

STATE ARBITRATION BOARD

ORDER NO. 3-00

NOTICE

In the case of Ranger Construction Industries, Inc versus the Florida Department of Transportation on Project No. 79002-3436 in Volusia County, Florida, both parties are advised that State Arbitration Board Order No. 3-00 has been properly filed on July 27, 2000.



H. Eugene Cowger, P.E.
Chairman & Clerk, S.A.B.

Copies of Order & Transcript to:

Mike Snyder, DOT District 5 Director of Operations

Richard K. Martin, Vice President
Ranger Construction Industries, Inc.
Community Asphalt Corp.

STATE ARBITRATION BOARD

ORDER NO. 3-00

RE:

Request for Arbitration by
Ranger Construction Industries, Inc.
on Job No. 79002-3436
in Volusia County

The following members of the State Arbitration Board participated in the disposition of this matter:

H. Eugene Cowger, P.E., Chairman
Freddie Simmons, P. E., Member
John Roebuck, Member

Pursuant to a written notice, a hearing was held on a request for arbitration commencing at 1:40 p.m. on Monday, June 12, 2000

The Board Members, having fully considered the evidence presented at the hearing, now enter their Order No. 3-00 in this cause..

ORDER

The Contractor presented a claim arising out of the work on this project in the total amount of \$299,942.38. This amount included interest at 10% per year from April 9, 1999 through May 31, 2000. The claim is based on:

Delays to hot mix asphalt production operations and milling and Asphalt Rubber Membrane Operations caused by problems encountered in achieving the required density during construction of Superpave structural course mixes.

The overrun in friction course mix caused by unevenness of the Superpave 19 mm. mix placed 3 ½ inches thick.

The Contractor presented the following information in support of their claim:

1. The rate at which we were able to place 9.5 mm and 12.5 mm Superpave pavement was reduced due to the additional rolling needed to achieve the 94% minimum density requirement and the 500 ton per day production limit imposed by the specifications when two consecutive LOTS failed to achieve the 94% requirement.

2. We assigned an experienced foreman to managing the rolling train and purchase new vibratory rollers for the compaction operation.

3. Our problems in achieving the required minimum density were exacerbated by attempts to meet specification requirements for percent air voids and in-place pavement permeability. When we increased the binder material content to reduced air voids so as to reduce permeability, the mix became more difficult to compact.

4. Superpave was a relatively new concept at the time this job was under construction and DOT had no previous experience with use of Florida limestone aggregates in this type of hot mix asphalt, especially with the feasibility of achieving the 94% minimum density requirement. Virtually all of the past experience with Superpave in Florida was with mixes containing granite coarse aggregate that was imported into the state.

5. DOT arbitrarily established the 94% minimum density requirement in the job specifications. They established this limit to assure the permeability of a pavement, but did not do an adequate study to determine whether 94% density could be achieved with a reasonable compaction effort. Since this job was completed, DOT has reduced the minimum density required from 94% to 93.5%.

6 At about the time this project was under way, contractors on other DOT projects were experiencing similar problems in achieving the 94% density requirement. DOT routinely waived penalties for not achieving 94% density on these projects and in some cases paid the contractor for replacing sections of pavement where the density failed.

7. Our nationwide Superpave expert testified that (1) the national research leading to adoption of the Superpave concept did not adequately address in-place density; (2) at the time this project was underway other state highway agencies were not concerned about the permeability of Superpave pavements so continued to use the 91% density requirement contained in nationwide Standards and (3) Florida DOT adopted the 94% density requirement as one of the means to assure low pavement permeability. He also pointed out that the high binder content in coarse graded Superpave mixes cause these mixes to be tender (difficult to compact) and that absorbed moisture in Florida limestone aggregates compounds this situation. He also stated that the relationship between the temperature of the mat and mix tenderness (difficulty in compacting) during compaction was first being investigated nationwide for Superpave mixes at the time this project was underway and when tenderness of a mix forces final compaction at lower temperatures the mix is much more difficult to compact.

8. We do not understand why DOT granted a 15 day extension of the allowable contract time based on "the lower production rate experienced in placement of Superpave Asphalt as opposed to Type S asphalt" and then refused to recognize this as a compensable delay. In our opinion, the delay was caused by a defective specification and should thus be compensable..

9. The specifications required that milling of the existing pavement and placing Asphalt Rubber Membrane Interlayer be scheduled so that this work would be covered by a course of new pavement on the same day. Thus, production on these operations was reduced when placing of 9.5 mm and 12.5 mm Superpave layers was slowed by the density problems we encountered.

10. We knew that it was easier to achieve density with thicker layers of pavement, so we changed to laying a 19 mm mix 3 ½ inches thick even though it was known that the smoothness of a finished pavement improves significantly with more layers. This solved the density problem, but placing the mix 3 ½ inches thick instead of in two thinner layers worked against smoothness. Also, because of the extreme compactive effort required to achieve density, the 19 mm mix distorted excessively resulting in the surface being uneven. This caused a significant overrun in the number of tons of FC-2 Friction Course.

The Department of Transportation rebutted the Contractor's claim as follows:

1. The Contractor achieved density in some of the LOTS of 9.5 mm and 12.5 mm mix. We observed during paving operations that compaction efforts were not consistent and that the Contractor did not regularly monitor the temperature of the mat. Records by DOT inspection personnel observing the compaction operations verify that the timing of rolling was not based on the mat temperature and that varying passes were made throughout construction of the sections observed. The inspectors also noted that the Contractor had not assigned anyone to monitor and record compaction efforts during this period.

2. As a result of failure to properly control compaction efforts, density failures occurred. This forced the Contractor to limit production on subsequent shifts to 500 tons per shift until they established that compaction operations had been modified so as to achieve the required density. Delays other than those encountered when production was limited to 500 tons per shift were the result of the Contractor of failing to establish a consistent compaction operation which would achieve the required density. .

3. The specifications for this work did not restrict the Contractor to using Florida limestone aggregates in the Superpave mix. Selection of aggregate type was up to the Contractor.

4. After a study on earlier jobs of possible solutions to a pavement permeability problem being encountered., the Department raised the specified minimum density requirement for Superpave mixes from 91% to 94 %. Contractors on the study jobs found that 94% density was difficult to achieve, so, after consideration by the Flexible Pavement Committee, the density requirement was later lowered to 93.5. The required minimum air voids content was lowered from 3% to 2.5% at the same time. These specification changes were made after bids for this project were received.

5. The Contractor should have realized at the time of bidding that the 94% density requirement is higher than formerly required for Type S mixes. However, since Superpave was a new concept for which there was a "learning curve", in the interest of fairness, density penalties were waived on this job and on several other jobs. This was a particularly difficult decision for us on this job, because the job was bid as an "A + B" job where the Contractor sets the allowable contract days.

6 We disagree with the Contractor's use of the production rate when placing 19 mm mix in a 3 ½" layer as the "baseline measured mile" to establish the normal production rate for the 9.5 mm and 12.5 mm mixes. Since the rolling equipment paces the laying operation here, the production rate for a 3 ½" mat will be higher than for 2" or ½" mats .

7. Smoothness of the final structural course of an asphalt pavement has been a specification requirement for many years. The Contractor knew at the time he elected to place 3 ½" of Superpave in a single pass rather than in two passes that he was taking a risk as to smoothness of the final surface of the structural course.

8. We disagree that the rate of spread for FC-2 Friction Course was 70 #/S.Y. Our record indicate that the spread rate was 56.5 #/S.Y.

The Board in considering the testimony and evidence presented found the following points to be of particular significance:

1. The Contractor stated that they assigned an experienced foreman to control the compaction operations. DOT inspectors found that, at a particular point in time, compaction operations were not always consistently conducted and the Contractor was not always monitoring the mat temperature as a quality control measure.

2. Since Superpave was a new concept, the Contractor should have known that special compaction techniques, including effective quality control efforts, would be required in order to achieve the required density. The 94% density requirement which was higher than the 91% requirement applicable to the Type S mixes which were commonly used at the time should also have alerted them to the need for special quality control.

3. Work on this job was done during the time period when a nationwide "learning curve" was underway for construction of Superpave pavements. Superpave is a concept that is radically different from traditional asphalt pavement construction techniques. At the time, DOT was greatly concerned about pavement permeability and set the minimum percent density requirement conservatively high in an attempt to assure lower permeability with minimal knowledge of whether this density requirement was reasonably achievable.

4. The "baseline measured mile" used by the Contractor in estimating lost production for 9.5 mm and 12.5 mm Superpave mixes was not realistic.

5. The specifications contained a smoothness (straight-edge) requirement. The Contractor took a smoothness risk in placing a 3 1/2" course of 19 mm Superpave in a single pass thick when it was common knowledge that the smoothness of the finished surface of a structural course is related to the number of layers in which the pavement is placed. DOT established that the spread rate for the FC-2 Friction Course was not unreasonably high.

From the foregoing and in light of the testimony and exhibits presented, the State Arbitration Board finds as follows:

The Department of Transportation is directed to compensate the Contractor \$135,000.00 for his claim.

The Department of Transportation is directed to reimburse the State Arbitration Board the sum of \$ 553.20 for Court Reporting Costs.

Tallahassee, Florida

Dated: 7/26/00

Certified Copy:

H. Eugene Cowger
H. Eugene Cowger, P. E.
Chairman & Clerk SAB

7/26/00
DATE

H. Eugene Cowger
H. Eugene Cowger, P. E.
Chairman & Clerk

Freddie Simmons
Freddie Simmons, P. E.
Member

John P. Roebuck
John P. Roebuck
Member

STATE ARBITRATION BOARD
STATE OF FLORIDA

RANGER CONSTRUCTION)
INDUSTRIES, INC.)

- and -)

DEPARTMENT OF TRANSPORTATION)

) PROJECT NO. 79002-3436

) LOCATION: Volusia County,
) Florida

ORIGINAL

RE: Arbitration In The Above Matter

DATE: Monday, June 12, 2000

PLACE: Florida Transportation Center
1007 Desoto Park Drive
Tallahassee, Florida

TIME: Commenced at 1:40 p.m.
Concluded at 4:05 p.m.

REPORTED BY: CATHERINE WILKINSON
CSR, CP
Notary Public in and for
the State of Florida at
Large

WILKINSON & ASSOCIATES
Certified Court Reporters
Post Office Box 13461
Tallahassee, Florida
(904) 224-0127

APPEARANCES:

MEMBERS OF THE STATE ARBITRATION BOARD:

Mr. H. E. "Gene" Cowger, Chairman
 Mr. Jack Roebuck
 Mr. Freddie Simmons

APPEARING ON BEHALF OF RANGER CONSTRUCTION INDUSTRIES, INC.:

Mr. Rick Martin
 Mr. Ken Millsaps
 Mr. Jim Scherocman

APPEARING ON BEHALF OF THE DEPARTMENT OF TRANSPORTATION:

Mr. Frank O'Dea
 Mr. Mark Garcia
 Mr. Jim Musselman

ALSO PRESENT:

Mr. John Coxwell

* * *

I N D E X

| EXHIBITS | PAGE |
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P R O C E E D I N G S

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CHAIRMAN COWGER: This is a hearing of the State Arbitration Board established in accordance with Section 337.185 of the Florida Statutes.

Mr. Freddie Simmons was appointed by the Secretary of the Department of Transportation as a member of the Board.

Mr. John Roebuck was elected by the construction companies under contract to the Department of Transportation.

These two members chose me, H. Eugene Cowger, to serve as the third member of the Board and as Chairman.

Our terms expire June 30, 2001.

I have resigned from the Board effective July 1, 2000, and Mr. Coxwell -- where did he go? He was here. He will be back in a minute. He's going to replace me as Chairman of the Board effective July 1.

There will be some overlap because we've got to finish these claims up with me still on the Board.

Will each person who will make oral presentations during this hearing please raise your right hand and be sworn in.

(Whereupon, all witnesses were duly sworn.)

CHAIRMAN COWGER: The request for arbitration of a claim submitted by the claimant, including all

1 attachments thereto and the administrative documents
2 preceding this hearing are hereby introduced as Exhibit
3 No. 1.

4 We are also introducing as Exhibit No. 2 a
5 document presented to the Board as a rebuttal, and a
6 copy of this has been furnished to the contractor.
7 It's a several-page document entitled Superpave claim.
8 District 5 response for State Arbitration Board.
9 (Whereupon, Exhibit Nos. 1 and 2 were received in
10 evidence.)

11 CHAIRMAN COWGER: The parties have also presented
12 informally and now will present formally two more
13 exhibits, a statement from the Department of
14 Transportation dealing strictly with the quantum
15 portion of this claim, which will be Exhibit No. 3.

16 Exhibit 4 is a copy of a supplemental agreement
17 on job 32100-3453. White Construction Company was the
18 contractor. We will let the contractor explain a
19 little bit later the significance of that document.
20 (Whereupon, Exhibit Nos. 3 and 4 were received in
21 evidence.)

22 CHAIRMAN COWGER: Does either party have any
23 other information they wish to put into the record?

24 Going back to Exhibit 3 just a minute, this
25 document has not been seen by the contractor prior to

1 the beginning of this hearing. I want to offer you the
2 opportunity to -- you've had a little opportunity to
3 look at it. Do you feel that you as a contractor are
4 put in an unfair position by not having adequate time
5 to rebut this, prepare a rebuttal?

6 MR. MARTIN: Yes. But I don't mind entering --
7 you know, I like all the information to be on the
8 table, and if there's information in this that -- it's
9 obviously lengthy and I haven't read it yet, but if
10 there's information in here that I need to comment on,
11 I would like to be given an opportunity to make a
12 written presentation to the Board at a later date.

13 CHAIRMAN COWGER: Okay. To speed things along,
14 what we will do there then, is since it was new
15 information, we will give the contractor the
16 opportunity to submit a written statement to the Board
17 with copies to each Board member and a copy to the
18 appropriate DOT person -- I guess Frank would be the
19 one, Frank O'Dea -- and have that in by no later than
20 the 20th of June. Is that going to give you enough
21 time?

22 MR. MARTIN: That's fine.

23 CHAIRMAN COWGER: No, wait a minute. I'm sorry,
24 I got my decimal point wrong. Let's make it the 30th.

25 MR. MARTIN: June 30th? Okay.

1 CHAIRMAN COWGER: Yeah. I don't know how I got
2 20, it should have been 30. Anyway, June 30.

3 And then after DOT receives this, hopefully this
4 won't happen, but if there's some burning thing in
5 there that you need to rerebut, we want to hear from
6 you within ten days, which would be July the 10th.
7 Again, copies to everyone including the contractor.

8 The Board would not anticipate that happening
9 unless something really -- some new point is brought up
10 that you just thought you had to answer. We don't want
11 more arguments.

12 Okay. I think we are ready to move on then.
13 During this hearing the parties may offer such evidence
14 and testimony as is pertinent and material to the
15 dispute being considered by the Board, and shall
16 produce such additional evidence as the Board may deem
17 necessary to an understanding of the matter before it.

18 The Board shall be the sole judge of the
19 relevance and materiality of the evidence offered.

20 The parties are instructed to assure that they
21 receive properly identified copies of each exhibit used
22 in this proceeding.

23 Please retain these exhibits because when we send
24 you the final order of the Board, we will also send you
25 a copy of the court reporter's transcript, but we will

1 not furnish either party copies of the exhibits.

2 As IS typical in arbitration proceedings, this
3 hearing will be conducted in an informal manner. The
4 Board is not required to apply a legalistic approach or
5 strictly apply the rules of evidence used in civil
6 court proceedings.

7 We are primarily looking for information in
8 regard to the facts and the contract provisions that
9 apply to this case.

10 That paragraph is intended in case you have
11 attorneys present, but we always include it anyway.

12 The order of proceeding will be for the claimant
13 to present the claim and then the respondent to offer
14 rebuttal.

15 Either party may interrupt to bring out a
16 pertinent point by coming through the Chairman, but
17 please keep this orderly.

18 We would suggest that when the DOT and the
19 contractor are giving their initial presentations,
20 unless there's something that you just can't wait
21 because it's so pertinent, that there not be any
22 interruptions during the first presentations. Then we
23 will come back and we will get into open discussion
24 about the points. I think it will be orderly and
25 quicker if we do that.

1 Before the contractor starts, there's one
2 question that concerns me, and that is a little piece
3 of information, I guess I should say.

4 Looking at the typical section for this job, what
5 you've got, you've got two lanes in each direction that
6 are being overbuilt, and then on the outside you've got
7 widening of an additional lane and shoulders and so
8 forth.

9 The dispute, does it involve both the overbuild
10 and the widening, or was the work that you had the
11 density problems on just in the overbuild or just in
12 the widening?

13 MR. MARTIN: Both the widening, the shoulder and
14 the main travel lanes.

15 CHAIRMAN COWGER: So it covers the entire cross
16 section, a typical section?

17 MR. MARTIN: This is a unique job in that the
18 traffic level five Superpave was also designed for
19 ten-foot shoulders, which were newly constructed
20 ten-foot shoulders.

21 CHAIRMAN COWGER: Okay. Whoever is going to go
22 for DOT, let's go.

23 MR. O'DEA: I thought the contractor went first.

24 CHAIRMAN COWGER: I mean the contractor. You're
25 not the first guy that caught me doing that.

1 MR. MARTIN: I'm sorry. All right. I will be
2 speaking -- my name is Rick Martin, and I will be
3 speaking on behalf of the contractor.

4 To give you a brief overview, this job bid in
5 June of 1997. The low bidder on the job was Martin
6 Paving Company, of which my brother and I were the
7 principal owners of Martin Paving Company at the time
8 of bid.

9 Subsequent to the bid and award of this contract,
10 my brother and I sold the assets of Martin Paving
11 Company to Ranger Construction Industries, Incorporated
12 in January of 1998. This contract was then
13 subsequently assigned from Martin Paving Company to
14 Ranger Construction, and the contract is now a contract
15 between Ranger Construction and the FDOT.

16 The overall basis of our request for additional
17 compensation is due to the density specification of the
18 Superpave, and my belief that the specification, the 94
19 percent density requirement of maximum measured
20 specific gravity, that 94 percent density requirement
21 is too hard to consistently achieve.

22 I believe the specification is faulty and that
23 there wasn't sufficient research done to have such a
24 high density requirement.

25 Starting out, this job is about two miles long in

1 length. And if you go to the tab, typical section, you
2 will start out, the job has, like Gene said, two
3 12-foot travel lanes in each direction. The job had
4 existing ten-foot shoulder on the outside and an
5 existing four-foot shoulder, inside shoulder.

6 The new requirement of the -- the construction
7 required to remove the existing ten-foot shoulder, add
8 a new 12-foot lane, and construct a new ten-foot
9 shoulder outside of that so there would be three travel
10 lanes in each direction.

11 The two existing lanes were to be milled an inch
12 and a half. A half inch ARMI layer was to be placed,
13 and then 350 pounds per square yard Superpave, traffic
14 level five.

15 And our original intent was to place the 350
16 pounds of onyx asphalt in two lifts, one two-inch lift
17 and then one inch and a half lift of nine and a half
18 millimeter Superpave.

19 When we started the job, this job was an A plus B
20 job. We set the contract time days and the bidding
21 process, and therefore, the job had to go real -- had
22 to go fast because we shortened the time from the DOT's
23 time estimate by a number of days. I don't remember
24 the actual amount.

25 So, we did our first test strip actually on

1 another project, I-4, because the specification called
2 for you to place a test strip of the Superpave, see to
3 it that you could make the mix parameters and achieve
4 density, and then cores had to be sent to Gainesville
5 for permeability. It took several days to get the
6 permeability tests back before they actually started
7 production.

8 Since this work that has -- where you have
9 milling operations and then you have ARMI layer
10 operations where you have ground tire rubber laying
11 equipment and three traffic rollers and a large
12 operation, placing an ARMI layer, then paving behind
13 that, you have such a large operation, and it's quite
14 costly to do a test strip on the job and pull off for
15 three days while you wait on permeability to come back.

16 So the DOT allowed us to do a test strip on the
17 other project, which the first test strip failed. We
18 passed density but we had air voids. One common
19 knowledge in Superpave or in asphalt mixes in general
20 is that generally a higher AC content facilitates
21 getting density, but it lowers the air voids.

22 And so typically if you are having density
23 problems or you anticipate that the densities are going
24 to be hard, you generally run the AC content on -- you
25 know, a little on the high side or a little higher than

1 the target to help facilitate getting density, even
2 though that's an added expense to the contractor that
3 one doesn't get reimbursed for.

4 CHAIRMAN COWGER: All right. Can I interrupt you
5 just a second.

6 MR. MARTIN: Sure.

7 CHAIRMAN COWGER: This was all on the I-4 job,
8 and it was all in that initial 500-ton evaluation
9 section?

10 MR. MARTIN: Right. But we did the first test
11 strip and we had passing densities but we had low air
12 voids. That required another test strip. The next
13 test strip we had a failure in the density but we had
14 good air voids. So, we were, you know, still had a
15 problem.

16 The third test strip we did, we were able to
17 achieve a passing density and good air voids, but we
18 found later that the permeability was a little bit
19 high. Even though it was over a hundred, we were
20 allowed to continue with production.

21 And so where we had the problems with density
22 were on -- well, like I said, we started out trying to
23 construct the project, both lifts of asphalt, with nine
24 and a half millimeter mixes. And we were having
25 trouble getting density. And so we attempted to lay

1 the bottom lift then with 12 and a half millimeter.
2 Then we would put two inches of 12 and a half
3 millimeter coarse grade Superpave, then figured we
4 would go with the nine and a half for the second lift.

5 We were having the same problem achieving density
6 on the 12 and a half millimeter as we did on the nine
7 and a half millimeter.

8 So, all in all, on the nine and a half
9 millimeter, we had 20 days of production and only were
10 able to achieve density five of those days.

11 On the 12 and a half millimeter, we had 12 days
12 of production and were only able to achieve five days
13 of passing density.

14 So, on both the nine and a half, the 12 and a
15 half, we failed density more than we passed.

16 What we came up with after having such great
17 difficulty achieving the density on the nine and a half
18 and 12 and a half millimeter Superpave, we came up with
19 the idea to place the full depth, the three and a half
20 inches of structural mix in one lift with 19 millimeter
21 Superpave.

22 And so roughly about half the job was done with
23 19 millimeter being placed in a single lift three and a
24 half inches thick, and the other half of the job was
25 done with the two lifts of a finer grade, finer nominal

1 size mix.

2 MR. SIMMONS: On the test strips, did you do it
3 with the nine and a half and the 12 and a half layered,
4 like you said, for the test strips?

5 MR. MARTIN: The test strips were both -- both
6 the nine and a half and 12 and a half were on the first
7 lift of asphalt two inches thick over the top of the
8 ARMI layer. So we milled, put the ARMI layer down.
9 The test strips were all done on the --

10 CHAIRMAN COWGER: But that's still over on the
11 I-4 job?

12 MR. MARTIN: This is the first test strip we did
13 on I-4. Then we switched over to I-95. And most all
14 this production and test done, it has been the
15 production job on I-95.

16 MR. SIMMONS: So the second and third test strips
17 were on I-95.

18 MR. MARTIN: Right, correct.

19 CHAIRMAN COWGER: On the third one you said you
20 had a problem there still even though both the density
21 and air passed?

22 MR. MARTIN: The permeability.

23 CHAIRMAN COWGER: The permeability.

24 MR. ROEBUCK: We are back on I-4 there, aren't
25 we?

1 MR. MARTIN: Maybe I shouldn't even have brought
2 I-4 up, but it was just the first test strip that was
3 done on I-4.

4 MR. ROEBUCK: To get the mix approved so you
5 could start on this job?

6 MR. MARTIN: Yeah, so we could start on this job.
7 Because you are limited to 500 tons on your test strip.
8 And it's so costly to have such a large scale
9 production when you have milling and ARMI layer, where
10 all this work was done with in-house people.

11 You have such a large cost to, you know, bring it
12 in -- and it's a night job, bring everybody out at
13 night, on a Sunday night, say, and only do 500 tons,
14 and then have to park everything for three days until
15 you get permeability tests back.

16 So that's why the DOT allowed us to do the test
17 strip on I-4.

18 CHAIRMAN COWGER: It didn't work out of any value
19 to you?

20 MR. MARTIN: It didn't work out. It didn't help
21 us any.

22 CHAIRMAN COWGER: Let me go back and ask one
23 question. I'm a little confused about all of these
24 different mixes, the nine and a half, 12 and a half and
25 the 19.

1 Early on you were placing one layer of 12 and a
2 half, and then putting nine and a half on top of it?

3 MR. MARTIN: Our original plan was to put two
4 inches of nine and a half and then an inch and a half
5 of nine and a half. Using the whole three and a half
6 inches would have been nine and a half millimeter.

7 And our thinking was that you are allowed to
8 place nine and a half millimeters with a minimum
9 thickness of an inch and a half and a maximum thickness
10 of two inches, I believe.

11 CHAIRMAN COWGER: Okay. So you were working on
12 either side of the range really.

13 MR. MARTIN: And so by placing the nine and a
14 half millimeter at the maximum thickness, two inches,
15 we thought that would facilitate getting density.

16 Generally the thicker the layer, the easier it is
17 to get density. And would increase our chances of
18 obtaining the density.

19 CHAIRMAN COWGER: Now, then what happened when
20 you got out there on construction, you changed that
21 somewhat?

22 MR. MARTIN: Okay. We were having -- you know,
23 we weren't having any luck at all getting density on
24 the nine and a half millimeter. So we said okay, well,
25 it doesn't make any sense that the 12 and a half would

1 be any better, but we need to try that, too.

2 So then we attempted to achieve the density with
3 a two inch lift thickness of 12 and a half millimeters,
4 and we was running into the same kind of problem, which
5 we somewhat expected.

6 CHAIRMAN COWGER: So you started off trying to
7 make two layers of nine and a half millimeters, and
8 then you went to two of --

9 MR. MARTIN: Then we tried to go one lift of 12
10 and a half, and then the second lift would be nine and
11 a half, still three and a half inches total.

12 And what we eventually went to is three and a
13 half inches in one lift of 19 millimeter.

14 Now, the -- before Superpave came along, the DOT
15 specifications, if you had two inches of hot mix
16 asphalt pavement to go on the interstate, that two
17 inches would be required to be done in two lifts. You
18 had to do an inch and a quarter of S-1, then
19 three-quarters of an inch of S-3.

20 So even though you were -- so, anyway, DOT
21 specifications prior to Superpave, if you had two
22 inches of asphalt to be placed on an interstate, that
23 was required to be done in two lifts, inch and a
24 quarter and three-quarter inch. The reason for that is
25 to get rideability.

1 It's very difficult with one lift of structural
2 asphalt to get a smooth ride. That's why, even though
3 the specifications for Superpave allow you to go the
4 three and a half inches in one lift, with 19
5 millimeter, you have a very difficult time trying to
6 get a smooth ride, placing such a thick lift of asphalt
7 at one time.

8 CHAIRMAN COWGER: Got you.

9 MR. MARTIN: And that even gets compounded worse
10 when you try to put such a compactive effort that's
11 required to get density on Superpave.

12 Okay. So then after we were having so much
13 trouble with the nine and a half and the 12 and a half,
14 then we began to place the 19 millimeter in a three and
15 a half inch lift and were able to get density without a
16 problem.

17 Okay. So, let me go back now to where we are
18 working on the nine and a half millimeter trying to get
19 density, and we are not having any luck. And we are
20 requesting help from anybody that could seem to give us
21 help.

22 Jim Warren came down to the job site on two
23 occasions to try to help us achieve the density. We
24 had -- Jay Donigan was one of our paving foremen. And
25 we took him. And he was in charge of the compaction

1 operation.

2 And we had done two Superpave jobs where they
3 were added to the contract prior to this contract.

4 He was our foreman over compaction on both of
5 those jobs where his sole job was to take the nuclear
6 readings and density cores and manage the rolling train
7 to get compaction.

8 He had no duties other than that. It was another
9 foreman and general superintendent in charge of the
10 operation.

11 So, while we were having these troubles, I was on
12 the job site working with Jay myself. And when Jim was
13 there, I was there trying to come up with what
14 procedures we could change to get the density.

15 The rollers we were using, we had just purchased.
16 They were brand-new rollers. We had a Bomag 202
17 model, double drum vibratory roller with an 84 inch
18 wide path. Here is a picture. I only have one.
19 That's a picture of the two Bomag rollers that we had
20 just purchased.

21 And with the industry going to Superpave, and
22 prior to that most all compaction was done with static
23 rollers. And the Superpave job that we did a test
24 strip on, we had a number of compaction manufacturers.
25 We tried out about six different vibratory rollers, and

1 Bomag seemed to give us the best results.

2 Bomag, their sole business is rollers. They
3 don't make excavators or any other type of construction
4 equipment other than rollers.

5 So, they do a lot of research, and they are
6 somewhat recognized as the leader in the industry.

7 MR. SIMMONS: Did you use these new rollers for
8 this entire job here?

9 MR. MARTIN: Yeah. These rollers were on the job
10 entirely, you know, and we had the two vibratory
11 rollers.

12 The smaller roller was a 66 inch drum. It's
13 called a 161 Bomag roller. And I might get offset here
14 telling you more than you want to know.

15 Most vibratory rollers have one concentric weight
16 in them to give the centrifugal force. This 161
17 roller, in one of the drums it has two separate
18 concentric weights and they are actually in the middle.

19 The weights for each of the concentric shafts can
20 be adjusted separately so that they are in different
21 sync. And so you can have them both on the same side
22 going in unison, which gives you the greatest impact
23 force, or you can balance them out where you can
24 actually make the drum instead of bouncing up and down,
25 it shakes sideways with very little dynamic force going

1 right down. It's got a variable in between.

2 It has a computer that controls that, where you
3 can set it up in automatic mode. So what that does for
4 you is when the asphalt is hot, it beats it real hard.
5 It measures the acceleration of the drum bouncing off
6 the pavement.

7 And when the asphalt starts getting real hard
8 and the acceleration speeds up to where it's bouncing
9 real hard, where it could start damaging the asphalt
10 from the impact loading, it backs off the concentric
11 weight and lowers the vibration amplitude
12 automatically.

13 And we -- you can operate in an automatic mode or
14 manual mode, either one. We tried both of those modes.

15 In addition to Jim Warren, we had factory
16 representatives from Bomag to come to the job site to
17 help us with our density problems as well. In addition
18 to Jay having besides the truck's nuclear gauge, he had
19 an infrared gun for measuring temperature to try to
20 help know when to roll and when not to roll.

21 At this time, which was late '97 or early '98,
22 there was also -- there was already even back then a
23 lot of discussion about there being a tender zone with
24 Superpave mixes where there is an area -- a temperature
25 range from say 160 degrees up to 225 or 230 where

1 compactive effort didn't appear to do any good. In
2 fact, some people thought that actually compaction
3 rolling in that temperature zone actually reduced
4 compaction that you already obtained from the breakdown
5 rollers.

6 A lot of people then and now believe that to get
7 compaction on coarse graded Superpave that you have to
8 hit it real hot, stay off of it for a certain
9 temperature range, and then in the 140, 160 degree
10 range, which the asphalt is pretty hard and set up at
11 that time, is to give it some additional compaction
12 then.

13 CHAIRMAN COWGER: So there's a slot of
14 temperature in there that you're saying they recommend
15 staying off of it?

16 MR. MARTIN: They recommend staying off of it
17 because the compaction effort doesn't do any good at
18 that time. And the mix has a tendency, it's tender, it
19 seems to want to sprawl and widen out. Instead of
20 compacting, it just squishes to the side.

21 So, we experimented with our first run, the 202,
22 which is the larger width. That's 84 inches wide.
23 That covers the 12 foot in two passes.

24 We were running three passes, a pass being up and
25 back, which is actually six coverages over the mat.

1 We had the 202 up front, the 161 second, and then
2 we had an eight ton static roller as the third roller.

3 Then we tried putting a traffic roller, having
4 the two vibratory rollers, the traffic rollers and then
5 the eight ton steel roller.

6 Then we tried moving the 161, the smaller roller,
7 up ahead of the 202, and the traffic roller, and the
8 eight ton steel roller static.

9 Then we tried taking one of the vibratory rollers
10 and putting them back in the 160 degree zone where we
11 had -- you know, we flip-flopped the static rollers as
12 the second rollers.

13 The traffic roller seemed like it wasn't doing
14 much, and so pretty soon we took the traffic roller out
15 of the roller train and then followed it up with the
16 vibratory roller in the rear.

17 We also tried a three wheel roller which -- a
18 three wheel steel wheel roller which is paid for
19 asphalt because it has a watering system on it, which
20 gives a great more compaction force per lineal inch
21 than does a static tandem steel wheel roller. So we
22 tried using the three wheel roller for the backup
23 roller.

24 Then we also tried taking the 202 and the 161,
25 the double drum vibratory rollers, and instead of

1 having, you know, one making its passes and the other
2 following behind, we ran them in tandem where one was
3 chasing each other, and they would both go up against
4 the pavers and come back, and then go over, and they'd
5 both go up against the pavers. That way it was as if
6 they were like tied together.

7 We tried all of these different combinations of
8 rollers and rolling trains and still were unable to
9 obtain the density.

10 And so what -- I asked Jim Scherocman to come to
11 explain some of the reasons why 94 percent density is
12 hard to obtain. But if -- and I know this is out of
13 order, and this is just a request, you know, since Jim
14 is here -- I didn't know Jim was going to be here.

15 But, you know, we are going to talk a little bit
16 about some of the history of Superpave and how we got
17 to such a high density requirement, whereas most of the
18 other states in the country were requiring no more than
19 92 percent density.

20 And that's the way Florida started out on their
21 Superpave, and then they went from 92 percent
22 requirement to 94 percent density right before this job
23 went to bid.

24 I know it's out of turn, but if Jim can give us a
25 little bit of history first of the history of Superpave

1 in Florida, it might be beneficial if we can do that.

2 And then I would let Jim tie that in to the rest of --

3 CHAIRMAN COWGER: Are you about finished?

4 MR. MARTIN: After Jim talks, I've got probably
5 another 30 minutes to go over all the cost information.
6 Maybe it won't take that long, all the cost information
7 and production analysis.

8 MR. SIMMONS: Before -- you said you had done two
9 other Superpave jobs before this one?

10 MR. MARTIN: Yes.

11 MR. SIMMONS: What was the density requirements
12 on those?

13 MR. MARTIN: Ninety-two percent.

14 MR. ROEBUCK: Level 4?

15 MR. MARTIN: One was a fine grade, and one was a
16 coarse graded on I-95, which was a small amount of
17 tonnage that we did a test strip on on I-95, and it was
18 at 92 percent.

19 CHAIRMAN COWGER: Let me say one thing so that we
20 can kind of keep structured a little bit better than
21 what we are going to do. Let's deal with the
22 entitlement issue first all the way through. And then
23 we will come back and talk about the cost.

24 MR. MARTIN: Okay.

25 CHAIRMAN COWGER: And I don't want to scare

1 anybody, but if this thing keeps dragging, we may want
2 to rule that, hey, we are going to sit down and look at
3 entitlement before we even talk about costs. So we may
4 decide on another hearing on the costs, is what I'm
5 saying, if it drags out too long on the entitlement
6 part because we are going to run out of time.

7 We've got another hearing scheduled. And I know
8 that's our problem, the Board's problem, not yours, but
9 we didn't anticipate it was going to run that long.

10 So let's deal strictly with entitlement for now
11 and then see where we get to.

12 Now, are you suggesting that Jim Musselman tell
13 us a little bit about the density requirement?

14 MR. MARTIN: That's my request. If Jim gives us
15 a little bit of the history of Superpave and how we got
16 from 92 percent to 94 percent, because I think it's
17 important that everyone knows how that came about.

18 MR. ROEBUCK: Now you're concentrating on
19 density, but haven't you had trouble with air voids and
20 permeability as well?

21 MR. MARTIN: We've had problems with both of
22 those.

23 MR. ROEBUCK: Did you solve those?

24 MR. MARTIN: Yes. We solved -- well, now, yes
25 and no. We solved the air void problem. The air void

1 is an easy problem to solve. You lower the AC content,
2 you get the lab to approve the change in the design,
3 and that's -- the air void problems are the easy
4 problems.

5 But then that relates to density and you are
6 still not able to get density. But the mix meets the
7 design requirement, has the proper amount of air voids.
8 And so technically the mix hadn't been formed properly.
9 So we solved that problem.

10 The permeability problem, no, we didn't get
11 consistent results on the permeability. The
12 permeability -- now, on the nine and a half and the 12
13 and a half, we were consistently getting some high
14 permeability.

15 The 19 millimeter, which is an even coarser mix,
16 they seemed to do fine on the permeability.

17 CHAIRMAN COWGER: Instead of getting hung up on
18 the permeability and air voids, though, the dispute is
19 over the delays caused by density.

20 MR. MARTIN: Right.

21 CHAIRMAN COWGER: The air voids and permeability
22 may have been off to the side somewhere, but the issue
23 is density. So, let's try to stay on that.

24 Now, DOT, are you willing to let Jim go ahead and
25 make his comments on that one part? Now, is

1 Jim Scherocman going to have anything to say then on --

2 MR. MARTIN: Yeah, he's going to have probably as
3 long as you let him talk.

4 CHAIRMAN COWGER: All right. I just want this
5 Jim to know that's going to happen (indicating
6 Mr. Musselman).

7 MR. SIMMONS: Gene, I mean we've all been around
8 Superpave transition to some extent. So I don't think
9 we need the total history. Why don't you in ten words
10 or less tell us how you got from 92 to 94. Was this
11 the first 94 job you did?

12 MR. MUSSELMAN: Yes, sir. And actually we went
13 from 91 --

14 CHAIRMAN COWGER: Let's let Jim explain it, but
15 do it briefly. That's as good as what you want.

16 MR. MUSSELMAN: The first few Superpave projects,
17 the first big one was on I-75 in Columbia County. It
18 was constructed in I'd say in 1996, the early part of
19 '96. Anderson Columbia was the contractor. A big job,
20 100,000 tons. We used the Superpave mix design method,
21 Superpave mixes. We used existing construction
22 specification requirements. That utilized the nuclear
23 density gauge with the control strip methods.

24 You take the minimum -- if you set up a control
25 strip that was as -- this is complicated, bear with me

1 for a second. If you take the control strip, which is
2 set up at 96 percent of lab density, and then each
3 individual lot density had to be 98 percent of that to
4 get 100 percent pay.

5 If you take the minimum of the minimums --

6 CHAIRMAN COWGER: That's under the old spec?

7 MR. MUSSELMAN: This is the old spec. You would
8 be somewhere around 90.4 percent of VM. We're
9 eventually are going to hit 94, so we're at 90.4. We
10 built that job, and after it was done we were real
11 happy. We didn't have any density failures.

12 Afterwards, before we noticed that it was
13 permeable, that part was coming later in the story, we
14 went out and cut some corners for informational
15 purposes, and the in-place air voids ranged from
16 roughly 10 percent to 14 percent.

17 Now, 90 percent of VMA should give you 10 percent
18 in-place air voids. We had from 10 to 14, so we had
19 higher air voids.

20 We thought the problem was with the nuclear
21 density gauge.

22 So we immediately -- after that project through
23 the next few projects, and now we are on I-10 in
24 Columbia and Suwannee County, we switched to roadway
25 course.

1 The closest number that we felt was similar to
2 90.4 percent of VMA was 91. So we put in a coring
3 requirement at 91 percent.

4 We still had the same old lift thicknesses that
5 we had had previously, the thinner lifts that we've
6 used to start with. Anderson had a heck of a time
7 meeting that 91 percent requirement, but somehow they
8 muddled through the projects.

9 Those projects were completed in roughly -- by
10 December of '96, we noticed that we started to see some
11 real significant signs of permeability on I-75.

12 We conducted a fairly extensive permeability
13 investigation to relate roadway permeability with
14 in-place density. We also did that with our existing
15 Type S projects.

16 And what we came to the conclusion of is
17 relatively speaking, to make pavements impermeable you
18 had to get that density level with these coarse-graded
19 Superpave mixes that were using -- these were all
20 granite projects, and I will say that for his benefit.
21 They were granite.

22 But we had to get to 93 percent of VMA to give us
23 roughly the same level of permeability that we saw with
24 all our Type S mixes.

25 Obviously, since -- if you were expecting every

1 piece of pavement to be above 93, if we set our target
2 level at 93, we are going to be accepting a bunch of
3 pavement at levels below 93. So conservatively we
4 kicked it up to 94 percent.

5 So, Rick during that period, Martin Paving had a
6 job on I-95. And to correct you, Rick, I think the
7 target density level was 91 percent. Where you may be
8 getting confused is you were consistently getting
9 density in the 92 percent. I think your lowest density
10 was 92 percent. So the 92 may have stuck in your head,
11 but specification-wise I don't think it was ever set at
12 92 percent.

13 That's basically where that kind of took us -- in
14 addition to raising the density requirement, since we
15 recognized we would have problems, Anderson Columbia
16 couldn't hit 91 percent. Just because we specified it
17 at 94 did not mean it was going to be any easier.

18 So we increased our lift thicknesses. We went to
19 a lift thickness with coarse mixes of four times the
20 maximum or nominal maximum aggregate size. So that's
21 where we went to the thicker lifts.

22 By giving the thicker lifts to enhance
23 compactability. We also allowed -- the second thing
24 that we did was to allow the contractor to run the
25 voids, whereas before we started making the contractor

1 have corrective actions at the plant. If their air
2 voids got below 3 percent, we would lower that down to
3 two and a half percent.

4 This wasn't just Florida. These recommendations
5 from -- on the lift thicknesses as well as the lower
6 air voids during production.

7 We had several meetings with FHWA representatives
8 from Washington, John D'Angelo, John Bucowski, as well
9 as Byron Lord. I think we had a whole gross of people
10 down here in Florida to discuss it.

11 So that's when we changed our lift thicknesses,
12 we let the contractors run lower air voids, and we
13 raised our density requirements.

14 And I apologize, but I'm not exactly certain of
15 the exact date when we made that change. But it was,
16 I would say it was somewhere in -- it probably hit the
17 streets by July of '97 projects.

18 CHAIRMAN COWGER: I got a little bit confused
19 here. You talked about that White job or the Anderson
20 job at the beginning, which was let under a
21 conventional spec, and you came in and did an
22 evaluation of Superpave using that. So it was all just
23 kind of experimental, you might say?

24 MR. MUSSELMAN: Yes, sir.

25 CHAIRMAN COWGER: Now the first job that you came

1 out, that you actually let under Superpave specs, what
2 was your density requirement? I'm confused.

3 MR. MUSSELMAN: I don't know if the other two
4 projects were supplemental agreements, but the first
5 density requirement that we had that was different from
6 our traditional density specification was by roadway
7 cores with a target of 91 percent VMA.

8 CHAIRMAN COWGER: Which was a lot lower than what
9 you got on this job?

10 MR. MUSSELMAN: It sure is.

11 CHAIRMAN COWGER: How did you get from 91 to 94?

12 MR. MUSSELMAN: When we finished doing the two 91
13 jobs, we started noticing that these pavements were
14 leaking on the shoulders, and they were permeable. So
15 we did -- it was pretty simple. We cut cores, we
16 determined the in-place air voids. We would also run
17 the permeability on the cores, and we came up with
18 basically a density permeability relationship.

19 And from that data, and it's fairly consistent
20 throughout, over the last several years, it's still
21 hanging right around the 93 percent is the break-off
22 point with coarse graded Superpave mixes, where Florida
23 feels -- and to be honest with you, why other states
24 have had lower density requirements.

25 So I'll be honest with you, I think that they

1 have not quite been -- this first project, if we didn't
2 have the ARMI layer underneath it and a fine graded mix
3 on the shoulder, the water would have gone straight
4 through the pavement, and probably straight through the
5 base.

6 And we may have had a stripping problem down the
7 road or base failure down the road, and we would be
8 fat, dumb and happy today.

9 But we noticed that water. We built a bathtub,
10 and we had the I guess good fortune to see what was
11 happening.

12 CHAIRMAN COWGER: I remember my involvement on
13 the fringes of this thing was that, as I recall, the
14 other states had a long time before you ever convinced
15 them that permeability might be a problem.

16 MR. MUSSELMAN: Yes. We went fairly public with
17 it afterwards. There were not many states that were
18 jumping on the band wagon, but since then there are a
19 great number of states that have indicated that they
20 had problems with permeability.

21 CHAIRMAN COWGER: So what I hear you saying is
22 the 94 percent requirement was adopted you mentioned as
23 a conservative requirement. Conservative what?
24 Conservative to try to avoid permeability or what?

25 MR. MUSSELMAN: Yes, sir, the Department was

1 being conservative, from Rick's standpoint, probably a
2 little difficult.

3 If we set the minimum density level at --
4 obviously we're saying that we don't want to be paying
5 a hundred percent for density and having it permeable.
6 So we wanted them to set the hundred percent cut-off
7 value above a level that we felt would be -- would make
8 it impermeable.

9 CHAIRMAN COWGER: Okay.

10 MR. MARTIN: I would like to let Jim talk
11 regarding the 94 density level.

12 CHAIRMAN COWGER: That's primarily what he's
13 going to address?

14 MR. MARTIN: Yes.

15 CHAIRMAN COWGER: Good.

16 MR. MARTIN: And, Jim, if you would, some of
17 these people, I don't know if you know Jim. Maybe give
18 a quick review of your background.

19 MR. SCHEROCMAN: I apologize for my voice.
20 I have a problem. It comes and goes.

21 MR. ROEBUCK: An air void.

22 MR. SCHEROCMAN: Pardon me?

23 MR. ROEBUCK: An air void.

24 MR. SCHEROCMAN: Exactly. That's a reflex
25 problem.

1 My background is a Bachelor's degree, Master's
2 degree. My Master's thesis is as an asphalt paver.
3 I've been stuck in this business for a day or two,
4 I have my MBA for a school not in the southeast
5 conference, up a little farther north.

6 I went to work for Ohio DOT as a systems flexible
7 pavements engineer in the construction field right out
8 of school. I got into the asphalt paving construction,
9 and looking at paving construction in that state.

10 After a couple of years of working for DOT,
11 I walked across the street to the Asphalt Institute
12 office in Ohio and was the area engineer, then district
13 engineer for the institute in that state for some six
14 years.

15 I went west, but not too far, to Indiana, was the
16 executive director of the Asphalt Pavement Association
17 of Indiana, the same job that Jim Warren has here in
18 Florida.

19 From there I went to a company called Shumaker
20 Brothers Asphalt Paving Contractors in Indianapolis.
21 They had five asphalt plants. Pretty dominant in the
22 Indianapolis area in terms of State work, City, County
23 work and that type of thing. So, I've been on the
24 contractor's side of that.

25 Went west again to Aurora, Illinois, was chief

1 paving engineer of Barber Green Company, a maker of
2 asphalt plants, building equipment and pavers, and that
3 type of thing. So I have the equipment background.

4 From there when Barber Green had their financial
5 problems, I went to work just shortly, for a short
6 time, three years, for Morton International. Now Roman
7 Haas has been bought out again. They made asphalt
8 additives in their materials, polymers, and that type
9 thing.

10 Then for the last 15 years I have been
11 self-employed. I actually work for a redhead. I do
12 whatever my wife tells me to do, just say yes, dear,
13 and go from there.

14 I basically do three things now. I teach a lot
15 of seminars in how to build pavements around the
16 country for highway departments and contractors.

17 I get involved if there are paving problems on
18 the job. I've been down here a number of times.

19 I do a fair amount of expert witness work.
20 I have been down here a lot of times. I'm currently
21 working for the Florida DOT on a lawsuit down in Miami
22 on I-75, an accident case.

23 I do a lot of claims, arbitrations. I've been an
24 arbitrator myself. I do mediations, all that wonderful
25 stuff.

1 What Rick has asked me to do is look at what he
2 was being asked to do on this contract in trying to tie
3 it back into what went on with Superpave. Jim
4 certainly is as up to date as I am.

5 I happened to be in this state at a meeting when
6 you guys had the meeting with Byron Lord and Bucowski
7 because we were all together a day or two before that.
8 And then I had spent some time with Ken Murphy a day or
9 two before that, also. So I had the background from
10 the I-10 jobs.

11 But when we put the Superpave mixes together --
12 and I sit on the 001 contract for Superpave, which was
13 at the University of Texas, so I've got a fairly good
14 background on how Superpave was developed.

15 You have to realize that all that was ever tested
16 as far as Superpave mix design goes is two aggregates
17 and two asphalt cements.

18 They took two binders and they took two
19 gradations, two different aggregates, they made test
20 specimens, not one of which was compacted with a jar
21 compactor. It was either a rolling wheel compactor or
22 it was a kneading compactor, which is what California
23 used, and that's where the testing was done.

24 So two aggregates and two asphalts and the wrong
25 compaction method was then extrapolated to the world,

1 including Florida.

2 When we ran out of time and ran out of money, you
3 got, and everybody else got in this country, Superpave.
4 There was 6 million bucks out of 50 million bucks that
5 went into the mix part, 44 million went into binders.
6 So there wasn't a lot of testing work that went into
7 the mix part of Superpave.

8 Having said that, as you guys well know, your
9 aggregates down here are different than in many places
10 in this country.

11 When we put coarse grade and Superpave mixes
12 together, the idea was to carry the load on the stone
13 rather than carry it on the binder. There's only one
14 thing we forgot when we put it all together, is that
15 when I design a mix on the coarse side, I end up
16 getting a certain VMA value, voids milled aggregate
17 value. I assume you guys know what that is.

18 I fill up that void space with asphalt until
19 I get to 4 percent air void content, and that's my
20 optimum binder content.

21 On the fine side of the gradation limit where
22 Florida has been for years on the upper part, I have
23 a -- pick a number, 14 VMA, I fill it up with asphalt
24 until I get to 4 percent air voids. And let's say
25 I come out with 5.6 asphalt.

1 I do the same thing on the coarse side, which is
2 what Florida went to on the Superpave criteria.

3 I take a 14 VMA, I fill it up with asphalt until
4 I get to 4 percent air voids. I get again 5.6 percent
5 asphalt content.

6 The problem is on a fine side mix up here and a
7 coarse side mix down here, I've got the same binder
8 content but I don't have the same surface area.

9 So, my film thickness or the amount of asphalt
10 around the aggregate particle is significantly greater
11 on the coarse side than it is on the fine side.

12 We look for what we call an eight micron film
13 thickness. Eight microns, let me draw a picture. It
14 is a gallon of paint over a football field's worth of
15 area, roughly. That's what it calculates out to be.

16 If I'm on the coarse side, my film thickness is
17 significantly greater and, therefore, for a given
18 binder content, given VMA content, my mix becomes a lot
19 more tender because I have effectively a higher binder
20 content.

21 If I have any moisture in the mix, as you guys
22 have on your lime rocks and so forth, then that
23 compounds the fluids content problem, I get into this
24 tender mix.

25 I have sat, as Gill Page has, and I guess, Jim,

1 you were involved in the mix EGGs and the bindery EGGs.
2 We have seen each other certainly enough times at those
3 meetings.

4 And we basically have made a bunch of changes in
5 Superpave since its first inception. And that was as
6 Jim said, about early '96. We have made a lot of
7 changes, and design has changed, and a number of things
8 have changed.

9 We looked at, due to Westrack, for example, of
10 now having different criteria on the coarse side than
11 the fine side. You guys were one of the instigators in
12 the different criteria because of the permeability
13 problems.

14 I was one of the six forensics team members for
15 the Federal Highway Administration in regard to what
16 happened with Westrack.

17 What happened with Westrack, \$15,000,000, it's
18 simple. There's too much asphalt in the mix. It's
19 just overloaded with asphalt.

20 You add a Marshall flow value, which is only in
21 the range of eight to 16, it had a Marshall flow of 22.
22 You would have never built that mix in Florida. We
23 built it there because it met criteria.

24 Where I'm coming from is the Superpave mixes,
25 what we know now in June of 2000 is a heck of a lot

1 different than what we knew in the fall of 1997 when
2 these contracts went to bid.

3 I talked to the Fed people when they came up and
4 changed the lift thickness, and basically forced it on
5 you, from three times nominal max to four times nominal
6 max.

7 That was just a knee-jerk reaction, I'll be very
8 frank, to trying to solve the problem which occurred on
9 I-10.

10 There was no justification for that. Most states
11 in this country today go either two times maximum size
12 or three times nominal maximum size, which are
13 essentially the same thing. Two times a half inch is
14 an inch, three times three-eighths, nominal max, is
15 nine-eighths, it's the same thing.

16 Nobody went to four times nominal max except the
17 Florida DOT at that time. Nobody looked at
18 permeability at that time.

19 What we know now in terms of tender mixes we
20 didn't know back then.

21 I sat in a meeting in late '97 at the NAPA office
22 in Washington, D.C., and FHWA was there. We talked
23 about Superpave problems. There were 23 people invited
24 to attend the meeting.

25 What Martin Paving and Ranger went through in '97

1 and '98, we were just starting to pull together at that
2 point in time in terms of the tender zone. The tender
3 zone will run anywhere from 210 down to 1 -- sorry, 240
4 down to 190, something in that range. If I have an
5 excess of fluid problem, if I run 260 down to 180.

6 On I-20 in Mississippi I was involved last year,
7 I had a tender zone that went from 270 degrees down to
8 about 160 degrees. I had no room to compact it. Why?
9 Because there was too much asphalt in the mix.

10 Mississippi DOT had changed their design from 109
11 to 96 with the same aggregate gradation, and when you
12 go down in design, you go up in binder content. And we
13 had a mix that was too fluid.

14 So when you look at what Martin was trying to do
15 with the tender zone to get density, you look at the
16 fact that you end up with an excess of fluids content
17 on the coarse side of the gradation limit, and you end
18 up chasing the mix down the roadway.

19 And when the mix is moving with the bow wave in
20 front of the rollers and it's widening out
21 transversely, it's very difficult to catch up with it
22 to compact it. That's actually what happened.

23 And we have had that happen from one end of this
24 country to the other, from Maine to California, from
25 Texas to Minnesota.

1 When I go to an increased level of density, 91
2 percent to 94 percent, that's a hell of a change. As
3 Gene pointed out, that's a big change. That's not just
4 small areas of magnitude, that's a significant one.

5 But then I have to get that density and still
6 deal on the coarse side with that tender zone, which is
7 fairly wide.

8 And I have to either compact it all on the hot
9 side or compact quite a bit of it on the cold side.
10 Suffice it to say that when I deal with a coarse
11 gradation and a 94 percent density, what I want to try
12 to do is beat it to pieces, or if I get in that tender
13 zone and start moving, I back the rollers off and then
14 I have to wait until the tender zone gets cool enough
15 to mix, cool enough to allow me to put the rollers on.
16 My ability to do density goes down directly as the
17 temperature goes down.

18 When I went from two lifts to one lift, realizing
19 any paver in this country, every paver in this country
20 takes the existing pavement surface and takes out 71
21 percent of the roughness in the first paver pass, 95
22 percent of the roughness in the second paver pass --
23 Walmax, Barber Green, Cedar Rapids, Caterpillar, all
24 have been exactly the same. They've been that way
25 since 1931.

1 So the degree of smoothness I get depends upon
2 the number of layers I have.

3 When Martin Paving-Ranger went from one layer --
4 or two layers to one, they significantly decreased
5 their ability to get smoothness. And it's tied to how
6 smooth the underlying pavement is, it's then tied to
7 how many layers I lay. It's not tied to whether it's
8 an inch and a half or two inches, it's tied to the
9 number of layers.

10 Every paver in this country has the same ability
11 to lay a smooth mat.

12 Between the tender zone being there, between the
13 time frame that this occurred in '97, early '98 when we
14 were just discovering the tender zone, when we look at
15 the fact they went to one layer, and then loss
16 smoothness, as you would expect them to, I sit here
17 with a big background in the asphalt paving business
18 and say that I will tell you as honestly as I can, 94
19 percent density, to get that consistently is very,
20 very, very difficult to do.

21 And I think at the time frame that they were
22 dealing with 94, at the end of 1997 and early '98, I
23 don't know of a contractor in this country that
24 wouldn't have had at that time frame made 94 percent
25 maximum density on a consistent basis.

1 Ninety-two, can I get? Yeah. Can I get 93?
2 Probably can. Can I get 94 at that time frame? I
3 wouldn't want to try to get it today, frankly.

4 So I think that what Martin was asked to do at
5 that point in the development of the Superpave
6 criteria, Superpave mix design was not correct.

7 I think it raised the bar to a level that was
8 unattainable by any contractor with due diligence in
9 their asphalt paving operation.

10 MR. ROEBUCK: Thank you for your college
11 education. I think you speak very clearly about it.

12 MR. SCHEROCMAN: Thank you.

13 MR. ROEBUCK: And I think we in Florida have been
14 through many of the problems.

15 MR. SCHEROCMAN: You're not alone.

16 MR. ROEBUCK: Let me ask the State. I'm on a DRB
17 down here on the Suncoast Parkway. And that pave --
18 you know, we've run through an assay on the thing.

19 They dropped the level five to level four, and
20 then lowered the densities for him and he's able to
21 make it. At the outset for the first three months we
22 never had a test strip pass, either one of the three
23 variables failed it. This has only been a few months
24 ago, but again, he was trying the Brooksville
25 aggregate, you know, which I think would be a problem

1 with the level five pavement.

2 MR. SCHEROCMAN: I was involved in that job for
3 Bill Blackman, went down on the job.

4 MR. ROEBUCK: Were you?

5 MR. SCHEROCMAN: Yes.

6 MR. ROEBUCK: And so here we are in the last six
7 months providing relief to a contractor. So when is it
8 going to quit? We got the answer.

9 CHAIRMAN COWGER: Let me bring something back on
10 track, but I have one question. Jim Musselman, when
11 you mention going to four times the maximum aggregate
12 size for your lift thickness, is the maximum aggregate
13 size for a nine and a half millimeter mix nine and a
14 half millimeters?

15 MR. MUSSELMAN: Nominal max with aggregates.

16 CHAIRMAN COWGER: So for a nine and a half
17 millimeter mix you would be at 38 millimeters?

18 MR. MUSSELMAN: We round to 40, yes, sir, that's
19 minimum thickness.

20 CHAIRMAN COWGER: That's an inch and a half
21 roughly?

22 MR. MUSSELMAN: Contrary to Mr. Scherocman's
23 comments, it wasn't forced down our throats by the
24 FHWA. They met with us. We actually put down -- he
25 may not be aware of this, because he's not in Florida

1 unfortunately all of the time, just most of it.

2 That we did put down several test sections on an
3 I-75 project with Anderson Columbia. We actually had
4 to mill up different thicknesses and put it down to see
5 how much it enhanced compactability. And it seemed to
6 make a fairly big difference in terms of compaction.
7 So that was, you know, an issue then.

8 CHAIRMAN COWGER: We are talking about lift
9 thickness now?

10 MR. MUSSELMAN: Yes, sir. With regard to what
11 happened on the Suncoast, separate issues. Just so you
12 are not confused by the numbers, we basically require
13 in Florida that there are seven traffic levels with
14 Superpave. We've numbered them one through seven.

15 The higher the number, the more traffic on the
16 roadway. Traffic levels five, six and seven are
17 required to be coarse graded mixes, which let's just
18 say there's a predominance of coarse aggregate. The
19 traffic levels one through four can be either coarse or
20 fine, depending on the lift that's required.

21 On that project it was originally done by design
22 as a traffic level five. So it had to be coarse
23 graded. Coarse graded mixes, and I even think on that
24 project the density requirement had be dropped from 94
25 to 93 and a half. That was a change that we had made,

1 and perhaps later I can explain the background behind
2 that.

3 But fine graded mixes, same time we raised our
4 densities for coarse graded mixes up from 91 to 94, we
5 also took the opportunity to bump our fine graded mixes
6 up from 91 to 92.

7 So fine graded mixes have a 92 percent density
8 requirement. Coarse graded mixes originally went to
9 94, later reduced down to 93.

10 CHAIRMAN COWGER: Let me -- Frank, do you have
11 any problem with us continuing along this line a little
12 bit more? Because we're talking about the technical
13 issues involved in achieving 94 percent.

14 MR. O'DEA: That's fine.

15 CHAIRMAN COWGER: My question there is, and I
16 guess it's kind of a leading question, but I think I
17 need to ask it anyway.

18 The contractor mentioned this to some degree.
19 What success during 1997 were you having on other
20 Superpave projects, and for the moment regardless of
21 the type of aggregate, in achieving the 94 percent?

22 MR. MUSSELMAN: Well, we changed the density
23 level to the 94 percent. Again, Anderson Columbia
24 probably prior to Martin Paving's jobs had a number of
25 jobs that were let at 94 percent. So did Couch

1 Construction on the I-10 corridor in between roughly
2 Lake City and probably Madison County. And again, they
3 had pretty good success getting the 94 percent density
4 level. It was a bit difficult.

5 I'm not certain about, and maybe Mr. Scherocman
6 can help us, I-75 in Hamilton County, that might have
7 been in '98 possibly, sometime in there.

8 CHAIRMAN COWGER: But the ones you were talking
9 about there earlier where you had the 94 percent
10 requirement in the spec and they got it, maybe with
11 some difficulty, those jobs were built in the same time
12 frame as the one we are here to talk about today?

13 MR. MUSSELMAN: Yeah. Martin Paving's was not
14 the first project to use that 94 percent density.

15 CHAIRMAN COWGER: And some of them were built
16 before his.

17 MR. MUSSELMAN: They were north Florida projects.
18 And I would tend to say they were north Florida
19 projects that used for the most part granite. Again,
20 I'm not totally clear on some of the I-75 projects.
21 I-75 was being widened from four lane to six lanes from
22 roughly -- well, all the way from the Turnpike north.

23 And I'm not certain what time frame it was, but
24 it was somewhere in that picture.

25 I also think that concurrent with this project

1 that Mack Asphalt had a job in Brevard County on I-95
2 that used Florida materials, same density requirement,
3 and they didn't have the problems that Martin Paving
4 did.

5 CHAIRMAN COWGER: Same aggregates?

6 MR. MUSSELMAN: I think that there was a
7 difference.

8 CHAIRMAN COWGER: They were limestone.

9 MR. MUSSELMAN: They were limestone. They may
10 have used some granite screens.

11 MR. O'DEA: Yeah, that's it. But it was the 94,
12 it was the same.

13 MR. MUSSELMAN: They did have the 94 percent
14 density.

15 MR. O'DEA: That was the --

16 MR. MARTIN: That was also, I think it was
17 determined on that job that the laboratory maximum
18 specific gravities were in error and were basically
19 falsified and then finally corrected near the end of
20 the job.

21 MR. MUSSELMAN: What are you talking about?

22 MR. MARTIN: I'm talking about the laboratory
23 control that maximum measures specific gravity and that
24 the IA was not --

25 CHAIRMAN COWGER: I think we are getting a little

1 too far off on the technical side.

2 In the interest of -- I'll get to you in just a
3 second, Freddie. I want to let Freddie ask his
4 questions.

5 But in the interest of expediting things, we have
6 heard a lot about the reasonableness of the spec, we've
7 heard a lot about explanation of what happened, how we
8 got there, problems that were encountered on other jobs
9 where they were able to achieve the 94 percent.

10 I've got two questions. You be thinking about
11 them while Freddie asks his.

12 One, the contractor seems to be beating pretty
13 hard on use of Florida limestone aggregates. I'm not
14 sure what the significance of all that is, for field
15 compaction.

16 The second question I have is -- and we are going
17 to move on to this in a minute -- is DOT, you did agree
18 to waive the density penalties. So you are saying
19 okay, we are not going to charge you the penalty, but
20 there's no entitlement to any delay costs.

21 And we want to talk a little bit, so we don't run
22 this thing all afternoon, we want to talk a little bit
23 about why you think that's fair. Freddie?

24 MR. SIMMONS: That's not my question. Do you
25 want to answer those first?

1 CHAIRMAN COWGER: Go ahead and ask yours, and
2 then we will throw them all three together.

3 MR. SIMMONS: Well, mine would be looking at --
4 in our package here at the actual density results, on
5 your first test -- on your third strip with the nine
6 and a half millimeter, which was on this job, right at
7 500 tons, you got 95 percent density.

8 Okay. On 12 and a half -- now this shows about
9 12 different production readings. On at least six of
10 them you've got better than 94 percent density.

11 And then on the 19 millimeter, which was the full
12 lift, three and a half, all of them were above 94. So
13 you were continually -- not every production, but
14 better than half the time you were getting 94.

15 What was going on that you had 50 percent, you
16 know, 40 to 50 percent -- what was the difference?

17 MR. MARTIN: Okay. The 19 millimeter we had no
18 problems. We always had passing tests on that. Both
19 the nine and a half and 12 and a half we had density
20 less than 50 percent of the time.

21 The question of why could we get it sometimes,
22 why could we get it half of the time and why couldn't
23 we get it the other half?

24 MR. SIMMONS: On these 12 here, there's six of
25 them that's better than 94. What is happening the

1 other half of the time?

2 MR. MARTIN: My thought is that -- two reasons.
3 Two things helped get the density. One is if there is
4 a higher AC content or a lower air void, it facilitates
5 density.

6 The other thing is it's real critical, the lift
7 thickness. The thicker the lift thickness, the easier
8 it is to get density.

9 And so when you are paving -- you know, when
10 you're paving thickness, you have some amount of
11 inconsistencies, you know, with the thickness and with,
12 you know, the AC content. There's some normal
13 variance.

14 And my thought is that where we obtained the
15 densities is where we had, you know, maybe the AC
16 content was a little higher than target, where the lift
17 thicknesses were a little bit higher than target.

18 And perhaps we had a little more compaction
19 effort on the cool side than we did on the others.

20 And so my thought is those three variables. We
21 had perhaps some more compactive effort than we did on
22 the others. I mean everything wasn't exactly
23 consistent in the field. Perhaps we had more
24 compaction effort, we had a little bit higher lift
25 thickness, we had a little bit higher AC content.

1 Those are -- that's my belief on why we are able
2 to get density sometimes and sometimes we couldn't.

3 MR. SIMMONS: Seems like, though, if you find
4 time that you are getting it, whatever you are doing to
5 get it you would try to keep doing it just like that.

6 Now, if it's the way your rollers are lined up --
7 and I know you did a lot of experimenting with that.
8 And you weren't that far off when you didn't get it,
9 you were off a half percent most of the time or less.

10 Seems like you had something working part of the
11 time, and then some of the time something was changing.
12 I understand there are some variances and all that. It
13 wasn't that you couldn't get it, and it seems like
14 that's one of the big issues.

15 MR. MARTIN: It's sort of like what Jim was
16 saying, that we found that it was basically impermeable
17 at 93 percent. But obviously if you shoot for 93,
18 you're going to have some above and below. Therefore,
19 let's make it 94, and hope we get density. Then when
20 we get density at 94 then we are pretty assured that
21 we're don't have any pavement sections with high
22 permeability.

23 And, you know, in my mind the 94 percent was
24 never demonstrated with the majority of Florida
25 aggregates that it could be achieved.

1 The few jobs where they attempted to get 94
2 percent and were successful were all in north Florida
3 with granite aggregates. And the majority that the
4 State has done is with limestone aggregates.

5 And I don't think it was the intent of the
6 Department to say you have to use granite everywhere in
7 the state on the traffic level five and above. I don't
8 think that was the DOT's intent.

9 There was such a push to get Superpave, because
10 I believe the original idea was we were going to be a
11 hundred percent Superpave by January 1, 1997. And then
12 that didn't happen.

13 And there was such a big drive, well, we said we
14 were going to -- we said we were going to implement
15 Superpave. And then we thought we had it all worked
16 out. And then we decided there was a permeability
17 problem, and we said okay, we know we don't have
18 permeability problem. Let's just raise it to 94
19 percent and see what happens, and hope for the best.

20 And the best didn't come.

21 And I don't have every job and when it was
22 stated, but I think it's unfair to say that -- we
23 didn't have a problem getting density on all these
24 jobs, and it's just you, Rick. Your job is the
25 problem. I don't think that was the case at all.

1 I think there were density problems, major
2 density problems on all the jobs that we're trying to
3 meet 94 percent density, even on the granite jobs,
4 which historically had an easier job getting density.

5 But on the nongranite jobs, I don't think there
6 were any jobs where they were consistently meeting
7 density without problems on nine and a half to 12 and a
8 half millimeter.

9 CHAIRMAN COWGER: Freddie, does that answer your
10 question?

11 MR. SIMMONS: Yeah. That brings up some others,
12 but that's okay.

13 CHAIRMAN COWGER: We will come on back again.
14 Let's let them answer the quick question. Jim, the
15 ones on I-75 and I-10, were they level five or level
16 four?

17 MR. MUSSELMAN: They were five and possibly level
18 six. Five and six are the same.

19 CHAIRMAN COWGER: Good enough. Now, does anybody
20 remember the two questions?

21 MR. O'DEA: The one question was why DOT agreed
22 to waive the Superpave density penalties, in that
23 correlation. On this particular project, as with every
24 Superpave project underway at the time, the Department
25 did come up with the policy to waive all penalties that

1 the contractors received on their first Superpave
2 project. I'm sure there was more. I think there's an
3 attachment in one of these files that details the
4 memorandum.

5 So, we went along with that on this project on
6 the policy basis.

7 Another interesting factor on this project was we
8 had granted contractors time extensions for general --
9 along the same line, ordered up -- to kind of
10 compensate them for this learning curve. We granted
11 time extensions for additional time.

12 This project was unique in the fact that the
13 contractor actually set his own time. He set it at the
14 contract time of 250 days. The next lowest bidder was
15 350 days, which was a significant underrun in time.

16 Quite honestly, we debated this one, how do we
17 grant time when the contractor set the time.

18 In keeping with consistency and fairness we
19 decided we would just use the same methodology in
20 granting the time to all other projects, and even
21 though this was an A plus B, extend this contractor the
22 same courtesy. We didn't want to penalize him because
23 it was an A plus B project. That's the only
24 significance unless you can --

25 MR. MUSSELMAN: The drop in the density came out

1 of the State construction office. It came as really
2 kind of an industry -- basically the Department said
3 this really isn't fair because we are getting
4 contractors, it's their first job, they've not had any
5 experience with Superpave.

6 They have been placing fine-graded mixes where
7 you could almost bring a pup roller out there and look
8 at the pavement and it would densify.

9 Now we have this humongous density requirement.
10 So, it was almost like a fairness issue. If you make a
11 reasonable effort to get density on this, then we will
12 share in some of the burden with you.

13 Mr. Cowger, you had another question. I just
14 wrote down Florida materials.

15 CHAIRMAN COWGER: My question was how is it that
16 the -- this material, this project was done with
17 Florida limestone as opposed to the -- most of the
18 previous experience has been with granite.

19 How does that enter into the discussion here
20 today as far as field compaction is concerned? I know
21 it caused a lot of problems in getting the VMA in the
22 mix design, but how about field compaction? Why --
23 I'll ask Rick the question.

24 MR. MARTIN: Why I am focusing on that is when
25 this job was put out for bid, it was put out for bid

1 requiring 94 percent density. It's been brought out
2 here clearly today that 94 percent came out of the
3 necessity to correct the permeability problem.

4 I believe there were two jobs done that I know of
5 of 94 percent density to prove that it was even
6 obtainable. Certainly the Department I'm sure didn't
7 want to put out a spec they thought was not obtainable.

8 These two jobs that were done were done by
9 Anderson Columbia on I-10, or it might have been one on
10 I-75, where they had two jobs that were -- where they
11 were able to achieve the 94 percent density. And these
12 mix designs were done with mostly all granite mixes.

13 So, it seems to be common knowledge now, and
14 maybe it's not, that granite mix -- coarse graded
15 granite mixes are easier to obtain density than
16 limestone mixes. We did not know that at the time we
17 bid this.

18 CHAIRMAN COWGER: Jim, does that track or not?

19 MR. MUSSELMAN: I wouldn't necessarily say that
20 it's any different. Since that point, where we went
21 from 94 to 93 and a half, and I think it will tie
22 together a little bit better. Where we are today the
23 density requirement is 93 and a half. That's a
24 specification change. It came from industry. The
25 Department discussed it. It was discussed at the

1 Flexible Paving Committee, realizing you set the
2 average at 93 and a half.

3 You are basically going to have more of the
4 pavement permeable. Again, we kind of felt, I think
5 industry's position, and I don't know if I could speak
6 for them, is that there was a lot of density falling
7 between 93 and a half to 94.

8 It seems like as Mr. Scherocman says getting over
9 the 93 hump is pretty difficult. Between 93 and a half
10 to 94 was a little bit easier to attain.

11 The Department felt we can share in that risk in
12 terms of performance issues down the road. So we
13 reduced the density requirement to 93 and a half.

14 Since that time we have built a number of
15 projects. Last year's Volkman award winner that the
16 industry gives to their best project of the year was on
17 I-10 in Duval County. I believe it used 100 percent
18 Florida materials. It was Atlantic Coast. They
19 consistently met the density requirement of 93 and a
20 half.

21 Anderson Columbia just finished a 235,000 ton
22 project using exclusively south Florida materials and
23 didn't have one density failure.

24 Scott Cushing from down in the south Florida
25 Miami area -- these were high traffic level projects, a

1 number of mixes in that area and they are consistently
2 meeting the density requirements.

3 The reason we have had so much more experience
4 with granite hasn't been that it's the aggregate of
5 choice as much as partly it helps that a lot of these
6 jobs have been up in north Florida.

7 If had you them in Marshall, Anderson Columbia is
8 still going to be using granite. It's sort of
9 availability of the materials.

10 CHAIRMAN COWGER: If the Board agrees, I think we
11 have heard enough on that limestone aggregate
12 materials.

13 MR. SCHEROCMAN: Can I make another comment? We
14 have more problems with tenderness on Superpave mixes,
15 therefore the ability to get density, on -- also have a
16 higher absorption value. That's all around the
17 country.

18 When you go to coarse graded mixes and put that
19 coarse material through an aggregate dryer or through a
20 drum mixer, you don't heat the coarse aggregate as hot
21 as you do the fine aggregate.

22 The temperature differential inside the dryer of
23 the drum will reduce the amount of fine aggregate in
24 the mix and it becomes more difficult to dry that
25 material going through a vast vat dryer or a drum

1 plant.

2 Therefore, you have on the coarse graded mixes,
3 your fluids content potential problems, fluids content
4 being moisture and being asphalt content.

5 So, you have the combination of two things going
6 on, which gives you a coarse graded problem on the
7 coarse side of the mix.

8 We understand that now. At the time we went into
9 these coarse graded mixes, nobody was looking at the
10 temperature differential, but you probably got a 20 or
11 30 degree difference in the temperature, and that gives
12 you your ability to remove moisture.

13 The lime rock materials with the higher moisture
14 content, when you go coarse graded on the Superpave
15 mixes, you have a much more difficult time drying them.
16 I think that's where you get a large part of your
17 problem.

18 MR. MARTIN: I can probably go through the costs
19 in about ten minutes.

20 CHAIRMAN COWGER: I want to finish the
21 entitlement because I don't think DOT is finished.

22 MR. O'DEA: We will be quick. Are you ready?

23 CHAIRMAN COWGER: I'm ready when you are.

24 MR. O'DEA: Most of our points have been brought
25 out already. We will be quick.

1 Ranger brought up it was an A plus B contract.
2 They set the time.

3 I do want to point out in the package I submitted
4 to you there is an error in the work I submitted.
5 I want you to make a correction. I don't want that
6 left.

7 On the first page past the table of contents
8 under item one, lost production on Superpave asphalt,
9 you will see in the fourth line down it states that the
10 contractor utilized a bid production rate of 1711 tons.
11 That is incorrect.

12 It's on that page right there, the fourth line
13 down. The correct number should be 1188 tons per
14 shift. I forgot to correct that from the last time we
15 met, Rick. I was falsely attributing there.

16 CHAIRMAN COWGER: Where it's 1500?

17 MR. O'DEA: No, should be 1188.

18 CHAIRMAN COWGER: I thought that number looked
19 funny when I looked at it.

20 MR. O'DEA: The contractor did set his own time.
21 He did establish a bid rate by himself. The fact that
22 it was a Superpave project and, quite honestly, the
23 contractor had performed Superpave with a lower
24 density. He knew that was not real easy.

25 The fact the Department had raised the density

1 requirement was kind of fair warning this was going to
2 be a difficult project.

3 The biggest contention we have is that he was
4 able to achieve density. And while it was not
5 consistent, it was attainable.

6 We felt that the records we included in the
7 package, which kind of track his compaction efforts
8 over a series of several days, verifies that some days
9 they use even three rollers or four rollers. There
10 seems to be no rhyme or reason to the difference in the
11 number of rollers or the number of passes or the
12 temperatures that the mat was at when certain rollers
13 would hit it.

14 We feel that, quite honestly, a more involved
15 quality control effort on the contractor's part, once
16 they identify the successful rolling pattern with
17 successful temperatures, and then trying to replicate
18 those successful practices, would have helped them
19 achieve density more often.

20 Anything on the entitlement on this one?

21 MR. GARCIA: Are you still on item one or --

22 MR. O'DEA: Just the entitlement at all as far as
23 the density production.

24 MR. GARCIA: I would like to draw attention to
25 the expression, the proof is in the pudding. There's a

1 lot of arguments probably on both sides about the
2 theoretical ability to get density, to not get density,
3 the knowledge level of what types of aggregate work
4 best and all that.

5 I would ask that we put those aside and take a
6 look at the actual density results achieved and the
7 variation from shift to shift and day to day in rolling
8 pattern and see that probably one of the most important
9 things you can do with the rolling operation is once
10 you achieve a passing density, which was done, and not
11 just one time on this project, is to go ahead and stick
12 with those things that got you there.

13 You need to dance with who brung you. You are
14 looking at monitoring temperatures, mix production
15 temperatures, lay-down temperatures, rolling pattern,
16 rolling equipment, possibly rolling operators.

17 If there's particular techniques being used, and
18 once those are identified, they have to be adhered to
19 very strictly.

20 That's not anything new. You can probably ask
21 Jim Musselman or Jim or Rick or Ken or anyone here.
22 Those are some of the real basics of a paving
23 densification operation.

24 Regardless of all the theoretical arguments you
25 will hear on both sides, these passing densities were

1 achieved. They were achieved with this mix, with these
2 underlying layers.

3 There was significant variation from time to time
4 in compaction. I think that should be a real focus for
5 this issue.

6 MR. MUSSELMAN: I would add that I would really,
7 for the Board's standpoint, please put a big emphasis
8 on the quality control requirements. As the Department
9 continues to change through the years, you will see
10 more responsibilities going to the contractor.

11 The thing that concerns me, if you feel the
12 contractor made consistent efforts in the area of
13 quality control on the mix during production, during
14 the lay-down operations, if they were consistently
15 monitoring the nuclear density gauge, pavement
16 temperature, and reacting to it accordingly and doing
17 everything within their power to do so, I would agree
18 with you. I would say this is wrong.

19 At the same point if the contractor is not
20 fulfilling his obligations, and more so than just
21 setting the gauge down, taking a reading and going back
22 and sitting in the truck for several hours. There has
23 to be a mind shift that the contractors have to take
24 responsibility for their compaction operations.

25 CHAIRMAN COWGER: Process control you would call

1 it?

2 MR. MUSSELMAN: Yes. Process control. It's
3 ultimately their responsibility to obtain density, it's
4 not our responsibility to get it. With regard to the
5 single lift of three and a half inches, obviously more
6 lifts are going to give you a smoother ride. We are
7 trying to specify a smoothness level.

8 If the contractor wants to place it in one lift,
9 and to make it smooth, it speeds up construction, more
10 power to them. We don't want to restrict the
11 contractor and say you have to put down three separate
12 lifts, just so we can make sure we have a smooth
13 pavement. We have a smoothness requirement. How the
14 contractor gets it is their responsibility.

15 MR. GARCIA: I had a comment with regard to
16 smoothness. One thing that Jim pointed out, which
17 is -- Jim Scherocman, which is correct, is that each
18 additional lift increases your pavement smoothness.
19 I think everybody here has pretty much agreed on that.

20 One thing we have to remember is, one of the
21 comments made, is that there was a need to put
22 additional friction course to eliminate smoothness
23 problems with the 19 millimeter mix.

24 That 19 millimeter mix by specification is
25 subjected to straightedging. It must meet the same

1 straightedge requirement as the final surface.

2 What you have is you have a 19 millimeter lift
3 meeting straightedge requirement when you're finished,
4 after that friction course is applied.

5 You have a lift meeting the final straightedge
6 requirement. You apply one more additional lift.
7 There should not be the need for any special treatment
8 of that additional lift, be it extra thickness or
9 anything like that because you are applying it to a
10 specification smooth surface.

11 So, to kind of recap it, if your final lift of
12 structural meets straightedge requirements, then a run
13 of the mill vanilla friction course lift is all that's
14 necessary.

15 (Brief pause)

16 CHAIRMAN COWGER: What we are going to do, we
17 have decided the next one coming up, we will postpone
18 it until another day.

19 (Brief pause)

20 CHAIRMAN COWGER: Gentlemen, I'm sorry about all
21 this confusion. There's one thing, though, that
22 I think needs to be addressed, too, in the way of
23 entitlement. We haven't discussed Exhibit No. 4, this
24 supplemental agreement. We need just a brief
25 discussion of that --

1 MR. MARTIN: I had --

2 CHAIRMAN COWGER: -- before we break off from the
3 entitlement part.

4 MR. MARTIN: Two comments on entitlement. If you
5 notice in looking at the density, you will see in most
6 cases where we have passing densities, we are on the
7 low side of the air voids.

8 And we were commonly doing this on this job, even
9 though I didn't like it, but I think the DOT and
10 everyone at the time knew what we were doing.

11 If you have your air voids at the plant below two
12 and a half on two consecutive days, you have to stop
13 production until you show that you can get the process
14 back in control.

15 We knew that if we bumped the AC content, we
16 could get density, but we would be low on air voids.
17 But we could do that one day, we just couldn't do it
18 two days in a row.

19 If you failed density two days in a row, then you
20 have to stop production until you show that you know
21 how to get density.

22 So we were playing with the AC content quite a
23 bit on this job, out of necessity raising the AC
24 content so we could get density that day, then bringing
25 it back into line so the air voids would be in line the

1 next day, then running the risk of not getting density
2 the next day, just trying to get through the job.

3 Because the last thing we wanted was to get this
4 job shut down because of all the mobilization. We had
5 like a third of the company's forces on this one job,
6 you know, with milling machines, ARMI layer, paving
7 crews, rolling trains, trucks, asphalt plant. And to
8 shut it down and remobilize it, you couldn't do it on a
9 day's notice. And so we were doing everything we could
10 to keep the job going.

11 CHAIRMAN COWGER: Jim Musselman, does that make
12 sense to you that that might have been going on?

13 MR. MUSSELMAN: I missed the first part of it.

14 CHAIRMAN COWGER: What he said is he played with
15 the asphalt content --

16 MR. MARTIN: To make us maybe fall out on air
17 voids so we could get density, but then the next day we
18 would bring the AC content back in line so our air
19 voids would get in line, but then we would fail on
20 density. And two days of failing density or two days
21 of failing air voids at the plant, either one --

22 MR. MUSSELMAN: Yeah, I don't know if that
23 happened, but that certainly that could happen.

24 CHAIRMAN COWGER: That's all I'm asking. I know
25 you weren't there. Would that have been something that

1 might have been done.

2 All right. Now, go ahead, Rick.

3 MR. MARTIN: The other comment was just to bring
4 up the supplemental agreement and, you know, perhaps
5 it's not fair to the Department to bring this up
6 because I certainly was not privy to the details around
7 this, but in Bill Albaugh's letter to me he stated that
8 the other jobs that got supplemental agreements where
9 people were compensated for their Superpave troubles,
10 those jobs were -- the Superpave was added by
11 supplemental agreement, not bid.

12 And I don't know what difference that makes,
13 really, whether you add it later and you have trouble
14 with Superpave or it's originally in the bid and you
15 have trouble with it and it's compensated.

16 But this particular job here on I-75 was bid
17 Superpave.

18 CHAIRMAN COWGER: This was bid Superpave.

19 MR. MARTIN: This was bid Superpave. And this
20 job was under construction at the same time we were.

21 And they had I believe over 20 test strips and
22 numerous density problems. And they were compensated
23 by the supplemental agreement for replacing test strips
24 one, two and three, 148,000. For replacing test strips
25 16 and 17, 120,000, and then they were compensated for

1 delays associated with the Superpave for 1,028,000.

2 So, the DOT compensated this contractor around a
3 million and a quarter for their Superpave troubles.

4 Again, I don't know all the details around it,
5 but I know that other contractors were compensated for
6 having the same kind of difficulties that we were
7 having at the same time.

8 CHAIRMAN COWGER: This is hitting DOT cold. And
9 obviously it wasn't even in your district, so it's very
10 difficult for you to address.

11 MR. SIMMONS: I need to check into that. I don't
12 know.

13 CHAIRMAN COWGER: How would we go about doing
14 that, Freddie?

15 MR. SIMMONS: I will get somebody in Greg's
16 office to find out why we paid these. I just don't
17 know.

18 CHAIRMAN COWGER: You are going to get some more
19 details and present it to the Board when we deliberate?

20 MR. SIMMONS: Right.

21 CHAIRMAN COWGER: Okay.

22 MR. MARTIN: That's really all I have on it.

23 CHAIRMAN COWGER: You really can't say much about
24 it, can you, Frank?

25 MR. O'DEA: This assay, no, I have nothing to say

1 about it.

2 MR. SIMMONS: The point is it looks like we did
3 it on one job, why not consider it on yours, I assume?

4 MR. MARTIN: Right. And this -- I know of other
5 compensation that was done with Anderson Columbia.
6 This was a joint venture, but --

7 CHAIRMAN COWGER: Now, there's one other issue
8 that I think we need to discuss a little bit that's
9 still relates to entitlement that we've flipped in an
10 out of it, but we haven't stayed on it.

11 That is this business of additional compensation
12 for the friction course because the three and a half
13 inch layer that you laid, and it's been admitted that
14 the contractor elected to go to the three and a half
15 inch lift.

16 And he's saying this caused the friction course
17 quantity to overrun because -- and correct me if I'm
18 wrong -- we, in fact, did some leveling with the
19 friction course that wouldn't have normally been the
20 situation.

21 MR. MARTIN: Yes. There's --

22 CHAIRMAN COWGER: Was it an FC-3?

23 MR. O'DEA: FC-2.

24 CHAIRMAN COWGER: Two. Okay.

25 MR. MARTIN: Half inch thick.

1 MR. O'DEA: I would just like to say something
2 first, on Exhibit 4, if you look at attachment 4, the
3 contractor in his original package to us indicated that
4 the actual spread weight was over 70 pounds per square
5 yard when FC-2 was normally between 40 and -- you know,
6 62 is the theoretical maximum, but generally it runs
7 around a half an inch.

8 Basically we went to the actual final estimate
9 and asphalt reports and found that the actual spread
10 rate on the road is 56.5, based on the measured square
11 yards and the tons placed.

12 And we had no one that just I guess put that on
13 the table. We weren't sure where that 70.57 --

14 MR. SIMMONS: It was measured 56.5?

15 MR. O'DEA: 56.5. I brought -- I wanted to make
16 the Board's life easier. I have the documentation.
17 I have four copies of the friction course documents,
18 the comp book page and all the asphalt reports that
19 supports these numbers. And I would be happy to submit
20 maybe just one to the Board and one to Ranger. Do you
21 want -- I don't want to overload you guys with paper to
22 support this.

23 MR. ROEBUCK: Gene, do you want a copy of it?

24 CHAIRMAN COWGER: Let me ask you again, what is
25 it?

1 MR. O'DEA: The actual spread rate was 56.50 in
2 lieu of the 70.57.

3 CHAIRMAN COWGER: And you've got some figures
4 backing that up?

5 MR. O'DEA: Right. We just have the asphalt
6 reports and the computation books.

7 CHAIRMAN COWGER: Okay. Rick, do you have any
8 idea where the 70 came from?

9 MR. MARTIN: No, and I -- I don't know where the
10 70 came from.

11 MR. O'DEA: Okay. It's in your claim to us.

12 MR. MARTIN: Where?

13 MR. O'DEA: It's not in this one you gave here,
14 it's in the one you gave us that supports the -- in
15 this claim you don't explain how you got the friction
16 course number of \$44,000, it's just there.

17 MR. MARTIN: Right.

18 MR. O'DEA: Well, in your first submittal you
19 explain how you got to that number. It's in that claim
20 package submitted to me dated January 8th.

21 MR. MARTIN: Okay.

22 CHAIRMAN COWGER: Let's not talk about the
23 quantity a minute, let's talk about just the issue
24 itself a moment, looking at it from the standpoint of
25 entitlement.

1 As I understand what happened is that the
2 contractor had a three and a half inch layer of asphalt
3 in place. On one roadway he did it in two layers, two
4 lifts, with nine and a half and 12 and a half
5 millimeter mixes. He encountered density problems on
6 that side.

7 When he went to the other side, he went -- he
8 decided to go with the 19-millimeter mix and place it
9 three and a half inches thick. His option. There's a
10 way within the spec to do what he did on the other side
11 and do it in two lifts.

12 Now, DOT's position is that, well, it was his
13 option to go to a single lift.

14 MR. MARTIN: My --

15 MR. ROEBUCK: And he had to meet the straightedge
16 requirement.

17 CHAIRMAN COWGER: Did he meet the straightedge?

18 MR. GARCIA: Right, he would have had to met it
19 with that last lift of structural or only met it with
20 the structural. So, therefore, he's laying on a
21 specification to fine smooth surface.

22 MR. MARTIN: Here is our argument. Had -- in my
23 opinion if the density requirement in the specification
24 would have been reasonably obtainable, we would have
25 placed the mix in two lifts and we would not have had

1 the rough ride we did.

2 When we placed the 19 millimeter in one layer at
3 three and a half inches thick, we were laying it four
4 and a quarter inches loose and compacting it down to
5 three and a half inches and beating it very hard to get
6 the density. Of course, we had Superpave.

7 The road rode terrible. You know, it was
8 probably about the roughest resurfaced road you ever
9 rode on, and everybody in the district, both the
10 industry and the DOT personnel were commenting on how
11 lousy a job the paving job was on this section of
12 roadway.

13 And Mark is correct. We did repair work. In
14 fact, the hammer lane, if I remember correctly, we
15 pretty much milled from one end of the job to the other
16 to smoothen it up some before we put the friction
17 course.

18 CHAIRMAN COWGER: You milled on top of the newly
19 placed three and a half inch layer to try to true it
20 up.

21 MR. MARTIN: To make it smooth enough to meet the
22 rolling straightedge requirement. And we did spots on
23 the other lane. But on one lane we milled pretty much
24 the entire -- however often the miller hit the ground,
25 I don't know. But we milled -- the mill went from one

1 end of the job to the other job, clipping the high
2 spots.

3 And so the friction course overran a great deal.
4 Evidently there was a bust in one of our numbers, and
5 I need to check that out. I don't understand the --
6 where we came up with the bad number, but it appears
7 that we do have a bad number. If your number is right,
8 and I expect it to be, I don't know.

9 But it's -- we still had an overran. It's just a
10 matter of the quantity we overran.

11 CHAIRMAN COWGER: Show some overrun.

12 MR. MARTIN: We overran the FC-2 material
13 attempting to get a satisfactory ride. And we would
14 not have -- we would not have been in that position had
15 we been able to place the mix in two layers.

16 MR. O'DEA: Our first position on that is there
17 really wasn't an overrun. The spec minimum on FC-2 is
18 40 pounds per square yards. But that's hard to get.
19 I think generally between 45 and 50 is what we actually
20 achieved.

21 Ranger's own documentation indicates that on
22 another job they were around 49, which is closer to 50.

23 And so the 56 is not that outrageous of a number
24 to hit on a project. That's all our position is.
25 There really wasn't a significant quantity overrun in

1 the FC-2.

2 But then again, also, as Mark said, the
3 contractor has total control over how thick that
4 friction course is going down, as long as they are
5 within the allowable range, and we have no right or
6 authority if he's laying it thick to tell them to cut
7 it down. Not that we normally do.

8 So, if the existing surface met straightedge, the
9 friction course, no matter how thick, would again meet
10 straightedge requirements as well.

11 MR. GARCIA: Just for clarification, the only way
12 the Department measures smoothness is with the
13 straightedge requirement. In other words, there's not
14 straightedge plus something else, but it's only the
15 rolling straightedge.

16 CHAIRMAN COWGER: How did the road ride after you
17 got the friction course on it?

18 MR. O'DEA: It rides good.

19 CHAIRMAN COWGER: Do you admit that it did ride
20 poorly?

21 MR. O'DEA: Yes, it looked bad and it rode -- it
22 was loud.

23 CHAIRMAN COWGER: And what?

24 MR. O'DEA: It was very loud when you rode on it.

25 CHAIRMAN COWGER: Can you verify that he did in

1 fact mill it?

2 MR. O'DEA: I'm trying to think off the top of my
3 head. We'd would have to go back and look at some
4 records. I know that we used the milling machine to
5 hone out areas, and there was one -- I think a narrow
6 strip between a joint that was -- I know Wayne was
7 having a hard time with it.

8 MR. GARCIA: Can I ask --

9 CHAIRMAN COWGER: Sure.

10 MR. GARCIA: I just want to ask a clarification
11 question. Are you speaking literally or figuratively
12 that you all milled out an entire section, or are you
13 talking about that you -- like figuratively that you
14 made a lot of straightedge corrections? You might say,
15 yeah, we corrected that from one end to the other.

16 MR. MARTIN: Normally when you mill corrections,
17 you take the lowboy, and you take the mill up on the
18 lowboy, you go to a bad spot, you back it off, you mill
19 the bad spot, you put it back up on the lowboy, you go
20 to the next spot.

21 MR. GARCIA: Right.

22 MR. MARTIN: I'm saying that there were so many
23 bad spots on the one lane, we started to mill at one
24 end of the job and the mill -- tracks ran on the mill
25 and we went the whole length of the job skimming the

1 high spots -- knocking the high spots off.

2 CHAIRMAN COWGER: Were there a significant number
3 of straightedge deficiencies to be corrected?

4 MR. O'DEA: At the end?

5 CHAIRMAN COWGER: No, before he did this milling.

6 MR. O'DEA: I don't have the records on that.

7 CHAIRMAN COWGER: Okay. Good enough. Let's go
8 on.

9 MR. MARTIN: That's all I have to say on the
10 entitlement.

11 CHAIRMAN COWGER: Now, we have talked an awful
12 lot about the entitlement issue. I don't want to leave
13 it until we are sure that there's nothing burning out
14 there in the way of points to be made or questions to
15 be asked by the Board members, unless we can agree
16 that, yeah, we've heard everything we need to hear
17 about entitlement.

18 Let's go on to the quantum a little bit and see
19 where we end up.

20 Now, this is assuming that there's entitlement.

21 MR. MARTIN: Right. If you would, tab over to
22 where it says production analysis.

23 CHAIRMAN COWGER: Okay.

24 MR. MARTIN: The first line there it shows that
25 there were 18,000 tons of 19-millimeter pavement that

1 was paved in 13 days, or a production rate on the 19
2 millimeter of 1399 tons per day.

3 On the nine and a half and the 12 and a half
4 millimeter, there was approximately 17 tons of
5 production over a 26-day period with a production rate
6 of 667 tons per day.

7 MR. SIMMONS: Is that combined?

8 MR. MARTIN: The next line is combined.

9 MR. SIMMONS: You are putting in 19 millimeters
10 in the --

11 MR. MARTIN: Yeah, the nine and a half and 12 and
12 a half is combined. We were having trouble getting
13 density on either of those, so I lumped them together.

14 So, the total job was about 35,000 tons. We
15 spent 39 days paving. Our overall average was 911 tons
16 per day.

17 So, what I stated was that if we had done the
18 whole 35,000 tons at the 1399 ton per day rate, we
19 would have finished the job, or the paving portion of
20 the job would have been constructed in 25.4 days. And
21 the 25 days from the 39 days is about 14 days that we
22 spent extra time if all things are being equal.

23 And what -- the number of days that we asked for
24 was 11. And so I'm making an adjustment for that.

25 The -- some of the work was not the same. There

1 was some reason why you would normally have lower
2 productivity, say at the end of the job or the
3 turnaround or something on the nine and a half and the
4 12 and a half.

5 The bottom section is our original budget. Frank
6 and Bill Albaugh both requested -- I know Frank did --
7 what our original -- how we originally bid the job.
8 And this was a breakdown of how we originally bid the
9 job where we had 27 days originally planned to do the
10 work.

11 But there again, I don't see much stock taken
12 into the way you bid it because a measured mile
13 approach to what productivity you showed that you could
14 get and then what you got when you were hampered is a
15 more realistic way of looking at it than the guess that
16 somebody made at the time of the bid.

17 CHAIRMAN COWGER: Let me ask you a question.
18 Back up there, the first line where you've got text,
19 assume all of the production was done at the measured
20 mile rate.

21 The measured mile rate being that rate
22 established with the 19-millimeter mix, right?

23 MR. MARTIN: Right.

24 CHAIRMAN COWGER: Okay. That's all I wanted to
25 know.

1 MR. MARTIN: We had no density problems with the
2 19 millimeter. Things went smoothly. The others we
3 were stopping and going, and extra compaction.

4 CHAIRMAN COWGER: Well, you know, there is a
5 certain amount of something that's obvious, it's going
6 to take more time to place two layers than it is to
7 place one.

8 MR. MARTIN: Right, because you have more
9 turnarounds. So, it's not -- this analysis isn't
10 totally fair the way it's stated because when you do
11 two lifts you cover more ground, and whenever you cover
12 more ground, you run into more things that slow you
13 down.

14 CHAIRMAN COWGER: Okay. Go ahead.

15 MR. MARTIN: But that's why I pointed out that
16 this shows basically 14 days additional production, and
17 the rest of our costs are based on 11 days.

18 MR. MILLSAPS: May I add something? You know,
19 this is more of a question than a statement. If you
20 put down the mix thinner, you're going to be putting
21 out less mix as you're paving, so the paver could go
22 faster. Wouldn't you then have to slow down the speed
23 of the paver so the rollers could keep up with it?

24 So you couldn't assume that because you got that
25 production rate out of the 19-millimeter mix that you

1 are placing three and a half inches thick. You put a
2 mix down an inch and a half thick at the same
3 production rate, there's no way your compaction
4 equipment can keep up with the paver. You are then
5 going to have to have a slower production rate to keep
6 up with the rollers.

7 MR. MARTIN: Or add rollers. Typically it's less
8 expensive to add rollers than it is to slow your plant
9 down and slow all your production down.

10 CHAIRMAN COWGER: Are you through with that part?

11 MR. MUSSELMAN: Yes.

12 CHAIRMAN COWGER: Can we go to the cost summary
13 then? Would that be an appropriate place to go?

14 MR. MARTIN: That's the next place I was going.

15 CHAIRMAN COWGER: Okay.

16 MR. SIMMONS: The milling is not part of this, is
17 it?

18 MR. MARTIN: No, this was to establish that it
19 took us at least 11 days longer to build the job than
20 we would have if we didn't have density problems.

21 MR. SIMMONS: Milling doesn't enter into this?

22 MR. MARTIN: No, but milling enters into the
23 cost.

24 MR. SIMMONS: Okay. Thank you.

25 MR. MARTIN: The cost summary, the next pages are

1 backup for this. This is a recap sheet.

2 But for our ARMI and milling crew, this was the
3 labor cost per day, \$3,000 per day for the ARMI and
4 milling crew, five days, that's 15,000 with a mark-up
5 that's in the specifications.

6 The equipment is based on monthly, 75 percent of
7 monthly Blue Book rates, which is what's in the
8 specifications. The next page gives you the breakdown
9 of how that \$10,000 a day came up. Five days at 10,000
10 is that expense.

11 The paving crew, the four or five days at these
12 rates, with the appropriate mark-up. And this is the
13 section on the -- on the southbound lane because when
14 we started the southbound lane, we started out on the
15 southbound lanes from the very beginning. We were
16 using the nine and a half millimeter.

17 Then we had six additional days of production
18 that did not include the ARMI crew and the milling
19 crew. This was on the second lift pavement where we
20 didn't have the ARMI crew on the job.

21 And so these are just six days of the paving
22 crew, the same as before, but without the numbers.

23 So, I've got a total of 11 days with a paving
24 crew and only five days with the ARMI and milling
25 crews.

1 Then the plant cost, we were operating the plant
2 for an additional 11 days. That's the cost of
3 operating the plant. That gives a total.

4 The overrun of the FC-2 was due to placing the 19
5 millimeter in one lift. And I will recalculate that
6 number if that quantity is right. I was assuming the
7 numbers that Dave worked out on that are correct, but
8 I didn't check that.

9 Okay. So that's a grand total. Then just in the
10 specification allows for one and a half for liability,
11 insurance and bonds, and then it allows for 10 percent
12 mark-up for overhead on the first 50,000 and 5 percent
13 of the 15,000.

14 I calculated the interest, and I don't know what
15 the proper interest rate is. I just use 10 percent
16 from the date of the final estimate.

17 CHAIRMAN COWGER: We can deal with that.

18 MR. MARTIN: And then that's how I come up with
19 the total.

20 All right. The next page is the ARMI and milling
21 crew. These are all the people on the job and what
22 their activity is and what their rates are, what the
23 burden is, and what the mark-up is, and how I come up
24 with the daily costs.

25 The equipment, same way, what the equipment was

1 on the job and what the hourly rates are based on 75
2 percent of the monthly Blue Book.

3 Then the next page is for the paving crew, the
4 same analysis.

5 And the next page is for the asphalt plant.
6 And I took the calendar year -- what the costs are for
7 the calendar year to operate the asphalt plant, labor
8 and equipment and supplies. And then I divided it by
9 the number of days, workdays per year to get the plant
10 costs per day.

11 And this is the plant costs not including burner
12 fuel and not including materials and so forth. This is
13 what it costs, the ownership costs and for the labor.
14 You know, you've got the crew at the plant, whether you
15 make one ton, no ton or a thousand tons.

16 So this is just for your fixed costs associated
17 with the plant, no materials.

18 MR. ROEBUCK: Were those from your last audited
19 statement in '98?

20 MR. MARTIN: Yes. Then I wanted to point out --
21 that's pretty much it on the cost.

22 If you go to the next tab, time extensions,
23 I just wanted to point out that we were granted a time
24 extension of 15 days. That was an 11-day time
25 extension in days, then it was multiplied by the factor

1 for weekends to get the 15 days. We were given 11
2 workdays of additional time associated with the
3 Superpave problems, and the densities were waived.

4 And so it appears from the outside looking in
5 that the Department realized the specification was
6 difficult to reach, and that there was a problem with
7 it, but -- and they gave us a time, and they waived the
8 penalties, but that additional time cost a great deal
9 of money.

10 And I don't understand how it's appropriate that
11 you would be granted time but not with the cost that
12 goes along with that time.

13 The only other item that I thought I would point
14 out is if you take on this supplemental agreement that
15 was given to this contractor where the -- they were
16 given 20 days for the million dollars at the end on
17 Superpave problems. If you take that million and
18 28,000 and divide it by the 20 days, you get \$51,000
19 per day.

20 And if you take the dollar amount that I am
21 requesting, the 299,000, divide it by 11 days, you get
22 \$27,000 a day.

23 So, the costs I'm asking per day is about half of
24 what this supplemental agreement -- and I realize that
25 there might be other extenuating circumstances

1 associated with this, and White's construction costs
2 might be a great deal higher than mine, but that's just
3 where I got numbers.

4 CHAIRMAN COWGER: Okay.

5 MR. MUSSELMAN: Mr. Cowger, I apologize for
6 interjecting again, but to me this is a key issue. One
7 of the quantities had to do with the assumed production
8 rate of, what was it, 1399 tons per day based on the
9 19-millimeter.

10 Now, just in terms -- that's 350 pounds per
11 square yard. At the speed of the paver, if you want to
12 produce a mix that's half as thick in the other lanes
13 where he's only putting down, say, 150 pounds, and if
14 your plant runs at the same production rate, you have
15 to double the speed of the paver to keep up with the
16 production rate that you have at the plant.

17 If you are going to double the speed of the
18 paver, then you are going to have to double the number
19 of rollers.

20 I don't think Martin Paving, when they placed the
21 12 and a half millimeter mix or the nine and a half,
22 had twice as many rollers compacting the mix that they
23 did with the 19 millimeter.

24 And I think that gets back to the compaction
25 difficulties, that they were putting down mix thicker,

1 they were going slower, they had the rollers to keep up
2 with it.

3 When they put the mix down thinner, the paver
4 takes off. And I don't think they brought out six
5 rollers to roll the nine and a half and the 12 and a
6 half.

7 CHAIRMAN COWGER: We understand what you are
8 saying, Jim. That comes back to what I said earlier
9 I think. And I started that whole discussion by saying
10 looks like to me it would take longer under real world
11 conditions to lay two thinner layers.

12 MR. MUSSELMAN: Either the production rate
13 assumption is incorrect for the other mixes if they're
14 putting it down in multiple lifts, or the compaction
15 assumption is wrong, but they both can't be right.

16 CHAIRMAN COWGER: We have to let Mr. Barber Green
17 down there talk just a minute.

18 MR. SCHEROCMAN: In all due respect to Jim, if
19 I were running ten feet a minute and I go to 20 feet a
20 minute, I don't double the rollers. If I go 20 feet a
21 minute to 40 feet a minute, I don't double the rollers
22 again.

23 So, it's not a straight proportion of doubling
24 paver speeds, doubling the rollers. That's not the
25 proportion that works.

1 MR. MUSSELMAN: Don't you have to -- the rollers
2 have to go faster to keep up with the pavers?

3 MR. SCHEROCMAN: That's certainly true. They do.

4 MR. MUSSELMAN: Doesn't that reduce your time
5 available for compaction?

6 MR. SCHEROCMAN: It reduces the roll time. It
7 reduces the roll time, but it's not a direct two to one
8 ratio or even close to that.

9 MR. GARCIA: But what would you do if you were
10 having compaction problems?

11 MR. SCHEROCMAN: What would I do, I'd do --
12 frankly I'd do what Martin tried to do, which is change
13 my rolling patterns to see what the best combination is
14 what and the most efficient combination is.

15 I would change the thicknesses, I would do
16 whatever I could do to make that operation as efficient
17 as I could to get density as consistent as I could.

18 Rick's comment I think is very true. Putting a
19 roller out there is a hell of a lot cheaper than
20 slowing your plant down or slowing your paving
21 operations down. So, there's no question about that.

22 You would do it by changing numbers of rollers,
23 types of rollers, particularly position of the rollers,
24 where they were in regard to the tender zone, whether
25 they were right on it or whether they were way back.

1 You would do a lot of things, but doubling the
2 speed of the paver doesn't double the rollers --

3 MR. MUSSELMAN: I was probably elaborating more
4 than I should have, but what the point being is that
5 you need additional compactive effort. And I don't get
6 the impression that there was more compactive effort
7 being made on the thinner lifts than there was on the
8 thicker lifts. I get the impression it's basically the
9 same equipment in roughly the same rolling patterns,
10 albeit the rollers were just going faster, and I think
11 that's why they didn't meet density.

12 MR. SCHEROCMAN: One thing you have to take into
13 account, though, a thicker lift gives me retained heat,
14 gives me more time to compact.

15 CHAIRMAN COWGER: Gentlemen, I think we have
16 heard enough on that. I want to ask DOT one question,
17 though. There's been a lot of discussion here about --
18 go ahead. Has anybody else got anything to say?
19 I will come back to this. Go ahead, Freddie.

20 MR. SIMMONS: They just asked this. You gave
21 them time and you gave them the -- you waived the
22 penalties. Why don't you agree with the extra?

23 MR. O'DEA: Well, I mean in my mind that one was
24 pretty easy. We felt the time and the money was
25 actually beyond the scope of what was required under

1 the contract. I mean in our mind that was an attempt
2 to try and acknowledge that -- we all know this wasn't
3 an easy project. This was difficult. It was a high
4 density requirements, a new type of mix.

5 And as an acknowledgement of that, that's why the
6 time was granted.

7 Again, the district, especially being an A plus B
8 project really agonized over how to address the adjust
9 the time limit when the contractor sets the time.

10 You can see that there's no way to make a valid
11 time extension in that case, because you set it. So
12 how do we adjust it based on an assumed production rate
13 that never existed.

14 But it was more or less just a gift, as far as we
15 were concerned on the time. The contract was in the
16 end done with exactly no days over or under. We
17 calculated it very closely.

18 There were severe penalties for LDs. We didn't
19 want to get into that position. Adjustments were made
20 accordingly.

21 The density waiver was consistent with all new
22 contractors. And we, again, wanted to apply that in
23 this case.

24 MR. MARTIN: Freddie, my thought is on granting
25 additional days, it really doesn't matter in my opinion

1 if it's an A or a B contract or who set the number of
2 days in the contract.

3 If something happened during the construction of
4 the job that delays the contractor beyond his control,
5 then he's granted the number of days he's delayed no
6 matter how the number of days were calculated in the
7 contract.

8 And so I don't see the relevance on whether it's
9 an A plus B or A plus C.

10 If you were impacted by the specifications or by
11 some outside force, then whatever days that are
12 appropriate for that delay should be --

13 MR. O'DEA: That's pretty easy, because the
14 relevance is on all the other projects the Department
15 set the time, and the Department used the assumed
16 production rate. And that's the outside force that we
17 felt the contractor had no control over.

18 So, in that regard there wasn't, you know, a
19 factor beyond the control of the contractor.

20 How would he have known the amount of time or how
21 would we have known?

22 In this case we didn't set the time. That's
23 where it became difficult.

24 As far as on the issue, I've got about maybe two
25 minutes or less to talk about quantum and then I don't

1 really have any more to say unless --

2 CHAIRMAN COWGER: If we can finish quantum, that
3 will be great. I will take another five minutes or so.

4 MR. O'DEA: Listening to this issue of the
5 milestone or the measured mile analysis, you know,
6 I had the same impact when I read Rick's report. Of
7 course if you put it that thick, you are going to have
8 a higher production rate. And that's what this
9 attachment, Exhibit No. 3 attempts to do, is
10 reconstruct a measured mile.

11 And I'm sure you are not going to agree a hundred
12 percent, but I will set the philosophy. There's some
13 narrative that goes along with it.

14 But on the actual production, which is called
15 attachment one, you are going to notice that there
16 are -- in our mind the biggest impact to the contractor
17 was this starting and stopping of this -- the reduced
18 production that was a result of the failing densities.

19 Each time that they hit a failing density, they'd
20 have to hold back, go back. They were limited to 500
21 tons or less on their next paving.

22 What this does is it attempts to analyze what the
23 contractor was able to do on days when he wasn't
24 impacted by this, quote, unquote, limited production.

25 So the colored numbers in this chart you see are

1 days he was limited to 500 tons or less strictly due to
2 a previous failing density.

3 Taking those days out on page two or attachment
4 two, if you remove all those days where he had a
5 reduced production due to the failing density -- and by
6 the way, my numbers came out. I found one more day
7 than you. I had 40 days that the actual productivity
8 was 871 tons per day.

9 If you remove the days that he had this
10 restriction imposed on him, there were 33 days. And
11 his average production is 971 tons per day. Those are
12 days where he was not limited due to density
13 constraints.

14 There were a couple of days that there were less
15 than 500, but those days were not density days, for
16 lack of a better term.

17 And finally, at the very end, you notice the
18 last -- out of the last four days on attachment one,
19 there were five days of very, very low production due
20 to corrections and things.

21 And assuming that on a given day that the
22 contractor was in full production, he wouldn't have
23 these impacts due to corrections.

24 That third column there on this comparison of
25 production rate just removes those dates for

1 consideration to establish what is a good measured
2 mile. What could the contractor achieve if he didn't
3 have this density imposed on him. That's where that
4 number one thousand twenty point three nine, that's
5 what the Department feels is a fair representation of a
6 measured mile production rate for Superpave.

7 CHAIRMAN COWGER: Where does that number show up?

8 MR. O'DEA: It's on the second -- attachment two,
9 the page right behind actual production rates.

10 CHAIRMAN COWGER: Okay.

11 MR. O'DEA: And again, I tried to put a narrative
12 with this. And I realize I'm going quick, but I'm
13 trying to help everyone out here.

14 Attachment number three, bottom line, that just
15 basically replaces the contractor's impaired production
16 with one of two numbers, either his new measured mile
17 that I just came up with or a thousand.

18 What this attempts to do is recreate what the
19 contractor would have encountered had he been held to
20 the new specification, which lowers the limit to 93.5
21 rather than 94.

22 There were two days that are blue on this that
23 the contractor under the new specification wouldn't
24 have been limited because he would have actually
25 passed.

1 The yellow days are days that regardless of the
2 specification the density was lower than 93.5. He
3 would have been in a reduced production capacity. But
4 instead of 500 tons, I think the current spec allows a
5 thousand tons.

6 Using that whole new scenario to determine, you
7 know, a production rate, basically the difference is
8 four days rather than the 11. And that's the
9 Department's methodology for determining what we felt
10 if, in fact, the Board decides entitlement is there,
11 four days rather than 11 is a fair measure of the
12 impact of this density specification.

13 Then as far as the last page, that's just the
14 Department's calculation of the friction course numbers
15 which shows that 56.5 is the actual spread encountered,
16 and we feel that, quite honestly, no additional
17 entitlement is due for that issue.

18 You guys obviously have an opportunity to rebut
19 all of this.

20 CHAIRMAN COWGER: Let's agree that the contractor
21 is going to have the opportunity to rebut Exhibit 3 if
22 he so desires.

23 Frank, just a quicky. When you talk about your
24 500-ton sections on certain days that delayed the
25 efforts, slowed him down or whatever, is it such that

1 that occurred because he had failing densities on
2 previous days?

3 MR. O'DEA: Yes.

4 CHAIRMAN COWGER: Therefore, he had to drop back
5 down to 500 on density?

6 MR. O'DEA: Yes.

7 CHAIRMAN COWGER: Not on VMA -- not VMA, not on
8 air voids or anything else, but on density. Okay.
9 I've got you.

10 MR. MARTIN: Our argument is, of course, that all
11 during construction of the nine and a half and the 12
12 and a half, we knew we were having density problems.
13 We were holding production back, trying to get density.
14 So, we weren't impacted just because of those few days
15 that we were held to 500 tons. We were impacted every
16 day we were out there trying to get density on nine and
17 a half and 12 and a half, that being an unrealistic
18 requirement.

19 MR. O'DEA: The Department's comment to that is
20 we wanted the 94, so we're glad you were trying to get
21 it. We asked for it.

22 MR. ROEBUCK: Well, you've joined the Superpave
23 club. Is it worth it?

24 CHAIRMAN COWGER: Do we have anything else
25 burning? Okay. Let's close out. Now, as it stands,

1 we are going to await a response from Ranger, and by
2 the middle of July we are going to have his response
3 and any DOT response. Yours is due --

4 MR. MARTIN: June 30th.

5 CHAIRMAN COWGER: -- June 30th, and yours is due
6 about the 10th of July, DOT, if you are going to make
7 one. Because we want to try to meet on this thing late
8 in July to deliberate. We will deliberate on both
9 entitlement and quantum then. Board members agree?
10 Okay.

11 So, at this point I will make my little closing
12 statement and we will leave.

13 The Board will consider this hearing closed, and
14 we will meet to deliberate on this claim in a month to
15 six weeks, and you will hear from us shortly
16 thereafter.

17 (Whereupon, the hearing was concluded at 4:05 p.m.)

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CERTIFICATE OF REPORTER

1
2 STATE OF FLORIDA)
3 COUNTY OF LEON)

4 I, CATHERINE WILKINSON, Court Reporter, do hereby
5 certify that I was authorized to and did stenographically
6 report the foregoing proceedings; and that the transcript is
7 a true record of the testimony given.

8 I FURTHER CERTIFY that I am not a relative, employee,
9 attorney or counsel of any of the parties, nor am I a
10 relative or employee of any of the parties' attorney or
11 counsel in connection with the action, nor am I financially
12 interested in the action.

13 Dated this 30th day of June, 2000.

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