

**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-015234**Date Inspected:** 29-Jun-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, Or**CWI Name:** Rob Walters, Steve Barnett**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:**

Caltrans Quality Assurance Lead Inspector (QA) Joe Adame was present at Oregon Iron Works, Inc. (OIW) in Clackamas, OR to perform observations relative to the fabrication of the Hinge K Pipe Beams and related activities. The following was documented:

**Hinge-K Pipe Beam Assembly 101A-3:**

The QA Inspector was present to observe OIW QC Inspector Rob Walters performing Ultrasonic Testing (UT) on previously completed critical weld repair (CWR)#27, Weld Joint # W4-01. The QA Inspector noted that this Complete Joint Penetration (CJP) weld joint is on the Fuse 120A-3 to Forging 102A-3 of the HPB. The CWR was also documented as indication # 4, per OIW's completed Ultrasonic Examination Report (# 2244-10-UT-10). The QA Inspector noted that the OIW had observed a 72 hrs. cooling period prior to performing the UT. The QA Inspector observed that QC Inspector was performing the testing utilizing OIW approved procedure # NP-2244-(13)-01 and was testing the repair from Face A & B, from the forging side of the weld axis. The QC Inspector later informed the QA Inspector that the testing was complete and no rejectable indications were found. The QA Inspector then performed 100 % Ultrasonic weld testing on the above mentioned critical repair and an additional 10% of the areas of Weld Joint # W4-01, which were previously accepted by OIW QC Personnel. The QA Inspector observed no rejectable indications. See Ultrasonic Testing report (TL 6027) on this date for additional information.

**Spare Fuse 120a-8:**

The QA Inspector arrived at AG Machine in Boring, OR to observe work in progress on spare Fuse 120a-8. AG

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Machine have machined the ESW overlay to the Fuse to its final OD dimensions of 1920 mm (+, - 1 mm). OIW have previously performed GTAW repairs to the stainless steel ESW overlay due to slag type inclusions derived from the ESW process. OIW Welder Mark Craig (WID#C34) was observed hand finishing the GTAW repair areas with a mechanical grinder. Mr. Craig stated that he was instructed to hand hone the repairs that have been previously done. Mr. Craig stated there were approx 25 to 30 small areas that required the finishing. Mr. Craig continued thru the remainder of the shift. On 6/30/10 OIW QC is scheduled to perform 100% PT inspection and machine surface finish verifications.

## Spare Fuse 120a-6:

The QA Inspector was present at OIW in Vancouver, WA to perform a blast/pre-paint inspection of Spare Fuse 120a-6. The QA Inspector met with OIW NACE III Inspector Mike Clark. Mr. Clark informed the QA Inspector that OIW had completed the blast cleaning on the Fuse at approximately 1000. Mr. Clark stated that he had visually inspected the surface thoroughly to ensure that it complied with the project requirements. The QA Inspector also performed a visual observation of the interior and observed that the surface appeared to comply with the project specifications (SSPC 10 – Near white). The QA Inspector then observed Mr. Clark test the used blast media to check for soluble salts in the environment. Mr. Clark used a new Chlor Test “A” test kit to perform the inspection of the used blast media. Mr. Smith appeared to have followed all the test procedure properly. Upon completion of the test, the chloride levels read 0. The QA Inspector then observed Mr. Clark performing anchor profile verifications on the spare Fuse. The NACE Inspector used a burnishing tool that was rubbed on a Testex Press-O film tapes at random locations chosen by the QA Inspector. Mr. Clark then used a calibrated Snap gauge to measure the anchor profiles, which were measured at 2.8, 3.0, 3.1 & 3.2 mils. Mr. Clark took an average of 4 blast profile readings on the Fuse interior. The anchor profiles observed appeared to be in the acceptable range as described in the project special provisions of 40 um – 86 um. Mr. Clark concluded by stating that the application of the primer painting would be starting by this afternoon on this date. (Attached photos from this observation.)



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## Summary of Conversations:

As noted in the contents of this report.

## 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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<b>Inspected By:</b>	Adame,Joe	Quality Assurance Inspector
<b>Reviewed By:</b>	Mertz,Robert	QA Reviewer

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