

WELDING PROCEDURE SPECIFICATION (WPS) YES (X)
 PREQUALIFIED _____ QUALIFIED BY TESTING _____ (X)
 or PROCEDURE QUALIFICATION RECORD (PQR) YES (X)

Company Name A.R.C. Eni. Inc. Identification # ARC WPS #42
 Welding Process(es) SAW Revision _____ Date _____ By _____
 Supporting PQR No.(s) ARC - PQR - 42 Authorized by STEVE HOWARD Date 3/10/2010
 Type - Manual _____ Semi - Automatic ()
 Machine () Automatic (X)

| | | | |
|--|--|---|--|
| JOINT DESIGN USED Type <u>FILLET</u> Single (X) Double Weld () Backing () NO (X) Backing Material _____ Root Opening _____ Root Face Dimension _____ Groove Angle _____ Radius (J-U) _____ Back Gouging _____ Method _____ | | POSITION Position of Groove _____ Fillet <u>1F 2F</u> Vertical Progression () | |
| BASE METALS Material Spec <u>A709</u> Type or Grade <u>36 50 50W</u> Thickness _____ Groove _____ Fillet <u>UNLIMITED</u> Diameter (Pipe) _____ | | ELECTRICAL CHARACTERISTICS Transfer Mode (FCAW) _____ Short Circuiting () Globular () Spray (X) Current: AC () DCEP _____ DCEN (X) Pulsed () OTHER: _____ | |
| FILLER METALS Lincoln <u>1-61</u> AWS Specification <u>A 5.23 A 5.17</u> AWS Classification <u>EM12K</u> | | TECHNIQUE Stringer or Weave Bead <u>STRINGER</u> Multi-pass or Single Pass (per side) <u>SINGLE</u> Number of Electrodes <u>-1</u> Electrode Spacing _____ Longitudinal _____ Lateral _____ Angle _____ | |
| SHIELDING Flux <u>LINCOLN 960</u> Gas _____ Composition _____ Electrode - Flux (Class) _____ Flow Rate _____ <u>F7A2-EM12K</u> Gas Cup Size _____ | | Contact Tube to Work Distance <u>1 1/4 STICKOUT +/- 1/4"</u> Peening _____ Interpass Cleaning: <u>hand and power tools</u> | |
| PREHEAT: 70 degrees MAX INTERPASS 450 DEGREES | | POSTWELD HEAT TREATMENT Temp _____ Time _____ | |

| WELDING PROCEDURE | | | | | | | | |
|-----------------------|------|---------------|----------|-----------------|-------------------------|-----------|--------------|---------------|
| Pass or Weld Layer(s) | S | Filler Metals | | Current | | Volts | Travel Speed | Joint Details |
| | | Class | Diameter | Type & Polarity | Amps or Wire Feed Speed | | | |
| | 5-16 | EM12K | 5/32 | DCEN | 540-660 | 30.7-35.3 | 16.6-22.4 | |

Vermont Agency of Transportation
RECEIVED

CK'D BY David Peterson OK'D BY JWC

Apr 26, 2012

RESUBMIT _____ APPROVED
 BY C. CARLSON DATE 5/7/12

Steve Howard
 Steve Howard