

**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 #: 82.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022953**Date Inspected:** 06-Apr-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Westmont Industries**Location:** Santa Fe Springs, CA.**CWI Name:** Ruben Dominguez**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:** Travelers**Summary of Items Observed:**

This Quality Assurance Inspector Sean Vance arrived on site at Westmont Industries (WMI) in Santa Fe Springs, CA, to randomly observe the in process welding, QC inspection, painting and non-destructive testing of the Travelers. Upon the arrival of the QA Inspector, the following observations were made:

**Traveler Test Rack**

This QA Inspector randomly observed WMI production personnel performing fitting, welding and cutting activities on various assemblies for the Traveler Test Rack.

**E2/E3-WB Traveler**

This QA Inspector observed WMI production welder Mr. Jose Rodriguez (WID # 3031) continuing to perform Flux Core Arc Welding (FCAW) activities on the E2/E3-WB Traveler frame assemblies. This QA Inspector observed Mr. Rodriguez performing the FCAW in all positions on tube steel and plate material, randomly throughout the shift.

**SAS WB Traveler**

This QA Inspector observed WMI production welder Mr. Eutimo Lopez (WID # 3035) continuing to perform Flux Core Arc Welding (FCAW) activities on the SAS-WB Traveler frame assemblies. This QA Inspector observed Mr. Lopez performing the FCAW in all positions on tube steel and plate material, randomly throughout the shift.

This QA Inspector observed WMI production welder Mr. Richard Fuentes (WID #3201) continuing to perform Flux Core Arc Welding (FCAW) tacking and fitting activities on the SAS-WB Traveler frame assemblies. This

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QA Inspector observed Mr. Fuentes performing the activities on tube steel and plate material, randomly throughout the shift.

This QA Inspector observed WMI production welder Mr. Juan Jimenez (WID #3059) continuing to perform Flux Core Arc Welding (FCAW) activities on the SAS-WB Traveler frame assemblies. This QA Inspector observed Mr. Jimenez performing the FCAW in all positions on tube steel and plate material, randomly throughout the shift.

### Traveler Suspension Arms

This QA Inspector observed WMI production welder Mr. Jose Delgadillo (WID #3193) continuing to perform Flux Core Arc Welding (FCAW) activities on the Traveler suspension arm assemblies. This QA Inspector observed Mr. Delgadillo performing the FCAW welding activities on tube steel and plate material, randomly throughout the shift.

This QA Inspector observed WMI production welder Mr. Daniel Grayum (WID #3049) continuing to perform Flux Core Arc Welding (FCAW) activities on the Traveler suspension arm assemblies. This QA Inspector observed Mr. Grayum performing the FCAW in all positions on tube steel and plate material, randomly throughout the shift.

This QA Inspector observed WMI production welder Mr. Charles Newton (WID #3200) continuing to perform Flux Core Arc Welding (FCAW) activities on the Traveler suspension arm assemblies. This QA Inspector observed Mr. Newton performing the FCAW in all positions on tube steel and plate material, randomly throughout the shift.

### SAS-EB Traveler

This QA Inspector performed approximately 10% or greater random Ultrasonic Testing (UT) on the Complete Joint Penetration (CJP) Tube Steel Frame Assembly butt and tee-joint splices, identified as 10-A237, 11-B237, 12-B240, 13-A240, 15-A235 and 16-B235. Prior to performing the testing, this QA Inspector had been previously informed by Smith Emery (SE) QC Inspector Mr. Ruben Dominguez that he had performed Ultrasonic Testing (UT) on the above mentioned weld joints and no rejectable indications were found, at the time of testing. Prior to performing the testing, this QA Inspector had performed an instrument calibration check utilizing an AWS IIW block and a previously machined block, which appeared to have 3 side drilled 1.5mm holes located at depths of 3mm, 6mm and 8mm. During calibration, this QA Inspector verified transducer angle, exit point utilizing the IIW block and this QA Inspector established a four point Distance Amplitude Correction (DAC) curve utilizing the machined block. This QA Inspector then added 6Db over calibrated reference level, for scanning purposes. During calibration, this QA Inspector utilized a previously fabricated mock up, which appeared to have a 1.5mm drilled hole in the radius corner of the mock up. This QA Inspector noted that per SE bootleg procedure SE-UT CT-D1. 1-104, that when conducting examination of the radius corners of tube steel products a contact correction must be established by bringing the root side drilled hole indication from the mock up to an equivalent of the 8mm deep side drilled hole in the DAC calibration block as reference for this area, then add 6Db for scanning purposes. This QA Inspector then added 20Db over calibrated reference level, for scanning purposes. Initially, this QA Inspector performed a straight or longitudinal beam scan on the base metal areas, to verify that laminar defects were not present in the base metal area, through which subsequent angle beam inspection will be performed. After performing the straight beam scan, this QA Inspector noted that no laminar defects were present in the base metal. This QA Inspector utilized a GE USN 60 testing instrument and a 25mm diameter, 2.25MHz frequency transducer

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to perform the longitudinal beam scan.

This QA Inspector then proceeded to perform the shear wave inspection, utilizing the above mentioned testing instrument and a 6 mm diameter transducer coupled to a 70 degree angle, short index point, Lucite wedge. During testing, this QA Inspector randomly tested 1 each of the four sides of the above mentioned weld joints and 2 each of the radius corners on the above mentioned weld joints. During testing, this QA Inspector utilized the applicable scanning patterns which were in compliance to AWS D1.1 2002, Fig. 6.24. Upon completion of the testing, this QA Inspector found no rejectable indications per AWS D1.1 2002 Class R Acceptance/Rejection Criteria and the SE bootleg procedure, SE-UT-CT-D1.1-104, Rev. 6.

See completed TL6027, for additional details.

This QA Inspector randomly observed that Smith Emery QC Inspector Mr. Ruben Dominguez was present, during the above mentioned welding and fitting activities. During random observation, this QA Inspector observed that the applicable WPS's and copies of the shop drawings, appeared to be located near each work station, where the above mentioned welding and fitting activities were being performed. This QA Inspector randomly verified that the consumable material, utilized during the welding appeared to be in compliance with the applicable WPS and that the above mentioned welders were currently qualified for the applicable process and position of welding. This QA Inspector randomly observed QC Inspector Dominguez verifying the in-process welding parameters, including voltage, amperage, pre-heat and travel speed and the parameters appeared to be in compliance to the applicable WPS.

Paint: E2/E3-EB Travelers

This QA Inspector was informed by RPI Coating Quality Control Representative Mr. Andrew Gonzales that additional sandblasting activities had been performed on the SAS and E2/E3-EB Traveler assemblies. This QA Inspector was informed by Mr. Gonzales that he was currently setting up to perform the surface profile testing on the blasted base material. This QA Inspector then met with and observed Mr. Gonzales utilizing what appeared to be Testex Press-O-Film and a micrometer to perform the testing. Initially, this QA Inspector observed Mr. Gonzales applying the film to the blasted surface then utilize one end of a pen to perform rubbing activities on the clear portion of the test strip. This QA Inspector then observed Mr. Gonzales utilize a micrometer to measure the surface profile on the clear film part of the strip, in which the rubbing was performed. Mr. Gonzales explained to this QA Inspector that the initial setting on the micrometer was set at 2mils over, due to the thickness of the Press-O-Film paper. During observation, this QA Inspector observed that the readings appeared to be in compliance to the contract requirements of 1.57mils (40um)-3.15mils (80um). After surface profile testing, this QA Inspector then observed Mr. Torres perform a test for soluble salts on the previously blasted base metal areas. This QA Inspector observed the testing being performed at random areas which appeared to meet or exceed one test per 200 square meters, per the contract requirements. After testing, this QA Inspector observed that the soluble salt content appeared to be 0 Parts Per Million (PPM). This QA Inspector was then informed by Mr. Torres that primer application will soon start.

See summary of conversations below.

This QA Inspector observed that the activities mentioned above, appeared to be in compliance with the contract requirements and this QA Inspector observed no non-conforming issues, on this date.

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**Summary of Conversations:**

This QA Inspector was informed by RPI Coating representative, Mr. Carlos Torres that due to numerous complaints concerning excessive dust and noise from nearby businesses, that RPI Coating has shut down sandblasting activities, until further notice. Mr. Torres further explained to this QA Inspector that RPI and WMI will utilize this time period to regroup.

**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 Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

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

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