5-37-55 121987 1/4

all 5-37-58 P056433 PN173406

ISO 9001:2000 CERTIFIED

AMERICAN STEEL PIPE
A division of American Cast Iron Pipe Co.,
P.O. Box 2727, Birmingham, AL 35202-2727
QUALIFICATION REPORT OF SHIPMENT

DATE: 17/FEB/2005

CUSTOMER ADDRESS: SAGINAW PIPE INCORPORATED
P O BOX 8
SAGINAW AL 35137

Customer Order Number 25479

MFG Order Number S106367

SPECIAL NOTES

LINE 1 WILL ALSO CERTIFY TO ASTM A53 GRADE B AND ASME SA53 GRADE B.
LINE 2 WILL ALSO CERTIFY TO API 5L GRADE BX42 PSL2, ASTM A53 GRADE B AND ASME SA53 GRADE B.
PIPE WERE NDT TESTED USING AN ULTRASONIC TEST METHOD CALIBRATED ON ID & OD N-10 NOTCHES
HYDROSTATIC TEST DURATION 10 SECONDS. MAX ALLOWABLE PCM .25.
MINIMUM WELD SEAM ANNEAL TEMPERATURE 1600 DEGREES F FOR ALL PIPE.
CHARPY ACCEPTANCE CRITERIA MIN. ENERGY 14/HEAT, MIN. SHEAR AREA N/A.

SHIPMENT DESCRIPTION
SHIP. NO 1-19

LINE	PIECES	FOOTAGE	SIZE	WALL		SPECIFICATIONS	GRADE
1	37	2553.1	20.00	.500	ERW API LINE PIPE	API 5L, PSL2	BX42
2	58	4026.5	24.00	.375	DITTO		X52

All tests are from the body of the pipe in the transverse direction unless otherwise noted.
Standard tensile gage length 1-1/2" x 2".

EDITION REFERENCE 3 — Yield Strength by Strap

HEAT	C	MN	P	S	CB	SI	TI	CU	NI	MO	CR	V	AL	B	N	C.E.	Coil Pipe
A31856 * LINE 1																	
H=	0.060	1.000	0.010	0.006	0.029	0.160	0.009	0.110	0.040	0.020	0.050	0.000	0.033	.0001	.0072	0.126	0013
P=	0.050	0.976	0.010	0.006	0.032	0.157	0.008	0.115	0.039	0.015	0.055	0.000	0.025	.0003	.0000	0.116	04/08

M=Weld Ten. 77.0 ksi Ten. 70.5 ksi Yield 61.5 ksi %EL 45.0 RB 78 Hydro: 1890 Psi RUN: 44-4
Y/T RATIO = 0.87

Attachments

PAGE 1
Continued

(1) 2000500DX42EB3
(2) 2400375DX52EB3

Issue No.: 6

Form Date: 10/18/2004

QD-AW3F05

SE-DOT-121987

SO-96-3736

2/4

PO-56433
PN-173406

ISO 9001:2000 CERTIFIED

CUSTOMER NAME: SAGINAW PIPE INCORPORATED

Customer Order Number 25479

Date: 17/FEB/2005
MFG Order Number S106367

HEAT	C	MN	P	S	CB	SI	TI	CU	NI	MO	CR	V	AL	B	N	C.E.	Coil Pipe
C30891 * LINE 1							EDITION REFERENCE 3						Yield Strength by Strap				
H=	0.050	0.980	0.008	0.006	0.028	0.150	0.007	0.100	0.040	0.020	0.060	0.000	0.021	.0001	.0074	0.115	0001
P=	0.042	1.006	0.009	0.006	0.035	0.155	0.006	0.117	0.042	0.015	0.077	0.000	0.015	.0005	.0000	0.111	05/08
M=Weld Ten. 83.5 ksi Ten. 72.5 ksi Yield 63.0 ksi %EL 47.0 RB 95 Hydro: 1890 Psi RUN: 44-4																	
Y/T RATIO = 0.87																	
B4S6306 * LINE 1							EDITION REFERENCE 3						Yield Strength by Strap				
H=	0.072	1.141	0.015	0.003	0.029	0.192	0.002	0.146	0.050	0.009	0.030	0.003	0.030	.0002	.0110	0.147	0001
P=	0.066	1.159	0.016	0.005	0.031	0.187	0.001	0.151	0.045	0.013	0.052	0.000	0.023	.0004	.0000	0.144	04/08
M=Weld Ten. 79.0 ksi Ten. 68.5 ksi Yield 58.0 ksi %EL 39.5 RB 88 Hydro: 1890 Psi RUN: 02-5																	
Y/T RATIO = 0.85																	
B4S6307 * LINE 1							EDITION REFERENCE 3						Yield Strength by Strap				
H=	0.060	1.109	0.015	0.003	0.028	0.213	0.002	0.151	0.050	0.011	0.030	0.003	0.034	.0002	.0110	0.134	0003
P=	0.060	1.135	0.016	0.005	0.032	0.209	0.001	0.160	0.045	0.015	0.051	0.000	0.026	.0005	.0000	0.139	05/09
M=Weld Ten. 79.0 ksi Ten. 68.5 ksi Yield 57.0 ksi %EL 46.0 RB 85 Hydro: 1890 Psi RUN: 02-5																	
Y/T RATIO = 0.83																	
44858 * LINE 2							EDITION REFERENCE 3						Yield Strength by Strap				
H=	0.080	0.890	0.010	0.006	0.032	0.179	0.011	0.020	0.010	0.010	0.040	0.001	0.037	.0003	.0050	0.136	0001
P=	0.066	0.888	0.008	0.006	0.030	0.168	0.010	0.028	0.012	0.005	0.049	0.000	0.028	.0004	.0000	0.122	07/13
M=Weld Ten. 74.0 ksi Ten. 77.5 ksi Yield 60.0 ksi %EL 35.5 RB 89 Hydro: 1460 Psi RUN: 08-5																	
Y/T RATIO = 0.77																	

Attachments

PAGE 2
Continued

3/4

PO-56433
PN-173406

ISO 9001:2000 CERTIFIED

CUSTOMER NAME: SAGINAW PIPE INCORPORATED

Customer Order Number 25479

Date: 17/FEB/2005
MFG Order Number S106367

HEAT	C	MN	P	S	CB	SI	TI	CU	NI	MO	CR	V	AL	B	N	C.E.	Coil Pipe
44469	* LINE 2						EDITION REFERENCE 3						Yield Strength by Strap				
H=	0.070	0.840	0.007	0.003	0.026	0.178	0.016	0.020	0.010	0.010	0.020	0.001	0.040	.0003	.0080	0.122	0005
P=	0.056	0.815	0.006	0.005	0.025	0.167	0.016	0.029	0.009	0.003	0.036	0.000	0.029	.0003	.0000	0.107	07/13
M=Weld Ten. 70.5 ksi Ten. 72.5 ksi Yield 56.5 ksi %EL 41.5 RB 88 Hydro: 1460 Psi RUN: 08-5																	
Y/T RATIO = 0.78																	
44469	* LINE 2						EDITION REFERENCE 3						Yield Strength by Strap				
H=	0.070	0.840	0.007	0.003	0.026	0.178	0.016	0.020	0.010	0.010	0.020	0.001	0.040	.0003	.0080	0.122	0060
P=	0.057	0.825	0.006	0.004	0.025	0.169	0.015	0.030	0.008	0.005	0.035	0.000	0.029	.0006	.0000	0.111	11/22
M=Weld Ten. 72.5 ksi Ten. 73.5 ksi Yield 57.5 ksi %EL 44.5 RB 89 Hydro: 1460 Psi RUN: 08-5																	
Y/T RATIO = 0.78																	
44470	* LINE 2						EDITION REFERENCE 3						Yield Strength by Strap				
H=	0.070	0.880	0.009	0.004	0.026	0.172	0.015	0.040	0.010	0.010	0.030	0.001	0.036	.0003	.0073	0.126	0010
P=	0.070	0.860	0.009	0.005	0.030	0.162	0.015	0.049	0.015	0.007	0.048	0.000	0.030	.0011	.0000	0.129	08/17
M=Weld Ten. 73.0 ksi Ten. 73.5 ksi Yield 57.5 ksi %EL 42.0 RB 90 Hydro: 1460 Psi RUN: 08-5																	
Y/T RATIO = 0.78																	

Attachments

PAGE 3
Continued

4/4

PO - 56433
PN - 173406

ISO 9001:2000 CERTIFIED

CUSTOMER NAME: SAGINAW PIPE INCORPORATED

Date: 17/FEB/2005

Customer Order Number: 25479

MFG Order Number: S106367

Charpy "V" Notch Tests

HEAT NO.	SIZE	TEMP	Energy (FT./LBS.)			AVG.	Fracture Appearance (% Shear Area)			AVG.	Line
A31856 -	.666	32	166.0	124.0	126.0	138.7	100	100	100	100.0	1
C30891 -	.666	32	158.0	148.0	134.0	146.7	100	100	100	100.0	1
B4S6306-	.666	32	166.0	158.0	150.0	158.0	100	100	100	100.0	1
B4S6307-	.666	32	164.0	170.0	160.0	164.7	100	100	100	100.0	1
44858 -	.666	32	83.0	85.0	81.0	83.0	100	100	100	100.0	2
44469 -	.666	32	134.0	164.0	180.0	159.3	100	100	100	100.0	2
44470 -	.666	32	104.0	111.0	96.0	103.7	100	100	100	100.0	2
						-----				-----	
		ALL HEAT AVERAGE =				136.3				100.0	

Legend Analyses:

A-Z - Additional Testing
H - Heat Analysis
P - Product Analysis
M- Mechanical Properties
R - Retest
L - Longitudinal
T - Transitional
W - Weld Line

Hydrostatic Test: OK
Flattening Test: OK

EDITION REFERENCE 1: API 5L 41ST EDITION 4/1/1995
EDITION REFERENCE 2: API 5L 42ND EDITION 7/1/2000
EDITION REFERENCE 3: API 5L 43RD EDITION 10/4/2004
EDITION REFERENCE 4: ASTM/ASME ANNUAL BOOK OF STANDARDS SECT.1, VOL 01.01

* Manufactured and Melted in the USA.

We hereby certify that the above figures are correct as contained in the records of this company, and th the pipe were manufactured, tested and inspected in compliance with the Latest edition of the applicable specification, in Birmingham, Alabama, U.S.A.

Noel A. Gordon

Noel A. Gordon
Manager of Quality Assurance - Steel Pipe

NUCOR
PLATE MILL

P.O.Box 279
Winton, NC 27986
(252) 356-3700

Mill Test Report

PO 20139 PN 351345

NUCOR It's our Nature.

Issuing Date : 06/27/2008 B/L No. : 135114 Load No. : 101004 Our Order No. : 4558485 Cust. Order No : CHI-35194

Vehicle No: LW 62065

Specification : 1.7500" x 96.000" x 480.000"
ASTM A36-05/ASTM A709 Grade 36-06/ASME SA36-03a

Sold To : PRIMARY STEEL LLC
12900 SOUTH METRON DRIVE
METRON DIVISION, CHICAGO,
ILLIONOIS
CHICAGO,IL 60633

Ship To : METRON STEEL DIVISION
OF PRIMARY STEEL INC
12900 SOUTH METRON DRIVE
CHICAGO,IL 60628

Marking :

Heat No	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Alz	V	Nb	Ti	N	Ca	B	Sn	CEQ	PCM
6104356	0.18	0.84	0.011	0.007	0.19	0.24	0.05	0.07	0.01	0.008	0.004	0.007	0.001		0.0001	0.0004	0.011	0.36	0.25

Plate Serial No.	Pieces	Tensile Test Dir.	(psi) Yield	(psi) Tensile	Elongation % in 2"	Elongation % in 8"	Charpy Impacts Dir.	1	(%) shear	2	(%) shear	3	(%) shear	Ave.	(%) shear	Size	Temp'	Min Ave.
6104356-05	2	T	41,000	68,300		18.5												
		T	41,500	69,200		21.5												

PO 20139
PN 351345
CE=.390

LN30944

Manufactured to fully killed practice by Electric Arc Furnace. Welding or weld repair was not performed on this material.
Mercury has not been used in the direct manufacturing of this material. Produced as continuous cast as-rolled discrete plate
Yield by 0.5EUL method unless otherwise specified. Ceq = C+(Mn/6)+((Cr+Mo+V)/5)+((Cu+Ni)/15)
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B
Melted and manufactured in the USA. ISO 9001-2000 certified (#12443-0) by SRI Quality System Registrar (#0965-09). PED 97/23/EC Compliant.
DIN 50049 3.1.B/EN 10204 3.1.B(2004) compliant. For ABS grades only, Quality Assurance certificate No. 03-MMPQA-182

We 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 the applicable specifications.

T. A. Depretis, Metallurgist

06/25/2008 5:21:03 PM

Alro Steel

Certification of Material Test Reports

Manufacturer Code	Customer Order/Line Number	Heat Number	Alro RT Number
534000	NL5795096/00001	E61375	RT04898211

PART NO.: 12801916 4 STRUCTURAL PIPE SCH 40
A500-03 GRADE B
MADE AND MELTED IN THE USA
4.5-237HRB 504

PO 24025
PN 170772

CHEMICAL COMPOSITION %

AL	C	MN	P	S	SI
.034	.19	.74	.013	.004	.021

PHYSICAL:

ELONGATION	29	PERCENT
TENSILE	✓74766	POUNDS PER SQ. INCH
YIELD	✓54206	POUNDS PER SQ. INCH

ACCEPTABLE SOURCE SUPPLIER ID: 526272201
DATE/TIME OF REPORT: 2006/11/16 22:58

Alro represents that the following information is taken from chemical and metallurgical test reports furnished to us by our suppliers which we believe to be reliable but have not been independently verified and which are available from the mill upon request.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under Federal statutes.

We have no knowledge of mercury or radioactive material used in the melting or processing of steel sold by our company.

by **Alro Steel Corporation**

David K. Schmidt
Vice President - Purchasing