

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-011896**Date Inspected:** 05-Feb-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR

CWI Name:	M. Gregson, J. Salazar, G. Mundt	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 Pipe Beams				

Summary of Items Observed:

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

OIW Fabrication Shop-Bay 6 (ESW Overlay Process)

Hinge-K Pipe Beam Fuse Assembly 120A-8

The QA Inspector witnessed welder WID #F17, Mr. Igor Frolov performing the flux core arc welding (FCAW) and grinding repairs on the Fuse overlay. The QA Inspector noted that the FCAW was being performed in the flat position and pre heat had been previously applied with a stationary torch. Mr. Frolov explained to the QA Inspector that he was performing the repairs on various layers of the third pass overlay which included undercut, minor low spots and lack of fusion between the weld passes. The QA Inspector noted that welding procedure specification (WPS) 3293 was being utilized for the repairs. The QA Inspector randomly recorded pre heat temperatures of approximately 125 degrees Fahrenheit (52 C). The QA Inspector noted that QC Inspector Mike Gregson was present during the FCAW repairs and QC Inspector Gregson had recorded in-process welding parameters of 185 amps and 24.5 volts. QC Inspector Gregson later notified the QA Inspector that the repairs on the first ESW layer will be completed on this day shift and swing shift WID #V7, Vincent Vue will set-up to perform the ESW fourth layer weld passes. The QA Inspector noted that the welding parameters and pre-heat were in compliance with the applicable WPS 3293. See attached picture below.

Hinge-K Pipe Beam Assembly 102A-3

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a111-3 Forging to a110-3 Base Plate

The QA Inspector was notified by OIW QC Inspector Mike Gregson that WID #O6 (Tim O'Brian), was in process of performing the Flux-core Arc Welding (FCAW) on the Critical Weld Repairs (CWR's) #2244-012, #2244-013 and #2244-018. QC Inspector Gregson explained that the FCAW is being performed in accordance with the OIW approved Welding Procedure Specification (WPS) 3051 and WPS 3048. QC Inspector Gregson explained that he will be present during the entire shift to continuously monitor welding parameters (amps/volts) and pre-heat temperatures, during the CWR's. QC Inspector Gregson later explained that the FCAW was complete on the above mentioned CWR's and post heat was currently being applied with a torch, in accordance with the CWR Specific Instructions. The QA Inspector noted that this was 230-315 degrees C.

The QA Inspector was present on this swing shift and noted that OIW continued the post heat on the shift. The QA Inspector randomly verified a temperature of approximately 260 C and noted that the post heat was applied for the minimum 2 hrs. required, per the CWR. The QA Inspector spoke with QC Inspector Gary Mundt and Mr. Mundt explained that he will be present on the swing shift to monitor all welding activities.

Material, Equipment, and Labor Tracking (MELT)

QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project. The QA Inspector observed at Oregon Iron Works: 3 OIW production personnel and 2 QC Inspectors.

Summary of Conversations:

As noted above.

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 Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Vance, Sean	Quality Assurance Inspector
Reviewed By:	Adame, Joe	QA Reviewer
