

**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-014801**Date Inspected:** 15-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

<b>CWI Name:</b>	M. Gregson, J. Salazar, G. Mundt	<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>			
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>

**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-3:**

The QA Inspector observed OIW Lead QC Inspector Mike Gregson performing Ultrasonic Testing on the Weld Joint #W4-01. The QA Inspector noted that this Complete Joint Penetration (AWS D1.5 B-U7-S), was the Fuse 120A-3 to Forging 102A-3 and that QC Inspector Gregson was performing the testing from the interior or Face "B" side of the joint. The QA Inspector observed that QC Inspector Gregson was utilizing a 70 degree Lucite wedge testing angle attached to a 2.25 MHz transducer and the testing was being performed from both sides of the weld axis.

The QA Inspector then spoke with QC Inspector Gregson and Mr. Gregson explained that prior to the testing, that a calibration was performed utilizing an AWS IIV Type 2 calibration block, with the 70 degree testing angle. QC Inspector Gregson explained that the testing being performed was in accordance to OIW UT procedure # NP-2244-(13)-01 and at this time, 2 rejectable indications were found.

The QA Inspector was later informed by QC Inspector Gregson that he had completed the testing on Face "B" at the end of the shift and a total of 4 rejectable indications were found. QC Inspector Gregson explained that he had recently completed a preliminary testing report and provided the QA Inspector with a photocopy.

The QA Inspector reviewed the testing report and per the testing report, the rejectable indications which were found by QC Inspector Gregson, were rated as Class A discontinuities, per AWS D1.5 UT Acceptance-Rejection

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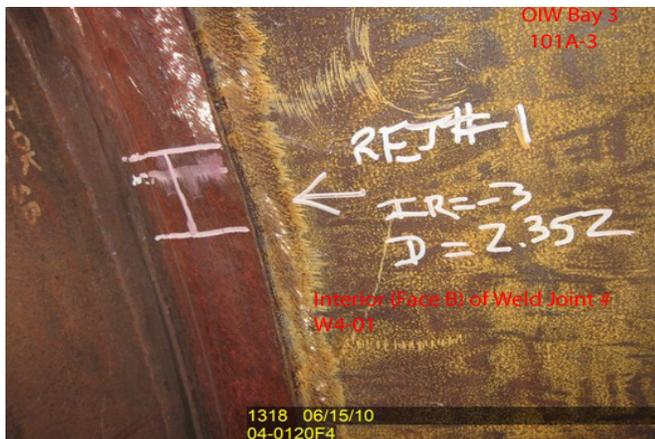
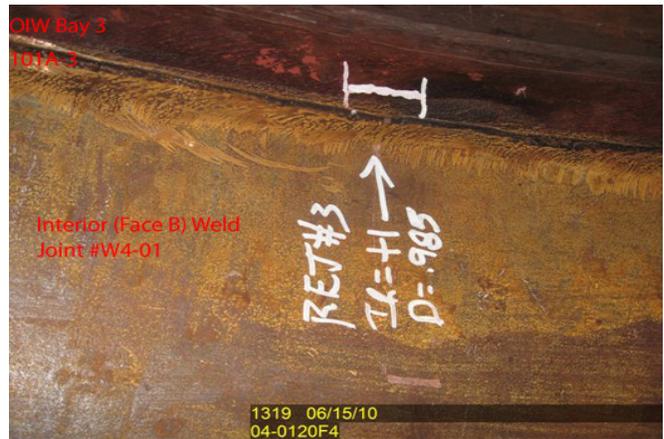
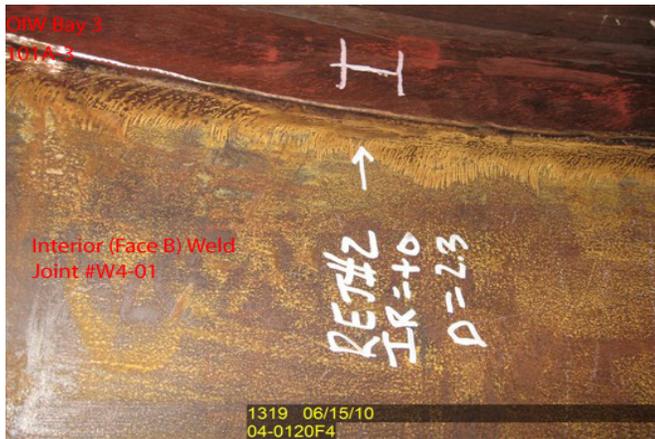
Criteria-Tensile Stress, Table 6.3. Per the testing report the indications were rated at -3 db, -1db, +0 db and +1 db and had various depths of 25 mm-58 mm, as measured from the testing side of the weld axis, or Face B. Per the testing, the indications had varying lengths of 38 mm-171 mm.

QC Inspector Gregson then informed the QA Inspector that he had marked the areas for weld repairs from the interior side or Face B. QC Inspector Gregson explained that due to the depths of the defects that three of the four areas will have to excavated from the exterior or Face B side of the weld joint, to be classified as non-critical weld repairs. The QA Inspector noted that per AWS D1.5, "The depth of groove weld excavations shall not exceed 65 percent of the weld size shown on the drawing", to be classified as a non-critical weld repair.

QC Inspector Gregson explained that production will transfer the areas marked for repairs, to the appropriate side of the weld joint, where the excavations will be performed from. 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: 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

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Materials for your project.

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<b>Inspected By:</b>	Vance,Sean	Quality Assurance Inspector
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<b>Reviewed By:</b>	Adame,Joe	QA Reviewer
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