WELDING PROCEDURE SPECIFICATION

WPS- 2010-8/110 **REV. NO.:** 0 **DATE:** 9/1/2004 ****APPLICABILITY****

WELDING PROCESS/ES GTAW- **and** GTAW- **ASME:** X **AWS:** X

SUPPORTING PQ 200-8 200-110 **OTHER:**

JOINT **This WPS shall be used in conjunction with the General Welding Standards (GWS) and Welding Fabrication Procedure (WFP) sections and criteria for joint details, repairs, NDE, inspection etc.**

Weld Joint Type Butt/Fillet **Class:** Full or Partial Penetration

See GWS 1-06 for details **Preparation:** Thermal/Mechanical

Root Opening: **Backing:** Metal

Backgrind root: N **Backing Mat.:**

Bkgrd Method: **GTAW Flux:** N/A **Backing Retainer:** N/A

FILLER METALS: **Class:** ERNiCu-7 **and** ERNiCu-7

A No: **SFA Class:** 5.14 **and** 5.14 **F No:** 42 **and** 42 **Size:** 1/16 3/32 1/8 1/18

Insert: N **Insert Desc.:** N/A **Weld Metal Thickness Range:**

Flux: Type: N/A **Size:** 0 **AWS:** 0.120 **thru** 0.500

Filler Metal Note: **ASME:** 0.062 **thru** 0.500

BASE MATERIAL **P No.** 8 **Gr No.** 1 **to: P No.** 110 **Gr No.** NA

Spec. ASTM A-240 **Grade:** 304 **to: Spec.** ASTM B-127 **Grade:** NA

Pipe Dia Range: **Groove >** 0

Thickness Range: Groove : **AWS:** 0.120 **thru** 0.500 **ASME:** 0.062 **thru** 0.500

QUALIFIED POSITIONS 1G **Vertical Progression:** Up

Preheat Min. Temp.: 50 **F** **GAS: Shielding:** Argon **or**

Interpass Max. Temp. 350 **F** **Gas Composition:** 100 **%** **%** **%**

Preheat Maintinance: 50 **F** **Gas Flow Rate cfh** 15 **to** 28

Backing Gas/Comp: N/A 0 **%**

PWHT: Time @ F Temp. 0 **Backing Gas Flow cfh** 2 **to** 8

Temp. Range: 0 **F** **to** 0 **F** **Trailing Gas/Comp:** N/A **%**

PREPARED BY Kelly Bingham **DATE:** 3/30/2004

Signature on file at FWO-DECS

APPROVED BY Tobin Oruch **DATE:** 9/1/2004

Signature on file at FWO-DECS

Note:For SC/SS/ML-1/ML-2 work, this WPS requires independent review.

WPS NO: 2010-8/110

WELDING CHARACTERISTICS:

Current: DCEN **and** DCEN **Tungsten type:** EWTH-2 **Transfer Mode:** N/A

Ranges: Amps 145 **to** 180 **Pulsing Cycle:** 0 **to** 0

Volts 17 **to** 21 **Background Current:** 0

Fuel Gas: N/A **Flame:** N/A **Braze temp. F** 0 **to** 0

WELDING TECHNIQUE: **For cleaning, grinding, and inspection criteria refer to Volume 2, Welding Fabrication Procedures**

Technique: Manual **Cleaning Method:** Wire Brush, File, Grind

Single Pass of Multi Pass: M **Stringer or Weave bead (S/W):** S **Oscillation:**

GMAW Gun Angle °: **to** **Forehand or Backhand for GMAW (F/B):** N/A

Maximum K/J Heat Input **Travel speed/ipm:** 2 - 8 **Gas Cup Size:**

PROCEDURE QUALIFIED FOR:

Charpy "V" Notch: N **Nil-Ductil Transition Temperature:** N **Dynamic Tear:** N

Comments:

Weld Layer	Manual Process	Filler Metals	Size	Amp Range		Volt Range		Travel ipm		Nozzel Angle	Other
1	GTAW-	ERNiCu-7	1/16	145	165	17	21	2	6		
2	GTAW-	ERNiCu-7	3/32	165	180	17	21	3	8		
3			1/8								
4			1/18								
5											
6											
7											
8											

REM. *** Weld layers are representative only - actual number of passes and layer sequence may vary due to variations in joint design, thickness and fitup.**