Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: 3 May 1956

Lab. Number: 904116
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 4-10-56 Time: 3:30 P.M.

Material Tested: WELD TEST STRIP
(Machine Lap Weld)
Specimen Cut from Pipe Section
Specifications - B 3 -024
Black & Veatch, Consulting Engineers
Project 2155

No. of Samples: Four (4) Series "00"
Sample Designations:
Heat No. 36-S-139-P.O.
66" Water Transmission Lines
Contract No1 Extension
Pipe Cylinder Steel No. 16 Gauge

RESULTS OF TEST

A. Tensile Strength Reduced Section:	No. 00-1	No. 00-2
Specimen Width @ Weld (in.)	0.998	0.988
Ultimate Load (lbs.)	4000	3990
Load per lineal inch (lbs.)	4010	4040
Elongation (% in 2 in.)	20.5 %	20.0 %
~~XXXXX~~ Position of Break	Parent Metal	Parent Metal
B. FREE Bend Test:	**No. 00-3**	**No. 00-4**
Maximum Angle	180°	180°
Fracture	None	None

2-Lock Joint @ Colwich
2-Weller
1-Knoll
1-Hess

CC:
A.W.S. Standard Tests, 1950
A.W.W.A. C 201-50

Reference:

WICHITA CHEMICAL & TESTING LABORATORIES

By: J. L. Phillips

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER KANSAS

File: 1

FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
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REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Date: April 11, 1956

Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Lab. Number: ~~903426~~ 903426
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 3/30/56 Time: 4:30 PM

Material Tested: WELD TEST STRIP
(Machine Lap Weld)
Specimens cut from pipe section
Specifications B3-024
Black & Veatch Consulting Engineers
Project #2155

No. of Samples: Four (4) Series "NN"
Sample Designations:
Heat No. 139141 P.O.
66" Water Transmission Lines
Contract No. 1 Extension
Pipe Cylinder Steel # 16 Gauge

RESULTS OF TEST

A. Tensile Strength Reduced Section:	No. NN-1	No. NN-2
Specimen Width @ Weld (in.)	0.990	0.969
Ultimate Load (lbs)	4000	3900
Load per linear inch (lbs.)	4040	4020
Elongation (% in 2 in.)	23.0	10.5
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test	No. NN-3	No. NN-4
Maximum Angle	180°	180°
Fracture	None	None

CC: 2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Mess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File: 1

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: E. Phillips

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER KANSAS

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
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J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Date: April 11, 1956

Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Lab. Number: 202310
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 3/22/56 Time: 4:00 PM

Material Tested: WELD TEST STRIP
(Machine Lap Weld)
Specimens cut from pipe section
Specifications B3-024
Black & Veatch Consulting Engineers
Project # 2155

No. of Samples: Four (4) Series MM
Sample Designations:
Heat No. 337825 P.O.
66" Water Transmission Lines
Contract No. 1 Extension
Pipe Cylinder Steel # 16 Gauge

RESULTS OF TEST

	No. MM-1	No. MM-2
A. Tensile Strength Reduced Section:		
Specimen Width @ Weld (in.)	0.985	0.989
Ultimate Load (lbs.)	4000	3990
Load per linear inch (lbs)	4070	4040
Elongation (% in 2 in.)	21.0	21.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test	No. MM-3	No. MM-4
Maximum Angle	180°	180°
Fracture	None	None

CC: 2 Lock Joint Pipe Company
2 Weller
1 Knoll
1 Ross

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File: 1

FORM 501

JAMES E. MYERS LICENSED 1167 PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
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J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for:

Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Date: March 27, 1956

Lab. Number: 903220
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 3/16/56 Time: 4:00 PM

Material Tested: WELD TEST STRIP
(Machine Lap Weld)
Specimen cut from pipe section
Specifications B3-02
Black & Veatch Consulting Engineers
Project # 2155

No. of Samples: Four (4) Series "LL"
Sample Designations:
Heat No. 315076-P.O.
66" Water Transmission Lines
Contract No. 1 Extension
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength Reduced Section:

	No. LL-1	No. LL-2
Specimen Width @ Weld (in.)	0.961	0.961
Ultimate Load (lbs)	4080	4120
Load per linear inch (lbs)	4250	4280
Elongation (% in 2 in.)	8.0	9.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Tests

	No. LL-3	No. LL-4
Maximum Angle	180°	180°
Fracture	None	None

CC: 2 Lock Joint @ Colwich
6 Weller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. D201-50

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material specification requirements meets

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

File: 1

FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for:

Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Date: March 27, 1956

Lab. Number: 903117
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 3/8/56 Time: 4:00 PM

Material Tested: WELD TEST STRIP
(Machine Lap Weld)
Specimens cut from pipe section
Specifications: B3-024
Black & Veatch Consulting Engineers
Project # 2155

No. of Samples: Four (4) Series "KK"
Sample Designations:
Heat No. 397737-P.O.
66" Water Transmission Lines
Contract No. 1 Extension
Pipe Cylinder Steel # 16 Gauge

RESULTS OF TEST

A. Tensile Strength Reduced Section:

	No. KK-1	No. KK-2
Specimen Width @ Weld (in.)	0.963	0.970
Ultimate Load (lbs.)	3820	3850
Load per linear inch (lbs)	3970	3970
Elongation (% in 2 in.)	18.0	12.5
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:

	No. KK-3	No. KK-4
Maximum Angle	180°	180°
Fracture	None	None

CC: 2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. D201-50

File: 1

FORM 501

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Smith

CERTIFIED

We certify the above test was conducted by us in accordance with accepted procedures and that this material specification requirements.

Wichita CHEMICAL AND TESTING Laboratories

ANALYTICAL CHEMISTS · BACTERIOLOGISTS · TESTING ENGINEERS

1428 N. MOSLEY AVE. PHONE HOBART 4-3948

WICHITA 4, KANSAS

J. E. MYERS
MANAGER

W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES

LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:

AMERICAN CHEMICAL SOCIETY

AMERICAN SOCIETY FOR TESTING MATERIALS

AMERICAN SOCIETY OF CIVIL ENGINEERS

ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: March 15, 1956

Lab. Number: 902347
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 2/29/56 Time: 4:00 PM

Material Tested: FIELD TEST STRIP
(Machine, Lap Weld)
Specimen cut from pipe Section
Specifications: B3-02
Black & Veatch, Consulting Engineers
Project #2155

No. of Samples: Four (4) Series "JJ"
Sample Designations:
Heat No. 317789 P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength Reduced Section:	No. JJ-1	No. JJ-2
Specimen Width @ weld (in.)	0.969	0.975
Ultimate Load (lbs)	3900	3880
Load per linear inch (lbs.)	4030	3990
Elongation (% in 2 in.)	22.5	23.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. JJ-3	No. JJ-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2 Lock Joint @ Colwich
2 Keller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests, 1950
~~A.W.S. G201-50~~

File: 1

FORM B01

JAMES E. MYERS LICENSED 1162 KANSAS PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: W. E. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: March 1, 1956

Lab. Number: 902260
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 2/22/56 Time: 4:00 PM

Material Tested: WELD TEST STRIP

(Machine-Lap-Weld)
Specimen cut from pipe section
Specifications: B3-02
Black & Veatch, Consulting Engineers
Project # 2155

No. of Samples: Four (4) Series "II"

Sample Designations: Heat No. 39595 P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

	No. II-1	No. II-2
A. Tensile Strength, Reduced Section:		
Specimen Width @ Weld (in.)	0.978	0.970
Ultimate Load (lbs.)	3875	3880
Load per linear inch (lbs.)	3960	4000
Elongation (% in 2 in.)	23.0%	24.0%
Position of Break	Parent Metal	Parent Metal

	No. II-3	No. II-4
B. Free Bend Test:		
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2 Lock Joint @ Colwich
2 Weller
1 K oll
1 Hess

Reference: A.W.S. Standard Tests, 1950
A.W.S. A. B201-50

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER

File: 1

FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Date: March 1, 1956

Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Lab. Number: 900191
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 2/16/56 Time: 5:00 PM

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimen cut from pipe section
Specifications: B 3-02
Black & Veatch, Const. Engrs.
Project # 2155

No. of Samples: Four (4) Series "HH"
Sample Designations:
Heat No. 397737 - P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

	No. HH-1	No. HH-2
A. Tensile Strength, Reduced Section		
Specimen Width @ Weld (in.)	0.980	0.989
Ultimate Load (lbs.)	3845	3880
Load per linear inch (lbs)	3920	3920
Elongation (% in 2 in.)	26.5%	26.0%
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. HH-3	No. HH-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material specification requirements meets.

JAMES E. MYERS LICENSED 1162 KANSAS PROFESSIONAL ENGINEER

CC: 2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

WICHITA CHEMICAL & TESTING LABORATORIES

File: 1

By: R. L. Phillips

FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
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LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for:

Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Date: February 16, 1956

Lab. Number: 902115
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 2/9/56 Time: 3:00 P.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimen cut from pipe section
Specifications: B3-02
Black & Veatch, Consulting Engineers
Project #2155

No. of Samples: Four (4) Series "00"
Sample Designations:
Heat No. 317789-P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No. 00-1	No. 00-2
Specimen width @ weld (in.)	1.010	1.007
Ultimate Load (lbs.)	4000	3960
Load per linear inch (lbs.)	3960	3940
Elongation (% in 2 in.)	24.0	23.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. 00-3	No. 00-4
Maximum Angle:	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2 Lock Joint @ Colwich
2 Keller
1 Knoll
1 Ness

Reference: A.S.T.M. Standard Tests, 1950
A.W.W.A. C201-50

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

File: 1

FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
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LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Date: February 16, 1956

Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Lab. Number: 902022
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 2/1/56 Time: 10:00 A.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimen cut from pipe section
Specifications: B7-02
Black & Veatch, Consulting Engineers
Project #2155

No. of Samples: Four (4) Series "FF"
Sample Designations:
Heat No. 747438-P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No. FF-1	No. FF-2
Specimen width @ weld (in.)	1.005	1.001
Ultimate Load (lbs.)	3610	3660
Load per linear inch (lbs.)	3590	3655
Elongation (% in 2 in.)	10.5	12.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test	No. FF-3	No. FF-4
Maximum Angle:	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC:
2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Ness

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File: 1

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
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J. J. REMAR
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LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: January 26, 1956

Lab. Number: 901230
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 1/20/56 Time: 5:00 P.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimen cut from pipe section
Specifications: B3-02
Black & Veatch, Consulting Engineers
Project # 2156

No. of Samples: Four (4) Series "EE"
Sample Designations:
Heat No. 747438 P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section

	No. EE-1	No. EE-2
Specimen width @ weld (in.)	0.990	1.002
Ultimate load (lbs.)	4160	4200
Load per linear inch (lbs.)	4200	4190
Elongation (% in 2 in.)	22.0	20.5
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:

	No. EE-3	No. EE-4
Maximum Angle	180°	180°
Fracture	None	None

CC: 2 Lock Joint - Colwich
2 Weller
1 Knoll
1 Hess

[illegible] above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER KANSAS

Reference: A.W.W.A. Standard Tests, 1950
A.W.W.A. C201-50

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

File: 1

FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: January 26, 1956

Lab. Number: 901156
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 1/13/56 Time: 11:00 A.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimen cut from pipe section
Specifications: B3002
Black & Veatch, Consulting Engineers
Project #2155

No. of Samples: Four (4) Series "DD"
Sample Designations:
Heat No. 579742
66" Water Transmission Lines
Contract #1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No. DD-1	No. DD-2
Specimen width @ weld (in.)	1.008	1.006
Ultimate load (lbs.)	3510	3600
Load per linear inch (lbs.)	3480	3580
Elongation (% in 2 in.)	21.0	21.5
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. DD-3	No. DD-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material specification requirements.

CC: 2 Lock Joint @ Colwich
2 Weller
2 Knoll
1 Hess

Reference: A.S.T.M. Standard Tests, 1950
A.S.T.M.A. C201-50

File: 1

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: [signature]

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Date: January 26, 1956

Lab. Number: 901072
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 1/6/56 Time: 4:00 P.M.

Material Tested: WELD TEST STRIP

(Machine-Lap-Weld)
Specimen cut from pipe section
Specifications: B3-C2
Black & Veatch, Cons. Engrs Project 2155

No. of Samples: Four (4) Series "CC"
Sample Designations:
Heat No. 817025 P.C.
66" Water Transmission Lines
Contract # 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No. CC-1	No. CC-2
Specimen width @ weld (in.)	1.002	1.012
Ultimate Load (lbs)	4000	4000
Load per linear inch (lbs.)	3990	3980
Elongation (% in 2 in.)	24.5	28.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. CC-3	No. CC-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2 Lock Joint @ Colwich
2 Wel la
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

WICHITA CHEMICAL & TESTING LABORATORIES

By: [signature]

File: 1

FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for:

Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Date: January 6, 1956

Lab. Number: 812353
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 12/30/55 Time: 4:00 P.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimen cut from pipe section
Specifications: B3 -02
Black & Veatch Cons. Engrs.
Project #2155

No. of Samples: Four (4) Series "BB"
Sample Designations:
Heat No. 817025- P.O
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No. BB-1	No. BB-2
Specimen width @ weld (in.)	0.980	0.992
Ultimate Load (lbs.)	3570	3695
Load per Linear Inch (lbs.)	3645	3725
Elongation (% in 2 in.)	20.0	19.5
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. BB-3	No. BB-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material specification requirements. meets

CC:
2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Hess
A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER KANSAS

Reference:

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

File: 1
FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for:

Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Date: January 5, 1956

Lab. Number: #12290
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 12/22/55 Time: 5:00 P.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimen cut from pipe section
Specifications: 83-02
Black & Veatch Cons. Engrs.
Project #2155

No. of Samples: Four (4) Series "AA"
Sample Designations:
Heat No. 579742
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No. AA-1	No. AA-2
Specimen width @ weld (in.)	0.962	0.964
Ultimate load (lbs.)	4120	4180
Load per linear inch (lbs.)	4280	4330
Elongation (% in 2 in.)	20.0	21.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. AA-3	No. AA-4
Maximum Angle	180°	180°
Fracture	None	None

CC: 2 Lock Joint @ Colwich
2 W iler
1 Kroll

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File: 1

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER KANSAS

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Date: December 27, 1955

Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Lab. Number: 812221
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 12/16/55 Time: 4:00 P.M.

Material Tested: WELD TEST STRIP
(Machine Lap Weld)
Specimen cut from pipe section
Specifications: B-3.02
Black & Veatch, Cons. Engrs.
Project #2155

No. of Samples: Four (4) Series 2
Sample Designations:
Heat No. 747438 - P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No.Z1	No.Z2
Specimen Width @ Weld (in.)	1.019	1.020
Ultimate Load (lbs.)	4120	4200
Load Per Lineal Inch (lbs.)	4140	4180
Elongation (% in 2 in.)	21.5	21.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test	No.Z1	No.Z2
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C-201-50

File: 1

FORM 501

JAMES E. MYERS LICENSED 1162 PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Date: December 20, 1955

Lab. Number: 812127
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 12-9-55 Time: 1:30 P.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimen cut from pipe section
Specifications: B3-02
Black & Veatch Cons. Engrs., Project #2155

No. of Samples: Four (4) Series "Y"
Sample Designations:
Heat No. 637158-P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No. Y-1	No. Y-2
Specimen width @ weld (in.)	1.019	1.020
Ultimate load (lbs.)	4300	4280
Load per Linear Inch (lbs.)	4220	4195
Elongation (% in 2 in.)	21.0	23.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. Y-3	No. Y-4
Maximum Angel	180°	180°
Fracture	None	None

We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

2-Lock Joint @ Colwich
2-Weller
1-Knoll
CC: 1-Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File:

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Date: December 20, 1955

Lab. Number: 812015
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 12/1/55 Time: 3:30 P.M.

Material Tested: WELD TEST STRIP
(Machine*Lap-Weld)
Specimen cut from pipe section
Specifications: B3-02
Black & Veatch Cons. Engrs., Project #2155

No. of Samples: Four (4) Series "X"
Sample Designations:
Heat No. 73-S-501-P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No. X-1	No. X-2
Specimen width @ weld (in.)	1.023	1.015
Ultimate load (lbs.)	3680	3700
Load per Linear Inch (lbs.)	3590	3640
Elongation (% in 2 in.)	22.0	20.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. X-3	No. X-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint @ Colwich
2-Weller
1-Knoll
1-Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File: 1
FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

REPORT OF TEST

Test Made for: Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Date: December 2, 1955

Lab. Number: #11339
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 11-22-55 Time: 2:30 P.M.

Material Tested: WELD TEST STRIP
(Machine-Lap Weld)
Specimen cut from pipe section
Specifications: B3-02
Black & Veatch, Consulting Engineers
Project #2155

No. of Samples: Four (4) Series "W"
Sample Designations:
Heat No. 63-71-58 P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength: Reduced Section	No. W-1	No. W-2
Specimen Width @ Weld (in.)	0.968	0.992
Ultimate Load @ Weld (lb.)	3430	3560
Load per Linear Inch (lbs.)	3540	3590
Elongation (% in 2 in.)	15.5	20.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. W-3	No. W-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material specification requirements

CC: 2 Lock Joint @ Colwich
2 Weller
1 Knoll

Reference: A.S.T.M. Standard Tests, 1950
A.S.W.A. C201-50

File:

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: December 1, 1955

Lab. Number: #11217
(REFER TO THIS NUMBER)

Submitted By: Lab. Emp. Date Received At Lab.: 11/14/55 Time: 9:00 A.M.

Material Tested: WELD TEST STRIP
(Machine-Lap Weld)
Specimen cut from pipe section
Specifications: 83-02
Black & Veatch, Consulting Engineers
Project #2155

No. of Samples: Four (4) Series "W"
Sample Designations:
Heat No. 73-8-501 P.C.
66" Water Transmission Lines
Contract W.1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength: Reduced Section	No. V-1	No. V-2
Specimen Width @ Weld (in.)	1.004	1.006
Ultimate Load @ Weld (lb.)	4030	4100
Load per Linear Inch (lbs.)	4010	4080
Elongation (% in 2 in.)	27.5	26.5
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. V-3	No. V-4
Maximum Angle	180°	180°
Fracture	None	None

We certify that the test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2 Lock Joint - Colwich
2 Keller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests 1950
A.T.M.A. C201-50

WICHITA CHEMICAL & TESTING LABORATORIES

By: [signature]
A. J. Williams

File: 1
FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: December 1, 1955

Lab. Number: 811118
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 11-8-55 Time: 8:00 A.M.

Material Tested: WELD TEST STRIP
(Machine-Lap Weld)
Specimen cut from pipe section
Specifications: B3-02
Black & Veatch, Consulting Engineers
Project #2155

No. of Samples: Four (4) Series "U"
Sample Designations:
East No. 73-8-508 P.O.
66" Water Transmission Lines
Contract No.1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength: Reduced Section

	No. U-1	No. U-2
Specimen Width @ Weld (in.)	1.007	1.032
Ultimate Load @ Weld (lb.)	3960	4080
Load per Linear Inch (Lbs.)	3930	3950
Elongation (% in 2 in.)	24.5	25.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test

	No. U-3	No. U-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2 Lock Joint - Colwich
2 Weller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests 1950
A.W.W.A. C201-50

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. Phillips

File: 1
FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for:
Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: November 9, 1955

Lab. Number: 811013
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 11-1-55 Time: 11:00 A.M.

Material Tested: WELD TEST STRIP
(Machine -Lap-Weld)
Specimen cut from pipe section
Specifications: BB-02
Black & Veatch, Consultinge Engineers
Project #2155

No. of Samples: Four (4) Series "T"
Sample Designations:
Heat Nol 73-8-508-P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength: Reduced Section	No. T-1	No. T-2
Specimen Width @ Weld (in.)	0.990	0.978
Ultimate Load @ Weld (in.)	3600	3530
Load per Linear Inch (lb.)	3640	3610
Elongation (% in 2 in.)	9.5	9.5
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. T-1	No. T-2
Maximum Angle	180°	180°
Fracture	None	None

CC: 2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File: 1

FORM 501

JAMES E. MYERS LICENSED 20162 PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for:
Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: November 9, 1955

Lab. Number: 81024
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 10-19-55 Time: 4:30 P.M.

Material Tested: WELD TEST STRIP
(Machine - Lap-Weld)
Specimen cut from pipe section
Specifications: 53-02
Black & Veatch, Consulting Engineers
Project #2155

No. of Samples: Four (4) Series "R"
Sample Designations:
Heat No. 03-V-384-P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength: Reduced Section	No. R-1	No. R-2
Specimen Width @ Weld (in.)	0.971	1.002
Ultimate Load @ Weld (lb.)	3480	3500
Load per Linear Inch (lb)	3580	3480
Elongation (% in 2 in.)	22.5	22.5
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test	No. R-1	No. R-2
Maximum Angle	180°	180°
Fracture	None	None

CC: 2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File: 1

FORM 501

JAMES E. MYERS LICENSED 1162 KANSAS PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for:
Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: November 9, 1955

Lab. Number: 810324
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 10-26-55 Time: 5:00 P.M.

Material Tested: WELD TEST STRIP
(Machine - Lap-Weld)
Specimen cut from pipe section
Specifications: B3-02
Black & Veatch, Consulting Engineers
Project #2155

No. of Samples: Four (4) Series "S"
Sample Designations:
Heat No. 73-8-501-P.O.
66" Water Transmission Lines
Contract No.1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength: Reduced Section	No. S-1	No. S-2
Specimen Width @ Weld (in.)	0.985	0.986
Ultimate Load @ Weld (lb.)	3500	3550
Load per Linear Inch (lb.)	3550	3590
Elongation (% in 2 in.)	23.5	25.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. S-1	No. S-2
Maximum Angle	180°	180°
Fracture	None	None

CC: 2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File: 1

FORM 501

JAMES E. MYERS LICENSED 1162 PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for:

Date: October 31, 1955

L ock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Lab. Number: 810048
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 10-6-55 Time: 4:30 PM

Material Tested: WELD TEST STRIP
(Machine - Lap- Weld
Specimen cut from pipe Section
Specifications: BJ-02
Black & Veatch Cons. Engrs. Project #2155

No. of Samples: Four (4) Series "P"
Sample Designations:

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No. P-1	No. P-2
Specimen width @ weld (in.)	0.970	0.960
Ultimate Load @ weld (in.)	3,420	3,390
Load per Linear Inch (lbs.)	3,530	3,530
Elongation (1% in 2 in.)	9.0	10.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. P-3	No. P-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

JAMES E. MYERS LICENSED 1102 PROFESSIONAL ENGINEER KANSAS

CC: 2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. B201-50

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

File: 1

FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for:
Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: October 29, 1955

Lab. Number: 810156
(REFER TO THIS NUMBER)

Submitted By: Lab Inspector Date Received At Lab.: 10-13-55 Time: 4:30PM

Material Tested: WELD TEST STRIP
(Machine - lap - Weld)
Specimen cut from pipe section
Specifications: B3-02
Black & Veatch Cons. Engrs. Project #2155

No. of Samples: Four (4) Series "Q"
Sample Designations:
Heat No. 73-8-501-P.O.
66" Water Transmission Lines
Contracto No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength: Reduced Section	No. Q-1	No. Q-2
Specimen Width @ Weld (in.)	0.971	0.962
Ultimate Load @ Weld (in.)	3,470	3,410
Load per Linear Inch (lbs.)	3,575	3,545
Elongation (1% in 2 in.)	8.0	8.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. Q-3	No. Q-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC:
2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Ness

Reference: A.W.W.A. Standards Tests, 1950
A.W.W.A. C201-50

File: 1

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. E. Phillips

Wichita CHEMICAL AND TESTING Laboratories

ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS

1428 N. MOSLEY AVE. PHONE HOBART 4-3948

WICHITA 4, KANSAS

J. E. MYERS
MANAGER

W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES

LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:

AMERICAN CHEMICAL SOCIETY

AMERICAN SOCIETY FOR TESTING MATERIALS

AMERICAN SOCIETY OF CIVIL ENGINEERS

ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: September 30, 1955

Lab. Number: 809402
(REFER TO THIS NUMBER)

Submitted By: Lab Inspector Date Received At Lab.: 9-27-55 Time: 5:00 PM

Material Tested: WELD TEST STRIP

(Machine - Lap - Weld)
Specimens cut from Pipe Section
Specifications: B3-02
Black & Veatch Cons. Engrs. Project 2155

No. of Samples: Four (4) Series "G"

Sample Designations:
Heat No. 12-V-398-P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength, Reduced Section	No. 0-1	No. 0-2
Specimen width @ Weld (in.)	1.043	1.009
Ultimate Load (Total lbs.)	3750	3550
Load per Linear Inch (lbs.)	3590	3520
Elongation (% in 2 in.)	11.0	9.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. 0-3	No. 0-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

JAMES E. MYERS LICENSED 1162 KANSAS PROFESSIONAL ENGINEER

CC: 2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Ness

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File: 1

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: J. E. Myers
J. E. Myers

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P. O. Box 137
Colwich, Kansas

Date: September 28, 1955

Lab. Number: 809304
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 9-20-55 Time: 5:00 P.M.

Material Tested: WELD TEST STRIP
(Machine - Lap. Weld)
Specimens cut from pipe section
Specifications: B3 - 02
Black & Veatch. Cons. Engrs. Project #2155

No. of Samples: Four (4) Series "B"
Sample Designations:
Heat No. 12-V-398-P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel - #16 Gauge

RESULTS OF TEST

A. Tensile strength reduced section:	No. N-1	No. N-2
Specimen width @ weld (in.)	0.960	0.947
Ultimate load (total lbs.)	3430	3380
Load per linear inch (lbs.)	3590	3570
Elongation (%)	10.0	10.5
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. N-1	No. N-2
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC:
2 Lock Joint @ Colwich
2 Weller
1 Knoll
1 Hess

A. W. S. Standard Tests 1950

Reference: A. W. W. A. C201-50

File: 1

FORM 501

JAMES E. MYERS LICENSED 1162 PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: J. E. Myers
J. E. Myers

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Company
P.O. Box 137
Colwich, Kansas

Date: September 22, 1955

Lab. Number: 809117
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 9-12-55 Time: 5:00 P.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimens cut from pipe section
Specifications: B3-02
Black & Veatch, Consulting Engrs., Project #2155

No. of Samples: Four (4) Series "M"
Sample Designations:
Heat No. 72-S-357-P.O.
66" Water Transmission Lines
Contract No. 1
Pipe Cylinder Steel - #16 Gauge

RESULTS OF TEST

A. Tensile Strength Reduced Section:	No. M-1	No. M-2
Specimens width @ weld (in)	0.992	0.996
Ultimate load (total lbs.)	3390	3580
Load per linear inch (lbs.)	3420	3590
Elongation (%)	10.5	8.0
Position of break	Parent Metal	Parent Metal

B. Free Bend Test:	No. M-1	No. M-2
Maximum Angle	180°	180°
Fracture	None	None

2-Lock Joint @ Colwich
2-Weller
1-Knoll
1-Hess

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material specification requirements.
Mitchell

CC:

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

WICHITA CHEMICAL & TESTING LABORATORIES

By: H. L. Phillips

File: 1

FORM 501

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: LOCK JOINT PIPE CO.
P.O. Box 137
Colwich, Kansas

Date: September 13, 1955

Lab. Number: 808416
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 8-29-55 Time: 5:00 P.M.

Material Tested: WELD TEST STRIP

(Machine-Lap-Weld)
Specimens cut from pipe section
Specifications: B3-02
Black & Veatch, Cons. Engrs. Project #2155

No. of Samples: Four (4) Series "K"
Sample Designations:
Heat No. 03-V-384-P.O.
66" Water Transmission Line - Contract No. 1
Pipe Cylinder - Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength Reduced Section:	No. K-1	No. K-2
Specimen Width @ Weld (in.)	0.963	0.971
Ultimate Load (Total lbs.)	3400	3440
Load per Linear Inch (lbs.)	3531	3540
Elongation (%)	8.5	8.5
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. K-1	No. K-2
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint
2-Weller
1-Knoll
1-Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C-201-50

File: 1

FORM 501

JAMES E. MYERS LICENSED 1262 KANSAS PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: LOCK JOINT PIPE COMPANY
P.O. Box 137
Colwich, Kansas

Date: September 13, 1955

Lab. Number: 809058
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 9-6-55 Time: 4:30 P.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimens cut from pipe section
Specifications: B3-02
Black & Veatch, Cons. Engrs. Project 2155

No. of Samples: Four (4) Series "L"
Sample Designations:
Heat No. 72-8-357-P.O.
66" Water Transmission Line - Contract #1
Pipe Cylinder - Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength Reduced Section:	No. L-1	No. L-2
Specimen Width @ Weld (in.)	1.013	1.019
Ultimate Load (Total lbs.)	3690	3725
Load per Linear Inch (lbs.)	3640	3650
Elongation (%)	10.0	10.0
Position of Break	Parent Metal	Parent Metal
B. Free Bend Test:	**No. L-1**	**No. L-2**
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint
2-Weller
1-Knoll
1-Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. C201-50

File: 1

FORM 501

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER KANSAS

WICHITA CHEMICAL & TESTING LABORATORIES

By: [signature]
[illegible] Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: LOCK JOINT PIPE CO.
P.O. Box 137
Colwich, Kansas

Date: August 30, 1955

Lab. Number: 808331
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 8-23-55 Time: 8:00 A.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimens cut from pipe section
Specifications: B3.02
Black & Veatch, Cons. Engrs. -
Project #2155

No. of Samples: Four - (4) Series "J"
Sample Designations:
Heat No. 03-V-384-PO
66" Water Transmission Lines - Contract #1
Pipe Cylinder - Steel #16 Gauge

RESULTS OF TEST

A. TENSILE STRENGTH REDUCED SECTION:	No. J-1	No. J-2
Specimen Width @ Weld (in.)	1.001	1.000
Ultimate Load (Total lbs.)	3520	3590
Load per Linear Inch (lbs.)	3516	3590
Elongation (%)	9.0	9.0
Position of Break	Parent Metal	Parent Metal

B. FREE BEND TEST:	No. J-3	No. J-4
Maximum Angle	180 °	180 °
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint
2-Weller
1-Knoll
1-Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. - C201-50

File: 1

FORM 501

JAMES E. MYERS LICENSE 1162

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. E. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: LOCK JOINT PIPE CO.
P.O. Box 137
Colwich, Kansas

Date: August 30, 1955

Lab. Number: 808201
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 8-16-55 Time: 5:00 P.M.

Material Tested: WELD TEST STRIP
(Machine-Lap-Weld)
Specimens cut from pipe section
Specifications: B3.02
Black & Veatch, Cons. Engrs. - Project #2155

No. of Samples: Four (4) Series "I"
Sample Designations:
Heat No. 73-S-359-PO
66" Water Transmission Line - Contract #1
Pipe Cylinder - Steel #16 Gauge

RESULTS OF TEST

A. TENSILE STRENGTH REDUCED SECTION:	No. I-1	No. I-2
Specimen Width @ Weld (in.)	0.880	0.887
Ultimate Load (Total lbs.)	3100	3150
Load per Linear Inch (lbs.)	3520	3550
Elongation (%)	18.5	18.5
Position of Break	Parent Metal	Parent Metal

B. FREE BEND TEST:	No. I-3	No. I-4
Maximum Angle	180 °	180 °
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint
2-Weller
1-Kroll
1-Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. - C201-50

File: 1

FORM 501

JAMES E. MYERS LICENSED 1162 PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: W. L. Phillips

CERTIFIED

We certify the above test was conducted by us in accordance with accepted procedures and that this material specification requirements.

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Company
Box 137
Colwich, Kansas

Date: August 12, 1955

Lab. Number: 800077
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 8-5-55 Time: 4:30 P.M.

Material Tested: WELD TEST STRIPS

No. of Samples: Four (4) Series H
Sample Designations:
Heat No. 73-S-359-P.O.
66" Water Transmission Lines - Contract #1
Pipe Cylinder - Steel #16 Gauge

RESULTS OF TEST

A. TENSILE STRENGTH REDUCED SECTION:	No. H-1	No. H-2
Specimen Width @ Weld (in.)	0.970	0.969
Ultimate Load (Total lbs.)	3290	3350
Load per Linear Inch (lbs.)	3390	3460
Elongation (%)	11.0 %	14.5 %
Position of Break	Parent Metal	Parent Metal

B. FREE BEND TEST:	No. H-1	No. H-2
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint
2-Keller
1-Knoll
1-Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A - C201-50

File: 1

FORM 80H

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: _____

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
Box 137
Colwich, Kansas

Date: August 8, 1955

Lab. Number: 807387
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 7-26-55 Time: 4:00 P.M.

Material Tested: WELD TEST STRIP

(Machine - Lap-Weld)
Specimens cut from pipe section
Specifications: B-3.02
Black & Veatch, Cons. Engrs. Project #2155

No. of Samples: Four (4) Series F.
Sample Designations:
Heat No. 68-S-114-P.O.
66" Water Transmission Line - Contract #1
Pipe Cylinder - Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength Test Reduced Section:	No. F-1	No. F-2
Specimen Width @ Weld (in.)	0.997	0.997
Ultimate Load (Total lbs.)	3700	3780
Load per Linear Inch (lbs.)	3710	3790
Elongation (%)	6.5 %	8.0 %
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. F-1	No. F-2
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint
2-Weller
1-Knoll
1-Hess

Reference: A.W.S. Standard Tests, 1950
(A.W.W.A. 0201-50)

File: 1

FORM 501

JAMES E. MYERS LICENSED 1162

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
Box 137
Colwich, Kansas

Date: August 8, 1955

Lab. Number: 808011
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 8-1-55 Time: 11:00 A.M.

Material Tested: WELD TEST STRIPS

No. of Samples: Four (4) Series G
Sample Designations:
Heat No. 72-8-357
66" Water Transmission Line - Contract #1
Pipe Cylinder - Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength Test Reduced Section:	No.G-1	No.G-2
Specimen Width @ Weld (In.)	1.002	1.005
Ultimate Load (Total lbs.)	3700	3850
Load per Linear Inch (lbs.)	3690	3830
Elongation (%)	6.0 %	8.0 %
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No.G-1	No.G-2
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint
2-Weller
1-Knoll
1-Hess

Reference: A.W.S. Standard Tests, 1950
A.W.W.A. - C201-50

File: 1

FORM 501

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
Box 137
Colwich, Kansas

Date: July 27, 1955

Lab. Number: 87265
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 7-19-55 Time: 5:30 P.M.

Material Tested: WELD TEST STRIPS
(Machine - Lap - Weld)
Specimens cut from pipe section
Specifications: B-3.02
Black & Veatch, Cons. Engrs. Project #2155

No. of Samples: Four (4) Series E
Sample Designations:
Heat No. 68-S-114-P.O.
66" Water Transmission Line - Contract #1
Pipe Cylinder - Steel #16 Gauge

RESULTS OF TEST

A. Tensile Strength Test Reduced Section:	No. E-1	No. E-2
Specimen Width @ Weld (in.)	1.019	1.027
Ultimate Load (Total lbs.)	3780	3770
Load per Linear Inch (lbs.)	3710	3670
Elongation (%)	7.5	7.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test:	No. E-1	No. E-2
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint
2-Weller
1-Knoll
1-Hess

Reference: A.W.S. Standard Tests, 1950
(A.W.W.A. - C201-50)

File: 1

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. J. Briggs

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
1428 N. MOSLEY AVE. PHONE HOBART 4-3948
WICHITA 4, KANSAS

J. E. MYERS
MANAGER
W. H. CAMPEN
J. R. SMITH
J. J. REMAR
ASSOCIATES
LICENSED PROFESSIONAL ENGINEERS

REPORT OF TEST

MEMBERS OF:
AMERICAN CHEMICAL SOCIETY
AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
Box 197
Colwich, Kansas

Date: July 11, 1955

Lab. Number: 806364
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspectory Date Received At Lab.: 6-28-55 Time: 5:30 P.M.

Material Tested: WELD TEST STRIPS

(Machine - Lap - Weld)
Specimen Cut from Pipe Section
Specifications: B-3.02
Black & Veatch, Cons. Engrs. Project 2155

No. of Samples: Four (4) Series "C"
Sample Designations:
Heat No. 68-5-114-70
66" Water Transmission Line - Contract #1
Pipe Cylinder Steel #16 Gauge

RESULTS OF TEST

WELD INSPECTION

A. Tensile Strength Test, Reduced Section	No. C-1	No. C-2
Specimen Width (@ Weld (in.)	1.014	1.017
Ultimate Load (Total lbs.)	3,600	3,200
Load per Lin. Inch (lbs.)	3,530	3,150
Elongation in 2 in. (%)	4.0	2.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test	No. C-3	No. C-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint
2-Weller
1-Knoll
1-Hess

Reference: A.W.S. Standard Tests 1955

File: 1

FORM 501

JAMES E. MYERS LICENSED 1162 KANSAS PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: J. R. Phillips

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
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AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
Box 127
Colwich, Kansas

Date: July 11, 1955

Lab. Number: 607036
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 7-7-55 Time: 5:30 P.M.

Material Tested: WELD TEST STRIPS

(Machine-Lap-Weld)
Specimen Cut from Pipe Section
Specifications: B-3602
Black & Veatch, Cons. Engrs. Project #2155

No. of Samples: Four (4) Series D.
Sample Designations:
Heat No. 68-8-114-70
66" Water Transmission Line - Contract #1
Pipe Cylinder Steel #16 Gage

RESULTS OF TEST

WELD INSPECTION

A. Tensile Strength Test, Reduced Section	No. D-1	No. D-2
Specimen Width @ Weld (in.)	1.003	1.005
Ultimate Load (Total - lbs.)	3,720	3,900
Load per Linear Inch (lbs.)	3,710	3,880
Elongation (%)	8.0	8.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test	No. D-3	No. D-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

CC: 2-Lock Joint
2-Weller
1-Knoll
1-Ness

Reference: A.W.W.A. Standard Tests, 1950
1 (A.W.W.A. - C201-50)

File:

FORM 501

JAMES E. MYERS LICENSED 1162 KANSAS PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. Phillips

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REPORT OF TEST

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AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P.O. Box 197
Goleich, Kansas

Date: 6-24-55

Lab. Number: 806193
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 6-16-55 Time: 5:00 P.M.

Material Tested: WELD TEST STRIPS
(Machine-Lap-Weld)
Specimen Cut from Pipe Section
Specifications: B-3.02
Black & Veatch, Cons. Engrs. Proj. 2155

No. of Samples: Four (4) Series B
Sample Designations:
Heat No. 68 - S-114-P.O.
66" Water Transmission Line - Contract #1
Pipe Cylinder Steel #16 Gage.

RESULTS OF TEST

A. Tensile Strength Test, Reduced Section

	No. B-1	No. B-2
Specimen Width @ Weld (in.)	1.015	1.018
Ultimate Load (Total Lbs.)	3,640	3,755
(per Lin. inch)(lbs.)	3,586	3,689
Elongation (%)	5.0	6.0
Position of Break	Parent Metal	Parent Metal

B. Free Bend Test

	No. B-3	No. B-4
Maximum Angle	180°	180°
Fracture	None	None

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material Meets specification requirements.

CC: 2-Lock Joint Pipe
2-Weller
1-Knoll
1-Hess

Reference: A.S.T.M. Standard Tests, 1950
(& AWWA - C-201-50)

File: 1

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: R. L. [illegible]

JAMES E. MYERS LICENSED PROFESSIONAL ENGINEER

Wichita CHEMICAL AND TESTING Laboratories
ANALYTICAL CHEMISTS - BACTERIOLOGISTS - TESTING ENGINEERS
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ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

REPORT OF TEST

Test Made for: Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: June 20, 1955

Lab. Number: 806107-b
(REFER TO THIS NUMBER)

Submitted By: Lab. Inspector Date Received At Lab.: 6-10-55 Time: 5:00 P.M.

Material Tested: CONCRETE SAND

66" Water Transmission Lines
Project No. 2155
Black & Veatch, Consulting Engineers

No. of Samples: One - 100 lbs.
Sample Designations:
PERIODIC AGGREGATE CHECK
Dolese Bros. Co. - Concrete Sand
Fine Aggregate No. 1

RESULTS OF TEST (Date Molded: 6-11-55)

A.S.T.M. MORTAR STRENGTH TESTS
(7-day Results)

A. Dolese Concrete Sand				
Specimen No.	LC1-1	LC1-2	LC1-3	
7-Day Strength, PSI:	2525	2700	2750	
Average PSI:				2658
% of Standard:				96.8 %
B. Standard Ottawa Sand				
Specimen No.	LCS1-1	LCS1-2	LCS1-3	
7-Day Strength, PSI:	2650	2700	2887	
Average PSI:				2744
% of Standard:				100.0 %

To Meet A.S.T.M. C33-52T "Not less than 95% of Standard".

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

JAMES E. MYERS LICENSED KANSAS PROFESSIONAL ENGINEER

CC: 2-Lock Joint Pipe @ Colwich
2-Keller
1-Knoll 1-Hess

Reference: A.S.T.M. C-87

File: 1

FORM 501

WICHITA CHEMICAL & TESTING LABORATORIES

By: J. E. Myers

Wichita CHEMICAL AND TESTING Laboratories
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REPORT OF TEST

MEMBERS OF:
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AMERICAN SOCIETY FOR TESTING MATERIALS
AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS

Test Made for: Lock Joint Pipe Co.
P.O. Box 137
Colwich, Kansas

Date: June 17, 1955

Lab. Number: 806075
(REFER TO THIS NUMBER)

Submitted By: Lab Inspector Date Received At Lab.: 6-6-55 Time: 5:00 P.M.

Material Tested: WELD TEST STRIPS
(Machine - Lap - Weld)
Specimen Cut from Pipe Section
Specifications: B-3.02
Black & Veatch, Cons. Engrs. Proj. #2155

No. of Samples: Five (5) Series A
Sample Designations:
Heat No. 685114-P.O.
66" Water Transmission Line-Contract No.1
Pipe Cylinder Steel #16 Gage

RESULTS OF TEST

A.S.T.M. A245-52T

	No. A-1	No. A-2	No. A-3
A. Tensile Strength Test, Reduced Section:			
Specimen Width @ Weld	1.023	1.055	1.028
Ultimate Load (Total)	3390	3780	3510
(per Lin. inch.)	3314	3583	3414
Elongation (%)	3.5	4.5	4.0
Position of Break	Parent Metal	Parent Metal	Parent Metal

	No. A-4	No. A-5
B. Free Bend. Test:		
Test No.	180°	180°
Maximum Angle	None	None
Fracture		

CC: 2-Lock Joint Pipe
2-Weller
1-Knoll
1-Hess

Reference: A.W.W.A. Standard Tests 1950 & (A.W.W.A.) (C201-30)

File: 1

FORM 501

CERTIFIED
We certify the above test was conducted by us in accordance with accepted procedures and that this material meets specification requirements.

JAMES E. MYERS
LICENSED
1162
PROFESSIONAL ENGINEER

WICHITA CHEMICAL & TESTING LABORATORIES

By: W. H. Campen