

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-013974**Date Inspected:** 11-May-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 101A-4:

The QA Inspector was informed by Lead QC Inspector Michael Gregson that the Ultrasonic Testing (UT) on the weld joint, # W4-01, has been completed. The QA Inspector noted that this was a Complete Joint Penetration (CJP), AWS D1.5 B-U7-S, piece mark Fuse 120A-4 to Forging 102A-4. Lead QC Inspector Gregson explained that OIW QC Inspector Gary Mundt had resumed and completed the UT on the previous swing shift and found 1 rejectable and 2 recordable indications. The QA Inspector noted that per AWS D1.5 Sect.6.19.8 "Only those discontinuities which are rejectable need be recorded on the test report, except that for welds designated in the contract documents as being "Fracture Critical," ratings which are up to and including 6dB less critical than rejectability shall be recorded on the test report". Lead QC Inspector Gregson explained that he had verified the indications, which were discovered by QC Inspector Mundt and has agreed with the testing results. Lead QC Inspector Gregson explained that he will generate a appropriate, non-critical Weld Repair Report (WRR) and then present a copy of the report to OIW Production Lead Troy Smith, for repair.

The QA Inspector then randomly performed approximately 10 % Ultrasonic Testing on an area of the weld, which was previously accepted by Lead QC Inspector Mike Gregson. The QA Inspector discovered 1 rejectable indication, which was approximately 170 mm long and determined to be a Class A, per AWS D1.5 Table 6.3, UT Acceptance-Rejection Criteria-Tensile Stress. The QA Inspector informed Lead QC Inspector Mike Gregson of

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the rejectable indication and QC Inspector Mike Gregson explained that he will re-evaluate the area. The QA Inspector then observed QC Inspector Gregson perform the testing, utilizing a 70 degree testing angle and Mr. Gregson explained that he could not find the indication. The QA Inspector observed that Mr. Gregson had set up a screen range on his Ultrasonic Testing instrument, which will mask the indication. The QA Inspector advised Mr. Gregson to set up a smaller range to possibly see the indication and then observed Mr. Gregson making changes to his currently set-up screen range and then re-testing the area. The QA Inspector then observed that Mr. Gregson had discovered the indication. Mr. Gregson then agreed with the QA Inspector's testing results and explained that he will instruct swing shift QC Inspector Gary Mundt to also re-evaluate the area.

The QA Inspector was present on this swing shift and observed QC Inspector Mundt performing the UT on the above mentioned area. QC Inspector Mundt explained that he did determine the area was a class A, rejectable indication and he will mark for a weld repair. The QA Inspector later observed that the area was marked, as shown in attached picture below and completed an applicable Ultrasonic Testing Report (TL 6027), on this date.

Hinge-K Pipe Beam Assembly 102A-3:

The QA Inspector observed WID #M8 (Jim Munsey) performing submerged Arc Welding (SAW) on weld joint (W2-02). The QA Inspector observed that WID #M8 was performing the SAW in the flat 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, a110 Base 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 he was intermittently checking the welding parameter amps, volts, travel speed and pre-heat temperatures. The QA Inspector randomly observed QC Inspector verify welding amperage of 585 amps, 32.4 volts and a travel speed of 20 inches per minute. The QA Inspector observed that the fill passes were currently in process and that the parameters were in compliance with the applicable Welding Procedure Specification (WPS) 4020. The QA Inspector then performed a pre-heat check and recorded a temperature of approximately 350 degrees Fahrenheit. The QA Inspector observed that OIW Production Lead Troy Smith was present on this shift and Lead Troy Smith explained that the SAW will continue throughout the entire shift. The QA Inspector noted that the above mentioned SAW appears to be in compliance with the applicable WPS.

The QA Inspector was present on this swing shift and observed no work performed on this assembly.

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: 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
