

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 13.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001511**Date Inspected:** 22-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** Steve Williams**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Hinge K**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Joe Adame was present at Oregon Iron Works (OIW) to observe welding being performed on a Procedure Qualification Record for this project. The following observations were recorded.

I. OIW Shop/ Bay 2:

OIW PQR # CS-025: The Quality Assurance (QA) Inspector was present to witness welding on Procedure Qualification Record (PQR) # CS-027. The welding is being attempted with the submerged arc welding process in the flat position (1G). The PQR weld joint is double U groove weld with a 20° included angle and a closed root. The material being welded is a 100 millimeter (mm) thick A709 grade HPS 485W steel to A508 HPS 690W. The PQR is a tubular mock up section of a splice to be performed in production welding. Length of the test weld length is 1320 mm.

The QA Inspector observed OIW Welding Engineer Greg Roberts performing a visual inspection of the weld joint fit up. After fit up inspection was complete the welding commenced. Mr. Roberts and Leadman Norm Peterson were observed monitoring welding parameters and timing each weld pass for determination of travel speed. The welding was being performed by OIW welder Craig Jacobsen (WID# J6). The QA Inspector observed that traditional clampmeters will not accurately measure the AC power source (square wave). The welding electrical parameters are verified on the unit. The Leadman was observed checking preheat and interpass temperatures with Temperature indicator sticks. Mr. Roberts stated that the minimum preheat is 325° Fahrenheit and maximum interpass temperature is 450° Fahrenheit as described in the project special provisions. The QA Inspector also performed verification of welding parameters, travel speed and documented all relevant test information. Due to

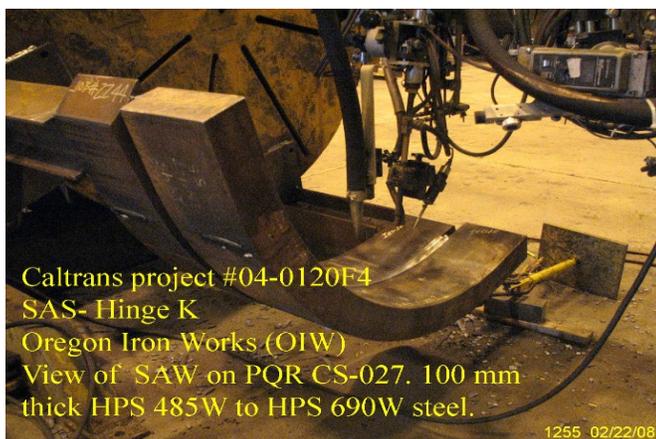
WELDING INSPECTION REPORT

(Continued Page 2 of 2)

the amount of welding to be performed the PQR testing will continue throughout the coming days. Note* OIW has proceeded with PQR testing without receiving a formal approval from the State. The State requested additional information to be included in the PQR's that was not submitted prior to performing the tests. (See State letter no. 05.03.01-001314 Item T)

II. OIW QC Office: The QA Inspector met OIW Quality Control Manager (QCM) Steve Williams and Welding Engineer Greg Roberts. Mr. Roberts informed the QA Inspector that OIW do not plan to perform fillet weld soundness tests. Mr. Williams also stated that AWS D1.5-2002 does not specify if fillet weld soundness tests need to be performed for PQRS. The QA Inspector informed Mr. Williams that the project special provisions describe that fillet weld soundness testing must be qualified in each position to be performed in production. This is in section 8.3 Welding, of the special provisions. Mr. Williams reviewed the specification and agreed. Mr. Williams also stated that the specials should clarify qualified and pre-qualified. The QA Inspector informed Mr. Williams that currently OIW do not have any prequalified procedures with the exception of SMAW. The QA Inspector also stated that OIW have the option to submit an RFI to clarify project specifications if he was unsure. Mr. Williams concluded by stating that OIW will run fillet weld soundness tests and could not wait for a delayed response from the State for an RFI.

(Attached picture from this observation)



Summary of Conversations:

As noted in the contents of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Adame,Joe	Quality Assurance Inspector
Reviewed By:	Wright,Mark	QA Reviewer
