

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-014003**Date Inspected:** 12-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 performed additional Ultrasonic Testing (UT) on the weld joint, # W4-01, piece mark Fuse 120A-4 to Forging 102A-4. The QA Inspector performed this additional UT inspection on approximately 25% of the total length of the weld joint, which was previously accepted by OIW QC personell and the QA Inspector found no rejectable or recordable indications. The QA Inspector performed the shear wave inspection from Face "A", from the Forging side of the weld axis, utilizing a 60 and 70 degree testing angle attached to a 2.25 MHz transducer. Once the testing was complete from Face "A", the QA Inspector then tested the identical areas from Face "B", from both sides of the weld axis and found no rejectable indications. At this time, the QA Inspector noted that this weld joint currently has 2 non-critical weld repairs pending, which were previously discovered during the final UT. The QA Inspector notified lead QC Inspector Mike Gregson of the testing results and completed the applicable Ultrasonic Testing report (TL 6027), on this date. See Summary of Conversations and attached picture below.

Hinge-K Pipe Beam Assembly 102A-3:

The QA Inspector observed that OIW Production personnel had previously completed the Partial Joint Penetration (PJP) weld joints # W2-01 and # W2-02 and were in process of flipping the assembly over. The QA Inspector

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observed WID # B62 (Marcus Belgarde) and WID # M8 (Jim Munsey) attaching and tightening 2 previously fabricated carbon steel clamps around the a109 Cap and a110 Base plate. The QA Inspector observed that OIW Production Lead Troy Smith was present and supervising this activity and Mr. Smith explained that the assembly was being flipped to stand vertical and access the Partial Joint Penetration weld joints # W2-19 and # W2-20. The QA Inspector then observed WID # M8 placing 2 rigging shackles and slings through the above mentioned clamps. After placement of the slings, the QA Inspector observed WID # B62 utilize the hand held controls, which operate the Bay 3 Overhead Crane, to maneuver the crane hook over the assembly. Once the crane hook was placed over the assembly, the QA Inspector observed that WID # B62 lowered the hook, utilizing the hand held control and then WID # M8 placed the 2 previously attached slings on the hook. The QA Inspector then observed the assembly being lifted and placed near the Submerged Arc Welding machine, which will be utilized to perform the welding. The QA Inspector later observed WID # B62 attaching Cooperheat Ceramic blankets, to eventually start the pre-heat, prior to performing the Submerged Arc Welding. WID # B62 explained to the QA Inspector that he will continue setting up the Cooperheat for the remainder of the shift. See attached picture 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: 4 OIW production personnel and 2 QC Inspectors.



Summary of Conversations:

Lead QA Inspector Joe Adame explained to the QA Inspector that additional Ultrasonic Testing should be performed on the weld joint, due to a missed indication by OIW Lead QC Inspector Mike Gregson. The QA Inspector had previously performed approximately 10 % UT on this WJ # W4-01 and had discovered a rejectable indication, which appeared to be slag inclusions deposited during the Submerged Arc Welding process. The QA Inspector had previously performed the 10 % inspection on an area which was inspected and accepted by QC Inspector Gregson.

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.

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Inspected By: Vance,Sean

Quality Assurance Inspector

Reviewed By: Adame,Joe

QA Reviewer