Validation



LETTER OF VALIDATION

SEP 22 2010

The CWB acknowledges that

Gem Steel Edmonton Ltd.

9060 24 Street, Edmonton, AB T6P1X8

is certified to CSA Standard W47.1

"Certification of Companies for Fusion Welding of Steel"

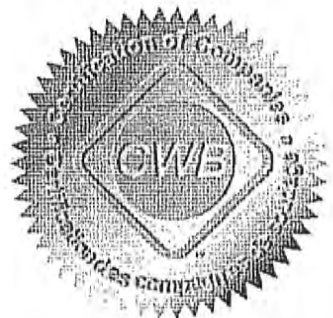
in **DIVISION 3**

for the period **September 13, 2010 to October 18, 2011**

Company Code: GEMST1

Scope: Fabrication of above ground steel storage tanks.

Registrar



Accredited
CB-P/S
(Certification Body - Product Services)

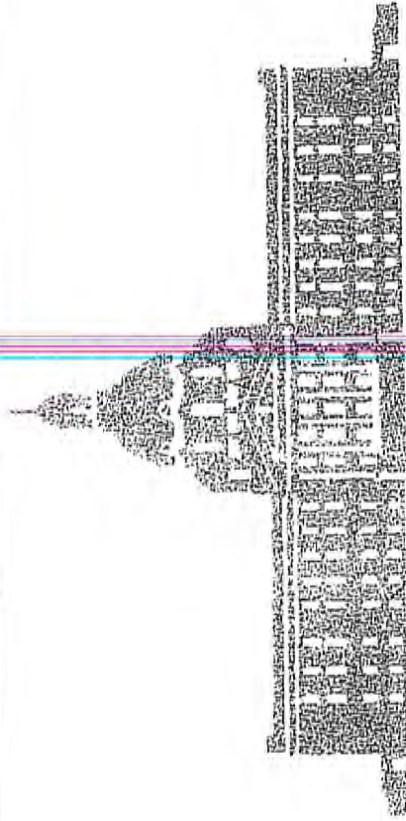
8260 Parkhill Drive, Milton, Ontario L9T 5V7
1-800-844-6790 | Int: 905-542-1312 | Fax: 905-542-1318
Email: info@cwbgroup.org | Web: www.cwbgroup.org



5.4 Welder Certification

012/840246

86558A



JOURNEYMAN CERTIFICATE

THIS IS TO CERTIFY THAT

ALLAN COLIN GARSIDE

HAS COMPLETED AN ALBERTA APPRENTICESHIP PROGRAM AND HAVING ACHIEVED THE STANDARDS
ESTABLISHED UNDER THE ALBERTA APPRENTICESHIP AND INDUSTRY TRAINING ACT, IS HEREBY AUTHORIZED TO
WORK IN THE TRADE AS A JOURNEYMAN AND TO USE THE TITLE CERTIFIED JOURNEYMAN

WELDER



EFFECTIVE DATE
October 4th, 2007

ISSUE DATE
October 17th, 2007

Alberta
Government


Honourable Doug Horner, Minister of
Advanced Education and Technology


Shirley Dul, Executive Director of
Apprenticeship & Industry Training





Welder Qualification

This card is valid only while employed by a CWB certified company.
Transferable Welder

Name: ALLAN C. GARSIDE Exp. Date: Feb 25, 2013
Employer: Gam Steel Edmonton Ltd., Edmonton, AB
Thickness Range: 3mm & above Material: Carbon Steel
Process: SMAW Electrode: E6010
Standard: CSA W47.1
Mode: MANUAL Classification: S
Class: FLAT/HORIZONTAL/VERTICAL-UP/OVERHEAD

See Reverse for Conditions

APPLY HARD HAT STICKER AT ROOM TEMPERATURE. ALLOW 4 HOURS TO SET.

Petroleum Safety Training Program



Brian Nielsen PST

Expires: Sep 16, 2007

Petroleum Industry Training Service

Re: Certification for Class Number 109758

Attached is a certificate for Brian Nielsen for the Petroleum Safety Training (PSF) taken on September 23, 2004.

The Certificate number is PSF-109758-671580



PETROLEUM INDUSTRY
TRAINING SERVICE

Calgary Training Centre
1538 - 25th Avenue N.E., Calgary, Alberta T2E 6Y3

CERTIFICATE NUMBER

PSF-109758-671580

THIS IS TO CERTIFY THAT

Brian Nielsen
HAS SATISFACTORILY COMPLETED
Petroleum Safety Training (PST) Program
Options: H-CSTS
WHMIS Fundamentals
STUDENT ID: 109758-671580
SIGNATURE: [Signature]

PETROLEUM INDUSTRY
TRAINING SERVICE

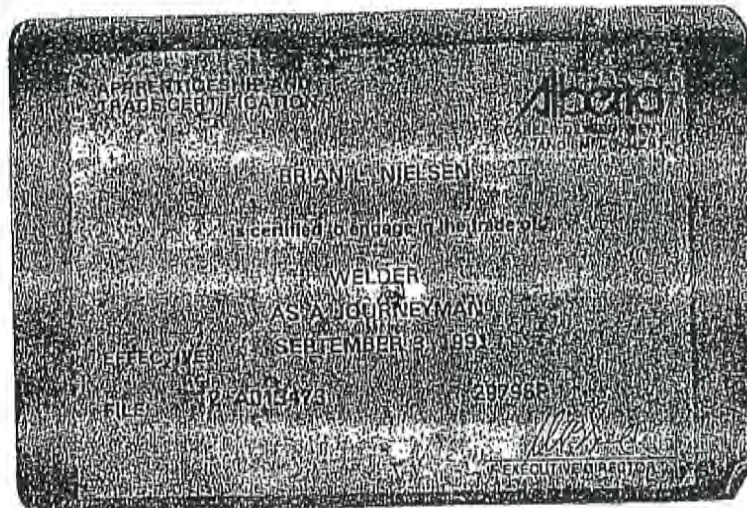
EXPIRY DATE

Sep-16-2007

IMPORTANT: TERMS OF CERTIFICATE ON REVERSE • PLEASE SIGN CERTIFICATE



QUALIFIED
WELDER



This certificate confirms training and familiarization on 80 foot AWP (Aerial Work Platforms) and the operator must have a current Basic Certificate.

THIS CERTIFICATE MUST NOT BE USED TO OPERATE ANY AERIAL WORK PLATFORM OVER 85 FEET

Registration # 10506

Candidate Name: Brian Lee Nielsen
First, Middle, Last (Print)

Issue Date: Nov. 16/09 Expiry Date: 3 years from issue date or for the duration of the Banira/Shell project, whichever comes first.

E. Malayko E. Telle
TRAINER AUTHORIZATION (Print) TRAINER AUTHORIZATION (Signature)

TOUCHBACK SAFETY INC.

☒ Initial
☐ Renewal

Program Name: Basic AWP (up to 79')
STS#: AWP2005-17
OSSA#: AWP06431
TP#: T-14974

Candidate Name: Brian Lee Nielsen
First, Middle, Last (Print)

Issue Date: Nov. 16/09 Expiry Date: Nov. 16/09

E. Malayko E. Telle
AUTHORIZATION (Print) AUTHORIZATION (Signature)

TOUCHBACK SAFETY INC.

Alberta Construction Safety Association

This is to certify that

BRIAN L. NIELSEN

has met the requirements and has successfully completed the Construction Safety Training System

CSIS includes General Safety

Res. 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

2062085 Issued Dec 4, 2008

Brent Schneider Program Coordinator, ACSA

☒ Initial
☐ Renewal

Program Name: Basic AWP (up to 79')
STS#: AWP2005-17
OSSA#: AWP06431
TP#: T-19794

Candidate Name: Brian Lee Nielsen
First, Middle, Last (Print)

Issue Date: March 29/11 Expiry Date: March 29/14

Gary Leblanc Steve LeBlanc
AUTHORIZATION (Print) AUTHORIZATION (Signature)

TOUCHBACK SAFETY INC.



Welder Qualification

This card is valid only when accompanied by a properly signed company Test Certificate.

Test Center: Welding Technology Centre

Transferrable Welder

Name: BRIAN L. NIELSEN Exp. Date: Nov. 10, 2017

Testing Facility: Red Deer College - Red Deer

Thickness Range: 3mm & above Valena: Carbon Steel

Mode of Transfer: N/A Process: SMAW

Mode: Manual Standard: CSA W47.1

Class: Flat/Horizontal/Vertical/Overhead

Position: F4

See Appendix for Conditions

att
Angie

FILE TIME JUL-22-2010 (THU) 10:14
JUL-2010 17:51 FROM: A&J MINI MART 7096622322

Newfoundland
Laborator

Government of Newfoundland and Labrador
Department of Education
and Higher Learning
and Training Center

This is to CERTIFY that Bruce W. McCarthy
is the holder of a
CERTIFICATE OF QUALIFICATION
in the Welder
(Trade Occupation)

Card No. 42-33439

IR No. A-22-31006

Expiring 12/31/2011

Original
Issued 06/23/2010

[Signature]
Director

Alberta
LABOUR

**Grade "B" Pressure Welder's
Certificate of Competency**

This is to Certify that: Carlos Espinosa
having complied with provisions of the Safety Code Act, is authorized to engage in
pressure welding in accordance with the prescribed Regulations.

Dated at Edmonton, this 1996
December

 W- 6580
File No: _____

Chief Inspector: _____

ADSA

Form No. AB-117/Rev (95/00)

Nº 10277

Carlos Espinosa
CB 6870
Journeyman ticket#



RJV GAS FIELD SERVICES	
This Certifies That Gaudet. Christopher	
Has Successfully completed WHMIS Training April 26, 2010	
Certification Date	Employee Signature <i>[Signature]</i>
April 26, 2013	
Next Training Date	Employer Signature <i>[Signature]</i>



Welder Qualification

This card is valid only while employed by a CWB certified company

Transferable Welder

Name:	LEO M. PARADIS	Exp. Date:	Feb 12, 2013
Employer:	Gem Steel Edmonton Ltd., Edmonton, AB		
Thickness Range:	3mm & above	Material:	Carbon Steel
		Process:	FCAW/MCAW
Mode:	SEMI-AUTO	Standard:	CSA W47.1
	Single Electrode Mechanized	Classification:	S
	Single Electrode Automatic		
Class:	FLAT/HORIZONTAL/VERTICAL UP		

See Reverse for Conditions



Welder Qualification

This card is valid only while employed by a CWB certified company

Transferable Welder

Name:	LEO M. PARADIS	Exp. Date:	Feb 12, 2013
Employer:	Gem Steel Edmonton Ltd., Edmonton, AB		
Thickness Range:	3mm & above	Material:	Carbon Steel
		Process:	SMAW
Mode:	MANUAL	Standard:	CSA W47.1
		Classification:	S
		Electrode:	F4
Class:	FLAT/HORIZONTAL/VERTICAL UP/OVERHEAD		

See Reverse for Conditions

CONDITION(S) OF ISSUE

ON COMPLETION OF APPRENTICESHIP

AA6567, ALBERTA

VALID FOR ARC AND GAS WELDING

REPLACEMENT OF CERTIFICATE # CA8314,
ISSUED JANUARY 23rd, 1979

INTERPROVINCIAL STANDARDS

SEAL No.

799

147A

80/11/20

APPRENTICESHIP AND
TRADE CERTIFICATION
BRANCH

Alberici

ADVANCED EDUCATION
(AND) ANTI-SWEAT

THIS IS TO CERTIFY THAT

Mr. Maurice PARADIS

HOLDS A CERTIFICATE OF PROFICIENCY

AS A Welder - NEWS CLASS

DATE May 14, 1980 N. 066772

FILE 12704107

(OVER)

DIRECTOR

012/0/932807

112712A



JOURNEYMAN CERTIFICATE

I HEREBY CERTIFY THAT
[NAME] [NAME]

HAS COMPLETED AN ALBERTA APPRENTICESHIP PROGRAM AND HAVING ACHIEVED
THE MAJOR COMPETENCY STANDARDS OF THE ALBERTA APPRENTICESHIP AND
INDUSTRY TRAINING ACT, I HEREBY AUTHORIZE HIM/HER TO WORK IN THE TRADE AS A
JOURNEYMAN AND TO USE THE TITLE CERTIFIED JOURNEYMAN.

WELDER

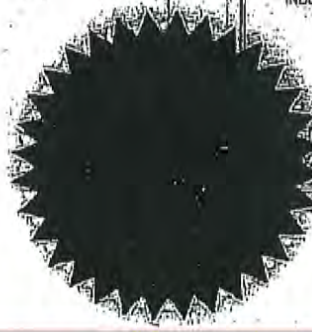
EFFECTIVE DATE
May 10th, 2010

ISSUE DATE
June 25th, 2010

DAVID J. SCHORER
DIRECTOR
ALBERTA EDUCATION
& TECHNOLOGY

Alberta

DAVID BOUASSA
EXECUTIVE DIRECTOR
OF APPRENTICESHIP
& INDUSTRY TRAINING





Welder Qualification

This card is valid only while employed by a CWB certified company

Transferable Welder

Name: MARK L. KINZEL

Exp. Date: Feb 12, 2013

Employer: Gem Steel Edmonton Ltd., Edmonton, AB

Thickness Range: 3mm & above

Material: Carbon Steel

Mode: SEMI-AUTO

Process: FCAW/MCAW

Single Electrode Mechanized

Standard: CSA W47.1

Single Electrode Automatic

Classification: S

Class: FLAT/HORIZONTAL/VERTICAL UP

See Reverse for Conditions



Welder Qualification

This card is valid only while employed by a CWB certified company

Transferable Welder

Name: MARK L. KINZEL

Exp. Date: Dec 29, 2012

Employer: Gem Steel Edmonton Ltd., Edmonton, AB

Thickness Range: 3mm & above

Material: Carbon Steel

Mode: MANUAL

Process: SMAW

Standard: CSA W47.1

Classification: S

Electrode: F4

Class: FLAT/HORIZONTAL/VERTICAL UP/OVERHEAD

See Reverse for Conditions



Welder Qualification

This card is valid only while employed by a CWB certified company

Transferable Welder

Name: MARK L. KINZEL

Exp. Date: Feb 25, 2013

Employer: Gem Steel Edmonton Ltd., Edmonton, AB

Thickness Range: 3mm & above

Material: Carbon Steel

Mode: SEMI-AUTO

Process: FCAW/MCAW

Single Electrode Mechanized

Standard: CSA W47.1

Single Electrode Automatic

Classification: S

Class: FLAT/HORIZONTAL/VERTICAL UP/OVERHEAD

See Reverse for Conditions

**Liftruck Training Institute
of Canada Inc.**



SHAUN SMATHERS

has completed the

Operator Safety Awareness Course for Forklift Equipment

Date 05-29-07 Instructor JUSTIN OLYNYK

CERTIFICATION EXPIRES 3 YEARS FROM ABOVE DATE

**Workplace Hazardous Materials Information System
(WHMIS)**

Shaun Smathers

Name

Has successfully completed the Alberta Construction Safety Association's generic WHMIS training program for workers.

Black Cat Blades

Employer

5604-99st Edmonton, AB

Address

City/Province

May 30/7

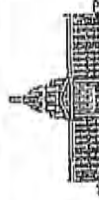
Date Trained

J. Smathers

Trainer Signature

0128005592

70394A



JOURNEYMAN CERTIFICATE

THIS IS TO CERTIFY THAT

SHAUN ARTHUR SMATHERS
HAS COMPLETED AN ALBERTA APPRENTICESHIP PROGRAM AND HAVING ACHIEVED
THE STANDARDS ESTABLISHED UNDER THE ALBERTA APPRENTICESHIP AND
INDUSTRY TRAINING ACT, IS HEREBY AUTHORIZED TO WORK IN THE TRADE AS A
JOURNEYMAN AND TO USE THE TITLE CERTIFIED JOURNEYMAN

WELDER

EFFECTIVE DATE
August 16th, 2005

ISSUE DATE
September 14th, 2005

Alberta

HONOURABLE DAVID HANCOCK, O.C.
MINISTER OF ADVANCED EDUCATION

SHAWN SMATHERS
DIRECTOR OF APPRENTICESHIP
& INDUSTRY TRAINING

Name

Shaun Smathers

Has met the requirements and demonstrated the level of
competence required to successfully complete the

Manufacturers' Health & Safety Association
"Making your Move" Overhead Crane Operators
Course.

McSweeney

Instructor

May 31/07

Date



WELDING SUPERVISOR CERTIFICATE

Presented to

STEVE F DAVIES

For successfully completing the Welding Supervisor Examinations
as required by CSA Standard W47.1

Valid while employed with

Gem Steel Edmonton Ltd.

Authorized Signature



Northwest
Territories Canada

Certificate of Qualification

This is to certify that

Steven Fred Davies

having complied with the Apprenticeship, Trade and
Occupations Certification Act and regulations, has
qualified at the Journeyman Level in the Trade of

Welder

Transfer from Alberta
Certificate of Qualification #CA5655
Issued July 4, 1978

Date: **November 14, 2000**

Certificate No: **1364-12**



Apprenticeship, Trade and Occupations Certification Board

Jake Oate
Minister

APPROVED FOR SIGNATURE
DATE



STEVE F. DAVIES

is certified to engage in the trade of
CRANE AND HOISTING EQUIPMENT
OPERATOR (MOBILE CRANE OPERATOR)
AS A JOURNEYMAN

EFFECTIVE: JULY 13, 1987

FILE 34-1J000336C 22185P

Steve Davies

APPROVED FOR SIGNATURE
DATE



STEVE F. DAVIES

is certified to engage in the trade of

HEAVY EQUIPMENT OPERATOR
AS A JOURNEYMAN
JULY 13, 1987

EFFECTIVE

FILE 34-1J000336C

54730

Steve Davies



APRENTICESHIP AND
TRADE CERTIFICATION
BRANCH

THIS IS TO CERTIFY THAT
Steven Fredrick DAVIES

HOLDS A CERTIFICATE OF PROFICIENCY
AS A Welder - First Class
DATE July 4th, 1978
FILE 3543/12 CA5655

APPROVED FOR SIGNATURE
DATE



STEVE F. DAVIES

is certified to engage in the trade of
CRANE AND HOISTING EQUIPMENT
OPERATOR (TOWER CRANE OPERATOR)
AS A JOURNEYMAN

EFFECTIVE: JULY 13, 1987

FILE 34-2J000336C

22186P

Steve Davies

7654128

50741

THIS IS TO CERTIFY THAT

STEVE F. DAVIES

HAVING ACHIEVED THE STANDARDS SET BY THE ALBERTA
APPRENTICESHIP AND INDUSTRY TRAINING BOARD, IS HEREBY AUTHORIZED
TO ENGAGE IN THE TRADE AS A CERTIFIED JOURNEYMAN

STEEL FABRICATOR

EFFECTIVE DATE: ISSUE DATE
AUGUST 18TH, 1983 SEPTEMBER 16TH, 1983

Steve Davies

Steve Davies

APPROVED FOR SIGNATURE
DATE

APPROVED FOR SIGNATURE
DATE

CONDITIONS OF ISSUE

ON COMPLETION OF APPRENTICESHIP
AWARD # ALBERTA
VALID FOR ARC AND GAS WELDING

INTERPROVINCIAL STANDARDS
SEAL NO. NOT AVAILABLE

AWARDED CERTIFICATE OF
PROFICIENCY # CA5655

ADIAN INTERPROVINCIAL
STANDARDS RED SEAL NO. NOT AVAILABLE

Alberta
ADVANCED EDUCATION
AND MANPOWER

APPRENTICESHIP AND
TRADE CERTIFICATION
BRANCH

THIS IS TO CERTIFY THAT

Steven Fredrick DAVIES

HOLDS A CERTIFICATE OF PROFICIENCY

AS A/Welder - First Class

DATE July 4th, 1978 No. CA5655

FILE # 3543/12

(OVER)

J. H. Peers
DIRECTOR

APPRENTICESHIP AND
TRADE CERTIFICATION
BRANCH

Alberta
ADVANCED EDUCATION
AND MANPOWER

THIS IS TO CERTIFY THAT

Steven Fredrick DAVIES

HOLDS A CERTIFICATE OF

COMPLETION OF APPRENTICESHIP

FOR THE TRADE OF Welder

CERT. NO. AA4301 DATE July 4, 1978

FILE NO. 3543/12

(OVER)

J. H. Peers
DIRECTOR

5.5 Tank Traveller

TANK TRAVELLER

SECTION 20

TRAVELLER STARTED BY:		DATE STARTED:		SHOP ORDER NUMBER:	
STANDARD: API 650 latest Edition		SERIAL No.: GEM-2011-4			
SIZE: 84' diameter x 32' high		TANK IDENTIFICATION No.: 7000-Tk001			
CUSTOMER: Baffinland Iron Mines		DRWG No.: 1 THRU 3		REV.: B	CRN:
CUSTOMER'S P.O. No.: H337697-CM010		REF. No.:			
COMPONENT PART/ITEM	MATERIAL & SPECIFIED THICKNESS	COMPANY INSPECTOR	DATE	CUSTOMER INSPECTOR	DATE
FLOOR	1/4" - 260 WT	Keith Hopkins	Sept 17	Hatch	Sept 17
FIRST COURSE	5/16" - 260 WT	Keith Hopkins	Sept 12	Hatch	Sept 12
SECOND COURSE	1/4" - 260 WT	Keith Hopkins	Sept 13	Hatch	Sept 13
THIRD COURSE	1/4" - 260 WT	Keith Hopkins	Sept 16		
FOURTH COURSE	1/4" - 260 WT	Keith Hopkins	Sept 16		
ROOF	3/16" - 260 WT	Keith Hopkins	Sept 21		

OP No.	INSPECTION OR TEST POINTS	DATE	COMPANY QC INSP.	INITIAL	CUSTOMER INSPECTOR	INITIAL	COMMENTS
1	REVIEW DOCUMENTATION	Sept 8	Keith Hopkins	KH			
2	EXAMINE DWGS - CALCS	Sept 8	Keith Hopkins	KH			
3	REVIEW FLOOR INSPECTION REPORT	Sept 12	Keith Hopkins	KH			
4	FLOOR TO SHELL FIT	Sept 13	Keith Hopkins	KH	Hatch	Hatch	
5	FLOOR TO SHELL WELD - OIL PENETRENT TEST	Sept 14	Keith Hopkins	KH	Hatch	Hatch	M.C.
6	FIRST TO SECOND COURSE ASSEMBLY	Sept 14	Keith Hopkins	KH			
7	SECOND TO THIRD COURSE ASSEMBLY	Sept 16	Keith Hopkins	KH			
8	THIRD TO FOURTH COURSE ASSEMBLY	Sept 19	Keith Hopkins	KH			
9	Shell Oil Penetrant Test	Sept 23	Keith Hopkins	KH			M.C.
12	NDT FIRST COURSE	Sept 15	Steve	ST	Hatch	Hatch	M.C.
13	NDT SECOND COURSE INCLUDING FIRST HORIZONTAL	Sept 15	Steve	ST	Hatch	Hatch	M.C.
14	NDT THIRD COURSE INCLUDING SECOND HORIZONTAL	Sept 16	Steve	ST	Hatch	Hatch	M.C.
15	NDT FOURTH COURSE INCLUDING THIRD HORIZONTAL	Sept 16	Steve	ST	Hatch	Hatch	M.C.
18	LAYOUT & CUT OPENINGS TACK WELD FITTINGS	Sept 22	Keith Hopkins	KH			
19	AIR TEST REPADS	Sept 23	Keith Hopkins	KH	Hatch	Hatch	M.C.
20	ROOF FITTING ORIENTATION	Sept 22	Keith Hopkins	KH	Hatch	Hatch	M.C.
21	LADDER/STAIRS/LANDINGS	Sept 22	Keith Hopkins	KH	Hatch	Hatch	M.C.
22	INTERIOR SURFACE PREP FOR LINING (GRINDING ETC.)	Sept 22	Keith Hopkins	KH	Hatch	Hatch	M.C.
23	Vacuum Shell	Sept 21	Keith Hopkins	KH	Hatch	Hatch	M.C.
24	DOCUMENTATION PREPARED	Sept 27	Steve	ST			
25	OVERALL VISUAL	Sept 27	Steve	ST	Hatch	Hatch	M.C.
26	INSTALL NAMEPLATE	Sept 24	Keith Hopkins	KH	Hatch	Hatch	M.C.
27	Vacuum floor to shell	Sept 14	Keith Hopkins	KH	Hatch	Hatch	HATCH

REMARKS:

CUSTOMER ACCEPTED COMPLETE: HATCH

COMPANY REVIEW BY:

Marlon Coahly

DATE:

Sept 27/2011

CLOSED OUT BY:

5.6 Inspection Reports

FLOOR INSPECTION REPORT

SECTION 20

SHOP ORDER NUMBER:

CODE OR STANDARD: API 650 latest Edition

TANK No.: GEM-2008-3

DIAMETER: 84' - 6"

IDENTIFICATION No.: 7000-Tk001

CUSTOMER: Baffinland Iron Mines

DRWG No.: 1 THRU 3

REV.: B

CRN:

CUSTOMER'S P.O No.: H337697-CM010

REF. No.:

COMPONENT
PART/ITEM

MATERIAL

SPECIFIED
THICKNESS

THICKNESS

FLOOR INSPECTION

REPORT PREPARED BY: Keith Hopkins

ISSUE No. _____ REV. _____

REV. DATE _____

REV DATE _____

OP No	INSPECTION OR TEST POINTS	DATE	INITIAL	COMPANY OC INSP.	INITIAL				COMMENTS
1	MATERIAL CONDITION	Sept 11	KH	Hatch	JA				
3	CHECK FLOOR PLATE FIT	Sept 12	KH	Hatch	JA				
4	FIT FLOOR COMPONENTS,	Sept 14	KH	Hatch	JA				
5	CHECK ALL WELDING	Sept 25	KH						
6	VACUUM TEST	Sept 21	KH	HATCH	M.C				
7	SURFACE PREP FOR LINING (GRINDING ETC.)	Sept 21	KH	HATCH	M.C				
8	OVERALL VISUAL	Sept 25	KH	HATCH	M.C				
9									
10									
11									
12									
13									
14									
15									
16									

REMARKS: _____ CUSTOMER ACCEPTED COMPLETE: HATCH

REVIEWED BY: Marlon Cooley DATE: Sept 27/2011 CLOSED OUT BY: _____

SECTION 20

SHOP ORDER NUMBER:

CODE OR STANDARD: API 650 latest Edition

SHELL COURSE No.:1

DIAMETER: 84' diameter x 32' high

IDENTIFICATION No.: 7000-Tk001

CUSTOMER: Baffinland Iron Mines

DRWG No.: 1 THRU 3

REV.: B

CRN:

CUSTOMER'S P.O No.: H337697-CM010

REF. No.:

COMPONENT PART/ITEM

MATERIAL

SPECIFIED
THICKNESS

THICKNESS

SHELL INSPECTION

REPORT PREPARED BY: Kerith Hopkins

ISSUE No. _____ REV. _____

REV. DATE _____

REV DATE _____

VERTICALS ASSEMBLY	FIT UP APPROVED	DATE	WELD INSIDE APPROVED BY	DATE	DATE GOUGE OUTSIDE APPROVED	DATE	WELD OUTSIDE	DATE
VERTICAL # 1	Keith Hopkins	Sept 12 ²	Keith Hopkins	Sept 12 ²	Keith Hopkins	Sept 12 ²		Sept 12
VERTICAL # 2	↑	↑	↑		↑	↑		↑
VERTICAL # 3	↓	↓	↓		↓	↓		↓
VERTICAL # 4								
VERTICAL # 5	Keith Hopkins	Sept 12 ²	Keith Hopkins	Sept 12 ²	Keith Hopkins	Sept 12 ²		Sept 12
VERTICAL # 6								
VERTICAL # 7								
VERTICAL TESTING & INSPECTION	SWEEP BOARD	DATE	FINAL FINISH APPROVED BY	DATE	NDT APPROVED BY	DATE	APPROVED BY	DATE
VERTICAL # 1	Keith Hopkins	Sept 12	Keith Hopkins	Sept 12	Steve Low	Sept 25	M.C	Sept 27
VERTICAL # 2	↑	↑	↑	↑		↓	↓	↓
VERTICAL # 3	↓	↓	↓	↓				
VERTICAL # 4								
VERTICAL # 5	Keith Hopkins	Sept 12	Keith Hopkins	Sept 12				
VERTICAL # 6						↓	↓	↓
VERTICAL # 7						Sept 27	M.C	Sept 27
FIRST COURSE TO FLOOR ASSEMBLY	ROUNDNESS APPROVED	DATE	GAP APPROVED BY	DATE	SWEEP FOR PEAKS APPROVED BY	DATE	CHECK FLOOR ELEVATION	DATE
	Keith Hopkins	Sept 12	Keith Hopkins	Sept 12	Keith Hopkins	Sept 12	Keith Hopkins	Sept 12

REMARKS:

REMARKS:
HATCH

CUSTOMER ACCEPTED COMPLETE:

REVIEWED BY:

Marlon Cooley

DATE: _____

Sept 27/2011

CLOSED OUT BY:

CLOSED OUT BY: _____

SECOND SHELL COURSE INSPECTION REPORT

SECTION 20

SHOP ORDER NUMBER:

CODE OR STANDARD: API 650 latest Edition

SHELL COURSE No.: 2

DIAMETER: 84' diameter x 32' high

IDENTIFICATION No.: 7000-Tk001

CUSTOMER: Baffinland Iron Mines

DRWG No.: 1 THRU 3

REV.: B

CRN:

CUSTOMER'S P.O No.: H337697-CM010

REF. No.:

COMPONENT
PART/ITEM

MATERIAL

SPECIFIED
THICKNESS

THICKNESS

SHELL INSPECTION

REPORT PREPARED BY: Keith Hopkins

ISSUE No. _____ REV. _____

REV. DATE _____

REV DATE _____

VERTICALS ASSEMBLY	FIT UP APPROVED	DATE	WELD INSIDE APPROVED BY	DATE	DATE GOUGE OUTSIDE APPROVED	DATE	WELD OUTSIDE APPROVED BY	DATE
VERTICAL # 1	Keith Hopkins	Sept 14	Keith Hopkins	Sept 14	Keith Hopkins	Sept 14	Keith Hopkins	Sept 14
VERTICAL # 2	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 3	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 4	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 5	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 6	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 7	Keith Hopkins	Sept 14	Keith Hopkins	Sept 14	Keith Hopkins	Sept 14	Keith Hopkins	Sept 14
VERTICAL TESTING & INSPECTION	SWEEP BOARD	DATE	FINAL FINISH APPROVED BY	DATE	NDT APPROVED BY	DATE	APPROVED BY	DATE
VERTICAL # 1	Keith Hopkins	Sept 14	Keith Hopkins	Sept 14	Keith Hopkins	Sept 25	Maclachlan	Sept 27
VERTICAL # 2	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 3	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 4	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 5	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 6	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 7	Keith Hopkins	Sept 14	Keith Hopkins	Sept 14			Maclachlan	Sept 27
SECOND COURSE TO FIRST COURSE	ROUNDNESS APPROVED	DATE	GAP APPROVED BY	DATE	SWEEP FOR PEAKS APPROVED BY	DATE	APPROVED BY	DATE
	Keith Hopkins	Sept 14	Keith Hopkins	Sept 14	Keith Hopkins	Sept 14		

REMARKS: _____ CUSTOMER ACCEPTED COMPLETE: HATCH

REVIEWED BY: Maclachlan DATE: Sept 27/2011 CLOSED OUT BY: _____

THIRD SHELL COURSE INSPECTION REPORT

SHOP ORDER NUMBER:

CODE OR STANDARD: API 650 latest Edition				SHELL COURSE No.: 3	
DIAMETER: 84' diameter x 32' high				IDENTIFICATION No.: 7000-Tk001	
CUSTOMER: Baffinland Iron Mines				DRWG No.: 1 THRU 3	REV.: B
CUSTOMER'S P.O No.: H337697-CM010				REF. No.:	
COMPONENT PART / ITEM	MATERIAL	SPECIFIED THICKNESS	THICKNESS	SHELL INSPECTION REPORT PREPARED BY: <u>Keith Hopkins</u>	
	260 WT	1/4"	1/4"	ISSUE No. _____ REV. _____	
				REV. DATE _____	
				REV DATE _____	

VERTICALS ASSEMBLY	FIT UP APPROVED	DATE	WELD INSIDE APPROVED BY	DATE	DATE GOUGE OUTSIDE APPROVED	DATE	WELD OUTSIDE APPROVED BY	DATE
VERTICAL # 1	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Keith Hopkins</u>	<u>Sept 16</u>
VERTICAL # 2	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 3	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 4	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 5	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 6	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 7	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Keith Hopkins</u>	<u>Sept 16</u>
VERTICAL TESTING & INSPECTION	SWEEP BOARD	DATE	FINAL FINISH APPROVED BY	DATE	NDT APPROVED BY	DATE	APPROVED BY	DATE
VERTICAL # 1	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Steve Davis</u>	<u>Sept 16</u>	<u>Maclan Coahly</u>	<u>Sept 21</u>
VERTICAL # 2	↑	↑	↑	↑				
VERTICAL # 3	↑	↑	↑	↑				
VERTICAL # 4	↑	↑	↑	↑				
VERTICAL # 5	↑	↑	↑	↑				
VERTICAL # 6	↑	↑	↑	↑				
VERTICAL # 7	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Keith Hopkins</u>	<u>Sept 16</u>			<u>Maclan Coahly</u>	<u>Sept 23</u>
THIRD COURSE TO SECOND COURSE	ROUNDNESS APPROVED	DATE	GAP APPROVED BY	DATE	SWEEP FOR PEAKS APPROVED BY	DATE	APPROVED BY	DATE
	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Keith Hopkins</u>	<u>Sept 16</u>	<u>Keith Hopkins</u>	<u>Sept 16</u>		

REMARKS:

HATCH

CUSTOMER ACCEPTED COMPLETE: _____

REVIEWED BY:

Maclan Coahly

DATE:

Sept 23 / 2011

CLOSED OUT BY: _____

FOURTH SHELL COURSE INSPECTION REPORT

SHOP ORDER NUMBER:

CODE OR STANDARD: API 650 latest Edition

SHELL COURSE No.: 4

DIAMETER: 84' diameter x 32' high

IDENTIFICATION No.: 7000-Tk001

CUSTOMER: Baffinland Iron Mines

DRWG No.: 1 THRU 3

REV.: B

CRN:

CUSTOMER'S P.O No.: H337697-CM010

REF. No.:

COMPONENT
PART/ITEM

MATERIAL

SPECIFIED
THICKNESS

THICKNESS

SHELL INSPECTION
REPORT PREPARED BY:

Keith Hopkins

ISSUE No. _____ REV. _____

REV. DATE _____

REV DATE _____

VERTICALS ASSEMBLY	FIT UP APPROVED	DATE	WELD INSIDE APPROVED BY	DATE	DATE GOUGE OUTSIDE	DATE	WELD OUTSIDE APPROVED BY	DATE
VERTICAL # 1	<i>Keith Hopkins</i>	<i>Sept 19</i>	<i>Keith Hopkins</i>	<i>Sept 19</i>	<i>Keith Hopkins</i>	<i>Sept 19</i>	<i>Keith Hopkins</i>	<i>Sept 19</i>
VERTICAL # 2	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 3	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 4	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 5	↑	↑	↑	↑	↑	↑	↑	↑
VERTICAL # 6	↓	↓	↓	↓	↓	↓	↓	↓
VERTICAL # 7	<i>Keith Hopkins</i>	<i>Sept 19</i>	<i>Keith Hopkins</i>	<i>Sept 19</i>	<i>Keith Hopkins</i>	<i>Sept 19</i>	<i>Keith Hopkins</i>	<i>Sept 19</i>
VERTICAL TESTING & INSPECTION	SWEEP BOARD	DATE	FINAL FINISH APPROVED BY	DATE	NDT APPROVED BY	DATE	APPROVED BY	DATE
VERTICAL # 1	<i>Keith Hopkins</i>	<i>Sept 19</i>	<i>Keith Hopkins</i>	<i>Sept 19</i>	<i>Blaine Davis</i>	<i>Sept 25</i>	<i>Marlon Coally</i>	<i>Sept 27</i>
VERTICAL # 2	↑	↑	↑	↑			↓	
VERTICAL # 3	↑	↑	↑	↑				
VERTICAL # 4	↑	↑	↑	↑				
VERTICAL # 5	↑	↑	↑	↑				
VERTICAL # 6	↓	↓	↓	↓				
VERTICAL # 7	<i>Keith Hopkins</i>	<i>Sept 19</i>	<i>Keith Hopkins</i>	<i>Sept 19</i>			<i>Marlon Coally</i>	<i>Sept 27</i>
FOURTH COURSE TO THIRD COURSE	ROUNDNESS APPROVED	DATE	GAP APPROVED BY	DATE	SWEEP FOR PEAKS APPROVED BY	DATE	APPROVED BY	DATE
<i>Keith Hopkins</i>	<i>KH</i>	<i>Sept 19</i>	<i>Keith Hopkins</i>	<i>Sept 19</i>	<i>Keith Hopkins</i>	<i>Sept 19</i>		

REMARKS:

HATCH

CUSTOMER ACCEPTED COMPLETE: _____

REVIEWED BY

Marlon Coally

DATE:

Sept 27 / 2011

CLOSED OUT BY: _____

SECTION 20

SHOP ORDER NUMBER:

CODE OR STANDARD: API 650 latest Edition

DIAMETER: 84' diameter

IDENTIFICATION No.: 7000-Tk001

CUSTOMER: Baffinland Iron Mines

DRWG No.: 1 THRU 3

REV.: B

CRN:

CUSTOMER'S P.O No.: H337697-CM010

REF. No.:

COMPONENT
PART/ITEM

MATERIAL

SPECIFIED
THICKNESS

THICKNESS

ANGLE IRON

A36 / 44W

3/8"

3/8"

SHELL INSPECTION

REPORT PREPARED BY: Kerth Hopkins

ISSUE No. _____ REV. _____

REV. DATE _____

REV DATE _____

[illegible]

REMARKS:

REMARKS: HATCH

CUSTOMER ACCEPTED COMPLETE:

REVIEWED BY:

Marlon Coahly

DATE: Sept 27 / 2011

CLOSED OUT BY: _____

ROOF INSPECTION REPORT

SECTION 20

SHOP ORDER NUMBER:

CODE OR STANDARD: API 650 latest Edition

TANK No.: GEM-2008-3

DIAMETER: 84' DIAMETER

IDENTIFICATION No.: 7000-Tk001

CUSTOMER: Baffinland Iron Mines

DRWG No.: 1 THRU 3

REV.: B

CRN:

CUSTOMER'S P.O No.: H337697-CM010

REF. No.:

COMPONENT
PART/ITEM

MATERIAL

SPECIFIED
THICKNESS

SIZE OR
THICKNESS

ROOF INSPECTION
REPORT PREPARED BY: Kent H. Hylton

ISSUE No. _____ REV. _____

REV. DATE _____

REV DATE _____

O P	INSPECTION OR TEST POINTS	DATE	INITIAL	COMPANY OC INSP.	INITIAL				COMMENTS
1	MATERIAL CONDITION	Sept 21	KH	Hatch	M.C				
2	PLATE FIT-UP	Sept 22	KH		M.C				
3	PLATE WELDING	Sept 24	KH		M.C				
4	VACUUM TEST WELD	NA			M.C				
5	RAFTER LAYOUT & INSTALLATION	Sept 21	KH		M.C				
6	FITTING LAYOUT	Sept 23	KH		M.C				
7	OVERALL VISUAL WELD INSPECTION	Sept 24	KH		M.C				
8	OVERALL VISUAL	Sept 24	KH		M.C				
9	LADDER/STAIRS/PLATE ORM	Sept 22	KH	Hatch	M.C				
10									
11									
12									
13									
14									
15									
16									
17									

REMARKS: _____

ACCEPTED COMPLETE: HATCH

REVIEWED BY: Marlon Cooley

DATE: Sept 27/2011

CLOSED OUT BY: _____

5.7 Fuel Storage Tank Installation Check List



Efficient

FUEL STORAGE TANK INSTALLATION CHECKLIST

EQUIPMENT: API 650 Storage Tank		MANUFACTURER: Gem - Steel					
LOCATION: Baffin Island, Nunavut		MODEL: N/A					
ID. NO.: T-001		PRODUCT: DIESEL					
ITEM #		CHECK	DATE	INITIALS	CONTRACTOR	CONSULTANT	COMMENTS
1	Name plate details as per API 650 data sheet & specifications.	✓					M.C.
2	Tank internals are clean, free of debris and water.	✓					M.C.
3	All access stairs and platforms are complete.	✓					M.C.
4	All required external and internal welding to tank shell, floor plates, roof plates have been completed and tested as per API 650 requirements.	✓					M.C.
5	All internal bolting and torque completed to specification.	✓					M.C.
6	All external bolting and torque completed to specification.	✓					M.C.
7	All internal piping installed as per engineering drawings and specifications.	✓					M.C.
8	Water draw off piping / unobstructed.	✓					M.C.
9	All internal flanged connections have the correct nuts, bolts and gaskets as per the engineering drawings and specifications.	✓					M.C.
10	Roof vent, level transmitters and roof gauge hatches installed	✓					M.C.
11	All required NDE has been complete and back up documentation has been received/approved.	✓					M.C.
12	Pipe connections aligned and supported as per engineering drawings.	✓					N/A
13	All tank trim installed as per engineering drawings and manufacturer's instructions.	✓					N/A
14	Valve inspection / lockout on all connections.	✓					N/A
15	All internal and external tank instrumentation installed as per engineering drawings & specifications.	✓					N/A
16	All external flanged connections have the correct nuts, bolts and gaskets as per the engineering drawings and specifications.	✓					N/A
17	Clearance lights installed on Tank as per engineering drawing and specifications.	✓					N/A
18	Confirm grounding connections	✓					N/A
ITEM		DATE	INITIAL	Equipment Checklist #			
Checks Complete		27/9/11		T-001			
HATCH Verification							
Gem-Steel Verification							
Client Verification							

