

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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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-014514**Date Inspected:** 01-Jun-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**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:

Hinge-K Pipe Beam Assembly 102A-3:

The QA Inspector observed WID # B62 (Marcus Belgarde) performing Flux Core Arc Welding (FCAW) on weld joint # W2-18. The QA Inspector observed that WID # B62 was performing the SAW in the vertical position and was currently qualified for this. The QA Inspector noted that this weld joint was a partial penetration, AWS D1.5 TC-P4-S, a109 Post Tension Cap plate to b106 HPS 485 W stiffener. The QA Inspector observed that OIW QC Inspector Jose' Salazar was present at the time of welding and QC Inspector Salazar explained that during Visual examination of the completed weld joint, he had discovered underfill on the weld cap and WID # B62 was currently performing the FCAW to repair.

QC Inspector Salazar explained that he was intermittently checking the welding parameter amps, volts, travel speed and pre-heat temperatures. The QA Inspector randomly observed QC Inspector Salazar verify welding amperage of 225 amps, 23.3 volts and a pre-heat temperature of approximately 400 degrees Fahrenheit. QC Inspector Salazar explained that the travel speed was previously verified at 8 inches per minute and that Welding Procedure Specification (WPS) 3050 was being utilized for the repair. QC Inspector Salazar explained that once the repair is complete that Visual testing will be performed on the repair area. The QA Inspector noted that the FCAW appeared to be in compliance with the WPS.

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Hinge-K Pipe Beam Assembly 101A-4:

The QA Inspector observed a production helper grinding on the Partial Joint Penetration (PJP) weld joints # W2-01, W2-02, W2-17, W2-18, W2-19 and W2-20. The QA Inspector observed that the helper was utilizing a hand held mechanical, Makita brand grinder with an attached 9" circular disc. The QA Inspector observed that OIW QC Inspectors had previously marked these completed weld joints during final visual inspection, for weld cap reinforcement which exceeds the maximum allowable of 3 mm, per AWS D1.5.

The QA Inspector observed the helper randomly checking the areas which were ground with a bridge cam gauge. The QA Inspector noted that these weld joints were the a106/ab106 HPS 485 W stiffeners to a109/a110 Post Tension Cap and Base plate. The QA Inspector also observed the helper performing grinding on the Post Tension and Base plate flame cut edges, which were previously marked by OIW QC Inspectors.

The QA Inspector observed that OIW QC Inspector Jose' Salazar was present on this shift and QC Inspector Salazar explained that Final Visual and Magnetic Particle testing will be performed on the PJP's, after production completes the grinding.

Hinge-K Pipe Beam Assembly 101A-3:

The QA Inspector observed that OIW had placed the Fuse 120A-3 into the Production Bay 3 and the Fuse was sitting idle on a trailer in the Bay.

The QA Inspector later observed OIW production personell attaching two yellow slings through each end of the Fuse and attach the slings to lifting shackles. After the slings and shackles were attached, the QA Inspector observed OIW utilizing the hand held controls which operate the overhead Bay crane, to mobilize the crane over the Fuse. Once the crane was mobilized, the QA Inspector observed the crane cables and lifting hook lowered to attach the slings. Once the slings were attached, the QA Inspector observed OIW production lift the Fuse from the trailer and move to the North and then place on wooden dunnage on the Bay floor, near the Forging assembly 102A-3, which had been previously placed in the welding positioner.

The QA Inspector later observed that OIW had placed the Fuse on the saddles which were used during transport and the Fuse was currently sitting idle.

The QA Inspector observed that OIW Production Lead Troy Smith was present on this shift and Mr. Smith explained that OIW will eventually place this Fuse and begin fitting the Fuse to the Forging, 102A-3. The QA Inspector noted that this will be identified as HPB 102A-3. See attached pictures below.

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 Clackamas: 4 OIW production personnel and 2 QC Inspectors.

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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
