



**SAS Superstructure**

Location: 04-SF-80-13.2 / 13.9

Client Name: CalTrans

Run date 21-Nov-14

Time 9:55 AM

**Daily Diary Report by Bid Item**

Contract No.: 04-0120F4

Diary #: 117 Const Calendar Day: 455 Date: 07-Dec-2010 Tuesday

Inspector Name: Brignano, Bob Title: Transportation Engineer

Inspection Type:

Shift Hours: Break: Over Time:

Federal ID:

Location:

Reviewer: Schmitt, Alex Approved Date: Status: Submit

04-0120F4  
04-SF-80-13.2/13.9  
Self-Anchored  
Suspension Bridge

**Weather**

Temperature	7 AM	12 PM	4 PM
Precipitation			Condition

Working Day  If no, explain:

**Diary:**

Dispute

**General Comments**

ITEM 60 ERECT STRUCTURAL STEEL (BRIDGE)(SADDLE);  
HIGH STRENGTH FASTENER ASSEMBLY PRE-INSTALLATION TESTING:



For ABF, engineers Chris Bausone and Levi Gatsos are present. For CT, engineer Bob Brignano is present. Today's testing is for determining the inspection torque for one rocap lot for the West Jacking Saddle and the Jacking Frame (what will be attached to the West Jacking Saddle). Work happens at Bolt Testing Conex ABF ID 002079 with Skidmore Model HT 4000 ABF ID 000612 in the warehouse. The sampling and testing of the rocap lot is 1000 to 1100. One rocap lot of M36 A490M-DAC is tested. These M36 Dacromet coated assemblies will connect the West Jacking Saddle to the Jacking Frame. The assemblies in the field will be tensioned by turning the bolt head, because the nuts are inaccessible since they are enclosed inside the Jacking Frame with the nut keepers.

The inspection torque was previously determined on 11/29/2010 for turning by the bolt head, but the determined inspection torque of about 4,000 N-m is too high for a standard dial torque wrench that can be used in the field - none of ABF's dial torque wrenches go this high, with this torque value determined in the warehouse by the Skidmore Model HT 4000 ABF ID 000612 with a built-in higher capacity torque wrench. Today's work is to establish an inspection hydraulic pressure for a hydraulic torque wrench. The hydraulic wrench used for today's work and what will be used in the field is a PowerTeam Hydraulic Torque Wrench, with a pump PE55TWP serial number 524896 and wrench 1JB-17, without ABF equipment ID's.

Previously (yesterday), as an experimental trial without CT witness, ABF tried to establish the inspection hydraulic pressure with the hydraulic torque wrench by incrementally increasing hydraulic pressure until they got to the required tension in the Skidmore, but they had difficulty hitting the exact minimum required tension by this method, and that resulted in the hydraulic pressure they determined being too inconsistent from test to test using this method. In the field, the assembly will be tensioned by the turn of the nut method (technically, because turning by head, match marking and turning is by the head) to beyond the required minimum tension, and then the inspection torque will be applied, with a passing test being a head that does not turn when the inspection torque is applied. Typical inspection torques are determined by finding the torque at which an assembly at the minimum required tension starts to turn. In keeping with the idea of determining a value at which an assembly at the required minimum tension is just about to turn, a different procedure is used today than what ABF tried yesterday. For today's work with CT witness, the assembly is first tensioned by the Skidmore Model HT 4000 ABF ID 000612 with a built-in torque wrench to the required tension value. Then, the PowerTeam Hydraulic Torque Wrench is setup on the assembly and the control on the pump is incrementally turned to increase the pressure until the assembly turns (in this case, turning by bolt head, so when the head starts to turn is the point to determine). This test is repeated for 5 assemblies - the procedure to determine the inspection hydraulic pressure value is to



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Job Name: 04-0120F4

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test 5 assemblies, take out the high and low hydraulic pressure values and average the remaining 3 hydraulic pressure values, as is typically done for determining the inspection torque value. This work is started about 1000, and by about 1100, all the tests are completed with a single inspection hydraulic pressure value determined.

See the attached Bolt Test Form for details of the testing.

ITEM 52 FURNISH STRUCTURAL STEEL (BRIDGE)(TOWER);  
HIGH STRENGTH FASTENER ASSEMBLY PRE-INSTALLATION TESTING:

For ABF, engineer Sabrina Levine is present. For CT, engineer Bob Brignano present. Today's work is sampling for testing on a future date. The material sampled is from yesterday's LeJeune Shipment "Geomet 3" with Geomet coated A490M assemblies (all M27 assemblies). The 4 rocap lots in this shipment are sampled between approximately 1515 and 1530. The samples are for rotational capacity, minimum tension verification, and inspection torque on site QC testing to be performed by ABF.