September 3, 1965

To: G. R. Cudney, Supervisor
   Physical Research Section

From: J. E. Simonsen

Subject: US 127 Blowup South of Jackson (Construction Project 38-7, C5).

At your request prompted by a telephone call from the District 8 Office, a US 127
joint blowup located at Sta. 460+20 near Loomis Road was inspected on June 23,
1965. This 1955 project has 22-ft wide roadways, with 99-ft transverse joint
spacing. In the summer of 1964, the gravel shoulders were bituminous surface-
treated for a 3-ft width. The blowup occurred across both lanes in the late after-
noon of June 22, and was temporarily patched at that time. More permanent re-
pairs were performed on June 23, and were nearing completion at the time of the
inspection (Fig. 1).

General inspection of pavement near the failed joint revealed that contraction joint
grooves were about 1-in. wide (i.e., open about 1/2-in.) in spite of an air tempera-
ture over 80 F. To determine the reason for this, sealant in the second joint
south of the failure (Sta. 458+22) was removed, and the groove and plane of weak-
ness crack were inspected for dirt infiltration. The bottom of the joint groove was
found to be filled with sand and small stones, and the crack completely filled with
similar material (Fig. 2).

The 1960 five-year condition survey showed an average of 2.46 transverse cracks
per slab, which is high compared to other projects with similar service. The 1960
record shows no blowups, but a few joints were noted to have been repaired sub-
sequently. The pavement was constructed with coarse aggregate from Bundy Hill
(Pit No. 30-35) and American Aggregates (Pit No. 47-03).

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Figure 2. Joint width (upper left) and appearance of joint of joint at Sta. 460+20.

Figure 1. Blowup repair in progress during inspection.