

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-014004**Date Inspected:** 13-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 observed OIW QC Inspector Rob Walters performing additional Ultrasonic Testing on the Weld Joint # W4-01. 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 and that QC Inspector Walters was performing the inspection from Face "A" on the 102A-4 forging side. The QA Inspector observed that the inspection was being performed on the previously rejected area, known as "Indication # 1", on OIW's completed Ultrasonic Examination Report (# 2244-10-UT-04). The QA Inspector questioned QC Inspector Walters on why he was performing the testing and QC Inspector Walters explained that he was instructed by Lead QC Inspector Mike Gregson, to locate and plot the indications, on the appropriate side in which the excavation will be performed. QC Inspector Walters explained that he had previously performed UT inspection on the previously rejected area, known as "Indication # 2", on OIW's completed Ultrasonic Examination Report (# 2244-10-UT-04) and had located and plotted the indication on the appropriate side in which the excavation will be performed. QC Inspector Walters explained that he had easily located this indication, utilizing a 70 degree testing angle. The QA Inspector observed that this was being performed so the excavations on the two repairs will not exceed 65 % of the weld size, which would require a Critical Weld Repair.

The QA Inspector then spoke with Lead QC Inspector Mike Gregson and QC Inspector Gregson explained that

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OIW production personell have performed this task in the past. QC Inspector Gregson explained that he was asked to perform this by OIW Production lead Troy Smith and QC Inspector Gregson agreed. QC Inspector Gregson explained to the QA Inspector that he was “helping production out”. The QA Inspector observed that by the end of shift, QC Inspector Walters had transferred the 2 UT reject marks, to opposite sides in which they were originally rejected from. The QA Inspector observed that QC Inspector Walters had utilized a 60, 70 and 45 degree testing angle to locate and transfer “Indication # 1, to the side in which the excavation will be performed. See attached picture below.

Hinge-K Pipe Beam Assembly 102A-3:

The QA Inspector observed WID #B62 (Marcus Belgarde) performing submerged Arc Welding (SAW) on weld joint (W2-19). The QA Inspector observed that WID #B62 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, a109 Post Tension Cap plate to a106 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, 33 volts and a travel speed of 18 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. QC Inspector Salazar explained to the QA Inspector that he had performed 100 % Visual and Magnetic Particle (VT/MT) testing on the previously completed root pass. QC Inspector Salazar explained that the testing was performed in accordance to AWS D1.5 Visual and OIW approved procedure QC-113, Rev. # 3 criteria. QC Inspector Salazar explained that no rejectable indications were found during the testing and explained that he had recorded in-process welding parameters, during the root pass SAW, of 468 amps, 31.7 volts, travel speed of 16 inches per minute and intermittently verified the pre heat temperature at approximately 350 degrees Fahrenheit. The QA Inspector then randomly 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.

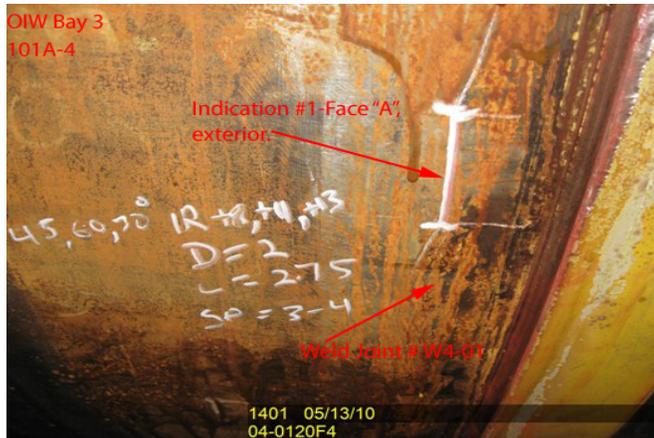
The QA Inspector was present on this swing shift and observed no work performed on this assembly.

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