SCHULTZ

PO Box 2620
Ballston Spa, NY 12020
Ph : 518 885-0060

Letter of Transmittal

To: Chris Williams
VTRANS
61 VALLEY VIEW
MENDON, VT 05701
Ph: (802)786-3812 Fax: (802)786-3810

Transmittal #: 2
Date: 2/20/2015
Job: M117 VTRANS CASTLETON BRF 015-2(10)

Subject: Submittal - Steel Piles

WE ARE SENDING YOU ☑ Attached ☐ Under separate cover via the following items:

☑ Shop drawings ☐ Prints ☐ Plans ☐ Samples
☐ Copy of letter ☐ Change order ☐ Specifications ☐ Other

Document Type	Copies	Date	No.	Description
Submittal	1		505.155-6 Rev 0	Steel Piles 12 x 63

THESE ARE TRANSMITTED as checked below:

☑ For approval ☐ Approved as submitted ☐ Resubmit ___ copies for approval
☑ For your use ☐ Approved as noted ☐ Submit ___ copies for distribution
☑ As requested ☐ Returned for corrections ☐ Return ___ corrected prints
☑ For review and comment ☐ Other
☐ FOR BIDS DUE ☐ PRINTS RETURNED AFTER LOAN TO US

Remarks: Please find attached Steel Piles 12 x 63 from our sub H B Flemming.

Copy To: Jennifer Fitch (VTRANS), KEVIN TURE (W.M. SCHULTZ CONSTRUCTION)

From: MIKE GARN (W.M. SCHULTZ CONSTRUCTION **Signature:** Mike Garn

If enclosures are not as noted, kindly notify us at once.

SCHULTZ

PO Box 2620
Ballston Spa, NY 12020
Ph : 518 885-0060

Submittal

Job: M117
VTRANS CASTLETON BRF 015-2(10)

Spec Section No: 505.155
Submittal No: 6
Revision No: 0
Sent Date: 2/20/2015

Spec Section Title:

Submittal Title: Steel Piles 12 x 63

Contractor:
W.M. Schultz Construction, Inc

Contractor's Stamp
SCHULTZ CONSTRUCTION, INC.
CONTRACT NO. BRF 015-2 (10)
SUBMITTAL TITLE Piles
ITEM & SECT. NO. 505.155
LOCATION OF WORK VT RT 30
SUB NO. 6 DATE 2/20/15
REVIEWED BY MG

VTRANS
Chris Williams

Architect's Stamp

Engineer's Stamp

H. B. FLEMING, INC.
Contracting & Engineering
89 Pleasant Avenue
South Portland, Maine 04106-5600

Phone (207) 799-8514

LETTER OF TRANSMITTAL

DATE: 2/19/15
JOB NO.:
ATTENTION:
RE: Castleton, VT
Bridge No 93

TO: Kevin Tore

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	2/19/15	1	Pile Submittal

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS

Kevin,
I have attached our pile submittal for the above mentioned project. Feel free to call with any questions

Thank You

COPY TO _____

SIGNED: _____

If enclosures are not as noted, kindly notify us at once.

H.B. FLEMING, INC.

CONTRACTING · ENGINEERING

89 Pleasant Ave. South Portland, ME 04106

Phone 207-799-8514 Fax 207-799-8538

www.hbfleming.com

PILE DRIVING BRIDGES SUBMARINE PIPELINES

SUBMITTAL

Submitted To:

Client: Schultz Construction
Attention: Kevin Ture

Date: 02/19/2015
Project: Bridge #93
Location: Castleton, VT

Subject: Pile Driving Criteria

H.B. Fleming Proposes to use the following driving criteria for the piles to be installed at the above location.

Hammer(s)

- Either an APE D-19 or an MKT DE 42 may be used for this project. The details for each hammer are listed below respectfully.
- An APE D-19 open ended diesel pile hammer may be used to drive the piles. The D-19 has a ram weight of 4,190 lbs, a maximum stroke of 10-2", and a rated energy of 42,800 ft-lbs.
- An MKT DE-42 open ended diesel pile hammer may be used to drive the piles. The DE-42 has a ram weight of 4,200 lbs, a maximum stroke of 10'6", and a rated energy of 42,000 ft-lbs.
- The hammer cushioning material consists of 2 inches of Monocast MC901 material for both hammers.

Pile

- HP 12x63 ASTM A572 Gr. 50 steel piles
- The Nominal Pile Driving Resistance, which we based our analysis on is 288 kips (144 tons).
- Piles will be fitted with cast steel driving points

Results

- Piles will be driven until a blow count of 3 blows per inch for 3 consecutive inches is obtained with the APE D19-42, and reach a minimum tip elevation of 25 feet below the bottom of the proposed abutment pile cap.
- Piles will be driven until a blow count of 4 blows per inch for 3 consecutive inches is obtained with the MKT DE 42, and reach a minimum tip elevation of 25 feet below the bottom of the proposed abutment pile cap.
- These criteria are based upon the output generated from the WEAP analysis that follows. PDA testing of driven piles will determine whether the above criteria are used throughout the project or if any adjustments need to be made.

Signed: _____

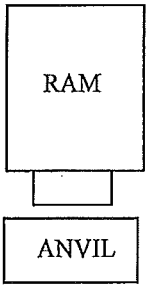
John Allen

H.B. FLEMING PILE EQUIPMENT DATA SHEET

Project: Bridge No. 93
Location: Castleton, VT

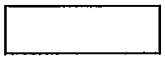
Date: 02/19/2015
Client: Schultz Construction

HAMMER



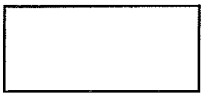
Manufacturer:	APE
Model:	D-19
Type:	Single Acting Diesel
Length of Stroke:	10' - 2"
Rated Energy at Given Stroke:	42,800 ft-lb
Modifications:	None

HAMMER CUSHION



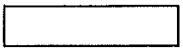
Material:	Monocast MC901
Thickness:	2"
Area:	283.5 in^2
Modulus of Elasticity:	285 ksi
Coefficient of Restitution:	0.8

DRIVE HEAD



Weight:	1200 lb

PILE CUSHION



Cushion Material:	N/A
Thickness:	N/A
Modulus of Elasticity:	N/A
Coefficient of Restitution:	N/A

PILE

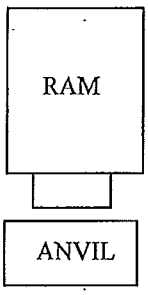
Pile Type:	HP 12x63
Length in Leads:	Up to 65'
Weight/LF:	63 lb
Wall Thickness:	515"
Taper:	N/A
Cross Sectional Area:	18.4 in^2
Ultimate Capacity	288 kips
Splice Description:	Full Penetration Butt Weld
Tip Treatment Description:	Cast Steel Point

H.B. FLEMING PILE EQUIPMENT DATA SHEET

Project: Bridge No. 93
Location: Castleton, VT

Date: 02/19/2015
Client: Schultz Construction

HAMMER

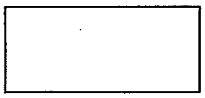


Manufacturer:	MKT
Model:	DE-42
Type:	Single Acting Diesel
Length of Stroke:	10' - 6"
Rated Energy at Given Stroke:	42,000 ft-lb
Modifications:	None

HAMMER CUSHION

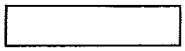
Material:	Monocast MC901
Thickness:	2"
Area:	283.5 in^2
Modulus of Elasticity:	285 ksi
Coefficient of Restitution:	0.8

DRIVE HEAD



Weight:	1200 lb

PILE CUSHION



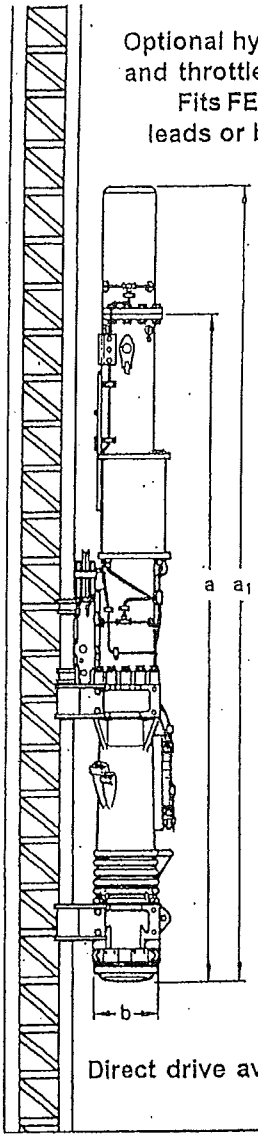
Cushion Material:	N/A
Thickness:	N/A
Modulus of Elasticity:	N/A
Coefficient of Restitution:	N/A

PILE

Pile Type:	HP 12x63
Length in Leads:	Up to 65'
Weight/LF:	63 lb
Wall Thickness:	515"
Taper:	N/A
Cross Sectional Area:	18.4 in^2
Ultimate Capacity	288 kips
Splice Description:	Full Penetration Butt Weld
Tip Treatment Description:	Cast Steel Point

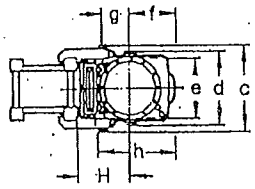
APE/SEMW Model D19-42 Single Acting Impact Hammer

operates on diesel or bio-diesel for all types of impact pile driving



Optional hydraulic trip and throttle available. Fits FEC tube leads or box type.

Direct drive available



MODEL D19-42 (1.9 metric ton ram)

SPECIFICATIONS

Maximum Rated energy	42,800 ft-lbs
Minimum rated energy	16,000 ft-lbs
Stroke at rated energy	10 feet 2 inches
Maximum obtainable stroke	10 feet 3 inches
Speed (blows per minute)	37-53

WEIGHTS

Ram	4190 lbs
Anvil	754 lbs
Hammer weight (includes trip device)	7,800 lbs
Typical operating (weight with drive cap)	9,600 lbs

CAPACITIES

Fuel tank (runs on diesel or bio -diesel)	8.5 gal
Oil tank	2.4 gal

CONSUMPTION

Diesel or Bio-diesel fuel	1.5 gal/hr
Lubrication	2.4 gal/hr
Grease	twice per day

DIMENSIONS OF HAMMER

a_1	Length overall	186.2 inches
a	Length over cylinder extension	219. 3 inches
b	Impact block diameter	17.3 inches
c	Width over bolts	22 inches
d	Hammer width overall	19 inches
e	Width for guiding- face to face	12.5 inches
f	Hammer center to pump guard	13.5 inches
g	Hammer center to bolt center	13.6 inches
h	hammer depth overall	26.2 inches
H	Minimum clearance for leads	14.2 inches

We reserve the right to modify specifications without notice. Contact APE directly for updated literature.

Features

Fuel injection designed by APE engineers
Fuel and lube pumps with 50% less parts than ICE
Hardened piston needs no high maintenance wear rings
Direct drive available for maximum production on steel piles
Fuel pump mounted where heat will not harm it
Variable mechanical cam fuel pump- no air pistons or rings
Optional hydraulic variable fuel remote control
Heavy duty trip system for years of fault free operation
Chrome rings for super long life
Low maintenance and extremely low parts pricing
German design at a reasonable price
Two year APE warranty

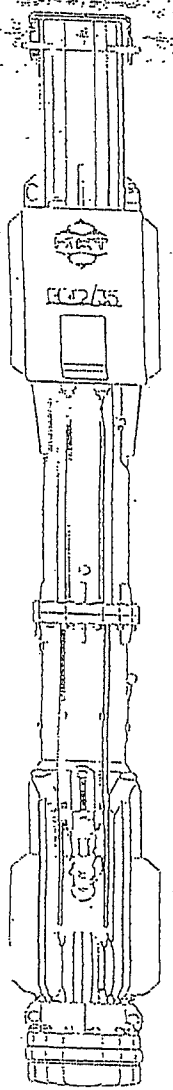
AMERICAN PILEDRIVING EQUIPMENT, INC. APE

SHANGHAI JINTAI CO., LTD.
Shanghai Engineering Machinery Works

APE Corporate Offices
7032 South 196th
Kent, Washington 98032 USA
(800) 248-8498 & (253) 872-0141
(253) 872-8710 Fax

4/99

Visit our WEB site:
www.apevibro.com
e-mail: ape@apevibro.com



INTRODUCING THE NEW

DE42/35

MAXIMUM DIESEL HAMMER FLEXIBILITY FITTING IN 8 x 20 LEADS WITH RAM WEIGHTS TO 4,200 LBS.

ONE HAMMER...MULTIPLE RAM SIZES... AND ENERGY RANGES. ANOTHER MKT FIRST PROVIDING THE CONTRACTOR WITH HAMMER SIZE FLEXIBILITY AND REDUCED EQUIPMENT INVESTMENT COSTS. MKT DIESEL HAMMERS CONTINUE TO OFFER FEATURES WHICH INSURE DEPENDABLE AND PRODUCTIVE OPERATION. USING EITHER STANDARD OR REMOTE FUEL DELIVERY SYSTEMS.

SPECIFICATIONS DE-42/35		
RAM-PISTON WEIGHT (LBS.)	3,500	4,200
ENERGY RATING (FT.LBS.)	35,000	42,000
BEARING BASED ON ENGINEERING NEWS FORMULA (TONS)	230	230
MAXIMUM OBTAINABLE STROKE	9'-6"	10'-6"
OVERALL LENGTH WITH DRIVE CAP	16'-7"	16'-7"
WEIGHT, HAMMER ONLY (LBS.)	8,600	9,300
WEIGHT, HAMMER AND UNIVERSAL DRIVE CAP (LBS.)	9,550	10,250

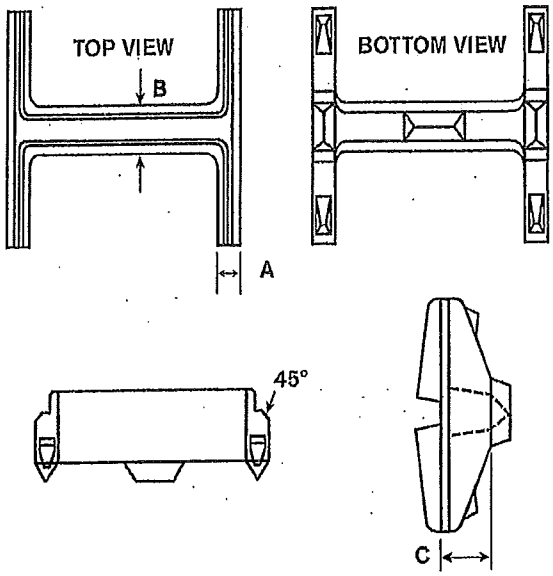
PUBLISHED ENERGY RATINGS ARE EQUAL TO RAM WEIGHT X 10.0 FT. RAM STROKE. ACTUAL ENERGIES DELIVERED ARE A FUCTION OF THE OVERALL JOB CONDITIONS. BEARING RATINGS ARE BASED UPON ENGINEERING NEWS FORMULA, PILE SET EQUAL TO 0.1 BLOW.

PRODUCT LIST

- SINGLE ACTING DIESEL PILE HAMMERS
- AIR PILE HAMMERS
- VIBRATORY PILE DRIVERS/EXTRACTORS
- VIBRATORY HAMMER ACCESSORIES
- PILE DRIVING LEAD SYSTEMS
- CUSTOM ENGINEERED PRODUCTS
- DOUBLE ACTING DIESEL PILE HAMMERS
- DRIVE CAPS AND ACCESSORIES
- HYDRAULIC POWER UNITS
- HYDRAULIC AUGER SYSTEMS
- BOTTOM BRACES
- LEAD ACCESSORIES

HARD-BITE™ – HP-77600-B 30#

Dimensions



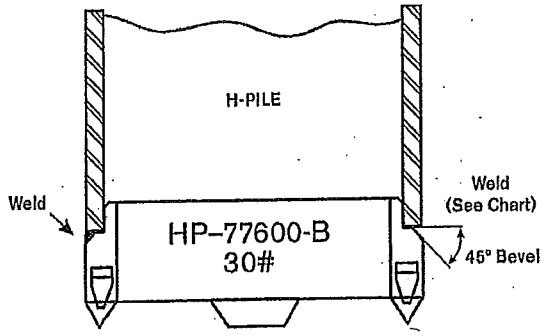
MATERIAL: CAST STEEL

ASTM A148 90/60

	12"
A	1"
B	1-5/16"
C	3"
Wt.	31#

Installation Instructions

1. Fit point onto the end of the square cut pile end.
2. Weld point to the pile in either flat or vertical position using E7018 electrodes.
3. Weld across full width of flange following chart below for minimum size weld.



Pile Size	Flange Thickness	Groove Weld
HP 12 x 84	.685	3/8
x 74	.610	3/8
x 63	.515	5/16
x 53	.435	5/16

ASSOCIATED PILE & FITTING

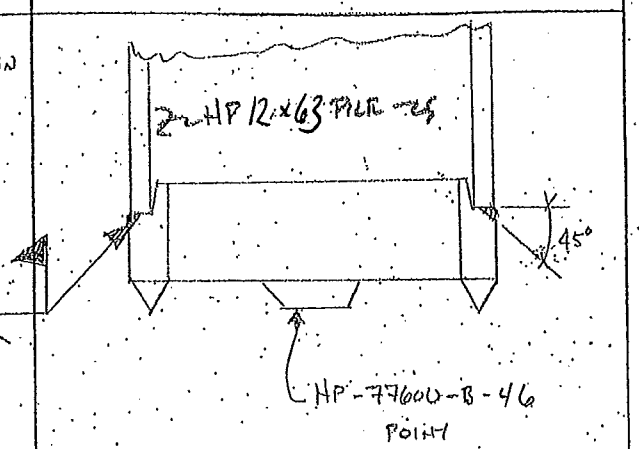
PO Box 5933 Parsippany, NJ 07054-5933
Tel: 973-773-8400
Fax: 973-428-5146
email: apf@associatedpile.com
www.associatedpile.com
Call Toll Free: 800-526-9047

(12/11)

JOINT WELDING PROCEDURE SPECIFICATION

Material specification: PILE = ASTM A572 GR. 50 / EQUIVALENT ; POINT = ASTM A27 65/35
Welding process: SMAW
Manual or machine: MANUAL
Position of welding: HORIZONTAL OR VERTICAL
Filler metal specification: AWS A5.1
Filler metal classification: E7018
Flux: N/A
Shielding gas: N/A Flow rate: N/A
Single or multiple pass: MULTIPLE (IF REQUIRED)
Single or multiple arc: SINGLE
Welding current: D/C
Polarity: REVERSE
Welding progression: N/A
Root treatment: NONE - POINTS ARE PRE-BEVELED TO PROFILE
Preheat and interpass temperature: PER AWS D1.1
Postheat treatment: NONE

WELDING PROCEDURE

Pass. no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed	Joint detail
1	1/8"	120-150	12-24	1 FT/MIN	
2+	5/32"	140-180	12-24	1 FT/MIN	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

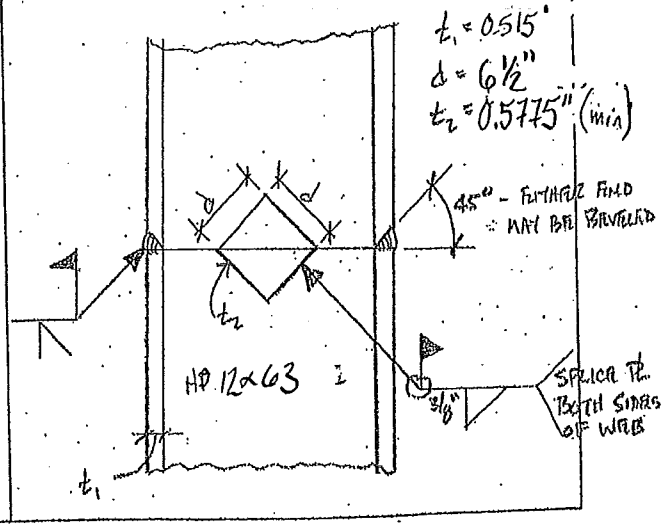
Procedure no. VAOT HP 12x63 POINT ATTACHMENT Contractor H.B. FLEMING
Revision no. 0 Authorized by MM
Form E-2. Date 02/18/15

Form E-2 — Welding Procedure Specification

JOINT WELDING
PROCEDURE SPECIFICATION

Material specification: ASTM A572 GR. 50 / EQUIVALENT
Welding process: SMAW
Manual or machine: MANUAL
Position of welding: HORIZONTAL
Filler metal specification: AWS A5.1
Filler metal classification: E7018
Flux: N/A
Shielding gas: N/A Flow rate: N/A
Single or multiple pass: MULTIPLE IF REQUIRED
Single or multiple arc: SINGLE
Welding current: D/C
Polarity: REVERSE
Welding progression: N/A
Root treatment: GRIND / BEVEL TO PROFILE
Preheat and interpass temperature: PER AWS D1.1
Postheat treatment: NONE

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed	Joint detail
1	1/8"	120-150	12-24	1 Ft/min	
2+	5/32"	140-180	12-24	1 Ft/min	

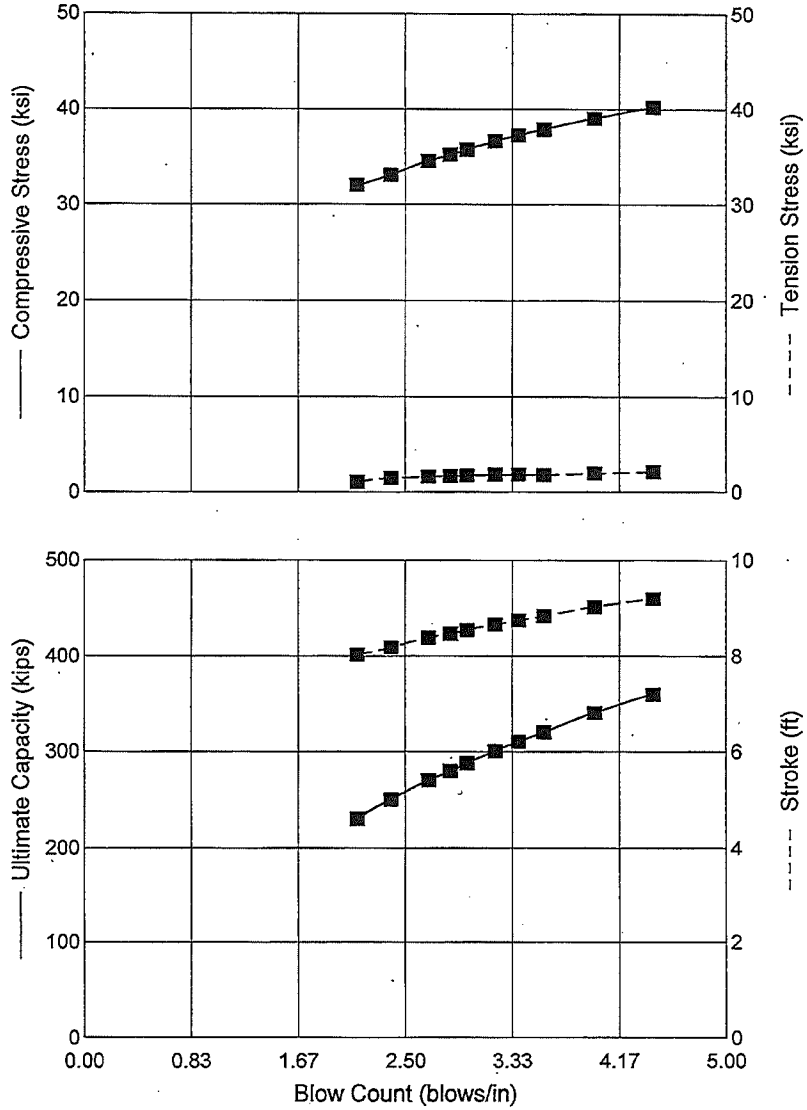
This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure no. VAGT WEB DIAMOND SPLICE Contractor H.B. FLEMING, INC.
Revision no. Ø Authorized by [signature]
Form E-2 Date 02/18/15

Form E-2 — Welding Procedure Specification

H.B. FLEMING
Castleton, VT

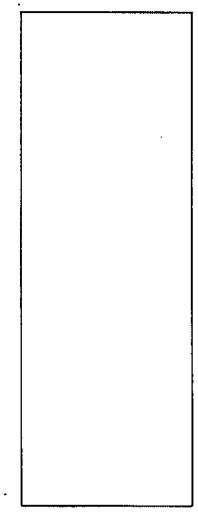
18-Feb-2015
GRLWEAP (TM) Version 2005



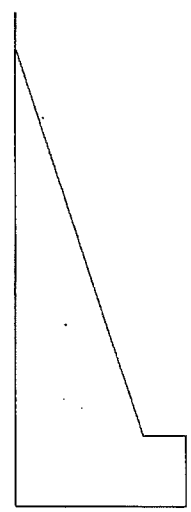
APE D 19-42

Efficiency	0.800	
Helmet	1.20	kips
Hammer Cushion	40399	kips/in
Skin Quake	0.100	in
Toe Quake	0.100	in
Skin Damping	0.050	sec/ft
Toe Damping	0.150	sec/ft
Pile Length	70.00	ft
Pile Penetration	65.00	ft
Pile Top Area	18.40	in2

Pile Model



Skin Friction Distribution



Res. Shaft = 25 %
(Proportional)

APE D19-42 Variable Capacity

ADE D19-42 VARIABLE CAPACITY

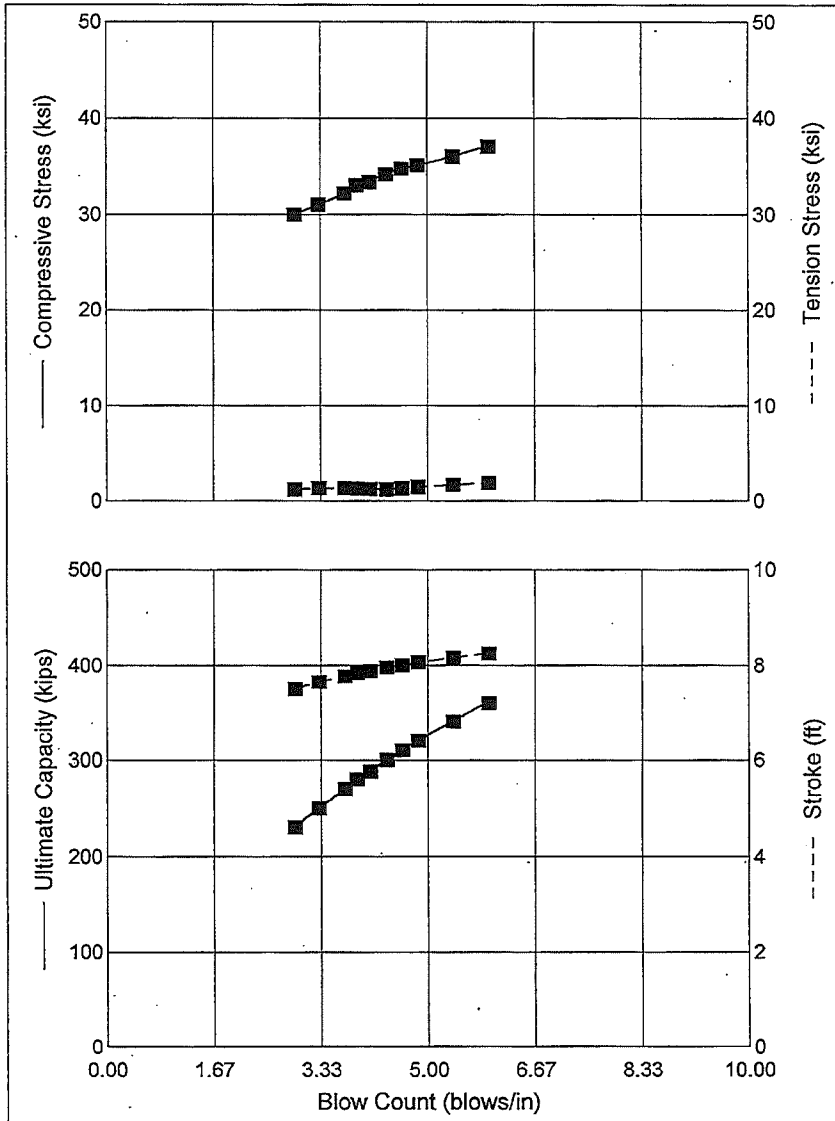
H.B. FLEMING
Castleton, VT

18-Feb-2015
GRLWEAP (TM) Version 2005

Ultimate Capacity kips	Maximum Compression Stress ksi	Maximum Tension Stress ksi	Blow Count blows/in	Stroke ft	Energy kips-ft
230.0	32.02	1.02	2.1	8.02	22.22
250.0	33.09	1.41	2.4	8.17	22.28
270.0	34.59	1.58	2.7	8.38	22.56
280.0	35.22	1.65	2.9	8.46	22.63
288.0	35.74	1.71	3.0	8.54	22.74
300.0	36.61	1.78	3.2	8.65	22.97
310.0	37.24	1.79	3.4	8.74	23.22
320.0	37.88	1.78	3.6	8.83	23.37
340.0	39.02	1.93	4.0	9.02	23.82
360.0	40.16	2.08	4.4	9.19	24.14

H.B. FLEMING
Castleton, VT

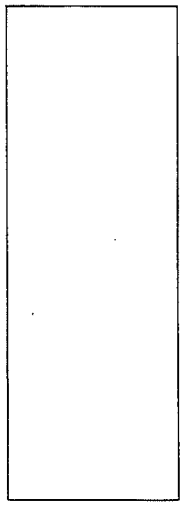
18-Feb-2015
GRLWEAP (TM) Version 2005



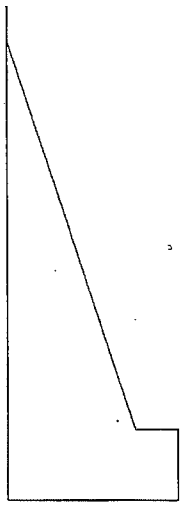
MKT DE 42/35

Efficiency	0.800	
Helmet	1.20	kips
Hammer Cushion	40399	kips/in
Skin Quake	0.100	in
Toe Quake	0.100	in
Skin Damping	0.050	sec/ft
Toe Damping	0.150	sec/ft
Pile Length	70.00	ft
Pile Penetration	65.00	ft
Pile Top Area	18.40	in2

Pile Model



Skin Friction Distribution



Res. Shaft = 25 %
(Proportional)

MKT DE 42 Variable Capacity

MKT DE 42 VARIABLE CAPACITY

H.B. FLEMING
Castleton, VT

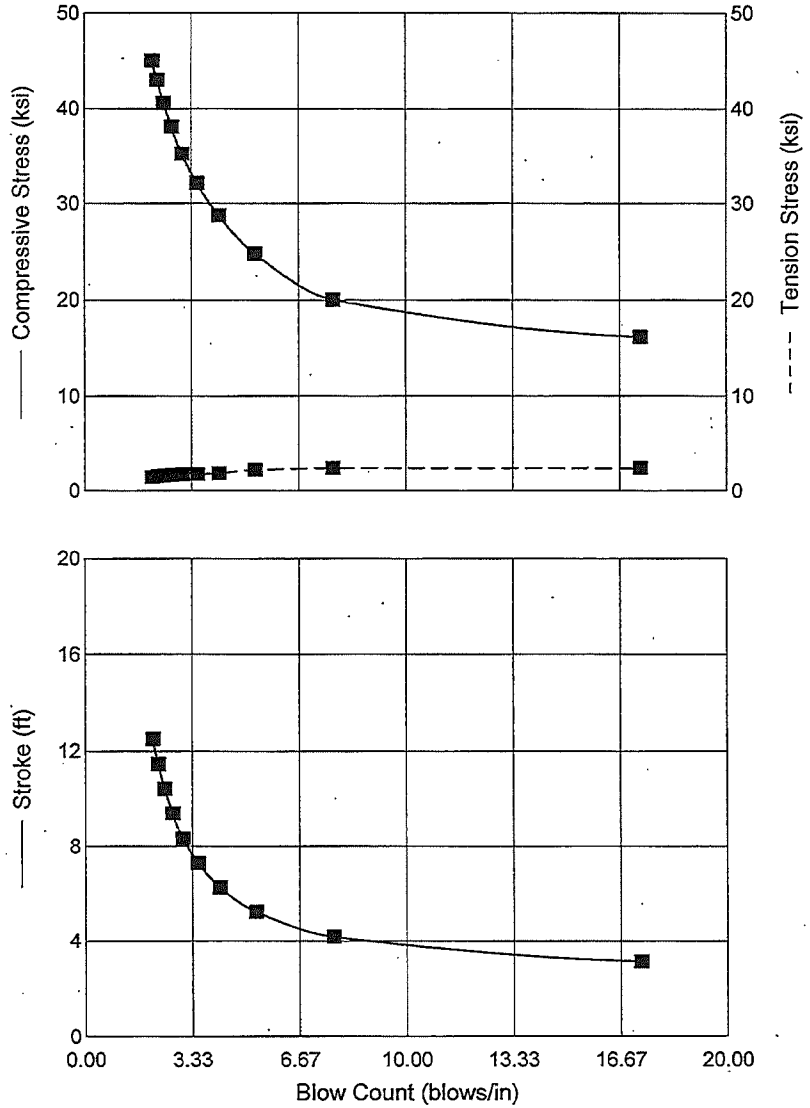
18-Feb-2015
GRLWEAP (TM) Version 2005

Ultimate Capacity kips	Maximum Compression Stress ksi	Maximum Tension Stress ksi	Blow Count blows/in	Stroke ft	Energy kips-ft
230.0	29.93	1.18	2.9	7.49	17.76
250.0	30.96	1.30	3.3	7.64	17.92
270.0	32.16	1.28	3.7	7.76	18.13
280.0	33.00	1.25	3.9	7.83	18.33
288.0	33.32	1.23	4.1	7.87	18.38
300.0	34.16	1.18	4.4	7.95	18.62
310.0	34.71	1.28	4.6	8.00	18.75
320.0	35.10	1.43	4.8	8.06	18.88
340.0	35.99	1.67	5.4	8.16	19.04
360.0	37.03	1.84	6.0	8.25	19.32

H.B. FLEMING
Castleton, VT

18-Feb-2015
GRLWEAP (TM) Version 2005

APE D19-42 Consist Capacity

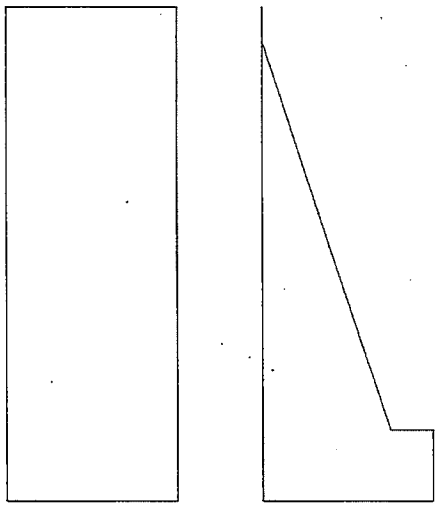


APE D 19-42

Capacity	288.0	kips
Efficiency	0.800	
Helmet	1.20	kips
Hammer Cushion	40399	kips/in
Skin Quake	0.100	in
Toe Quake	0.100	in
Skin Damping	0.050	sec/ft
Toe Damping	0.150	sec/ft
Pile Length	70.00	ft
Pile Penetration	65.00	ft
Pile Top Area	18.40	in2

Pile Model

Skin Friction Distribution



Res. Shaft = 25 %
(Proportional)

APE D19-42 Constant Capacity

H.B. FLEMING
Castleton, VT

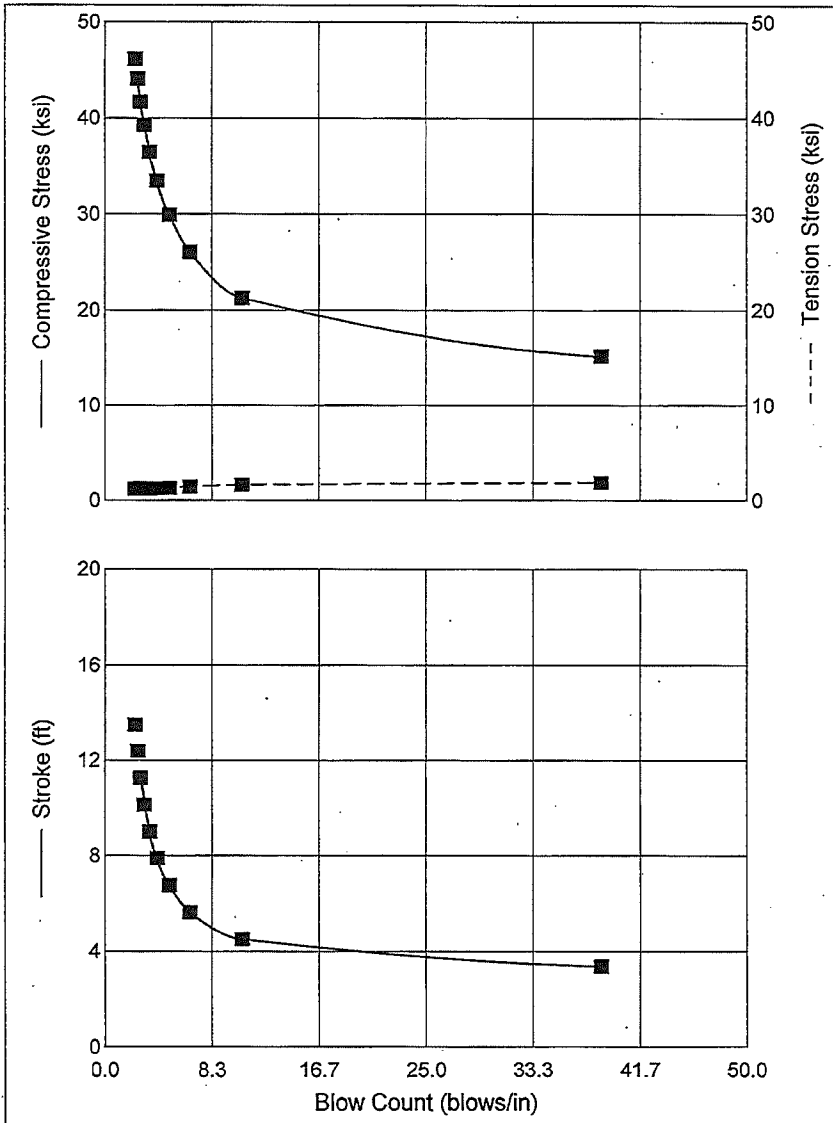
18-Feb-2015
GRLWEAP (TM) Version 2005

Ultimate Capacity kips	Maximum Compression Stress ksi	Maximum Tension Stress ksi	Blow Count blows/in	Stroke ft	Energy kips-ft
288.0	16.14	2.41	17.3	3.12	7.65
288.0	20.00	2.39	7.7	4.17	10.79
288.0	24.78	2.21	5.3	5.21	13.75
288.0	28.73	1.85	4.2	6.25	16.60
288.0	32.08	1.77	3.5	7.29	19.40
288.0	35.21	1.73	3.0	8.33	22.25
288.0	38.07	1.67	2.7	9.38	25.04
288.0	40.56	1.61	2.5	10.42	27.77
288.0	43.00	1.54	2.3	11.46	30.45
288.0	45.03	1.44	2.1	12.50	33.10

H.B. FLEMING
Castleton, VT

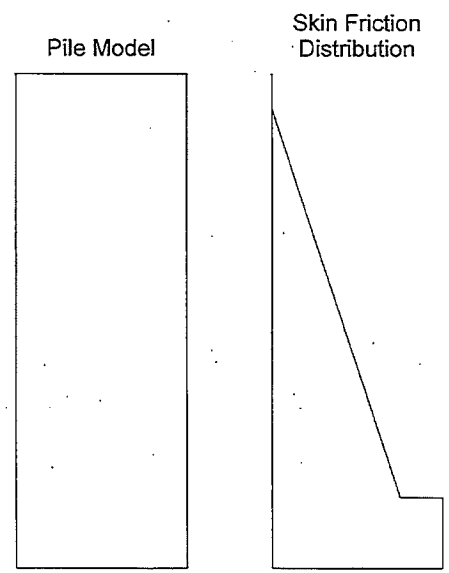
18-Feb-2015
GRLWEAP (TM) Version 2005

MKT DE 42 Constant Capacity



MKT DE 42/35

Capacity	288.0	kips
Efficiency	0.800	
Helmet	1.20	kips
Hammer Cushion	40399	kips/in
Skin Quake	0.100	in
Toe Quake	0.100	in
Skin Damping	0.050	sec/ft
Toe Damping	0.150	sec/ft
Pile Length	70.00	ft
Pile Penetration	65.00	ft
Pile Top Area	18.40	in2



Res. Shaft = 25 %
(Proportional)

MKT DE42 Constant Capacity

H.B. FLEMING
Castleton, VT

18-Feb-2015
GRLWEAP (TM) Version 2005

Ultimate Capacity kips	Maximum Compression Stress ksi	Maximum Tension Stress ksi	Blow Count blows/in	Stroke ft	Energy kips-ft
288.0	15.16	1.85	38.6	3.38	6.18
288.0	21.27	1.62	10.7	4.50	9.40
288.0	26.03	1.42	6.6	5.62	12.48
288.0	29.88	1.26	5.0	6.75	15.45
288.0	33.40	1.23	4.1	7.88	18.47
288.0	36.42	1.18	3.5	9.00	21.38
288.0	39.19	1.20	3.1	10.12	24.21
288.0	41.64	1.22	2.8	11.25	27.04
288.0	44.10	1.20	2.6	12.38	29.81
288.0	46.10	1.17	2.4	13.50	32.57

H.B Fleming, Inc - Welder Continuity Log

Date of Test

Everton Baily	AWS D1.5	1/17/2011	AWS D1.1	1/17/2011	SUPER INIT.
1/31/2011		Bar Harbor, ME	SMAW	welding points on h-pile	GB
11/11/2011		Springfield, VT	SMAW	welding points on h-pile	RM
3/12/2012		Kennebunk, ME	SMAW	splicing h-pile	GG
10/1/2012		Hampton, NH	SMAW	welding points on h-pile	GB
2/11/2013		Rockport, ME	SMAW	welding points on h-pile	NB
11/25/2013		Bath, ME	SMAW	welding points on h-pile	GB
2/10/2014		Brownville, ME	SMAW	welding struts/walers	RM
11/17/2014		Dover, NH	SMAW	welding walers/crn braces	GG

Kyle Blanchard	AWS D1.5	6/14/2013	AWS D1.1	6/14/2013	SUPER INIT.
12/2/2013		Bath, ME	SMAW	weld points on h pile	GB
5/5/2014		Rochester, VT	SMAW	splicing pile	RS
10/6/2014		Roxbury, ME	SMAW	welding struts in cofferdam	NB
2/2/2015		Somerville, MA	SMAW	welding soldier pile template	KM

Gary Brissette	AWS D1.5	3/16/2001	AWS D1.1	3/16/2001	SUPER INIT.
8/6/2001		Windham, ME	SMAW	weld points/splice pile	GB
2/4/2002		Guilford, NH	SMAW	weld waler and cnr braces	GB
8/2/2002		Dixfield Notch, NH	SMAW	framework in cofferdam	GB
1/8/2003		Greenbush, ME	SMAW	splicing pile	GB
7/7/2003		Proctor, VT	SMAW	pointing and splicing pile	GB
1/5/2004		Lewiston, ME	SMAW	splicing pile	GB
7/12/2004		Newburyport, MA	SMAW	welding waler to frame	GB
1/3/2005		Manchester, NH	SMAW	welding on cofferdam	GB
7/11/2005		Madbury, NH	SMAW	weld points/splice pile	GB
1/9/2006		Old Orchard Beach, ME	SMAW	weld points/splice pile	GB
7/7/2006		Burlington, VT	SMAW	welding walers/cnr braces	GB
1/8/2007		Gorham, ME	SMAW	welding walers/cnr braces	GB
7/2/2007		Laconia, NH	SMAW	splicing pile	GB
1/11/2008		Biddeford, NH	SMAW	splicing pile	GB
7/14/2008		Stowe, VT	SMAW	splicing pile	GB
1/5/2009		Guilford, NH	SMAW	walers/framework	GB

7/6/2009	Durham, NH	SMAW	walers/framework	GB
1/7/2009	Oakfield, ME	SMAW	splicing pile	GB
7/7/2010	Auburn, ME	SMAW	splicing pile	GB
1/3/2011	Londonderry, NH	SMAW	welding walers	GB
7/11/2011	Bath, ME	SMAW	splicing pile and points	GB
1/2/2012	Dudley, MA	SMAW	splicing pile & points	GB
7/2/2012	Sheldon Springs, VT	SMAW	framework in cofferdam	GB
1/11/2013	Jamaica, VT	SMAW	splicing pile	GB
7/1/2013	Yarmouth, ME	SMAW	framework in cofferdam	GB
1/6/2014	Nashua, NH	SMAW	spicing pile	GB
7/1/2014	Windsor, VT	SMAW	pointing and splicing pile	GB
1/5/2015	Portland, ME	SMAW	framework in cofferdam	GB

Nathan Brissette		AWS D1.1	4/20/2002	SUPER INIT.
			AWS #0006093W	NB
6/2/2002	Dover, NH	SMAW	cofferdam welding	NB
12/2/2002	Portland, ME	SMAW	pile points and splicing	NB
6/2/2003	Boothbay Harbor, ME	SMAW	pile points and splicing	NB
12/1/2003	Gorham, NH	SMAW	cofferdam welding	NB
6/1/2004	Westbrook, ME	SMAW	pile points and splicing	NB
12/1/2004	Alexandria, NH	SMAW	pile points and splicing	NB
6/1/2005	Weymouth, MA	SMAW	cofferdam welding	NB
12/1/2005	Guilford, NH	SMAW	waler welding on sheetpiles	NB
6/1/2006	Huntington, VT	SMAW	h pile points	NB
12/1/2006	Hanover, NH	SMAW	cofferdam welding	NB
6/1/2007	Salem, NH	SMAW	waler welding on sheetpiles	NB
12/3/2007	Freeport, NH	SMAW	waler welding on soldier piles	NB
6/2/2008	Presque Isle, ME	SMAW	waler welding on sheetpiles	NB
12/1/2008	Merrimack, NH	SMAW	pile points and splicing	NB
6/1/2009	T13 R12, ME	SMAW	cofferdam welding	NB
12/1/2009	Carmel, ME	SMAW	h pile points/splicing	NB
6/1/2010	Durham, NH	SMAW	waler welding on sheets	NB
12/1/2010	Kittery, ME	SMAW	h pile points/splicing	NB
6/1/2011	Portsmouth, ME	SMAW	pile points and splicing	NB
12/1/2011	Bath, ME	SMAW	h pile points/splicing	NB
6/1/2012	South Portland, ME	SMAW	h pile points/splicing	NB
12/3/2012	Antrim, NH	SMAW	h pile points/splicing	NB
6/3/2013	Sidney, ME	SMAW	h pile points/splicing	NB
12/2/2013	Cavendish, VT	SMAW	h pile points	NB
6/2/2014	Bath, ME	SMAW	h pile splicing	NB
12/1/2014	Dover, NH	SMAW	welding helical anchors	NB

Dale Cole	AWS D1.5	2/23/2010	AWS D1.1	2/23/2010	SUPER INIT.
3/1/2010		Grand Lke Stream, ME	smaw	h pile points/splicing	GG
9/1/2010		Portsmouth, NH	SMAW	h pile points/splicing	RM
3/1/2011		Falmouth, ME	SMAW	welding helical anchors	ES
9/1/2011		Kingston, MA	SMAW	waler welding on sheetpiles	ES
3/1/2012		South Portland, ME	SMAW	h pile points/splicing	RM
9/3/2012		Windham, NH	SMAW	waler welding on sheetpiles	GB
3/1/2013		Portland, ME	SMAW	waler welding on sheetpiles	NB
9/2/2013		Billerica, MA	SMAW	cofferdam welding	GG
3/3/2014		Scarbourough, ME	SMAW	h pile points/splicing	ES
9/8/2014		Lebanon, NH	SMAW	cofferdam welding	KM

Dennis Daggett	AWS D1.5	5/11/2007	AWS D1.1	5/11/2007	SUPER INIT.
6/1/2007	Salem, NH	SMAW	waler welding on sheetpiles		NB
12/3/2007	Freeport, NH	SMAW	waler welding on soldier piles		NB
6/2/2008	Presque Isle, ME	SMAW	waler welding on sheetpiles		NB
12/1/2008	Merrimack, NH	SMAW	pile points and splicing		NB
6/1/2009	T13 R12, ME	SMAW	cofferdam welding		NB
12/1/2009	Carmel, ME	SMAW	h pile points/splicing		NB
6/1/2010	Durham, NH	SMAW	waler welding on sheets		NB
12/1/2010	Kittery, ME	SMAW	h pile points/splicing		NB
6/1/2011	Portsmouth, ME	SMAW	pile points and splicing		NB
12/1/2011	Bath, ME	SMAW	h pile points/splicing		NB
6/1/2012	South Portland, ME	SMAW	h pile points/splicing		NB
12/3/2012	Antrim, NH	SMAW	h pile points/splicing		NB
6/3/2013	Sidney, ME	SMAW	h pile points/splicing		NB
12/2/2013	Cavendish, VT	SMAW	h pile points		NB
6/2/2014	Bath, ME	SMAW	h pile splicing		NB
12/1/2014	Dover, NH	SMAW	welding helical anchors		NB

Lucas Erickson	AWS D1.5	2/19/2014	AWS D1.1	2/19/2014	SUPER INIT.
5/29/2014	Milton, VT	SMAW	h pile points		GG

Gary Gilbert			AWS D1.1	5/23/2000	SUPER INIT.
				AWS #006090W	
10/2/2000	South Portland, ME	SMAW	h pile points/splicing		GG
4/2/2001	Elliot,ME	SMAW	h pile points/splicing		GG

10/1/2001	Brunswick, ME	SMAW	cofferdam waler &crn braces	GG
4/1/2002	New Gloucester, ME	SMAW	h pile points/splicing	GG
10/1/2002	Danvers, MA	SMAW	cofferdam waler &crn braces	GG
4/1/2003	Bangor, ME	SMAW	cofferdam waler &crn braces	GG
10/1/2003	Ossipee, NH	SMAW	h pile points/splicing	GG
4/1/2004	Westbrook, ME	SMAW	h pile points/splicing	GG
10/1/2004	New London, CT	SMAW	h pile points/splicing	GG
4/1/2005	Exeter, NH	SMAW	h pile points/splicing	GG
10/3/2005	Deadham, ME	SMAW	waler on sheet pile	GG
4/3/2006	Scarborough, ME	SMAW	h pile points/splicing	GG
10/2/2006	Wells, ME	SMAW	cofferdam waler &crn braces	GG
4/2/2007	Lincoln, ME	SMAW	h pile points/splicing	GG
10/1/2007	Portland, ME	SMAW	h pile points/splicing	GG
4/1/2008	Westbrook, ME	SMAW	waler on sheet pile	GG
10/1/2008	Dover, NH	SMAW	h pile points/splicing	GG
4/1/2009	Guilford, VT	SMAW	h pile points/splicing	GG
10/1/2009	Lowell, MA	SMAW	h pile points/splicing	GG
4/1/2010	Grand Lke Stream, ME	SMAW	h pile points/splicing	GG
10/1/2010	Unity, ME	SMAW	h pile points/splicing	GG
4/1/2011	Falmouth, ME	SMAW	helical anchor welding	GG
10/3/2011	Guilford, NH	SMAW	waler on sheet pile	GG
4/2/2012	South Portland, ME	SMAW	h pile points/splicing	GG
10/1/2012	Buckland, MA	SMAW	h pile points/splicing	GG
4/1/2013	Nashua, NH	SMAW	cofferdam welding	GG
10/1/2013	Billerica, MA	SMAW	cofferdam welding	GG
4/1/2014	Roxbury, ME	SMAW	waler & strut welding	GG
10/1/2014	Bow, NH	SMAW	cofferdam waler &crn braces	GG

Bill Kirk	AWS D1.5	10/21/2011	AWS D1.1	10/21/2011	SUPER INIT.
4/2/2012	South Portland, ME	SMAW	h pile points/splicing		NB
10/1/2012	Windham, NH	SMAW	cofferdam waler, bracing		RS
4/1/2013	Bangor, ME	SMAW	helical anchor welding		GB
10/1/2013	Portsmouth, NH	SMAW	helical anchor welding		GB
4/1/2014	Bath, ME	SMAW	h pile points/splicing pile		NB
10/1/2014	Chatham, MA	SMAW	cofferdam waler, bracing		RM

John McGintee	AWS D1.5	4/6/2012	AWS D1.1	5/1/2012	SUPER INIT.
10/1/2012	Windham, NH	SMAW	cofferdam waler, bracing		RS
4/1/2013	Bangor, ME	SMAW	helical anchor welding		GB
10/1/2013	Portsmouth, NH	SMAW	helical anchor welding		GB
4/1/2014	Bath, ME	SMAW	h pile points/splicing pile		NB

10/1/2014	Chatham, MA	SMAW	cofferdam waler, bracing	RM

Kevin Mclaren	AWS D1.5	2/9/2007	AWS D1.1	2/9/2007	SUPER INIT.

4/2/2007	South Paris, ME	SMAW	welding walers to sheetpiles	RM
10/1/2007	Laconia, NH	SMAW	h pile points/splicing pile	RM
4/1/2008	Farmington, ME	SMAW	helical anchor welding	RM
10/1/2008	Old Orchard Beach, ME	SMAW	h pile points/splicing pile	RM
4/1/2009	Keene, NH	SMAW	h pile points/splicing pile	RM
10/1/2009	Lewiston, ME	SMAW	h pile points/splicing pile	RM
4/1/2010	Bath, ME	SMAW	h pile points/splicing pile	RM
10/1/2010	Bangor, ME	SMAW	h pile points/splicing pile	RM
4/1/2011	Londonderry, NH	SMAW	helical anchor welding	RM
10/3/2011	Hookset, NH	SMAW	cofferdam welding, struts, wales	RM
4/2/2012	South Portland, ME	SMAW	h pile points/splicing pile	RM
10/1/2012	Canton, ME	SMAW	welding walers to sheetpiles	RM
4/1/2013	Bedford, NH	SMAW	welding walers to sheetpiles	KM
10/1/2013	Manchester, NH	SMAW	helical anchor welding	KM
4/1/2014	Windsor, VT	SMAW	h pile points/trestle welding	KM
10/1/2014	Lebanon, NH	SMAW	cofferdam welding, struts, wales	KM

Richard Mcleod	AWS D1.1	2/6/1997	AWS #0503067W	SUPER INIT.

4/1/1997	Manchester, NH	SMAW	cofferdam waler &crn braces	DS
10/1/1997	Salem, NH	SMAW	h pile points	DS
4/1/1998	Portland, ME	SMAW	h pile points	DS
10/1/1998	Biddeford, ME	SMAW	h pile points/splicing	DS
4/1/1999	Burlington, VT	SMAW	h pile points/splicing	DS
10/1/1999	Nashua, NH	SMAW	welding walers to sheetpiles	DS
4/3/2000	Durham, NH	SMAW	welding walers to sheetpiles	DS
10/2/2000	South Portland, ME	SMAW	h pile points/splicing	GB
4/2/2001	Elliot,ME	SMAW	h pile points/splicing	GB
10/1/2001	Brunswick, ME	SMAW	cofferdam waler &crn braces	GB
4/1/2002	New Gloucester, ME	SMAW	h pile points/splicing	GB
10/1/2002	Danvers, MA	SMAW	cofferdam waler &crn braces	GB
4/1/2003	Bangor, ME	SMAW	cofferdam waler &crn braces	GB
10/1/2003	Ossipee, NH	SMAW	h pile points/splicing	GB
4/1/2004	Westbrook, ME	SMAW	h pile points/splicing	GB
10/1/2004	New London, CT	SMAW	h pile points/splicing	GB
4/1/2005	Exeter, NH	SMAW	h pile points/splicing	GB
10/3/2005	Deadham, ME	SMAW	waler on sheet pile	GB
4/3/2006	Scarborough, ME	SMAW	h pile points/splicing	GB
10/2/2006	Wells, ME	SMAW	cofferdam waler &crn braces	GB
4/2/2007	South Paris, ME	SMAW	welding walers to sheetpiles	RM
10/1/2007	Laconia, NH	SMAW	h pile points/splicing pile	RM

4/1/2008	Farmington, ME	SMAW	helical anchor welding	RM
10/1/2008	Old Orchard Beach, ME	SMAW	h pile points/splicing pile	RM
4/1/2009	Keene, NH	SMAW	h pile points/splicing pile	RM
10/1/2009	Lewiston, ME	SMAW	h pile points/splicing pile	RM
4/1/2010	Bath, ME	SMAW	h pile points/splicing pile	RM
10/1/2010	Bangor, ME	SMAW	h pile points/splicing pile	RM
4/1/2011	Londonderry, NH	SMAW	helical anchor welding	RM
10/3/2011	Hookset, NH	SMAW	cofferdam welding, struts, wales	RM
4/2/2012	South Portland, ME	SMAW	h pile points/splicing pile	RM
10/1/2012	Canton, ME	SMAW	welding walers to sheetpiles	RM
4/1/2013	Portland, ME	SMAW	h pile points/splicing pile	RM
10/1/2013	Bath, ME	SMAW	h pile points/splicing pile	RM
4/1/2014	Wells, ME	SMAW	h pile points/splicing pile	RM
10/1/2014	Chatham, MA	SMAW	cofferdam welding, struts, wales	RM

Dave Storkson		AWS D1.1	4/24/2002	AWS #0504028W	SUPER INIT.
10/1/2002	Danvers, MA	SMAW	cofferdam waler &crn braces		GB
4/1/2003	Bangor, ME	SMAW	cofferdam waler &crn braces		GB
10/1/2003	Ossipee, NH	SMAW	h pile points/splicing		GB
4/1/2004	Westbrook, ME	SMAW	h pile points/splicing		GB
10/1/2004	New London, CT	SMAW	h pile points/splicing		GB
4/1/2005	Exeter, NH	SMAW	h pile points/splicing		GB
10/3/2005	Deadham, ME	SMAW	waler on sheet pile		GB
4/3/2006	Scarborough, ME	SMAW	h pile points/splicing		GB
10/2/2006	Wells, ME	SMAW	cofferdam waler &crn braces		GB
4/2/2007	Lincoln, ME	SMAW	h pile points/splicing		GB
10/1/2007	Portland, ME	SMAW	h pile points/splicing		GB
4/1/2008	Westbrook, ME	SMAW	waler on sheet pile		GB
10/1/2008	Dover, NH	SMAW	h pile points/splicing		GB
4/1/2009	Guilford, VT	SMAW	h pile points/splicing		GB
10/1/2009	Lowell, MA	SMAW	h pile points/splicing		GB
4/1/2010	Grand Lke Stream, ME	SMAW	h pile points/splicing		GB
10/1/2010	Unity, ME	SMAW	h pile points/splicing		GB
4/1/2011	Falmouth, ME	SMAW	helical anchor welding		GB
10/3/2011	Guilford, NH	SMAW	waler on sheet pile		GB
4/2/2012	South Portland, ME	SMAW	h pile points/splicing		GB
10/1/2012	Buckland, MA	SMAW	h pile points/splicing		GB
4/1/2013	Nashua, NH	SMAW	cofferdam welding		GB
10/1/2013	Billerica, MA	SMAW	cofferdam welding		GB
4/1/2014	Roxbury, ME	SMAW	waler & strut welding		GB
10/1/2014	Bow, NH	SMAW	cofferdam waler &crn braces		GB

Damien Watts	AWS D1.5	11/7/2014	AWS D1.1	11/7/2014

AWS Certified Welder
Welders, Brazers and Operators

David G. Storkson
Cert # 0504028W SSN # XXX-XX-1499

1-800-443-9353
Information relating to identification and certification of the bearer of this card may be verified by calling or writing:
CERTIFICATION DEPARTMENT OF THE AMERICAN WELDING SOCIETY
550 N.W. LeJeune Road, Miami, FL 33126

AMERICAN WELDING SOCIETY

VALID ONLY IF ACCOMPANIED BY PHOTO ID

This Card is the property of AWS and shall be returned on demand.

AWS Certified Welder
Welders, Brazers and Operators

Nathan A Brissette
Cert # 0006093W SSN # XXX-XX-7606

1-800-443-9353
Information relating to identification and certification of the bearer of this card may be verified by calling or writing:
CERTIFICATION DEPARTMENT OF THE AMERICAN WELDING SOCIETY
550 N.W. LeJeune Road, Miami, FL 33126

AMERICAN WELDING SOCIETY

VALID ONLY IF ACCOMPANIED BY PHOTO ID

This Card is the property of AWS and shall be returned on demand.

AWS Certified Welder
Welders, Brazers and Operators

Richard R Mcleod
Cert # 0503067W SSN # XXX-XX-3654

1-800-443-9353
Information relating to identification and certification of the bearer of this card may be verified by calling or writing:
CERTIFICATION DEPARTMENT OF THE AMERICAN WELDING SOCIETY
550 N.W. LeJeune Road, Miami, FL 33126

AMERICAN WELDING SOCIETY

VALID ONLY IF ACCOMPANIED BY PHOTO ID

This Card is the property of AWS and shall be returned on demand.

AWS Certified Welder
Welders, Brazers and Operators

Gary P Gilbert
Cert # 0006090W SSN # XXX-XX-3346

1-800-443-9353
Information relating to identification and certification of the bearer of this card may be verified by calling or writing:
CERTIFICATION DEPARTMENT OF THE AMERICAN WELDING SOCIETY
550 N.W. LeJeune Road, Miami, FL 33126

AMERICAN WELDING SOCIETY

VALID ONLY IF ACCOMPANIED BY PHOTO ID

This Card is the property of AWS and shall be returned on demand.

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Everton Bailey				
Name	H. B. Fleming		Identification No.	8403	
Welding Procedure Specification No.	1	Rev.	N/A	Date	Jan. 17, 2011

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**SMAW**	
Electrode (single or multiple) [Table 4.10, Item (8	1/8 E7018	ALL
Current Polarity	115 A DC+	
Position [Table 4.10, Item (6)]	3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

BRADLEY F. WELLS
CWI 00050221
QC1 EXP. 05/01/12

Inspected by Brad Wells CWI # 00050221 Test Number N/A
Organization Maine Oxy Date Jan 17, 2011

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A Test Number N/A
Organization N/A Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. FLEMING, INC. Authorized By [signature]
Date 1/17/2011

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Everton Bailey Identification 8403
Welding process SMAW Manual X Semiautomatic _____ Machine _____
Position 1G, 2G , 3G
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifies 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 Classification E7018 F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name Murex 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE Undercut ACCEPTABLE Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE

BRADLEY F. WELLS
CWI 00050221
QC1 EXP. 05/01/12

Test conducted by Brad Wells Laboratory test No. N/A
Per AWS D1.5 Test date: January 17, 2011

Fillet Test Results

Appearance N/A Fillet size N/A
Fracture test root penetration N/a Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A Laboratory test No. N/A
Per N/A Test date: N/A

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2002) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming
Authorized by _____
Date January 17, 2011

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Kyle Blanchard				
Name	H B Fleming		Identification No.	8735	
Welding Procedure Specification No.	1	Rev.	N/A	Date	June 14,2013

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**SMAW**	
Electrode (single or multiple) [Table 4.10, Item (8	1/8 E7018	ALL
Current Polarity	120 A DC+	
Position [Table 4.10, Item (6)]	3G , 4G	ALL
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	1 inch	UNLIMITED
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	UNLIMITED
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	UNLIMITED OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G SIDE BEND	ACCEPTABLE	3G SIDE BEND	ACCEPTABLE
4G SIDE BEND	ACCEPTABLE	4G SIDE BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Bradley F Wells
CWI 00050221
QC1 EXP. 5/1/2015

Inspected by Brad Wells CWI # 00050221 Test Number N/A
Organization Maine Oxy Date June 14, 2013

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A Test Number N/A
Organization N/A Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. FLEMING, INC. Authorized By [signature]
Date 6/14/2013

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Kyle Blanchard Identification no 8735
Welding process SMAW Manual X Semiautomatic ____ Machine ____
Position 3G , 4G
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 1 inch
Thickness range this qualifies unlimited

FILLER METAL

Specification No. A5.1 Classification E7018 F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name Murex 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE Undercut ACCEPTABLE Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
SIDE BEND	ACCEPTABLE	SIDE BEND	ACCEPTABLE
SIDE BEND	ACCEPTABLE	SIDE BEND	ACCEPTABLE

Bradley F Wells
CWI 00050221
QC1 EXP. 5/1/2015

Test conducted by Brad Wells Laboratory test No. N/A
Per AWS D1.5 Test date: June 13, 2013

Fillet Test Results

Appearance N/A Fillet size N/A
Fracture test root penetration N/a Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A Laboratory test No. N/A
Per N/A Test date: N/A

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2008) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming
Authorized by
Date June 14, 2013

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Kyle Blanchard				
Name	H. B. Fleming		Identification No.	8735	
Welding Procedure Specification No.	1	Rev.	N/A	Date	Mar 28, 2012

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**FCAW**	
Electrode (single or multiple) [Table 4.10, Item (8	068 NR 203 MP	ALL
Current Polarity	175A DC NEG	
Position [Table 4.10, Item (6)]	3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F6	F6
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 Test Number N/A

Organization Maine Oxy Date March 28, 2012

BRADLEY F. WELLS
CWI 00050221
QC1 EXP. 05/01/12

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A Test Number N/A

Organization N/A Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. FLEMING, INC Authorized By [signature]

Date 4/28/12

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Kyle Blanchard
Name: H. B. Fleming — Identification No. 004-90-8735
Welding Procedure Specification No. 1 — Rev. N/A — Date May 15, 2007

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**SMAW**	
Electrode (single or multiple) [Table 4.10, Item (8	1/8 E7018	ALL
Current Polarity	105 A DC+	
Position [Table 4.10, Item (6)]	1G, 2G, 3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	UP	UP
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO: YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance: N/A — Fillet Size: N/A
Fracture Test Root Penetration: N/A — Macroetch: N/A
(Describe the location, nature, and size of any crack or tearing of the specimen.)

AWS QC 1 BRADLEY F. WELLS 00050221 CWI

Inspected by: Brad Wells CWI # 00050221 — Test Number: N/A
Organization: Maine Oxy — Date: May 15, 2007

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by: N/A — Test Number: N/A
Organization: N/A — Date: N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor: H.B. Fleming — Authorized By: [signature]
Date: 5/15/07

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Kyle Blanchard Identification no. 004-90-8735
Welding process SMAW Manual X Semiautomatic _____ Machine _____
Position 1G, 2G , 3G V-up
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifies 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 Classification E7018 F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name Murex 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE Undercut ACCEPTABLE Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE

Test conducted by Brad Wells Laboratory test No. N/A
Per AWS D1.5 Test date: May 15, 2007

AWS QC 1
BRADLEY F. WELLS
00050221
CWI

Fillet Test Results

Appearance N/A Fillet size N/A
Fracture test root penetration N/a Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A Laboratory test No. N/A
Per N/A Test date: N/A

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2002) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming8
Authorized by _____
Date May 15, 2007

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Kyle Blanchard				
Name	H. B. Fleming		Identification No.	8735	
Welding Procedure Specification No.	1	Rev.	N/A	Date	Sept. 12, 2008

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**SMAW**	
Electrode (single or multiple) [Table 4.10, Item (8	3/32 7018 (root), 1/8 E7018	ALL
Current Polarity	80 A 120A	
Position [Table 4.10, Item (6)]	6G	6G
Weld Progression [Table 4.10, Item (6)]	up	up
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	6" pipe .280 wall	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4
Fillet	N/A	UNLIMITED
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
6G ROOT BEND	ACCEPTABLE	6G ROOT BEND	ACCEPTABLE
6G FACE BEND	ACCEPTABLE	6G FACE BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

AWS QC 1 BRADLEY F. WELLS 00050221 CWI

Inspected by Brad Wells CWI # 00050221 Test Number N/A

Organization Maine Oxy Date Sept. 12, 2008

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A Test Number N/A

Organization N/A Date N/A

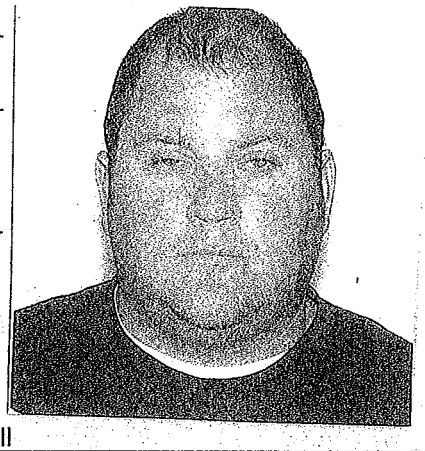
We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H. B. Fleming, Inc Authorized By

Date 2/20/15

MassDOT
Massachusetts Department of Transportation
Highway Division

WELDER AND WELDER OPERATOR QUALIFICATION TEST RECORD



NAME Kyle Blanchard

SIGNATURE

SOC. SEC. # 000-00-0000 **DATE OF TEST** 10/16/14

PROCESS FCAW

MANUAL ☒ **SEMI-AUTO** ☐ **AUTO** ☐

TEST POSITION(S) 6G

MATERIAL SPECIFICATION ASTMA53 **POSITIONS QUALIFIED** All

THICKNESS RANGE QUALIFIED 1/8 Inch to 3/4 Inch

WALL THICKNESS & DIAMETER 0.28 Inch / 6 Inch **Diameter Range Qualified** 4 Inch, Unlimited

FILLER METAL: SPECIFICATION NO. A5.20 **GROUP NO.** NA

CLASSIFICATION NO. E71T-8 **DIAMETER** 1/16 Inch

SHIELDING: FLUX NA **GAS** NA

VISUAL INSPECTION: Satisfactory

FILLET TEST: FILLET SIZE NA **APPEARANCE** NA **MACROETCH** NA

DESCRIPTION OF LOCATION & SIZE OF ANY CRACK NA

GUIDED BEND TEST: PIPE A-POSITION 6G **BEND 1** Root Pass **BEND 2** Root Pass

PIPE B-POSITION 6G **BEND 1** Face Pass **BEND 2** Face Pass

RADIOGRAPHIC TEST: FILM I.D. NA **RESULTS** NA **REMARKS** NA

TEST NO. 01 **CONDUCTED BY** HB Fleming

All welds prepared, tested and inspected in accordance with the requirements of the AWS D1.1 Structural Welding Code –Steel.

WITNESSED BY : John E. Puffer **CWI NO.** 84060731

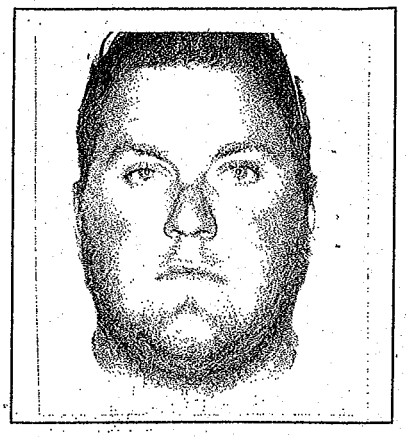
APPROVED BY:

Metals Control Engineer

CERTIFICATION NO. 09517

MASS HIGHWAY

WELDER AND WELDER OPERATOR QUALIFICATION TEST RECORD



NAME Kyle Blanchard

SIGNATURE Kyle Blanchard

SOC. SEC. # 000-00-8735 DATE OF TEST 09-12-08

PROCESS SMAW

MANUAL ☒ SEMI-AUTO ☐ AUTO ☐

TEST POSITION(S) 6G

MATERIAL SPECIFICATION A-500 GR C POSITIONS QUALIFIED All

THICKNESS RANGE QUALIFIED 1/8" – 3/4"

WALL THICKNESS & DIAMETER .280 / 6" DIA. RANGE 3" - Unlimited

FILLER METAL: SPECIFICATION NO. A5.1-A5.5 GROUP NO. NA

CLASSIFICATION NO. E7018 DIAMETER 3/32 -1/8 inch

SHIELDING: FLUX NA GAS NA

VISUAL INSPECTION Satisfactory

FILLET TEST: FILLET SIZE NA APPEARANCE NA MACROETCH NA

DESCRIPTION OF LOCATION & SIZE OF ANY CRACK
NA

GUIDED BEND TEST: PIPE A-POSITION 6G BEND 1 Pass BEND 2 Pass

PIPE B-POSITION BEND 1 Pass BEND 2 Pass

RADIOGRAPHIC TEST: FILM I.D. NA RESULTS NA REMARKS NA

TEST NO. 01 CONDUCTED BY HB Fleming

All welds prepared, tested and inspected in accordance with the requirements of the AWS D1.1 Structural Welding Code-Steel.

WITNESSED BY : Brian McPhee CWI NO. 90060621

APPROVED BY: Mary A. Larsen CERTIFICATION NO. 08248

Metals Control Engineer

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Gary Brissette Identification no. 006-68-5236
Welding process SMAW Manual X Semiautomatic ____ Machine ____
Position 1G, 2G , 3G V-up
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifies 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 Classification E7018 F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name CODEARC 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE Undercut ACCEPTABLE Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE

Test conducted by Brad Wells Laboratory test No. N/A
Per AWS D1.5 Test date: March 16, 2001

Fillet Test Results

Appearance N/A Fillet size N/A
Fracture test root penetration N/a Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A Laboratory test No. N/A
Per N/A Test date: N/A

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2000) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming
Authorized by ____
Date March 16, 2001

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Gary Brissette
Name: H. B. Fleming — Identification No. 006-68-5236
Welding Procedure Specification No. 1 — Rev. N/A — Date March 16, 2001

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	SMAW	
Electrode (single or multiple) [Table 4.10, Item (8	1/8 E7018	ALL
Current Polarity	105 A DC+	
Position [Table 4.10, Item (6)]	1G, 2G, 3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	UP	UP
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance N/A — Fillet Size N/A
Fracture Test Root Penetration N/A — Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 — Test Number N/A
Organization Maine Oxy — Date March 16, 2001

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A — Test Number N/A
Organization N/A — Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (2000) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. FLEMING — Authorized By John L Lincoln
Date 3/16/01

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Gary Brissette — Identification no. 006-68-5236
Welding process SMAW — Manual X — Semiautomatic — Machine
Position 1G, 2G , 3G V-up
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
in accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifies 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 — Classification E7018 — F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name CODEARC 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE — Undercut ACCEPTABLE — Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE

Test conducted by Brad Wells — Laboratory test No. N/A
Per AWS D1.5 — Test date: March 16, 2001

Fillet Test Results

Appearance N/A — Fillet size N/A
Fracture test root penetration N/a — Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A — Laboratory test No. N/A
Per N/A — Test date: N/A

RADIOGRAPHIC TEST RESULTS

Film identifi-cation	Results	Remarks	Film identifi-cation	Results	Remarks

Test witnessed by N/A — Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2000) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming
Authorized by
Date March 16, 2001

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Gary Brissette
Name: H. B. Fleming — Identification No. 006-68-5236
Welding Procedure Specification No. 1 — Rev. N/A — Date March 16, 2001

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	SMAW	
Electrode (single or multiple) [Table 4.10, Item (8	1/8 E7018	ALL
Current Polarity	105 A DC+	
Position [Table 4.10, Item (6)]	1G, 2G, 3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	UP	UP
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance: N/A — Fillet Size: N/A
Fracture Test Root Penetration: N/A — Macroetch: N/A
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 — Test Number N/A
Organization Maine Oxy — Date March 16, 2001

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A — Test Number N/A
Organization N/A — Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (2000) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. FLEMING — Authorized By John S Lescott
Date 3/19/01

WELDER, WELDING OPERATOR OR TACK WELDER QUALIFICATION TEST RECORD

Welder's Name: Gary A. Brissette

Company Name: H. B. Fleming, Inc.

Welding Procedure Specification #: CM-15

Type - Manual: ____ Semi-Automatic: X

Machine: ____ Automatic: ____

Revision: -2- Date: 12-13-94 By: R. Jellison

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type	FCAW	
Electrode (single or multiple)	single	single
Current/Polartity	DCRP	
Position	3G & 4G	All
Weld Progression	vertical up	vertical up
Backing (YES or NO)	yes	
Material/ Spec.	ASTM A-36 to ASTM A-36	
Base Metal		
Thickness: (Plate)	1"	
Groove	1"	.125" to unlimited
Fillet	na	unlimited
Thickness: (Pipe/tube)	na	
Groove	na	.125" to unlimited
Fillet	na	unlimited
Diameter: (Pipe)	na	
Groove	na	24" and greater
Fillet	na	unlimited
Filler Metal		
Specification	A 5.20	
Classification	E71T-1	
F-No.	6	6
Gas/Flux Type	Argon - C02	
Other		

H.B. FLEMING RECEIVED JAN 5 1995

VISUAL INSPECTION

Acceptable YES or NO: yes

Guided Bend Test Results

Type	Results	Type	Results
vertical side bend	No Discontinuities	overhead side bend	No Discontinuities
vertical side bend	No Discontinuities	overhead side bend	No Discontinuities

Fillet Test Results

Appearance: ____ Fillet Size: ____

Fracture Test Root Penetration: ____ Macroetch: ____

(Desrcibe the location, nature, and size of any crack or tearing of the specimen.)

TENSILE TEST

Specimen No.	Width	Thickness	Area	Ultimate tensile load lb.	Ultimate unit stress. psi	Character of failure and location

Inspected by: Roger W. Jellison

Organization: Central Maine Technical College

Test number: -0-

Date: 12-28-94

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirerments of ANSI/ AWS D1.1-94 Structural Welding Code - Steel

Signed: Richard H. Lee Date: 1-4-95

By: Richard Lee

Title: Vice President/Academic Dean

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Nathan Brissette				
Name	H. B. Fleming		Identification No.	007-72-7606	
Welding Procedure Specification No.	1	Rev.	N/A	Date	April 24, 2002

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	SMAW	
Electrode (single or multiple) [Table 4.10, Item (8	3/32 E7018 & 1/8 E7018	ALL
Current Polarity	75 A DC+ & 105 A DC+	
Position [Table 4.10, Item (6)]	ALL	ALL
Weld Progression [Table 4.10, Item (6)]	UP	UP
Backing (YES or NO) [Table 4.10 Item (7)]	NO	NO
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	3/8	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
6G FACE BEND (2 required)	ACCEPTABLE		ACCEPTABLE
6G ROOT BEND (2 required)	ACCEPTABLE		

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

AWS QC 1 BRADLEY F. WELLS 00050221 CWI

Inspected by Brad Wells CWI # 00050221 Test Number N/A

Organization Maine Oxy Date April 22, 2002

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A Test Number N/A

Organization N/A Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (2000) Structural Welding Code ---- Steel.

Manufacturer or Contractor H. B. Fleming Authorized By

Date 4/20/02

PERFORMANCE QUALIFICATION TEST RECORD

Eye correction required Yes ☐ No ☐

Type of Eye Correction: Eye glasses ☐ Contact lenses ☐ Magnifiers ☐

Name Brissette, Nathan A. Social Security # 007-72-7606

Welder ■ Operator ☐

Qualified with AWS WPS No. 1-QC-W2 Supplement No. G Test No. D1-SM-F4-P-A-L

Process(es) SMAW Manual ■ Semi-Automatic ☐ Automatic ☐ Machine ☐

Test base metal specification SA 36 To SA 36

Material number (M or P Number) P1 To P1

Shielding Gas NA Flow Rate NA

AWS Filler metal classification E7018 F no 4 Size 3/32" & 1/8"

Backing Yes ■ No ☐

Double Welded ☐ or Single Welded ■

Current AC ☐ DC ■

Consumable Insert Yes ☐ No ■

Short Circuiting arc (GMAW) Yes ☐ No ■

Back Purging Yes ☐ No ■

Test results

Visual test results Pass ■ Fail ☐

Bend test results NA ☐ Pass ■ Fail ☐

Radiographic test results NA ■ Pass ☐ Fail ☐

PROCESS(es) QUALIFIED FOR SMAW

POSITION(s) QUALIFIED FOR:

Groove:

Pipe 1G ■ 2G ■ 5G ■ 6G ■ 6GR ☐ (T)Min 1/8" Max 3/4" Diameter 24" Range 24" and greater

Plate 1G ■ 2G ■ 3G ■ 4G ■ (T)Min 1/8" Max 3/4"

Consumable Insert ☐ Backing type ■

Fillet:

Pipe 1F ■ 2F ■ 4F ■ 5F ■ (T)Min 1/8" Max Unlimited

Plate 1F ■ 2F ■ 3F ■ 4F ■ (T)Min 1/8" Max Unlimited

Vertical Up ■ Down ☐ Weld Deposit Min 1/8" Max 3/4"

Single Side ■ Double Side ☐

The above named person qualified for the welding process(es) used in this test within the limits of essential variables shown above, including materials and filler metal variables of the AWS Standard for welder certification and ANSI/AWS D1.1 Code or Standard. I hereby certify that I was not involved in the training of the above named individual as a welder:

Date Tested 5/23/00 Signed by Thomas E. Giles
Test Supervisor

AWS CWI No. 88070281

Signed by Thomas E. Giles
Corporate Representative

Director - Welding Test Center, Eastern Maine Technical College
Title

Form QC-WF1-- Performance Qualification Test Record

D C WELDING, INC.
P.O. Box 429
Dracut, MA 01826
Tel 978-957-2883
Fax 978-957-2988

WELDER, WELDING OPERATOR OR TACK WELDER QUALIFICATION TEST RECORD

Type of Welder: Welder
Name: Nathan Brissette — Identification No. 7606
Welding Procedure Specification No. AWS D1.1 — Rev. ____ Date ____

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type (5.16.2)	SMAW	
Electrode (single or multiple)	single	Single
Current/Polarity	DC/Reverse	
Position (5.16.5)	3G, 4G	ALL
Weld Progression (5.16.7)	Uphill	Uphill
Backing (YES or NO) (5.16.18)	Yes	with backing
Material/Spec. (5.16.1)	A36 to A36	
Base Metal		
Thickness: (Plate)		
Groove	1"	1/8" - Unlimited
Fillet	---	ALL
Thickness: (Pipe/tube)		
Groove	---	1/8" - Unlimited
Fillet	---	ALL
Diameter: (Pipe)		
Groove	---	>24"
Fillet	---	ALL
Filler Metal (5.16.3)		
Spec. No.	A5.1	
Class	E7018	
F-No.	F-4	F1-4
Gas/Flux Type (5.16.4)	NA	
Other	---	

VISUAL INSPECTION (5.12.6 or 5.12.7)
Acceptable YES or NO: Yes

Guided Bend Test Results (5.28.1/5.29.1)

Type	Result	Type	Result
3G Bend 1	Accept	4G Bend 1	Accept
Bend 2	Accept	Bend 2	Accept

Fillet Test Results (5.28.2/5.28.3; 5.39.3/5.39.4)

Appearance ____ Fillet Size ____
Fracture Test Root Penetration ____ Macroetch ____
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by: Daniel M. Charko — Test Number: 7606
Organization: D C Welding, Inc. — Date: 4-25-2000

RADIOGRAPHIC TEST RESULTS (5.28.4/5.39.2)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks

Interpreted by ____ Test Number ____
Organization ____ Date ____

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Section 5, Part C or D of ANSI/AWS D1.1, (1998 year) Structural Welding Code—Steel

Manufacturer or Contractor: C.H.B. Fleming Co.
Authorized By: [signature]
Date: 7/30/00
Form E-4

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Dale Cole Identification no 0325
Welding process SMAW Manual X Semiautomatic _____ Machine _____
Position 1G, 2G , 3G
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifies 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 Classification E7018 F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name Murex 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE Undercut ACCEPTABLE Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE

BRADLEY R. WELLS
CWI 00050221
QC1 EXP. 05/01/12

Test conducted by Brad Wells Laboratory test No. N/A
Per AWS D1.5 Test date: Feb. 23, 2010

Fillet Test Results

Appearance N/A Fillet size N/A
Fracture test root penetration N/a Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A Laboratory test No. N/A
Per N/A Test date: N/A

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2002) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming
Authorized by _____
Date Feb. 23, 2010

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Dale Cole				
Name	H. B. Fleming		Identification No.	0325	
Welding Procedure Specification No.	1	Rev.	N/A	Date	Feb. 23, 2010

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	SMAW	
Electrode (single or multiple) [Table 4.10, Item (8	1/8 E7018	ALL
Current Polarity	115 A DC+	
Position [Table 4.10, Item (6)]	3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

BRADLEY F. WELLS
CWI 00050221
QC1 EXP. 05/01/12

Inspected by Brad Wells CWI # 00050221 Test Number N/A
Organization Maine Oxy Date Feb. 23, 2010

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

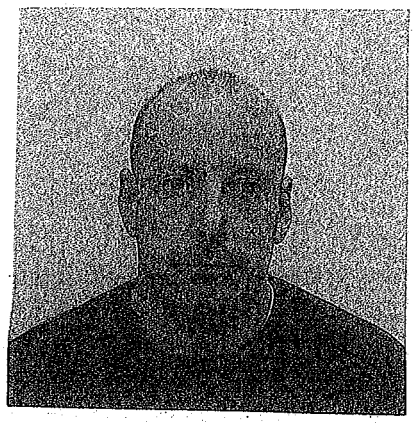
Interpreted by N/A Test Number N/A
Organization N/A Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. FLEMING Authorized By [signature]
Date 2/23/10

MassDOT
Massachusetts Department of Transportation
Highway Division

WELDER AND WELDER OPERATOR QUALIFICATION TEST RECORD



NAME Dale Cole, Jr.

SIGNATURE

SOC. SEC. # 000-00-0000 DATE OF TEST 10/24/14

PROCESS FCAW

MANUAL ☒ SEMI-AUTO ☐ AUTO ☐

TEST POSITION(S) 6G

MATERIAL SPECIFICATION ASTMA53 POSITIONS QUALIFIED All

THICKNESS RANGE QUALIFIED 1/8 Inch to 3/4

WALL THICKNESS & DIAMETER 0.28 Inch / 6 Inch Diameter Range Qualified 4 Inch Unlimited

FILLER METAL: SPECIFICATION NO. A5.20 GROUP NO. NA

CLASSIFICATION NO. E71T-8 DIAMETER 1/16 Inch

SHIELDING: FLUX NA GAS NA

VISUAL INSPECTION: Satisfactory

FILLET TEST: FILLET SIZE NA APPEARANCE NA MACROETCH NA

DESCRIPTION OF LOCATION & SIZE OF ANY CRACK NA

GUIDED BEND TEST: PIPE A-POSITION 6G BEND 1 Root Pass BEND 2 Root Pass

PIPE B-POSITION 6G BEND 1 Face Pass BEND 2 Face Pass

RADIOGRAPHIC TEST: FILM I.D. NA RESULTS NA REMARKS NA

TEST NO. 01 CONDUCTED BY HB Fleming

All welds prepared, tested and inspected in accordance with the requirements of the AWS D1.1 Structural Welding Code –Steel.

WITNESSED BY : John E. Puffer CWI NO. 84060731

APPROVED BY:

Metals Control Engineer

CERTIFICATION NO. 09518

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Dennis Daggett				
Name	H. B. Fleming		Identification No.	007-72-6203	
Welding Procedure Specification No.	1	Rev.	N/A	Date	05/11/2007

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	SMAW	
Electrode (single or multiple) [Table 4.10, Item ((	1/8 E7018	ALL
Current Polarity	115 A DC+	
Position [Table 4.10, Item (6)]	1G, 2G, 4G	1G, 2G, 4G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 Test Number N/A

Organization Maine Oxy Date May 11,2007

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A Test Number N/A

Organization N/A Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. Fleming

Authorized By

Date 5/11/07

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Dennis Daggett Identification no 007-72-6203
Welding process SMAW Manual X Semiautomatic _____ Machine _____
Position 1G, 2G , 3G
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifies 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 Classification E7018 F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name Murex 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE Undercut ACCEPTABLE Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE

Test conducted by Brad Wells Laboratory test No. N/A
Per AWS D1.5 Test date: May 11, 2007

Fillet Test Results

Appearance N/A Fillet size N/A
Fracture test root penetration N/a Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A Laboratory test No. N/A
Per N/A Test date: N/A

AWS QC 1 BRADLEY A. WELLS 0030221 CWI

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2002) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming
Authorized by [signature]
Date May 11, 2007

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Lucas Erickson				
Name	H. B. Fleming		Identification No.	4534	
Welding Procedure Specification No.	1	Rev.	N/A	Date	Feb 19, 2014

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**SMAW**	
Electrode (single or multiple) [Table 4.10, Item (8	1/8 E7018	ALL
Current Polarity	115 A DC+	
Position [Table 4.10, Item (6)]	3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Bradley F Wells
CWI 00050221
QC1 EXP. 5/1/2015

Inspected by Brad Wells CWI # 00050221 Test Number N/A
Organization Maine Oxy Date Feb. 19, 2014

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A Test Number N/A
Organization N/A Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (2010) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. FLEMING, INC. Authorized By
Date 2/19/2014

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Lucas Erickson Identification 4534
8403Welding process SMAW Manual X Semiautomatic Machine
Position 1G, 2G , 3G
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifies 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 Classification E7018 F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name Murex 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE Undercut ACCEPTABLE Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE

Test conducted by Brad Wells Laboratory test No. N/A
Per AWS D1.5 Test date: Feb 19, 2014

Fillet Test Results

Appearance N/A Fillet size N/A
Fracture test root penetration N/a Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A Laboratory test No. N/A
Per N/A Test date: N/A

Bradley F Wells
CWI 00050221
QC1 EXP. 5/1/2015

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2008) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming
Authorized by
Date Feb 19, 2014

PERFORMANCE QUALIFICATION TEST RECORD

Eye correction required Yes ☐ No ☐ Type of Eye Correction: Eye glasses ☐ Contact lenses ☐ Magnifiers ☐

Name Gilbert, Gary P. Social Security # 006-72-3346

Welder ■ Operator ☐

Qualified with AWS WPS No. 1-QC-W2 Supplement No. G Test No. D1-SM-F4-P-A-L

Process(es) SMAW Manual ■ Semi-Automatic ☐ Automatic ☐ Machine ☐

Test base metal specification SA 36 To SA 36

Material number (M or P Number) P1 To P1

Shielding Gas NA Flow Rate NA

AWS Filler metal classification E7018 F no 4 Size 3/32" & 1/8"

Backing Yes ■ No ☐ Consumable Insert Yes ☐ No ■

Double Welded ☐ or Single Welded ■ Short Circuiting arc (GMAW) Yes ☐ No ■

Current AC ☐ DC ■ Back Purging Yes ☐ No ■

Test results

Visual test results Pass ■ Fail ☐ Radiographic test results NA ■ Pass ☐ Fail ☐

Bend test results NA ☐ Pass ■ Fail ☐

PROCESS(es) QUALIFIED FOR SMAW

POSITION(s) QUALIFIED FOR:

Groove:

Pipe 1G ■ 2G ■ 5G ■ 6G ■ 6GR ☐ (T)Min 1/8" Max 3/4" Diameter 24" Range 24" and greater

Plate 1G ■ 2G ■ 3G ■ 4G ■ (T)Min 1/8" Max 3/4"

Consumable Insert ☐ Backing type ■

Fillet:

Pipe 1F ■ 2F ■ 4F ■ 5F ■ (T)Min 1/8" Max Unlimited

Plate 1F ■ 2F ■ 3F ■ 4F ■ (T)Min 1/8" Max Unlimited

Vertical Up ■ Down ☐ Weld Deposit Min 1/8" Max 3/4"

Single Side ■ Double Side ☐

The above named person qualified for the welding process(es) used in this test within the limits of essential variables shown above, including materials and filler metal variables of the AWS Standard for welder certification and ANSI/AWS D1.1 Code or Standard. I hereby certify that I was not involved in the training of the above named individual as a welder:

Date Tested 5/23/00 Signed by Thomas E. Giles
Test Supervisor

AWS CWI No. 88070281

Signed by Thomas E. Giles Director - Welding Test Center, Eastern Maine Technical College
Corporate Representative Title

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Bill Kirk
Name: H. B. Fleming — Identification No. 7774
Welding Procedure Specification No. 1 — Rev. N/A — Date Oct. 21, 2011

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**SMAW**	
Electrode (single or multiple) [Table 4.10, Item (8	1/8 E7018	ALL
Current Polarity	115 A DC+	
Position [Table 4.10, Item (6)]	3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

BRADLEY F. WELLS
CWI 00050221
QC1 EXP. 05/01/12

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance N/A — Fillet Size N/A
Fracture Test Root Penetration N/A — Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 — Test Number N/A
Organization Maine Oxy — Date October 21, 2011

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A — Test Number N/A
Organization N/A — Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. FLEMING, INC — Authorized By [signature]
Date 10/21/2011

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Bill Kirk Identification 7774
Welding process SMAW Manual X Semiautomatic _____ Machine _____
Position 1G, 2G , 3G
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifies 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 Classification E7018 F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name Murex 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE Undercut ACCEPTABLE Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE
			BRADLEY F. WELLS CWI 00050221 QC1 EXP. 05/01/12

Test conducted by Brad Wells Laboratory test No. N/A
Per AWS D1.5 Test date: Oct 21, 2011

Fillet Test Results
Appearance N/A Fillet size N/A
Fracture test root penetration N/a Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A Laboratory test No. N/A
Per N/A Test date: N/A

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2002) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming
Authorized by _____
Date October 21, 2011

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	John McGintee				
Name	H. B. Fleming		Identification No.	1183	
Welding Procedure Specification No.	1	Rev.	N/A	Date	April 6, 2012

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**SMAW**	
Electrode (single or multiple) [Table 4.10, Item (8	1/8 E7018	ALL
Current Polarity	115 A DC+	
Position [Table 4.10, Item (6)]	1G, 2G, 3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

BRADLEY F. WELLS
CWI 00050221
IAC1 EXP. 05/01/12

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by	Brad Wells CWI # 00050221	Test Number	N/A
Organization	Maine Oxy	Date	April 6, 2012

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by	N/A	Test Number	N/A
Organization	N/A	Date	N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. Fleming, INC.

Authorized By [signature]

Date 5/1/12

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name John McGintee Identification no 1183
Welding process SMAW Manual X Semiautomatic _____ Machine _____
Position 1G, 2G , 3G
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifies 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 Classification E7018 F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name Murex 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE Undercut ACCEPTABLE Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE

Test conducted by Brad Wells Laboratory test No. N/A
Per AWS D1.5 Test date: April 6, 2012
2012

BRADLEY F. WELLS
CWI 00050221
QC1 EXP. 05/01/12

Fillet Test Results
Appearance N/A Fillet size N/A
Fracture test root penetration N/a Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A Laboratory test No. N/A
Per N/A Test date: N/A

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2002) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming
Authorized by
Date April 6, 2012

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Kevin McLaren
Name: H. B. Fleming — Identification No. 5164
Welding Procedure Specification No. 1 — Rev. N/A — Date Feb. 9,2007

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	SMAW	
Electrode (single or multiple) [Table 4.10, Item (t	1/8 E7018	ALL
Current Polarity	115 A DC+	
Position [Table 4.10, Item (6)]	1G, 2G, 3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance N/A — Fillet Size N/A
Fracture Test Root Penetration N/A — Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 — Test Number N/A
Organization Maine Oxy — Date Feb. 9, 2009

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A — Test Number N/A
Organization N/A — Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code — Steel.

Manufacturer or Contractor H. B. Fleming, Inc. Authorized By
Date 2/9/07

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Kevin McLaren — Identification no 007-80-3367
Welding process SMAW — Manual X — Semiautomatic ____ — Machine ____
Position 1G, 2G , 3G
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifica 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 — Classification E7018 — F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name Murex 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)
Appearance ACCEPTABLE — Undercut ACCEPTABLE — Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE

Test conducted by Brad Wells — Laboratory test No. N/A
Per AWS D1.5 — Test date: Feb. 9, 2009

Fillet Test Results

Appearance N/A — Fillet size N/A
Fracture test root penetration N/a — Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A — Laboratory test No. N/A
Per N/A — Test date: N/A

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A — Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2002) Bridge Welding Code.

Manufacturer or contractor H.B. Fleming
Authorized by
Date Feb. 9, 2007

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Kevin McLaren				
Name	H. B. Fleming		Identification No.	5164	
Welding Procedure Specification No.	1	Rev.	N/A	Date	Oct. 31, 2008

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**FCAW**	
Electrode (single or multiple) [Table 4.10, Item (8	E71-T8J .068	ALL
Current Polarity	175A	
Position [Table 4.10, Item (6)]	2G	1G, 2G
Weld Progression [Table 4.10, Item (6)]		
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	6" pipe .280 wall	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP	6"	4" - UNLIMITED
Groove	N/A	1/8" to 3/4
Fillet	N/A	UNLIMITED
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E71-T8J	
F-No. [Table 4.10, Item (2)]	F6	F6
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
2G ROOT BEND	ACCEPTABLE	2G FACE BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 Test Number N/A

Organization Maine Oxy Date OCT. 31, 2008

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A Test Number N/A

Organization N/A Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H. B. FLEMING, INC. Authorized By [signature]

Date 10/31/08

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Kevin McLaren
Name: H. B. Fleming — Identification No. 5164
Welding Procedure Specification No. 1 — Rev. N/A — Date Sept. 12, 2008

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**SMAW**	
Electrode (single or multiple) [Table 4.10, Item (8	3/32 7018 (root), 1/8 E7018	ALL
Current Polarity	80 A 120A	
Position [Table 4.10, Item (6)]	6G	6G
Weld Progression [Table 4.10, Item (6)]	up	up
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	6" pipe .280 wall	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4
Fillet	N/A	UNLIMITED
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
6G ROOT BEND	ACCEPTABLE	6G ROOT BEND	ACCEPTABLE
6G FACE BEND	ACCEPTABLE	6G FACE BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

AWS QC 1 BRADLEY F. WELLS 00050221 CWI

Inspected by Brad Wells CWI # 00050221 — Test Number N/A
Organization Maine Oxy — Date Sept. 12, 2008

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A — Test Number N/A
Organization N/A — Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ----- Steel.

Manufacturer or Contractor H. B. Fleming, Inc — Authorized By [signature]
Date 2/26/15

MASS HIGHWAY

WELDER AND WELDER OPERATOR QUALIFICATIONS TEST RECORD

NAME McClaren, Kevin

SIGNATURE _____

PROCESS SMAW **DATE OF TEST** 04/10/2008

MANUAL ☑ **SEMI-AUTO** ☐ **AUTO** ☐

TEST POSITION(S) 3G, 4G

MATERIAL SPECIFICATION A - 36 **POSITIONS QUALIFIED** All

THICKNESS RANGE QUALIFIED 1/8" - Unlimited

WALL THICKNESS DIAMETER NA **JOINT THICKNESS** 1" Plate

FILLER METAL

SPECIFICATION NO A5.1 **GROUP NO** F4

CLASSIFICATION NO. E7018 **DIAMETER** 1/8"

SHIELDING

FLUX NA **GAS** NA

VISUAL INSPECTION Satisfactory

FILLET TEST

FILLET SIZE NA **APPEARANCE** NA **MACROETCH** NA

DESCRIPTION OF LOCATION AND SIZE OF ANY CRACK

NA

GUIDED BEND TEST

PLATE A-POSITION 3G **BEND 1A** Acceptable **BEND 2A** Acceptable

PLATE B-POSITION 4G **BEND 1B** Acceptable **BEND 2B** Acceptable

RADIOGRAPHIC TEST

FILM I.D. _____ **RESULTS** _____ **REMARKS** _____

TEST NO 5164 **COMPANY** D.C. Welding, Inc.

All welds prepared, tested and inspected in accordance with the requirements of the AASHTO/AWSD1.5 Bridge Welding Code.

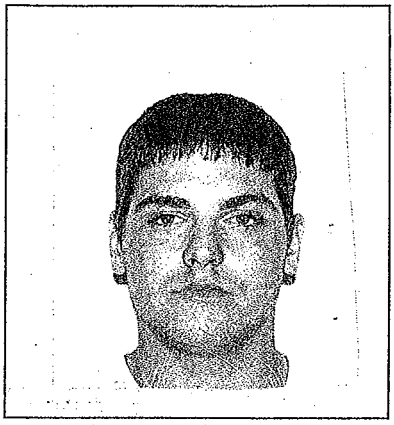
WITNESSED BY Daniel M. Charko **CWI NO** 94110421

APPROVED BY Mary A. Guerin
Metals Control Engineer

CERTIFICATION NO 08125

MASS HIGHWAY

WELDER AND WELDER OPERATOR QUALIFICATION TEST RECORD



NAME Kevin McLaren

SIGNATURE K.M.

SOC. SEC. # 000-00-5164 DATE OF TEST 09-12-08

PROCESS SMAW

MANUAL ☒ SEMI-AUTO ☐ AUTO ☐

TEST POSITION(S) 6G

MATERIAL SPECIFICATION A-500 GR C POSITIONS QUALIFIED All

THICKNESS RANGE QUALIFIED 1/8" – 3/4"

WALL THICKNESS & DIAMETER .280 / 6" DIA. RANGE 3" - Unlimited

FILLER METAL: SPECIFICATION NO. A5.1-A5.5 GROUP NO. NA

CLASSIFICATION NO. E7018 DIAMETER 3/32 -1/8 inch

SHIELDING: FLUX NA GAS NA

VISUAL INSPECTION Satisfactory

FILLET TEST: FILLET SIZE NA APPEARANCE NA MACROETCH NA

DESCRIPTION OF LOCATION & SIZE OF ANY CRACK
NA

GUIDED BEND TEST: PIPE A-POSITION 6G BEND 1 Pass BEND 2 Pass

PIPE B-POSITION BEND 1 Pass BEND 2 Pass

RADIOGRAPHIC TEST: FILM I.D. NA RESULTS NA REMARKS NA

TEST NO. 01 CONDUCTED BY HB Fleming

All welds prepared, tested and inspected in accordance with the requirements of the AWS D1.1 Structural Welding Code-Steel.

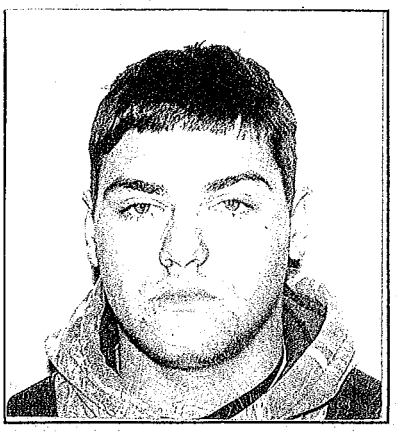
WITNESSED BY : Brian McPhee CWI NO. 90060621

APPROVED BY: Mary A. Jones CERTIFICATION NO. 08246

Metals Control Engineer

MASS HIGHWAY

WELDER AND WELDER OPERATOR QUALIFICATION TEST RECORD



NAME Kevin McLaren

SIGNATURE

SOC. SEC. # 000-00-5164 **DATE OF TEST** 10-31-08

PROCESS FCAW

MANUAL ☐ **SEMI-AUTO** ☒ **AUTO** ☐

TEST POSITION(S) 2G

MATERIAL SPECIFICATION A-500 GR C **POSITIONS QUALIFIED** 1G, 2G, 1F, 2F

THICKNESS RANGE QUALIFIED 1/8" – 3/4"

WALL THICKNESS & DIAMETER .280 / 6" **DIA. RANGE** 3" - Unlimited

FILLER METAL: SPECIFICATION NO. A5.20 **GROUP NO.** NA

CLASSIFICATION NO. E71T-8J **DIAMETER** 0.068

SHIELDING: FLUX NA **GAS** NA

VISUAL INSPECTION Satisfactory

FILLET TEST: FILLET SIZE NA **APPEARANCE** NA **MACROETCH** NA

DESCRIPTION OF LOCATION & SIZE OF ANY CRACK
NA

GUIDED BEND TEST: PIPE A-POSITION 2G **BEND 1** Pass **BEND 2** Pass

PIPE B-POSITION **BEND 1** Pass **BEND 2** Pass

RADIOGRAPHIC TEST: FILM I.D. NA **RESULTS** NA **REMARKS** NA

TEST NO. 01 **CONDUCTED BY** HB Fleming

All welds prepared, tested and inspected in accordance with the requirements of the AWS D1.1 Structural Welding Code-Steel.

WITNESSED BY : Brian McPhee **CWI NO.** 90060621

APPROVED BY: **CERTIFICATION NO.** 08281

Metals Control Engineer

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: Richard McLeod
Name: H. B. Fleming — Identification No. 3654
Welding Procedure Specification No. 1 — Rev. N/A — Date Oct. 31, 2008

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	FCAW	
Electrode (single or multiple) [Table 4.10, Item (8	E71-T8J .068	ALL
Current Polarity	175A	
Position [Table 4.10, Item (6)]	2G	1G, 2G
Weld Progression [Table 4.10, Item (6)]		
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	6" pipe .280 wall	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP	6"	4" - UNLIMITED
Groove	N/A	1/8" to 3/4
Fillet	N/A	UNLIMITED
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E71-T8J	
F-No. [Table 4.10, Item (2)]	F6	F6
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO: YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
2G ROOT BEND	ACCEPTABLE	2G FACE BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by Brad Wells CWI # 00050221 — Test Number N/A
Organization Maine Oxy — Date OCT. 31, 2008

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A — Test Number N/A
Organization N/A — Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H. B. Fleming, Inc. — Authorized By [signature]
Date 10/31/08

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	David Storkson				
Name	H. B. Fleming		Identification No.	005-72-1499	
Welding Procedure Specification No.	1	Rev.	N/A	Date	April 24, 2002

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	SMAW	
Electrode (single or multiple) [Table 4.10, Item (8	3/32 E7018 & 1/8 E7018	ALL
Current Polarity	75 A DC+ & 105 A DC+	
Position [Table 4.10, Item (6)]	ALL	ALL
Weld Progression [Table 4.10, Item (6)]	UP	UP
Backing (YES or NO) [Table 4.10 Item (7)]	NO	NO
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	3/8	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
6G FACE BEND (2 required)	ACCEPTABLE		
6G ROOT BEND (2 required)	ACCEPTABLE		

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

AWS QC 1 BRADLEY F. WELLS 00050221 CWI

Inspected by Brad Wells CWI # 00050221 Test Number N/A

Organization Maine Oxy Date April 22, 2002

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A Test Number N/A

Organization N/A Date N/A

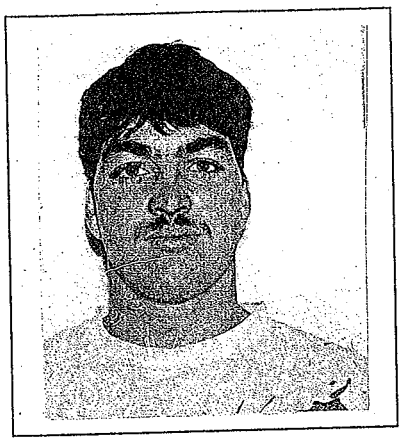
We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (2000) Structural Welding Code ---- Steel.

Manufacturer or Contractor H. B. Fleming

Authorized By

Date 4/26/02

WELDER AND WELDER OPERATOR QUALIFICATION TEST RECORD



NAME DICK MCLEOD

SIGNATURE

SOC. SEC. # 006-70-3654 DATE OF TEST 11/14/97

PROCESS: SMAW

MANUAL X ; SEMI-AUTO ____ ; AUTO. ____

TEST POSITION(S) 3G,4G

MATERIAL SPECIFICATION A36 ; POSITION(S) QUALIFIED ALL

THICKNESS RANGE QUALIFIED 1/8" - UNLIMITED

WALL THICKNESS & DIAMETER NA JOINT THICKNESS 1"

FILLER METAL: SPECIFICATION NO. A5.1 ; GROUP NO. F4
CLASSIFICATION NO. E7018 ; DIAMETER 1/8"

SHIELDING: FLUX ____ ; GAS ____

VISUAL INSPECTION(AASHTO/AWS) SATISFACTORY PER SECTION 9

FILLET TEST: FILLET SIZE ____ ; APPEARANCE ____ ; MACROETCH ____
DESCRIPTION OF LOCATION & SIZE OF ANY CRACKS OR TEARS

GUIDED BEND TEST: PLATE A: POSITION 3G BEND 1 ACCEPT BEND 2 ACCEPT
PLATE B: POSITION 4G BEND 1 ACCEPT BEND 2 ACCEPT

RADIOGRAPHIC TEST: FILM I.D. ____ RESULTS ____ REMARKS ____

TESTS NO. 3654 CONDUCTED BY: D.M. CHARKO / D.C. WELDING INC.

All welds prepared, tested and inspected in accordance with the requirements of the BRIDGE WELDING CODE (ANSI/AASHTO/AWS D1.5).

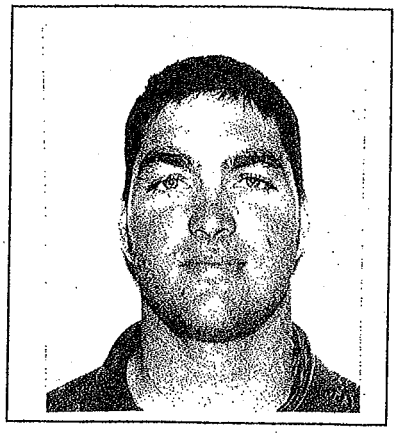
WITNESSED BY DANIEL M. CHARKO CWI NO. 94110421

APPROVED BY Mary A. Green
Metals Control Engineer

CERTIFICATION NO. **04461**

MASS HIGHWAY

WELDER AND WELDER OPERATOR QUALIFICATION TEST RECORD



NAME Richard McLeod

SIGNATURE Richard McLeod II

SOC. SEC. # 000-00-3654 DATE OF TEST 10-31-08

PROCESS FCAW

MANUAL ☐ SEMI-AUTO ☒ AUTO ☐

TEST POSITION(S) 2G

MATERIAL SPECIFICATION A-500 GR C POSITIONS QUALIFIED 1G, 2G, 1F, 2F

THICKNESS RANGE QUALIFIED 1/8" – 3/4"

WALL THICKNESS & DIAMETER .280 / 6" DIA. RANGE 3" - Unlimited

FILLER METAL: SPECIFICATION NO. A 5.20 GROUP NO. NA

CLASSIFICATION NO. E71T-8J DIAMETER 0.068

SHIELDING: FLUX NA GAS NA

VISUAL INSPECTION Satisfactory

FILLET TEST: FILLET SIZE NA APPEARANCE NA MACROETCH NA

DESCRIPTION OF LOCATION & SIZE OF ANY CRACK
NA

GUIDED BEND TEST: PIPE A-POSITION 2G BEND 1 Pass BEND 2 Pass

PIPE B-POSITION BEND 1 Pass BEND 2 Pass

RADIOGRAPHIC TEST: FILM I.D. NA RESULTS NA REMARKS NA

TEST NO. 1 CONDUCTED BY H. B. Fleming

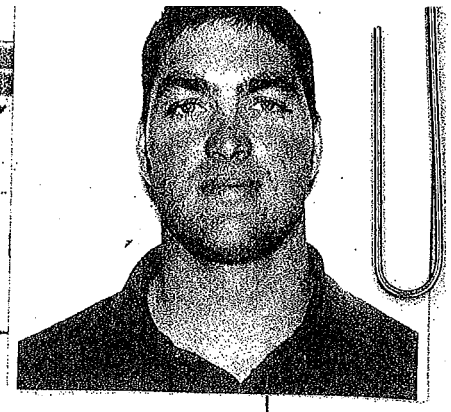
All welds prepared, tested and inspected in accordance with the requirements of the AWS D1.1 Structural Welding Code-Steel.

WITNESSED BY : Brian McPhee CWI NO. 90060621

APPROVED BY: Mary A. Green CERTIFICATION NO. 08279

Metals Control Engineer

MASS HIGHWAY



WELDER AND WELDER OPERATOR QUALIFICATIONS TEST

NAME Richard McLeod # 3654

SIGNATURE Richard McLeod

PROCESS GMAW DATE OF TEST 10-31-08

MANUAL ☐ SEMI-AUTO ☒ AUTO ☒

TEST POSITION(S) 2G

MATERIAL SPECIFICATION A-500 GR C POSITIONS QUALIFIED 2G

THICKNESS RANGE QUALIFIED 4" to unlimited Φ PIPE / 1/8 - 3/4 thickness

WALL THICKNESS DIAMETER JOINT THICKNESS .280

FILLER METAL

SPECIFICATION NO AWS 5.20 GROUP NO F6

CLASSIFICATION NO. E 71-T 8J DIAMETER .068

SHIELDING

FLUX — GAS —

VISUAL INSPECTION PASS

FILLET TEST

FILLET SIZE APPEARANCE MACROETCH

DESCRIPTION OF LOCATION AND SIZE OF ANY CRACK

GUIDED BEND TEST

PLATE A-POSITION Face BEND 1A PASS BEND 2A n/a

PLATE B-POSITION Root BEND 1B PASS BEND 2B n/a

RADIOGRAPHIC TEST

FILM I.D. RESULTS REMARKS

TEST NO COMPANY H.B. FLEMING 89 PLEASANT ST. S. PORTLAND, ME

All welds prepared, tested and inspected in accordance with the requirements of the AASHTO/AWSD1.5 Bridge Welding Code.

WITNESSED BY Brian McPhee Pennoni Assoc. BJ McPhee 10-31-08 CWI NO 90060621

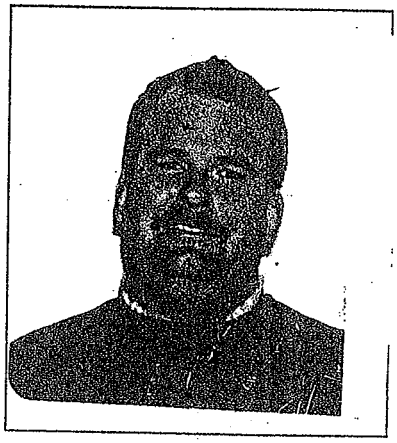
APPROVED BY

Metals Control Engineer

CERTIFICATION NO

THE COMMONWEALTH OF MASSACHUSETTS
Highway Department

WELDER AND WELDER OPERATOR QUALIFICATION TEST RECORD



NAME DAVID STORKSON JR.

SIGNATURE

SOC. SEC. # 005/72/1499 DATE OF TEST 01/16/97

PROCESS: SMAW

MANUAL X ; SEMI-AUTO ____ ; AUTO. ____

TEST POSITION(S) 3G,4G

MATERIAL SPECIFICATION A36 ; POSITION(S) QUALIFIED ALL

THICKNESS RANGE QUALIFIED 1/8" - UNLIMITED

WALL THICKNESS & DIAMETER NA JOINT THICKNESS 1"

FILLER METAL: SPECIFICATION NO. A5.1 ; GROUP NO. F4
CLASSIFICATION NO. E7018 ; DIAMETER 1/8"

SHIELDING: FLUX NA ; GAS NA

VISUAL INSPECTION(AASHTO/AWS) SATISFACTORY PER 9.21.1

FILLET TEST: FILLET SIZE ____ ; APPEARANCE ____ ; MACROETCH ____
DESCRIPTION OF LOCATION & SIZE OF ANY CRACKS OR TEARS

GUIDED BEND TEST: PLATE A: POSITION 3G BEND 1 ACCEPT. BEND 2 ACCEPT.
PLATE B: POSITION 4G BEND 1 ACCEPT. BEND 2 ACCEPT.

RADIOGRAPHIC TEST: FILM I.D. ____ RESULTS ____ REMARKS ____

TESTS NO. 1499 CONDUCTED BY: D. C. WELDING INC.

All welds prepared, tested and inspected in accordance with the requirements of the BRIDGE WELDING CODE (ANSI/AASHTO/AWS D1.5).

WITNESSED BY RALPH P. STEVENS CWI NO. 84040111

APPROVED BY
Metals Control Engineer

CERTIFICATION NO. 04102

WELDER AND WELDING OPERATOR QUALIFICATION RECORD
AWS D1.5 Sec. 5

Welder or welding operator's name Damien Watts Identification 3936
Welding process SMAW Manual X Semiautomatic _____ Machine _____
Position 1G, 2G , 3G
(flat, horizontal, overhead or vertical - if vertical, state whether upward or downward)
In accordance with procedure specification No. prequalified B-U2a
Material specification ASTM A-36
Diameter and wall thickness (if pipe) - otherwise, joint thickness 3/8 inch
Thickness range this qualifies 1/8 " to 3/4 "

FILLER METAL

Specification No. A5.1 Classification E7018 F No. F4
Describe filler metal (if not covered by AWS specification) N/A
Is backing used? YES
Filler metal diameter and trade name Murex 1/8
Flux for submerged arc or gas metal arc or flux cored welding N/A

VISUAL INSPECTION (9.21.1)

Appearance ACCEPTABLE Undercut ACCEPTABLE Piping porosity ACCEPTABLE

Guided Bent Test Results

Type	Result	Type	Result
FACE BEND	ACCEPTABLE	ROOT BEND	ACCEPTABLE

Test conducted by Brad Wells Laboratory test No. N/A
Per AWS D1.5 Test date: Nov. 7,2014

Fillet Test Results

Appearance N/A Fillet size N/A
Fracture test root penetration N/a Macroetch N/A
(Describe the location, nature, and size of any crack or tearing of the specimen)
Test conducted by N/A Laboratory test No. N/A
Per N/A Test date: N/A

Bradley F Wells
CWI 00050221
QC1 EXP. 5/1/2015

RADIOGRAPHIC TEST RESULTS

Film identification	Results	Remarks	Film identification	Results	Remarks

Test witnessed by N/A Test No. N/A
Per N/A

We understand, certify that the statements in this record are correct and that the welds were prepared and tested in accordance with the requirements of AASHTO/AWS D1.5, (2002) Bridge Welding Code.

Manufacturer or contractor H. B. Fleming
Authorized by _____
Date Nov 7, 2014

WELDER, WELDING OPRATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder	Damien Watts				
Name	H. B. Fleming		Identification No.	3936	
Welding Procedure Specification No.	1	Rev.	N/A	Date	Nov. 7, 2014

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (1)]	**SMAW**	
Electrode (single or multiple) [Table 4.10, Item ((	1/8 E7018	ALL
Current Polarity	115 A DC+	
Position [Table 4.10, Item (6)]	3G	1G, 2G, 3G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10 Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness: (Plate)		
Groove	3/8 inch	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Thickness: (Pipe/Tube)		
Groove	N/A	1/8 " to 3/4 "
Fillet	N/A	UNLIMITED
Diameter :(Pipe)PJP		
Groove	N/A	1/8" to 3/4 OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.1	
Class	E7018	
F-No. [Table 4.10, Item (2)]	F 4	F4, F3, F2, F1
Gas/Flux Type [Table 4.10item (3)]	N/A	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
3G FACE BEND	ACCEPTABLE	3G ROOT BEND	ACCEPTABLE

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature, and size of any crack or tearing of the specimen.)

Bradley F Wells
CWI 00050221
QC1 EXP. 5/1/2015

Inspected by Brad Wells CWI # 00050221 Test Number N/A
Organization Maine Oxy Date Nov. 7, 2014

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by N/A Test Number N/A
Organization N/A Date N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS D1.1, (_____) Structural Welding Code ---- Steel.

Manufacturer or Contractor H.B. Fleming, INC. Authorized By [signature]
Date 11/7/14